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# ISSUE CONTROL SHEET

| ISSUE | DATE | CHANGE |
|-------|------|--------|
| Issue 1 | March, 1994 | Initial Release of the Starplus SPD 4896 Digital System Product Description Manual |
| TF 52 | November, 1994 | DID features added to the Starplus SPD 4896 Digital System Product Description Manual |
| TF 57 | November, 1994 | T-1 features added to the Starplus SPD 4896 Digital System Product Description Manual |
| TF59 | September, 1994 | TIE Line (E&M) features added to the Starplus SPD 4896 Digital System Product Description Manual |
| | November, 1994 | Feature Package 3 features added to the Starplus SPD 4896 Digital System Product Description Manual |
| Issue 2 | July, 1995 | Second Release of the Starplus SPD 4896 Digital System Product Description Manual |
| Issue 2a | June, 1996 | TFN-069 With Numerous Changes |

# SECTION 100

# INTRODUCTION

## 100.1 PURPOSE

This manual provides the information necessary to program, install, operate and maintain the Starplus Digital Key Telephone System.

## 100.2 REGULATORY INFORMATION (U.S.A.)

The Federal Communications Commission (FCC) has established rules which allow the direct connection of the Starplus Digital Key Telephone System to the telephone network. Certain actions must be undertaken or understood before the connection of customer provided equipment is completed.

### A. Telephone Company Notification

Before connecting the Starplus Digital Key Telephone System to the telephone network, the local serving telephone company must be given advance notice of intention to use customer provided equipment and provided with the following information:

- The telephone numbers to be connected to the system.

- The Ringer Equivalence Number also located on the KSU: 1.9B

- The Universal System Ordering Code (USOC) jack required for direct interconnection with the telephone network: RJ21X

### FCC Registration Numbers:

- For systems configured as a key system: (button appearances)
  DLPHKG-74722-KF-E

- For systems configured as a Hybrid system: (dial access codes)
  DLPHKG-74723-MF-E

### B. Incidence of Harm

If the telephone company determines that the customer provided equipment is faulty and possibly causing harm or interruption to the telephone network, it should be disconnected until repairs can be made. If this is not done, the telephone company may temporarily disconnect service.

### C. Changes in Service

The local telephone company may make changes in its communications facilities or procedures. If these changes should affect the use of the Starplus Digital Key Telephone System or compatibility with the network, the telephone company must give written notice to the user to allow uninterrupted service.

### D. Maintenance Limitations

Maintenance on the Starplus Digital Key Telephone System is to be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. If unauthorized alterations or repairs are made, any remaining warranty and the software license for the system will be voided.

### E. Notice of Compliance

The Starplus Digital Key Telephone System complies with rules regarding radiation and radio frequency emissions by Class A computing devices. In accordance with FCC Standard 15 (Subpart J), the following information must be supplied to the end user:

| CAUTION |
| --- |
| "This equipment generates and uses RF energy and if not installed and used in accordance with the instruction Manual, may cause interference to Radio Communications. It has been tested and found to comply with the limits for a Class A computing device, pursuant to Subpart J of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference, when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference." |

### F. Hearing Aid Compatibility

All Starplus Digital Terminals are Hearing Aid Compatible, as defined in Section 68.316 of Part 68 FCC Rules and Regulations.

### G. OPX Circuit

The Starplus Digital Key Telephone System may be equipped with Single Line Adapters (OPX) modules which provide a 48V FCC registered 2500-type single line off-premise extension interface port.

- Each OPX port when used to support an off-premise extension requires an OL13C network circuit.

- An FCC registered interface such as a RJ11C/W is also required to connect to the public network.

## 100.3 REGULATORY INFORMATION (CANADIAN)

- Department of Communications (DOC) Certification Number: 526 2933 A
- Load Number: 20
- Standard Connector: CA11A/CA21A
- Canadian Standards Association (CSA) File Number: LR57228

### A. Notice

The Canadian Department of Communications' label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. This Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above condition may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**CAUTION**

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

### B. Explanation of Load Number

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the load numbers of all the devices does not exceed 100.

### C. Maintenance Limitations

Maintenance on the Starplus Digital Key Telephone System is to be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. If unauthorized alterations or repairs are made, any remaining warranty and the software license for the system will be voided.

### D. Notice of Compliance

The Starplus Digital Key Telephone System complies with Class A or Class B limits of the Canadian Radio Interference Regulations. In accordance with FCC Standard 15 (Subpart J), the following information must be supplied to the end user:

**CAUTION**

"This equipment generates and uses RF energy and if not installed and used in accordance with the Instruction Manual, may cause interference to Radio Communications. It has been tested and found to comply with the limits for a Class A or Class B computing device, pursuant to Subpart J or Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference, when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference."

### E. OPX Circuit

The Starplus Digital Key Telephone System may be equipped with Single Line Adapters (OPX) modules which provide a 48V FCC registered 2500-type single line off-premise extension interface port.

- A DOC registered interface such as a CA11 is also required to connect to the public network.

## 100.4 UL/CSA SAFETY COMPLIANCE

The Starplus Digital Key Telephone System has met all safety requirements and was found be in compliance with the Underwriters Laboratories (UL) 1459 Second Edition and Canadian Standards Association (CSA) C22.2, No. 225 Standard. The Starplus Digital Key Telephone System is authorized to bear the UL and CSA marks.

### 100.5    TOLL FRAUD DISCLAIMER

"WHILE THIS DEVICE IS DESIGNED TO BE REASONABLY SECURE AGAINST INTRUSIONS FROM FRAUDULENT CALLERS, IT IS BY NO MEANS INVULNERABLE TO FRAUD. THEREFORE NO EXPRESS OR IMPLIED WARRANTY IS MADE AGAINST SUCH FRAUD INCLUDING INTERCONNECTION TO THE LONG DISTANCE NETWORK."

"WHILE THIS DEVICE IS DESIGNED TO BE REASONABLY SECURE AGAINST INVASION OF PRIVACY, IT IS BY NO MEANS INVULNERABLE TO SUCH INVASIONS. THEREFORE NO EXPRESS OR IMPLIED WARRANTY IS MADE AGAINST UNLAWFUL OR UNAUTHORIZED UTILIZATION WHICH RESULTS IN THE INVASION OF ONE'S RIGHT OF PRIVACY."

**Table 200-1 Station Features/Software Packages**

| FEATURE | STANDARD PKG | VMI PKG | ACD PKG | ADDITIONAL EQUIPMENT REQUIRED |
|---|:---:|:---:|:---:|:---:|
| **A** | | | | |
| Account Codes..............................................................200-1 | ● | ● | ● | N |
| **Account Codes *(Verified)/Traveling COS (FP3)**................200-1 | ● | ● | ● | N |
| Attendant Recall.............................................................200-1 | ● | ● | ● | N |
| Automatic Call Back Timer...............................................200-1 | ● | ● | ● | N |
| Automatic Call Distribution (ACD).....................................200-1 | | | ● | N |
| ACD Event Trace ...........................................................200-1 | | | ● | PC/Term/Printer |
| **Agent Positions (FP3)**................................................200-1 | | | ● | N |
| Alternate ACD Group Assignments....................................200-2 | | | ● | N |
| Group Member Status.....................................................200-2 | | | ● | N |
| Guaranteed Message Announcement ................................200-2 | | | ● | RAN Device(s) |
| Incoming CO Direct Ringing .............................................200-2 | | | ● | N |
| No-Answer Recall Timer...................................................200-2 | | | ● | N |
| No-Answer Retry Timer ....................................................200-2 | | | ● | N |
| **Overflow Station Assignments (FP3)**............................200-2 | | | ● | N |
| **Recorded Announcements (RAN) (FP3)**.........................200-3 | | | ● | RAN Device(s) |
| Supervisor Positions .......................................................200-3 | | | ● | N |
| **Supv/Agent Calls in Queue Display (FP3)**.....................200-3 | | | ● | N |
| **Wrap-Up Timer Per ACD Group (FP3)**...........................200-3 | | | ● | N |
| Automatic Line Access......................................................200-4 | ● | ● | ● | N |
| Automatic Night Service....................................................200-4 | ● | ● | ● | N |
| Automatic Pause Insertion w/Speed Dial............................200-4 | ● | ● | ● | N |
| Automatic Privacy ...........................................................200-4 | ● | ● | ● | N |
| Automatic Selection ........................................................200-4 | ● | ● | ● | N |
| **B** | | | | |
| Background Music ...........................................................200-4 | ● | ● | ● | Music Source |
| Battery Back-up (Memory) ...............................................200-4 | ● | ● | ● | N |
| Busy Lamp Field (BLF) ....................................................200-4 | ● | ● | ● | N |
| **C** | | | | |
| Call Announce - Privacy....................................................200-4 | ● | ● | ● | N |
| Call Back.......................................................................200-4 | ● | ● | ● | N |
| Call Cost Display Feature .................................................200-4 | ● | ● | ● | N |
| **Call Coverage Feature (FP3)**.......................................200-4 | ● | ● | ● | N |
| **Call Forward: Preset (FP3)**.........................................200-5 | ● | ● | ● | N |
| ACD Groups...................................................................200-5 | ● | ● | ● | N |
| Hunt Groups...................................................................200-5 | ● | ● | ● | N |
| Off-Net ........................................................................200-5 | ● | ● | ● | N |
| Per CO Line ...................................................................200-5 | ● | ● | ● | N |
| Stations ........................................................................200-5 | ● | ● | ● | N |
| UCD Groups ...................................................................200-5 | ● | ● | ● | N |
| VM Groups.....................................................................200-6 | | ● | ● | VM System |
| **Call Forward: Station (FP3)**........................................200-6 | ● | ● | ● | N |
| All Calls ........................................................................200-6 | ● | ● | ● | N |

N=No additional hardware required, *System Memory Expansion Kit required.

**Table 200-1 Station Features/Software Packages**

| FEATURE | STANDARD PKG | VMI PKG | ACD PKG | ADDITIONAL EQUIPMENT REQUIRED |
|---|---|---|---|---|
| Busy ..................................................................200-6 | ● | ● | ● | N |
| Busy/No Answer...............................................200-6 | ● | ● | ● | N |
| **Follow-Me (FP3)**............................................200-6 | ● | ● | ● | N |
| No Answer........................................................200-6 | ● | ● | ● | N |
| Off-Net ............................................................200-6 | ● | ● | ● | N |
| Call Park ..............................................................200-6 | ● | ● | ● | N |
| Call Pick-up..........................................................200-6 | ● | ● | ● | N |
| Directed Call Pick-up.......................................200-6 | ● | ● | ● | N |
| Group Pick-up ..................................................200-6 | ● | ● | ● | N |
| Call Transfer ........................................................200-6 | ● | ● | ● | N |
| Caller Entered ICLID Digits.................................200-7 | ● | ● | ● | N |
| Calling Station Tone Mode Option .....................200-7 | ● | ● | ● | N |
| Camp-On ..............................................................200-7 | ● | ● | ● | N |
| Camp-On Recall ...................................................200-7 | ● | ● | ● | N |
| Canned Toll Restriction.......................................200-7 | ● | ● | ● | N |
| Centrex Compatibility .........................................200-7 | ● | ● | ● | N |
| Flex Button Programming ................................200-7 | ● | ● | ● | N |
| Off-Hook Preference ........................................200-7 | ● | ● | ● | N |
| Private Line Appearance..................................200-7 | ● | ● | ● | N |
| Programmable Flash Timer...............................200-7 | ● | ● | ● | N |
| Programming *, #, and Hook-Flashes into Speed Dial........200-8 | ● | ● | ● | N |
| Centrex/PBX Transfer..........................................200-8 | ● | ● | ● | N |
| Chaining Speed Bins ...........................................200-8 | ● | ● | ● | N |
| CO Line Access ....................................................200-8 | ● | ● | ● | N |
| CO Line Class of Service .....................................200-8 | ● | ● | ● | N |
| CO Line Control (Contact) ...................................200-8 | ● | ● | ● | Gen & Bells |
| CO Line Groups ....................................................200-8 | ● | ● | ● | N |
| CO Line Identification...........................................200-8 | ● | ● | ● | N |
| CO Line Incoming Ringing Assignment ...............200-8 | ● | ● | ● | N |
| CO Line Loop Supervision ...................................200-8 | ● | ● | ● | N |
| CO Line Queue .....................................................200-9 | ● | ● | ● | N |
| CO Line Ringing Options ......................................200-9 | ● | ● | ● | N |
| CO Ring Detect......................................................200-9 | ● | ● | ● | N |
| **Conference (FP3)** ..............................................200-9 | ● | ● | ● | N |
| Add-On Conference ..........................................200-9 | ● | ● | ● | N |
| Multi-Line Conference ......................................200-9 | ● | ● | ● | N |
| Unsupervised Conference.................................200-9 | ● | ● | ● | N |
| Conference Enable/Disable .................................200-9 | ● | ● | ● | N |
| **D** | | | | |
| Data Feature ........................................................200-9 | ● | ● | ● | PC/Terminal |
| DataBase Printout (Dump) ...................................200-9 | ● | ● | ● | Printer/Term |
| Database Upload/Download .................................200-9 | ● | ● | ● | Printer/Term |
| Day/Night Class of Service (COS) .......................200-9 | ● | ● | ● | N |

N=No additional hardware required, *System Memory Expansion Kit required.

## Table 200-1 Station Features/Software Packages

| FEATURE | STANDARD PKG | VMI PKG | ACD PKG | ADDITIONAL EQUIPMENT REQUIRED |
|---|:---:|:---:|:---:|:---:|
| Default Button Mapping ............................................................200-9 | • | • | • | N |
| Dial By Name ...........................................................................200-12 | • | • | • | N |
| Dial Pulse Sending....................................................................200-12 | • | • | • | N |
| Dialing Privileges .....................................................................200-12 | • | • | • | N |
| Direct Inward Dialing* (DID) Feature) ......................................200-12 | • | • | • | DID Board DTMF Rcvr |
| Direct Inward System Access (DISA)........................................200-12 | • | • | • | DTMF Rcvr |
| CO Line Group Access ........................................................200-12 | • | • | • | N |
| DISA Call Forwarding ..........................................................200-12 | • | • | • | N |
| Programmable Access..........................................................200-12 | • | • | • | N |
| Station Access .....................................................................200-12 | • | • | • | N |
| Trunk-to-Trunk ....................................................................200-12 | • | • | • | N |
| Direct Station Selection.............................................................200-13 | • | • | • | N |
| **Direct Transfer Mode (FP3)** .................................................200-13 | • | • | • | N |
| Directed Call Pick-up ...............................................................200-13 | • | • | • | N |
| Call Pick-up - Station...........................................................200-13 | • | • | • | N |
| Call Pick-up - UCD Groups ..................................................200-13 | • | • | • | N |
| Directory Dialing.......................................................................200-13 | • | • | • | N |
| Disable Outgoing CO Line Access............................................200-13 | • | • | • | N |
| Distinctive Ringing (User Selectable)........................................200-13 | • | • | • | N |
| **Distinctive Ringing on CO Lines (FP3)** ...............................200-13 | • | • | • | N |
| Do Not Disturb (DND) ...............................................................200-13 | • | • | • | N |
| One-Time Do Not Disturb (DND) .........................................200-13 | • | • | • | N |
| DTMF Sending...........................................................................200-13 | • | • | • | N |
| **E** | | | | |
| Emergency Transfer .................................................................200-13 | • | • | • | OPX/48v PFTU/12v |
| End to End Signalling.................................................................200-14 | • | • | • | N |
| Exclusive Hold ..........................................................................200-14 | • | • | • | N |
| Executive Override....................................................................200-14 | • | • | • | N |
| Executive/Secretary Transfer....................................................200-14 | • | • | • | N |
| External Night Ringing ..............................................................200-14 | • | • | • | Paging Equip. |
| **F** | | | | |
| Flash ........................................................................................200-14 | • | • | • | N |
| Flash On Intercom ....................................................................200-14 | • | • | • | N |
| Flash Rates (Programmable)......................................................200-14 | • | • | • | N |
| Flexible Attendant .....................................................................200-14 | • | • | • | N |
| **Flexible Button Assignment (FP3)** .......................................200-14 | • | • | • | 34-Btn/14-Btn |
| **Flexible Inter-Digit Timeout (FP3)**........................................200-15 | • | • | • | N |
| Flexible Port Assignments ........................................................200-15 | • | • | • | N |
| Forced Account Codes ..............................................................200-15 | • | • | • | N |
| Forced Least Cost Routing (LCR)..............................................200-15 | • | • | • | N |
| **Forward Override (FP3)** ........................................................200-15 | • | • | • | N |

N=No additional hardware required, *System Memory Expansion Kit required.

## Table 200-1 Station Features/Software Packages

| FEATURE | STANDARD PKG | VMI PKG | ACD PKG | ADDITIONAL EQUIPMENT REQUIRED |
|---|:---:|:---:|:---:|:---:|
| **G** | | | | |
| Group Call Pick-up ...................200-15 | ● | ● | ● | N |
| Group Listening ...................200-15 | ● | ● | ● | N |
| **H** | | | | |
| Handset Receiver Gain ...................200-15 | ● | ● | ● | N |
| Headset Compatibility ...................200-15 | ● | ● | ● | Headset |
| Headset Mode ...................200-15 | ● | ● | ● | Headset |
| Hearing Aid Compatible ...................200-16 | ● | ● | ● | N |
| Hold Preference ...................200-16 | ● | ● | ● | N |
| Hold Recall ...................200-16 | ● | ● | ● | N |
| Hot Line/Ring Down ...................200-16 | ● | ● | ● | N |
| Hunt Groups ...................200-16 | ● | ● | ● | N |
| Hunt Group Chaining ...................200-16 | ● | ● | ● | N |
| Pilot Hunting ...................200-16 | ● | ● | ● | N |
| Station Hunting ...................200-16 | ● | ● | ● | N |
| **I** | | | | |
| ICLID Feature ...................200-16 | ● | ● | ● | N |
| Calling Number/Name Display ...................200-16 | ● | ● | ● | N |
| Incoming Number/Name for SMDR Records ...................200-16 | ● | ● | ● | N |
| Unanswered Call Management ...................200-17 | ● | ● | ● | N |
| Idle Speaker Mode ...................200-17 | ● | ● | ● | N |
| **Incoming CO Call Transfer (FP3)** ...................200-17 | ● | ● | ● | N |
| Incoming CO Lines Off-Net Forward via Speed Dial ...................200-17 | ● | ● | ● | N |
| **Intercom Button(s) (FP3)** ...................200-17 | ● | ● | ● | N |
| Intercom Calling ...................200-17 | ● | ● | ● | N |
| Intercom Signaling Select ...................200-17 | ● | ● | ● | N |
| **K** | | | | |
| **Keyset Mode (FP3)** ...................200-17 | ● | ● | ● | Exec Keyset |
| Keyset Self Test ...................200-18 | ● | ● | ● | Exec Keyset |
| **L** | | | | |
| Last Number Redial (LNR) ...................200-18 | ● | ● | ● | N |
| LCD Interactive Display ...................200-18 | ● | ● | ● | Exec Keyset |
| Least Cost Routing (LCR) ...................200-18 | ● | ● | ● | N |
| 3-Digit Table ...................200-18 | ● | ● | ● | N |
| 6-Digit Table ...................200-18 | ● | ● | ● | N |
| Daily Start Time Tables ...................200-18 | ● | ● | ● | N |
| Default LCR Data Base ...................200-18 | ● | ● | ● | N |
| Exception Tables ...................200-18 | ● | ● | ● | N |
| Insert/Delete Tables ...................200-18 | ● | ● | ● | N |
| LCR Routing for Toll Information ...................200-18 | ● | ● | ● | N |
| Route List Tables ...................200-18 | ● | ● | ● | N |
| Weekly Time Tables ...................200-18 | ● | ● | ● | N |
| Local Number/Name Translation Table ...................200-19 | ● | ● | ● | N |

N=No additional hardware required, *System Memory Expansion Kit required.

## Table 200-1 Station Features/Software Packages

| FEATURE | STANDARD PKG | VMI PKG | ACD PKG | ADDITIONAL EQUIPMENT REQUIRED |
|---|:---:|:---:|:---:|:---:|
| Loop Button CO Line Access................................................200-19 | ● | ● | ● | N |
| **M** | | | | |
| **Mailbox Button (FP3)** ......................................................200-19 | ● | ● | ● | N |
| Meet Me Page .....................................................................200-19 | ● | ● | ● | N |
| Message Waiting ..................................................................200-19 | ● | ● | ● | N |
| Message Waiting Reminder Tone...........................................200-19 | ● | ● | ● | N |
| **Messages - Personalized (FP3)** .........................................200-19 | ● | ● | ● | N |
| Custom Messages ........................................................200-19 | ● | ● | ● | N |
| Date and Time Entry to Personalized Message(s)..............200-19 | ● | ● | ● | N |
| Message Code on a Flex Key ...........................................200-20 | ● | ● | ● | N |
| **Scrollable Canned Messages (FP3)**...........................200-20 | ● | ● | ● | N |
| **Music On Hold (FP3)** ........................................................200-20 | ● | ● | ● | Music Source |
| Mute Key................................................................................200-20 | ● | ● | ● | N |
| **N** | | | | |
| Name in Display....................................................................200-20 | ● | ● | ● | Exec Keyset |
| **Name/Number Display at Idle (FP3)** ..................................200-20 | ● | ● | ● | Exec Keyset |
| Night Service Feature ..........................................................200-20 | ● | ● | ● | N |
| Night Service Mode...............................................................200-20 | ● | ● | ● | N |
| Automatic Night Mode Operation.......................................200-20 | ● | ● | ● | N |
| External Night Ringing ....................................................200-20 | ● | ● | ● | N |
| Manual Operation ..........................................................200-20 | ● | ● | ● | N |
| Night Class of Service (COS).........................................200-20 | ● | ● | ● | N |
| Night Ringing Assignments.............................................200-20 | ● | ● | ● | N |
| Universal Night Answer (UNA)........................................200-21 | ● | ● | ● | N |
| Weekly Night Mode Schedule .........................................200-21 | ● | ● | ● | N |
| **O** | | | | |
| Off-Hook Preference .............................................................200-21 | ● | ● | ● | N |
| Auto Feature Access.......................................................200-21 | ● | ● | ● | N |
| Auto Line Access ...........................................................200-21 | ● | ● | ● | N |
| Hot Line/Ring Down .......................................................200-21 | ● | ● | ● | N |
| Intercom Access .............................................................200-21 | ● | ● | ● | N |
| User Programmable Preference ......................................200-21 | ● | ● | ● | N |
| Off-Hook Signalling ...............................................................200-21 | ● | ● | ● | N |
| **Off-Hook Voice Over (OHVO) (FP3)** .................................200-21 | ● | ● | ● | N |
| Off-Premise Extensions (OPX) .............................................200-21 | ● | ● | ● | SLA/OPX/48v |
| On Hook Dialing.....................................................................200-21 | ● | ● | ● | N |
| On Line Programming............................................................200-22 | ● | ● | ● | N |
| **P** | | | | |
| Page/Relay Control................................................................200-22 | ● | ● | ● | Relay/Sensor |
| Paging...................................................................................200-22 | ● | ● | ● | Paging Equip. |
| External Paging...............................................................200-22 | ● | ● | ● | Paging Equip. |
| Internal Paging ...............................................................200-22 | ● | ● | ● | Paging Equip. |
| Paging Access Restriction ..............................................200-22 | ● | ● | ● | Paging Equip. |

N=No additional hardware required, *System Memory Expansion Kit required.

## Table 200-1 Station Features/Software Packages

| FEATURE | STANDARD PKG | VMI PKG | ACD PKG | ADDITIONAL EQUIPMENT REQUIRED |
|---|:---:|:---:|:---:|:---:|
| Pause Timer.....200-22 | ● | ● | ● | N |
| PBX Dialing Codes .....200-22 | ● | ● | ● | N |
| Personal Park .....200-22 | ● | ● | ● | N |
| Pool Button Operation.....200-22 | ● | ● | ● | N |
| Preferred Line Answer .....200-22 | ● | ● | ● | N |
| Privacy Release .....200-22 | ● | ● | ● | N |
|    Per CO Line Option.....200-22 | ● | ● | ● | N |
|    Per Station Option.....200-23 | ● | ● | ● | N |
| Private Line .....200-23 | ● | ● | ● | N |
| Pulse-To-Tone Switchover.....200-23 | ● | ● | ● | N |
| **R** | | | | |
| Range Programming .....200-23 | ● | ● | ● | PC/Modem |
| Remote Administration.....200-23 | ● | ● | ● | PC/Modem |
|    Database Upload/Download .....200-23 | ● | ● | ● | PC/Modem |
| Remote System Monitor & Maintenance .....200-23 | ● | ● | ● | PC/Modem |
|    Remote System Maintenance.....200-23 | ● | ● | ● | PC/Modem |
|    Remote System Monitor.....200-23 | ● | ● | ● | PC/Modem |
| **Repeat Redial (FP3)** .....200-24 | ● | ● | ● | N |
| **S** | | | | |
| Save Number Redial (SNR).....200-24 | ● | ● | ● | N |
| Single Line Telephone (SLT) Compatibility.....200-24 | ● | ● | ● | 2500 Type |
| Speakerphone.....200-24 | ● | ● | ● | 34-Btn/14-Btn |
| Station Class of Service (COS).....200-24 | ● | ● | ● | N |
| **Station ID Lock (FP3)**.....200-24 | ● | ● | ● | N |
| Station Message Detailed Recording.....200-24 | ● | ● | ● | Printer/Term |
| Station Relocation Feature .....200-24 | ● | ● | ● | N |
| Station Speed Dial .....200-24 | ● | ● | ● | N |
| System Capacity .....200-25 | ● | ● | ● | N |
|    Up to 48x96 Configuration .....200-25 | ● | ● | ● | N |
|    Up to 96x120 Configuration*.....200-25 | ● | ● | ● | N |
| System Hold.....200-25 | ● | ● | ● | N |
| System Speed Dial .....200-25 | ● | ● | ● | N |
| **T** | | | | |
| **T-1 Trunking* Feature (FP3)**.....200-25 | ● | ● | ● | T-1 Trunk Bd |
| Text Messaging (Silent Response) .....200-25 | ● | ● | ● | Exec Keyset |
| TIE Trunks (E&M) .....200-25 | ● | ● | ● | TIE Line Bd |
| Toll Restriction (Table Driven).....200-25 | ● | ● | ● | N |
| Transfer Recall.....200-25 | ● | ● | ● | N |
| **U** | | | | |
| Uniform Call Distribution (UCD) .....200-25 | ● | ● | ● | N |
|    Agent Queue Status Display.....200-25 | ● | ● | ● | N |
|    Alternate UCD Group Assignments .....200-26 | ● | ● | ● | N |
|    Auto Wrap-Up w/Timer.....200-26 | ● | ● | ● | N |

N=No additional hardware required, *System Memory Expansion Kit required.

**Table 200-1 Station Features/Software Packages**

N=No additional hardware required, *System Memory Expansion Kit required.

# SECTION 200

# KEY STATION FEATURE DESCRIPTION

The System and Key Station features of the Starplus Digital Key Telephone System are listed and described below in alphabetical order. An abbreviated feature index is provided in Table 200-1 Station Features/Software Packages.

## 200.1 ACCOUNT CODES

An account code is the last field within Station Message Detail Recording (SMDR), that provides the ability to track specific calls by entering a non-verified, variable length (up to 12-digits) identifier. The use of forced Account Codes is optional, offered on a system wide basis. SMDR must be enabled in order for the account code to be included as part of the SMDR record.

## 200.2 VERIFIED ACCOUNT CODES/TRAVELING COS (FP3)

The Verified Account Code/Traveling Class of Service (COS) feature provides the ability to track specific calls by entering a verified, variable length (up to 12-digits) identifier. Each account code can be assigned a day and night Class-of-Service for determing the dialing privileges allowed by that account code. This provides a means for users to override a restricted station. If the dialed account code matches the Verified Account code table, intercom dial tone will be returned, otherwise error tone will be presented. The use of forced Account Codes is optional, offered on a system-wide basis. SMDR must be enabled in order for the account code to print out as part of the SMDR record. The Starplus SPD 4896 system allows for up to 250 12-digit account codes. The System Memory Expansion kit is required for this feature.

## 200.3 ATTENDANT RECALL

When a line has been left on hold for a programmable period of time, the station placing that line on hold will be recalled. If that station fails to answer the recall, the call will be recalled to the attendant(s) for handling. There can be three attendants per system. Transferred, Parked and Camp-on recalls will also recall the Attendant.

## 200.4 AUTOMATIC CALL BACK TIMER

To accommodate the reduced number of buttons on the Starplus Basic keyset, an automatic call back feature has been implemented. This feature will invoke a call back anytime a user places an intercom call and listens to busy tone for a preset period of time. By default, this timer is disabled and is variable from 00 to 99 seconds.

## 200.5 AUTOMATIC CALL DISTRIBUTION (ACD)

*This feature is available with optional software.* When purchased, Uniform Call Distribution (UCD) is not used and is replaced by the ACD functions identified in the following. 16 Automatic Call Distribution (ACD) groups can be programmed, each containing up to 16 three-digit station numbers (up to the system station maximum). Each group is assigned a pilot number. When this number is dialed, the first available agent in that group is rung. Calls are routed to the station that has been on-hook for the longest period of time.

### A. ACD Event Trace

The ACD Event Trace provides a series of events trace output which would provide input to a customer-developed ACD Reporting package.

### B. Agent Positions (FP3)

- Agent Login/Logout w/Agent ID Feature: The Agent Login/Logout Feature provides a means for an agent to log into one of the ACD groups and receive calls. The Agent ID entered in the login process identifies the agent and places that agent in the available agent list for the ACD group specified in the login process. This feature allows an agent to log into any ACD group from any station in the system and receive calls.

- Agent Identification: Each ACD Agent has a unique Agent ID code (0000-9999) which he uses during login and logout procedures. This unique ID code is not verified or stored as part of the system database.

- Agent Available/Unavailable Mode: Stations programmed into a ACD group may remove themselves from their assigned ACD group by dialing the Available/Unavailable code. When an agent is in the Available mode, that agent will receive ACD calls in the normal manner. When an agent is in the Unavailable mode, that agent will no longer receive ACD type calls, however he may receive non-ACD calls. Agents that have gone Unavailable will receive a visual reminder with a flashing LED and or a LCD display message.

- **Agent Help Request:** The HELP feature provides a means for an ACD agent to signal his assigned supervisor for assistance. The agent while on a call can press the HELP button to signal the assigned supervisor. The supervisor may respond by use of his HELP button and his ACD Barge-In feature.

- **Agent Call Qualification:** This feature provides a means for an agent on ACD type calls to enter codes that identify the call. This feature will permit up to 12-digits to be entered, however, only the first four digits are provided for in the SMDR record. A programmable confirmation tone option has been added to the Agent Call Qualification feature on a system-wide basis.

- **Agent ACD Transfer Display (FP3):** An ACD enhancement changes the LCD message to indicate to an ACD agent what ACD group the call was transferred to. The LCD will indicate if the call was transferred to a station number or a pilot group number.

### C. Alternate ACD Group Assignments

An alternate ACD group can be programmed so that if stations in one group are busy, the alternate group will be checked for an available station.

### D. Group Member Status

The Supervisors Group Member Status feature provides a means for an ACD supervisor to view the status of each of the 16 ACD groups in the system individually. This display will tell the supervisor which stations are logged into the group, and if the station logged in is available, unavailable, out of service, in DND, or busy on a call. The supervisor can use this display to determine why there are a lot of queued calls in a specific group.

### E. Guaranteed Message Announcement

This feature provides a means to force incoming callers to an announcement before being placed into an ACD Queue or routed to an agent. The outside callers are presented with the entire message before being routed to the ACD Group. Agents in an ACD Group with a Guaranteed Message enabled will receive incoming callers only after the caller has heard the designated recorded announcement in its entirety.

### F. Incoming CO Direct Ringing

CO Lines can be programmed to ring directly into a ACD group. When all agents are busy and RAN is enabled, the system will answer the

caller and present the 1st RAN announcement automatically.

### G. No-Answer Recall Timer

If a call routed to a station via ACD is not answered by the ACD Agent/Station before the No-Answer Recall timer expires, the call will be returned to ACD Queue with the highest priority. In addition, the station that failed to answer the ringing ACD call will be placed into an out of service (OOS) state.

### H. No-Answer Retry Timer

When the No-Answer Recall timer expires, a station that failed to answer the ringing ACD call is placed into an out-of-service (OOS) state. The station that was taken out-of-service (OOS) will be placed back in service if the agent hits his available flex button or dials the available flex code. In addition, the agent will be placed back in service if the No-Answer Retry timer expires. If the agent does not answer his next ACD call, he will again be taken out-of-service. This cycle will continue until the station answers calls, logs out, or goes unavailable.

### I. Overflow Station Assignments (FP3)

An overflow station may be assigned to route callers in queue to a designated station after a specified time. The Overflow station may remove themselves from their assigned group by dialing the Overflow Available/Unavailable code. When the Overflow station is in the available mode, that station will receive ACD calls in the normal manner. When the Overflow station is in the Unavailable mode, that station will no longer receive ACD type calls, however they may receive non-ACD calls. The Overflow station that has gone Unavailable will receive a visual reminder with a flashing LED. The overflow station may NOT be one of the ACD group stations.

An enhancement has been made to the ACD Overflow Station to allow ACD calls reaching the ACD Overflow Station to call forward to another station. This enhancement is allowed or denied on a system-wide basis. Once enabled in programming, an ACD Overflow station can Busy/No-Answer forward to Voice Mail Groups, ACD Groups, Hunt Groups and stations. If the ACD Overflow station is busy or does not answer before the no-answer call timer expires, the ACD call will forward to Voice Mail.

> **NOTE** *If no stations are logged into the ACD Group, ACD calls will overflow to the Attendant station.*

### J. Recorded Announcements (RAN) (FP3)

Recorded announcement devices can be assigned to provide up to eight different messages per system, if all stations in a ACD group are busy. The eight messages are available to all 16 ACD groups in different configurations with a maximum of 2 per group. A RAN device can provide an announcement to one caller at a time. Subsequent callers will be queued onto the message on a first-in basis.

This feature has been enhanced to allow an ACD RAN to be directed to a Hunt Group to permit up to eight callers to receive the Hunt RAN at one time. Each RAN Announcement Table can be directed to a Hunt Group, therefore each primary and secondary RAN Table can have eight announcement. RAN Hunt Group numbers can be chained together by placing the RAN Group Number (458-461) as the last member in the desired group. RAN Groups are pilot type only.

An additional enhancement allows callers to dial a RAN directly via their station number. This allows users to change RAN recordings by calling the RAN device, providing DTMF instructions, and then voice recording. These enhancements affect both Guaranteed Message Announcements and RAN Announcements.

### K. Supervisor Positions

- Supervisor Login/Logout Feature: The Supervisor Login/Logout Feature will provide a means for a supervisor to log into one of the ACD groups. The Supervisor ID entered in the login process identifies the supervisor for the specific ACD group he is assigned to. This feature will allow a supervisor to log into any ACD group from any station in the system. However, to have the supervisor monitor with barge-in feature, the supervisor must log in at a station with monitor barge-in capability.

- Supervisor Identification: Each ACD Supervisor has a unique Supervisor ID code (0000-9999) which he uses during login and logout procedures. This unique ID code is not verified or stored as part of the system database.

- Supervisor Help Request: The HELP feature provides a means for an ACD agent to signal his assigned supervisor for assistance. The agent while on a call can press the HELP button to signal the assigned supervisor. The supervisor may respond by use of his HELP button and his ACD Barge-In feature.

- Supervisor Monitor w/Barge-In Feature: The ACD Supervisor Monitor with Barge-In feature provides a means for an ACD supervisor to monitor an agent's call in progress in order to coach sales techniques or customer relations skills. When used, a supervisor may intrude onto an agents call in a listen only mode or in a true conference mode. This feature is available with or without a warning tone.

| NOTE | The use of Supervisor Monitor w/Barge-In is limited by federal law and may also be limited or prohibited by state or local law, so check the relevant laws in your area before employing these features. |

| NOTE | A change in volume may occur on the CO line or intercom call after the barge-in occurs. |

- Supervisor Station Assignment Feature: The ACD Supervisor Station Assignment feature provides a means to assign each ACD group a supervisor. This supervisor station can receive the calls in queue display in real time, receives No Answer/Out of Service, receives "HELP" displays from the groups that the supervisor is assigned to and can barge in on active calls in his ACD group or groups.

### L. Supervisor/Agent Calls in Queue Display (FP3)

This feature provides a means for an agent and ACD supervisor to view the status of their ACD group. This display is an idle state display and will prompt a supervisor that his agents in the group are having problems answering all their calls. The display will tell the agent and his supervisor how many calls are in queue, how many agents are logged into the ACD group, and the length of time that the oldest call has been in queue. An enhancement has been made to display the oldest call in queue duration in hours, minutes and seconds. When an ACD agent is on a CO call, the LCD will display the trunk name and call duration of the present call in the lower half of the display.

### M. Wrap-Up Timer Per ACD Group (FP3)

This feature enhances the ACD operation by allowing the ACD Wrap-Up timer to be programmed on a per group basis instead of on a system-wide basis.

### 200.6 AUTOMATIC LINE ACCESS

Each station, key or SLT, may have their phone programmed to access a particular CO Line such as

a private line or a line from a Group of CO lines upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated or individual lines. Outside line dial tone is received just by going off-hook, without the need to dial an access code.

## 200.7    AUTOMATIC NIGHT SERVICE

The system may optionally be programmed to go into and out-of night service automatically. This method does not require the attendant to activate or deactivate night service on a daily basis. The automatic night service is enabled and disabled on a programmable daily schedule including Saturday and Sunday schedules. A time can be set to enable Night Service and to Disable Night Service on a per day basis.

## 200.8    AUTOMATIC PAUSE INSERTION WITH SPEED DIAL

If a flash command is placed into system speed dial numbers or station speed dial numbers, a pause will automatically be inserted after the flash. A pause will also be automatically inserted after a PBX dialing code has been used. Manually dialing a flash during a call will cause only those numbers dialed after the flash to be redialed for a Last Number re-dialed number or for a Save Number re-dialed number.

## 200.9    AUTOMATIC PRIVACY

Privacy is automatically provided on all calls. If one station is conversing, another station cannot intrude on that line. The Automatic Privacy feature can be disabled, allowing up to three other stations to join in on existing CO line conversations.

| NOTE | *Disabling of the privacy feature may be limited by federal, state or local law, so check the relevant laws in your area before disabling privacy.* |
|---|---|

## 200.10    AUTOMATIC SELECTION

The user can select an outside line, intercom station, speed dial button, or dial a feature and automatically place the phone in the dialing mode without pressing the ON/OFF button or lifting the handset.

## 200.11    BACKGROUND MUSIC

Each Digital Terminal user may receive music over their speaker when an optional music source is connected to the system. This feature can be allowed or denied on a system-wide basis by programming.

## 200.12    BATTERY BACK-UP (MEMORY)

A NICAD battery is located on the Central Processing Unit (CPU) of the Starplus SPD 4896 system to protect system memory in case of commercial power outage or the system power being turned off for a period of time. Battery Back-up Memory retains all

system features including both system and station speed dial during a power outage.

## 200.13    BUSY LAMP FIELD (BLF)

When a button on a Digital Terminal is assigned as a DSS, it also serves as a Busy Lamp Field to display the status of that telephone.

## 200.14    CALL ANNOUNCE - PRIVACY

Each telephone user can set their intercom signaling switch to receive intercom call announcements without having the calling party hear any conversations in progress.

## 200.15    CALL BACK

A station can initiate a call back request to another busy station. As soon as that station becomes idle, the station that left the call back request is signaled.

## 200.16    CALL COST DISPLAY FEATURE

The Call Cost Display Feature allows a user to view the approximate cost of each call made. When the Enhanced S/W package is installed in the system, this approximate cost will also be printed as part of the SMDR record, when enabled.

The Call Cost Display will replace the call duration display when a call is made using LCR. This display is enabled in programming.

The cost information is programmable by selecting one of the 16 route list tables and one of the four time periods. This allows the user to program four separate costs based on the time of day for each of the 16 routes. The costs entered in the tables will be a cost for one minute, however, costs are calculated using a 1/10th of a minute value. These costs are rounded down and are based on the start time of the call, even if the call extends into a different time period. The SMDR printout will contain a cost calculated using a 1/10th of a minute increment and the display will update approximately every 30 seconds. The user must also have LCR enabled to get the call cost display.

## 200.17    CALL COVERAGE FEATURE (FP3)

This feature provides the functionality for stations to answer calls for other stations by utilizing enhanced DSS buttons. Visual and Audible status of ringing stations to an assigned coverage station are provided. Multiple coverage stations can have the same remote ringing station(s) programmed on their stations. Once a coverage station answers the call, other stations attempting to answer the call will receive busy tone and the call coverage button extinguishes on all appearances of that button. This feature can cover SLT extensions, however an SLT cannot perform the call coverage function. The SLT

extension does not have to be physically installed, only the SLT card needs to be installed.

Direct CO calls have ring and LCD priority over call coverage calls. The call coverage station must have a direct CO appearance or Loop button in order to pick up an external call. If the call coverage station is in DND, no audible ringing will be heard, however visual and LCD information will be presented.

This feature can be programmed by the station user or through admin programming. By default, no call coverage buttons are assigned.

## 200.18    CALL FORWARD: PRESET (FP3)

This feature allows the system database to be configured so that incoming CO Lines, which are programmed to ring at a particular station, can be forwarded elsewhere in the system predetermined by programming. This feature is active if the station ringing is not answered in a specified time. This is particularly useful in "overflow" applications where a Voice Mail or Auto Attendant may be in use.

- A station may have one designated preset forward location defined in the database.

- Preset Call Forward is chainable only to other predetermined preset forward stations specified in the database up to a chain of 5 stations.

- Chainable Preset Call Forwarding will force the incoming CO Line to ring at each station preassigned in the database for the Preset Forward Ring Timer specified in the database before forwarding.

- Each station in the system may, independently, have incoming CO calls preset forwarded to the following destinations:

### A.    Preset Call Forward - ACD Groups

CO Lines can be preset forwarded to ring into a ACD Group from any station. A CO line will not preset forward to a busy ACD group, however each time the preset forward timer expires (for a total of five attempts) the group will be checked for an idle station. If a member of the group is idle the call will then be presented to that member.

### B.    Preset Call Forward - Hunt Groups

CO Lines can be preset forwarded to ring into a Hunt Group from any station. A CO line will not preset forward to a busy Hunt group, however each time the preset forward timer expires (for a total of five attempts) the group will be checked for an idle station. If a member of the group is idle the call will then be presented to that member.

### C.    Preset Call Forward - Off-Net

CO Lines can be preset forwarded to ring Off-Net via speed dial from any station. After the expiration of the preset forward timer, the system will select an idle CO line and dial the off-net location, then connect the two CO lines.

### D.    Preset Call Forward - Per CO Line (FP3)

This enhancement allows each CO line to be preset call forwarded on a per CO line basis. This allows a CO line to initially ring at multiple stations and forward to a pre-determined destination. The destination can be a station (EKT-SLT) or Hunt Group. Each CO line has a preset forward timer. Additionally, each CO line has a VMID field to allow specific VM digits to be sent when a CO line forwards to a VM group.

This feature applies to initial CO ringing lines only. If a forward destination is programmed in the CO line field, the CO call will forward to that destination after the CO Preset Forward timer expires. This forward occurs regardless of how many or how few stations the line is ringing on. The digits entered for the CO line are sent in the station field. Once the CO line is answered and transferred, station call forwarding rules are in effect. Calls will still follow all call or busy forward, however, CO preset forward will forward the call if the first forward destination has not answered the call. VMID digits per CO line override station VMID. Calls ringing into ACD, UCD or VM Groups will continue to ring the group. The CO call will not forward when ringing one of these types of groups.

### E.    Preset Call Forward - Stations

Each Digital Terminal user may have preset in the database Initial Ringing Incoming to be directed to another station in the system, if the call goes unanswered for a predetermined amount of time.

### F.    Preset Call Forward - UCD Groups

CO Lines can be preset forwarded to ring into a UCD Group from any station. A CO line will not preset forward to a busy UCD group, however each time the preset forward timer expires (for a total of five attempts) the group will be checked for an idle station. If a member of the group is idle the call will then be presented to that member.

### G.    Preset Call Forward - VM Groups

CO Lines can be preset forwarded to ring into a Voice Mail Group from any station. A CO line will not preset forward to a busy Voice Mail group, however each time the preset forward timer expires (for a total of five attempts) the

group will be checked for an idle Voice Mail port. If a VM port is idle the call will then be presented to Voice Mail.

## 200.19    CALL FORWARD: STATION (FP3)

When any type of station call forwarding is invoked, the LCD display will normally indicate the call forwarding mode at all times. An enhancement has been made to the LCD forwarding display to make the call forwarding mode display optional. This feature is enabled/disabled in admin programming on a system-wide basis.

### A.    Call Forward - All Calls

This feature allows a station the ability to have all their calls (internal or external) forwarded immediately to a designated station, an ACD or UCD group pilot number, Voice Mail group number, or Hunt group. (See Note)

### B.    Call Forward - Busy

This feature allows a station the ability to have their calls forwarded to a designated station, an ACD or UCD group pilot number, Voice Mail group number, or Hunt group when their station is busy. (See Note)

### C.    Call Forward - Busy/No Answer

Allows a station the ability to forward a combination busy/no answer calls to a designated station, an ACD or UCD group pilot number, Voice Mail group number, or Hunt group. No answer calls forward when the system-wide "no answer timer" expires. Initial CO ringing, transferred CO ringing and intercom ringing calls can all be forwarded. Calls that ring to an idle station will be call forwarded after expiration of the No Answer ring timer.(See Note)

### D.    Call Forward - Follow-Me (FP3)

This feature allows a user who is away from their station, to activate/deactivate call forwarding from another station in the system. This will enable the user to have their calls forwarded to their current location or forwarded into Voice Mail, ACD/UCD, Hunt Groups, or System Speed bin for off-net forwarding or to any other station in the system. When this call forward is activated, all calls presented to the forwarded station will forward to the destination station immediately. This feature also provides the capability for DISA and E&M callers to activate/deactivate call forwarding from a remote location. Both internal and external calls will forward to the designated station. The call forward status is stored in a battery protected area of memory.

### E.    Call Forward - No Answer

This feature allows a station the ability to have their calls forwarded to a designated station, an ACD or UCD group pilot number, Voice Mail group number or Hunt group number when there is no answer at the station. No answer calls forward when the system-wide "no answer timer" expires. (See Note)

### F.    Call Forward - Off-Net

Stations will be allowed to forward intercom and transferred CO line calls to an off-net location. This allows a station to reroute calls that would normally be lost. Calls can be forwarded to home or another off-net site. Initially ringing CO calls cannot be forwarded with this feature (see Incoming CO lines Off-Net Forward feature).

## 200.20    CALL PARK

An outside line can be placed into one of eight parking locations and can be retrieved by any station that has a direct line appearance or an available loop button. Parked calls have their own recall timer and will recall the originating station and if still unanswered, the attendant(s).

## 200.21    CALL PICK-UP:

### A.    Directed Call Pick-up

A station can pick up an intercom call, transferred, incoming, or recalling outside line call to a specific unattended station. The call must be a tone ringing call.

### B.    Group Pick-up

Stations can be placed in one or more of four pick-up groups. Stations within a group can pick up tone ringing intercom calls, transferred, incoming, or recalling outside line calls for another station in that group.

> **NOTE**  By default, all Voice Mail stations are placed in Pickup Group 1. You may need to change this default setting.

## 200.22    CALL TRANSFER (FP3)

An outside CO line can be transferred from one keyset to another. By using the TRANS button, screened (announced) or unscreened transfers can be made. The line being transferred rings on the keyset and provides Exclusive Hold flashing indication to the receiving party's keyset. Any number of attempts can be made to locate someone by calling different keysets without losing the call. If a line is transferred to a busy station, it will receive muted ringing.

The Direct Transfer Mode is a system-wide enhancement added to the screened transfer feature to allow

an outside CO line to be transferred directly to the key station handset, if enabled in programming.

## 200.23   CALLER ENTERED ICLID DIGITS

The Guaranteed Message announcement feature provides a means to force incoming callers to an announcement before being placed into an ACD Queue or routed to an agent. The outside callers are presented with the entire message before being routed to the ACD Group. Agents in an ACD Group with a Guaranteed Message enabled will receive incoming callers only after the caller has heard the designated recorded announcement in its entirety.

In addition, the Guaranteed Message feature provides an option to capture digits dialed by the incoming caller which can be inserted as ICLID incoming number identification.

If the Guaranteed Message announcement is programmed in Admin, incoming ACD calls will be routed to the Guaranteed Message RAN before going to the ACD Group. If the ICLID option is selected, digits received before the announcement time-out will be captured and inserted as incoming ICLID number information. When the ICLID option is selected, a [#] will be recognized as a termination of the announcement and a [*] will be recognized as an entry error. An entry error will cause the ICLID number to be removed and the incoming caller can re-enter his phone number.

## 200.24   CALLING STATION TONE MODE OPTION

This feature will provide an easy means for a Calling station to override a desired stations "H" (handsfree) or "P" (call announce) intercom switch setting. A dial code has been added that is dialed in front of the extension number to force the tone ringing.

## 200.25   CAMP-ON

A station may alert a busy party that an outside line is on hold and waiting for them by using the CAMP-ON button. To camp on a call, press the TRANS button to transfer the call to the desired busy station, then press the CAMP ON button. The busy party will receive a muted ring over the keyset speaker, and a visual flashing CAMP ON LED. By pressing the CAMP ON button, the person called places his existing outside call on hold and is connected to the person placing the Camp On. He can then pick up the call on the appropriate line. Calls cannot be camped on when a station is in DND or in Conference.

## 200.26   CAMP-ON RECALL

When a station does not answer a Camp On, that call will recall the person placing the Camp On, and if unanswered by them, will recall the attendant(s).

## 200.27   CANNED TOLL RESTRICTION

The system provides an easy means of applying the most common form of toll restriction where 1+ and 0+ along with 976, 555, and 411 type of calls are denied and 1-800, 911, 1-911, and 1-611 type of calls are allowed. This canned toll restriction is applied through the use of a single pre-built Class-of-Service and can be assigned to stations using range programming.

## 200.28   CENTREX COMPATIBILITY

The Starplus Digital Key Telephone System provides features that are Centrex compatible so that Centrex users can utilize the Starplus Digital Key Telephone System to enhance their Centrex capabilities. The system actually simplifies and provides easier access to many Centrex features by offering the following features:

**A.   Flex Button Programming**

Flexible button programming allows Centrex users to program complex Centrex dial codes onto a keyset button for easy one touch access to Centrex features.

**B.   Off-Hook Preference**

Both Digital Terminals and Single line telephones may be programmed to have their personal Centrex line accessed automatically just by lifting the handset or pressing the ON/ OFF button. Internal features to the Starplus Digital Key Telephone System are still made available to Digital Terminals by accessing intercom before going off-hook.

**C.   Private Line Appearance**

The Starplus Digital Key Telephone System allows for private line assignment on an unlimited basis. Each station may have sole access to a particular outside line if desired and may also be assigned to receive incoming ringing on that line.

**D.   Programmable Flash Timer**

CO line flash is a momentary opening on a CO line used for signaling. When using the Starplus Digital Key Telephone System in a Centrex environment, the CO line flash is to signal the intention to transfer a caller using Centrex transfer. The CO line flash timer is programmable on a per CO line bases to facilitate a mixture of Centrex and CO lines within the same system.

**E.   Programming "*", "#", and Hook-Flashes Into Speed Dial**

Many Centrex codes utilize a hook-flash followed by in many cases the digit [*] and or [#]. The Starplus Digital Key Telephone System

allows these codes to be programmed as a part of system or station speed dial sequences.

## 200.29 CENTREX/PBX TRANSFER

When Centrex or PBX lines are connected to the Starplus Digital Key Telephone System, users may, by using the Flash button, transfer callers to other Centrex or PBX extensions. Additionally, the Flash command may be included within a Speed Bin and programmed onto a flex button for one button transfer.

## 200.30 CHAINING SPEED BINS

Speed dial bins may be chained together by simply pressing one speed bin, then another and another as required.

This is helpful for accessing Long Distance carriers or banking services when account codes may be required.

## 200.31 CO LINE ACCESS

Through programming, telephones are allowed or denied access to particular outside lines or line groups.

## 200.32 CO LINE CLASS OF SERVICE

Each CO Line may be programmed with a Class-of-Service to provide dialing privileges. The Starplus Digital Key Telephone System uses an array between CO Line Class-of-Service and Station Class-Of-Service to offer a wide variety of dialing privilege possibilities.

## 200.33 CO LINE CONTROL (CONTACT)

On the Starplus SPD 4896 system, there are 12 control contacts which may be individually programmed as either CO Line Control (to control ancillary equipment) or Loud Bell Control to control a customer provided ringing device to external areas. When programmed as CO Line Control and assigned to a CO line, the corresponding contact will close whenever that CO line is accessed by a station. Since no "on-board" relay contacts are available on the Starplus SPD 4896 system for CO Line Control, the Relay/Sensor Interface module is used for this purpose.

## 200.34 CO LINE GROUPS

Outside lines can be placed in one of eight groups if the customer's business requires such grouping. Stations are then individually assigned access to these groups and given the ability to dial on particular lines.

## 200.35 CO LINE IDENTIFICATION

This feature allows a name to be entered into the database programming for each individual line

(trunk) connected to the system. The name may be entered in any combination up to 12-characters in length (this will represent 24-digits entered). Once entered, LCD digital terminals including the attendant station(s) will receive the programmed line "name" in place of the default "LINE XX" message. This applies to all line call processing conditions where the current "LINE XX" message appears.

SMDR will continue to print out the line number in place of the programmed name. If the line name has not been programmed, then the current "LINE XX" display will be used as the default. A programmable data field is available for each line in the system.

| NOTE | This feature is for LCD Display appearance only! |

## 200.36 CO LINE INCOMING RINGING AS-SIGNMENT

Each CO line may be programmed (in database admin) so that incoming ringing on the specified CO line(s) may be assigned initial ringing to one of the following destinations:

- one or more stations (Keyset or SLT)
- To an ACD, UCD, Voice Mail or Hunt Group
- Off-Net (via Speed Dial)

The ring-in will follow Day Ring assignments unless Night Service mode is active, in which case all incoming CO calls will follow Night Ring assignments.

When ringing is assigned to a keyset, a direct line appearance or an idle Loop button must be available to receive the call. Station call forwarding of initial ringing CO call is possible and can be directed to other keysets with an available Loop button or direct appearance.

If the initially ringing CO call cannot ring at the destination assigned, it will ring at the first Attendant station.

## 200.37 CO LINE LOOP SUPERVISION

The Starplus Digital Key Telephone System can be programmed to monitor CO lines while on-hold or connected to RAN devices or Voice Mail systems or in Trunk-to-Trunk connections for disconnect signal provided by the Telco.

After a disconnect signal is detected, the Starplus Digital Key Telephone System will release the CO lines and automatically place them back in service.

## 200.38 CO LINE QUEUE

When all the outside lines in a group are busy, stations can be placed in queue awaiting a line in the same group to become available. If a station doesn't answer the queue signal within 15 seconds, that station is dropped from the queue.

## 200.39    CO LINE RINGING OPTIONS

When a CO call rings at a busy station, the call rings at the station using a muted ring signal. This option allows a user to receive a reminder ring at his busy station, instead of muted ringing. In addition, a reminder ring timer has been added to the system to provide the reminder ring every time the timer expires, as long as the incoming CO line remains connected. The system defaults this option to muted ringing.

## 200.40    CO RING DETECT

The duration of the ringing signal from the CO or the PBX is matched with ringing detection circuitry in the KSU. The ring detect can range from 200 to 900 msec, programmed in 100 msec increments. This timer helps prevent false ringing.

## 200.41    CONFERENCE (FP3)

There are three different types of conferencing:

### A.    Add-On Conference

Up to eight internal parties can engage in a conference, or seven internal parties with a limit of one external party. A maximum of five external parties can be conferenced. The handset receiver gain feature can be used with the increased conference capabilities to compensate for CO line losses.

### B.    Multi-Line Conference

One internal station can engage in a conference with no more than five outside parties. The handset receiver gain feature can be used with the increased conference capabilities to compensate for CO line losses.

### C.    Unsupervised Conference

The conference initiator can exit a conference with two outside parties and leave them in an unsupervised conference. The initiator can re-enter the conference at any time. The Starplus Digital Key Telephone System can automatically terminate the call when both parties hang up, when Loop Supervision is provided by the telco and enabled in the database.

A programmable conference timer will disconnect the unsupervised conference if the initiator does not re-enter.

## 200.42    CONFERENCE ENABLE/DISABLE

This feature will allow the system conference feature to be administered on a per station basis for the ability of a station to initiate a conference.

## 200.43    DATA FEATURE

The Data Feature offers the ability to transmit data information between personal computers, printers, plotters, modems, CRT terminals, and main frame computer ports. To establish a data call, a Digital Data Interface Unit (DDIU) is required to be connected to each data communications device. The Digital Data Interface Unit (DDIU) allows any serial data communications device (which conforms to RS-232C) to be connected to the Starplus Digital system. This requires a station port.

## 200.44    DATABASE PRINTOUT (DUMP)

Through a system programming command, either portions of or a complete database dump can be printed using the RS-232C connector located on the Central Processing Unit (CPU) on the Starplus SPD 4896 system.

## 200.45    DATABASE UPLOAD/DOWNLOAD

DataBase Upload/Download feature provides a maintenance facility which has been added to the Remote Administration routine. This routine will permit the database to be downloaded to a PC, when a software change is made or when the system needs to be initialized and re-programmed. In addition, the routine will facilitate the programming of a database on an in-house system which can be downloaded to a PC and then uploaded to a system in the field. After the system maintenance is completed, the file saved in the PC can then be uploaded to the system.

## 200.46    DAY/NIGHT CLASS OF SERVICE (COS)

This feature allows stations that are a certain COS during the day, to be assigned a different COS when the system is put in the night mode. The night COS goes into affect when the system is placed into the night mode, manually or automatically. This prevents the misuse of phones after hours.

## 200.47    DEFAULT BUTTON MAPPING

The Starplus Digital Key Telephone System allow for 28 flexible buttons on each Enhanced or Executive Digital Terminals to be flexibly assigned to CO/PBX lines, DSS buttons, Speed Dial or Feature buttons. However, the system will power up with a default button mapping as shown in Figure 200-1 Executive Keyset Default Button Map. The Starplus Digital Key Telephone System also support a Basic Digital Terminal with 6 fixed feature buttons, 8 flexible buttons, and speakerphone capability on intercom calls. This keyset provides the same functionality that the standard non-display 34-button keyset provides. The Basic Digital Terminal default button map is shown in Figure 200-2 Basic Keyset Default Button Map.

## 200.48    DIAL BY NAME

The system will allow station users to dial extension numbers, or speed bins by entering the name of a
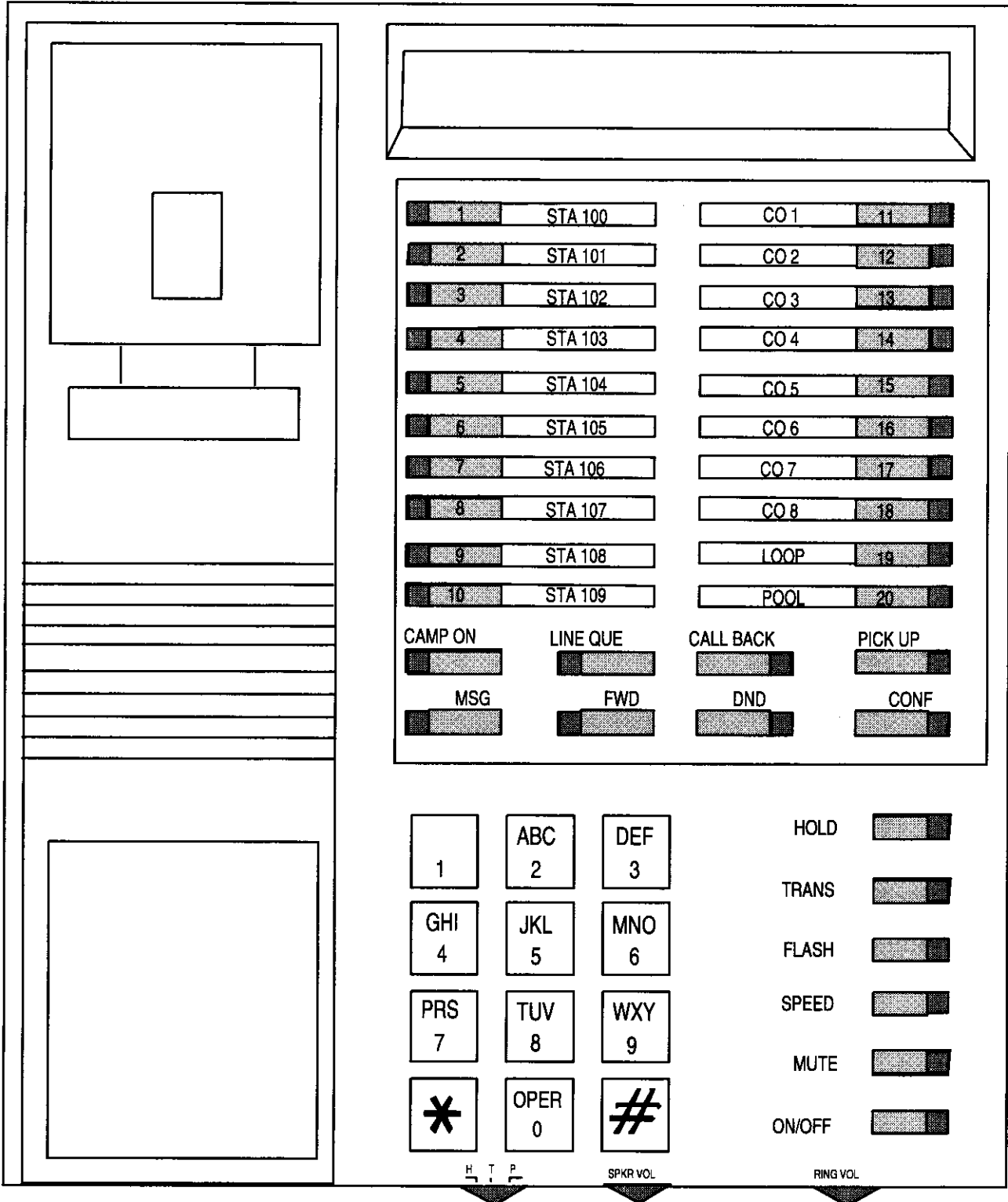
**Figure 200-1 Executive Keyset Default Button Map**

CO 1     CO 2     LOOP     POOL

MSG     FWD     DND     CONF

| 1 | ABC 2 | DEF 3 |
| GHI 4 | JKL 5 | MNO 6 |
| PRS 7 | TUV 8 | WXY 9 |
| ✳ | OPER 0 | # |

HOLD

TRANS

FLASH

SPEED

MUTE

ON/OFF

H  T  P      SPKR VOL      RING VOL
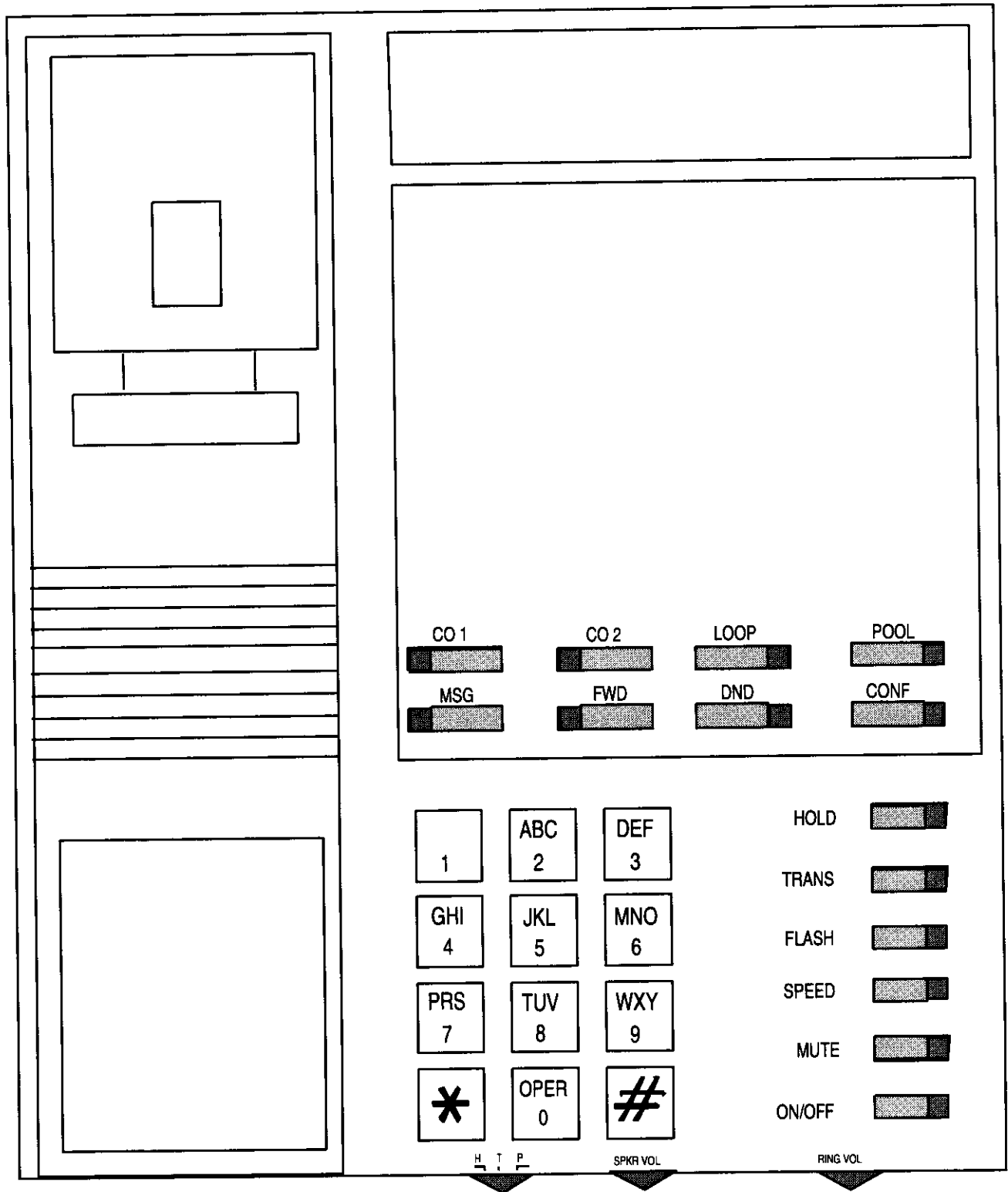
**Figure 200-2 Basic Keyset Default Button Map**

person that has been programmed for that station. The system database will allow entry of a name (alphanumeric) up to 24 digits in length for each station. The programmed name can be used for dial-by-name station users and in directory dialing. This feature should not be confused with the Name In Display feature.

## 200.49    DIAL PULSE SENDING

Each CO interface circuit for outside lines can be programmed to send dial pulse or DTMF signals. Dialing speed and break/make ratios are programmable.

## 200.50    DIALING PRIVILEGES

The system provides a flexible means of providing toll or dialing restriction. Through the assignment of class of service (both station and outside line) many combinations of allow and deny numbers can be set. Both area and office codes can be screened for allow/deny privileges.

## 200.51    DIRECT INWARD DIALING (DID) FEATURE

This feature allows one-way direct inward dialing access to specific stations on specific DID lines from the public telephone network, without going through an attendant answering position. DID capabilities refer to incoming calls only.

This feature requires the DID Interface Board (DID) which provides 12 one-way DID circuits. The system can accept from 2 to 7 digits from the Central Office. This feature has been enhanced to allow the number and name field of the LCD display on a DID call to be presented to the ICLID port. Calls will be identified in the SMDR field as answered (I) or Unanswered (U) followed by the DID number. An externally supplied 48v dc power source is required and at least one DTMF receiver must be installed in the system. The System Memory Expansion kit is required for this feature.

## 200.52    DIRECT INWARD SYSTEM ACCESS (DISA)

The Starplus Digital Key Telephone system allows an unlimited number of outside line calls to be programmed to provide direct access to the system and the use of features such as WATS lines, intercom dial tone or the ability to dial out on outgoing trunks without going through the attendant. The duration of a Trunk-to-Trunk DISA call can be set by the system administrator. DISA callers may also access LCR, All Internal/External paging, All Call paging, Call Park pick-up, and Meet-Me paging.

### A.    CO Line Group Access

Incoming DISA callers may access all line groups such as FX or WATS lines or other outgoing services from home or while away from the office.

### B.    DISA Call Forwarding

Two options provide a DISA line to be 24 hours or at night only, which converts the incoming DISA line to an incoming line with ringing assignments at the station number dialed.

The CO line ringing at a station will follow preset forward or no-answer call forward using the preset forward timer the same as an initially ringing CO line does. It will follow direct forward and busy forward the same as an initially ringing CO line. If the preset forward timer is set to 00 (disabled) the first forward of the DISA ringing call at a station will take 15 seconds.

### C.    Programmable Access

A three-digit security code can be assigned in the system database to restrict unwanted use of the DISA circuits. Each DISA line can be programmed independently for 24 hour DISA use or night DISA use only.

### D.    Station Access

DISA callers may dial any station directly without going thru the attendant.

If a DISA caller attempts to call a station that is busy or does not answer the system will return ICM dial tone at the end of a programmable timer (Preset Forward Timer). This will allow the DISA caller to try another station without having to dial into the system again.

### E.    Trunk-to-Trunk

The DISA Trunk-to-Trunk (or Conference) option on the CO line governs a DISA callers ability to access other outside lines. CO lines must have DISA Trunk-to-Trunk enabled to allow a DISA caller to establish an outgoing trunk-to-trunk connection. This allows for specific CO line access restriction on DISA calls.

## 200.53   DIRECT STATION SELECTION

The user with DSS buttons assigned at their Digital Terminal can call an intercom station by simply pressing the appropriate DSS button. The called station is automatically signaled.

## 200.54   DIRECT TRANSFER MODE (FP3)

An outside CO line can be transferred from one keyset to another. By using the TRANS button, a screened (announced) transfer can be transferred directly to the handset on any key station. Any number of attempts can be made to locate someone by calling different keysets without losing the call. If a line is transferred to a busy station, it will receive muted ringing.

This feature is programmable on a system-wide basis in admin programming.

## 200.55   DIRECTED CALL PICK-UP

### A.   Call Pick-up - Station

A station can pick up a tone-ringing intercom call, transferred, incoming, or recalling outside line call to a specific unattended station. The call must be a tone ringing call.

### B.   Call Pick-up - ACD/UCD Groups

Stations outside of an ACD or UCD group can pick up a tone-ringing intercom call, transferred, incoming, or recalling outside line call ringing to a specific UCD station. The call must be a tone ringing call.

## 200.56   DIRECTORY DIALING

Directory dialing allows station users to obtain a directory of station users and have the system dial the extension that is currently on the display. The Starplus SPD 4896 system provides locations for up to 200 names.

Directory dialing also allows users to program a "name" along with a speed dial bin for use in later locating a speed dial number. When prompted to do so, the system will display the name associated with a speed dial number on the LCD display so that when the desired name is shown, the user may then have the system dial the number.

Directory dialing also allows users to associate a "name" with an entry in the local number/name translation table. When prompted to do so, the system will display the name associated with the table on the LCD display so that when the desired name is shown, the user may then have the system dial the number. The Starplus SPD 4896 system provides locations for up to 200 names.

## 200.57   DISABLE OUTGOING CO LINE ACCESS

This feature allows the first Attendant station to dial a code and disable a CO line from outgoing CO calls. This applies to all station(s) that have access to that line. Incoming status is not affected. This feature is a part of the "Maintenance" package.

## 200.58   DISTINCTIVE RINGING (User Selectable)

The tone ring signal used to notify stations of an incoming call can be changed by each station user to provide distinctive ringing among a group of stations. Each station user may select a distinctive ringing tone that will be used to ring their station. The system provides 81 different ring patterns that the station users may select from.

## 200.59   DISTINCTIVE RINGING ON CO LINES (FP3)

The tone ring signal used to notify stations of an incoming call can be changed in administrative programming to provide distinctive ringing on a per CO line basis. A distinctive ring tone can be programmed for each CO line that will be used to ring each station. The system provides 81 different ring patterns that can be selected for each CO line in the system.

## 200.60   DO NOT DISTURB (DND)

Placing a keyset in DND will eliminate incoming outside line ringing, intercom calls, transfers and paging announcements. A ringing station may go into DND to silence ringing. The attendant can override a station in DND. The station in DND can use the telephone to make normal outgoing calls. A station can be denied this feature through programming.

### A.   One-Time Do Not Disturb (DND)

Allows a station user to turn off muted ringing that occurs while off hook (handset or ON/OFF) on another call. Useful when having an important conversation and do not wish to be disturbed by ringing. The station, while off hook, (ON/OFF or handset) depresses the DND button which eliminates muted ringing. When the station goes on-hook the DND button is extinguished and DND is canceled.

## 200.61   DTMF SENDING

Each CO interface circuit for outside lines can be individually programmed to send DTMF (tone) or dial pulse signals.

## 200.62   EMERGENCY TRANSFER

Each OPX box will provide power transfer to specified customer provided SLT's, or up to 12 CO lines using the Power Failure Transfer Unit (PFTU).

## 200.63    END TO END SIGNALING

This feature indicates the capability of the system to accept DTMF tones from stations, send them through the public network and have them received at the distant end for computer access, or a variety of control functions or inward call completion at a distant switching system.

## 200.64    EXCLUSIVE HOLD

When a line is placed on Exclusive Hold, no other station in the system can retrieve this call. Exclusive Hold may be programmed to be activated on the first or second depression of the Hold button. CO Lines while in a transfer hold are always placed in an Exclusive Hold condition.

## 200.65    EXECUTIVE OVERRIDE

This feature allows certain stations to be designated as executive stations with the ability to "override" and "Barge in" on other keysets engaged in conversation on a CO line or intercom call.

In addition to the station programmable option, a system programmable option will enable or disable a warning tone when the station marked as an executive is cut-thru to the conversation. This is useful for an ACD agent supervisors or training personnel who require a service observing option.

A separate condition has been added to this feature which will allow or disallow an Executive to override an extension. This prevents an extension with override capability from overriding an Executive's station.

| CAUTION |
| --- |
| USE OF THIS FEATURE WHEN THE EXECUTIVE OVERRIDE WARNING TONE IS DISABLED MAY BE INTERPRETED AS A VIOLATION OF FEDERAL OR STATE LAWS,, AND AN INVASION OF PRIVACY. CONSULT COUNSEL WITH RESPECT TO APPLICABLE LAW BEFORE INTRUDING ON CALLS USING THIS FEATURE. |

| NOTE | A change in volume may occur on the CO line or intercom call after the barge-in occurs. |
| --- | --- |

## 200.66    EXECUTIVE/SECRETARY TRANSFER

There are four sets of Executive/ Secretary pairings available. When the Executive station is busy or in DND, the Secretary station will receive intercom calls and transfers. The Secretary station can signal the Executive in DND by using the Camp On feature.

## 200.67    EXTERNAL NIGHT RINGING

The system can be programmed so that CO lines marked for UNA will provide ringing out the external page ports when the system is placed into Night mode.

## 200.68    FLASH

Provides telephone users with the ability to terminate an outside call or transfer a call behind a PBX or Centrex and restore dial tone without hanging up the handset. A FLASH button is located on each Digital Terminal.

## 200.69    FLASH ON INTERCOM

This feature enables key station users to utilize the Flash Key to terminate pages and intercom calls. While connected to a page zone or another internal station pressing the Flash key will terminate the call and return intercom dial tone.

## 200.70    FLASH RATES (Programmable)

There are programmable flash rates for 19 features/functions that can now be programmed to up to 16 different flash rate options in admin programming.

All other flash rates in the system are fixed (defaulted) at the rates shown in Table 400-14 DSS/BLF Button Visual Indicators, Table 400-15 CO Line Button Visual Indicators, and Table 400-16 Function Button Visual Indicators.

## 200.71    FLASH WITH SPEED DIAL

A flash can be programmed within a speed dial number. When this is done, a pause will automatically be inserted before the remaining speed dial digits are sent.

## 200.72    FLEXIBLE ATTENDANT

Any three Digital Terminals in the system can be assigned as attendant stations. These stations will receive recalls and can place the system into Night Service. The attendant stations must be either Enhanced or Executive stations.

## 200.73    FLEXIBLE BUTTON ASSIGNMENT (FP3)

Each 34-button digital terminal has 28 flexible buttons which can be individually programmed. Each Basic Digital Terminal has 8 flexible buttons which can be individually programmed. One of the following operations can be selected for each button. Refer to Section 300.36, Flexible Button Assignment. This feature has been enhanced in database programming to allow flexible buttons to be programmed from a remote location (off-site). Range programming can also be used to assign these buttons to multiple stations.

- Outside line: Automatically accesses assigned line. (Assigned in database)

- DSS/BLF: Automatically signal assigned station and provides BLF for off-hook and DND. (User programmable)

- Feature: Any feature with a dialing code (i.e.: Personalized Messages, Paging, Account Code, Call Park, Music, etc.) can be assigned to a flexible button. (User programmable).

- Group Access: (i.e. ACD, UCD, Hunt, Voice Mail group pilot numbers) (User programmable)

- Speed dial: Automatically dials a Speed number. (System, Station, Saved Number Redial, Last Number Redial) (User programmable)

- Pooled group access: Some or all outside lines can be grouped; pressing this button accesses the highest numbered unused CO line in that group. (Assigned in database)

- Loop: Used to answer a transferred call on a line for which a user does not have a button assigned. (Assigned in database)

- Unassign (locked out): Specific buttons may be designated as unused or locked out. When a button is programmed as unused, the button may not be programmed by the station user using flex button programming procedures.

## 200.74 FLEXIBLE INTER-DIGIT TIMEOUT (FP3)

This feature allows the inter-digit timeout to be programmed on a system-wide basis. This feature applies to intercom and LCR calls. DISA, DID, and E&M inter-digit timeouts remain unaffected by this timer.

## 200.75 FLEXIBLE PORT ASSIGNMENTS

The Flexible Port Assignment feature will provide a means to assign stations and CO line numbers to any station or CO line port in the system. This provides complete flexibility in determining station and CO line numbers within the system as long as they stay within the system numbering plan. Therefore, a station can be assigned any number between 100 and 219 on the Starplus SPD 4896 system. A CO line can be assigned any number between 01 and 96 on the Starplus SPD 4896 system. Additional stations can be added to the system by reducing the number of CO lines.

## 200.76 FORCED ACCOUNT CODES

The Starplus Digital Key Telephone System allow the system to be arranged so that station users must enter an account code before placing an outside call. Account codes can also be used as a Traveling Class-of-Service to upgrade a restricted stations class-of-service for unrestricted dialing. Account codes must be entered before the call when forced.

## 200.77 FORCED LEAST COST ROUTING (LCR)

The Starplus Digital Key Telephone System may be programmed on a per station basis to force the use of LCR for outgoing accessed. This allows the system administrator to maintain greater control over dialing patterns and the lines used for placing outgoing CO calls.

## 200.78 FORWARD OVERRIDE (FP3)

This feature allows a user to reach a station who is busy forward, no answer forward, or all call forwarded. This will allow the calling station to call to a forwarded station, OHVO, Executive Override, Monitor, Message Wait, Camp-on, or Call Back at that station rather than forwarding to the busy destination.

## 200.79 GROUP CALL PICK-UP

Stations can be placed in one or more of four pick-up groups. Stations within a group can pick up tone-ringing intercom calls, transferred, incoming, or recalling outside line calls for another station in that group.

## 200.80 GROUP LISTENING

All digital key stations have built-in speakerphones. Station users may use the speaker to monitor a call while using the handset to converse with the outside party. This enables other people in the room to listen to both parties in the conversation.

> **NOTE** This feature is not available when the station is in headset mode.

## 200.81 HANDSET RECEIVER GAIN

This feature provides the user with a flexible button that can be programmed on their keyset. When programmed, allows the user to increase/decrease the handset receiver gain while on a CO call or intercom call. This volume setting is stored on a per station basis until changed.

## 200.82 HEADSET COMPATIBILITY

The Starplus Digital Terminals are designed to allow the connection of an industry standard, electret mic compatible, modular headset. The user connects the modular headset to the handset jack on the telephone leaving the handset in place. The ON/OFF button on the Digital Terminal is then used to activate the headset.

## 200.83 HEADSET MODE

Each digital terminal can be individually programmed for headset operation. When programmed, an industry standard headset with it's adapter box may be connected to a digital terminal for headset use. This allows handset or headset

operation by switching the selector switch on the adapter box. Speakerphone operation and call announce on intercom are disabled while a station has enabled headset mode.

Once programmed in station programming, the user may then select between headset mode or normal handset/speakerphone mode by simply dialing a code or pressing a user programmable flex button.

## 200.84    HEARING AID COMPATIBLE

All Electronic Digital Terminals and Single Line Telephones are hearing aid compatible in compliance with the FCC Part 68, Section 68.316. This allows the telephone to be used in conjunction with users wearing hearing aids.

## 200.85    HOLD PREFERENCE

This allows either Exclusive or System hold as the primary hold on the first depression of the HOLD button, depending on programming.

## 200.86    HOLD RECALL

When an outside call has been on Hold for a programmable length of time, recall ringing tone is sent to the station placing the call on Hold. If this station does not answer the recall, a recall tone is sent to the attendant(s).

## 200.87    HOT LINE/RING DOWN

Digital terminals may be programmed to immediately call or ring down a particular station or outside number upon going off hook. This is done by programming the stations Off-Hook preference to activate a DSS or Speed dial feature key. This feature can be overridden if the station user selects a CO line first when going off-hook.

## 200.88    HUNT GROUPS

The system can be arranged for up to eight Hunt groups. Each Hunt group can contain up to eight stations each. Each Hunt group is independently arranged to utilize either a pilot hunting technique or station hunting technique.

### A.    Hunt Group Chaining

Hunt Groups can be chained or joined together forming larger Hunt Groups. This is accomplished by assigning a pilot hunt group number as the last member of a group.

### B.    Pilot Hunting

Incoming CO, transferred CO, and intercom calls can be directed to a pilot extension number of a Hunt group. The system will search sequentially (in the order the extensions were entered in the database programming) for an idle station in the group and will ring that station. Calls directed to stations (by calling the exten-

sion number) within the hunt group will not hunt but receive call progress tones of the extension dialed.

### C.    Station Hunting

Transferred CO calls and intercom calls that are presented to a busy, or DND station, who is a member of a station Hunt group, will search sequentially (in the order the extensions were entered in database programming) for an idle station in the group and will ring that station. Direct ringing CO Line calls to the station number will ring at the station. If station hunting is desired on a direct ringing call, program the station hunting pilot number in the CO Line ring assignment list. This allows the member of the hunt group to receive private calls and hunt group calls.

## 200.89    ICLID FEATURE

The ICLID (Incoming Calling Line IDentification) feature has been added to the Starplus Digital Key Telephone System. However, in order for this feature to operate properly, it must be activated from the central office so that the numbers of the calling party will be delivered over the individual tip and ring of the CO lines during the first silent interval between ringing. The following features have been implemented:

### A.    Calling Number/Name Display

This feature is intended as the basic offering of the ICLID service when associated with the Starplus Digital Key Telephone System. Whenever an incoming call is received at the system, the number received along with the ringing signal will be stored in the line control tables and used at various points in the processing of the call.

The primary function will be that the calling number will be displayed (if available) at any point at which the "LINE RINGING" is displayed in the system.

In addition, with the availability of the calling name feature, if the calling name is provided, the system will deliver that to the display instead of the calling number.

### B.    Incoming Number/Name for SMDR Records

This feature will operate normally in the absence of ICLID information or the failure of the ICLID equipment. If the information is present at the time that an SMDR record is generated for a call, it will alter the content and format of the SMDR output record.

If the calling number is available, the number will be output in the SMDR record in the same

location as the dialed number is located in the outgoing calls.

If the calling name is present, an additional line will be output in the SMDR record identifying the name. This record will immediately follow the normal SMDR record. The normal SMDR record will include an indicator which identifies that a following record with name identification is present.

Unanswered calls will be recorded in the SMDR record for incoming with an indicator to allow the identification of callers for statistical and call-back purposes.

**C. Unanswered Call Management**

An Unanswered Call Management Table with 100 entry capacity is maintained in the system database. The calling number/name information pertaining to any unanswered call will be placed in this table at the time the system has determined that the call has been abandoned.

This table may be interrogated from any station so that the unanswered calls may be reviewed and handled by the end user. Only Attendant station(s) can delete an entry from this table.

## 200.90    IDLE SPEAKER MODE

This feature allows the system to determine whether the first digit dialed is heard over the digital terminal speaker. This feature is allowed or denied on a system-wide basis in programming.

## 200.91    INCOMING CO CALL TRANSFER (FP3)

This feature provides station users the ability to transfer a call that is currently ringing at their station without answering it. Only incoming and transferred calls can be forced. This feature only operates when the station is in an idle mode and not available to Single Line Telephone users. Calls may be forwarded to any available station, ACD/UCD group, VM Group. Destination station must have an direct appearance for that CO Line or Loop button and not in DND or error tone will be presented to the originator and the call will remain ringing at his station.

If the station is busy, the current call must be placed on hold, the ringing transfer initiated, and then the station can return to his original call.

## 200.92    INCOMING CO LINES OFF-NET FORWARD (VIA SPEED DIAL)

Allows the first attendant to forward incoming CO calls to an off-net location. The attendant can forward a group of CO lines, all CO lines, or an individual CO line to a off-net location. The attendant must have a direct appearance of the CO line(s) to be forwarded.

Off-net forwarding is accomplished via use of a speed dial bin.

## 200.93    INTERCOM BUTTON(S) (FP3)

This feature provides station users the function of ringing a busy station via the intercom without using the Camp-On or Executive Override features. This also allows stations to place intercom calls on hold. If calls are ringing on intercom buttons and a Handsfree call is received, the Handsfree call is allowed and the calls ringing continue with muted ringing. Multiple intercom path buttons can be assigned to a single station, however up to five internal parties can be placed on hold per station. Music-On-Hold will be provided to intercom callers on hold.

This feature can be programmed on any key station or DSS Console with an available flexible button. If there is an available intercom button, a station calling that station cannot OHVO, Camp-On or Override that station. Depending on the key station programming, intercom ringing will either be muted or reminder ringing. If all intercom buttons are in use, then the station may utilize the Camp-On or Executive Override features. By default, no intercom buttons are assigned to any key stations.

## 200.94    INTERCOM CALLING

The system's architecture allows non-blocking of intercom calls. A station is reached on intercom by dialing the associated three-digit number.

## 200.95    INTERCOM SIGNALING SELECT

Users can control the method by which they receive intercom calls and signals. A convenient intercom signal switch is located on each Digital Terminal for easy selection. The choices are:

- Handsfree (H)(left position). The station user, upon hearing a tone burst and voice announcement over the speaker, can reply handsfree.

- Tone Ringing (T)(center position). A standard tone ring notifies the party of an incoming intercom call. The called party answers by lifting the handset or moving the switch to the handsfree (H) position or pressing the ON/OFF button.

- Privacy (P)(right position). The station user receives a burst of tone and a voice announcement over his/her speaker. The microphone is deactivated for privacy. The called party must lift the handset or press the MUTE button to answer the call.

### 200.96    KEYSET MODE (FP3)

This feature allows the station user to determine the mode the Executive/PC Interface Terminal (ICLID) will operate in. The three modes are: Caller ID mode, PC Phone mode, or AT Command mode. Through the use of a dial code, the station user can also determine the baud rate for each mode selected. This setting is stored in back-up memory in the event of a power outage or system reset.

### 200.97    KEYSET SELF TEST

The Starplus Digital Key Telephone System contain a test mode feature that supports the off-line testing of digital terminals and DSS consoles. The term off-line means that the unit under test is disconnected from the system during the test operation. Digital terminals not under test continue to operate in the normal manner. Tests are provided to verify the keyset and DSS LED, LCD, and keypad button operations.

### 200.98    LAST NUMBER REDIAL (LNR)

Permits the automatic redialing of the last telephone number dialed on an outside line. Up to 32 digits can be stored. Outside line selection of the same line used is automatic.

### 200.99    LCD INTERACTIVE DISPLAY

The 34-button Executive Digital Terminal provides the user with visual indication of call status, Calls to and from other extensions, number dialed, line used and camp-on are some of the features displayed.

### 200.100   LEAST COST ROUTING (LCR)

Allows the system to automatically select the least costly route available according to the number dialed, the time of day/day of week, the class of service (COS) assigned to the station/trunk group priority level assigned.

**A.  3-Digit Table**

This table is divided into 2 sections: "Leading 1" ("1" is dialed before the number) and "Non Leading 1" (no "1" is dialed before the number). This gives the system the ability to handle call routing in areas that require a "1" before a long distance number as well as in areas that do not require the "1".

**B.  6-Digit Table (Office Codes)**

The 6-Digit Table can include 20 office code maps. Each map can be programmed to route up to 800 office codes to one of the 16 possible route lists. Each map must be associated with a specific area code in the 3-Digit Table. Several different office code maps can be used with the same area code to provide additional routing flexibility.

**C.  Route List Tables**

Up to 16 different routes can be programmed. Each route can contain up to four route lists - one for each of the 4 time periods. Up to seven CO line groups (routing choices) and their corresponding Insert/Delete Tables may be programmed within each route list.

**D.  Insert/Delete Tables**

There are 20 Insert/Delete Tables. Up to 20-digits, including pauses, can be inserted and up to 16-digits deleted. Digits can be inserted before or after the number dialed, but can be deleted only from the beginning of a number dialed. To insure that a pause will be inserted in LCR at default, the database programming has been changed to add a pause in each of the 20 LCR insert and delete tables and insert table 0 in each of the route tables.

**E.  Weekly Time Tables**

The least costly route for a particular dialed number may be different at different times of the day and on different days of the week. To accommodate this situation, there are two Time-of-Day tables: a Daily Start Time Table and a Weekly Schedule Table.

The Weekly Time table determines which one of the four Routes LCR should use based on the Time-of-Day and Day-of-the-Week.

**F.  Daily Start Time Tables**

The Daily Start Time tables allow the user to match the Time Periods discount structure to the carriers rate schedule.

**G.  Exception Tables**

This table is used to route operator assisted calls and any other calls which would use a one- or two-digit number rather than a three-digit area code.

**H.  Default LCR Data Base**

In an effort to decrease installation and set up time usually associated with LCR a default LCR database has been incorporated. The default LCR database will provide basic routing for all local and long distance dialing.

**I.   LCR Routing for Toll Information**

This feature adds provisions to the LCR call processing which will allow common call routing for all toll information calls.

1-(XXX)555-1212, (XXX)555-1212, 1-555-1212 and 555-1212 calls will all be intercepted and sent to a selected route in the Route List Table. Numbers dialed will be integrated and if it is determined to be a toll information call, either preceded with an area code or without or

with a leading digit 1 or not, the call will be sent to the route designated in programming.

## 200.101 LOCAL NUMBER/NAME TRANSLATION TABLE

An administerable table provides a local translation from a received calling number to a name. This table can be administered by the customer from the attendant console location. This table is also shared by the ICLID features. In cases of conflict between the name delivered from the CO and that in the local translation table, the local translation table shall rule. 200 entries are provided for the Starplus SPD 4896 system.

## 200.102 LOOP BUTTON CO LINE ACCESS

A station not having a direct appearance for a CO line will receive incoming CO calls and transferred CO calls under the loop button. Only one call at a time can be connected to a keyset on the loop button. If more than one loop button is on a key set, the loop buttons may be conferenced together. If all programmed Loop buttons on a keyset are busy or have a CO call on hold, the party attempting to transfer a CO line to that station will receive busy tone and cannot transfer the call to that station. If a transfer is attempted, the CO line will recall the initiator immediately.

CO lines are also presented to a Loop when dialing out using LCR or when using speed dial to dial out and the line chosen does not appear on the key station.

## 200.103 MAILBOX BUTTON (FP3)

This feature provides station users to program specific mailbox index numbers onto flexible button at their station or DSS Console. Users can then transfer internal/external callers to specific Voice Mail Groups or Mailbox numbers. These Voice Mail Groups or Mailbox numbers are programmed in admin programming. A total of 255 mailbox buttons are allowed per system.

This feature can be programmed on any key station or DSS Console with an available flexible button. If a station is an OHVO, Camp-On or Executive Override initiator, they may not use the mailbox button feature. Stations engaged in a conference cannot use this feature.

If no station(s) are programmed in the Voice Mail Group, the user will receive error tone. By default, no mailbox buttons are assigned to any key stations.

## 200.104 MEET ME PAGE

Users may answer a page call from any phone in the system by dialing a special code. The party who initiated the page must remain off-hook.

## 200.105 MESSAGE WAITING

Stations that are busy, unattended, or in DND can be left a message indication by other stations in the system. Up to five messages can be left at one keyset. Upon return to the station, the user can press the flashing MSG WAIT button to ring each party in sequential order.

## 200.106 MESSAGE WAITING REMINDER TONE

A key station with a message waiting can be reminded at a programmed timed interval with a tone.

## 200.107 MESSAGES - PERSONALIZED

Each station (Key and SLT) can select a pre-assigned message to be displayed on the LCD of the digital key terminal calling that station. There are ten possible messages which can be displayed:

  - 00= Clears Messages
  - 01= ON VACATION
  - 02= RETURN AM
  - 03= RETURN P.M.
  - 04= RETURN TOMORROW
  - 05= RETURN NEXT WEEK
  - 06= ON TRIP
  - 07= IN MEETING
  - 08= AT HOME
  - 09= ON BREAK
  - 10= AT LUNCH

A. **Date and Time Entry to Personalized Message(s)**

As an enhancement to the original personalized message(s), station users can activate certain messages that will allow the user to enter a specific time or a date of return. These messages will appear on calling stations display to alert alert them of the desired party's return time or date.

  - 11= ON VACATION UNTIL: MM/DD
  - 12= RETURN: HH:MM xm or MM/DD
  - 13= ON TRIP UNTIL: MM/DD
  - 14= MEETING UNTIL: HH:MM xm
  - 15= AT HOME UNTIL: HH:MM xm
  - 16= ON BREAK UNTIL: HH:MM xm
  - 17= AT LUNCH UNTIL: HH:MM xm

B. **Messages - Custom**

This feature allows the system administrator to enter up to ten custom messages for use by station users of the system. These messages may be specified and customized by the customer on a system-wide basis.

### C. Personalized Message Code on a Flex Key

This feature allows a key station user to program the personalized message code [633#] onto a flex button. This speeds access of the pre-selected messages.

### D. Scrollable Canned Messages (FP3)

This feature allows the user to use a single digit [#] or [✳] to scroll through the canned messages and select one. When the desired message is displayed, pressing the hold button will place that message on the station LCD. This feature operates when the phone is in the idle mode only. This feature cannot be activated if the station is in the Call Forward or DND mode(s). This feature is not available to Attendant stations. The messages will be scrolled in the following order:

- Clears Messages
- AT HOME
- AT LUNCH
- IN MEETING
- ON BREAK
- ON TRIP
- ON VACATION
- RETURN AM
- RETURN P.M.
- RETURN NEXT WEEK
- RETURN TOMORROW

### 200.108 MUSIC ON HOLD (FP3)

A music source, when connected to the system, provides music to all lines on Hold, parked calls, transferred calls and calls waiting to be answered by Automatic Call Distribution (ACD) or Uniform Call Distribution (UCD). This feature can be allowed or denied on a system-wide basis in database programming. An enhancement has been made to allow or deny Music-On-Hold to be heard on each CO line. This enhancement is also programmed in database programming on a per CO line basis.

### 200.109 MUTE KEY

Pressing the MUTE button while in the speakerphone mode or using the handset will disable the microphone but not affect the speech coming over the speaker or handset. Pressing the illuminated MUTE button again will reactivate the microphone.

### 200.110 NAME IN DISPLAY

This feature allows every extension (Key or SLT) the capability to program the users name, for that station, so that people using display telephones will see the name instead of the station number on their display. The name is programmed at each station by the user and may be up to seven letters in length.

### 200.111 NAME/NUMBER DISPLAY AT IDLE (FP3)

An enhancement has been made to the LCD standard idle display to allow the programmed seven-digit name and station number to be displayed together. This option is programmable on a per station basis, however the feature must be enabled/disabled in admin programming. If a station has this feature enabled but has not programmed a name, the name portion of the LCD will be blank, The priority of the idle display is UCD/ACD, Hunt, Station/Name, or Station alone.

### 200.112 NIGHT SERVICE FEATURE

The Night Service feature will provide a means to put the system in night mode from any keyset or remove the system from night mode from any keyset as long as the system was put in night mode by the night service feature flex button. If the system was placed in night mode by the attendant using her DND button or if the system was placed in night mode by the automatic schedule, the night service flex button can not remove the system from night mode.

### 200.113 NIGHT SERVICE MODE

### A. Automatic Night Mode Operation

The Starplus Digital Key Telephone System can be programmed so that the system is automatically placed into night mode.

The Attendant(s) can override the Automatic Night mode schedule simply by pressing the NIGHT (DND) button.

### B. External Night Ringing

The system can be programmed so that CO lines marked for UNA will ring on the external page speakers.

### C. Manual Operation

The Attendant(s) can control the use of Night Mode manually by pressing the NIGHT (DND) button. An LED will indicate when the system is in Night Mode operation.

### D. Night Class of Service (COS)

The system allows each station to be assigned a different COS for night operation. The night COS goes into effect when the system is put into night mode manually or via the automatic schedule. Prevents the misuse of phones after hours.

### E. Night Ringing Assignments

Each CO line may be individually programmed for Night ringing to other stations, to Hunt groups, ACD groups, UCD groups, Voice Mail groups, or off-net via speed dial. When the system is placed into night mode, manually or

automatically, ringing will follow the night ringing assignments for each CO line.

### F. Universal Night Answer (UNA)

Incoming CO lines can be programmed for Universal Night Answer (UNA). Stations which do not have access to a line during the day can answer that line while the System is in the Night Mode by dialing a UNA code.

### G. Weekly Night Mode Schedule

A programmable weekly night mode schedule provides for 24 hour, 7 day a week automatic night mode operation. The system can be put into and out of night mode automatically on a daily basis.

### 200.114 OFF-HOOK VOICE OVER (OHVO) (FP3)

This feature allows users, off-hook on a call (CO or Intercom), to receive a voice announcement through the handset receiver without interrupting the existing call. The Voice Over is muted so as not to "override" or "drown" out the existing conversation. The overridden party may then respond to the calling party using CAMP-ON procedures to talk to the calling party or use Silent Text Messaging to respond to the calling party via LCD displays. The calling (originating) station and receiving station MUST be a digital terminal. The receiving station MUST also be programmed to receive OHVO calls.

An enhancement has been made to the OHVO feature which provides a third method for the receiving station to respond to an OHVO announcement. This enhancement applies to CO calls only. OHVO calls to stations on intercom calls maintain the present operation. This third method utilizes the MUTE feature button. The MUTE buttons acts like a push-to-talk button for the OHVO receiving station to talk with the OHVO initiator. The OHVO receiving station must toggle the MUTE button [ON] to talk and [OFF] to listen to the OHVO initiator.

> **NOTE**
>
> The calling station is placed in a one-time DND mode upon initiating the Voice Over. One-Time DND cannot be toggled during the OHVO call. The station receiving the OHVO call must be off-hook and in the "H" mode.

### 200.115 OFF-HOOK PREFERENCE

#### A. Auto Feature Access

In addition to auto line access Digital Terminals have the ability to have their off-hook preference select a DSS or feature button upon going off-hook or pressing the ON/OFF button.

#### B. Auto Line Access

Each station, key or SLT, may have their phone programmed to access a particular CO Line such as a private line or a line from a Group of CO lines upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated lines. Outside line dial tone is received just by going off-hook, without the need to dial an access code.

#### C. Hot Line/Ring Down

Electronic Digital Terminals may be programmed to immediately call or ring down a particular station or outside number upon going off hook. This is done by programming the stations Off-Hook preference to activate a DSS or Speed dial feature key. This feature can be overridden if the station user selects a CO line first when going off-hook.

#### D. Intercom Access

When off-hook preference is enabled, at a key station, that station may still obtain intercom dial tone for accessing internal stations or other system features. This is done either by pressing an intercom button or dialing their own intercom station number prior to going off-hook.

#### E. User Programmable Preference

Based on a station programmable option Digital Terminals may be given the ability to enable, disable or change their off-hook preference by dialing a code. This option can be denied in station programming on a per key station basis.

### 200.116 OFF-HOOK SIGNALING

If a station has been programmed to receive direct outside line ringing and is busy on another call, the call rings at the station using a muted ring signal. This option allows a user to receive a reminder ring at his busy station, instead of muted ringing. In addition, a reminder ring timer has been added to the system to provide the reminder ring every time the timer expires, as long as the incoming CO line remains connected. The system defaults this option to muted ringing. Additionally CO calls may be "camped-on" to a busy station and receive muted ringing.

### 200.117 OFF-PREMISE EXTENSIONS (OPX)

The Off-Premise Extension Box (OPX) provides one FCC registered 2500-type single line interface port. This enables the use of one Off-Premise 2500 telephone set. A precise tone plan is provided to OPX stations. A 48v dc power supply is required when installing an OPX box.

### 200.118 ON-HOOK DIALING

The Digital Terminal user can place calls without lifting the handset. If the speakerphone is disabled, the handset must be lifted to converse.

## 200.119 ON LINE PROGRAMMING

Changes to the system database can be made without interrupting normal system operation. Programming may be performed using a key station terminal connected to the system (Station 100) or via a external terminal either on-site or remotely.

## 200.120 PAGE/RELAY CONTROL

The Starplus Digital Key Telephone System offer relays that may be individually programmed for: External Page, Loud Bell Control, CO Line Control, Power Failure Transfer, and Recorded Announcement uses. Up to four Relay/Sensor interface modules may be installed on the SPD 4896 system. Each relay/sensor interface module contains three independent relays and three sensing input circuits.

## 200.121 PAGING

### A. External Paging

There are seven external paging zones available on the SPD 4896 system. External Paging requires a three-digit dialing code. External paging requires an externally provided amplifier and paging system. Since no "on-board" relay contacts are available on the SPD 4896 for external paging, the Relay/Sensor Interface module is used for this purpose.

### B. Internal Paging

There are four internal paging zones available in the Starplus Digital Key Telephone System. A station can be in any or all zones or in no zone at all. Stations not assigned to a page group can still make page announcements, if allowed in station programming. Stations can be assigned to a page group in order to receive pages but not allowed to make page announcements.

### C. Paging Access Restriction

Programming on a per-station basis, can deny any station the ability to make any type of page.

## 200.122 PAUSE TIMER

When dialing a speed number, a timed pause between digit sending can be placed in the number. The length of this pause can be programmed in the system database.

## 200.123 PBX DIALING CODES

The System will allow five one or two-digit access codes to be entered into memory. When one of these codes is dialed, this signals the KSU that the user is dialing a PBX access code and not dialing directly over an outside CO line and that toll restriction is to be applied to the next dialed digits after the code. Therefore, toll restriction will not be applied to the station unless one of these five PBX codes is dialed

first. This allows the dialing of PBX extensions 100, 110, 111, etc. This functions on lines marked as PBX type lines in programming.

## 200.124 PERSONAL PARK

Each digital terminal in the system can place a call into a personal park location and then later retrieve that call from the originating station. Intercom calls and CO line calls can be placed into the stations' personal park location. Calls parked in a personal park location are subject to the "system" call park recall timer. A station retrieving a personal parked CO call must have either a direct CO line appearance or an available loop button to retrieve the parked call.

> **NOTE** *Only one call can be parked in a Personal Call Park location at one time. When dialing the Personal Park location and the location is already occupied, the initiating station will receive the previously parked call and the second call is then parked.*

## 200.125 POOL BUTTON OPERATION

The Pool Group Key is used primarily to access CO lines that do not appear on a station so that outgoing calls may be made. Pooled group keys are associated to CO line groups and may be programmed for use on any of the flexible line buttons. CO lines are accessed in descending order of priority starting with the highest numbered available (not busy) CO line in a CO line group.

Stations may have as many POOL buttons as there are CO line groups. Multiple POOL buttons for the same group are also allowed.

## 200.126 PREFERRED LINE ANSWER

A station with Preferred Line Answer can answer any assigned outside, transferred, or recalling line, or queue callbacks by lifting the handset or pressing the ON/OFF button. The station MUST be physically ringing, to function properly.

## 200.127 PRIVACY RELEASE

Privacy is insured on all communications in the system. If desired, the customer may elect to disable the Automatic Privacy feature, thus allowing up to three other stations to join in on an existing CO Line conversations.

> **NOTE** *Disabling of the privacy feature may be limited by federal, state or local law, so check the relevant laws in your area before disabling privacy.*

### A. Per CO Line Option

This feature allows each CO line to be individually programmed for privacy. This feature is useful for maintaining security on such lines as Data lines, Private lines, or special circuits requiring privacy. If privacy is disabled on a CO

line then, while in use, another station may enter the conversation simply by pressing the CO line button. A programmable warning tone is presented to all parties prior to actual cut-thru. The station attempting to enter the conversation must also have privacy disabled.

### B. Per Station Option

Each station may be programmed to give the station the capability to join an existing conversation simply by pressing the CO line button that is in use. A programmable warning tone is presented to all parties when the station enters the conversation. The CO line must also have privacy disabled to allow the cut-thru.

### 200.128 PRIVATE LINE

Private line programming allows certain lines to ring at a specific station only. When placed on Hold, these lines are active at the programmed station only. A private line can be transferred to other stations, provided the station receiving the call has a loop button or direct appearance of that CO line.

### 200.129 PULSE-TO-TONE SWITCHOVER

When commanded, the system will change the signaling on an outside line from dial pulse to DTMF (tone), allowing the use of common carriers behind a dial pulse outside line. This can be done manually when dialing, or can be stored within a speed dial number.

### 200.130 RANGE PROGRAMMING

The Starplus Digital Key Telephone System allows for range programming when programming CO lines and Stations. Range programming allows you to program all parameters alike for the entire range or you can change or modify a few items that will be copied to all members in the range.

### 200.131 REMOTE ADMINISTRATION

The Remote Administration feature allows authorized personnel to access the administration programming via a terminal device (portable terminal device or personal computer with communications software package).

The feature permits the review and entry of the customer database in the same manner as via the digital terminal at "ADMIN" Station 100. The terminal device can be connected directly to the RS-232C connector on the Central Processing Unit (CPU) on the Starplus SPD 4896 system, or can be accessed by a telephone modem linking the RS-232C connector (via a CO line) to a remote location. When entering the system remotely via a terminal device, access to the "On-Board" 1200 baud modem is accomplished by accessing Port 499 either through

a direct ringing assignment or through DISA or by being transferred to Port 499 by any internal station.

### A. Database Upload/Download

DataBase Upload/Download provides a maintenance facility which will be added to the Remote Administration routine. This routine permits the database to be downloaded to a PC, when a software change is made or when the system needs to be initialized and re-programmed. In addition, the routine facilitates the programming of a database on an in-house system which can be downloaded to a PC and then uploaded to a system in the field. After the system maintenance is completed, the file saved in the PC can then be uploaded to the system.

### 200.132 REMOTE SYSTEM MONITOR AND MAINTENANCE

### A. Remote System Maintenance

The Remote Maintenance feature allows the Interconnects' technical staff to review the systems configuration data and individual card slot configuration data. This can be done "on site" using a data terminal or remotely using a modem to access a remote data terminal. When entering the system remotely via a terminal device, access to the "On-Board" 1200 baud modem is accomplished by accessing Port 499 either through a direct ringing assignment or through DISA or by being transferred to Port 499 by any internal station.

### B. Remote System Monitor

The Remote Monitor feature provides remote access to the installed system for diagnostic purposes. These capabilities benefit Service personnel enabling them to support the end user remotely. Different levels of access, via password, allows authorized personnel to trace, monitor and "up-load" critical information directly from the Starplus Digital Key Telephone System. This provides a more accurate means of acquiring system information that leads to a quick resolution of problems that may occur. This is all done without interfering with ongoing call processing or normal system operation, and in many cases may be performed without a site visit.

Capabilities allowed and reserved for this "High level troubleshooting" in addition are:

- Monitor Mode
- Enable & Disable Event "Trace"
- Dump "Trace Buffer" (up-load)

### 200.133 REPEAT REDIAL (FP3)

The feature allows a digital key station to press a flexible button or dial a code and redial a busy or no-answer number at specific intervals. The user will be signaled via a queue callback indication. The Repeat Redial flexible button will flash at the callback rate of 120 ipm for 15 seconds. If the station doesn't answer within the 15 seconds, the callback is canceled. The system will retain the last call the user made. If the station is busy on an internal/external call when the Repeat Redial queue callback occurs, the callback will not take place until the user goes on-hook. The user must enter a Redial timer value when invoking this feature. This value is from 006-999 which represents seconds. A 2-minute interval would be entered as 120. Default value is 1 minute (60).

### 200.134 SAVE NUMBER REDIAL (SNR)

Any number dialed on an outside line can be saved permanently to be used at any time. This number is saved until a new number is stored.

### 200.135 SINGLE LINE TELEPHONE (SLT) COMPATIBILITY

The Starplus Digital Key Telephone System support industry standard 2500 Type (DTMF) single line instruments. When the Single Line Telephone Board (SL12) is installed in the system, a maximum of 12 single line telephones may be supported. The SPD 4896 system will support up to 119 single line telephones through the use of SLA/OPX boxes.

### 200.136 SPEAKERPHONE

Both Enhanced and Executive Digital Terminals are equipped with a speakerphone. However, the speakerphone can be programmed to work in one of three ways:

- Normal speakerphone operation.
- Disabled for outgoing and incoming CO calls but handsfree on intercom allowed.
- Headset operation allowed.

### 200.137 STATION CLASS OF SERVICE (COS)

Each station is assigned a Class of Service which governs that stations dialing privileges. Day Class of Service and Night Class of Service assignments to stations provide the system administrator additional control over station dialing, preventing misuse of phones after hours. Six uniquely defined Classes of Service are available for assignment to stations on a per station basis and all six are available for day and night assignment. Station Class of Service works in conjunction with CO line Class of Service to provide the most flexible means for offering custom toll restriction. As a part of the Dialing privilege

assignment through Class of Service the system offers two programmable Allow and Deny tables for additional customization of a toll restriction plan for a particular customer. In addition, each station can reference up to four special area code tables.

### 200.138 STATION ID LOCK (FP3)

This feature provides a means for the installer/programmer to "lock" the station ID of all stations in the system. Once locked, attempts to plug unlike devices (i.e. a DSS into a 34-button port) will result in the device not working.

This feature is designed to prevent the loss of station programming that results when a different station type is plugged into a port already designated as another station type.

### 200.139 STATION MESSAGE DETAIL RECORDING (SMDR)

The Starplus Digital Key Telephone System provides one industry standard RS-232C port for dual purpose use and a second port is optional for SMDR output, each allowing connection to an external printer or call accounting device. The system provides details on both incoming and outgoing calls. This feature is programmable to allow all calls or just outgoing long distance calls to be recorded.

The system tracks calls by outside line, number dialed, time of day, date, station that placed the call and duration of call. Account codes may also be entered and recorded.

### 200.140 STATION RELOCATION FEATURE

The Station Relocation feature provides a means to allow a user to unplug their station and plug it in at another location. Then by dialing a code followed by the old station number, all station attributes, including extension number, button mapping, speed dial, and class of service are transferred to the new location.

> **NOTE** *If a station is assigned to a specific port and that station user unplugs their station and plugs it in at another location, the database administration programming will be updated to reflect the new port change.*

### 200.141 STATION SPEED DIAL

Each station user can program up to 20 frequently dialed numbers of up to 24-digits in length. Pauses, flash commands, pulse-to-tone switchover, and NO-DISPLAY characters take up digit spaces. There are a total of 1920 speed locations in the Starplus SPD 4896 system to be divided among all telephones.

Numbers are dialed by use of the SPEED button and a two-digit code. This feature can additionally be assigned to any of the buttons in the flexible button field on each keyset for one-button activation.

## 200.142   SYSTEM CAPACITY

### A.   Up to 48x96 Configuration

In this configuration, a maximum of 48 outside CO circuits and 96 station circuits is supported.

### B.   Up to 96x120 Configuration

In this configuration, a maximum of 96 outside CO circuits and 120 station circuits is supported. Additional stations can be added to the system by reducing the number of CO lines. However, the System Memory Expansion kit is required for any configuration beyond the 96 x 120.

## 200.143   SYSTEM HOLD

When a line is placed on System Hold, any station in the system with an appearance of that line can retrieve the call.

## 200.144   SYSTEM SPEED DIAL

Up to 80 commonly dialed numbers can be programmed into System Speed Dial for use by stations allowed this feature. These numbers can be up to 24-digits including pauses, flash commands, pulse-to-tone switchover, and no-display characters. The last 40 numbers will not be monitored by toll restriction.

## 200.145   T-1 TRUNKING FEATURE (FP3)

The T-1 trunk card provides the Starplus SPD 4896 system the ability to connect to digital T-1 trunk circuits. The T-1 trunk card supports the standard D4 framing format with Alternate Mark Inversion (AMI) coding. The system can support E&M, loop start, ground start, and DID signaling per channel. The T-1 trunk card fits into one card slot, however, it takes up two card slots worth of time slots. The System Memory Expansion kit is required for this feature.

The T-1 trunk card can be used to connect 24 lines (24 channels per T-1 circuit) from a central office to the system. These lines can be any mix of inbound WATS, outbound WATS, standard DDD lines, DID lines, or E&M lines, etc.

The Starplus SPD 4896 Digital System uses the E&M signaling simulation from the Central Office to add the additional protocol of Direct Inward Dialing (DID).

T-1 trunking provides services called Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS). The T-1 feature supports both of these services. The Starplus SPD 4896 Digital System supports ANI, DNIS, or an ANI and DNIS combination on a per channel (line) basis.

## 200.146   TEXT MESSAGING (Silent Response)

This feature allows a station user to use text messages to respond to a caller that has either Camped-On or has used the Off-Hook Voice Over (OHVO) feature to alert a busy station of a waiting call or message. The "camped-on" station may respond to the caller via the personalized, custom, and response text (LCD) messages. The text messages appear on the calling party LCD display. The calling (originating) station and receiving station MUST be a digital terminal. The receiving station MUST also be programmed to allow OHVO calls.

## 200.147   TIE TRUNKS (E&M)

This hardware feature provides private two-way communications link between the system and other vendor systems or another system. Incoming TIE trunk calls are directed to the attendant, a station, group pilot # or a CO trunk.

This feature requires the TIE Line Interface Board which provides four E&M 2-wire type II signaling circuits and six digital station circuits.

## 200.148   TOLL RESTRICTION (TABLE DRIVEN)

The system provides a flexible means of providing toll restriction to internal stations of the Starplus Digital Key Telephone System. Each station is assigned a Class of Service for day mode operation and one for night mode operation these station COS's work in conjunction with a CO line Class of service to allow for customized toll restriction. Two Allow and Deny tables along with four special tables afford the system administrator to devise a variety of complex toll restriction or dialing privilege schemes.

## 200.149   TRANSFER RECALL

Screened and unscreened transfers will recall the initiating party if unanswered for a programmable length of time, and then if unanswered, will recall the attendant.

## 200.150   UNIFORM CALL DISTRIBUTION (UCD)

Eight Uniform Call Distribution (UCD) groups can be programmed, each containing up to eight three-digit station numbers. Each group is assigned a pilot number. When this number is dialed, the first available agent in that group is rung. Calls are routed to the station that has been on-hook for the longest period of time.

### A.   Agent Queue Status Display

The Agent Queue Status feature provides a means for an agent and UCD supervisor to view the status of their UCD group. This display is an idle state display and will prompt a supervisor that Agents in a group are having problems

answering all their calls. The display will tell the agent and his supervisor how many calls are in queue, how many agents are available or logged into the group, and the length of time in minutes that the oldest call has been in queue. The agent will receive the calls in queue display whenever there is a call in queue.

There are two methods of viewing UCD Group call queue status.

1. In-service UCD agents and the assigned overflow station will see the quantity of calls in queue on the LCD of their station for the UCD group of which they are a member. If every member of a UCD group is busy and calls are in queue, the Supervisor/Agent Queue Status display will be seen at all UCD members of that group.

> **NOTE** *If a UCD member is taken out of the group (i.e., DND, All Call Forward, Unavailable, etc.) they will not receive calls in queue information.*

2. Any station not assigned in a UCD group can view the number of calls in queue for any given UCD Group. To view the number of calls in queue the station user dials the Calls In Queue code (or presses a programmed FLEX button with this code) then enters the UCD group desired. The LCD will display, on a real time basis, the number of calls in queue for that group.

## B. Alternate UCD Group Assignments

An alternate UCD group can be programmed so that if stations in one group are busy, the alternate group will be checked for an available station.

## C. Auto Wrap-Up w/Timer

After completion of a UCD call (on-hook) the agent will not be subjected to another UCD call for the duration of the Auto Wrap-Up timer (regardless of the number of calls in queue), allowing the agent to finish call related work or access other facilities. This will allow agents to remove themselves from the group (i.e.. DND, Unavailable, Call Forward or originate another call). The auto wrap-up timer is programmed as part of the UCD database. (System-wide)

## D. Available/Unavailable Mode

Stations programmed into a UCD group may log off and on to their assigned UCD group by dialing an Available/Unavailable code. When an agent is in the Available mode that agent will receive UCD calls in the normal manner. When an agent is in the Unavailable mode that agent will no longer receive UCD type calls, however may receive non-UCD calls. Agents that have logged off by going Unavailable will receive a

visual reminder that they are logged off with a flashing LED and or a LCD display message.

## E. Incoming CO Direct Ringing

CO Lines can be programmed to ring directly into a UCD group. When all agents are busy and RAN is enabled, the system will answer the caller and present the 1st RAN announcement automatically.

## F. No-Answer Recall Timer

If a call routed to a station via UCD is not answered by the UCD Agent/Station before the No-Answer Recall timer expires, the call will be returned to UCD Queue with the highest priority. In addition, the station that failed to answer the ringing UCD call will be placed into an Out-Of-Service (OOS) state.

## G. No-Answer Retry Timer

When the No-Answer Recall timer expires, a station that failed to answer the ringing UCD call is placed into an out of service (OOS) state. The station that was taken out of service (OOS) will be placed back in service if the agent hits his available flex button or dials the available flex code. In addition, the agent will be placed back in service if the No-Answer Retry timer expires. If the agent does not answer his next UCD call, he will again be taken out of service. This cycle will continue until the station answers calls, logs out, or goes unavailable.

## H. Overflow Station Assignments

An overflow station may be assigned to route callers in queue to a designated station after a specified time. The overflow station may not be one of the UCD group stations.

An enhancement has been made to the UCD Overflow Station to allow UCD calls reaching the UCD Overflow Station to call forward to another station. This enhancement is allowed or denied on a system-wide basis. Once enabled in programming, a UCD Overflow station can Busy/No-Answer forward to Voice Mail Groups, Hunt Groups and stations. If the UCD Overflow station is busy or does not answer before the no-answer call timer expires, the UCD call will forward to Voice Mail.

## I. Recorded Announcements (RAN)

Recorded announcement devices can be assigned to provide up to eight different messages, if all stations in a UCD group are busy. The eight messages are available to all eight UCD groups in different configurations. A RAN table can be the answer port for unanswered incoming calls to a UCD group, while another table can provide the secondary message.

Each RAN device can provide an announcement to one caller at a time. Subsequent callers will be queued onto the message on a first-in basis.

## 200.151 UNIVERSAL DAY/NIGHT ANSWER (UDA/UNA) (FP3)

Incoming CO lines can be programmed for Universal Day Answer (UDA) or Universal Night Answer (UNA). UDA/UNA assigned CO lines can also signal over the external page port(s). External Day ringing is programmed on a system-wide basis in admin programming. Stations which do not have access to a line during the day can answer that line while the System is in the Night Mode by dialing a UNA code. In order to utilize this feature, a Loop button or an appearance of the trunk must be present on the station.

## 200.152 VOICE MAIL GROUPS (VM)

*This feature is available with optional software.*

The Voice Mail feature automatically handles unanswered calls. Stations may forward calls to a voice mail group (for leaving mail) or may call the voice mail group directly (to retrieve mail) with no assistance from the attendant. Up to eight voice mail groups containing up to eight Voice Mail stations can be configured in the system. Each station interfaces with a port on the Single Line Telephone Board (SL12). Each voice mail "station" can be shared by a number of actual users. A Single Line Telephone Board (SL12) is required when utilizing the Starplus Digital Key Telephone System Voice Mail "In-Band" integration.

In addition, calls that are transferred from a Voice Mail group will NOT recall to the VM group. Instead, the call will recall to the Attendant station. If no Attendant station is programmed in the system, the call will continue to recall this station. This is useful for Voice Mail systems that only provide unsupervised transfer capability.

> **NOTE** *By default, all Voice Mail stations are placed into Pickup Group 1. You may need to change the default setting.*

### A. VM Disconnect Signal - Pass Thru

To avoid Voice Mail ports from being tied up, as a result of CO line callers abandoning the call or not exiting the VM system properly, a disconnect signal has been provided to notify the VM system that a CO or intercom caller has hung up or abandoned the call. "Silence" is provided to the VM port followed by "busy tone" to aid the VM system to recognize that an intercom caller has abandoned the call.

### B. VM In-Band Signaling Integration

The Starplus Digital Key Telephone System allow the system to be programmed so that if a station programmed to receive incoming CO line ringing is forwarded to Voice Mail they may have direct incoming callers routed directly into their stations voice mail box through the use of "In-Band" signaling. Alternately, incoming CO lines can be programmed to ring directly into the Voice Mail system. In this case, callers will be answered by the Voice Mail or Auto Attendant Main greeting.

Incoming CO callers can be call forwarded into Voice Mail automatically if a Preset Forward Destination is programmed for that CO line and the same CO Line programmed to ring at one station. Additionally, CO lines programmed to ring at an attendant station will station call forward into the Voice Mail system (if programmed to ring only at one attendant station) and be presented to the main greeting (not the attendant stations mail box) even when ID digits are enabled.

### C. VM LCD Message(s) Indication (FP3)

*This feature is only available with Starplus AVP Feature Package 2 software.*

This feature presents the number of new Voice Messages to users on their LCD display. The new VM LCD message on the keyset takes priority over Forward, DND, Messages, and idle displays. Ringing, Recalling, Outgoing calls, and current call operation displays will override the VM message display for the duration of the call or operation. This feature is programmable on a system-wide basis.

### D. VM Message Waiting Indication

When Voice Mail has received a voice message for a user who has a station on the Starplus Digital Key Telephone System, the VM connected to the system can leave a message waiting indication at the VM users station. When the station user retrieves their mail, the VM system can cancel the message waiting indication left at a station via a VM port.

The message waiting indication will appear on the programmed Voice Mail (group) button. If such a button has not been programmed, a voice mail message waiting indication will appear on the MSG WAIT button as a normal message waiting signal.

**E.   VM Tone Mode Calling Option**

Voice mail systems and/or Automated Atten-
dants can utilize the Calling Station Tone Mode
option. This is useful when using supervised
transfer or call screening options on voice mail
or auto attendant(s) requiring ring back tone for
proper call handling.

**F.   VM Transfer/Forward**

This feature allows Voice Mail calls, upon
reaching a forwarded to VM station, to forward
back into the Voice Mail unit. This is useful when
VM ports are being used as both Auto Attendant
and VM ports. This feature can be enabled/dis-
abled for all VM groups.

**G.   VM Transfer with ID Digits (FP3)**

This feature provides an attendant or station
user a way to transfer a caller directly into a
voice mail box. This allows the station identifi-
cation digits to be entered by the transferring
party. Using this feature, a caller can be trans-
ferred to a voice mail box when 1) a station user
on the system is not forwarded to VM or 2) the
destination voice mail box owner is not a station
user. CO trunks and internal calls may be trans-
ferred into voice mail using this feature. If no
voice mail ID digits are dialed by the transferring
station, then the identification digits of the trans-
ferring station will be sent to the voice mail.

This feature has been enhanced to allow digits
000-999 to be dialed when using the VM with
ID feature. This allows on a per station basis,
the ID number that is sent to Voice Mail to be
flexible. By default, the station number is sent
to the Voice Mail system. In database program-
ming, there is a field to insert a 3-digit entry
(000-999) which can be sent to the Voice Mail
system in place of the station number. This is
useful when a station user manually transfers a
caller to a mailbox.

**200.153   VOLUME CONTROLS**

Both speaker and tone ringing volumes can be sepa-
rately adjusted by utilizing the two slide switches on
the front of the digital terminal.

## Table 210-1 SLT Station Features/Software Packages

| FEATURE | STANDARD PKG | VMI PKG | ACD PKG | ADDITIONAL EQUIPMENT REQUIRED |
|---|:---:|:---:|:---:|:---:|
| **A** | | | | |
| Account Codes................................210-1 | • | • | • | N |
| **Account Codes* (Verified)/Traveling COS (FP3)**................210-1 | • | • | • | N |
| Automatic Line Access....................210-1 | • | • | • | N |
| **C** | | | | |
| Call Forward...................................210-1 | • | • | • | N |
| Camp-On .......................................210-1 | • | • | • | N |
| Conference ....................................210-1 | • | • | • | N |
| Conference w/Personal Park ...........210-1 | • | • | • | N |
| **D** | | | | |
| Direct Outside Line Access .............210-1 | • | • | • | N |
| Direct Outside Line Ringing ............210-1 | • | • | • | N |
| Directed Call Pick-Up.....................210-1 | • | • | • | N |
| Do Not Disturb (DND) .....................210-2 | • | • | • | N |
| **G** | | | | |
| Group Call Pick-Up .........................210-2 | • | • | • | N |
| **H** | | | | |
| Handset Receiver Gain....................210-2 | • | • | • | N |
| **I** | | | | |
| Intercom Calling..............................210-2 | • | • | • | N |
| **L** | | | | |
| Loop Interrupt Option......................210-2 | • | • | • | N |
| **M** | | | | |
| Message Waiting/Call Back .............210-2 | • | • | • | N |
| Messages - Personalized.................210-2 | • | • | • | N |
| Custom Messages ...................210-2 | • | • | • | N |
| **N** | | | | |
| Night Service..................................210-2 | • | • | • | N |
| **O** | | | | |
| Off-Hook Preference .......................210-2 | • | • | • | N |
| **P** | | | | |
| Personal Park .................................210-2 | • | • | • | N |
| **Q** | | | | |
| Queuing .........................................210-2 | • | • | • | N |
| **S** | | | | |
| Station Speed Dial ..........................210-2 | • | • | • | N |
| System Speed Dial ..........................210-2 | • | • | • | N |
| **T** | | | | |
| Transfer .........................................210-2 | • | • | • | N |

N=No additional hardware required, *System Memory Expansion Kit required.

# SECTION 210

# SINGLE LINE TELEPHONE FEATURE DESCRIPTION

Single Line telephones have access to most of the system and station features listed in the previous section, however, the additional features listed below are unique to Single Line Telephones. Single Line Telephone Board (SL12) is required in the SPD 4896 system for proper SLT operation. A Single Line Adapter (OPX) box and -48v dc power supply may also provide single line operation. An abbreviated feature index is provided in Table 210-1 SLT Station Features/Software Packages.

## 210.1    ACCOUNT CODES

SLT stations may enter an account code, up to 12-digits in length, to identify calls for billing/tracking purposes. The account code may be entered either before the call or during the call (the outside caller is placed on hold while the account code is entered if during the call.). The account code is recorded on the SMDR printout. Account codes are non-verified and can vary in length from 1 to 12 digits.

## 210.2    VERIFIED ACCOUNT CODES/TRAVELING COS (FP3)

The Verified Account Code/Traveling Class of Service (COS) feature provides the ability to track specific calls by entering a verified, variable length (up to 12-digits) identifier. Each account code can be assigned a day and night Class-of-Service for determing the dialing privileges allowed by that account code. This provides a means for users to override a restricted station. If the dialed account code matches the Verified Account code table, intercom dial tone will be returned, otherwise error tone will be presented. The use of forced Account Codes is optional, offered on a system-wide basis. SMDR must be enabled in order for the account code to print out as part of the SMDR record. The Starplus SPD 4896 system allows for up to 250 12-digit account codes for verification purposes. The System Memory Expansion kit is required for this feature.

## 210.3    AUTOMATIC LINE ACCESS

SLT's may have their station programmed to access a particular CO Line such as a private line or a line from a Group of CO lines upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated or individual lines. Outside line dial tone is received just by going off-hook, without the need to dial access codes.

## 210.4    CALL FORWARD

Single line telephones may direct intercom calls and transferred CO lines to be forwarded to another station. SLTs have access to all forwarding options that Key station users have:

- Call Forward - All Calls
- Call Forward - No Answer [7]
- Call Forward - Busy [8]
- Call Forward - Busy/No Answer [9]
- Call Forward - Off-Net [✳]
- Preset Call Forward

## 210.5    CAMP ON

A busy station can be notified that an outside line is on hold and waiting for them. The busy station is notified of this by a beep tone. Single line telephones can receive a camp on indication or initiate one by using an access code.

## 210.6    CONFERENCE

An SLT user can initiate a conference with an outside line and one other internal station.

## 210.7    CONFERENCE /WITH PERSONAL PARK

Single Line Telephones (SLT) can initiate a conference between two outside (CO) calls. The Personal Park feature is used in conjunction with the SLT conference code to make this possible. A combination of features are derived from these dial codes (Personal Park, Flip/Flop, and Multi-line Conference).

## 210.8    DIRECT OUTSIDE LINE GROUP ACCESS

Single line telephones can access outside lines by dialing CO line group access codes 9 or 81-87.

## 210.9    DIRECT OUTSIDE LINE RINGING

Single line telephones can be set up to receive direct outside line ringing. SLTs may be programmed to receive incoming CO Ringing on more than one CO line. However, an SLT can answer only ONE call at a time. If a SLT is busy when a CO call rings in, camp-on tone will be given to that SLT station.

## 210.10    DIRECTED CALL PICK-UP

Tone ringing intercom calls, Initial Ringing CO calls and transferred outside line calls to specific stations can be picked up by single line telephones. For this

type of pickup, the stations do not have to be in the same pickup group.

## 210.11    DO NOT DISTURB (DND)

Each telephone user can be allowed to place their phone in Do Not Disturb. The user will receive error tone if they are not allowed this feature. They will also receive a confidence tone when lifting the handset to remind them they are in Do Not Disturb. The attendant can override a station in DND.

## 210.12    GROUP CALL PICK-UP

Tone ringing intercom calls, transferred outside line calls, and initially ringing calls can be picked up by single line telephones by dialing a special pickup code. The telephones must be in the same pickup group.

## 210.13    HANDSET RECEIVER GAIN

This feature allows an SLT user while on a CO call to hookflash and dial a code to increase/decrease the handset volume.

## 210.14    INTERCOM CALLING

Single line telephones can make and receive intercom calls.

## 210.15    LOOP INTERRUPT OPTION

This feature allows Single Line telephone ports to provide a Loop Disconnect signal to any devices that are connected to an SLT port. This is an inherent operation, no programming is necessary.

The signal is provided when a CO line, marked with Loop Supervision, connected to an slt port receives Loop Supervision from the Central Office.

When an internal call to an SLT is terminated, the SLT will provide the Loop Interrupt signal.

The Loop Interrupt signal consists of an open for 700ms with less than 5ma.

## 210.16    MESSAGE WAITING/CALL BACK

Single Line Telephones calling a station that is busy, idle, or in Do Not Disturb can leave a message waiting indication to signal the station to call back.

## 210.17    MESSAGES - PERSONALIZED

Each SLT station can select a pre-assigned message to be displayed on the LCD of the Digital Terminal receiving that message. There are ten possible messages which can be displayed:
- 00= Clears Messages
- 01= ON VACATION
- 02= RETURN AM
- 03= RETURN PM
- 04= RETURN TOMORROW
- 05= RETURN NEXT WEEK
- 06= ON TRIP
- 07= IN MEETING
- 08= AT HOME
- 09= ON BREAK
- 10= AT LUNCH

### A.    Messages - Custom

This feature allows the system administrator to enter up to ten custom messages for use by station users of the system. These messages may be specified and customized by the customer on a system-wide basis.

## 210.18    NIGHT SERVICE

When outside lines are marked UNA and the system is placed into night service, a single line telephone can answer incoming calls on lines it does not normally have access to by dialing [#5]. When External Night Ringing is enabled in database programming, ringing is outputted on the external page ports.

## 210.19    OFF-HOOK PREFERENCE

SLT's may have their station programmed to access a particular CO Line such as a private line or a line from a Group of CO lines upon going off-hook. This is useful in Centrex or PBX applications when station users have dedicated lines. Outside line dial tone is received just by going off-hook, without the need to dial access codes.

## 210.20    PERSONAL PARK

Single line telephones can be connected to two calls (Intercom or CO lines) at the same time and "flip/flop" between the two calls. This can be performed with originated or received calls. This feature is also used with SLT multi-line conference feature.

## 210.21    QUEUING

Single line telephones can be placed in a queue awaiting the first available outside line in a group to become available.

## 210.22    STATION SPEED DIAL

Each SLT user may program up to 20 individual speed dial numbers. Each speed dial number can be up to 24-digits in length.

## 210.23    SYSTEM SPEED DIAL

Each SLT user can be allowed access to system speed dial numbers on a programmable basis. The last forty system speed numbers override toll restriction.

## 210.24    TRANSFER

Outside lines may be transferred by or to single line telephones. These transfers can be either announced or unannounced.

**Table 220-1 Attendant Features/Software Packages**

N=No additional hardware required, *System Memory Expansion Kit required.

# SECTION 220
# ATTENDANT FEATURE DESCRIPTION

The Attendant and Attendant(s) with DSS/DLS features of the Starplus Digital Key Telephone System are listed and described below in alphabetical order. An abbreviated feature index is provided in Table 220-1 Attendant Features/Software Packages.

## 220.1    ATTENDANT ALTERNATE POSITION (FP3)

*This feature is available with optional software.* This feature allows Attendant stations to program a flexible button to place their station in an unavailable mode. When this station is in the unavailable mode, the next attendant station (2nd) will receive incoming and "0" calls. All other available attendants will receive recalls. This feature is based on the system having three Attendant stations. If all Attendants in the system are unavailable, no attendants are available for internal/external calls.

## 220.2    ATTENDANT DISABLE OUTGOING ACCESS

The first attendant can disable CO lines, preventing outgoing access to those lines. This is useful for removing a faulty line from service, or for reserving CO lines for important use. All stations that can normally make calls on the lines are affected, but incoming calls are not affected. A CO line may be disabled while it is being used. When the trunk becomes idle, further outgoing access will be prevented.

## 220.3    ATTENDANT DISPLAY (FP3)

The Attendant display enhancement modifies the way in which multiple CO calls ringing at the attendant station are displayed. Currently, if two CO calls are ringing at an attendant station, when the station goes off hook, the first CO call will be answered. The LCD display will then update to show the second CO call that is ringing which sometimes doesn't allow the station to view the current CO calls' LCD information. This enhancement will keep the current calls' information on the LCD for a programmable period of time and then shows any other CO calls ringing in at the time.

## 220.4    ATTENDANT OVERFLOW

System programming allows the attendant station to be programmed so that if the attendant is busy or not there, the call will be automatically forwarded to another predetermined station, VM Group, Hunt Group, ACD or UCD group after a programmed period of time. (Refer to Call Forward, Station and Preset)

## 220.5    ATTENDANT OVERRIDE

Attendant stations may override a busy station or ring a station in DND. While busy, pressing the override key provides override tone and a five second delay before voice cut-through to the called party occurs, automatically placing any outside line call on Hold. The Attendant Override function must be programmed onto a flex button and can be enabled or disabled in programming.

## 220.6    ATTENDANT POSITION

The system identifies a maximum of three programmable stations as attendants for line recalls and attendant features. The first programmed attendant can enter system date and time information as well as System Speed numbers from this position without entering the programming mode. The Starplus Digital Key Telephone System is placed in Night Service by any programmed attendant pressing the NIGHT (DND) button or dialing the NIGHT code.

## 220.7    ATTENDANT RECALL

A held CO call left unattended by a station will recall the attendant(s) after a programmable period of time has elapsed. A recalling CO line flashes at a distinctive rate and has an LCD display that identifies the originating station of the unanswered call.

## 220.8    ATTENDANT SPECIAL RING MODE (FP3)

This feature provides an additional ring mode that is manually invoked by the Attendant. This mode provides a third ring list so that the system has a day ring mode, a night ring mode , and a special ring mode. Each CO line can have a special mode ring assignment associated to it. Up to ten stations per CO line may ring in the special mode. By default, no stations are programmed to ring in the special ring mode.

## 220.9    AUTOMATIC NIGHT MODE

In addition to the attendants capability to place the system into and out of night mode manually, by pressing the Night key, an automatic night mode schedule has been added to the system. The automatic schedule is determined in database programming on a weekly basis, including Saturday and Sunday. The Attendant can override the automatic schedule by pressing the NIGHT (DND) button.

## 220.10    HANDSET RECEIVER GAIN

This feature provides the user with a flexible button that can be programmed on their keyset. When programmed, allows the user to increase/decrease the handset receiver gain while on a CO call or intercom call.

## 220.11    INCOMING CO LINE OFF-NET FOR-WARD

Allows the first attendant to forward incoming CO calls to an Off-Net location. The attendant must have a direct appearance of the CO line to be forwarded. Forwarding can be established on a per CO line group basis, all CO lines, or an individual CO line may be simultaneously forwarded to an off-net location.

## 220.12    NIGHT SERVICE FEATURE

The Night Service feature will provide a means to put the system in night mode from any keyset or remove the system from night mode from any keyset as long as the system was put in night mode by the night service feature flex button. If the system was placed in night mode by the attendant using her DND button or if the system was placed in night mode by the automatic schedule, the night service flex button can not remove the system from night mode.

## 220.13    TIME AND DATE PROGRAMMING

This feature allows the first programmed attendant to set the time and date without entering the programming mode.

## ATTENDANT W/DSS/DLS FEATURES

## 220.14    ATTENDANT SEARCH

Allows a user to make a series of intercom calls without hanging up the handset. An intercom connection is switched to another station whenever a DSS key is pressed. Pressing the next DSS key terminates the previous intercom call.

## 220.15    BUSY LAMP FIELD INDICATORS

Each station key on the DSS console has a corresponding indicator which shows whether the station is idle or busy. The indicator is lit when the station is busy and unlit if the station is idle. A station in DND mode is shown by a flashing indicator.

## 220.16    DIRECT STATION CALLING

Enables the user to make an intercom voice call to any Digital Terminal in the system. Permits you to automatically put an outside caller on hold and simultaneously make an intercom call to an internal station. Also allows you to transfer an intercom call or outside call that is on hold to another station.

## 220.17    MAPPING OPTIONS

The DSS/DLS Console unit can access Stations, Direct Appearing CO Lines, or features that may be assigned to any of the flexible buttons.

A DSS/DLS unit may be assigned to one of the different MAP configurations available. Any one of the three MAP configurations may be assigned to the DSS/DLS and any number of maps may be assigned to one station. However, MAPs that have buttons assigned as CO lines cannot be changed, buttons assigned as Stations can be changed by the user. Up to three maps may be assigned to one station.

There are three pre-defined MAPs for the DSS/DLS console with default button programming. Refer to Figure 220-1 DSS Console Map 1, Figure 220-2 DSS Console Map 2 and Map 3, and Figure 220-3 DSS Console Map 4 and Map 5 for a button layout of each DSS Console Map. Each Attendant may have up to three DSS/DLS Consoles assigned to work with one Attendant station.

## 220.18    MESSAGES - CUSTOM

This feature allows the first programmed attendant (system administrator) to enter up to ten custom messages for use by station users of the system. Up to 24-characters may be entered as the custom message (this will represent 48 digits entered). A station user may store any of the available messages under a flexible button assigned as a Message Access button. These messages may be specified and customized by the customer on a system-wide basis. Message status is stored in battery protected area of memory for retention in the event of a power failure or system reset (soft or hard).

## 220.19    RELEASE KEY

Allows the user to disconnect calls while off-hook, speeding up call handling time.

**MAP #1** has by default the first 12 CO lines and the first 36 Stations 100-135. This provides a default layout of a 12x36 configuration. CO Line ringing on Map 1 is determined by CO Line Ringing Assignments.

| LINE 1 | STA 104 | STA 120 |
|--------|---------|---------|
| LINE 2 | STA 105 | STA 121 |
| LINE 3 | STA 106 | STA 122 |
| LINE 4 | STA 107 | STA 123 |
| LINE 5 | STA 108 | STA 124 |
| LINE 6 | STA 109 | STA 125 |
| LINE 7 | STA 110 | STA 126 |
| LINE 8 | STA 111 | STA 127 |
| LINE 9 | STA 112 | STA 128 |
| LINE 10 | STA 113 | STA 129 |
| LINE 11 | STA 114 | STA 130 |
| LINE 12 | STA 115 | STA 131 |
| STA 100 | STA 116 | STA 132 |
| STA 101 | STA 117 | STA 133 |
| STA 102 | STA 118 | STA 134 |
| STA 103 | STA 119 | STA 135 |
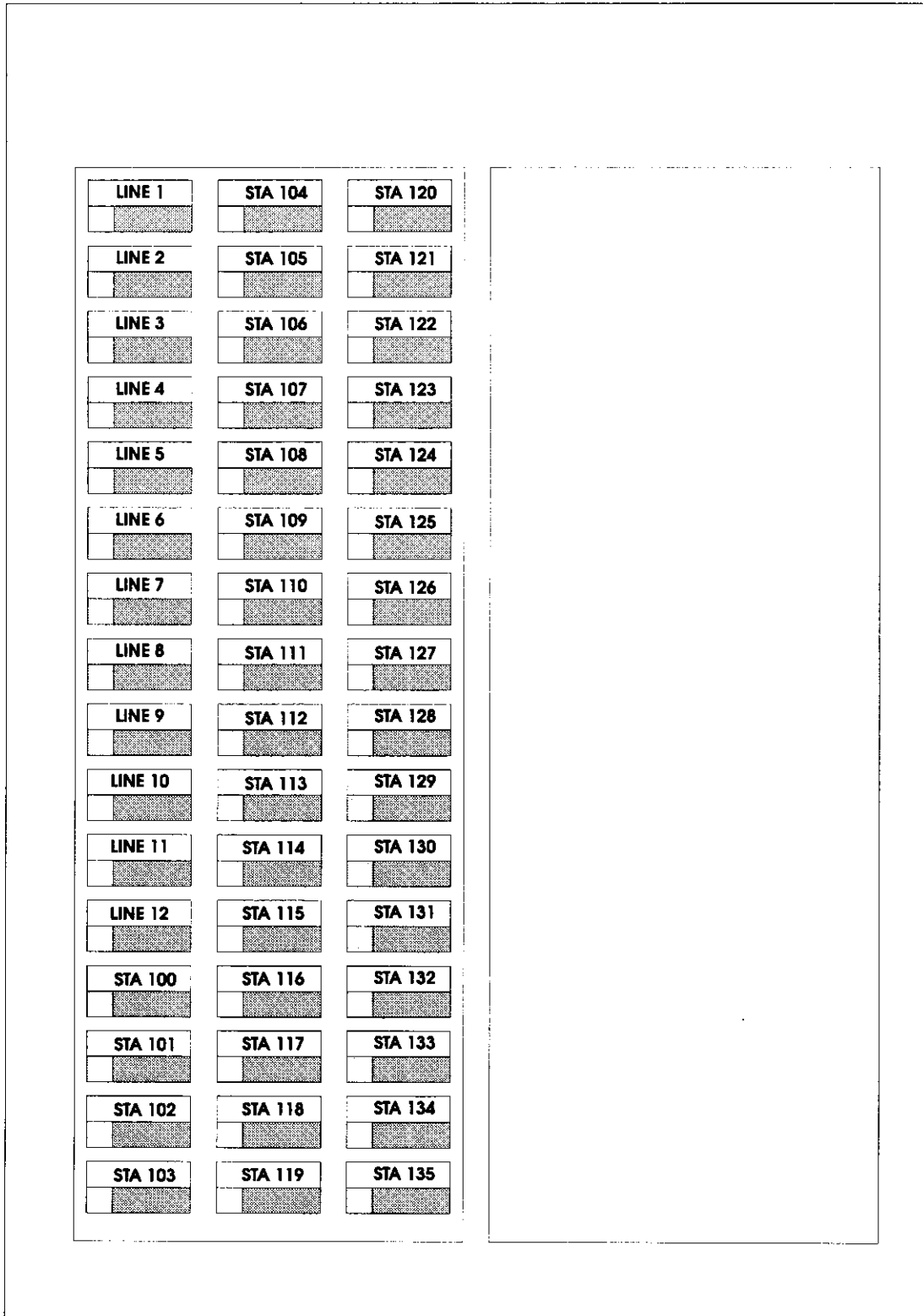
**Figure 220-1 DSS Console Map 1**

**MAP #2** has by default the first 48 Stations, 100-147. All buttons on Map #2 are flexible and can be changed by the station user. This map can be duplicated on another DSS/DLS Console and assigned to the same station.

**MAP #3** by default is intended to be used with Map #2 in that is has the remaining station, 148-195 to provide a 96 station configuration. All of the buttons on Map #3 are flexible and can be changed by the user. This map can be duplicated on another DSS/DLS Console and assigned to the same station.

| STA 100 | STA 116 | STA 132 | STA 148 | STA 164 | STA 180 |
|---------|---------|---------|---------|---------|---------|
| STA 101 | STA 117 | STA 133 | STA 149 | STA 165 | STA 181 |
| STA 102 | STA 118 | STA 134 | STA 150 | STA 166 | STA 182 |
| STA 103 | STA 119 | STA 135 | STA 151 | STA 167 | STA 183 |
| STA 104 | STA 120 | STA 136 | STA 152 | STA 168 | STA 184 |
| STA 105 | STA 121 | STA 137 | STA 153 | STA 169 | STA 185 |
| STA 106 | STA 122 | STA 138 | STA 154 | STA 170 | STA 186 |
| STA 107 | STA 123 | STA 139 | STA 155 | STA 171 | STA 187 |
| STA 108 | STA 124 | STA 140 | STA 156 | STA 172 | STA 188 |
| STA 109 | STA 125 | STA 141 | STA 157 | STA 173 | STA 189 |
| STA 110 | STA 126 | STA 142 | STA 158 | STA 174 | STA 190 |
| STA 111 | STA 127 | STA 143 | STA 159 | STA 175 | STA 191 |
| STA 112 | STA 128 | STA 144 | STA 160 | STA 176 | STA 192 |
| STA 113 | STA 129 | STA 145 | STA 161 | STA 177 | STA 193 |
| STA 114 | STA 130 | STA 146 | STA 162 | STA 178 | STA 194 |
| STA 115 | STA 131 | STA 147 | STA 163 | STA 179 | STA 195 |

**Figure 220-2 DSS Console Map 2 and Map 3**

**MAP #4** has by default, CO Lines 1-48 appear in sequential order.

**MAP #5** has by default, CO Lines 49-96 appear in sequential order. Provides the receiving station with CO Line buttons when used in conjunction with DSS Map 4 for a full 96 CO Line mapping. CO Line ringing on Maps 1, 4 and 5 is determined by CO Line Ringing Assignments.

| LINE 1 | LINE 17 | LINE 33 | LINE 49 | LINE 65 | LINE 81 |
| LINE 2 | LINE 18 | LINE 34 | LINE 50 | LINE 66 | LINE 82 |
| LINE 3 | LINE 19 | LINE 35 | LINE 51 | LINE 67 | LINE 83 |
| LINE 4 | LINE 20 | LINE 36 | LINE 52 | LINE 68 | LINE 84 |
| LINE 5 | LINE 21 | LINE 37 | LINE 53 | LINE 69 | LINE 85 |
| LINE 6 | LINE 22 | LINE 38 | LINE 54 | LINE 70 | LINE 86 |
| LINE 7 | LINE 23 | LINE 39 | LINE 55 | LINE 71 | LINE 87 |
| LINE 8 | LINE 24 | LINE 40 | LINE 56 | LINE 72 | LINE 88 |
| LINE 9 | LINE 25 | LINE 41 | LINE 57 | LINE 73 | LINE 89 |
| LINE 10 | LINE 26 | LINE 42 | LINE 58 | LINE 74 | LINE 90 |
| LINE 11 | LINE 27 | LINE 43 | LINE 59 | LINE 75 | LINE 91 |
| LINE 12 | LINE 28 | LINE 44 | LINE 60 | LINE 76 | LINE 92 |
| LINE 13 | LINE 29 | LINE 45 | LINE 61 | LINE 77 | LINE 93 |
| LINE 14 | LINE 30 | LINE 46 | LINE 62 | LINE 78 | LINE 94 |
| LINE 15 | LINE 31 | LINE 47 | LINE 63 | LINE 79 | LINE 95 |
| LINE 16 | LINE 32 | LINE 48 | LINE 64 | LINE 80 | LINE 96 |

**Figure 220-3 DSS Console Map 4 and Map 5**

# TABLE OF CONTENTS FOR SECTION 300

# SECTION 300
# STATION FEATURE OPERATION

## 300.1    INTRODUCTION

The Starplus Digital Key Telephone System has a wide variety of features and flexible programming, allowing each telephone user to program his/her telephone to meet his/her own individual needs.

This section of the manual contains the operating instructions for Digital Key Terminals and includes an illustration of the key telephone used in the Starplus Digital Key Telephone System and description of the keys on the telephones and their functions. It is designed to provide step-by-step instructions for operating the Digital Key Terminals in the system. Visual and audible cues which accompany the various steps in the operation of the features are also included.

Literature similar to these operating instructions has been prepared for use by the customer in the form of a Station User's Guides.

## 300.2    KEY TELEPHONE STATION FEATURES

Each Starplus Digital Key Telephone System provides the following keys, indicators and features:

**HANDSET AND SPEAKER** are located at the left side of the front panel. A handset is provided to allow confidential conversation when desired. Lifting the handset from its cradle (going off-hook) disengages the station's built-in speaker.

The speaker is located directly below the center portion of the handset. The station may be operated with the handset on-hook. When this occurs, audio is transmitted to the station user through the station's speaker.

**FLEXIBLE BUTTONS** are used to access idle outside lines, provide DSS/BLF for internal stations, access speed dial numbers and activate features. These buttons are programmed by the individual station user. The default flex feature buttons are described below:

>   **CAMP-ON** (flex) button enables you to alert a busy party that an outside line is on hold and waiting for them. A flex button must be assigned to use this feature.

>   **LINE QUEUE** (flex) button allows you to queue onto an outside line when all lines in a group are busy. Your station is placed in queue awaiting a line in the same group to become available. A flex button must be assigned to use this feature.

**CALL BACK** (flex) button allows you to initiate an automatic call back request to another busy station. As soon as that station becomes idle, the station that left the call back request is signaled. A flex button must be assigned to use this feature.

**PICK UP** (flex) button allows you to pickup a tone ringing intercom call, transferred, incoming, or recalling outside line call to a specific unattended station either by group or directed call pick-up.

**MSG WAIT (MESSAGE WAIT)** (flex) button allows you to initiate a message waiting indication at stations that are busy, unattended, or in Do Not Disturb. Message Waiting Callback request left at your station will indicated by a flashing Msg Wait LED.

**FWD (CALL FORWARD)** (flex) button allows you to forward your calls to another station.

**DND (DO NOT DISTURB)** (flex) button allows the user to place his/her telephone into a Do Not Disturb mode to eliminate incoming outside line ringing, intercom calls, transfers and paging announcements. The station in DND can use the telephone to make normal outgoing calls. On Attendant stations, this button becomes the system Night Mode button. A flex button must be assigned to use this feature.

**CONF (CONFERENCE)** (flex) button is used to establish and build conference calls.

### FIXED FEATURE BUTTONS:

>   **HOLD** button enables you to place an outside caller on hold.

>   **TRANS (TRANSFER)** button is used to transfer an outside call from one station to another.

>   **FLASH** button is used to terminate an outside call and restore dial tone without having to hang up the handset. It is also used to transfer calls behind a PBX or Centrex within those systems.

>   **SPEED** button provides you with access to speed dialing, save number redial and last number redial. This button is also used to access flex button programming.

>   **MUTE** button allows you to switch the built-in microphone on or off when using the speakerphone, or the handset microphone when using the handset.

**ON/OFF** button enables you to make a telephone call without lifting the handset. It turns the telephone on and off when using the speakerphone.

**OUTSIDE CALLS** are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator will flash slowly.

**INTERCOM CALLS** can be tone ringing or voice announce. If it is voice announced, the receiving station will receive 2 bursts of tone prior to the announcement. If it is a tone ringing call, the receiving station will hear a tone ring every 2.4 seconds.

**Figure 300-1 Executive Digital Display Terminal**

## Table 300-1 Digital Terminal Numbering Plan

| | |
|---|---|
| 100-219** | Station Intercom Numbers |
| 43+[C] | Call Park Location 0-7 (system) |
| 438 | Personal Park |
| 44+[V] | Voice Mail* Group Pilot Numbers 0-7 |
| 45+[H] | Hunt Group Pilot Numbers 0-7 |
| 499 | Modem via DISA access or transfer |
| 55+[U] | ACD* Group Pilot Numbers 0-9 |
| 55 [U] | UCD Group Pilot Numbers 0-7 |
| 56 [U] | ACD* Group Pilot Numbers 10-15 |
| 566 | ACD* or UCD Available/Unavailable |
| 567 55+[U] | ACD* or UCD Calls in Queue Display |
| 570+[BB] | ACD* Call Qualifier |
| 571 | ACD* Agent Logout |
| 572 55+[U] | ACD* Agent Login |
| 573 | ACD* Group Member Status |
| 574 | ACD* Agent Help |
| 575 | ACD* Supervisor Logout |
| 576 55+[U] | ACD* Supervisor Login |
| 577 55+[U] | ACD* Supervisor Queue Status Display |
| 578 | ACD* Overflow Sta Available/Unavailable |
| 6#+[XXX] | Tone Mode Ring Option |
| 6* | Dial By Name |
| 623 | Message Wait |
| 625 | Executive Override/ ACD* Supervisor Monitor Barge-In |
| 626 | LCR Queue Cancel |
| 627 | Account Code Enter |
| 628 | OHVO Enable |
| 631 | Do Not Disturb |
| 632 | Background Music |
| 633+[#] | Personalized Message on a Flex Button |
| 633+[#]+[#,*] | **Scroll Canned Messages (FP3)** |
| 633+[ZZ] | Personalized Messages |
| 633+[00] | Clear Personalized Messages |
| 634 | Headset Mode |
| 635 | ICLID Display - (unanswered calls) |
| 636+[XXX] | Station Relocate |
| 638+[0] | Handset Receiver Gain w/display |
| **639** | **Incoming CO Call Transfer (FP3)** |
| [FWD] | All Call Forward |
| [FWD]+[7] | No Answer - Call Forward |
| [FWD]+[8] | Busy - Call Forward |
| [FWD]+[9] | Busy/No Answer - Call Forward |
| [FWD]+[*] | Off-Net - Call Forward |
| 642 | **Follow-Me Forward (FP3)** |
| 643 | **Repeat Redial (FP3)** |
| 644 | **Mailbox Button (FP3)** |
| 645 | **Intercom Button(s) (FP3)** |
| 646+[XXX] | **Call Coverage (Ringing) (FP3)** |
| 647+[XXX] | **Call Coverage (Non-Ringing) (FP3)** |
| 648+[#,*] | **Keyset Mode (PCI Phone) (FP3)** |

| | |
|---|---|
| 662 | Clear Call Fwd, DND, Personalized Msgs |
| 680 | Dial Speed Directory |
| 690 | Name in Display Programming |
| 691+[BB] | Off-Hook Preference Programming |
| 695 | Distinctive Ringing |
| 70 | All Call Page (Internal & External) |
| 71 | Internal Page Zone 1 |
| 72 | Internal Page Zone 2 |
| 73 | Internal Page Zone 3 |
| 74 | Internal Page Zone 4 |
| 75 | Internal All Call Page |
| 76+[0] | External All Call Page (All Zones) |
| 76+[P] | External Page Zones (1-7) |
| 77 | Meet-Me-Page Answer |
| 81 | CO Line Group 1 (if LCR is enabled) |
| 82 | CO Line Group 2 |
| 83 | CO Line Group 3 |
| 84 | CO Line Group 4 |
| 85 | CO Line Group 5 |
| 86 | CO Line Group 6 |
| 87 | CO Line Group 7 |
| 88 | All CO line Groups (CO Line Off-Net Forward) |
| 9 | LCR or CO Line Group 1 (if LCR is disabled) |
| 0 | Attendant |
| #0 | Group Call Pick Up (Key & SLT) |
| #43+[C] | Call Park Pickup (Key and SLT) |
| **#5** | **Universal Day/Night Answer (FP3)** |
| [SPEED]+[YY] | Speed Dial Access (00-19 Station) (20-99 System) |
| [SPEED]+[*] | Save Number Redial |
| [SPEED]+[#] | Last Number Redial |

XXX = Intercom Station Numbers
YY = Speed Dial Bin numbers
ZZ = Personalized Messages
BB = Button Number
U = ACD* (0-15) or UCD (0-7) Group Number
C = Call Park Location 0-7
H = Hunt Group Number 0-7
V = Voice Mail* Group Number 0-7
P = External Page Zone Number (1-7)

\* Features available with optional software

\*\* Based on the default configuration of 96 CO Lines and 120 Stations. Station numbers 220 through 315 are assigned by increasing the number of KT12 boards and reducing the number of CO12 boards.

## 300.3 ANSWERING AN OUTSIDE CALL

a. Lift handset or press ON/OFF button.

b. Press slow flashing outside line button, or Loop button. (If your telephone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset, or pressing the ON/OFF button.)

## 300.4 PLACING AN OUTSIDE CALL ON HOLD

a. If your system is programmed for Exclusive Hold Preference, press HOLD button once for Exclusive Hold and twice for System Hold.

b. If your system is programmed for System Hold Preference, press HOLD button once for System Hold and twice for Exclusive Hold.

## 300.5 ANSWERING A RECALL

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring. (If Preferred Line Answer is enabled, skip step a.)

a. Press outside line, Loop or Pool button flashing at very fast rate.

b. Lift handset or press ON/OFF button to converse.

## 300.6 ACCOUNT CODES

When connected to an outside line call:

a. Press pre-programmed* ACCOUNT CODE button.

b. Dial account code up to 12-digits. (The other party will not hear the digits being dialed).
   - If account code is less than 12-digits, an [*] must be entered to return to the call.
   - If account codes are forced the account code must be entered prior to dialing the outside number.

**NOTE** *SMDR must be enabled in order for the account code to become part of the SMDR record.*

*Refer to Sec. 300.36, Flexible Button Assignment.

## 300.7 VERIFIED ACCOUNT CODES/TRAVELING COS (FP3)

The Verified Account Code/Traveling Class of Service (COS) feature provides the ability to track specific calls by entering a verified, variable length (up to 12-digits) identifier. Each account code can be assigned a day and night Class-of-Service for determing the dialing privileges allowed by that account code. This provides a means for users to override a restricted station. If the dialed account code matches the Verified Account code table, intercom dial tone will be returned, otherwise error tone will be presented. The use of forced Account Codes is optional,

offered on a system-wide basis. SMDR must be enabled in order for the account code to print out as part of the SMDR record. The Starplus SPD 4896 system allows for up to 250 12-digit account codes for verification purposes.

To enter an account code prior to a CO call:

a. Press pre-programmed* ACCOUNT CODE button before accessing a CO line.

b. Dial the account code up to 12-digits. If the account code matches a verified account code, intercom dial tone will be returned. Otherwise error tone will be presented.
   - If account code is less than 12-digits, an [*] asterisk must be entered to return to the call.

c. Access the outside CO line or dial the LCR code and dial the desired number.

**NOTE** *SMDR must be enabled in order for the account code to become part of the SMDR record.*

Conditions:

- Verified Account Codes will allow use of an account code as a traveling Class of Service.

- If LCR is activated in the system and verified account codes are forced, the user must enter the account code before dialing the LCR code.

- When verified account codes are forced, station MUST enter an account code to dial a number that is restricted through station COS and toll restriction. An account code is not required for calls that are not restricted through station COS and toll restriction.

- When verified account codes are not forced, a station user may place a call without entering an account code. In this case, the station user's COS is based on their station COS. In this case, a user can enter a verified account code to upgrade their COS.

- Verified Account Codes does not function with Redial feature.

*Refer to Sec. 300.36, Flexible Button Assignment.

## 300.8 PLACING AN OUTSIDE CALL (Automatic Line Selection)

a. Press outside line or Pool button. ON/OFF button LED will light and dial tone will be heard.

b. Dial the desired party.

c. When called party answers, lift handset to converse or use speakerphone.

Station user may also dial the individual trunk group access code to access an outside line.

## 300.9 AUTOMATIC CALL DISTRIBUTION (ACD)(FP3)

*This feature is available with optional software.*
When purchased, Uniform Call Distribution (UCD) is not used and is replaced by the ACD functions identified in the following. 16 Automatic Call Distribution (ACD) groups can be programmed, each containing up to 16 three-digit station numbers.

### A. Agent Login/Logout Feature

The Agent Login/Logout feature provides a means for an agent to log into one of the ACD groups and receive calls. For an agent to be placed into an active ACD state, the agent must first login. The agent logs in by performing the following steps:

1. Dial the LOGIN CODE [572] on the dial pad, followed by the ACD group number (5xx) that the agent is going to log into.
or
Press a pre-programmed* LOGIN flex button.

2. The agent enters his unique AGENT ID code (0000-9999). The LOGIN flex button LED will be lit steady. Confirmation tone is heard and the agent is logged onto the ACD group. The ON/OFF LED will extinguish if the agent started the sequence in the handsfree mode. When the agent logs in, an ACD login event is sent to the ACD Events Trace port, if active.

> **NOTE** The ACD Agent Log-In LED will only light for the ACD group that is assigned to that button.

> **NOTE** If a member is assigned to a specific ACD group and uses the login-logout codes to enter and exit an ACD group other than his assigned group, the database is changed to reflect the different group.

For an agent to remove himself from the ACD group as an active agent:

1. Dial the LOGOUT CODE [571] on the dial pad,
or
Press a pre-programmed* LOGOUT flex button. LOGIN flex button LED will extinguish. When the agent logs out and removes himself from the ACD group, an ACD logout event is sent to the ACD Events Trace port, if active.

> **NOTE** When an ACD agent has a Login flex button programmed onto his station, that flex button can be used to Login and Logout of the assigned ACD group.

Conditions:

- If an agent logs into an ACD group from a station that is logged into another ACD group, the station will be automatically removed from the previous ACD group.

- An agent may log out while in wrap-up, or unavailable.

- An agent logging in will first be placed in wrap-up mode before receiving an ACD call.

- If an agent attempts to log into an ACD group that already has 16 members, that agent will receive error tone.

- The Starplus Digital System will not verify agent's ID codes, other than requiring four digits to be entered.

*Refer to Sec. 300.36, Flexible Button Assignment.

### B. ACD Agent "HELP" button

The ACD Agent "HELP" feature provides a means for an ACD agent to signal his assigned supervisor for assistance. A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

While on a call in progress, the agent:

1. Presses his pre-programmed* "HELP" flex button. Confirmation tone will be heard by the agent. The agent will see his "HELP" button illuminate if a supervisor is logged into his ACD group. If no supervisor is logged in, the agent will receive a burst of error tone and his "HELP" button will not illuminate.
The ACD supervisor station receives a "HELP" message if a member of one of the ACD groups he is assigned to initiates a "HELP" request. The "HELP" function also sends a Camp-On tone to the speaker of the supervisors keyset. The "HELP" message takes precedence over any other message and can be cleared by the supervisor by pressing his "HELP" button.
At the time the supervisor receives a "HELP" request, he can press his "HELP" flex button followed by his override feature button to bridge onto the ACD group members call. The "HELP" button will place an intercom call to the station requesting "HELP". The "HELP" message will be cleared after the supervisor's "HELP" button is depressed. In addition, the "HELP" message will be cleared if the agent was on a call and went back on hook before the supervisor could respond. In this case, the "HELP" message will be converted to a message wait indication. The agent can also clear the "HELP" request by hitting his "HELP" button a second time.

Conditions:

- Up to five messages can be left at any supervisor station.

- The supervisor can cancel the "HELP" request signal by depressing his flashing "HELP" button. In addition, a call will be

placed to the agent requesting "HELP". If the agent is on a call, the supervisor can press his barge-in button to monitor the call or give assistance on the call.

| NOTE | *Only digital terminals can utilize this feature, since a flexible button is required to be programmed.* |
|------|---|

### C. ACD Call Qualification

The CALL QUALIFICATION feature provides a means for an Agent on ACD type calls to enter codes that identify the call. This feature provides up to four digits for the ACD SMDR reporting function. This feature permits up to 12 digits to be entered, however only the first four digits are provided for in the SMDR Record.

The QUALIFY button is programmed using flex code [570]. If the agent wishes to enter his qualify code into a speed bin, he can do so using the standard speed bin programming sequence. He can then enter [570] followed by the bin number. This will provide an agent with a series of buttons with qualify codes under them.

If a [✻] is entered along with the Call Qualification code into a speed bin, the display will not show the Call Qualifier code but will be sent to the SMDR record.

Refer to Sec. 300.36, Flexible Button Assignment.

While on a call, the agent:

1. Presses the pre-programmed CALL QUALIFY flex button, followed by the four-digit qualify code. Enter a [✻] to complete the sequence. A short burst of confirmation tone will be heard thru the keyset speaker, if programmed.

Conditions:

- The outside party will not hear the (qualify code) account code being entered.

- The qualify code uses the first four digits of the account code. Therefore the account code record in the SMDR will contain the qualify code in the first four digits.

- The qualify code must be entered during CO talk state.

- Speed dial entries can contain all digits including the [✻], which will terminate the entry.

### D. ACD Agent Queue Status Display

From an idle key telephone:

1. Dial [567] on the dial pad,
   or
   press pre-programmed* flex button.

2. Dial the three-digit ACD group number (5xx). ON/OFF button LED lights steady.

   - The Agent Queue Status display shows the following information:

   | **ACD5xx 00 CALLS IN QUEUE** |  |
   |---|---|
   | **MM/DD/YY** | **HH:MM am** |

   Where
   - 5xx = ACD Group (550-565)

   The above display is an idle state display and will tell the agent and/or his supervisor how many calls are in queue.

3. Replace the handset or press the ON/OFF button to terminate the display.

| NOTE | *This feature cannot be used with a call in progress and the station will be considered busy for incoming calls during this operation.* |
|------|---|

The agent will automatically receive an enhanced Calls in Queue display whenever there is a call in queue.

The display shows the following information:

| **5xx: CIQ: xx AGENT(S): xx** |  |
|---|---|
| **OC:** | **HH:MM:SS** |

Where
- 5xx = ACD Group (550-565)
- CIQ:xx = Calls in queue
- AGENT(S):xx = Agents logged in
- OC: hh:mm:ss = Oldest call in hours, minutes and seconds

*Refer to Sec. 300.36, Flexible Button Assignment.

### E. ACD Available/Unavailable Mode

If you are a ACD agent, you may place your station in the Available mode to receive ACD type of calls or you may place your station in the Unavailable mode to block ACD type calls from ringing your station.

To go Available:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You may now receive ACD calls.

To go Unavailable:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You are now blocked from receiving ACD calls.

*Refer to Sec. 300.36, Flexible Button Assignment.

### F. ACD Overflow Station - Available/Unavailable Mode

If you are a ACD Overflow station, you may place your station in the Available mode to receive ACD type of calls or you may place your station in the Unavailable mode to block ACD type calls from ringing your station.

To go Available:

1. Dial [578] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You may now receive ACD calls.

To go Unavailable:

1. Dial [578] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You are now blocked from receiving ACD calls.

> **NOTE** *If no stations are logged into the ACD Group, ACD calls will overflow to the Attendant station.*

*Refer to Sec. 300.36, Flexible Button Assignment.

### G. ACD Overflow Station - Forwarding (FP3)

An enhancement has been made to the ACD Overflow Station to allow ACD calls reaching the ACD Overflow Station to call forward to another station.

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the desired code:
   - [7] = no answer calls
   - [8] = busy calls
   - [9] = busy and no answer calls.

> **NOTE** *Skip the preceding step for immediate forwarding.*

4. Dial the three-digit destination number where calls are to be forwarded. (Station, Voice Mail, ACD groups, Hunt group, or System Speed (∗20-∗99) bin for off-net forwarding). Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

The overflow station follows the following rules:

1. It will forward on the No Answer Timer if the forward is set to NO ANSWER or BUSY NO ANSWER.

2. It will forward immediately if the station is set to any other forward type.

*Refer to Sec. 300.36, Flexible Button Assignment.

### H. Supervisor Login/Logout Feature

The Supervisor Login/Logout feature provides a means for a supervisor to log into one of the ACD groups and monitor calls.

1. Dial the LOGIN CODE [576] on the dial pad, followed by the ACD group number (5xx) that the supervisor is going to log into,
   or
   Press a pre-programmed* LOGIN flex button. (Flex button must have 576+5xx programmed onto it.)

2. The supervisor enters his unique SUPERVISOR ID code (0000-9999). The LOGIN flex button LED will be lit steady. Confirmation tone is heard and the supervisor is logged onto the ACD group. The ON/OFF LED will extinguish if the supervisor started the sequence in the handsfree mode. When the supervisor logs in, an ACD login event is sent to the ACD Events Trace port, if active.

For a supervisor to remove himself from the ACD group as an active supervisor:

1. Dial the LOGOUT CODE [575] on the dial pad, followed by the ACD group number (5xx) that the supervisor is going to log out of,
   or
   Press a pre-programmed* LOGOUT flex button. (Flex button must have 575+5xx programmed onto it). The LOGIN flex button LED will extinguish. When the supervisor logs out and removes himself from the ACD group, an ACD logout event is sent to the ACD Events Trace port, if active.

> **NOTE** *The ACD Supervisor Log-in LED will only light for the ACD group that is assigned to that button.*

> **NOTE** *When an ACD Login flex button is programmed in the system, that same flex button can be used to toggle the Login/Logout feature.*

Conditions:

- If a supervisor logs into an ACD group from a station that is logged into another ACD group, the station will remain in the previous ACD group.

- A supervisor may log out while in wrap-up, or unavailable.

- A supervisor logging in will first be placed in wrap-up mode before receiving an ACD call.

- If a supervisor attempts to log into an ACD group as an agent and that group already has 16 members, the supervisor will receive error tone.

- The Starplus Digital System will not verify supervisor's ID codes, other than requiring four digits to be entered.

*Refer to Sec. 300.36, Flexible Button Assignment.

I. **Supervisor Monitor With Barge-In**

The Supervisor Monitor with Barge-In feature will provide a means for an ACD supervisor to monitor an agent's call in progress in order to coach sales techniques or customer relations skills. When used, a supervisor may intrude onto an agent's call in a listen only mode or in a true conference mode by use of the barge-in feature. This feature is available with or without a warning tone.

| | |
|---|---|
| NOTE | *The use of Supervisor Monitor w/Barge-in is limited by federal law and may also be limited or prohibited by state or local law, so check the relevant laws in your area before employing these features.* |

| | |
|---|---|
| NOTE | *A change in volume may occur on the CO line or intercom call after the barge-in occurs.* |

The ACD supervisor can intrude on an agent's call in the listen only mode by:

1. Dial the three-digit station number of the agent's station. Upon hearing busy tone, press the pre-programmed* Barge-In flex button. The conversation in progress will be heard by the Supervisor on the handset receiver and the Supervisor's MUTE button LED is lit indicating that the Supervisor's transmit is muted. If the Supervisor wishes to participate in the conversation in a true conference mode, he can depress his MUTE button which removes mute.

| | |
|---|---|
| NOTE | *The Executive Override Code, [625] is used to program Supv Monitor with Barge-In feature onto a flex button.* |

| | |
|---|---|
| NOTE | *Only digital terminals or SLT stations may be intruded using this feature.* |

Conditions:

- Supervisors are granted the Barge-In option if they log in at a station with the Supervisor Barge-In/Executive Override enabled in programming.

- Supervisors can only Barge-In on calls of members of the ACD group(s) that they are logged into.

- Warning tone is enabled and disabled using the Executive override warning tone option (FLASH 05, button 4).

- Supervisor stations must be digital terminals.

J. **Supervisor Queue Status Display**

The Supervisor Queue Status feature will provide a means for an ACD supervisor to view the status of their ACD group. This display is an idle state display and will prompt a Supervisor that a group is having problems answering all their calls. The display will tell the supervisor how many calls are in queue, how many agents are logged into the ACD group, and the length of time in minutes that the oldest call has been in queue.

The supervisor station logged onto the ACD group can obtain the Queue Status display by:

1. Dialing the Queue Status code [577] on the dial pad, followed by the ACD group (5xx) the supervisor wants to observe,

or

Press the pre-programmed* flex button.

The Queue Status display show the following information:

| | |
|---|---|
| 5xx: CIQ: xx AGENTS: xx | |
| OC: | HH:MM:SS |

Where
- 5xx = ACD Group (550-565)
- CIQ:xx = Calls in queue
- AGENT(S):xx = Agents logged in
- OC: hh:mm:ss = Oldest call in hours, minutes and seconds

If the supervisor wants to change the display to a different group:

1. Dials the Queue Status code [577] on the dial pad, followed by the ACD group that he wishes to observe,

or

Presses the pre-programmed* flex button.

Conditions:

- To receive the Supervisor's Queue Status display, the station must be logged in as a Supervisor and dial the flex code for the appropriate group.

- ACD Supervisors will receive the Queue Status display in real time.

- The Queue Status display is only given when the ACD group member or Supervisor's station is not receiving a higher priority display, such as "HELP" or Out-Of-Service, or other applicable off-hook events are taking place at the station.

- The Supervisor's Queue Status display is saved in battery backed memory.

- When a Supervisor logs out of the group he is presently displaying, he must enter a new request for Queue Status display.

### K.  ACD Group Member Status

The ACD Group Member Status feature provides a means for an ACD Supervisor/Agent to view the status of the eight ACD groups in the system. This display will tell the Supervisor/Agent which stations are logged into the group, and if the station logged in is Available/ Unavailable, Out-Of-Service, in DND, or busy on a call. The Supervisor/Agent could use this display to determine why there are a lot of queued calls in a specific group.

Any station (Supervisor or Agent) logged onto the ACD group can bring up the group members display by:

1. Dialing the ACD Group Member Status code [573] on the dial pad,
   or
   Pressing the pre-programmed* flex button. The display now shows ACD Group 550.

The status of the ACD agents will be displayed with a letter following the station number that the agent is logged in at.

```
ACD5xx:  110A  111A  112A
         113O  114U  115D  116B  117N
```

The status will be displayed with the following priority:

Where:
- (N) = Not Equipped
- (D) = Do not Disturb
- (O) = Out of service
- (U) = Unavailable
- (B) = Busy on a call
- (A) = Available

i.e.: If an agent made a call while out of service his status would be out of service, not busy.

2. Dial an [*] on the dial pad to scroll up to the next ACD Group. If more than eight members are in the ACD group, the next depression of the [*] will display the additional members,
   or
   Dial a [#] on the dial pad to scroll down to the previous ACD Group. To return to an idle display, the Supervisor/Agent station returns to on-hook condition.

Conditions:

- The ACD Group Members Status display will be updated at the time the code is dialed.

### 300.10    AUTOMATIC SELECTION

Pressing an outside line button, or pool button; a speed button; a station button; or dialing a number in the Starplus Digital Key Telephone System numbering plan, will automatically activate the speakerphone and light the ON/OFF button, if your keyset is programmed as a speakerphone.

### 300.11    BACKGROUND MUSIC (Optional)

a. Dial [632] on the dial pad,
   or
   press the pre-programmed* flexible button. (music is heard)

b. Dial [632] on the dial pad again,
   or
   press the pre-programmed* flexible button again, and music is discontinued.

c. When you pick up the handset
   or
   Press the ON/OFF button, music is discontinued automatically.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.12    CALL BACK

If you dial a telephone that is busy and want to activate Call Back:

a. Press the pre-programmed* CALL BACK button.

b. Hang up.

c. When busy station hangs up, you will be signaled.

d. Answer the call; station you called will then be signaled. (If your station is busy when signaled, an automatic MSG will be left at your phone.)

| NOTE | *When the Automatic Call Back Timer is enabled, a call back request will automatically be invoked anytime a user listens to intercom busy tone for a preset period of time.* |
|------|---|
| NOTE | *Only one Call Back request can be left at a station; the second request will be converted to a message wait call back request.* |

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

### 300.13    CALL COVERAGE FEATURE (FP3)

This feature provides the functionality for stations to answer calls for other stations by utilizing enhanced DSS buttons. Visual and Audible status of ringing stations to an assigned coverage station are provided.

To program a flexible button for call coverage at a station:

a. Press the SPEED button twice.

b. Press the desired flexible button to be programmed.

c. Dial [646] (Ringing Type) or [647] (Non-Ringing Type) on the dial pad followed by the extension number to be covered. Confirmation tone will be heard. If an error was made during entry, error tone will be presented.

Once the button is assigned on the station and a call rings in:

d. The coverage station will hear ringing for the coverage station after a five second delay. The ring tone will be the internal ring tone cadence. The LCD of the coverage station will identify the ringing station as:

| CALL FOR STA XXX | |
|---|---|
| MM/DD/YY | HH:MM |

e. The Coverage station then presses their flashing Coverage flexible button,
or
Presses the ON/OFF button,
or
Lifts the handset if PLA is enabled. The flash rate is the same as the incoming CO line ringing rate. The call will be answered and will cease to ring at any other stations that may have the same coverage appearance. The following message is displayed after the call is answered:

| CALL TO STATION XXX | |
|---|---|
| FROM STA YYY | HH:MM:SS |

By default, no call coverage buttons are assigned.

Conditions:

- Multiple coverage stations can have the same remote ringing station(s) programmed on their stations.

- Once a coverage station answers the call, other stations attempting to answer the call will receive busy tone and the call coverage button extinguishes on all appearances of that button.

- This feature can cover SLT extensions, however an SLT cannot perform the call coverage function. The SLT extension does not have to be physically installed, only the SLT card needs to be installed.

- Direct CO calls have ring and LCD priority over call coverage calls. The call coverage station must have a direct CO appearance or Loop button in order to pick up an exter-

nal call. If the call coverage station is in DND, no audible ringing will be heard, however visual and LCD information will be presented.

- This feature can be programmed on any key station or DSS Console with an available flexible button. If the DSS with a call coverage button assigned is unplugged or moved, the station associated with that DSS will continue to ring.

- Camp-On or Override will drop any internal callers that a station is talking to.

- Only one button type (646 or 647) per covered station can be assigned on a keyset.

## 300.14    CALL FORWARD: STATION (FP3)

When any type of station call forwarding is invoked, the LCD display will normally indicate the call forwarding mode at all times. An enhancement has been made to the LCD forwarding display to make the call forwarding mode display optional. This feature is enabled/disabled in admin programming on a system-wide basis.

### A.    Call Forward - All Calls

If you have been given the ability to forward your calls:

1. Lift handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Press DSS button of desired station,
   or
   Dial the three-digit extension number where calls are to be forwarded, including ACD or UCD, Voice Mail, and Hunt group pilot numbers.

4. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.

- Call back requests are not allowed at a station where a call is forwarded.

- CO Line calls can be transferred by the receiving station back to the original forwarded station.

- A station in the call forward mode may still make outgoing calls.

To remove Call Forwarding:

1. Lift handset or press ON/OFF button.

2. Press the pre-programmed* FWD flex button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

## B.   Call Forward - Busy

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the Call Forward Busy code [8] on the dial pad.

4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

## C.   Call Forward - Busy/No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the Call Forward Busy/No Answer code [9] on the dial pad.

4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

## D.   Call Forward - Follow-Me (FP3)

This feature allows a user who is away from their station, to activate/deactivate call forwarding from another station in the system. This will enable the user to have their calls forwarded to their current location or forwarded into Voice Mail, ACD/UCD, Hunt Groups, or System Speed bin for off-net forwarding or to any other station in the system. When this call forward is activated, all calls presented to the forwarded station will forward to the destination station immediately.

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Dial the Follow-Me Forward code [642] on the dial pad.

3. Dial the station number of the station that forwarding is desired.

4. Dial the three-digit destination number where calls are to be forwarded. (Station, Voice Mail, ACD/UCD groups, Hunt group, or System Speed (*20-*99) bin for off-net forwarding). Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

To remove Follow-Me Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Dial the Follow-Me Forward code [642] on the dial pad.

3. Dial the station number of the station that forwarding is to be canceled.

4. Dial the same station number again. Confirmation tone will be heard and the FWD LED is extinguished.

To establish Follow-Me forwarding from an off-site location:

1. Dial into the system on a DISA or E&M trunk. Enter the DISA access code, if applicable.

2. Dial the Follow-Me Forward code [642] on the dial pad.

3. Dial the station number of the station that forwarding is desired.

4. Dial the three-digit destination number where calls are to be forwarded. (Station, Voice Mail, ACD/UCD groups, Hunt group, or System Speed (*20-*99) bin for off-net forwarding). Confirmation tone will be heard. Five seconds later dial tone will be received.

To remove Follow-Me Forwarding from an off-site location:

1. Dial into the system on a DISA or E&M trunk. Enter the DISA access code, if applicable.

2. Dial the Follow-Me Forward code [642] on the dial pad.

3. Dial the station number of the station that forwarding is to be canceled.

4. Dial the same station number again. Confirmation tone will be heard. Five seconds later dial tone will be received.

Conditions:

- If a Call Forward mode is currently active at the station that forwarding is desired the new forward will become active and cancel the previous forward.

- Both internal and external calls to the affected station will forward to the designated location.

- Call forwarding must be allowed in programming for the affected station.

- When remote forward is activated the forwarding will be immediate.

- A stations Call Forward status is stored in a battery protected area of memory. A stations Call Forward status will be returned after a power failure or system reset occurs.

- When a key telephone has been forwarded remotely, the key stations forward button will light. the station user may cancel the forwarding at their station by pressing ON/OFF and then the FWD button. SLT users can cancel their forwarding by going off hook and dialing the forward code.

- DISA callers entering the code and making a mistake will be given error tone for 3 seconds, silence for 2 seconds, and then dial tone will be returned.

### E.   Call Forward - No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the Call Forward No-Answer code [7] on the dial pad.

4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

### F.   Call Forward - Off-Net (via speed dial)

This feature allows stations to forward intercom and transferred CO calls to an off-net location.

In a speed dial bin, store the number of the off-net location where calls are to be forwarded. Follow instructions provided for storing station or system speed dial numbers.

1. Lift handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial [*] on the dial pad. Dial the two-digit speed bin number (00-19, 20-99) that contains the number where calls are to be forwarded. Confirmation tone is heard. FWD button LED is flashing.

4. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.

- Call back requests are not allowed at a station where a call is forwarded.

- CO Line calls can be transferred by the receiving station back to the original forwarded station.

- A station in the call forward mode may still make outgoing calls.

To remove Off-Net Forwarding

1. Lift handset or press ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD button LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

### G.   Call Forward - ACD or UCD Groups

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the desired code:
   - [7] = no answer calls
   - [8] = busy calls
   - [9] = busy and no answer calls.

> **NOTE** *Skip the preceding step for immediate forwarding.*

4. Dial the three-digit ACD Group pilot number (550-565) for groups 1-16, or UCD group pilot number (550-557) for groups 1-8 where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

*Refer to Sec. 300.36, Flexible Button Assignment.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

### H. Call Forward - Voice Mail Groups

Intercom and Transferred CO callers may be routed directly to your mail box by forwarding your phone to a voice mail group. Callers will then be greeted by your personal voice mail greeting if available.

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the desired code:
   - [7] = no answer calls
   - [8] = busy calls
   - [9] = busy and no answer calls.

> **NOTE** *Skip the preceding step for immediate forwarding.*

4. Dial the three-digit Voice Mail group pilot number (440-447) for the group (1-8) where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

### I. Call Forward - Hunt Groups

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the desired code:
   - [7] = no answer calls
   - [8] = busy calls
   - [9] = busy and no answer calls.

> **NOTE** *Skip the preceding step for immediate forwarding.*

4. Dial the three-digit Hunt group pilot number (450-457) for groups 1-8 where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

Refer to Sec. 305.4, Call Forward-Stations for Basic keyset operation of this feature.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.15 CALL FORWARD: PRESET

Three stations are set-up in a Station Preset Forward chain. If an incoming CO Line forwarded by the first station encounters a manually forwarded station (2nd station is station call forwarded or in DND), then the incoming CO Line will bypass the manually forwarded or DND station and forward to the next station (third station) in the chain. If the third station is the last in the chain, then the call will remain at the third station and continue to ring until answered or terminated. However, if the incoming CO Line has a CO Preset Forward destination assigned, if the call is still unanswered, the CO Line will follow that CO Preset Forward destination after the CO Preset Forward timer expires.

### 300.16 CALLING STATION TONE MODE OPTION

Allows a calling station to override a called stations "H" or "P" intercom switch settings.

When placing a call to a station and Tone ringing is desired:

a. Dial [6#] on the dial pad.

b. Dial the three-digit extension number,
   or
   Press DSS button of desired station. (call tone rings station).

## 300.17 CALL PARK

To place an outside call in park and consult with, page, or call an internal party:

While connected to an outside line:

a. Press TRANS button. The caller is put on Exclusive hold.

b. Dial parking location (430 to 437). Confirmation tone is heard.

c. If you hear busy tone, press TRANS twice and dial another parking location.

Retrieving a Parked Call

a. Lift handset or press ON/OFF button.

b. Press the pound [#] button.

c. Dial parking location (430 to 437) where the call was parked.

## 300.18 CALL PICK-UP: GROUP

When intercom tone ringing, transferred outside line ringing, recall ringing or initially ringing call is heard at an unattended telephone:

a. Lift the handset or press the ON/OFF button.

b. Dial [#0] on the dial pad,
or
press the pre-programmed* PICK UP button to be connected to the calling party.

> **NOTE** You must be in the same pick up group as the ringing telephone to pick up the call.

Conditions:

- User must have access to the specific outside line or loop button to do a group call pick up.

## 300.19 CALL TRANSFER (FP3)

Outside lines can be transferred from one phone to another within the system. The transfer can be either screened (announced) or unscreened to either an idle or busy station, ACD or UCD Group, or Hunt Group.

Screened Transfer

While connected to an outside line:

a. Press station button where call is to be transferred (if programmed on your telephone),
or
press TRANS button and dial three-digit station number.

b. The called extension signals according to the intercom signal switch position.

c. When that extension answers, announce the transfer.

d. Hang up to complete transfer.

> **NOTE** If Direct Transfer Mode is enabled in admin programming, the supervised transfer will be transferred directly to the key station handset.

Answering a Screened Transfer

Your intercom will be signaling according to the intercom signal switch position.

a. Answer the intercom and receive the transfer notice.

b. Press the outside line button or loop button flashing on hold.

Unscreened Transfer

When the called extension begins to signal, hang up to transfer the call (Recall timer starts).

Transfer Search

When attempting to locate a party:

a. Press a station button to signal the desired station.

If the party is not located:

b. Press another station button to continue the search.

c. When the called party answers, hang up to complete the transfer.

## 300.20 CAMP-ON

If you call a station that is busy and wish to alert them to your call:

a. Press the CAMP-ON button. Called station will receive one-burst of ringing. Wait for their response

b. When called party answers, consult with them or hang up to transfer the call.

> **NOTE** If a station is in DND, only the attendant can Camp On using the attendant override feature. Camp-On or Override will drop any internal callers that a station is talking to.

Answering a Camp-On

If you are on a connected call, hear one burst of muted ringing, and your CAMP-ON button is flashing, you have a call waiting for you.

To answer:

a. Press the CAMP-ON button. Any outside line you are connected to will be placed on hold. You may converse with the station placing the call.

b. Press flashing outside line button, if a call is being transferred.

If you do not have a Camp-On button either:

a. Go on-hook with present call. Camp-On will ring through,
or

place present call on hold. Then go on-hook. Camp-On will ring through.

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

## 300.21    CO LINE ACCESS

To access outside line:

a. Press idle CO line button, Pool button,
or
dial CO line group access code or LCR access code.

b. Dial number desired for outside call.

c. Lift handset to converse or use speakerphone.

## 300.22    CO LINE QUEUING

A station can queue only one line at a time. If you see that a particular outside line is busy and you wish to be placed on a list waiting for that line to become available:

To Place a Queue:

a. Press desired busy outside line button,
or
pool button. (Busy tone is heard)

b. Press pre-programmed* LINE QUEUE button.

c. Replace handset or press ON/OFF button.

To Answer a Queue:

If you hear ringing and an outside line of the line group or a Loop Button, you queued onto is rapidly flashing:

a. Lift handset or press ON/OFF button.

b. Press flashing outside line button or Loop button to answer.

> **NOTE** If your station has been programmed for Preferred Line Answer, you will have the line automatically upon lifting the handset.

Conditions:

• A Loop button or direct appearance of the queued line is required

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

## 300.23    CONFERENCE COMBINATIONS (FP3)

Only stations that have conference enabled will be able to institute a conference.

• Add-On Conference: Up to eight internal parties can engage in a conference, or seven internal parties with a limit of one external party. A maximum of five external parties can be conferenced.

• Multi-Line Conference: One internal station can engage in a conference with no more than five outside parties.

> **NOTE** A maximum of eight parties can be included in a conference. The handset receiver gain feature can be used with the increased conference capabilities to compensate for CO line losses.

Establishing a Conference

a. Lift handset.

b. Select intercom station or dial desired outside party.

c. When called party answers, press the pre-programmed* CONF button.

d. Add next conference party by selecting another outside line or intercom station.

e. If the next conference party is an outside line and a busy or wrong number is encountered, press one of the conference parties on HOLD. This will drop the busy or wrong number party. Press the CONF button again and repeat Step d.

f. When party answers, press the pre-programmed* CONF button twice.

g. All parties are connected.

Exiting a Conference (Controller only)

There are three methods of exiting a conference:

a. Press the ON/OFF button to ON, press the MUTE button, and replace the handset (to monitor a conference).

Use the following method only if multi-line conference is in progress:

b. Press HOLD button to place outside parties on hold. Hold timer starts. If one of the two parties is internal, that party will be dropped.

c. Press the pre-programmed* CONF and hang up or press the ON/OFF button to leave the other conference parties still connected in an unsupervised conference. CONF button will flash and timer will start. There will be a warning tone before the other parties are dropped.

Re-entering a Conference

When the controller re-enters the conference, the disconnect timer is reset.

a. Lift handset to re-enter a monitored conference.

b. To re-enter a conference placed on hold, repeat steps for establishing a conference.

c. To re-enter an unsupervised conference, lift handset and press flashing pre-programmed* CONF button. The CONF button lights steady and confirmation tone will be heard.

Terminating a Conference

To terminate a conference, the conference initiator who is actively in the conference:

    a. Replaces handset or push ON/OFF button to OFF.

To terminate an unsupervised conference:

    a. Pressing the flashing pre-programmed* CONF button while on hook, all parties will be dropped.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.24   DATA FEATURE

The Data Feature is a time division switched, point to point data transmission capability which permits simultaneous voice and data communications (within the same system but not the same port). The Data Feature offers the ability to transmit data information between personal computers, printers, plotters, modems, CRT terminals, and main frame computer ports.

To establish a Data call a Digital Data Interface Unit (DDIU) is required to be connected to each data communications device. Data information can be switched through the system at speeds of 300, 1200, 2400, 4800, 9600, 19.2K and 38.4K baud asynchronous.

To establish a connection to any idle data port:

    a. A user with an associated DDIU dials the station number of the DDIU or the group access number of the groups that the DDIU has been inserted into or depresses a DSS button representing the DDIU. The key system will then determine the baud rate setting for the called DDIU and convert the user's associated DDIU to the same baud rate. The system will then complete the connection.

A second method to establish a connection between two DDIU is done by the first attendant.

    a. The first attendant dials the extension number of one data unit. Dial tone is received and the display will show the BAUD RATE.

    b. The first attendant then dials the station number of the second data unit. Confirmation tone is heard. This connection will be maintained until the first attendant dials the station number of one DDIU followed by pressing the FLASH button.

To break down an established connection:

    a. The user dials his associated DDIU number or depress the DSS button for the associated DDIU.

    b. Press the "FLASH" button.

A station user can configure his associated DDIU by:

    a. Dialing the DDIU access code [637] on the dial pad.

    b. Enter the three-digit extension number of the DDIU. The display will show the Baud Rate setting, the character length (8 or 9), and the number of stop bits (1 or 2).

To change the Baud Rate:

    a. Press the HOLD button. Then enter the desired one-digit Baud Rate.
        – [1] = 300
        – [2] = 1200
        – [3] = 2400
        – [4] = 4800
        – [5] = 9600
        – [6] = 19.2K
        – [7] = 38.4K

    b. Press the SPEED button to save any changes made.

To change the character length:

    a. Press the TRANS button. Then enter the desired one-digit character length, either 8 or 9.

    b. Press the SPEED button to save any changes made.

To change the number of stop bits:

    a. Press the MUTE button. Then enter the desired one-digit stop bit, 1 or 2.

    b. Press the SPEED button to save any changes made.

Refer to Station Attributes Programming, 630.2, Station Identification for programming the Station ID of the Digital Data Interface Unit (DDIU). Also refer to Sec. 630.3, Digital Data Interface Unit (DDIU) for programming the parameters of the Digital Data Interface Unit (DDIU).

Conditions:

    • The system is transparent to the devices being connected. Therefore each DDIU must be configured with a specific baud rate, number of data bits and number of stop bits. This configuration will be done by the first attendant or in the case of an associated data unit can be configured by the user.

    • Data ports can be arranged in ACD/UCD Groups or Hunt Groups.

    • Data ports do not have to be associated with a keyset, however to connect two DDIU devices one of them must be associated with a keyset unless the connection is made by the first attendant.

- When the data connection has been completed, the baud rate used in the connection will be displayed on the keyset.

- Non associated DDIU connections can be broken down by the first attendant.

- A DDIU has a DCE interface. Therefore a straight through RS-232C cable can be used connect to a DTE device (printer, PC, etc.).

- Each DDIU requires a digital terminal port.

## 300.25    DIAL BY NAME

The system will allow station users to dial extension numbers by entering a name of a person that has been programmed for that station. The system database will allow entry of a name (alphanumeric) up to 24-characters in length for each station. This programmed name can be used for dialing-by-name station users and will be displayed on LCD displays.

To dial a station user by name:

a. Dial the Dial-By-Name code [6*] on the dial pad, or
   press the pre-programmed* DIAL-BY-NAME flex button.

b. Dial the desired person's name using the keys on the key pad. For example: if you wanted to call Linda Murphy, and last names were entered into the directory dialing list, you would press the digit 6 (M), then the digit 8 (U), then the digit 7 (R), the digit 7 again (P), the digit 4 (H) and finally the digit 9 (Y).

| ALPHA NUMERIC CHARACTER | DIGIT |
|---|---|
| A,B,C | 2 |
| D,E,F | 3 |
| G,H,I | 4 |
| J,K,L | 5 |
| M,N,O | 6 |
| P,Q*,R,S | 7 |
| T,U,V | 8 |
| W,X,Y,Z* | 9 |
| *does not appear on dial pad. | |

- When the system finds a unique numeric match (MURPHY=687749) to the name being dialed, the call will be placed to the station matching the name. The intercom call will signal the station according to the H-T-P switch setting. If fewer than 8 digits are dialed, the numeric match will be dialed after a 10 sec. interdigit time-out occurs, or if a "#" (pound), is pressed.

*Refer to Sec. 300.36, Flexible Button Assignment.

Conditions:

- The system will dial the station that matches the dialed name when a unique match is found. If multiple names are located (found) after 8 digits, the first one is dialed.

- The names will be entered as a part of the system attributes database. Numbers may be entered as part of a name. To avoid conflicts, all names must have a unique numerical sequence.

## 300.26    DIRECTED CALL PICK-UP

A station can pick up a tone ringing intercom call, transferred, incoming, or recalling outside line to a specific unattended station. The call must be a tone ringing call:

a. Dial the station number of the known ringing telephone. Receive ringback tone or call announce tone depending on the intercom selector switch setting.

b. Press the pre-programmed* PICK UP button to answer the call.

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

Conditions:

- User must have access to the specific outside line or a Loop button to do a directed call pickup.

## 300.27    DIRECTORY DIALING - Stations

Directory dialing allows station users to obtain a directory of station users and have the system dial the extension that is currently on the display. The Starplus SPD 4896 system provides locations for up to 200 names.

Directory dialing also allows users to program a "name" along with a speed dial bin for use in later locating a speed dial number. When prompted to do so, the system will display the name associated with a speed dial number on the LCD display so that when the desired name is shown, the user may then have the system dial the number.

Directory dialing also allows users to associate a "name" with an entry in the local number/name translation table. When prompted to do so, the system will display the name associated with the table on the LCD display so that when the desired name is shown, the user may then have the system dial the number. The Starplus SPD 4986 system provides locations for up to 200 names.

The Directory Dialing list may be programmed and maintained at the first assigned attendant station in one of two ways, however this admin routine provides a means for the directory list to be maintained by the system programmer either locally (at Station 100) or remotely via modem access.

Directory dialing may also be used to transfer a call from one station to another.

To view the directory list:

a. Dial the Directory List dial code [680] on the dial pad,
   or
   press the pre-programmed* flex button programmed as a directory dialing button.

b. Press a button on the key pad, once, twice or three times, to represent the letter of the alphabet, to begin viewing the list of names. (i.e. the first depression of the digit "2" produces the names beginning with an "A". The second depression of the digit "2" produces the names beginning with a "B", while the third depression of the digit "2" produces the names beginning with a "C".) The letters of the alphabet are represented on the key pad as follows:

| ALPHA NUMERIC CHARACTER | DIGIT |
|---|---|
| A,B,C | 2 |
| D,E,F | 3 |
| G,H,I | 4 |
| J,K,L | 5 |
| M,N,O | 6 |
| P,Q*,R,S | 7 |
| T,U,V | 8 |
| W,X,Y,Z* | 9 |
| *does not appear on dial pad. | |

c. Names beginning with the letter chosen will appear on the LCD display.

> NOTE — If there are no names in the Directory List beginning with the desired letter, a name with the next higher letter will be shown on the LCD display.

d. Dial an [✶] on the dial pad to scroll up (next entry) through the list,
   or
   Dial a [#] on the dial pad to scroll down (previous entry) through the list,
   or
   press another button to view the list for a different letter of the alphabet.

e. When the desired name is shown on the LCD display, pressing the SPEED button will automatically dial the destination station or outside phone number (via speed dial).

Conditions:

• If the desired party is an intercom station, that station will be signaled according to that station's intercom selector switch (SLT stations will tone ring).

• If the desired party is associated to a speed dial bin, the system will select a CO line and dial the number programmed into the speed dial bin. Call progress tones will then be heard.

• If a station is in the Directory Dialing Mode and a CO or intercom call rings in, the station must exit the Directory Dialing Mode to answer the call.

To Transfer a Call using Directory Dialing:

While on a call:

a. Press the TRANS button.

b. Dial the Directory Dial Code [680] on the dial pad,
   or
   press a pre-programmed* flex button programmed for directory dialing.

c. Press the digit associated with the person's name and when it is displayed, press the SPEED button to automatically dial the destination station.

d. Hang up to complete the transfer.

> NOTE — Calls may only be transferred to internal stations only. An attempt to transfer a call off-net (via a Speed dial bin) will result in the call recalling upon going on-hook.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.28  DIRECT INWARD SYSTEM ACCESS (DISA)

a. Call the phone number the system administrator specified as the DISA line. The system answers and returns intercom dial tone.

b. Enter the DISA access code also specified by the system administrator, if applicable. Dial tone is returned.

To place an outgoing call:

a. Dial a group access code: 9, 81 - 87. CO Dial tone is returned.

b. Dial the desired telephone number.

> NOTE — The conference timer (Refer to Sec. 610.1, System Timers) will monitor a DISA "trunk-to-trunk" call and release the lines one (1) minute after the time expires.

To reach an internal station:

a. Dial the three-digit station number. Ringback tone will be heard.

b. Converse when party answers.

> **NOTE** *If the station dialed is unattended, busy or in DND, intercom dial tone will be returned. (after the Preset Call Forward Timer expires) Refer to Sec. 610.1, System Timers.*

### 300.29 DISTINCTIVE RINGING

The tone ring signal used to notify stations of an incoming call can be changed by each station user to provide distinctive ringing among a group of stations. Each station user may select a distinctive ringing tone that will be used to ring their station. The system provides 81 different ring patterns that each station user may select from.

To select a distinctive ring tone for a station:

a. Dial the Tone Ring program code [695] on the dial pad. The following message is shown on the LCD phone:

```
ENTER RING TONES    00-88
XX PRESS SPEED TO SAVE
```

b. Enter the two-digit tone number. The telephone speaker will sound a steady tone that correlates to the two digit entry.

c. When the desired tone is selected, press the SPEED button to save this as the tone to be presented when the station is tone rung. Confirmation tone will be heard. This tone will be presented as a result of an incoming CO or intercom call, recalling CO line or Transferred CO line or at any other time the station is tone rung. The two-digit tone number will be displayed in the lower left corner of the LCD display.

The 81 ringing choices are as follows:

| TONE # | FREQ | DURATION |
|---|---|---|
| 00 | 1209/1477 | 50ms/50ms |
| 01 | 697/770 | 50ms/50ms |
| 02 | 697/852 | 50ms/50ms |
| 03 | 697/941 | 50ms/50ms |
| 04 | 697/1209 | 50ms/50ms |
| 05 | 697/1336 | 50ms/50ms |
| 06 | 697/1477 | 50ms/50ms |
| 07 | 697/1633 | 50ms/50ms |
| 08 | 697/OFF | burst |
| 10 | 770/697 | 50ms/50ms |
| 11 | 770/770 | 50ms/50ms |
| 12 | 770/852 | 50ms/50ms |
| 13 | 770/941 | 50ms/50ms |
| 14 | 770/1209 | 50ms/50ms |
| 15 | 770/1336 | 50ms/50ms |
| 16 | 770/1477 | 50ms/50ms |
| 17 | 770/1633 | 50ms/50ms |
| 18 | 770/OFF | burst |
| 20 | 852/697 | 50ms/50ms |
| 21 | 852/770 | 50ms/50ms |
| 22 | 852/852 | 50ms/50ms |
| 23 | 852/941 | 50ms/50ms |
| 24 | 852/1209 | 50ms/50ms |
| 25 | 852/1336 | 50ms/50ms |
| 26 | 852/1477 | 50ms/50ms |
| 27 | 852/1633 | 50ms/50ms |
| 28 | 852/OFF | burst |
| 30 | 941/697 | 50ms/50ms |
| 31 | 941/770 | 50ms/50ms |
| 32 | 941/852 | 50ms/50ms |
| 33 | 941/941 | 50ms/50ms |
| 34 | 941/1209 | 50ms/50ms |
| 35 | 941/1336 | 50ms/50ms |
| 36 | 941/1477 | 50ms/50ms |
| 37 | 941/1633 | 50ms/50ms |
| 38 | 941/OFF | burst |
| 40 | 1209/697 | 50ms/50ms |
| 41 | 1209/770 | 50ms/50ms |
| 42 | 1209/852 | 50ms/50ms |
| 43 | 1209/941 | 50ms/50ms |
| 44 | 1209/1209 | 50ms/50ms |
| 45 | 1209/1336 | 50ms/50ms |
| 46 | 1209/1477 | 50ms/50ms |
| 47 | 1209/1633 | 50ms/50ms |
| 48 | 1209/OFF | burst |
| 50 | 1336/697 | 50ms/50ms |
| 51 | 1336/770 | 50ms/50ms |
| 52 | 1336/852 | 50ms/50ms |
| 53 | 1336/941 | 50ms/50ms |
| 54 | 1336/1209 | 50ms/50ms |
| 55 | 1336/1336 | 50ms/50ms |
| 56 | 1336/1477 | 50ms/50ms |
| 57 | 1336/1633 | 50ms/50ms |
| 58 | 1336/OFF | burst |
| 60 | 1477/697 | 50ms/50ms |
| 61 | 1477/770 | 50ms/50ms |
| 62 | 1477/852 | 50ms/50ms |
| 63 | 1477/941 | 50ms/50ms |
| 64 | 1477/1209 | 50ms/50ms |
| 65 | 1477/1336 | 50ms/50ms |
| 66 | 1477/1477 | 50ms/50ms |
| 67 | 1477/1633 | 50ms/50ms |
| 68 | 1477/OFF | burst |
| 70 | 1633/697 | 50ms/50ms |
| 71 | 1633/770 | 50ms/50ms |
| 72 | 1633/852 | 50ms/50ms |
| 73 | 1633/941 | 50ms/50ms |

| 74 | 1633/1209 | 50ms/50ms |
| 75 | 1633/1336 | 50ms/50ms |
| 76 | 1633/1477 | 50ms/50ms |
| 77 | 1633/1633 | 50ms/50ms |
| 78 | 1633/OFF | burst |
| 80 | OFF/697 | burst |
| 81 | OFF/770 | burst |
| 82 | OFF/852 | burst |
| 83 | OFF/941 | burst |
| 84 | OFF/1209 | burst |
| 85 | OFF/1336 | burst |
| 86 | OFF/1477 | burst |
| 87 | OFF/1633 | burst |
| 88 | No ring | No ring |

Conditions:

- Station users may listen to all tones by dialing the two-digit codes one after another. The tone that is sounding when the SPEED button is pressed will be saved as that station's tone ringing selection.

- A station's tone ringing selection will be maintained in a battery protected area of memory. Therefore if a system experiences a power failure, or a soft or hard restart, a station's tone ringing selection will be restored.

- The tone selected will be used to provide "TONE" ringing normal or muted to the station whenever the station is commanded to tone ring. (i.e. this does not apply to camp-on tone programming confirmation tone or other specific tones that are not considered "TONE" ringing.)

- The selected tone will be used to notify the station in the following cases:
  - Incoming CO Call
  - Incoming Intercom Call
  - Transferred CO Line
  - Recalling CO Line
  - Call Back Notification
  - Message Wait Call Back
  - All types of forwarded calls
  - Executive/Secretary calls
  - Line Queue Call Back
  - LCR Queue Call Back

## 300.30    DO NOT DISTURB

If you have been given the ability to place your phone in Do Not Disturb:

a. Press the pre-programmed* DND button. DND button lights steady.

The DND button can be pressed while the phone is ringing to stop the ringing. (Refer to One-Time Do Not Disturb below.)

Removing Do Not Disturb

a. Press the pre-programmed* DND button. The button LED extinguishes and DND is canceled.

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

### A.    One-Time Do Not Disturb

Allows you to prevent calls from ringing at your station while you're on a call. The One-Time DND condition will automatically cancel when you end your call.

1. Press the pre-programmed* DND button while you're off-hook and connected to a CO line or intercom call. The DND button LED lights and off-hook tones at your station are canceled.

To cancel:

1. Replace the handset. The DND button LED extinguishes and DND is canceled.

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

## 300.31    EXCLUSIVE HOLD

When a line is placed on Exclusive Hold, no other station in the system can retrieve this call. Exclusive Hold may be programmed to be activated on the first or second depression of the Hold button. CO Lines while in a transfer hold are always placed in an Exclusive Hold condition.

## 300.32    EXECUTIVE OVERRIDE

Allows stations designated as "Executive" the ability to override and "barge in" on other keysets engaged in conversation.

If you call a busy station:

a. Press the pre-programmed* EXECUTIVE OVERRIDE button. Executive station will be bridged onto the CO line conversation in progress at the called station. Optional warning tone is heard and presented to all parties prior to cut-thru.

b. Replace handset at Executive station to terminate the override.

Conditions:

- An error tone will occur:
  - if the called party is in a conference.
  - if the called party is already on an OHVO call.
  - if the called party has a Camp-On at his station

- If the Executive joins a call and one of the members does a hook-flash or depresses his transfer button, the Executive will be dropped.

- If the Executive does a hook-flash or depresses his transfer button, it will be ignored.

- When the Executive jumps in on an intercom call or CO call and the Executive is not in a mute condition, and any member of the party hangs up, the call will be converted to a two-party conversation.

- When the Executive jumps in on an intercom call or CO call and the Executive is in the mute condition and either of the two parties in the intercom call hang up, the call will be dropped. If the Executive hangs up, the call will remain as a two-party conversation.

*A Flex button must be programmed for this feature to operate. Refer to Sec. 300.36 Flexible Button Assignment.

| CAUTION |
| --- |
| USE OF THIS FEATURE WHEN THE EXECUTIVE OVERRIDE WARNING TONE IS DISABLED MAY BE INTERPRETED AS A VIOLATION OF FEDERAL, STATE OR LOCAL LAWS, AND AN INVASION OF PRIVACY. CHECK APPLICABLE LAWS IN YOUR AREA BEFORE INTRUDING ON CALLS USING THIS FEATURE. |

| NOTE | A change in volume may occur on the CO line or intercom call after the barge-in occurs. |
| --- | --- |

## 300.33 EXECUTIVE/SECRETARY TRANSFER

- If you are designated the Executive station and your phone is busy or in DND, all calls will be routed to the Secretary station.

- If you are the designated Secretary station, you can signal the Executive that is busy or in DND by using the Camp On feature.

## 300.34 FLASH

When connected to an outside line:

a. Press FLASH button to disconnect outside line and re-seize outside line dial tone.

## 300.35 FLASH ON INTERCOM

When connected to a page zone or another internal party, press FLASH button to disconnect page or intercom call. Intercom dial tone will be heard.

## 300.36 FLEXIBLE BUTTON ASSIGNMENT (FP3)

If you have buttons on your telephone which have NOT been assigned as CO lines, Pooled group, or Loop buttons, you may program them to suit your own individual needs. This feature has been enhanced in database programming to allow flexible buttons to be programmed from a remote location (off-site). Range programming can also be used to assign these buttons to multiple stations. There are five possible functions you may assign to these buttons:

- DSS/BLF: This button, when pressed, will automatically signal the assigned intercom station. DSS/BLF buttons are programmed by the station user.

- FEATURES: This button can be programmed so that when pressed it will activate a particular feature, thus eliminating the need for dialing the feature code. Some features require a flex button to be programmed for that feature to be accessible to the station user. Where this is the case, it is so designated in this Feature Operation Section and user guide. Feature buttons are programmed by the station user. Refer to Table 300-2 Flex Button Programming Codes for a complete listing of code/features that may be programmed onto a flexible button.

- SPEED DIAL: This button can be programmed to automatically access a speed number location for one-step operation. PBX and Centrex codes can be programmed into a speed dial bin and accessed by one button depression.

- POOLED GROUP ACCESS: A group of outside lines can be placed under one button. When this button is pressed, the system will select an available line from this group for the user to place a call on. Pool buttons are assigned in database administration.

- LOOP: This button will act as the direct appearing button for outside lines that do not appear on the user's individual telephone. Any phone that doesn't have all lines appear on it must have a loop button. There is NO limit to the number of LOOP buttons a station may have. Loop buttons are assigned in database administration.

- UNASSIGN:(locked out). Specific buttons may be designated as unused or locked out. When a button is programmed as unused, the button may not be programmed by the station user using flex button programming procedures.

To program flexible buttons:

a. Press the SPEED button twice.

b. Press the assigned button to be programmed (it must be programmed in database as a multifunction button).

c. Dial the desired code. Refer to Table 300-2 Flex Button Programming Codes.

## Table 300-2 Flex Button Programming Codes

| | | | | |
|---|---|---|---|---|
| 100-219** | Station Intercom Numbers | | 641 | Release Button (Key and Attendant) |
| 43+[C] | Call Park Location 1-7 (system) | | 642 | Follow-Me Forward |
| 438 | Personal Park | | 643 | Repeat Redial |
| 44 [V] | Voice Mail* Group Pilot Numbers 0-7 | | 644+[XXX] | Mailbox Button |
| 45 [H] | Hunt Group Pilot Numbers 0-7 | | 645 | Intercom Button(s) |
| 55 [U] | ACD* Group Pilot Numbers 0-9 | | 646+[XXX] | Call Coverage (Ringing Type) |
| 55 [U] | UCD Group Pilot Numbers 0-7 | | 647+[XXX] | Call Coverage (Non-Ringing Type) |
| 56 [U] | ACD* Group Pilot Numbers 10-15 | | 680 | Dial Speed Directory |
| 566 | ACD*/UCD Available/Unavailable | | 695 | Distinctive Ringing |
| 567 | ACD*/UCD Calls in Queue Display | | 70 | All Call Page (Internal & External) |
| 570+[YY] | ACD* Call Qualifier Code | | 71 | Internal Page Zone 1 |
| 571 | ACD* Agent Logout | | 72 | Internal Page Zone 2 |
| 572 5 [UU] | ACD* Agent Login | | 73 | Internal Page Zone 3 |
| 573 | ACD* Group Member Status Display | | 74 | Internal Page Zone 4 |
| 574 | ACD* Agent Help | | 75 | Internal All Call Page |
| 575 | ACD* Supervisor Logout | | 76+[0] | External All Call Page (All Ext Zones) |
| 576 5 [UU] | ACD* Supervisor Login | | 76+[P] | External Page Zones (1-7) |
| 577 5 [UU] | ACD* Supervisor Queue Status Display | | 77 | Meet-Me-Page Answer |
| 578 | ACD* Overflow Avail/Unavailable | | 9 | Least Cost Routing (LCR) Access |
| 601 | Attendant Override | | #0 | Group Call Pick Up |
| 603 | CO Line Off-Net Forward | | #5 | Universal Day/Night Answer |
| 604 | Night Service | | [SPEED]+[YY] | Speed Dial Access |
| 620 | Camp-On Button | | | (00-19 Station) (20-99 System) |
| 621 | Line Queue Button | | [SPEED]+[*] | Save Number Redial |
| 622 | Call Back Button | | [SPEED]+[#] | Last Number Redial |
| 623 | Message Wait Button | | | |
| 624 | Conference Button | | XXX = Station Extension Numbers | |
| 625 | Executive Override/Monitor Barge-In | | YY = Speed Dial Bin numbers | |
| 626 | LCR Queue Cancel | | ZZ = Personalized Messages, | |
| 627 | Account Code Enter Button | | U = ACD* (0-15) or UCD (0-7) Group Number | |
| 628 | OHVO Enable | | C = Call Park Location 0-7 | |
| 629 | Mute Button | | H = Hunt Group Number 0-7 | |
| 631 | Do Not Disturb Button | | V = Voice Mail* Group Number 0-7 | |
| 632 | Background Music | | P = External Page Zone Number (1-7) | |
| 633+[ZZ] | Personalized Messages | | | |
| 633+[00] | Clear Personalized Messages | | *Features available with optional software. | |
| 634 | Headset Mode | | **Based on the default configuration of 96 CO Lines | |
| 635 | ICLID Display (unanswered calls) | | and 120 Stations. Station numbers 220 through 315 | |
| 638+[0] | Handset Receiver Gain w/Display | | are assigned by increasing the number of KT12 | |
| 639 | Incoming CO call Transfer | | boards and reducing the number of CO12 boards. | |
| 640 | All Call Forward | | | |

To erase a flexible button:

    a. Press the SPEED button twice.

    b. Press the button to be erased.

    c. Press the FLASH button. Confirmation tone will be heard.

    d. Replace the handset or press the ON/OFF button.

### 300.37 FORWARD OVERRIDE (FP3)

This feature allows a user to reach a station who is Busy Forward, No Answer Forward or All Call Forwarded. This will allow the calling station to call to a Forwarded stations, OHVO, Executive Override, Monitor, Message Wait, Camp-on, or Call Back at that station rather than forwarding to the busy destination.

    a. Dial [5#] on the dial pad followed by the desired station extension.

### 300.38 GROUP LISTENING

All digital key stations have built in speakerphones. Station users may use the speaker to monitor a call while using the handset to converse with the outside party. This enables other people in the room to listen to both parties in the conversation.

    a. While conversing, on the handset, press the ON/OFF button. Both parties of the conversation can then be heard on the digital station's speaker. The speakerphone microphone will be muted while the handset is off-hook.

To deactivate Group Listening while off-hook, the ON/OFF button must be depressed.

Conditions:

- While talking using the speakerphone, then lifting the handset will turn off the speakerphone. To activate group listening, the ON/OFF button must be pressed (to ON) while the handset is off-hook.

- While in group listening mode, pressing the MUTE button will cause the transmit from the handset to be muted (the speakerphone microphone is already muted). However the distant end can still be heard over both the handset receiver and the station speaker.

- If full speakerphone operation is desired while in group listening mode, simply set the handset on-hook.

- Group listening is not available when the station is in headset mode.

- When placing the handset on-hook to go to full speakerphone operation, it is normal for

a "squeal" caused by audio feedback to be heard.

### 300.39 HANDSET RECEIVER GAIN

This feature provides the user with a flexible button that can be programmed on their keyset. When programmed, allows the user to increase/decrease the handset receiver gain while on a CO or intercom call.

While on a CO call:

    a. Press pre-programmed* Handset Receiver Gain flex button to enter the volume adjustment mode.

    b. Dial a one-digit entry [0] through [9] (0=lowest, 9=highest) on the dial pad,
    or
    Press the [#] to increase or [*] to decrease one level at a time.

    c. Two volume settings are stored in the system. One level for CO calls, another level for intercom calls. The LCD will display the settings as they occur, if the flex button has been programmed using the code [638]+[0].

    d. Press pre-programmed* Handset Receiver Gain flex button again to exit the volume adjustment mode.

> **NOTE** *When the above procedure is used, your transmit path is momentarily interrupted as the dial pad button is depressed.*

Conditions:

- A flex button can be programmed to decrease the Handset Receiver Gain using the code [638]+[*].

- Another flex button can be programmed to increase the Handset Receiver Gain using the code [638]+[#].

- A flex button can also be programmed to have a certain volume setting using the code [638]+[0 thru 9].

*A Flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

### 300.40 HEADSET MODE

If you wish to use a headset and have been given the ability to do so in programming.

To activate Headset Mode:

    a. Dial [634] on the dial pad,
    or
    press pre-programmed* HEADSET MODE button. LED will light steady.

> **NOTE** *While Headset mode is active, the ON/OFF button will activate the headset and disable speakerphone and intercom call announce operation at your station.*

To de-activate Headset Mode:

    a. Dial [634] on the dial pad,
      or
      press the pre-programmed* HEADSET MODE button. LED will extinguish.

| NOTE | Station must be programmed in database programming for headset operation before flex button can be programmed. |
|---|---|

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.41   ICLID UNANSWERED CALL MANAGEMENT TABLE

An Unanswered Call Management Table with 100 entry capacity for the Starplus SPD 4896 system is maintained in the system. The calling number/name information pertaining to any unanswered call will be placed in this table at the time the system has determined that the call has been abandoned.

This table may be interrogated from any station user so that the unanswered calls may be reviewed and handled by the end user. Only Attendant station(s) can delete an entry from the table, one entry at a time. Upon entry into the review process, the functions available to a phone are:

| Function | Function Button |
|---|---|
| 1. Go to beginning of table | Dial Code 635 |
| 2. Review next item in this table entry | MUTE |
| 3. Step to next table entry. | HOLD |
| 4. Delete this table entry. | FLASH |
| 5. Exit table review function. | ON/OFF |
| 6. Step to previous table entry. | TRANS |
| 7. Call Back | SPEED |

To interrogate the ICLID Unanswered Call Management Table from any station in the system:

    a. Dial the access code [635] on the dial pad.

    b. When the desired table entry is displayed on the LCD, press the SPEED button to automatically dial the table entry.

To review the next item in this entry:

    a. Press the MUTE button to toggle to the next item.

    b. Press the ON/OFF button to exit the review function.

To review the next table entry:

    a. Press the HOLD button.

To review the previous table entry:

    a. Press the TRANS button.

### 300.42   INCOMING CO CALL TRANSFER (FP3)

This feature provides station users the ability to transfer a call that is currently ringing at their station without answering it. This feature only operates when the station is in an idle mode and not available to Single Line Telephone users.

While on an internal/external call and an incoming or transferred CO call is ringing at your station:

    a. Place the current call on hold.

    b. Press the pre-programmed* INC CO XSFR flexible button,
      or
      Dial the Incoming CO call transfer code [639] on the dial pad.

    c. Press a DSS, Group button or dial the three-digit station number or group number. Call is automatically transferred to that destination. The incoming transferred CO call receives Music-On-Hold during the transfer state.

    d. Station user can return to call placed on hold.

Conditions:

    • Calls may be forwarded to any available station, ACD/UCD group, Hunt Group or VM Group.

    • Destination station must have an direct appearance for that CO Line or Loop button and not in DND or error tone will be presented to the originator and the call will remain ringing at his station.

    • Attendant station will not send ID digits.

### 300.43   INTERCOM BUTTON(S) (FP3)

This feature provides station users the function of ringing a busy station via the intercom without using the Camp-On or Executive Override features. This also allows stations to place intercom calls on hold.

To program a flexible button as an intercom button:

    a. Press the SPEED button twice.

    b. Press the desired flexible button to be programmed.

    c. Dial [645] on the dial pad. Confirmation tone will be heard. If an error was made during entry, error tone will be received.

You place an intercom call to a busy station that has an intercom button:

    a. The calling station receives ringback tone instead of busy tone. The called station hears muted or reminder ring and their intercom button LED starts flashing at the incoming CO line rate. This indicates an incoming intercom call.

b. The called station can place the current CO call on hold by pressing the HOLD button,
or
place the current intercom call on hold by pressing the HOLD button. The intercom call would be placed on hold on the available intercom button.

c. The called station then presses the flashing intercom button to answer the incoming intercom call. Once the call is answered, the following message is displayed on the called station LCD:

```
CALL FROM STA XXX
MM/DD/YY      HH:MM:SS
```

Sta XXX could also be a programmed station name.

By default, no intercom buttons are assigned to any key stations.

Conditions:

- If calls are ringing on intercom buttons and a Handsfree call is received, the Handsfree call is allowed and the calls ringing continue with muted ringing.

- Multiple intercom path buttons can be assigned to a single station, however up to five internal parties can be placed on hold per station. Music-On-Hold will be provided to intercom caller on hold.

- Once an intercom button is set-up on the keyset, callers dialing that station will always receive ringback tone as long as an available intercom button is idle. If all intercom buttons are in use, then the station may utilize the camp-on or executive override features to reach the station. Internal callers will be dropped after the camp-on is answered.

- This feature can be programmed on any key station or DSS Console with an available flexible button. If there is an available intercom button, a station calling that station cannot OHVO, Camp-On or Override that station.

- A call ringing to a station on an intercom button will ring either muted or reminder ringing depending on the stations tone ringing cadence.

- Up to 5 internal parties can be placed on hold. No recall timers apply to Intercom buttons. Internal callers can be placed and removed from hold when they appear on an Intercom button.

- To utilize the capability of intercom buttons, busy forward cannot be active at the station.

- A call ringing to a station on an intercom button and the DND button is pressed, will return DND tone to the caller and the call is dropped.

### 300.44    INTERCOM CALLING

Placing an Intercom Call

a. Press the DSS button of the party to be called (if programmed at your phone),
or
Dial the three-digit extension number.

> **NOTE** *Dialing a number in the numbering plan activates the telephone automatically.*

b. You will hear ringing if called station is in the "T" answering mode; or two bursts of tone if called station is in the "H" or "P" position.

c. Lift the handset or use the speakerphone, after the two tone bursts stop.

d. Hang up to end the call.

Answering an Intercom Call

With your intercom signal switch in the "T" (center) mode, you will hear repeated bursts of intercom tone ringing and the HOLD button will slow flash.

a. Lift the handset or press the ON/OFF button to answer,
or
Move the intercom signal switch to the "H" mode to reply.

b. Replace the handset to end the call.

In the "P" mode, you will hear two bursts of tone and one-way announcement. The calling party cannot hear conversations in progress.

a. Lift the handset or press the ON/OFF button to answer,
or
Move the intercom signal switch to the "H" mode to reply.

In the "H" mode, you will hear two bursts of tone and an announcement. Reply handsfree or lift the handset for privacy.

### 300.45    INTERCOM TRANSFER

Intercom transfer without DSS buttons:

a. Receive or make an intercom call.

b. Press the TRANS button. Intercom dial tone is heard.

c. Dial the station where the call is to be transferred.

d. When the 2nd station answers, you are in a supervised transfer mode (1st station is staged for transfer).

e. Hang up (station 1 and 2 are connected).

Intercom transfer using DSS buttons:

a. Receive or make an intercom call using a DSS button.

b. Press the TRANS button. Intercom dial tone is heard.

c. Press the DSS button where call is to be transferred.

d. Hang up (station 1 and 2 are connected).

### 300.46 KEYSET MODE (FP3)

This feature allows the station user to determine the mode and baud rate the Executive/PC Interface Terminal (ICLID) will operate at. This setting is stored in back-up memory in the event of a power outage or system reset.

At an idle station:

a. Dial the Keyset Mode code [648] on the dial pad,
or
Press the pre-programmed* KEYSET MODE button. The display shows the following information:

```
CALLER ID              2400
*=NEXT SAVE=HOLD #=BAUD
```

b. Press the [*] key to scroll through the keyset modes. The available modes are: Caller ID, PC Phone, and AT Command.

c. Press the [#] key to scroll through the baud rates. Available baud rates are: 1200, 2400, and 4800. Do not utilize the 300 Baud setting.

d. Press the HOLD button to save the desired entries.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.47 KEYSET SELF TEST

The Starplus Digital Key System contains a test mode feature that supports the off line testing of digital keysets and DSS units. The term off line means that the unit under test is disconnected from the switch during the test operation. Keysets not under test continue to operate in the normal manner. Tests are provided to verify the keyset and DSS LED, LCD, and keyboard button operations.

a. The test mode is entered by taking a keyset's handset off hook.

b. Press the SPEED button and dial [7#] on the dial pad. This keystroke sequence disconnects the keyset from the system and brings up the Test Mode Menu on the keyset's LCD. The test

mode is exited by putting the handset back on hook. This reconnects the keyset to the system.

```
SELECT 1:LCDLED 2:KEYBTN
3:DSSBTN
```

Test Mode Menu: The menu allows the operator to select a test mode by pressing the mode number at the dial pad. The operator can always return to the main test menu by pressing [##].

**A. Keyset LCD/LED Test**

This test outputs a series of continuously repeated LCD string messages to LCD lines 1 and 2. The set of strings consists of the letters 'A' through 'X' and 'a' through 'x'. The next set of strings are:

```
"PICKUP TRUCK SPEED ZONE!"
"*** STANDING BACK ***"
```

- The strings are alternately displayed on lines 1 and 2 of the LCD display.
- In addition, all the LEDs are flashed at the rate of 15 IPM.

**B. Keyset Button Test**

1. Pressing a keyset button turns on the LED and displays an LCD message identifying the button number.

```
PRESS KEYSET BUTTONS
*******          *******
```

In addition switching the "H-T-P" switch from one position to another will cause the word "H_POS", "T_POS", or "P_POS" to be displayed.

2. Pressing dial pad keys displays an LCD message that indicates which digit was pressed.

3. LEDs can be tested independently of the KEYS by pressing the flex LED number at the dial pad. For example, LED 10 is turned on by pressing dial pad digits "1" "0". As each set of new numbers is entered the previously lit LED is turned off and the new LED is turned on. Invalid flex values (ex. 00,99) turn off currently lit LED.

**C. DSS LED/Button Test**

When the DSS test is selected and a DSS test is invoked ALL DSSs associated with the keyset running the test are placed in test mode.

```
PRESS DSS BUTTONS
*******          *******
```

If no DSS unit is associated with the keyset, the keyset display will indicate "NO DSS". The DSS LED test will cause all the LEDs to flash at a 15

IPM rate. Once started the DSS LED test will continue until a DSS flex button is depressed. Pressing a DSS flex button turns on the flex key LED and displays an LCD message on the associated keyset identifying the flex button number (01 to 48). In addition, it turns off the previously selected flex LED.

Conditions:

- Test mode interrupts the normal operation of a keyset or DSS.

## 300.48    LAST NUMBER REDIAL

a. Press the SPEED button.

b. Press the pound [#] key. The last number dialed over an outside line will be automatically re-dialed.

   - The system will automatically select the original line used to place the call and redial the number.
   - If that line is busy, the system will automatically select another line from the same group and redial the number.
   - If no lines are available in the same group, station will receive busy tone and can queue for a line.
   - If the station user preselects a line before activating LNR, the preselection will override the line which was used originally.

## 300.49    LEAST COST ROUTING

To place an outside call when LCR has been enabled in the system:

a. Dial [9] on the dial pad.

b. Dial the desired seven-digit telephone number (i.e.: 1+ area code+7-digit number).

c. Wait for an answer. Lift the handset or use the speakerphone to converse.

If all lines available to you are busy, remain off-hook for four seconds to automatically be queued onto LCR for an available line.

If an LCR Queue Callback has been activated:

a. When telephone is signaled, answer the call.

b. Desired telephone number will automatically be re-dialed.

> **NOTE** Only one LCR Queue Call Back request may be initiated by a station. When a second request is made, the first request is canceled.

If an LCR Queue Callback has been activated and you wish to cancel that callback request:

a. Dial the LCR Queue Cancel code, [626] on the dial pad.

b. Replace the handset or press the ON/OFF button.

## 300.50    MAILBOX BUTTONS (FP3)

This feature provides station users to program specific mailbox index numbers onto flexible button at their station or DSS Console. Users can then transfer internal/external callers to specific Voice Mail Groups or Mailbox numbers. These Voice Mail Groups or Mailbox numbers are programmed in admin programming. A total of 255 mailbox buttons are allowed per system.

To program a flexible button for a mailbox button at a station:

a. Press the SPEED button twice.

b. Press the desired flexible button to be programmed.

c. Dial [644] on the dial pad followed by the three-digit VM Index number (001-255). Confirmation tone will be heard. If an error was made during entry, error tone will be presented.

To use your mailbox button while on an internal/external call:

a. The called station presses the Mailbox flexible button and goes on-hook. The call is then transferred to the VM port by the telephone system.

By default, no mailbox buttons are assigned to any key stations.

Conditions:

- This feature can be programmed on any key station or DSS Console with an available flexible button. If a station is an OHVO, Camp-On or Executive Override initiator, they may not use the mailbox button feature.

- Stations engaged in a conference cannot use this feature.

- If no station(s) are programmed in the Voice Mail Group, the user will receive error tone.

- Mailbox buttons interact with the station VMID feature as follows:
  VM transfer with ID (manually enter digits)= No station VMID
  VM transfer with ID (press DSS button)= Use station VMID
  Mailbox button feature= No station VMID

## 300.51    MEET ME PAGE

To request another party to meet you on a page:

a. Dial the desired two-digit or three-digit paging code,
   or
   press pre-programmed* PAGING button.

b. Request that party meet you on the page.

c. Do not hang up; wait for the requested party to answer. As soon as the paged party answers and is connected to you, the page circuit is released.

Answering a Meet Me Page

a. Go to the nearest telephone and dial [77] on the dial pad,

or

press the pre-programmed* MEET ME PAGE ANSWER button. You will be connected to the party that paged you.

*Refer to Sec. 300.36, Flexible Button Assignment.

## 300.52    MESSAGE WAITING

Leaving a Message Waiting Indication:

If you dial a station that is busy, unattended, or in DND, you can leave a message waiting indication.

a. Lift the handset or press the ON/OFF button.

b. Dial the desired intercom station. Busy tone or DND tone is heard.

c. Press the pre-programmed MSG button. Confirmation tone is heard. Called party's MSG button will slow flash.

d. Replace the handset or press the ON/OFF button to end the call.

| NOTE | Up to five messages can be left at any Station. |
|---|---|

Answering a Message Waiting Indication:

If your MSG button is flashing at a slow rate, you have a message waiting for you. The first message left will be the first one called.

a. Press flashing MSG button. Station that left message will be signaled with tone ringing.

b. If called station does not answer, press MSG button once to leave message.

## 300.53    MUTE KEY

The MUTE button provides privacy during speakerphone or handset operation by disabling the microphone.

a. Press the MUTE button while off-hook on speakerphone or handset to activate.

b. Press the MUTE button again to deactivate.

The mute feature automatically deactivates upon call termination.

## 300.54    NIGHT SERVICE FEATURE

The Night Service feature will provide a means to put the system in night mode from any keyset or remove the system from night mode from any keyset as long as the system was put in night mode by the Night Service feature flex button. If the system was placed in night mode by the attendant using her Night Service (DND) button or if the system was placed in

night mode by the automatic schedule, the Night Service flex button can not remove the system from night mode.

From an idle station:

a. Press the pre-programmed* Night Service flex button. The system is now in the Night Service Mode.

To remove the Night Service Mode:

b. Press the pre-programmed* Night Service flex button again. The system is now removed from the Night Service Mode.

*A Flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

## 300.55    OFF-HOOK PREFERENCE

If your phone has been programmed for Off-Hook Preference, you will access an outside line, or a feature by going off-hook or pressing the ON/OFF button.

While Off-Hook Preference is enabled, you may access internal intercom dial tone by:

a. Pressing your pre-programmed* ICM button,

or

dial your own three-digit intercom number. (Do not lift handset or press ON/OFF button before dialing intercom number.) LED lights steady and intercom dial tone will be heard.

b. You may now dial an internal station or Feature Access code.

*Refer to Sec. 300.36, Flexible Button Assignment.

## 300.56    OFF-HOOK VOICE OVER (OHVO) (FP3)

This feature allows users, off-hook on a call (CO or Intercom), to receive a voice announcement through the handset receiver without interrupting the existing call. The Voice Over is muted so as not to "override" or "drown" out the existing conversation. The overridden party may then respond to the calling party using CAMP-ON procedures to talk to the calling party or may use Silent Text Messaging to respond to the calling party via LCD Displays.

An enhancement has been made to the OHVO feature which provides a third method for the OHVO receiving station to respond to an OHVO announcement. This third method utilizes the MUTE feature button. The MUTE button acts like a push-to-talk button for the OHVO receiving station to talk with the OHVO initiator.

Placing an Off-Hook Voice Over (OHVO) call:

When an OHVO station calls a busy OHVO station, and busy tone is received:

a. The calling OHVO station dials the OHVO code [628] on the dial pad,
or
presses a pre-programmed* OHVO button to initiate an OHVO announcement. The HOLD button LED will flash at the called OHVO station.

b. The OHVO receiving station will receive a one-beep warning tone. The station receiving the OHVO call must be off-hook and in the "H" mode, and then the calling OHVO party may begin the voice announcement to the called OHVO party. The called OHVO station's existing conversation will not be interrupted and the voice over announcement will not "drown" out the existing conversation. The calling OHVO station will not be connected to or otherwise be able to hear the called station's conversation (the connection will only allow the calling station to transmit to the called station).

> **NOTE** *The calling station is placed in a one-time DND mode upon initiating the Voice Over. One-Time DND cannot be toggled during the OHVO call. The station receiving the OHVO call must be off-hook and in the "H" mode.*

Responding to an Off-Hook Voice Over (OHVO):

After receiving an OHVO announcement, three options are available to respond to the calling party;

- Option 1: The OHVO receiving station may respond to the calling OHVO station by using the Camp-On feature. The OHVO receiving station presses the flashing HOLD button to consult with the calling station. The existing call (CO line) goes on Exclusive Hold automatically. This method, then follows Camp-On procedures and operation.

- Option 2: The OHVO receiving station may respond to the calling station by using the Silent Text Messaging (this feature is only available to digital key terminals, and the calling station must be a digital display terminal.) The OHVO receiving station may press a pre-programmed Message button to respond to the voice over announcement without being released from the current call, (i.e. by pressing a flex button pre-programmed for the message "IN MEETING"), the calling station will receive this message on the calling station's LCD display.

- Option 3: The OHVO receiving station may respond to the calling station by using the MUTE button. The OHVO receiving station can then speak to the station that initiated the OHVO. The called station can still hear their existing call. The MUTE button acts like a push-to-talk button for the OHVO re-

ceiving station to talk with the OHVO initiator. The OHVO receiving station must toggle the MUTE button [ON] to talk and [OFF] to listen to the OHVO originator. This enhancement applies to CO calls only. OHVO calls to stations on intercom calls maintain the present operation.

Conditions:

- The station receiving the OHVO call MUST be off-hook and in the "H" mode.

- The receiving station must have OHVO enabled.

- When the dialed station responds via Camp-On all conditions and options available to Camp-On apply (refer to the feature description for Camp-On).

- OHVO may be used to notify the called party of a transferred call (CO Line or Intercom) by announcing the call, then releasing to complete the transfer. When this occurs, the receiving station does not need to respond to the OHVO.

- When a call is transferred via OHVO, the receiving station will receive muted ringing after the transfer is complete.

- Any messages including "CANNED", "CUSTOM", or "SILENT RESPONSE" text messaging may be used to respond to an OHVO call. The message will appear on the calling station and called station LCD displays.

- If the calling station is a non-LCD terminal, the called station will receive error tone when responding via text messaging.

- The called station may press a flex button programmed as a Text Message button, [633+#]. This flex button can be pressed and the two-digit message number (31-51) dialed to respond to the calling station. DTMF digits will not be heard by either party.

- The receiving station must be programmed to allow OHVO calls.

- When silent messaging is used to respond to an OHVO call, the existing call on the called station will not be disconnected, while the messages are being sent to the calling station.

- The calling station of an OHVO call must remain off-hook to receive silent messages. The calling station's voice transmit will remain connected to the called station and may respond verbally to the text mes-

sages. The OHVO call ends when the calling station goes on-hook.

- If the receiving station is on-hook in speakerphone mode and a calling party initiates OHVO, the receiving station will receive a Camp-On warning tone and normal Camp-On procedures are followed.

- The called station may send (multiple messages) and even after sending a message, may press the Camp-On button to talk to the calling station. Each time a message is sent, the splash tone will be heard and both displays will be updated.

- LEDs will follow Camp-On LED lamping sequences.

- OHVO will not work if the busy station is in the group listening mode.

Each station can be programmed to allow receiving OHVO calls as part of Station Programming. Each station may be programmed for OHVO in one of two ways, as follows:

- OHVO disallowed (may not receive OHVO calls).
- May receive OHVO calls.

### 300.57    PAGING

If you have been given the ability to make page announcements:

a. Lift the handset or press the ON/OFF button.

b. Dial the two-digit or three-digit paging code, or press pre-programmed* PAGE button.
- [70] = All Call - Internal & External
- [71] = Internal Zone 1
- [72] = Internal Zone 2
- [73] = Internal Zone 3
- [74] = Internal Zone 4
- [75] = Internal All Call
- [76[0] = External All Call (All Ext Zones)
- [76[Z] = External Zones (1-7)

c. Speak in normal tone of voice to deliver message.

| NOTE | Stations off-hook or in DND will not hear the internal page announcement. |
|------|------|

| NOTE | When making a zone page or All Call page and the zone is busy, the page initiator will receive ringback tone until the zone becomes available. You will then hear a warning tone and can make the page announcement. |
|------|------|

### 300.58    PBX/CENTREX TRANSFER

While connected to an outside line (PBX/Centrex):

a. Press the FLASH button. Receive transfer dial tone.

b. Dial a PBX/Centrex station number.

c. Hang up to complete transfer.

### 300.59    PERSONAL PARK

Each station in the system can place a call into a personal park location and then later retrieve that call from the originating station.

While connected to an outside line:

a. Press the TRANS button. The caller is put on Exclusive Hold.

b. Dial the Personal Park location [438] on the dial pad,
or
Press the pre-programmed* PERSONAL PARK button. Dial tone will be heard.

| NOTE | When dialing the personal park location and that location is already occupied, the initiating station will receive the previously parked call and the second call is parked. |
|------|------|

Retrieving a Parked Call:

a. Dial the Personal Call Park location code [438] on the dial pad,
or
Press the pre-programmed* PERSONAL PARK button.
A talk path is established between the two parties.

Conditions:

- Intercom calls and CO line calls can be placed into the station's personal park location.

- Calls parked in a personal park location are subject to the "system" call park recall timer.

- A CO call parked in a personal call park location will recall to the station that parked the call when the call park recall timer expires. The CO call will ring into this station until the system hold timer expires. The CO call will then recall to the attendant(s) (at this point, the attendant station and the initiating station are ringing), and the attendant recall timer is initiated. When the attendant recall timer expires, the CO call will be disconnected.

### 300.60    PERSONALIZED MESSAGES (FP3)

Each station can select a pre-assigned message to be displayed on the LCD of any key telephone calling that station.

There are ten possible messages which can be left.

a. Dial [633] on the dial pad,
or
Press a pre-programmed* MSG button.

b. Dial the two-digit code for the message which will appear. Confirmation tone will be heard and the DND button LED will be flashing.
- [00] = clears message
- [01] = ON VACATION
- [02] = RETURN AM
- [03] = RETURN PM
- [04] = RETURN TOMORROW
- [05] = RETURN NEXT WEEK
- [06] = ON TRIP
- [07] = IN MEETING
- [08] = AT HOME
- [09] = ON BREAK
- [10] = AT LUNCH

**NOTE** *This feature is not available to the attendant(s).*

### A. Personalized Messages - Custom

Each station can select from ten possible custom messages to be displayed on the LCD of any key telephone calling that station. These messages are programmed from the first attendant station.

1. Dial [633] on the dial pad,
   or
   Press a pre-programmed* MSG button.

2. Dial the desired two-digit code (21-30) for the custom message desired. The first attendant should provide a list of messages to each station user.

### B. Personalized Message Code On A Flex Button

You can program the code [633] onto a flexible button to speed access of pre-selected messages.

1. Press the SPEED button twice.

2. Press the desired flex button. LED flashes.

3. Dial [633] + [#] on the dial pad. Confirmation tone is heard. The user can now press that flex button and dial the two-digit canned message number (00-10), or the two-digit custom message number (21-30) to activate the message. Confirmation tone will be heard and DND button LED is flashing.

### C. Personalized Message - Date & Time Entry

As an enhancement to the original canned messages, station users can activate certain messages that will allow the user to enter a specific time or a date of return. These messages will appear on calling station's display to alert them of the desired party's return time or date.

To activate a message with a custom return time or date, the station user:

1. Dials the Message Access code [633] on the dial pad.

2. Then dial the desired message number [11 - 17].
   Users may activate the following messages and be prompted to enter a time or date of return:
   - [11] = VACATION UNTIL: *MM/DD*
   - [12] = RETURN: *HH:MM xm* or *MM/DD*
   - [13] = ON TRIP UNTIL: *MM/DD*
   - [14] = MEETING UNTIL: *HH:MM xm*
   - [15] = AT HOME UNTIL: *HH:MM xm*
   - [16] = ON BREAK UNTIL: *HH:MM xm*
   - [17] = AT LUNCH UNTIL: *HH:MM xm*

3. Enter the date/time by using buttons on the dial pad as follows:

| A =21 | M =61 | 1 =1# | " =01 |
|-------|-------|-------|-------|
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |
| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |
| K =52 | W =91 | Space =11 | + =#3 |
| L =53 | X =92 | : =12 | = =#4 |
|       | Y =93 | - =13 | # =## |
|       | Z =94 | ' =14 |       |

4. Press HOLD to enter message. Confirmation tone is received and DND button LED is flashing.

To cancel the message:

1. Dials the Message Access Code [633] + [00] and replace handset. DND button LED is extinguished.

### D. Scrollable Canned Messages (FP3)

This feature allows the user to use a single digit to scroll through the canned messages and select one. This feature operates when the phone is in the idle mode only and cannot be activated if the station is in the Call Forward or DND mode(s). This feature is not available at attendant stations.

1. Dial [633]+[#] on the dial pad,
   or
   press a pre-programmed* MSG button. Clear Messages is always first. The following message is shown on the LCD phone:

> **XXXXXXXXXXXXXXXXXXXXXXXX**
> **NEXT=# PREV=* SAVE=HOLD**

2. Press the [#] to scroll through the messages, or
Press the [✶] to scroll backward through the list. The scroll will forward through the messages in the following order. The scroll is a "rolodex" type of scroll.
   - clears message
   - AT HOME
   - AT LUNCH
   - IN MEETING
   - ON BREAK
   - ON TRIP
   - ON VACATION
   - RETURN AM
   - RETURN PM
   - RETURN NEXT WEEK
   - RETURN TOMORROW

3. When the desired message is shown on the LCD display, pressing the HOLD button will activate that message on your station. Confirmation tone will be heard and the DND button LED will flash.

Conditions:

- The telephone receiving the message must be a display telephone.

- Both key telephones and SLT's may activate the message. SLT's are notified that they have an active message with a warning tone when going off-hook.

- Incoming and outgoing calls are not inhibited in any way with a message displayed.

- When a message is displayed by a key telephone, the DND button LED flashes at 15 ipm.

- When DND is invoked on the telephone the message is canceled.

- Message Access (with a desired message) may be assigned to a flex button.

- Messages may be entered while off-hook on a call if an intercom call has camped-on to the station. This will cause the station calling to see the message.

- Messages are retained in battery protected area of memory in the event of power failure or system reset.

## 300.61 PRIME FLEX BUTTON PROGRAMMING

If your phone is programmed for Off-Hook Preference and have been given the ability to enable or change the prime flex button.

a. Dial [691] on the dial pad

b. Dial the two-digit button number. Refer to following chart.



To disable Off-Hook Preference:

a. Dial [691] on the dial pad.

b. Dial [00] on the dial pad.

## 300.62 PROGRAMMING PBX/CENTREX CODES ONTO FLEX BUTTON

For easy one-button access to Centrex or PBX features, perform the following steps:

a. Program the Centrex or PBX code into a station or system speed dial bin, including hook-flash (flash key), [✶], and [#] commands. Refer to station or system speed dial programming.

b. Program that speed bin onto a flexible* button.

*Refer to Sec. 300.36, Flexible Button Assignment.

## 300.63 PROGRAMMING YOUR NAME INTO THE LCD DISPLAY

Every extension (key and SLT) has the capability to program the users name so that people using display telephones will see the name instead of the station number.

a. Dial [690] on the dial pad.

b. Enter the name (up to 7 characters may be entered) by using keys on the dial pad as follows:

| A =21 | M =61 | 1 =1# | " =01 |
|-------|-------|-------|-------|
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |
| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |

| K =52 | W =91 | Space =11 | + =#3 |
| L =53 | X =92 | : =12 | = =#4 |
|  | Y =93 | - =13 | # =## |
|  | Z =94 | ' =14 |  |

c. Press the SPEED button to complete the programming process.

To erase your name:

a. Dial [690] on the dial pad.

b. Press the SPEED button to complete the erasing process.

### 300.64 PULSE-TO-TONE SWITCHOVER

The signaling on an outside line can be changed from dial pulse to tone (DTMF) manually while dialing out.

To perform the change-over

a. Dial an [*] on the dial pad. The remaining digit(s) will be sent using DTMF.

The Pulse to Tone Switchover command may also be included into a speed dial bin. Refer to Sec. 300.70, Storing Speed Numbers for Speed Dial programming.

### 300.65 REPEAT REDIAL (FP3)

The feature allows a digital key station to redial a busy or no-answer number at specific intervals. The user will be signaled via a queue callback indication. The Redial flexible button will flash at the callback rate of 120 ipm for 15 seconds. If the stations doesn't answer within the 15 seconds, the callback is canceled. The system will retain the last call the user made. If the station is busy on an internal/external call when the Redial queue callback occurs, the callback will not take place until the user goes on-hook. The user must enter a Redial timer value when invoking this feature. This value is from 006-999 which represents seconds. A 2-minute interval would be entered as 120. Default value is 1 minute (60).

A keyset station user places a CO call and receives a busy or no answer:

a. Press the pre-programmed* Redial flexible button. The LCD will prompt the user for a timer value.

```
ENTER RPT REDIAL TIMER:
XXX                    006-999
```

b. Enter a three-digit timer value (006-999 seconds) for the Redial timer. Default value is 1 minute (60). Confirmation tone will be heard and the station user goes on-hook. The flexible button LED will light steady.

When the timer expires, the station is signaled via a CO line queue indication on the Redial flexible button. During the queue callback, the LCD display will indicate that this is an Redial Callback. Once the line queue is answered, the LCD will indicate an outgoing CO line display.

c. Press the Redial flexible button,
or
press the ON/OFF button,
or
lift the handset. The line is seized and the number is dialed. If the user receives a busy/no answer, they may repeat step 1 to activate another redial.

To cancel the operation:

a. Press the pre-programmed* Redial flexible button. Confirmation tone is heard and the Auto Redial function is canceled.

Conditions:

- Once the user presses the pre-programmed flexible button, there will be no timer applied until the user enters a digit. Once a digit is entered, the inter-digit timer will apply between the digits.

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

### 300.66 SAVE NUMBER REDIAL

If you wish to save the last number you dialed for use later:

a. After placing an outside call, keep handset off-hook.

b. Press the SPEED button twice.

To Dial a number that was saved using the steps above:

a. Press the SPEED button.

b. Dial the asterisk [*] button.

- System will automatically select the original line used to place the call and redial the number.
- If that line is busy, the system will automatically select another line from the same group and redial the number.
- If no lines are available in the same group, station will receive busy tone and can queue for a line.
- If the station user preselects a line before activating SNR, the preselection will override the line which was used originally.

### 300.67 SPEAKERPHONE

a. Press ON/OFF button to "ON". Intercom dial tone will be heard.

b. Press the DSS button of the desired party, or press an available outside line button and dial number. Speakerphone is activated.

c. Press ON/OFF button to "OFF" to end the call.

| NOTE | For further references in this section where "lift handset" is specified, you may also use the method of pressing the "ON/OFF" button, if the telephone is programmed to be a true two-way speakerphone. |
|---|---|

### 300.68 STATION RELOCATION FEATURE

The Station Relocation Feature will provide a means to allow a user to unplug their station and plug it in at another location. Then by dialing a simple code followed by his old station number, bring all the station attributes including extension number, button mapping, speed dial, and class of service to the new location.

a. A station can be relocated by unplugging it and then plugging it in at a new location.

b. Dial [636] on the dial pad. Then dial the extension number of the station being relocated. Once this is done, all station attributes are copied to the current station.

| NOTE | If a station is assigned to a specific port and that user unplugs his station and plugs it in at another location, the database administration programming will be updated to reflect the new port change. |
|---|---|

Conditions:

• The station number that is dialed as the relocated station must be currently out of service.

• The relocated station will be given the station attributes of the station doing the relocating. The two stations have traded station numbers and station attributes.

• If a keyset is plugged into the relocated position it will have all the station attributes of the relocating station.

• This feature only is applicable to keysets.

• If the relocated station is in service, error tone will be received.

### 300.69 STATION SPEED DIAL

If no outside line has been specified in programming, one will be chosen automatically or you can choose one now.

a. Press the SPEED button and dial bin location, or
press the pre-programmed* speed bin button. Station Speed numbers are 00 to 19.

b. When the called party answers, pick up the handset or use the speakerphone to converse.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.70 STORING SPEED NUMBERS

Station Speed numbers can be entered by keyset users. System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

a. Press the SPEED button once.

b. Press a desired outside line button or pool button
or
select an outside line automatically by pressing the SPEED button a second time.

c. Dial the speed bin location.
  – 00-19 = Station Speed numbers;
  – 20-99 = System Speed numbers.

d. Dial the desired telephone number. (including special codes described below)
  – TRANS - Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover.
  – HOLD - Pressing the HOLD button during number entry inserts a Pause.
  – FLASH - Pressing the FLASH button inserts a Flash into the speed number.
  – TRANS - Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Digital Terminals display when the bin is accessed.

e. Press the SPEED button.

f. Replace the handset to end the speed bin programming.

To program several speed numbers in a row, press the SPEED button twice to conclude programming a number and then just enter the next speed number bin to be programmed. If the station has no line appearance for the line programmed into the speed bin, that line will come up under the Loop button or Pool button when accessed.

To erase an existing speed bin:

1. Press the SPEED button twice.

2. Dial the speed bin location:
  – 00-19 = Station speed numbers
  – 20-99 = System speed numbers

3. Press the SPEED button again. Confirmation tone will be heard.

### 300.71 SYSTEM SPEED DIAL

If no outside line has been specified in programming, one will be chosen automatically or you can choose one now.

a. Press the SPEED button.

b. Dial the speed bin location,
or
press the pre-programmed* speed bin button.
  – System Speed numbers are 20 to 99.
c. When the called party answers, pick up the handset or use the speakerphone to converse.

*Refer to Sec. 300.36, Flexible Button Assignment.

## 300.72   TEXT MESSAGING (Silent Response)

This feature allows a station user to use text messages to respond to a caller that has either Camped-On or has used the Off-Hook Voice Over feature to alert a busy station user of a waiting call or message. The "camped-on" station may respond to the caller via the canned, custom, and silent response text (LCD) messages. The text messages appear on the calling party LCD Display.

While receiving a Camp-On, or OHVO call:

a. The called party may press a pre-programmed* Text Message button with a specific message [633+xx]. Example : [633] + [38] means that a telephone calling the station will receive the message "WHO IS IT?".

The additional messages (with their codes) listed below can also be sent as a text response:
  – [31] = I WILL TAKE CALL
  – [32] = TAKE MESSAGE
  – [33] = TRANSFER TO SECRETARY
  – [34] = PUT CALL ON HOLD
  – [35] = CALL BACK
  – [36] = ONE MOMENT PLEASE
  – [37] = I WILL CALL BACK
  – [38] = WHO IS IT?
  – [39] = IS IT LONG DISTANCE?
  – [40] = IS IT PERSONAL?
  – [41] = IS IT AN EMERGENCY?
  – [42] = IS IT IMPORTANT?
  – [43] = IS IT URGENT?
  – [44] = SEND CALL TO VOICE MAIL
  – [45] = PARK CALL
  – [46] = OUT OF OFFICE
  – [47] = PUT CALL THROUGH
  – [48] = I AM BUSY
  – [49] = O.K.
  – [50] = NO
  – [51] = YES

Conditions:

• If the station receiving the text message response was doing a camp-on, he will first receive a short burst of tone on the speaker, then the display will show the message that has been activated by the called station.

• If the station receiving the text message response is on an OHVO call, no tone will be received.

• All canned and custom messages may be used to respond to a calling party.

• Text response messages will automatically clear when the calling station (station receiving the messages) goes on-hook.

• A station can receive only one message at a time.

• Text messages may be chained (i.e. multiple messages sent to one caller).

• Text message responses may only be activated by digital terminals and the receiving station must be a Digital Display telephone.

• The text message responses will appear on both the calling station and the called station (station activating) text responses) LCD displays.

• If the calling station is a non-LCD terminal, the called station will receive error tone when responding via text messaging.

• The called station may press a flex button programmed as a Text Message button, [633+#]. This flex button can be pressed and two-digit message number (31-51) dialed to respond to the calling station. DTMF digits will not be heard by either party.

• When silent messaging is used to respond to a call, the existing call of the called station will not be disconnected while the messages are being sent to the calling station.

• The calling station must remain off-hook to receive silent messages.

• If the called station responds with a text message, the text message will appear on the LCD.

• LEDs will follow that of the CAMP-ON or OHVO.

• Each individual message may be programmed onto a flexible button including a flex button on a DSS/BLF console.

> **NOTE** *The calling station must be a digital display telephone and the called station must be a keyset.*

## 300.73    TIE TRUNKS (E&M) (FP2.3)

This hardware feature provides private two-way communications link between the system and other vendor systems or another system. Incoming TIE trunk calls are directed to the attendant, a station, group pilot # or a CO trunk.

This feature requires the TIE Line Interface Board which provides four E&M 2-wire type II signaling circuits and six digital station circuits.

The E&M call shall be treated as a trunk call and have the same rules as CO lines applied to the call. The E&M call will appear at a station under a LOOP key or CO appearance for that E&M trunk.

When receiving an E&M call, the target station shall hear CO line ringing and the assigned CO or LOOP button will flash at the incoming CO line flash rate. The target station presses the CO or LOOP (or lifts handset with PLA) and the call is connected. The ringing stops and the CO/LOOP key lights solid.

The following features are available to a caller (originating end) accessing the digital system dial tone via an E&M trunk: (These features also apply to the DISA function. DISA callers can now access the following functions.)

- Dial internal station numbers (100-155) (0 for operator)

- Dial trunk group access code (9, 81-87). "9" will access LCR, if enabled for trunk-to-trunk connections.

- ACD Group pilot numbers, 550-565; VM Group pilot numbers, 440-447; Hunt Group pilot numbers, 330-337.

- The following access codes may be dialed: Call Park Pickup, All Internal/External Page Zones, Meet me Page, UNA, All Call Page.

The following features are available to a digital system user (receiving end) that accesses an E&M trunk via a loop key or direct appearance for the trunk and has received a tie trunk call:

- The tie trunk call can be transferred to other stations in the system.

- The tie trunk call can be placed into a system or personal park location.

- The tie trunk call can be placed on system or exclusive hold. If placed on system hold, other stations with an appearance for the trunk can retrieve the call by pressing the flashing appearance.

- A meet me page can be dialed to pick up an incoming tie trunk caller that has paged either internal or externally.

- Callers may do a directed call pickup at a station where a tie trunk is ringing. The station doing the pickup must have an appearance (LOOP/CO) in order to pickup the call.

- Users can perform a trunk to trunk transfer with a tie trunk. The user while on the tie trunk, presses the TRANS button, the user then dials a trunk group access followed by the desired number. The user may hang up or stay on the line until the party answers. Once the user hangs up to complete the transfer, the call is governed as an unsupervised conference. At this point, disconnect is governed by loop supervision or the unsupervised conference timer. No conference LED's are lit at any station during this procedure. Any CO appearances for these trunks will be lit solid until the trunk-to-trunk call is disconnected. A conference circuit is not used for this operation.

Conditions:

- Stations can be allowed/denied access to the tie trunks via group access programming in the station parameters.

- Trunk to trunk transfers can be from a tie line to another tie line, from a tie line to a CO line, and from a CO line to a tie line, and from a CO line to a CO line.

- Tie trunk access codes may be programmed in station or system speed dial bins for speed dial access to tie trunks. The station must have a direct appearance (CO line button) for the TIE Trunk Group.

- Station users may queue onto tie trunks if all the trunks in the group are busy. This can be done by EKT/SLT users via the current CO queue procedure.

- The signaling on tie trunks can be programmed as wink start or delay type.

- Tie trunks ring to stations as CO calls, not as an internal call. This means that a person accessing a tie trunk and dialing a station will signal the station as a CO call. Callers will not ring a station via their H-T-P switch.

- Tie calls to a station will follow call forwards of the station via the current CO forwarding rules established in the system.

- If a tie trunk caller dials a station and that station is busy, has no other appearance to put the call, and has no forwarding enabled,

the tie trunk caller will receive busy tone. The caller must then hang up.

- Tie trunks outpulse in DTMF only.

- All Flash commands are ignored by TIE Trunk operation.

- Stations dialing to answer a meet-me-page from a tie trunk, will receive the call under a loop or appearance for the tie trunk. If no appearance is available, the meet me is not allowed and busy tone is returned to the station.

- Only queuing to VM, ACD or UCD groups is allowed at the far end. No trunk or station queuing is allowed. Calls to busy ACD/UCD or VM groups will queue and the caller will receive ringback tone. Callers that call a busy hunt group will receive busy tone.

- If multiple systems are connected via TIE lines, the timers on each system must be set to the same value.

- Calls to a keyset that do not have an available appearance (Loop or CO Line) will be given busy tone (continuous).

- Calls to a nonexistent keyset (not installed) will be given a continuous error tone.

- If a group access is dialed and all lines in the group are busy, the caller is given continuous busy tone.

- If a group access is dialed and there are no C.O. lines programmed in the group, error tone will be given.

## 300.74  TRANSFERRING CO CALLS TO A STATION FORWARDED TO VM

While connected to a CO line:

a. Press the TRANS button and dial the extension number of the station forwarded to voice mail.

b. The transferring station hangs up. The CO call will be directed to the mailbox of the forwarded station.

> **NOTE** *If the transferring station attempts to supervise the transfer or just waits until the voice mail system answers, then it becomes necessary to re-access the CO line and re-transfer them and go on-hook before the voice mail system answers. This will ensure that the CO party will hear the personal greeting of the mailbox user and any applicable instructions.*

## 300.75  UNIFORM CALL DISTRIBUTION (UCD)

Eight Uniform Call Distribution (UCD) groups can be programmed, each containing up to eight three-digit station numbers. Each group is assigned a pilot number. When this number is dialed, the first avail-

able agent in that group is rung. Calls are routed to the station that has been on-hook for the longest period of time.

### A.  UCD Calls In Queue Display

From an idle display key telephone:

1. Dial [567] on the dial pad, followed by the three-digit UCD group number (55x),
   or
   press pre-programmed* flex button. ON/OFF button LED lights steady.
   This display is an idle state display and will prompt a Supervisor that a group is having problems answering all their calls. The display will tell the agent and his supervisor how many calls are in queue, how many agent are available or logged into the group, and the length of time in minutes that the oldest call has been in queue. The agent will automatically receive the calls in queue display whenever their is a call in queue.

2. Hang up the handset or press the ON/OFF button to terminate the display.

> **NOTE** *This feature cannot be used with a call in progress and the station will be considered busy for incoming calls during this operation.*

*Refer to Sec. 300.36, Flexible Button Assignment.

### B.  UCD Available/Unavailable Mode

If you are a UCD agent, you may place your station in the Available mode to receive UCD type of calls or you may place your station in the Unavailable mode to block UCD type calls from ringing your station.

To go Available:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You may now receive UCD calls.

To go Unavailable:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You are now blocked from receiving UCD calls.

*Refer to Sec. 300.36, Flexible Button Assignment.

### C.  UCD Overflow Station - Forwarding (FP3)

An enhancement has been made to the UCD Overflow Station to allow UCD calls reaching the UCD Overflow Station to call forward to another station.

1. Lift the handset or press ON/OFF button.

2. Press the pre-programmed* FWD button.

3. Dial the desired code:

- [7] = no answer calls
- [8] = busy calls
- [9] = busy and no answer calls.

| NOTE | *Skip the preceding step for immediate forwarding.* |

4. Dial the three-digit destination number where calls are to be forwarded. (Station, Voice Mail, UCD groups, Hunt group, or System Speed (✶20-✶99) bin for off-net forwarding). Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

To remove Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Press the pre-programmed* FWD button. Confirmation tone will be heard and the FWD LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 300.76    UNIVERSAL DAY/NIGHT ANSWER (UDA/UNA) (FP3)

Incoming CO lines can be programmed for Universal Day Answer (UDA) or Universal Night Answer (UNA). UDA/UNA assigned CO lines can also signal over the external page port(s). If External Day programming is enabled and the system is in the day mode, the assigned external page port(s) will present a ringing signal. UDA/UNA is established on a per CO line basis in admin programming.

When the system is in day or night mode and you hear outside line ringing at another station and wish to answer it:

a. Dial [#5] on the dial pad. The connected outside line can be transferred or disconnected.

| NOTE | *Each telephone utilizing Universal Day/Night Answer must have a loop button appearance if the ringing outside line does not appear at their phone.* |

Conditions:

- During the Day mode, all common CO lines programmed for UDA ringing will ring.

- CO lines not programmed for UDA ringing will not participate in common audible ringing.

- If External Day ring is disabled, or the system is not in the day mode, no external page ringing will occur.

- Ringing CO lines not assigned CO line group access for a particular SLT may be answered in a UDA service. Dialing privileges are not granted on CO lines that an SLT does not have access to. CO lines not

given UDA status may not be answered or accessed via UDA procedures.

- If two single-line telephones attempt to retrieve a single ringing CO line simultaneously, one user will be connected to the incoming CO line and the other user will receive intercom busy tone.

- The special ring mode is treated as day mode.

### 300.77    VOICE MAIL OPERATION (VM)

*This feature is available with optional software.*
Forward Callers to your Mail box:

Intercom and Transferred CO callers may be routed directly to your mail box by forwarding your phone to a voice mail group. Callers will then be greeted by your personal voice mail greeting if available (Refer to Call Forward - Voice Mail Operation)

Retrieving Voice Messages:

If your Message Waiting button or programmed Voice Mail group button is flashing, you may have a voice message waiting for you.

To enter the voice mail system to check for mail:

a. Dial the Voice Mail group number,
or
press the pre-programmed* voice mail group button or flashing Message Wait button.

b. You will immediately be prompted to enter your password for your mail box.

Receiving a Voice Mail Message Wait:

To receive a message waiting indication that a voice message has been taken for you, the Voice Mail system must be programmed to provide such an indication.

After the voice mail system receives a voice message for a station user:

a. The voice mail must go off-hook and dial the voice mail message wait code [420] on the dial pad.

b. Dial the three-digit extension number of the station user who received a voice message.

Turning the Message Waiting Lamp Off:

When a station user retrieves the voice messages from the voice mail system, the voice mail system must:

a. Be programmed to go off-hook and dial the message cancel code [421] on the dial pad.

b. Dial the three-digit extension number of the station user who retrieved the voice message.

*Refer to Sec. 300.36, Flexible Button Assignment.

## A. Voice Mail Transfer with ID

This feature provides an Attendant or station user a way to transfer a caller directly into a voice mail box. This allows the station identification digits to be entered by the transferring party. Using this feature a caller can be transferred to a voice mail box when: 1) a station user on the system is not forwarded to VM, or 2) the destination Voice Mail Box owner is not a station user.

When a caller wishes to be transferred into a user's Voice Mail box and the desired user's station is not forwarded into voice mail, then the attendant or a station user may initiate a Voice Mail Transfer.

While on a call and the distant end wishes to leave a Voice Message for a VM user:

1. The initiating station presses the TRANS button.

2. Dial the Voice Mail Group number,
   or
   press the pre-programmed* VM group button.

3. Dial the VMID (Mail Box location) of the desired party and go on-hook. The system will then make the connection to an available Voice Mail port and send the Leave Mail Prefix (if any) + the digits dialed as the VMID number + then the Leave Mail Suffix digits (if any). The system will then cut through the transferred caller.

> **NOTE** The VMID (mail box location) can be any number between 100 through 227.

Conditions:

- CO Trunks and Internal Calls may be transferred into Voice Mail using this feature.

- If no VMID digits are dialed by the transferring station then the identification digits of the transferring station will be sent to the VM.

## B. VM Tone Mode Calling Option

Allows the Voice Mail system to override a called stations "H" or "P" intercom switch settings.

When placing a call to a station and Tone ringing is desire (the Voice Mail system MUST be programmed to:

1. Dial [6#] on the dial pad.

2. Dial the three-digit station extension (call tone rings station).

## 300.78   VOLUME CONTROLS

There are two volume control slide switches on the front of the 34-button digital key terminal. Sliding the switch to the left decreases the volume. The left slide switch controls the volume for voice, background music, and speakerphone volume. The right slide switch controls the volume for tone ringing volume.

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# SECTION 305

# BASIC KEYSET FEATURE OPERATION

## 305.1    INTRODUCTION

The Starplus Digital Key Telephone System has a wide variety of features and flexible programming, allowing each telephone user to program his/her telephone to meet his/her own individual needs.

This section of the manual contains the operating instructions for features that work differently on the Basic Digital Terminal than on the 34-button display telephone. Also included is an illustration of the Basic Digital Key telephone used in the Starplus Digital Key Telephone System and description of the keys on the telephone and its functions. It is intended that this section be used in conjunction with the Station Operation section to provide a complete set of instructions to all features in the system. Visual and audible cues which accompany the various steps in the operation of the features are also included.

Literature similar to these operating instructions has been prepared for use by the customer in the form of a Station User's Guide.

## 305.2    BASIC KEY STATION FEATURES

The Starplus Digital Key Telephone System provides the following keys, indicators and features on the Basic Digital terminal:

**HANDSET AND SPEAKER** are located at the left side of the front panel. A handset is provided to allow confidential conversation when desired. Lifting the handset from its cradle (going off-hook) disengages the station's built-in speaker.

The speaker is located directly below the center portion of the handset. The station may be operated with the handset on-hook. When this occurs, audio is transmitted to the station user through the station's speaker.

**FLEXIBLE BUTTONS** are used to access idle outside lines, provide DSS/BLF for internal stations, access speed dial numbers and activate features. These buttons are programmed by the individual station user. The default flex feature buttons are described below:

> **DSS/BLF** (flex) button allows you to automatically signal the assigned intercom station. DSS/BLF buttons are programmed by the station user. By default, flex buttons 1 and 2 are set for Stations 100 and 101.

> **LOOP** (flex) button will act as the direct appearing button for outside lines that do not appear on the user's individual telephone. Any digital terminal that doesn't have all lines appear on it

must have a loop button. There is NO limit to the number of LOOP buttons a station may have. Loop buttons are assigned in database administration.

**POOL** (flex) button enables a group of outside lines to be placed under one button. When this button is pressed, the system will select an available line from this group for the user to place a call on. Pool buttons are assigned in database administration.

**MSG (MESSAGE WAIT)** (flex) button allows you to initiate a message waiting indication at stations that are busy, unattended, or in Do Not Disturb. Message Waiting Callback request left at your station will indicated by a flashing Msg Wait LED.

**FWD (CALL FWD)** (flex) button allows you to forward your calls to another station.

**DND (DO NOT DISTURB)** (flex) button allows the user to place his/her telephone into a Do Not Disturb mode to eliminate incoming outside line ringing, intercom calls, transfers and paging announcements. The station in DND can use the telephone to make normal outgoing calls. On Attendant stations, this button becomes the system Night Mode button. A flex button must be assigned to use this feature.

> **CONF (CONFERENCE)** (flex) button is used to establish and build conference calls.

### FIXED FEATURE BUTTONS:

> **HOLD** button enables you to place an outside caller on hold.

> **TRANS (TRANSFER)** button is used to transfer an outside call from one station to another.

> **FLASH** button is used to terminate an outside call and restore dial tone without having to hang up the handset. It is also used to transfer calls behind a PBX or Centrex within those systems.

> **SPEED** button provides you with access to speed dialing, save number redial and last number redial. This button is also used to access flex button programming.

> **MUTE** button allows you to switch the built-in microphone on or off when handsfree intercom or the handset microphone when using the handset.

**ON/OFF** button enables you to make a telephone call without lifting the handset. It turns the telephone on and off when using the speakerphone.

**OUTSIDE CALLS** are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator will flash slowly.

**INTERCOM CALLS** can be tone ringing or voice announce If it is voice announced, the receiving station will receive 2 bursts of tone prior to the announcement. If it is a tone ringing call, the receiving station will hear a tone ring every 2.4 seconds.



**Figure 305-1 Basic Digital Terminal**

## Table 305-1 Basic Keyset Numbering Plan

| | | | | |
|---|---|---|---|---|
| 100-219** | Station Intercom Numbers | | 691 [BB] | Off-Hook Preference |
| 43+[C] | Call Park Location 0-7 (system) | | 695 | Distinctive Ringing |
| 438 | Personal Park | | 70 | All Call Page (Internal & External) |
| 44 [V] | Voice Mail* Group Pilot Numbers 0-7 | | 71 | Internal Page Zone 1 |
| 45 [H] | Hunt Group Pilot Numbers 0-7 | | 72 | Internal Page Zone 2 |
| 55 [U] | ACD* Group Pilot Numbers 0-9 | | 73 | Internal Page Zone 3 |
| 55 [U] | UCD Group Pilot Numbers 0-7 | | 74 | Internal Page Zone 4 |
| 56 [U] | ACD* Group Pilot Numbers 10-15 | | 75 | Internal All Call Page |
| 566 | ACD*/UCD Available/Unavailable | | 76+[0] | External All Call Page (All Zones) |
| 570+[YY] | ACD* Call Qualifier | | 76+[P] | External Page Zones (1-7) |
| 571 | ACD* Agent Logout | | 77 | Meet-Me-Page Answer |
| 572 5 [UU] | ACD* Agent Login | | 81 | CO Line Group 1 |
| 573 | ACD* Group Member Status | | | (if LCR is enabled) |
| 574 | ACD* Agent Help Request | | 82 | CO Line Group 2 |
| 578 | ACD* Overflow Sta Available/Unavailable | | 83 | CO Line Group 3 |
| 6# [XXX] | Tone Mode Ring Option | | 84 | CO Line Group 4 |
| 623 | Message Wait | | 85 | CO Line Group 5 |
| 626 | LCR Queue Cancel | | 86 | CO Line Group 6 |
| 631 | Do Not Disturb | | 87 | CO Line Group 7 |
| 632 | Background Music | | 88+[YY] | All CO line Groups |
| 633+[ZZ] | Personalized Messages | | | (CO Line Off-Net Forward) |
| 633+[00] | Clear Personalized Messages | | 9 | LCR or CO Line Group 1 |
| 634 | Headset Mode | | | (if LCR is disabled) |
| 636+[XX] | Station Relocation | | 0 | Attendant |
| 638+[0] | Handset Receiver Gain | | #0 | Group Call Pick Up |
| 638+[*] | Handset Receiver Gain Decrease | | #43+[C] | Call Park Pickup |
| 638+[#] | Handset Receiver Gain Increase | | **#5** | **Universal Day/Night Answer (FP3)** |
| **639** | **Incoming CO call Transfer (FP3)** | | [SPEED]+[YY] | Speed Dial Access |
| 640 | All Call Forward | | | (00-19 Station)(20-99 System) |
| 640 [7] | No Answer - Call Forward | | [SPEED]+[*] | Save Number Redial |
| 640 [8] | Busy - Call Forward | | [SPEED]+[#] | Last Number Redial |
| 640 [9] | Busy/No Answer - Call Forward | | | |
| 640 [*] | Off-Net - Call Forward | | XXX = Intercom Station Numbers | |
| **642** | **Follow-Me Forward (FP3)** | | YY = Speed Dial Bin numbers | |
| **643** | **Repeat Redial (FP3)** | | ZZ = Personalized Messages | |
| **644** | **Mailbox Button (FP3)** | | U = ACD* (0-15) or UCD (0-7) Group Number | |
| **645** | **Intercom Button(s) (FP3)** | | C = Call Park Location 0-7 | |
| **646+[XXX]** | **Call Coverage (Ringing) (FP3)** | | H = Hunt Group Number 0-7 | |
| **647+[XXX]** | **Call Coverage (Non-Ringing) (FP3)** | | V = Voice Mail* Group Number 0-7 | |
| **648+[#,*]** | **Keyset Mode (PCI Phone) (FP3)** | | P = External Page Zone Number (1-7) | |
| 660 | Flash Command to CO Line | | | |
| 662 | Clear - Call Forward, DND, Personal Messages | | *Features available with optional software. | |
| 663 | Message Wait return | | | |
| 664 | Conference W/ Personal Park | | **Based on the default configuration of 96 CO Lines and 120 Stations. Station numbers 220 through 315 are assigned by increasing the number of KT12 boards and reducing the number of CO12 boards. | |
| 690 | Name in Display Programming | | | |

## 305.3 AUTOMATIC CALL DISTRIBUTION (ACD)

*This feature is available with optional software.*
When purchased, Uniform Call Distribution (UCD) is not used and is replaced by the ACD functions identified in the following. 16 Automatic Call Distribution (ACD) groups can be programmed, each containing up to 16 three-digit station numbers.

### A. Agent Login/Logout Feature

The Agent Login/Logout feature provides a means for an agent to log into one of the ACD groups and receive calls. For an agent to be placed into an active ACD state, the agent must first login. The agent logs in by performing the following steps:

1. Dial the LOGIN CODE [572] on the dial pad, followed by the ACD group number (5xx) that the agent is going to log into.
   or
   Press a pre-programmed* LOGIN flex button.

2. The agent enters his unique AGENT ID code (0000-9999). The LOGIN flex button LED will be lit steady. Confirmation tone is heard and the agent is logged onto the ACD group. The ON/OFF LED will extinguish if the agent started the sequence in the handsfree mode. When the agent logs in, an ACD login event is sent to the ACD Events Trace port, if active.

> **NOTE** *If a member is assigned to a specific ACD group and uses the login-logout codes to enter and exit an ACD group other than his assigned group, the database is changed to reflect the different group.*

For an agent to remove himself from the ACD group as an active agent:

1. Dial the LOGOUT CODE [571] on the dial pad, or
   Press a pre-programmed* LOGOUT flex button. The LOGIN flex button LED will extinguished. When the agent logs out and removes himself from the ACD group, an ACD logout event is sent to the ACD Events Trace port, if active.

> **NOTE** *When an ACD Agent has a Login flex button programmed onto his station, that same flex button can be used to Login and Logout of the assigned ACD group.*

Conditions:

- If an agent logs into an ACD group from a station that is logged into another ACD group, the station will be automatically removed from the previous ACD group.

- An agent may log out while in wrap-up, or unavailable.

- An agent logging in will first be placed in wrap-up mode before receiving an ACD call.

- If an agent attempts to log into an ACD group that already has 16 members, that agent will receive error tone.

- The Starplus Digital System will not verify agent's ID codes, other than requiring four digits to be entered.

*Refer to Sec. 300.36, Flexible Button Assignment.

### B. ACD Agent "HELP" button

The ACD Agent "HELP" feature provides a means for an ACD agent to signal his assigned supervisor for assistance. A flex button must be programmed for this feature to operate.

*Refer to Sec. 300.36, Flexible Button Assignment.

While on a call in progress, the agent:

1. Presses his pre-programmed* "HELP" flex button. Confirmation tone will be heard by the agent. The agent will see his "HELP" button illuminate if a supervisor is logged into his ACD group. If no supervisor is logged in, the agent will receive a burst of error tone and his "HELP" button will not illuminate.

   The ACD supervisor station receives a "HELP" message if a member of one of the ACD groups he is assigned to initiates a "HELP" request. The "HELP" function also sends a Camp-On tone to the speaker of the supervisors keyset. The "HELP" message takes precedence over any other message and can be cleared by the supervisor by pressing his "HELP" button.

   At the time the supervisor receives a "HELP" request, he can press his "HELP" flex button followed by his override feature button to bridge onto the ACD group members call. The "HELP" button will place an intercom call to the station requesting "HELP". The "HELP" message will be cleared after the supervisor's "HELP" button is depressed. In addition, the "HELP" message will be cleared if the agent was on a call and went back on hook before the supervisor could respond. In this case, the "HELP" message will be converted to a message wait indication. The agent can also clear the "HELP" request by hitting his "HELP" button a second time.

Conditions:

- Up to five messages can be left at any supervisor station.

- The supervisor can cancel the "HELP" request signal by depressing his flashing "HELP" button. In addition, a call will be placed to the agent requesting "HELP". If

the agent is on a call, the supervisor can press his barge-in button to monitor the call or give assistance on the call.

> **NOTE** *Only digital terminals can utilize this feature, since a flexible button is required to be programmed.*

### C. ACD Call Qualification

The CALL QUALIFICATION feature provides a means for an Agent on ACD type calls to enter codes that identify the call. This feature provides up to four digits for the ACD SMDR reporting function. This feature permits up to 12 digits to be entered, however only the first four digits are provided for in the SMDR record.

The QUALIFY button is programmed using flex code [570]. If the agent wishes to enter his qualify code into a speed bin, he can do so using the standard speed bin programming sequence. He can then enter [570] followed by the bin number. This will provide an agent with a series of buttons with qualify codes under them.

If a [✶] is entered along with the Call Qualification code into a speed bin, the display will not show the Call Qualifier code but will be sent to the SMDR record.

Refer to Sec. 300.36, Flexible Button Assignment.

While on a call, the agent:

1. Presses the pre-programmed CALL QUALIFY flex button, followed by the four-digit qualify code. Enter a [✶] to complete the sequence. A short burst of confirmation tone will be heard thru the keyset speaker, if programmed.

Conditions:

- The outside party will not hear the (qualify code) account code being entered.
- The qualify code uses the first four digits of the account code. Therefore the account code record in the SMDR will contain the qualify code in the first four digits.
- The qualify code must be entered during CO talk state.
- Speed dial entries can contain all digits including the [✶], which will terminate the entry.

### D. ACD Available/Unavailable Mode

If you are a ACD agent, you may place your station in the Available mode to receive ACD type of calls or you may place your station in the Unavailable mode to block ACD type calls from ringing your station.

To go Available:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You may now receive ACD calls.

To go Unavailable:

1. Dial [566] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You are now blocked from receiving ACD calls.

*Refer to Sec. 300.36, Flexible Button Assignment.

### E. ACD Overflow Station - Available/Unavailable Mode

If you are a ACD Overflow station, you may place your station in the Available mode to receive ACD type of calls or you may place your station in the Unavailable mode to block ACD type calls from ringing your station.

To go Available:

1. Dial [578] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You may now receive ACD calls.

To go Unavailable:

1. Dial [578] on the dial pad,
   or
   press the pre-programmed* Available/Unavailable button. You are now blocked from receiving ACD calls.

> **NOTE** *If no stations are logged into the ACD Group, ACD calls will overflow to the Attendant station.*

*Refer to Sec. 300.36, Flexible Button Assignment.

### 305.4 CALL FORWARD: STATION

#### A. Call Forward - All Calls

If you have been given the ability to forward your calls:

1. Lift handset or press ON/OFF button.

2. Dial the Call Forward code [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.

3. Press DSS button of desired station,
   or
   dial the three-digit extension number where calls are to be forwarded, including ACD or UCD Group, Voice Mail Group, and Hunt group pilot numbers.

4. Replace the handset or press the ON/OFF button.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.
- Call back requests are not allowed at a station where a call is forwarded.
- CO Line calls can be transferred by the receiving station back to the original forwarded station.
- A station in the call forward mode may still make outgoing calls.

To Remove Call Forwarding:

1. Lift handset or press ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.
*Refer to Sec. 300.36, Flexible Button Assignment.

### B. Call Forward - No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Dial the Call Forward code [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.
3. Dial the Call Forward No-Answer code [7] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.
*Refer to Sec. 300.36, Flexible Button Assignment.

### C. Call Forward - Busy

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Dial the Call Forward code, [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.

3. Dial the Call Forward Busy code [8] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.
*Refer to Sec. 300.36, Flexible Button Assignment.

### D. Call Forward - Busy/No Answer

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.
2. Dial the Call Forward code, [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.
3. Dial the Call Forward Busy/No Answer code [9] on the dial pad.
4. Dial the three-digit extension number where calls are to be forwarded. Confirmation tone will be heard.
5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.
2. Dial the Call Forward Cancel code, [662] on the dial pad,
   or
   Press the pre-programmed* FWD flex button. Confirmation tone will be heard.
*Refer to Sec. 300.36, Flexible Button Assignment.

### E. Call Forward - Off-Net (via speed dial)

In a speed dial bin, store the number of the off-net location where calls are to be forwarded. Follow instructions provided for storing station or system speed dial numbers.

This feature allows stations to forward intercom and transferred CO calls to an off-net location.

1. Lift handset or press ON/OFF button.
2. Dial the Call Forward code, [640] on the dial pad,
   or
   Press the pre-programmed* FWD flex button.

3. Dial [*] on the dial pad. Then dial the speed bin number that contains the number where calls are to be forwarded. Confirmation tone is heard. FWD button LED is flashing.

4. Replace the handset or press the ON/OFF button.

Conditions:

- Line Queue, Call back requests, message wait requests, and pre-selected messages are canceled when a station activates call forward.

- Call back requests are not allowed at a station where a call is forwarded.

- CO Line calls can be transferred by the receiving station back to the original forwarded station.

- A station in the call forward mode may still make outgoing calls.

Canceling Off-Net Forwarding

1. Lift handset or press ON/OFF button.

2. Dial the Call Forward Cancel code, [662] on the dial pad,
or
Press the pre-programmed* FWD flex button. CALL FWD button LED is extinguished.

*Refer to Sec. 300.36, Flexible Button Assignment.

### F. Call Forward - ACD or UCD Groups

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Dial the Call Forward code, [640] on the dial pad,
or
Press the pre-programmed* FWD flex button.

3. Dial the desired code:
 - [7] = no answer calls
 - [8] = busy calls
 - [9] = busy and no answer calls.

| NOTE | Skip the preceding step for immediate forwarding. |
|------|---------------------------------------------------|

4. Dial the three-digit ACD Group Pilot number (550-565) for groups 1-16, or UCD group pilot number (550-557) for the groups 1-8 where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

*Refer to Sec. 300.36, Flexible Button Assignment.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Dial the Call Forward Cancel code, [662] on the dial pad,
or
Press the pre-programmed* FWD flex button. Confirmation tone will be heard.

*Refer to Sec. 300.36, Flexible Button Assignment.

### G. Call Forward - Voice Mail Groups

*This feature is available with optional software.*
Intercom and Transferred CO callers may be routed directly to your mail box by forwarding your phone to a voice mail group. Callers will then be greeted by your personal voice mail greeting if available.

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Dial the Call Forward code, [640] on the dial pad,
or
Press the pre-programmed* FWD flex button.

3. Dial the desired code:
 - [7] = no answer calls
 - [8] = busy calls
 - [9] = busy and no answer calls.

| NOTE | Skip the preceding step for immediate forwarding. |
|------|---------------------------------------------------|

4. Dial the three-digit Voice Mail group pilot number (440-447) for groups 1-8 where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Dial the Call Forward Cancel code, [662] on the dial pad,
or
Press the pre-programmed* FWD flex button. Confirmation tone will be heard.

*Refer to Sec. 300.36, Flexible Button Assignment.

### H. Call Forward - Hunt Groups

If you have been given the ability to forward your calls:

1. Lift the handset or press ON/OFF button.

2. Dial the Call Forward code, [640] on the dial pad,
or
Press the pre-programmed* FWD flex button.

3. Dial the desired code:
 - [7] = no answer calls
 - [8] = busy calls
 - [9] = busy and no answer calls.

| NOTE | *Skip the preceding step for immediate forwarding.* |
|---|---|

4. Dial the three-digit Hunt group pilot number (450-457) for groups 1-8 where calls are to be forwarded. Confirmation tone will be heard.

5. Replace the handset or press the ON/OFF button.

To cancel Call Forwarding:

1. Lift the handset or press the ON/OFF button.

2. Dial the Call Forward Cancel code, [662] on the dial pad,
or
Press the pre-programmed* FWD flex button.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 305.5    CONFERENCE WITH PERSONAL PARK

While connected to an outside line:

a. Press the TRANS button. Transfer dial tone is heard.

b. Dial [438] on the dial pad. (1st call is placed in personal park).

c. Dial desired number for 2nd call.

d. Press the TRANS button again. Transfer dial tone is heard.

e. Dial [664] on the dial pad. All three parties are conferenced.

f. Replace the handset to terminate conference.

### 305.6    CO LINE QUEUING

A station can queue only one line at a time. If you see that a particular outside line is busy and you wish to be placed on a list waiting for that line to become available:

To Place a Queue:

a. Press the Pool button. Busy tone is heard.

b. Press the pre-programmed* LINE QUEUE button.

c. Replace the handset.

To Answer a Queue:

If you hear ringing and an outside line of the line group (or a Loop or Group Key), you queued onto is rapidly flashing:

a. Lift handset or press ON/OFF button.

b. Press flashing Pool button to answer.

| NOTE | *If your station has been programmed for Preferred Line Answer, you will have the line automatically upon lifting the handset.* |
|---|---|

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

### 305.7    DIRECTED CALL PICK-UP

When incoming, transferred, or recalling outside line ringing, intercom ringing, or Camp On ringing is heard at an unattended telephone:

a. Dial the station number of the known ringing telephone. Receive ringback tone or call announce tone, depending on the intercom selector switch.

b. Press the pre-programmed* PICK UP button to answer the call.

*A flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

Conditions:

- User must have access to the specific outside line or a Loop button to do a directed call pickup.

### 305.8    DO NOT DISTURB

If you have been given the ability to place your phone in Do Not Disturb:

a. Lift the handset or press the ON/OFF button.

b. Dial the Do Not Disturb code [631] on the dial pad,
or
Press the pre-programmed* DND button. DND button lights steady.

Removing Do Not Disturb

a. Dial the Do Not Disturb code [631] on the dial pad,
or
Press the pre-programmed* DND button. The button LED extinguishes and DND is canceled.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 305.9    MESSAGE WAITING

If you dial a station that is busy, unattended, or in DND, you can leave a message waiting indication.

a. Lift the handset or press the ON/OFF button.

b. Dial the desired intercom station. Busy tone or DND tone is heard.

c. Press the TRANS button. Transfer dial tone is heard.

d. Dial the Message Wait code [623] on the dial pad. Confirmation tone is heard.

e. Replace the handset or press ON/Off button to end the call.

| NOTE | *Up to five messages can be left at any Station.* |
|---|---|

Answering a Message Waiting Indication:

If your MSG WAIT lamp is flashing, you have a message waiting for you. The first message left will be the first one called.

a. Lift the handset or press the ON/OFF button.

b. Dial the Message Wait Return code [663] on the dial pad. Station that left message will be signaled with tone ringing.

c. If called station does not answer, press the TRANS button. After receiving transfer tone, dial the message wait code [623] to leave message.

*Refer to Sec. 300.36, Flexible Button Assignment.

## 305.10 MUTE KEY

The MUTE feature provides privacy during handsfree intercom or handset operation by disabling the microphone.

To activate the Mute feature:

a. Press the MUTE button while off-hook on handsfree intercom or handset to activate.

To de-activate the Mute feature:

a. Press the MUTE button again to deactivate.

> **NOTE** *The mute feature automatically deactivates upon call termination.*

## 305.11 PBX/CENTREX TRANSFER

While connected to an outside line (PBX/Centrex):

a. Press the TRANS button. Receive transfer dial tone.

b. Dial [660] on the dial pad. A flash command will be presented to the PBX or Centrex line. PBX or Centrex stutter tone will be heard.

c. Dial desired outside number.

d. Replace handset to complete transfer.

## 305.12 PERSONAL PARK

While connected to first call:

a. Press the TRANS button. The caller is put on Exclusive Hold.

b. Dial the Personal Park code [438] on the dial pad,
or
Press a pre-programmed* flex button. (call is placed in personal park). Dial tone will be heard.

Retrieving a Parked Call:

a. Dial the Personal Call Park location code [438] on the dial pad,
or
Press the pre-programmed* PERSONAL

PARK button.
A talk path is established between the two parties.

## 305.13 PROGRAMMING YOUR NAME INTO THE LCD DISPLAY

The Basic Digital terminal has the capability for the user to program his name so that people using display telephones will see the name instead of the station number.

a. Lift handset.

b. Dial [690] on the dial pad.

c. Enter your name (up to 7 letters) using the pattern shown below.

| A =21 | M =61 | 1 =1# | " =01 |
|-------|-------|-------|-------|
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |
| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |
| K =52 | W =91 | Space =11 | + =#3 |
| L =53 | X =92 | : =12 | = =#4 |
|       | Y =93 | - =13 | # =## |
|       | Z =94 | ' =14 |       |

d. Press the SPEED button to complete the programming process.

## 305.14 VOLUME CONTROL

A "slide" switch is provided on the front of the Starplus Basic Digital Terminal to adjust the volume of the voice and tones presented to the terminal speaker.

- The "slide" switch controls the speaker volume which controls all voice signals sent to the speaker i.e. Handsfree intercom conversations, BGM, and Page announcements.

- The same "slide" switch also controls the ringing volume which controls all tone signals presented to the speaker i.e. Ringing, splash tones, Camp-On etc... Muted ringing is also controlled by the slide switch. The muted ringing volume will be proportionately quieter than normal ringing based on the current switch setting.

# TABLE OF CONTENTS FOR SECTION 310

# SECTION 310

# SLT FEATURE OPERATION

## 310.1 INTRODUCTION

This section of the manual contains the operating instructions for Single Line users. It is designed to provide step-by-step instructions for operating the Single Line telephones in the system.

Literature similar to these operating instructions has been prepared for use by the customer in the form of a Single Line Telephone User's Guide.

## 310.2 ACCOUNT CODE

SLT stations can enter an account code to identify the call or calling station.

Entering Account Code before a call:

a. Lift the handset.

b. Dial [627] on the dial pad.

c. Dial the account code. If the account code contains fewer than 12-digits, dial [*] to return to intercom dial tone. Dial tone is heard.

d. Dial [9] or CO Access code and the desired number.

Entering Account Code during a call:

a. Depress the hookswitch momentarily. Your call will be placed on hold while you enter your account code.

b. Dial [627] on the dial pad.

c. Dial the account code. If the account code contains fewer than 12-digits, dial [*] to return automatically to the call.

## 310.3 AUTOMATIC CALL DISTRIBUTION (ACD)

*This feature is available with optional software.* When purchased, Uniform Call Distribution (UCD) is not used and is replaced by the ACD functions identified in the following. 16 Automatic Call Distribution (ACD) groups can be programmed, each containing up to 16 three-digit station numbers.

### A. Agent Login/Logout Feature

The Agent Login/Logout feature provides a means for an agent to log into one of the ACD groups and receive calls. For an agent to be placed into an active ACD state, the agent must first login.

1. Dial the LOGIN CODE [572] on the dial pad, followed by the ACD group number (5xx) that the agent is going to log into.

2. The agent enters his unique AGENT ID code (0000-9999). Confirmation tone is heard and the agent is logged onto the ACD group. When the agent logs in, an ACD login event is sent to the ACD Events Trace port, if active.

> **NOTE** *If a member is assigned to a specific ACD group and uses the login-logout codes to enter and exit an ACD group other than his assigned group, the database is changed to reflect the different group.*

For an agent to remove himself from the ACD group as an active agent:

1. Dial the LOGOUT CODE [571] on the dial pad. When the agent logs out and removes himself from the ACD group, an ACD logout event is sent to the ACD Events Trace port, if active.

Conditions:

- If an agent logs into an ACD group from a station that is logged into another ACD group, the station will be automatically removed from the previous ACD group.

- An agent may log out while in wrap-up, or unavailable.

- An agent logging in will first be placed in wrap-up mode before receiving an ACD call.

- If an agent attempts to log into an ACD group that already has 16 members, that agent will receive error tone.

- The Starplus Digital System will not verify agent's ID codes, other than requiring four digits to be entered.

### B. ACD Agent "HELP" feature

The ACD Agent "HELP" feature provides a means for an ACD agent to signal his assigned supervisor for assistance.

While on a call in progress, the agent:

1. After hook-flashing, dial the "HELP" code [574] on the dial pad. The agent must hook-flash again to return to his call after the code is dialed. If no supervisor is logged in, the agent will receive one-burst of error tone.

The ACD supervisor station receives a "HELP" message if a member of one of the ACD groups he is assigned to initiates a "HELP" request. The "HELP" function also sends a Camp-On tone to the speaker of the supervisors keyset. The "HELP" message takes precedence over any other message and can be cleared by the supervisor by pressing his "HELP" button.
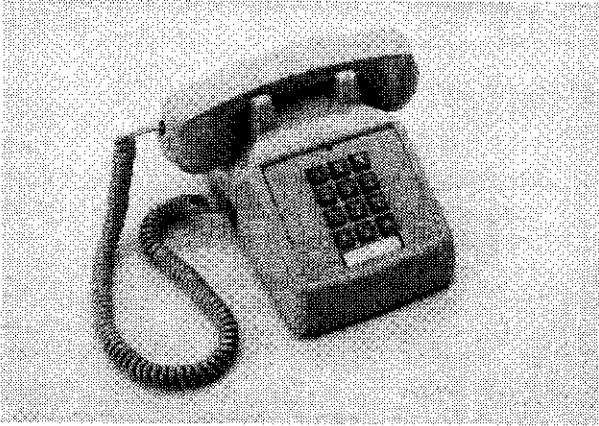
**2500 Type**
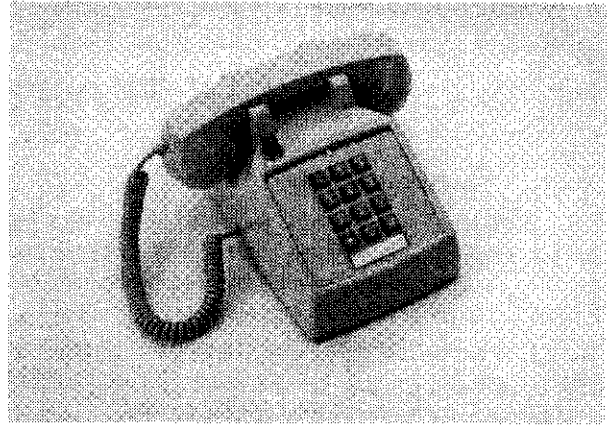


**2500 Type w/Msg Waiting Lamp on Top**
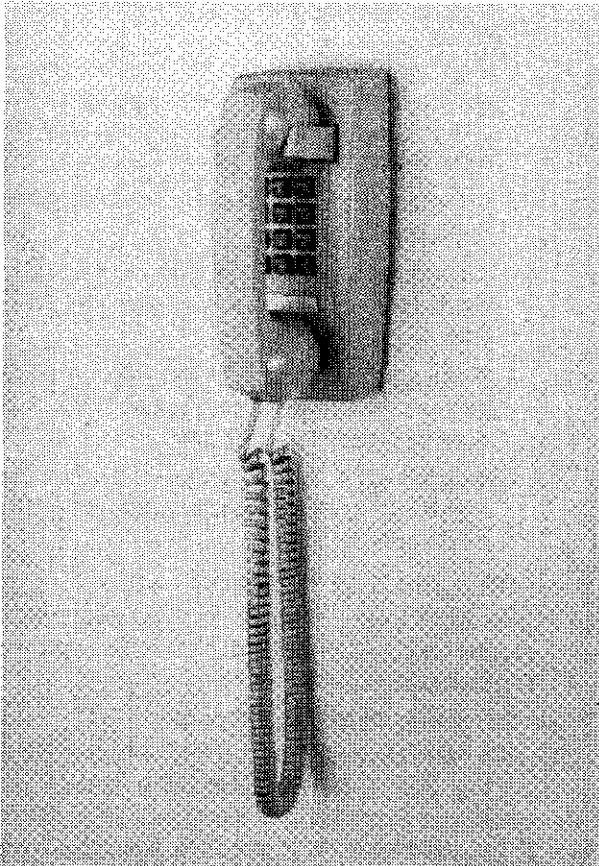


**2500 Type Wall Phone**



**2500 Type w/Message Waiting Lamp**



**2500 Type w/Flash Key**

## Table 310-1 SLT Numbering Plan

| | | | |
|---|---|---|---|
| 100-219** | Station Intercom Numbers | 70 | All Call Page (Internal & External) |
| 43+[C] | Call Park Location 0-7 (system) | 71 | Internal Page Zone 1 |
| 438 | Personal Park | 72 | Internal Page Zone 2 |
| 44 [V] | Voice Mail* Group Pilot Numbers 0-7 | 73 | Internal Page Zone 3 |
| 45 [H] | Hunt Group Pilot Numbers 0-7 | 74 | Internal Page Zone 4 |
| 55 [U] | ACD* Group Pilot Numbers 0-9 | 75 | Internal All Call Page |
| 55 [U] | UCD Group Pilot Numbers 0-7 | 76+[0] | External All Call Page (All Zones) |
| 56 [U] | ACD* Group Pilot Numbers 10-15 | 76+[P] | External Page Zones (1-7) |
| 566 | ACD*/UCD Available/Unavailable | 77 | Meet-Me-Page Answer |
| 571 | ACD* Agent Logout | 81 | CO Line Group 1 (if LCR is enabled) |
| 572 55 [U] | ACD* Agent Login | | |
| 574 | ACD* Agent Help | 82 | CO Line Group 2 |
| 578 | ACD* Overflow Sta Available/Unavailable | 83 | CO Line Group 3 |
| 6# [XXX] | Tone Mode Ring Option | 84 | CO Line Group 4 |
| 620 | Camp-On | 85 | CO Line Group 5 |
| 621 | Line Queue | 86 | CO Line Group 6 |
| 622 | Call Back | 87 | CO Line Group 7 |
| 623 | Message Wait | 88 | All CO line Groups (CO Line Off-Net Forward) |
| 624 | Conference | | |
| 625 | Executive Override | 9 | LCR or CO Line Group 1 (if LCR is disabled) |
| 626 | LCR Queue Cancel | | |
| 627 | Account Code Enter | 0 | Attendant |
| 631 | Do Not Disturb | #0 | Group Call Pick Up (Key & SLT) |
| 633+[ZZ] | Personalized Messages | #1+[XXX] | Directed Call Pick-up (SLT) |
| 633+[00] | Clear Personalized Messages | #43+[C] | Call Park Pickup (Key and SLT) |
| 638+[0] | Handset Receiver Gain | **#5** | **Universal Day/Night Answer (FP3)** |
| 638+[*] | Handset Receiver Gain Decrease | | |
| 638+[#] | Handset Receiver Gain Increase | XXX = Intercom Station Numbers | |
| 640 | All Call Forward | YY = Speed Dial Bin numbers | |
| 640+[7] | No Answer - Call Forward | ZZ = Personalized Messages | |
| 640+[8] | Busy - Call Forward | U = ACD* (0-15), UCD (0-7) Group Number | |
| 640+[9] | Busy/No Answer - Call Forward | C = Call Park Location 0-7 | |
| 640+[*] | Off-Net - Call Forward | H = Hunt Group Number 0-7 | |
| 660 | SLT Flash Command to CO Line | V = Voice Mail* Group Number 0-7 | |
| 661+[YY] | SLT Station Speed Dial Programming | P = External Page Zone Number (1-7) | |
| 662 | SLT Clear - Call Forward, DND, Personal Messages | | |
| 663 | Message Wait return | *Features available with optional software. | |
| 664 | SLT Conference W/ Personal Park | | |
| 668+[YY] | SLT Speed Dial Access | **Based on the default configuration of 96 CO Lines and 120 Stations. Station numbers 220 through 315 are assigned by increasing the number of KT12 boards and reducing the number of CO12 boards. | |
| 690 | Name in Display Programming | | |

At the time the supervisor receives a "HELP" request, he can press his "HELP" flex button followed by his override feature button to bridge onto the ACD group members call. The "HELP" button will place an intercom call to the station requesting "HELP". The "HELP" message will be cleared after the supervisor's "HELP" button is depressed. In addition, the "HELP" message will be cleared if the agent was on a call and went back on hook before the supervisor could respond. In this case, the "HELP" message will be converted to a message wait indication.

Conditions:

- Up to five messages can be left at any supervisor station.

- The supervisor can cancel the "HELP" request signal by depressing his flashing "HELP" button. In addition, a call will be placed to the agent requesting "HELP". If the agent is on a call, the supervisor can press his barge-in button to monitor the call or give assistance on the call.

### C. ACD Available/Unavailable Mode

If you are a ACD agent, you may place your station in the Available mode to receive ACD type of calls or you may place your station in the Unavailable mode to block ACD type calls from ringing your station.

To go Available:

1. Dial [566] on the dial pad. Confirmation tone will be heard through the handset. You may now receive ACD calls.

To go Unavailable:

1. Dial [566] on the dial pad. Confirmation tone will be heard through the handset. You are now blocked from receiving ACD calls.

### 310.4    CALL BACK

You call a busy station and receive busy:

a. Briefly depress and release the hookswitch.

b. Dial [622] on the dial pad.

c. Replace handset.

> **NOTE** Only one Call Back request can be left at a station; the second request will convert to Message Waiting Request.

### 310.5    CALL FORWARDING

To call forward calls to another station:

a. Lift handset.

b. Dial [640] on the dial pad.

c. Skip Step c. for immediate forwarding, otherwise dial the appropriate code:
   - [7] = Call Forward No Answer

   - [8] = Call Forward Busy
   - [9] = Call Forward Busy/No Answer
   - [*] = Call Forward Off-Net (via speed dial)

d. Dial the three-digit extension number or speed bin number where calls are to be forwarded. Confirmation tone will be heard.

e. Replace handset.

To Remove Call Forwarding:

a. Lift handset.

b. Dial [640] on the dial pad or [662] on the dial pad. Confirmation tone will be heard.

c. Replace the handset.

### 310.6    CALLING STATION TONE MODE OP-TION

Allows a calling station to override a called key station's "H" or "P" intercom switch setting.

When placing a call to a key station and Tone ringing is desired:

a. Dial [6#] on the dial pad.

b. Dial three-digit station extension (call tone rings station).

### 310.7    CAMP-ON

After receiving intercom busy tone:

a. Briefly depress and release the hookswitch.

b. Dial [620] on the dial pad. When the called party answers, consult with them.

While on a CO line you receive a Camp-on warning tone through handset:

a. Choose desired call (hang up on present call and take the new one, or ignore the Camp-on signal). (also see Personal Park)

### 310.8    CALL PARK (System)

To place an outside call on hold and consult with, page, or call an internal party before transferring the outside call.

While connected to an outside line:

a. Depress and release the hookswitch. The caller is put on Exclusive hold.

b. Dial parking location (430 to 437) on the dial pad. Confirmation tone is heard.

c. If you hear busy tone, depress and release the hookswitch to reestablish contact with the called station, and depress and release the hookswitch again prior to dialing another parking location.

Retrieving a Parked Call

   a. Lift handset.

   b. Dial a pound [#] on the dial pad.

   c. Dial parking location (430 to 437) where the call was parked.

## 310.9 CALL TRANSFER:

Making an Unscreened Transfer

   a. Briefly depress and release the hookswitch.

   b. Dial desired intercom number.

   c. Hang up to complete the transfer.

Making a Screened Transfer:

   a. Briefly depress and release the hookswitch.

   b. Dial desired telephone number. Announce the call.

   c. Hang up to complete the transfer.

## 310.10 CLEAR CALL FORWARD, DND, PER-SONALIZED MESSAGES

SLTs can activate and cancel call forward by dialing [640] on the dial pad and DND by dialing [631] and enable and cancel personalized messages by dialing [633xx].

A convenient code [662] has been incorporated to cancel either Call forwarding, DND, or Personalized Messages when the SLT user has forgotten which code has been programmed on the phone.

To cancel Call Forward, DND, Personalized Messages:

   a. Lift handset. Notification tone will be heard.

   b. Dial [662] on the dial pad. Confirmation tone will be heard.

   c. Replace the handset.

## 310.11 CO LINE QUEUING

   a. Dial outside line access code. Receive busy tone.

   b. Briefly depress and release the hookswitch.

   c. Dial [621] on the dial pad. Confirmation tone is heard.

## 310.12 CONFERENCE

You may set up a conference of 1 external and 1 other internal station.

   a. Lift handset.

   b. Make outside call.

   c. Briefly depress and release the hookswitch to put the call on hold.

   d. Dial number of internal station you wish to add.

   e. When that station answers, briefly depress and release the hookswitch again and all 3 parties will be connected.

## 310.13 CONFERENCE WITH PERSONAL PARK

While connected to an outside line:

   a. Depress the hookswitch momentarily. Intercom dial tone is heard.

   b. Dial [438] on the dial pad. (1st call is placed in personal park).

   c. Dial desired number for 2nd call.

   d. Depress the hookswitch momentarily. Intercom dial tone is heard.

   e. Dial [664] on the dial pad. All three parties are conferenced.

   f. Hang up to terminate conference.

## 310.14 DIRECT OUTSIDE LINE ACCESS

   a. Lift handset.

   b. Dial access code (9, 81 - 87) on the dial pad.

   c. Dial desired telephone number.

## 310.15 DIRECTED CALL PICK-UP

Upon hearing an unattended telephone ring:

   a. Lift handset.

   b. Dial [#1] on the dial pad.

   c. Dial station number of ringing telephone. You will be connected to intercom, incoming, recalling or transferred outside line.

## 310.16 DO NOT DISTURB

Activating Do Not Disturb:

   a. Lift handset.

   b. Dial [631] on the dial pad.

   c. Replace handset.

To cancel Do Not Disturb:

   a. Lift handset.

   b. Dial [631] on the dial pad or [662] on the dial pad.

   c. Replace handset.

## 310.17 PBX/CENTREX TRANSFER (Flash Command to CO Line)

To initiate a PBX or Centrex Transfer command from an SLT.

While connected to a PBX or Centrex line:

   a. Briefly depress and release the hookswitch. Intercom dial tone will be heard.

   b. Dial [660] on the dial pad. A Flash command will be presented to the PBX or Centrex line.

   c. PBX or Centrex stutter tone will be heard. Dial number of desired extension.

   d. Replace handset to complete transfer.

## 310.18 GROUP CALL PICK-UP

Upon hearing an unattended telephone ringing:

a. Lift the handset.

b. Dial [#0] on the dial pad. You will be connected to intercom or transferred or recalling outside line call.

**NOTE** *You must be in the same pickup group.*

## 310.19 PLACING CALLS ON EXCLUSIVE HOLD

While connected to an outside line:

a. Briefly press and release the hookswitch. (Call is placed on Exclusive Hold).

To retrieve the call:

a. Press and release the hookswitch again.

## 310.20 HANDSET RECEIVER GAIN

This feature allows an SLT user to increase/decrease the handset volume while on a CO or intercom call.

While on a CO or intercom call:

a. Hookflash and dial the Handset Receiver Gain code [638] on the dial pad.

b. Dial a one-digit entry [0] through [9] (0=lowest, 9=highest) on the dial pad,
or
Press the [#] to increase or [*] to decrease the gain, one level at a time.

c. Hookflash again to return to call.

d. Repeat above procedures, if necessary.

e. Replace the handset to end the call.

## 310.21 INTERCOM CALLING

a. You will hear ringing if called station is in the "T" answering mode; or two bursts of tone if called station is in the "H" or "P" position.

b. Lift the handset.

c. Dial the three-digit intercom number.

d. Converse after the two tone bursts stop.

e. Replace the handset to end the call.

Answering an Intercom Call

a. Lift handset to converse.

b. Replace handset to end call

## 310.22 LEAST COST ROUTING

To place an outside call when LCR has been enabled in the system:

a. Lift the handset.

b. Dial [9] on the dial pad.

c. Dial the desired seven-digit telephone number (i.e.: 1+ area code+7-digit number).

d. Wait for an answer, then converse.

If all lines available to you are busy, remain off-hook for four seconds to automatically be queued onto LCR for an available line.

If an LCR Queue Callback has been activated:

a. When telephone is signaled, answer the call.

b. Desired telephone number will automatically be re-dialed.

**NOTE** *Only one LCR Queue Call Back request may be initiated by a station. When a second request is made, the first request is canceled.*

If an LCR Queue Callback has been activated and you wish to cancel that callback request:

a. Dial the LCR Queue Cancel code, [626] on the dial pad.

b. Replace the handset.

## 310.23 MESSAGE WAITING

Leaving a Message Waiting Indication

a. Lift handset.

b. Dial the desired intercom station. Receive no answer, or DND tone.

c. Briefly depress and release the hookswitch.

d. Dial [623] on the dial pad.

e. Replace handset.

Answering a Message Waiting Indication.

Your message waiting lamp is flashing:

a. Lift handset.

b. Dial [663] on the dial pad. Station that left the message will ring.

**NOTE** *Only SLT's equipped with message waiting lamp will have access to this feature. OPX stations do not have message waiting capability.*

## 310.24 OFF-HOOK PREFERENCE

If your phone has been programmed for Off-Hook Preference, you will hear outside line dial tone when lifting the handset.

When this operation is enabled, you may not have access to all features contained in this User Guide. However, consult your Centrex or PBX User's Guide for additional features you may have.

## 310.25 PERSONALIZED MESSAGES

Each station can select a pre-assigned message to be displayed on the LCD of any Key Telephone calling that station. To select one of the ten available messages:

a. Dial [633] on the dial pad.

b. Dial the two-digit code for the message which will appear.
   - [00] = clears message
   - [01] = ON VACATION
   - [02] = RETURN AM
   - [03] = RETURN PM
   - [04] = RETURN TOMORROW
   - [05] = RETURN NEXT WEEK
   - [06] = ON TRIP
   - [07] = IN MEETING
   - [08] = AT HOME
   - [09] = ON BREAK
   - [10] = AT LUNCH

| NOTE | This feature is not available to the attendant(s). |

c. Replace the handset. (Activating DND or Call Forwarding cancels selected message.)

## 310.26   PAGING

a. Lift handset.

b. Dial the two-digit paging code. Wait for page warning tone
   - [70] = All Call - Internal & External
   - [71] = Internal Zone 1
   - [72] = Internal Zone 2
   - [73] = Internal Zone 3
   - [74] = Internal Zone 4
   - [75] = Internal All Call
   - [76](0) = External All Call (All Ext Zones)
   - [76](Z) = External Zones (1-7)

c. Speak in normal tone of voice to deliver message.

Stations off-hook or in DND will not hear the internal page announcement.

| NOTE | When making a Zone Page or All Call Page and the zone is busy, the page initiator will receive ringback tone until the zone becomes available. You will then hear a warning tone and can make the page announcement. |

d. Deliver page in normal tone of voice.

e. Replace handset to terminate page.

## 310.27   MEET ME PAGE

To request another party to meet you on a page:

a. Dial the desired two-digit or three-digit paging code.

b. Request that party meet you on the page.

c. Do not hang up; wait for the requested party to answer. As soon as the paged party answers and is connected to you, the page circuit is released.

Answering a Meet Me Page:

a. Go to the nearest telephone and dial [77] on the dial pad. You will be connected to the party that paged you.

## 310.28   PERSONAL PARK (Flip-Flop)

While connected to first call:

a. Depress the hookswitch momentarily. Intercom dial tone is heard.

b. Dial [438] on the dial pad. (call is placed in personal park).

c. Dial desired number for 2nd call.

d. Depress the hookswitch momentarily. Intercom dial tone is heard.

e. Dial [438] on the dial pad. (1st call is returned and 2nd call is placed in personal park.

| NOTE | The user can alternately connect to the other call by doing a hook-flash and dialing [438] as many times as necessary. |

## 310.29   PROGRAMMING YOUR NAME INTO THE LCD DISPLAY

Every SLT extension has the capability to program the users name so that people using display telephones will see the name instead of the station number.

a. Lift handset.

b. Dial [690] on the dial pad.

c. Enter your name (up to 7 letters) using the pattern shown below.

| A =21 | M =61 | 1 =1# | " =01 |
|-------|-------|-------|-------|
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |
| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |
| K =52 | W =91 | Space =11 | + =#3 |
| L =53 | X =92 | : =12 | = =#4 |
|       | Y =93 | - =13 | # =## |
|       | Z =94 | ' =14 |       |

d. Press the hookswitch to complete the programming process.

## 310.30   STATION SPEED DIAL

a. Lift handset.

b. Dial [668] on the dial pad.

c. Dial desired station speed bin number (00-19).

### 310.31 STORING STATION SPEED NUM-BERS

a. Lift handset.

b. Dial [661] on the dial pad.

c. Dial desired station speed bin number (00-19).

d. Dial telephone number you wish to store.

e. Briefly depress and release the hookswitch. (Confirmation tone is heard.)

> **NOTE** *Line Group 1 will be programmed along with SLT speed numbers and thus Line Group 1 will be used when activating station speed dial from an SLT.*

### 310.32 SYSTEM SPEED DIAL

a. Lift handset.

b. Dial [668] on the dial pad.

c. Dial desired system speed bin number (20-99).

### 310.33 UNIVERSAL DAY/NIGHT ANSWER (UDA/UNA) (FP3)

Upon hearing an incoming signal:

a. Lift handset.

b. Dial the UDA/UNA access code [#5] on the dial pad. You will be connected to ringing outside line.

### 310.34 UCD AVAILABLE/UNAVAILABLE

If you are a UCD Agent, you may place your station in the Available mode to receive UCD type of calls or you may place your station in the Unavailable mode to block UCD type of calls from ringing at your station.

To go Available:

a. Dial [566] on the dial pad. You may now receive calls.

To go Unavailable:

a. Dial [566] on the dial pad. You are now blocked from receiving UCD calls.

# TABLE OF CONTENTS FOR SECTION 320

# SECTION 320

# ATTENDANT FEATURE OPERATION

## 320.1 INTRODUCTION

The Starplus Digital Key Telephone System has a wide variety of features and flexible programming, allowing each telephone user to program his/her telephone to meet his/her own individual needs.

This section of the manual contains the operating instructions for Attendant Key Telephone user(s) and includes an illustration of the 34-button digital key telephone used in the Starplus Digital Key Telephone System and description of the keys on the telephones and their functions. It is intended that this section be used in conjunction with the Station Operation section to provide step-by-step instructions for operating the Attendant(s) Digital Terminal(s) in the system. Visual and audible cues which accompany the various steps in the operation of the features are also included.

Literature similar to these operating instructions has been prepared for use by the customer in the form of an Attendant User's Guide.

## 320.2 ATTENDANT KEY TELEPHONE STATION FEATURES

Each Starplus Digital Key Telephone System provides the following keys, indicators and features:

**HANDSET AND SPEAKER** are located at the left side of the front panel. A handset is provided to allow confidential conversation when desired. Lifting the handset from its cradle (going off-hook) disengages the station's built-in speaker.

The speaker is located directly below the center portion of the handset. The station may be operated with the handset on-hook. When this occurs, audio is transmitted to the station user through the station's speaker.

**FLEXIBLE BUTTONS** are used to access idle outside lines, provide DSS/BLF for internal stations, access speed dial numbers and activate features. These buttons are programmed by the individual station user. The default flex feature buttons are described below:

> **CAMP-ON** (flex) button enables you to alert a busy party that an outside line is on hold and waiting for them. A flex button must be assigned to use this feature.
>
> **LINE QUEUE** (flex) button allows you to queue onto an outside line when all lines in a group are busy. Your station is placed in queue awaiting a line in the same group to become available.

A flex button must be assigned to use this feature.

> **CALL BACK** (flex) button allows you to initiate an automatic call back request to another busy station. As soon as that station becomes idle, the station that left the call back request is signaled. A flex button must be assigned to use this feature.
>
> **PICK UP** (flex) button allows you to pickup a tone ringing intercom call, transferred, incoming, or recalling outside line call to a specific unattended station either by group or directed call pick-up.
>
> **MSG WAIT (MESSAGE WAIT)** (flex) button allows you to initiate a message waiting indication at stations that are busy, unattended, or in Do Not Disturb. Message Waiting Callback request left at your station will indicated by a flashing Msg Wait LED.
>
> **FWD (CALL FORWARD)** (flex) button allows you to forward your calls to another station.
>
> **DND (DO NOT DISTURB)** (flex) button allows the user to place his/her telephone into a Do Not Disturb mode to eliminate incoming outside line ringing, intercom calls, transfers and paging announcements. The station in DND can use the telephone to make normal outgoing calls. On Attendant stations, this button becomes the system Night Mode button. A flex button must be assigned to use this feature.
>
> **CONF (CONFERENCE)** (flex) button is used to establish and build conference calls.

### FIXED FEATURE BUTTONS:

> **HOLD** button enables you to place an outside caller on hold.
>
> **TRANS (TRANSFER)** button is used to transfer an outside call from one station to another.
>
> **FLASH** button is used to terminate an outside call and restore dial tone without having to hang up the handset. It is also used to transfer calls behind a PBX or Centrex within those systems.
>
> **SPEED** button provides you with access to speed dialing, save number redial and last number redial. This button is also used to access flex button programming.
>
> **MUTE** button allows you to switch the built-in microphone on or off when using the speakerphone, or the handset microphone when using the handset.

**ON/OFF** button enables you to make a telephone call without lifting the handset. It turns the telephone on and off when using the speakerphone.

**OUTSIDE CALLS** are announced by a tone signal repeated every 3.2 seconds. The corresponding outside line indicator will flash slowly.

**INTERCOM CALLS** can be tone ringing or voice announce. If it is voice announced, the receiving station will receive 2 bursts of tone prior to the announcement. If it is a tone ringing call, the receiving station will hear a tone ring every 2.4 seconds.



**Figure 320-1 Attendant Display Terminal**

## Table 320-1 Attendant Numbering Plan

| | |
|---|---|
| 100-219** | Station Intercom Numbers |
| 43+[C] | Call Park Location 0-7 (system) |
| 438 | Personal Park |
| 44 [V] | Voice Mail* Group Pilot Numbers 0-7 |
| 45 [H] | Hunt Group Pilot Numbers 0-7 |
| 499 | Modem via DISA access or transfer |
| 55 [U] | ACD* Group Pilot Numbers 0-9 |
| 55 [U] | UCD Group Pilot Numbers 0-7 |
| 56 [U] | ACD* Group Pilot Numbers 10-15 |
| 566 | ACD*/UCD Available/Unavailable |
| 567 5[UU] | ACD*/UCD Calls in Queue Display |
| 570+[YY] | ACD* Call Qualifier |
| 571 | ACD* Agent Logout |
| 572 5[UU] | ACD* Agent Login |
| 573 | ACD* Group Member Status |
| 574 | ACD* Agent Help Request |
| 575 | ACD* Supervisor Logout |
| 576 | ACD* Supervisor Login |
| 577 | ACD* Supervisor Queue Status Display |
| 578 | ACD* Overflow Sta Available/Unavailable |
| 6# [XXX] | Tone Mode Ring Option |
| 6* | Dial By Name |
| 601 | Attendant Override |
| 602 | Disable Outgoing CO Line Access |
| 603 | CO Line Off-Net Forward |
| **607** | **Alternate Attendant Position* (Unavailable) (FP3)** |
| 623 | Message Wait |
| 625 | Executive Override/Monitor Barge-In |
| 626 | LCR Queue Cancel |
| 628 | OHVO Enable |
| 631 | Do Not Disturb (Night Mode-Attendant) |
| 632 | Background Music |
| 633+[ZZ] | Personalized Messages |
| 633+[00] | Clear Personalized Messages |
| 634 | Headset Mode |
| 635 | ICLID Unanswered Calls Display |
| 636+[XXX] | Station Relocate |
| 638+[0] | Handset Receiver Gain w/display |
| **639** | **Incoming CO Call Transfer (FP3)** |
| FWD | All Call Forward |
| [FWD]+[7] | No Answer - Call Forward |
| [FWD]+[8] | Busy - Call Forward |
| [FWD]+[9] | Busy/No Answer - Call Forward |
| [FWD]+[*] | Off-Net - Call Forward |
| **648+[#, *]** | **Keyset Mode (PCI Phone) (FP3)** |
| 680 | Dial Speed Directory |
| 690 | Name in Display Programming |
| 691+[BB] | Off-Hook Preference Programming |
| 692 | Time & Date Programming (1st programmed Attendant) |
| 693 | Directory List program code |
| 694 | Custom Message(s) program code |
| 695 | Distinctive Ringing |
| 70 | All Call Page (Internal & External) |
| 71 | Internal Page Zone 1 |
| 72 | Internal Page Zone 2 |
| 73 | Internal Page Zone 3 |
| 74 | Internal Page Zone 4 |
| 75 | Internal All Call Page |
| 76+[0] | External All Call Page (All Zones) |
| 76+[P] | External Page Zones (1-7) |
| 77 | Meet-Me-Page Answer |
| 81 | CO Line Group 1 (if LCR is enabled) |
| 82 | CO Line Group 2 |
| 83 | CO Line Group 3 |
| 84 | CO Line Group 4 |
| 85 | CO Line Group 5 |
| 86 | CO Line Group 6 |
| 87 | CO Line Group 7 |
| 88+[YY] | All CO line Groups (CO Line Off-Net Forward) |
| 9 | LCR or CO Line Group 1 (if LCR is disabled) |
| 0 | Attendant |
| #0 | Group Call Pick Up (Key & SLT) |
| #43+[C] | Call Park Pickup (Key and SLT) |
| **#5** | **Universal Day/Night Answer (FP3)** |
| [SPEED]+[YY] | Speed Dial Access (00-19 Station) (20-99 System) |
| [SPEED]+[*] | Save Number Redial |
| [SPEED]+[#] | Last Number Redial |

XXX = Intercom Station Numbers
YY = Speed Dial Bin numbers
ZZ = Personalized Messages
BB = Button Number
U = ACD* (0-15) or UCD (0-7) Group Number
C = Call Park Location 0-7
H = Hunt Group Number 0-7
V = Voice Mail* Group Number 0-7
P = External Page Zone Number (1-7)

*Features available with optional software.

**Based on the default configuration of 96 CO Lines and 120 Stations. Station numbers 220 through 315 are assigned by increasing the number of KT12 boards and reducing the number of CO12 boards.

### 320.3    ANSWERING AN OUTSIDE CALL

a. Lift handset.

b. Press slow flashing outside line button. (If your telephone is programmed with Preferred Line Answer, you may answer an outside line by lifting the handset.)

### 320.4    PLACING OUTSIDE LINE ON HOLD

a. If your system is programmed for Exclusive Hold Preference, press HOLD button once for Exclusive Hold and twice for System Hold.

b. If your system is programmed for System Hold Preference, press HOLD button once for System Hold and twice for Exclusive Hold.

### 320.5    ADDITIONAL RING MODE (Attendants) (FP3)

This feature provides an additional ring mode that is manually invoked by the attendant. This mode provides a third ring list so that the system has a day, night, and a special mode.

a. Pressing the DND button once activates the night mode (LED solid). Pressing the DND button again activates the special mode (LED flashes 240ipm flutter).

b. The DND button acts as a toggle in this manner: (starting in the day mode) NIGHT-SPECIAL-DAY

Conditions:

- The three attendant stations can invoke or remove this mode. When one attendant station activates this mode, other attendant stations will have their DND button light accordingly.

- Each CO line will have a special mode ring assignment associated with it. Up to 10 stations per CO line may ring in the special mode.

- This feature overrides the day/night scheduler feature.

### 320.6    ANSWERING A RECALLING OUTSIDE LINE

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring.

a. Press outside line button flashing at very fast rate.

b. Lift handset to converse.

### 320.7    ATTENDANT DISABLE OUTGOING ACCESS

The attendant station can disable CO lines, preventing outgoing CO calls.

a. Lift handset or press ON/OFF button.

b. Dial [602] on the dial pad. Confirmation tone is heard.

c. Depress the line button(s) of the CO Line(s) to be disable. Confirmation tone is heard.

d. To re-activate the CO Line(s), repeat steps b. and c.

### 320.8    ATTENDANT DISPLAY (FP3)

The Attendant Display enhancement modifies the way in which multiple CO calls ringing at an Attendant station are displayed. Currently, if two CO calls are ringing at an Attendant station, when the station goes off-hook, the first CO call will be answered. The LCD display will then update to show the second CO call that is ringing which sometimes doesn't allow the station to view the current CO calls' LCD information.

This enhancement will keep the current CO calls' information on the Attendant station display for a programmable period of time and then shows any other CO calls ringing in at the time.

Conditions:

- The LCD of an attendant station answering a call will remain on the display for the timer value. If another call is received after the timer value, the LCD will present the new call to the user.

- This feature applies to the three programmed attendant stations only.

- External calls take precedence over internal calls on the display.

- Calls transferred from one ACD group to another will display the destination ACD group number.

### 320.9    ATTENDANT OVERRIDE

If Attendant Override is allowed, Attendant(s) stations may override or call stations that are either busy or in Do Not Disturb.

If the Attendant calls a station that is busy on a CO call and wishes to alert them of a waiting call:

a. Press the pre-programmed* ATTN OVERRIDE button. Three short tone bursts will be presented to the called party.

b. After five (5) seconds, the station's CO line will automatically be placed on hold and the Attendant will be cut-thru.

If the Attendant calls a station that is in Do Not Disturb mode and wishes to alert them of a call;

a. Press the pre-programmed* ATTN OVERRIDE button. The station will be signaled with a Camp-on tone.

| NOTE | If the station being called by the Attendant is on an internal call, the internal call will be dropped. |

*A Flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

## 320.10 ATTENDANT RECALL

When an outside line has remained on hold for an extended period of time, you will be reminded with a recalling ring.

   a. Press outside line button flashing at a very fast rate.

   b. Lift handset to converse.

## 320.11 ALTERNATE ATTENDANT POSITION (Unavailable) (FP3)

*This feature is available with optional software.*
This feature allows attendant stations to have a button that can place their station in an unavailable mode. When this station is in the unavailable mode, the next attendant station will receive incoming and dial "0" calls. All other available attendants will receive recalls. This feature is based on the three (3) programmed attendant stations.

   a. The first programmed Attendant presses the pre-programmed* Unavailable flexible button,
or
Dials the Attendant Unavailable code [607] on the dial pad. The LED on the flexible button will light solid, if programmed. Recalls and dial "0" calls that were ringing at the first Attendant station now ring at the second and third Attendants. If the second Attendant places their phone in unavailable, the third Attendant will take recall and dial "0" calls.

   b. When the first Attendant presses the pre-programmed* Unavailable flexible button again,
or
Dials the Attendant Unavailable code [607] on the dial pad again. The LED on the flexible button, if programmed, will extinguish. the first Attendant resumes normal operation and the second Attendant will not receive recalls, or dial "0" calls.

Conditions:

   • This feature allows the programmed attendant stations to receive attendant recalls and dial "0" calls only. No other attendant type functions are given to this station when the station is in the attendant mode.

   • If Attendant A (first programmed) is available, incoming, recalls, and dial "0" calls will be directed to this station regardless of other attendant stations status.

   • The special ring mode can be set up so that the alternate attendant does not receive incoming CO ring until the main attendant places their phone in special and unavailable modes.

   • If all attendants in the system are unavailable, no attendants are available for internal/external callers.

   • Recalls will be directed to all programmed available attendants.

## 320.12 DATA FEATURE

The Data Feature is a time division switched, point to point data transmission capability which permits simultaneous voice and data communications (within the same system but not the same port). The Data Feature offers the ability to transmit data information between personal computers, printers, plotters, modems, CRT terminals, and main frame computer ports.

To establish a Data call, a Digital Data Interface Unit (DDIU) is required to be connected to each data communications device. Data information can be switched through the system at speeds of 300, 1200, 2400, 4800, 9600, 19.2K and 38.4K baud asynchronous.

To establish a connection between two DDIU:

   a. The first attendant dials the extension number of one data unit. Dial tone is received and the display will show the BAUD RATE.

   b. The first attendant then dials the station number of the second data unit. Confirmation tone is heard. This connection will be maintained until the first attendant dials the station number of one DDIU followed by pressing the FLASH button.

To break down an established connection:

   a. The first attendant dials one of the DDIU extension numbers
or
Presses the DSS button for the DDIU.

   b. Press the "FLASH" button. The connection is removed.

The first attendant can configure any DDIU by:

   a. Dial the DDIU access code [637] on the dial pad.

   b. Enter the three-digit extension number of the DDIU. The display will show the BAUD rate setting, the data length (8 or 9), and the number of stop bits (1 or 2).

To change the baud rate:

   a. Press the "HOLD" button. Then enter the one-digit baud rate desired.

- [1] = 300
- [2] = 1200
- [3] = 2400
- [4] = 4800
- [5] = 9600
- [6] = 19.2K
- [7] = 38.4K

b. Press the SPEED button to save any changes made.

To change the character length:

a. Press the TRANS button. Then enter the one-digit character length desired, either 8 or 9.

b. Press the SPEED button to save any changes made.

To change the number of stop bits:

a. Press the MUTE button. Then enter the one-digit stop bit desired.

b. Press the SPEED button save any changes made.

Refer to Station Attributes Programming, 630.2, Station Identification for programming the Station ID of the Digital Data Interface Unit (DDIU). Also refer to Sec. 630.3, Digital Data Interface Unit (DDIU) for programming the parameters of the Digital Data Interface Unit (DDIU).

Conditions:

- The system is transparent to the devices being connected. Therefore each DDIU must be configured with a specific baud rate, number of data bits and number of stop bits. This configuration will be done by the first attendant or in the case of an associated data unit can be configured by the user.

- Data ports can be arranged in ACD or UCD Groups, or Hunt Groups.

- Data ports do not have to be associated with a keyset, however to connect two DDIU devices one of them must be associated with a keyset unless the connection is made by the first attendant.

- When the data connection has been completed, the baud rate used in the connection will be displayed on the keyset.

- Non associated DDIU connections can be broken down by the first attendant.

- A DDIU has a DCE interface. Therefore a straight through RS-232C cable can be used to connect to a DTE device (printer, PC, etc.).

- Each DDIU requires a digital terminal port.

## 320.13    DIAL BY NAME

The system will allow station users to dial extension numbers or speed bin by entering a name of a person that has been programmed for that station. The system database will allow entry of a name (alphanumeric) up to 24 characters in length for each station. This programmed name can be used for dialing-by-name station users and in some cases LCD displays.

To dial a station user by name:

a. Dial the Dial-By-Name code [6✱] on the dial pad,
or
press the pre-programmed* DIAL-BY-NAME flex button.

b. Dial the desired person's name using the keys on the key pad. For example: if you wanted to call Linda Murphy, and last names were entering into the directory dialing list, you would press the digit 6 (M), then the digit 8 (U), then the digit 7 (R), the digit 7 again (P), the digit 4 (H) and finally the digit 9 (Y).

| ALPHA NUMERIC CHARACTER | DIGIT |
|---|---|
| A,B,C | 2 |
| D,E,F | 3 |
| G,H,I | 4 |
| J,K,L | 5 |
| M,N,O | 6 |
| P,Q*,R,S | 7 |
| T,U,V | 8 |
| W,X,Y,Z* | 9 |
| *does not appear on dial pad. | |

When the system finds a unique numeric match (MURPHY=687749) to the name being dialed, the call will be placed to the station matching the name. The intercom call will signal the station according to the H-T-P switch setting. If fewer than eight digits are dialed, the numeric match will be dialed after a 10 sec. interdigit time-out occurs, or if a "[#]" (pound), is pressed.

*Refer to Sec. 300.36, Flexible Button Assignment.

Conditions:

- The system will dial the station that matches the dialed name when a unique match is found. If multiple names are located (found) after eight digits, the first one is dialed.

- The names will be entered as a part of the system attributes database. Numbers may be entered as part of a name. To avoid conflicts, all names must have a unique numerical sequence.

## 320.14   DISTINCTIVE RINGING

The tone ring signal used to notify stations of an incoming call can be changed by each station user to provide distinctive ringing among a group of stations. Each station user may select a distinctive ringing tone that will be used to ring their station. The system provides 81 different ring patterns that each station user may select from.

To select a distinctive ring tone for a station:

   a. Dial the Tone Ring program code [695] on the dial pad. The following message is shown on the LCD phone:

| ENTER RING TONES      00-88 |
| XX PRESS SPEED TO SAVE |

   b. Enter the two-digit tone number. The telephone speaker will sound a steady tone that correlates to the two digit entry.

   c. When the desired tone is selected, press the SPEED button to save this as the tone to be presented when the station is tone rung. Confirmation tone will be heard. This tone will be presented as a result of an incoming CO or intercom call, recalling CO line or Transferred CO line or at any other time the station is tone rung. The two-digit tone number will be displayed in the lower left corner of the LCD display.

The 81 ringing choices are as follows:

| TONE # | FREQ | DURATION |
|---|---|---|
| 00 | 1209/1477 | 50ms/50ms |
| 01 | 697/770 | 50ms/50ms |
| 02 | 697/852 | 50ms/50ms |
| 03 | 697/941 | 50ms/50ms |
| 04 | 697/1209 | 50ms/50ms |
| 05 | 697/1336 | 50ms/50ms |
| 06 | 697/1477 | 50ms/50ms |
| 07 | 697/1633 | 50ms/50ms |
| 08 | 697/OFF | burst |
| 10 | 770/697 | 50ms/50ms |
| 11 | 770/770 | 50ms/50ms |
| 12 | 770/852 | 50ms/50ms |
| 13 | 770/941 | 50ms/50ms |
| 14 | 770/1209 | 50ms/50ms |
| 15 | 770/1336 | 50ms/50ms |
| 16 | 770/1477 | 50ms/50ms |
| 17 | 770/1633 | 50ms/50ms |
| 18 | 770/OFF | burst |
| 20 | 852/697 | 50ms/50ms |
| 21 | 852/770 | 50ms/50ms |
| 22 | 852/852 | 50ms/50ms |
| 23 | 852/941 | 50ms/50ms |

| 24 | 852/1209 | 50ms/50ms |
|---|---|---|
| 25 | 852/1336 | 50ms/50ms |
| 26 | 852/1477 | 50ms/50ms |
| 27 | 852/1633 | 50ms/50ms |
| 28 | 852/OFF | burst |
| 30 | 941/697 | 50ms/50ms |
| 31 | 941/770 | 50ms/50ms |
| 32 | 941/852 | 50ms/50ms |
| 33 | 941/941 | 50ms/50ms |
| 34 | 941/1209 | 50ms/50ms |
| 35 | 941/1336 | 50ms/50ms |
| 36 | 941/1477 | 50ms/50ms |
| 37 | 941/1633 | 50ms/50ms |
| 38 | 941/OFF | burst |
| 40 | 1209/697 | 50ms/50ms |
| 41 | 1209/770 | 50ms/50ms |
| 42 | 1209/852 | 50ms/50ms |
| 43 | 1209/941 | 50ms/50ms |
| 44 | 1209/1209 | 50ms/50ms |
| 45 | 1209/1336 | 50ms/50ms |
| 46 | 1209/1477 | 50ms/50ms |
| 47 | 1209/1633 | 50ms/50ms |
| 48 | 1209/OFF | burst |
| 50 | 1336/697 | 50ms/50ms |
| 51 | 1336/770 | 50ms/50ms |
| 52 | 1336/852 | 50ms/50ms |
| 53 | 1336/941 | 50ms/50ms |
| 54 | 1336/1209 | 50ms/50ms |
| 55 | 1336/1336 | 50ms/50ms |
| 56 | 1336/1477 | 50ms/50ms |
| 57 | 1336/1633 | 50ms/50ms |
| 58 | 1336/OFF | burst |
| 60 | 1477/697 | 50ms/50ms |
| 61 | 1477/770 | 50ms/50ms |
| 62 | 1477/852 | 50ms/50ms |
| 63 | 1477/941 | 50ms/50ms |
| 64 | 1477/1209 | 50ms/50ms |
| 65 | 1477/1336 | 50ms/50ms |
| 66 | 1477/1477 | 50ms/50ms |
| 67 | 1477/1633 | 50ms/50ms |
| 68 | 1477/OFF | burst |
| 70 | 1633/697 | 50ms/50ms |
| 71 | 1633/770 | 50ms/50ms |
| 72 | 1633/852 | 50ms/50ms |
| 73 | 1633/941 | 50ms/50ms |
| 74 | 1633/1209 | 50ms/50ms |
| 75 | 1633/1336 | 50ms/50ms |
| 76 | 1633/1477 | 50ms/50ms |
| 77 | 1633/1633 | 50ms/50ms |
| 78 | 1633/OFF | burst |

| 80 | OFF/697 | burst |
|---|---|---|
| 81 | OFF/770 | burst |
| 82 | OFF/852 | burst |
| 83 | OFF/941 | burst |
| 84 | OFF/1209 | burst |
| 85 | OFF/1336 | burst |
| 86 | OFF/1477 | burst |
| 87 | OFF/1633 | burst |
| 88 | No ring | No ring |

Conditions:

- Station users may listen to all tones by dialing the two-digit codes one after another. The tone that is sounding when the SPEED button is pressed will be saved as that station's tone ringing selection.

- A station's tone ringing selection will be maintained in a battery protected area of memory. Therefore if a system experiences a power failure, or a soft or hard restart, a station's tone ringing selection will be restored.

- The tone selected will be used to provide "TONE" ringing normal or muted to the station whenever the station is commanded to tone ring. (i.e. this does not apply to camp-on tone programming confirmation tone or other specific tones that are not considered "TONE" ringing.)

- The selected tone will be used to notify the station in the following cases:
  - Incoming CO Call
  - Incoming Intercom Call
  - Transferred CO Line
  - Recalling CO Line
  - Call Back Notification
  - Message Wait Call Back
  - All types of forwarded calls
  - Executive/Secretary calls
  - Line Queue Call Back
  - LCR Queue Call Back

### 320.15    EXECUTIVE OVERRIDE

Allows stations designated as "Executive" the ability to override and "barge in" on other keysets engaged in conversation.

If you call a busy station:

a. Press pre-programmed* EXECUTIVE OVERRIDE button. Executive station will be bridged onto the CO conversation in progress at the called station. Optional warning tone is heard and presented to all parties prior to cut-thru.

b. Replace handset at Executive station to terminate the override.

*Refer to Sec. 300.36, Flexible Button Assignment.

| CAUTION |
|---|
| USE OF THIS FEATURE WHEN THE EXECUTIVE OVERRIDE WARNING TONE IS DISABLED MAY BE INTERPRETED AS A VIOLATION OF FEDERAL OR STATE LAWS, AND AN INVASION OF PRIVACY. CONSULT COUNSEL WITH RESPECT TO APPLICABLE LAWS BEFORE INTRUDING ON CALLS USING THIS FEATURE. |

> **NOTE** *A change in volume may occur on the CO line or intercom call after the barge-in occurs.*

### 320.16    HANDSET RECEIVER GAIN

This feature provides the Attendant station with a flexible button that can be programmed on their keyset. When programmed, allows the user to increase/decrease the handset receiver gain while on a CO call or intercom call.

While on a CO call:

a. Press pre-programmed* Handset Receiver Gain flex button to enter the volume adjustment mode.

b. Dial a one-digit entry [0] through [9] (0=lowest, 9=highest) on the dial pad,
   or
   Press the [#] to increase or [*] to decrease one level at a time.

c. Two volume settings are stored in the system. One level for CO calls, another level for intercom calls. The LCD will display the settings as they occur, if the flex button was programmed using the code [638]+[0].

d. Press pre-programmed* Handset Receiver Gain flex button again to exit the volume adjustment mode.

> **NOTE** *When the above procedure is used, your transmit path is momentarily interrupted when the dial pad button is depressed.*

- A flex button can be programmed to decrease the Handset Receiver Gain using the code [638]+[*].

- Another flex button can be programmed to increase the Handset Receiver Gain using the code [638]+[#].

- A flex button can also be programmed to have a certain volume setting using the code [638]+[0 thru 9].

*A Flex button must be programmed for this feature to operate. Refer to Sec. 300.36, Flexible Button Assignment.

### 320.17 ICLID UNANSWERED CALL MANAGEMENT TABLE

An Unanswered Call Management Table with 100 entry capacity for the Starplus SPD 4896 system is maintained in the system. The calling number/name information pertaining to any unanswered call will be placed in this table at the time the system has determined that the call has been abandoned.

This table may be interrogated from any station user so that the unanswered calls may be reviewed and handled by the end user. Upon entry into the review process, the functions available to a phone are:

| Function | Function Button |
|---|---|
| 1. Go to beginning of table | Dial Code 635 |
| 2. Review next item in this table entry | MUTE |
| 3. Step to next table entry. | HOLD |
| 4. Delete this table entry. | FLASH |
| 5. Exit table review function. | ON/OFF |
| 6. Step to previous table entry. | TRANS |
| 7. Call Back | SPEED |

To interrogate the ICLID Unanswered Call Management Table from any station in the system:

a. Dial the access code [635] on the dial pad.

b. When the desired table entry is displayed on the LCD, press the SPEED button to automatically dial the table entry.

To review the next item in this entry:

a. Press the MUTE button to toggle to the next item.

b. Press the ON/OFF button to exit the review function.

To review the next table entry:

a. Press the HOLD button.

To review the previous table entry:

a. Press the TRANS button.

Any Attendant station can delete an individual table entry.

At the Attendant station:

a. Dial the access code [635] on the dial pad.

b. When the desired table entry is displayed on the LCD, press the FLASH button to delete this entry.

To review the next table entry:

a. Press the HOLD button.

To review the previous table entry:

a. Press the TRANS button.

### 320.18 INTERCOM CALLING

Placing an Intercom Call

a. Press station key of party to be called (if programmed at your phone); or dial station number.

b. You will hear ringing if called station is in the "T" answering mode; or two bursts of tone if called station is in the "H" or "P" position.

c. Lift handset or use speaker-phone, when tone bursts stop.

d. Hang up to end call.

Answering an Intercom Call

With your intercom signal switch in the "T" mode, you will hear repeated bursts of intercom tone ringing and the HOLD button will slow flash.

a. Lift handset or press ON/OFF button to answer.

b. Hang up to end call.

In the "P" mode, you will hear two bursts of tone and one-way announcement. The HOLD button will slow flash and the calling party cannot hear conversations in progress.

In the "H" mode, you will hear two bursts of tone and an announcement. Reply handsfree or lift handset for privacy.

### 320.19 INCOMING CO LINES OFF-NET (via speed dial)

Allows the first attendant station to forward incoming CO calls to an off-net location.

In a speed dial bin, store the number of the off-net location where calls are to be forwarded. Follow instructions provided for storing station or system speed dial numbers.

a. Dial [603] on the dial pad,
or
Press pre-programmed* CO Off-Net Forward button.

b. Dial the CO group access code of the group to be forwarded,
or
Press the CO Line button for an individual CO Line for Off-Net forward.
   - [81] = CO Group 1
   - [82] = CO Group 2
   - [83] = CO Group 3
   - [84] = CO Group 4
   - [85] = CO Group 5
   - [86] = CO Group 6
   - [87] = CO Group 7
   - [88] = All CO Line

c. Dial the speed bin number that contains the number where calls are to be forwarded. Confirmation tone is heard.

*Refer to Sec. 300.36, Flexible Button Assignment.

Canceling Off-Net Forwarding

a. Dial [603] on the dial pad,
or
Press pre-programmed* CO Off-Net Forward button.

b. Dial the CO group access code,
or
Press the CO Line button.

c. Dial [#] on the dial pad. Confirmation tone is heard.

## 320.20    KEYSET SELF TEST

The Starplus Digital Key System contains a test mode feature that supports the off line testing of Digital keysets and DSS units. The term off line means that the unit under test is disconnected from the switch during the test operation. Keysets not under test continue to operate in the normal manner. Tests are provided to verify the keyset and DSS LED, LCD, and keyboard button operations.

a. The test mode is entered by taking a keyset's handset off hook.

b. Press the SPEED button and dial [7#] on the dial pad. This keystroke sequence disconnects the keyset from the system and brings up the Test Mode Menu on the keyset's LCD. The test mode is exited by putting the handset back on hook. This reconnects the keyset to the system.

```
SELECT 1:LCDLED 2:KEYBTN
3:DSSBTN
```

Test Mode Menu: The menu allows the operator to select a test mode by pressing the mode number at the dial pad. The operator can always return to the main test menu by pressing [##].

### A.    Keyset LCD/LED Test

This test outputs a series of continuously repeated LCD string messages to LCD lines 1 and 2. The set of strings consists of the letters 'A' through 'X' and 'a' through 'x'. The next set of strings are:

```
"PICKUP TRUCK SPEED ZONE!"
"*** STANDING BACK ***"
```

- The strings are alternately displayed on lines 1 and 2 of the LCD display.

- In addition, all the LEDs are flashed at the rate of 15 IPM.

### B.    Keyset Button Test

a. Pressing a keyset button turns on the LED and displays an LCD message identifying the key number.

```
PRESS KEYSET BUTTONS
*******            *******
```

In addition switching the "HTP" switch from one position to another will cause the word "H_POS", "T_POS", or "P_POS" to be displayed.

b. Pressing dial pad keys displays an LCD message that indicates which digit was pressed.

c. LEDs can be tested independently of the KEYS by pressing the flex LED number at the dial pad. For example, LED 10 is turned on by pressing dial pad digits "1" "0". As each set of new numbers is entered the previously lit LED is turned off and the new LED is turned on. Invalid flex values (ex. 00,99) turn off currently lit LED.

### C.    DSS LED/Button Test

When the DSS test is selected and a DSS test is invoked ALL DSSs associated with the keyset running the test are placed in test mode.

```
PRESS DSS BUTTONS
*******            *******
```

If no DSS unit is associated with the keyset, the keyset display will indicate "NO DSS". The DSS LED test will cause all the LEDs to flash at a 15 IPM rate. Once started the DSS LED test will continue until a DSS flex button is depressed. Pressing a DSS flex button turns on the flex key LED and displays an LCD message on the associated keyset identifying the flex key number (01 to 48). In addition, it turns off the previously selected flex LED.

Conditions

- Test mode interrupts the normal operation of a keyset or DSS.

## 320.21    MESSAGES - CUSTOM

This feature allows the system administrator to enter up to ten custom messages for use by station users of the system. These messages may be specified and customized by the customer on a system wide basis.

A station wishing to select a message:

a. Dial the Message Code [633] on the dial pad,
or
press the pre-programmed Message Access flexible button.

b. Enter the two-digit Custom Message bin number and hang up.

Example: [633]+[21-30] means that a telephone calling the station will receive the custom message programmed at the attendant station by the system administrator.

*Refer to Sec. 300.36, Flexible Button Assignment.

To cancel the message:

a. Dials the Message Access Code [633] + [00] and hang up.

The system administrator (Station 100) programs the ten custom messages at the first attendant station as follows:

a. Dial the Custom Message program code [694] on the dial pad.

The following message is shown on the display phone:

```
          ENTER MSG NO
MM/DD/YY                    HH:MM am
```

b. Enter the two-digit message bin number [21 - 30].

Then the following display will be shown after the bin # has been selected.

```
        mmmmmmmmmm...
        ENTER MSG:
```

c. Enter the custom message using the dial pad keys to enter the letters as follows:

| A =21 | M =61 | 1 =1# | " =01 |
|-------|-------|-------|-------|
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |
| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |
| K =52 | W =91 | Space =11 | + =#3 |
| L =53 | X =92 | : =12 | = =#4 |
|       | Y =93 | - =13 | # =## |
|       | Z =94 | ' =14 |       |

Up to 24-characters may be entered as the custom message (this will represent 48 digits entered).The actual Alpha-Numeric characters will be displayed as the digits are being entered while programming the messages. The attendant must go idle after programming a message before another message may be programmed.

d. The user then presses the HOLD button to enter the message and confirmation tone will be heard.

Conditions:

- The telephone receiving the message must be a display telephone.

- Both key telephones and SLT can leave the message. SLT's are notified that they have left a message with a warning tone when going off-hook.

- Incoming and outgoing calls are not inhibited in any way with a message displayed.

- When a message is displayed by a key telephone, the DND button LED flashes at the 15 ipm rate.

- When DND is invoked on the telephone, the message is canceled.

- Message Access (with a desired message) may be assigned to a flex button.

- Message status is stored in battery protected area of memory for retention across a power failure or system reset (soft or hard).

- The function of Message Access is assigned to a station flexible button in database admin.

- A station user may store any of the available messages under a flexible button assigned as a Message Access button.

- The ten Custom Messages will be displayed in a similar fashion as the "Canned" messages. The idle station display will show the message that has been activated at the station and a calling station will receive the STA XXX or name-in-display followed by the programmed custom messages.

### 320.22    DIRECTORY DIALING - Attendant

Directory dialing allows station users to obtain a directory of station users and have the system dial the extension that is currently on the display. The Starplus SPD 4896 system provides locations for up to 200 names.

Directory dialing also allows users to program a "name" along with a speed dial bin for use in later locating a speed dial number. When prompted to do so, the system will display the name associated with a speed dial number on the LCD display so that when the desired name is shown, the user may then have the system dial the number.

Directory dialing also allows users to associate a "name" with an entry in the local number/name trans-

lation table. When prompted to do so, the system will display the name associated with the table on the LCD display so that when the desired name is shown, the user may then have the system dial the number. The Starplus SPD 4896 system provides locations for up to 200 names.

The Directory Dialing list may be programmed and maintained at the first assigned attendant station in one of two ways, however this admin routine provides a means for the directory list to be maintained by the system programmer either locally (at Station 100) or remotely via modem access.

Directory dialing may also be used to transfer a call from one station to another.

To view the directory list:

a. Dial the Directory List dial code [680] on the dial pad,
   or
   press the pre-programmed* flex button programmed as a directory dialing button.

b. Press a button on the key pad, once, twice or three times, to represent the letter of the alphabet, to begin viewing the list of names. (i.e. the first depression of the digit 2 produces the names beginning with an "A". The second depression of the digit 2 produces the names beginning with a "B", while the third depression of the digit 2 produces the names beginning with a "C".) The letters of the alphabet are represented on the key pad as follows:

| ALPHA NUMERIC CHARACTER | DIGIT |
|---|---|
| A,B,C | 2 |
| D,E,F | 3 |
| G,H,I | 4 |
| J,K,L | 5 |
| M,N,O | 6 |
| P,Q*,R,S | 7 |
| T,U,V | 8 |
| W,X,Y,Z* | 9 |
| *does not appear on dial pad. | |

c. Names beginning with the letter chosen will appear on the LCD display.

> **NOTE** *If there are no names in the Directory List beginning with the desired letter, a name with the next higher letter will be shown on the LCD display.*

d. Dial an [*] on the dial pad to scroll up (next entry) through the list,
   or
   Dial a [#] on the dial pad to scroll down (previous entry) through the list,
   or

Press another key to view the list for a different letter of the alphabet.

e. When the desired name is shown in the LCD display, pressing the SPEED button will automatically dial the destination station or outside phone number (via speed dial).

Conditions:

• If the desired party is an intercom station, that station will be signaled according to that station's intercom selector switch (SLT stations will tone ring).

• If the desired party is associated to a speed dial bin, the system will select a CO line and dial the number programmed into the speed dial bin. Call progress tones will then be heard.

To Transfer a Call using Directory Dialing:

While on a call;

a. Press the TRANS button.

b. Dial the Directory Dial Code [680] on the dial pad,
   or
   press a pre-programmed* flex button programmed for directory dialing.

c. Press the SPEED button to automatically dial the destination station.

d. Hang up to complete the transfer.

> **NOTE** *Calls may only be transferred to internal stations only. An attempt to transfer a call off-net (via a Speed dial bin) will result in the call recalling upon going on-hook.*

## A. Programming - Attendant

Directory dialing allows station users to obtain a directory of station users and have the system dial the extension that is currently on the display. The Starplus SPD 4896 system provides locations for up to 200 names.

Directory dialing also allows users to program a "name" along with a speed dial bin for use in later locating a speed dial number. When prompted to do so, the system will display the name associated with a speed dial number on the LCD display so that when the desired name is shown, the user may then have the system dial the number.

Directory dialing also allows users to associate a "name" with an entry in the local number/name translation table. When prompted to do so, the system will display the name associated with the table on the LCD display so that when the desired name is shown, the user may then have the system dial the number. The Starplus SPD 4896 system provides locations for up to 200 names.

The Directory Dialing list may be programmed and maintained at the first assigned attendant station in one of two ways, however this admin routine provides a means for the directory list to be maintained by the system programmer either locally (at Station 100) or remotely via modem access.

Directory dialing may also be used to transfer a call from one station to another.

**Method One:**

To enter, edit or erase names that appear in the Directory List for stations or speed dial numbers:

a. Dial the Directory List program code [693] on the dial pad. The first entry (entry 000) in the Directory List will then be shown on the display phone as follows:

> ## DIR LST AAA BIN/ICM: XXX
> nnnnnnnnnnnnnnnnnnnnnnnn

- AAA = Directory List entry number (000-199)
- XXX = Either a Station Number, System Speed dial bin Number, or Local Number/Name Translation Table number
- nnn = Programmed Name (blank if none)

To Select a different entry in the Directory List:

a. Press the HOLD button.

b. Enter the three-digit entry number (000-199) on the dial pad and press the SPEED button,
   or
   dial [*] to scroll up (next entry) through the list,
   or
   Dial [#] to scroll down (previous entry) through the list.

To Enter or Change the current name shown on the display:

a. Press the MUTE button.

b. Enter the name (up to 24-characters may be entered) by using keys on the dial pad as follows:

| A =21 | M =61 | 1 =1# | " =01 |
|-------|-------|-------|-------|
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |
| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |
| K =52 | W =91 | Space =11 | + =#3 |
| L =53 | X =92 | : =12 | = =#4 |

| | Y =93 | - =13 | # =## |
|---|-------|-------|-------|
| | Z =94 | ' =14 | |

c. Press the SPEED button when finished. Confirmation tone will be heard and the display will update.

To enter the intercom number to be associated to the name:

a. Press the TRANS button.

b. Enter the three-digit station intercom number.

c. Press the SPEED button to save the entry. Confirmation tone will be heard and the display will update.

To clear an entry:

a. Press the TRANS button. Then press the FLASH button.

b. Press the SPEED button. Confirmation tone will be heard and the entry will be erased.

**Method Two:**

This method may be used to enter names that will be associated to the Local Number/Name Translation Table only.

To Select a different entry in the Directory List:

a. Press the HOLD button.

b. Enter the three-digit entry number (000-199) on the dial pad and press the SPEED button,
   or
   dial [*] to scroll up (next entry) through the list,
   or
   Dial [#] to scroll down (previous entry) through the list.

To enter a name along with a local number/name translation table number:

1. Press the TRANS button.

2. Dial the three-digit local number/name translation table number (320-519) that represents the desired telephone number.

To Enter or Change the current name shown on the display:

1. Press the MUTE button.

2. Then enter the name (up to 24-characters may be entered) by using keys on the dial pad as follows: The display will update as the name is entered.

| A =21 | M =61 | 1 =1# | " =01 |
|-------|-------|-------|-------|
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |

| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |
| K =52 | W =91 | Space =11 | + =#3 |
| L =53 | X =92 | : =12 | = =#4 |
|  | Y =93 | - =13 | # =## |
|  | Z =94 | ' =14 |  |

3. Press the SPEED button when finished. Confirmation tone will be heard.

> **NOTE**
> The Local Number/Name Translation Table can be used to enter additional speed dial numbers which can be used for directory dial or dial by name. The name entered into the local number/name translation table is not relevant when used with directory dialing and dial by name. In addition, it should be noted that the numbers entered into this table are limited to 14 digits and will be covered by toll restriction rules.

**Method Three:**

This method may be used to enter names that will be associated to a system speed dial bin only.

To enter a name along with a system speed dial number:

1. Press the SPEED button once.

2. Press a desired outside line key;
   or
   Press the SPEED button a second time to have an outside line selected automatically.

3. Dial the system speed dial bin location (20 to 99).

4. Dial the telephone number (including special characters TRANS, HOLD and FLASH).

5. Press the SPEED button to store the telephone number.

To enter a name:

1. Press the MUTE button.

2. Enter the name (up to 24 characters may be entered) by using keys on the dial pad as follows:

| A =21 | M =61 | 1 =1# | " =01 |
| B =22 | N =62 | 2 =2# | , =02 |
| C =23 | O =63 | 3 =3# | ? =03 |
| D =31 | P =71 | 4 =4# | / =04 |
| E =32 | Q =74 | 5 =5# | ! =*1 |
| F =33 | R =72 | 6 =6# | $ =*2 |
| G =41 | S =73 | 7 =7# | & =*4 |
| H =42 | T =81 | 8 =8# | * =*# |
| I =43 | U =82 | 9 =9# | ( =#1 |
| J =51 | V =83 | 0 =0# | ) =#2 |
| K =52 | W =91 | Space =11 | + =#3 |

| L =53 | X =92 | : =12 | = =#4 |
|  | Y =93 | - =13 | # =## |
|  | Z =94 | ' =14 |  |

3. Press the SPEED button when finished. Confirmation tone will be heard and the display will update.

4. Either hang up to end programming or begin at step "2" to program another System Speed Dial bin/Name combination.

### 320.23 NIGHT SERVICE

Any designated attendant can place the system into Night Service by:

a. Pressing the pre-programmed Night Service button (DND) once activates the night mode (LED solid). Pressing the DND button again activates the special mode (LED flashes at 240 ipm)

b. The DND button acts as a toggle in this manner, starting in the day mode, night mode, and special mode.

### 320.24 OFF-HOOK VOICE OVER (OHVO) (FP3)

This feature allows users, off-hook on a call (CO or Intercom), to receive a voice announcement through the handset receiver without interrupting the existing call. The Voice Over is muted so as not to "override" or "drown" out the existing conversation. The overridden party may then respond to the calling party using CAMP-ON procedures to talk to the calling party or may use Silent Text Messaging to respond to the calling party via LCD Displays.

Placing an Off-Hook Voice Over (OHVO) call:

a. When an OHVO station calls a busy OHVO station, and busy tone is received, the calling OHVO station can dial the OHVO code [628] on the dial pad,
   or
   press a pre-programmed* OHVO button to initiate an OHVO announcement. The HOLD button LED will flash at the called OHVO station.

b. The OHVO receiving station will receive a one-beep warning tone. The station receiving the OHVO call must be off-hook and in the "H" mode, and then the calling OHVO party may begin the voice announcement to the called OHVO party. The called OHVO station's existing conversation will not be interrupted and the voice over announcement will not "drown" out the existing conversation. The calling OHVO station will not be connected to or otherwise be able to hear the called station's conversation (the connection will only allow the calling station to transmit to the called station).

> **NOTE**
> *The calling station is placed in a one-time DND mode upon initiating the Voice Over. One-Time DND cannot be toggled during the OHVO call. The station receiving the OHVO call must be off-hook and in the "H" mode.*

Responding to an Off-Hook Voice Over (OHVO):

After receiving an OHVO announcement, three options are available to respond to the calling party;

- Option 1: The OHVO receiving station may respond to the calling OHVO station by using the Camp-On feature. The OHVO receiving station presses the flashing HOLD button to consult with the calling station. The existing call (CO line) goes on Exclusive Hold automatically. This method, then follows Camp-On procedures and operation.

- Option 2: The OHVO receiving station may respond to the calling station by using the Silent Text Messaging (this feature is only available to digital key terminals, and the calling station must be a digital display terminal.) The OHVO receiving station may press a pre-programmed Message button to respond to the voice over announcement without being released from the current call, (i.e. by pressing a flex button pre-programmed for the message "IN MEETING"), the calling station will receive this message on the calling station's LCD display.

- Option 3: The OHVO receiving station may respond to the calling station by using the MUTE button. The OHVO receiving station can then speak to the station that initiated the OHVO. The called station can still hear their existing call. The MUTE button acts like a push-to-talk button for the OHVO receiving station to talk with the OHVO initiator. The OHVO receiving station must toggle the MUTE button [ON] to talk and [OFF] to listen to the OHVO originator. This enhancement applies to CO calls only. OHVO calls to stations on intercom calls maintain the present operation.

> **NOTE**
> *If the call is an intercom call, the intercom call will be dropped and an intercom call will be established between the calling and called stations*

Conditions

- The station receiving the OHVO call MUST be off-hook and in the "H" mode.

- The receiving station must have OHVO enabled.

- When the dialed station responds via Camp-On all conditions and options available to Camp-On apply (refer to the feature description for Camp-On).

- OHVO may be used to notify the called party of a transferred call (CO Line or Intercom) by announcing the call, then releasing to complete the transfer. When this occurs, the receiving station does not need to respond to the OHVO.

- When a call is transferred via OHVO, the receiving station will receive muted ringing after the transfer is complete.

- Any messages including "CANNED", "CUSTOM", or "SILENT RESPONSE" text messaging may be used to respond to an OHVO call. The message will appear on the calling station and called station LCD displays.

- If the calling station is a non-LCD terminal, the called station will receive error tone when responding via text messaging.

- The called station may press a flex button programmed as a Text Message button, [633+#]. This flex button can be pressed and two-digit message number (31-51) dialed to respond to the calling station. DTMF digits will not be heard by either party.

- The receiving station must be programmed to allow OHVO calls.

- When silent messaging is used to respond to an OHVO call, the existing call on the called station will not be disconnected, while the messages are being sent to the calling station.

- The calling station of an OHVO call must remain off-hook to receive silent messages. The calling station's voice transmit will remain connected to the called station and may respond verbally to the text messages. The OHVO call ends when the calling station goes on-hook.

- If the receiving station is on-hook in speakerphone mode and a calling party initiates OHVO, the receiving station will receive a Camp-On warning tone and normal Camp-On procedures are followed.

- The called station may send (multiple messages) and even after sending a message, may press the Camp-On button to talk to the calling station. Each time a message is sent, the splash tone will be heard and both displays will be updated.

- LEDs will follow Camp-On LED lamping sequences.

- OHVO will not work if the busy station is in the group listening mode.

Each station can be programmed to allow receiving OHVO calls as part of Station Programming. Each station may be programmed for OHVO in one of two ways, as follows:

- OHVO disallowed (may not receive OHVO calls).
- May receive OHVO calls.

## 320.25    SETTING SYSTEM TIME AND DATE

Must be set by the first programmed attendant.

a. Dial [692] on the dial pad. Confirmation tone is heard.

b. Enter date and time as follows:

YYMMDDHHMM

- [YY] = year (00-99)
- [MM] = month (01-12)
- [DD] = day (01-31)
- [HH] = hour (00-23)
- [MM] = minute (00-59)

When the correct number of digits are entered, confirmation tone will be heard and the display will update.

## 320.26    STORING SYSTEM SPEED NUMBERS

System Speed numbers must be entered by the first programmed attendant. If no attendant is specified, enter at Station 100.

a. Press SPEED once, then press a desired outside line key or select an outside line automatically by pressing the SPEED button a second time.

b. Dial the System speed bin location (20 to 99).

c. Dial telephone number.

d. Press the SPEED button.

e. Hang up.
- Pressing the TRANS button during number entry initiates a Pulse-To-Tone switchover. Pressing the HOLD button during number entry inserts a Pause. Pressing the FLASH key inserts a Flash into the speed number.
- Pressing the TRANS button as the first entry in the speed bin inserts a no-display character causing the numbers stored in the bin not to appear on the Digital Terminals display when the bin is accessed.

Speed Bin numbers 60-99 are NOT monitored by Toll Restriction.

## 320.27    TEXT MESSAGING (Silent Response)

This feature allows a station user to use text messages to respond to a caller that has either Camped-On or has used the Off-Hook Voice Over feature to alert a busy station user of a waiting call or message. The "camped-on" station may respond to the caller

via the canned, custom, and silent response text (LCD) messages. The text messages appear on the calling party LCD Display.

While receiving a Camp-On, or OHVO call:

a. The called party may press a flexible button programmed for message access, then dial the two digit message code (or press a pre-programmed flex button for a particular message). Example : [633] + [38] means that a telephone calling the station will receive the message "WHO IS IT?".

The additional messages (with their codes) listed below can also be sent as a text response:

- [31] = I WILL TAKE CALL
- [32] = TAKE MESSAGE
- [33] =TRANSFER TO SECRETARY
- [34] = PUT CALL ON HOLD
- [35] = CALL BACK
- [36] = ONE MOMENT PLEASE
- [37] = I WILL CALL BACK
- [38] = WHO IS IT?
- [39] = IS IT LONG DISTANCE?
- [40] = IS IT PERSONAL?
- [41] = IS IT AN EMERGENCY?
- [42] = IS IT IMPORTANT?
- [43] = IS IT URGENT?
- [44] = SEND CALL TO VOICE MAIL
- [45] = PARK CALL
- [46] = OUT OF OFFICE
- [47] = PUT CALL THROUGH
- [48] = I AM BUSY
- [49] = O.K.
- [50] = NO
- [51] = YES

Conditions:

- If the station receiving the text message response was doing a camp-on he will first receive a short burst of tone on the speaker, then the display will show the message that has been activated by the called station.

- If the station receiving the text message response is on an OHVO call, no tone will be received.

- All canned and custom messages may be used to respond to a calling party.

- Text response messages will automatically clear when the calling station (station receiving the messages) goes on-hook.

- A station can receive only one message at a time.

- Text messages may be chained (i.e. multiple messages sent to one caller).

- Text message responses may only be activated by key stations and the receiving station must be a Digital Display telephone.

- The text message responses will appear on both the calling station and the called station (station activating) text responses) LCD displays.

- If the calling station is a non-LCD terminal, the called station will receive error tone when responding via text messaging.

- The called station may press a flex button programmed as a Text Message button, [633+#]. This flex button can be pressed and two-digit message number (31-51) dialed to respond to the calling station. DTMF digits will not be heard by either party.

- When silent messaging is used to respond to a call, the existing call of the called station will not be disconnected while the messages are being sent to the calling station.

- The calling station must remain off-hook to receive silent messages.

- If the called station responds with a text message, the text message will appear on the LCD.

- LEDs will follow that of the CAMP-ON or OHVO.

- Each individual message may be programmed onto a flexible button including a flex button on a DSS/BLF console.

NOTE The calling station must be a digital display telephone and the called station must be a keyset.

## ATTENDANT with DSS/DLS FEATURES

The attendant console may be programmed in one of five different ways. Therefore, you may not have all of the features listed below on your console. Refer to Sec. 220.17 for a description of each map.

### 320.28    ATTENDANT TRANSFER SEARCH
When attempting to locate a party:
a. Press a station button to signal that station. If the party is not located, press another station button to continue the search.

### 320.29    PLACING AN OUTSIDE CALL (Automatic Line Selection)
a. Press outside line button. ON/OFF button LED will light and dial tone will be heard.
b. Dial desired party.

c. When called party answers, lift handset to converse or use speakerphone

### 320.30    CALL PARK
While connected to an outside line:
a. Press programmed CALL PARK button. The caller is put on Exclusive hold.
b. At this time, you can page or call another internal station.
c. When the party you called responds, announce the call park location and replace handset.

### 320.31    DO NOT DISTURB INDICATION
The associated station button will flash at a medium rate to indicate that a station is in Do Not Disturb.

### 320.32    RETRIEVING A PARKED CALL
a. Lift handset or press ON/OFF button.
b. Dial [#] on the dial pad.
c. Dial the parking location (430 to 437) where the call was parked.

### 320.33    CALL TRANSFER
Outside lines can be transferred from one phone to another within the system. The transfer can be either screened (announced) or unscreened to either an idle or busy station.

Screened Transfer:
While connected to an outside line:
a. Press station button where call is to be transferred (if programmed on your telephone), or press TRANS button and dial station number.
b. The called extension signals according to the intercom signal switch position.
c. When that extension answers, announce the transfer.
d. Hang up to complete transfer.

NOTE If Direct Transfer Mode is enabled in admin programming, the supervised transfer will be transferred directly to the key station handset.

Answering a Screened Transfer
a. Your intercom will be signaling according to the intercom signal switch position.
b. Answer the intercom and receive the transfer notice;
c. Press the outside line button or loop button flashing on hold.

Unscreened Transfer:
When the called extension begins to signal, hang up to transfer the call (Recall timer starts).

Transfer Search:

When attempting to locate a party:

   a. Press a station key to signal a station.

If the party is not located:

   b. Press another station key to continue the search.

   c. When the called party answers, hang up to complete the transfer.

### 320.34   CAMP-ON

While connected to an outside line:

   a. Press desired station button.

   b. When busy tone is heard, press CAMP-ON button. Wait for response.

   c. Replace handset, access another CO Line or press RELEASE button (if you have one).

### 320.35   FLEXIBLE BUTTON PROGRAMMING

   a. Press SPEED button twice.

   b. Press FLEX button to be programmed (it must be programmed in database as a flexible button).

   c. Dial desired code (Refer to Table 300-2 Flex Button Programming Codes).

### 320.36   MEET ME PAGE

To request another party meet you on a page:

   a. Dial the desired two-digit paging code
     or
     press pre-programmed* flex button.

   b. Request that party meet you on the page.

   c. Do not hang up; wait for the requested party to answer.

Answering a Meet Me Page:

   a. Go to the nearest telephone and dial [77] on the dial pad.

   b. You will be connected to the party that paged you.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 320.37   PAGING

#### A.   External Paging

   1. Dial the two-or three-digit External paging code. Wait for page warning tone.
     - [76]+[0] = External All Call (Zones 1-7)
     - [76]+[1] = External Zone 1
     - [76]+[2] = External Zone 2
     - [76]+[3] = External Zone 3
     - [76]+[4] = External Zone 4
     - [76]+[5] = External Zone 5
     - [76]+[6] = External Zone 6

     - [76]+[7] = External Zone 7

   2. Speak in normal tone of voice to deliver message.

Stations off-hook or in DND will not hear the internal page announcement.

> **NOTE** *When making a zone page or All Call page and the zone is busy, the page initiator will receive ringback tone until the zone becomes available. You will then hear a warning tone and can make the page announcement.*

   3. Deliver page in normal tone of voice.

   4. Replace handset to terminate page announcement.

#### B.   Internal Paging

Stations off-hook or in DND will not receive the page announcement.

   1. Press the pre-programmed* PAGE button, or dial one of the following codes:
     - [70] = All Call - Internal & External
     - [71] = Internal Zone 1
     - [72] = Internal Zone 2
     - [73] = Internal Zone 3
     - [74] = Internal Zone 4
     - [75] = Internal All Call

   2. Speak in normal tone of voice to deliver message.

   3. Replace handset to terminate page announcement.

#### C.   All Call Paging (Internal/External)

   1. Dial [70] on the dial pad,
     or
     press the pre-programmed* PAGE button.

   2. Speak in normal tone of voice to deliver message.

   3. Replace handset to terminate page announcement.

*Refer to Sec. 300.36, Flexible Button Assignment.

### 320.38   RELEASE BUTTON

The 34-button Attendant Digital Terminal contains a Release button that may be pressed to disconnect or terminate an intercom call, transfer sequence, page announcement or CO call.

## 330.1    LCD DISPLAYS

The display is arranged into an upper and lower field. The upper field displays the current activity of the telephone. The lower field is divided into two sections. The left section of the lower field displays the date, speed bin number, connected intercom station or outside line number. The right section of the lower field displays the current time or elapsed time on an outside call. The following Table shows what will appear on the LCD displays based on the function performed.

### Table 330-1 Liquid Crystal Displays (LCD)

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Idle Station | **STATION XXX**<br>**MM/DD/YY          HH:MM am** | |
| Manually Dialing Outgoing Calls | **18005551212**<br>**LINE XX          HH:MM :SS** | |
| Recalling Line from Hold | **LINE XX RECALLING**<br>**MM/DD/YY          HH:MM am** | |
| Recalling Line from Another Station | **RECALL FROM STA XXX**<br>**LINE XX          HH:MM:SS**<br><br>**RECALL FROM ..(name)..**<br>**LINE XX          HH:MM:SS** | |
| Connected to an Incoming CO Line | | **STATION XXX**<br>**LINE XX          00:00:10** |
| Intercom Call | **CALL TO STA XXX**<br>**MM/DD/YY          HH:MM am**<br><br>**CALL TO ..(name)..**<br>**MM/DD/YY          HH:MM am** | **CALL FROM STA XXX**<br>**MM/DD/YY          HH:MM am**<br><br>**CALL FROM ..(name)..**<br>**MM/DD/YY          HH:MM am** |

**Table 330-1 LCD Displays (Cont'd)**

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Camp-on | **CALL TO STA XXX** MM/DD/YY HH:MM am / **CALL TO ..(name)..** MM/DD/YY HH:MM am | **CAMP-ON BY STA XXX** MM/DD/YY HH:MM am / **CAMP-ON BY ..(name)..** MM/DD/YY HH:MM am |
| Conference | **CONFERENCE** MM/DD/YY HH:MM am | **CONFERENCE** MM/DD/YY HH:MM am |
| Internal Page | **INTERNAL PAGE** ZONE X HH:MM am | **PAGE FROM STA XXX** MM/DD/YY HH:MM am / **PAGE FROM ..(name)..** MM/DD/YY HH:MM am |
| External Zone Page and External All Call Page | **EXTERNAL PAGE** ZONE X HH:MM am / **EXTERNAL PAGE** MM/DD/YY HH:MM am | |
| All Call Page | **ALL CALL PAGE** MM/DD/YY HH:MM am | **PAGE FROM STA XXX** MM/DD/YY HH:MM am |
| Meet Me Page | **ALL CALL PAGE** MM/DD/YY HH:MM am / **CALL FROM XXX** MM/DD/YY HH:MM am | **PAGE FROM XXX** MM/DD/YY HH:MM am / **CALL TO XXX** MM/DD/YY HH:MM am |

## Table 330-1 LCD Displays (Cont'd)

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Station Call Forward (Originating Station) (Name in Display) | FORWARDED TO STA XXX<br>MM/DD/YY          HH:MM am<br><br>FORWARDED TO ..(name)..<br>MM/DD/YY          HH:MM am | |
| Station No-Answer Call Forward (Originating Station) | NO ANS FWD TO STA XXX<br>MM/DD/YY          HH:MM am<br><br>NO ANS FWD TO ..(name)..<br>MM/DD/YY          HH:MM am | |
| Station Busy/No-Answer Call Forward (Originating Station) | BSY/NA FWD TO STA XXX<br>MM/DD/YY          HH:MM am<br><br>BSY/NA FWD TO ..(name)..<br>MM/DD/YY          HH:MM am | |
| Station Busy Call Forward (Originating Station) | BUSY FWD TO STA XXX<br>MM/DD/YY          HH:MM am<br><br>BUSY FWD TO ..(name)..<br>MM/DD/YY          HH:MM am | |
| Forwarded Call (Name in Display) | FORWARDED TO STA XXX<br>VIA STA XXX          HH:MM am<br><br>FORWARDED TO ..(name)..<br>VIA STA XXX          HH:MM am | CALL FROM STA XXX<br>VIA STA XXX          HH:MM am<br><br>CALL FROM ..(name)..<br>VIA STA XXX          HH:MM am |

## Table 330-1 LCD Displays (Cont'd)

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Forwarded Intercom Call | **FORWARDED TO STA XXX**<br>**VIA STA XXX      HH:MM am** | **CALL FROM STA XXX**<br>**VIA STA XXX      HH:MM am** |
| Station Forwarding to a Voice Mail Group* (Station Idle) | **FORWARDED TO VOICE MAIL**<br>**MM/DD/YY        HH:MM am** | |
| Station Forwarding to an ACD* or UCD Group(Station Idle) | **FORWARDED TO ACD 55X**<br>**MM/DD/YY        HH:MM am** | |
| Preset Forward | | **FORWARD RING**<br>**LINE XX          HH:MM am** |
| Station calling a Station Forwarded to a Voice Mail* Group | **FORWARDED TO VOICE MAIL**<br>**VIA STA XXX      HH:MM am** | **FORWARDED TO VOICE MAIL**<br>**MM/DD/YY        HH:MM am** |
| Call Pickup | **CALL TO STA XXX PICKED UP**<br>**BY STA XXX        HH:MM am** | **CALL TO STA XXX**<br>**FROM STA XXX   HH:MM am**<br><br>**TRANSFER FROM STA XXX**<br>**LINE XX          HH:MM am** |
| Exclusive Hold | **LINE HOLDING**<br>**LINE XX          HH:MM am** | |

*Features available with optional software.

**Table 330-1 LCD Displays (Cont'd)**

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Do Not Disturb | DO NOT DISTURB STA XXX<br>MM/DD/YY      HH:MM am<br><br>DO NOT DISTURB ..(name)..<br>MM/DD/YY      HH:MM am | STA IN DO NOT DISTURB<br>MM/DD/YY      HH:MM am |
| Call Back | CALL BACK FROM STA XXX<br>MM/DD/YY      HH:MM am<br><br>CALL BACK FROM ..(name)..<br>MM/DD/YY      HH:MM am | CALL FROM STA XXX<br>MM/DD/YY      HH:MM am<br><br>CALL FROM ..(name)..<br>MM/DD/YY      HH:MM am |
| Outside Line Transfer | | TRANSFER FROM STA XXX<br>LINE XX      HH:MM am<br><br>TRANSFER FROM ..(name)..<br>LINE XX      HH:MM am |
| Message Waiting | | MSG: XXX XXX XXX XXX XXX<br>MM/DD/YY      HH:MM am |
| Reply to a Message Waiting | CALL TO STA XXX<br>MM/DD/YY      HH:MM am<br><br>CALL TO ..(name)..<br>MM/DD/YY      HH:MM am | CALL BACK FROM STA XXX<br>MM/DD/YY      HH:MM am |

### Table 330-1  LCD Displays (Cont'd)

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Programmed Flash Command (F) | F*12 | |
| Programmed Pause Command (P) | 950777P1234567<br>SPEED XX          HH:MM am | |
| Programmed Pulse-To-Tone Switchover (S) | 950777S1234567<br>SPEED XX          HH:MM am | |
| CO Line Queuing | PLACED IN QUEUE FOR<br>LINE XX          HH:MM am<br><br>QUEUE CALL BACK<br>LINE XX          HH:MM am | |
| Hunt Groups | CALL TO STA XXX<br>VIA HUNT          HH:MM am<br><br>CALL TO ..(name)..<br>VIA HUNT          HH:MM am | |
| ACD* or UCD Groups | CALL TO STA XXX<br>VIA ACD          HH:MM am<br><br>CALL TO ..(name)..<br>VIA ACD          HH:MM am | |

*Features available with optional software.

**Table 330-1 LCD Displays (Cont'd**

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Ringing CO Lines | | **LINE RINGING**<br>**LINE XX**　　　**HH:MM am** |
| Display Security Feature | **DISPLAY SECURITY**<br>**LINE XX**　　　**HH:MM:SS** | |
| Station Forwarding Off-Net | **FORWARDED TO SPEED XX**<br>**MM/DD/YY**　　　**HH:MM am** | |
| Calling a Station Forwarded Off-Net (before and after call is answered) | **FORWARDED OFF NET**<br>**LINE XX**　　　**CALLED 102**<br><br>**2331234**<br>**LINE XX**　　　**HH:MM:SS** | **FORWARDED TO SPEED XX**<br>**MM/DD/YY**　　　**HH:MM am** |
| Calls in Queue (Supervisor) Enhanced in FP3 | **55X: CIQ: XX AGENT(S): XX**<br>**OLDEST CALL**　　**HH:MM:SS** | |
| Calls in Queue (using Dial Code) ACD* or UCD | **ACD 55X 02 CALLS IN QUEUE**<br>**MM/DD/YY**　　　**HH:MM am** | |
| Unavailable Mode (Agent Station) ACD* or UCD | **UNAVAILABLE ACD * XXX ***<br>**MM/DD/YY**　　　**HH:MM am** | |
| Station calling a Voice Mail* Group Pilot Number | **CALL TO VOICE MAIL**<br>**MM/DD/YY**　　　**HH:MM am** | |

*Features available with optional software.

Table 330-1 LCD Displays (Cont'd

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Dial By Name | DIAL NAME:<br>MM/DD/YY     HH:MM pm | |
| Off-Hook<br>Voice Over (OHVO) | ANNOUNCE TO STA XXX<br>MM/DD/YY     HH:MM am | ANNOUNCE FROM STA XXX<br>MM/DD/YY     HH:MM am |
| Executive Override | MONITORING STA XXX<br>MM/DD/YY     HH:MM am | |
| Voice Mail* Transfer w/ID Digits | CALL TO VOICE MAIL<br>VIA XXX     MM/DD/YY<br><br>ENTER VM ID:<br>MM/DD/YY     HH:MM am | |
| Repeat Redial | ENTER RPT REDIAL TIMER:<br>XXX     006-999<br><br>RPT REDIAL CALLBACK<br>MM/DD/YY     HH:MM am | |
| Call Coverage Station<br><br>After call is answered at coverage station | CALL FOR STA XXX<br>MM/DD/YY     HH:MM am<br><br>CALL TO STATION XXX<br>FROM STA YYY  HH:MM am | |

*Features available with optional software.

## Table 330-1 LCD Displays (Cont'd

| FUNCTION | CALLING STATION'S DISPLAY | CALLED STATION'S DISPLAY |
|---|---|---|
| Name/Number Display at Idle | STA YYY          XXXXXXXX<br>MM/DD/YY          HH:MM pm | |
| Scrollable Canned Messages | XXXXXXXXXXXXXXXXXXXX<br>NEXT=# PREV=* SAVE=HOLD | |
| ACD Transfer Display | TRANSFER FROM ACD 55X<br>LINE XX          HH:MM am | |
| ACD Overflow Station receiving an Overflow call | TRANSFER VIA ACD 55X<br>LINE XX          HH:MM | |

# SECTION 400

# GENERAL DESCRIPTION

## 400.1 SYSTEM TECHNOLOGY

The Starplus family of digital key telephone systems is comprised of four fully digital hybrid key telephone systems, the SPD 612, SPD 1428, SPD 2856, and SPD 4896. These systems are designed to meet the telecommunications needs of small to medium sized business offices. All systems incorporate state of the art digital technology for command processing and voice switching utilizing a Pulse Code Modulation/Time Division Multiplexing (PCM/TDM) voice control module. The family of Starplus Digital systems are also engineered to allow migration of the family of Starplus digital terminals and terminal accessories throughout the entire product line. In addition, standard 2500-type telephone devices are supported by use of a 2x4 SLT Expansion Module on the Starplus SPD 612 and SPD 1428 systems, a 4x8 SLT Interface Board (CSB) on the Starplus SPD 2856 system, and a Single Line Interface Board (SL12) on the SPD 4896 system, or SLA (OPX) adapters on all systems.

The SPD 612 is the smallest member of the Starplus Digital family and fully configured supports a maximum of six CO/PBX/Centrex lines and 12 digital terminal devices. The SPD 612 is a "flat pack", or single mother board system with plug-on modules expanding the system via expander modules configured with two CO/PBX/Centrex lines by four stations/single line telephones. A complete system capacity allows for use of up to 112 time slots for stations, CO Lines, and a DTMF Receiver. This extends non-blocking access to all system resources.

The SPD 612 Basic KSU comes fully configured with power supply, common control processor, PCM/TDM Voice switching matrix and interface circuits for four CO/PBX/Centrex lines and interface circuits for eight Digital terminal devices. The Basic system can be equipped with one DTMF receiver (on either the 2x4 Expander Module or 2x4 SLT Expander Module), a connector for one Music-On-Hold channel that also provides for background music.

The SPD 1428 is the second member of the Starplus Digital family and fully configured supports a maximum of 14 CO/PBX/Centrex lines and 28 digital station devices. The SPD 1428 is a "flat pack", or single mother board system with plug on modules expanding the system via expansion and expander modules configured with either two CO/PBX/Centrex lines by four stations or four CO/PBX/Centrex lines by eight stations. A complete system capacity

allows for use of up to 112 time slots for stations, CO Lines, DTMF Receivers, or data switching modules. This extends non-blocking access to all system resources.

The SPD 1428 Basic KSU comes fully configured with power supply, Common control processor, PCM/TDM Voice switching matrix and interface circuits for four CO/PBX/Centrex lines and interface circuits for eight Digital terminal stations. The Basic system is also equipped with one RS-232C I/O port, one DTMF receiver, a connector for one Music-On-Hold channel that also provides for background music, and an on-board 300 baud modem that provides access to the system for data base programming or remote maintenance and or diagnostics. Modules to provide additional I/O ports, and an optional 1200 baud modem module can also be added to the system.

The SPD 2856 system is the third system in a family of Digital Hybrid Key Telephone systems and supports a maximum configuration of 28 CO/PBX/Centrex lines and 56 digital station devices. The SPD 2856 is a typical KSU system with plug in PCB's. The system capacity is expanded by installing four circuit CO/PBX/Centrex lines by eight circuit station expansion PCB's. The complete system capacity allows for use of up to 112 time slots for stations, CO Lines, DTMF Receivers, or data switching Modules. This extends virtual non-blocking access to all system resources.

A Basic SPD 2856 KSU ships complete with an on-board power supply. The CPB which is the only common equipment required for operation provides the microprocessor for command processing and Voice PCM/TDM switching. The CPB is also equipped with one modular RS-232C I/O port, a connector for one Music On Hold channel that also provides for background music, and an on-board 300 baud modem that provides access to the system for data base programming or remote maintenance and or diagnostics. Modules to provide additional I/O ports, and an optional 1200 baud modem module can also be added to the CPB.

The SPD 4896 is the fourth and largest member of the Starplus family of Digital Systems and when fully configured supports a maximum of 96 CO/PBX/Centrex lines and 120 digital station devices. However, the SPD 4896 system has a default configuration of 48 CO/PBX/Centrex lines and 96 digital key stations. The SPD 4896 is a card slot cabinet oriented with plug-in modules (cards) expanding the system via

station boards and CO boards. The boards are con-figured as 12 CO/PBX/Centrex lines, 12 digital sta-tions, or 12 single line stations. A complete system capacity allows for use of up to 216 ports for Stations, CO Lines, or Data switching Modules. This extends non-blocking access to all system resources. The system is configured in a pre-mapped arrangement, where peripheral boards are plugged into desig-nated slots. The hardware architecture is built so that future expansion in both CO lines and Stations can be accomplished by upgrading software and adding plug in boards.

The system KSU is powered by modular power supplies that are mounted on the sides of the cabi-net. The cabinet is divided so that one power supply will support a system configured with up to 48 CO lines and 60 stations (key or SLT). If the CO line or station requirements exceed the aforementioned configuration, the second power supply is needed. The second power supply will support the 48x96 configuration as well as possible future expansion requirements.

The digital systems are installed using industry standard blocks, jacks and skinny wire cabling. This combined with the ability to program the system using a key terminal (digital display terminal) re-duces installation cost and maintenance require-ments.

All CO interfaces are equipped with transformer barriers, for system classification as an FCC fully protected system. Each CO circuit supports rotary (out-pulse) dialing and loop supervision (disconnect detection) under software control. The DTMF tone signals and system supervisory tones can be gener-ated in each keyset or on the main PCB. All Starplus Digital systems use a proprietary tone plan for pro-viding internal progress tones with the exception of OPX stations which are provided with a "precise" tone plan.

The Starplus family of digital terminals include an Executive (display), Enhanced (non-display) Digital Terminals, and a Basic (non-display) Digital termi-nal. Optional station terminals include a Digital DSS Console, and a Single Line Adapter (Off-Premise Extension (OPX) adapter) which are all upward and downward compatible to the entire Starplus digital product line.

The system architecture allows system program-ming changes to be made without interrupting state event software control of normal communications. Call processing continues while the customer data base is updated. All programming changes to the customer data base programming are made either from a digital terminal (digital display terminal) con-nected to Port 01 or from a data terminal or PC connected (except in the SPD 612) to either a I/O port or remotely via the on-board modem.

The Starplus product line is tailored to meet imme-diate and long term customer needs. Most com-monly used features are activated by direct button selection. However, many functions may be alter-nately accessed by dialing specific codes or as another option by assigning these dial codes to a flex button on a digital terminal. This permits flexible use of the Starplus Digital systems.

Future software enhancements and upgrades are easily retrofitted and installed in the systems. This will, in most cases provide backward compatibility with existing Starplus Digital hardware further reduc-ing the cost to upgrade or add features to an installed system.

### 400.2    COMMON EQUIPMENT FOR THE SPD 4986 SYSTEM

The following components are necessary to operate the Starplus Digital Key Telephone System. Refer to Appendix B for a complete Starplus Digital Key Telephone System component list with Part #'s.

- Equipment Cabinet w/Power Supply (KSU)
- Central Processor Unit (CPU)
- Voice Control Board (VCB)
- Key Telephone Board (KT12)
- 6x6 Combo Card
- Single Line Board (SL12)
- CO Line (Loop) Board (CO12)
- DID Interface Board (DID)
- TIE Line (E&M) Interface Board
- T-1 Trunk Board

### A.    Equipment Cabinet With Power Supply (KSU)

The KSU is wall mounted. It is of metal con-struction with a backplane motherboard that has 23 card slots. The CPU card is inserted into the CPU slot. Slots 2, 3, and 4 are reserved for future common cards. The VCB card is inserted into the VCB slot. The remaining slots are des-ignated Slots 1 thru 19 for peripheral cards. The system defaults to a configuration that desig-nates peripheral slots 1, 2, 3 and 4 for Station boards, peripheral slots 5, 6, 7, and 8 for CO boards, and peripheral slots 9, 10, 11 and 12 for the remaining station boards. Refer to Figure 400-1 Basic KSU Cabinet.

### Grounding:

A No. 14 AWG copper wire should be used to connect a ground between the ground source and the KSU (25 feet maximum). A two-position
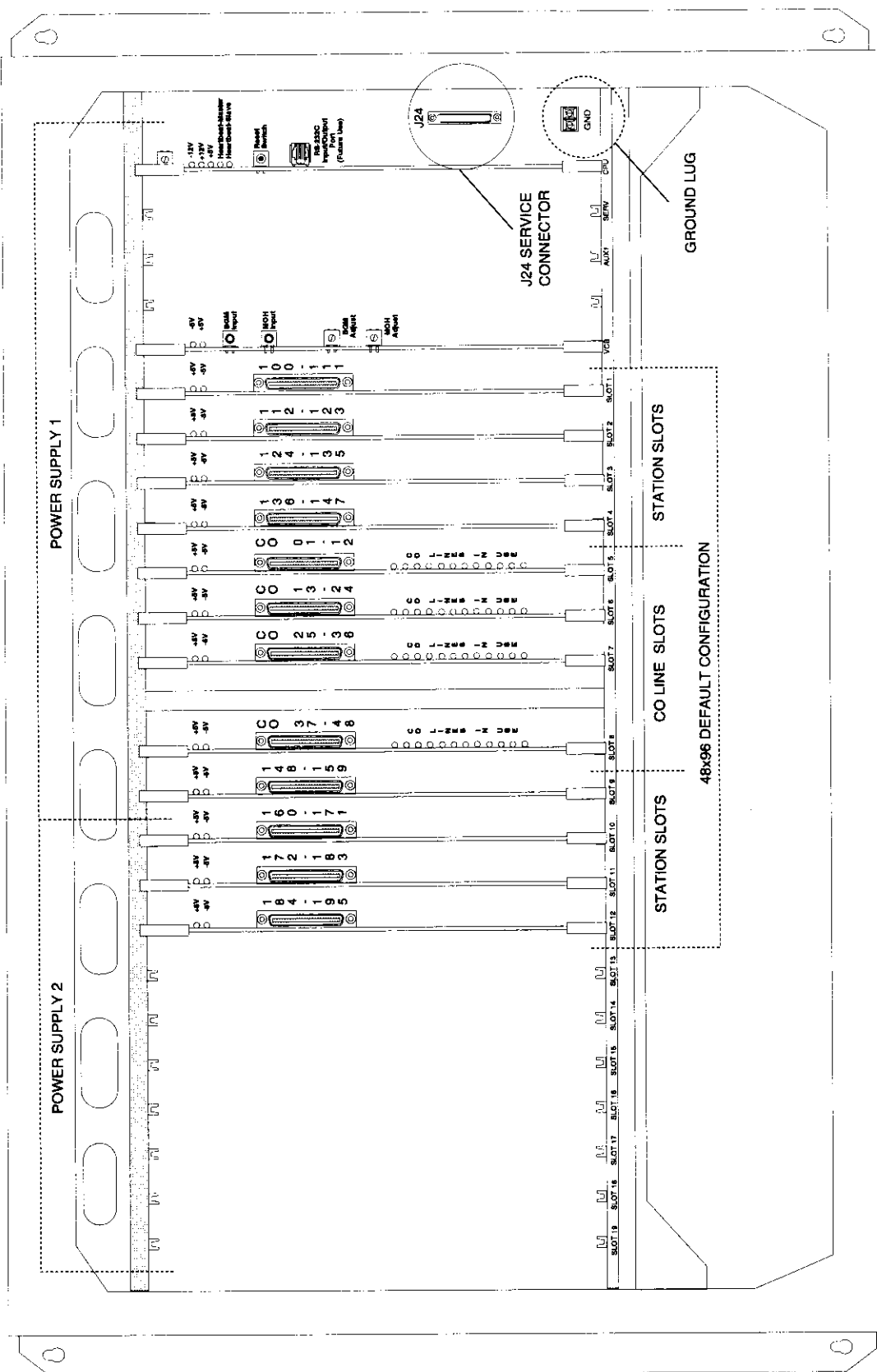
**Figure 400-1 Basic KSU Cabinet**

terminal strip (J25) is located on the lower right corner of the backplane and is accessible through the right side of the KSU. One terminal position can be used to connect the ground wire from a ground source.

### Power Supply

The system KSU is powered by modular power supplies that are mounted on the sides of the cabinet. The cabinet is divided so that one power supply will support a system configured with up to 48 CO lines and 60 stations (key or SLT). If the CO line or station requirements exceed the aforementioned configuration, the second power supply is needed. The power supplies provide the system with 24V power. They are plugged into a 120V ac circuit. The power supply and cabinet meet all safety requirements to comply with UL 1459 Second Edition and CSA C22.2 No. 225 standards.

### B. Central Processor Unit (CPU)

This plug-in card is one of two common equipment cards required to make the system operational. The CPU card controls all system activity. The CPU contains the main micro-processor a 16-bit (68302), the slave microprocessor (another 68302), and a real time clock. The master and slave CPU chips are connected via a serial communications link. The CPU is responsible for all control functions, execution of all logic operations, and control of system modules. The master CPU also provides software and hardware support to ensure the following:

- Watch dog timer and recovery.
- State/Event software design.
- Battery Backup of Customer Database RAM memory.

The slave CPU ensures the following signal processing functions are done:

- PCB status as to presence/absence of cards for automatic software configuration setup.
- Interpret an ID code from each PCB so that card type can be determined automatically.
- Process interrupts from peripheral cards and scan VCB.

In addition there is one RS-232 (modular connector) input/output port on the CPU and a connector to support the use of an optional Backplane I/O Expansion Module. The Backplane I/O Expansion Module adds two RS-232C I/O ports to the system for a system total of three I/O ports. Your system will be equipped with either the Backplane I/O Expansion Module or a Backplane I/O Expansion cable consisting of (1) 36-pin female amphenol type connector on one end and (2) DB-25 connectors on the other end labeled Port 3 and Port 4. A reset (halt) push button switch is located on the front of the PCB.

System software is provided in EPROM memory and is installed on the CPU. The CPU contains 512 kilobytes (expandable to 4MB) of EPROM memory storage and is equipped with 256K of battery-backed static RAM (expandable to 2MB). Provisions have been made on the card to address up to four megabytes of EPROM memory and up to two megabytes of static RAM.

- A Battery jumper strap is located on the CPU board. Jumpering from pins 1 & 2 disables the Battery Backup. Between pins 2 & 3 enables the Battery Backup option.
- The CPU allows the use of either 1 Megabit or 4 megabit static RAM chips to be used for RAM memory.

### LEDs & Indicators

Three green LEDs located along the front edge of the CPU provide an indication of the presence of -12V dc, +12V dc & -5V dc. Two red LEDs provide the system heartbeat indication.

### I/O Ports - Wiring/Pinouts/Connections

The Central Processor Unit contains one RS-232C, 8-pin modular jack type connector, I/O port located near the front edge of the PCB. This I/O port is capable of transmitting and receiving data at 300, 1200, 2400, 4800, and 9600 baud rates.

This I/O port can be used for SMDR output, Maintenance, Admin on-line programming thru a data terminal or PC, or interfacing with a customer provided ACD Reporting package. This port can not be used for ICLID or Upload/Download feature operation. If the user attempts to perform Upload/Download from Port 1, he will be blocked and told to use Port 3. ICLID is available on Ports 3 and 4 only.
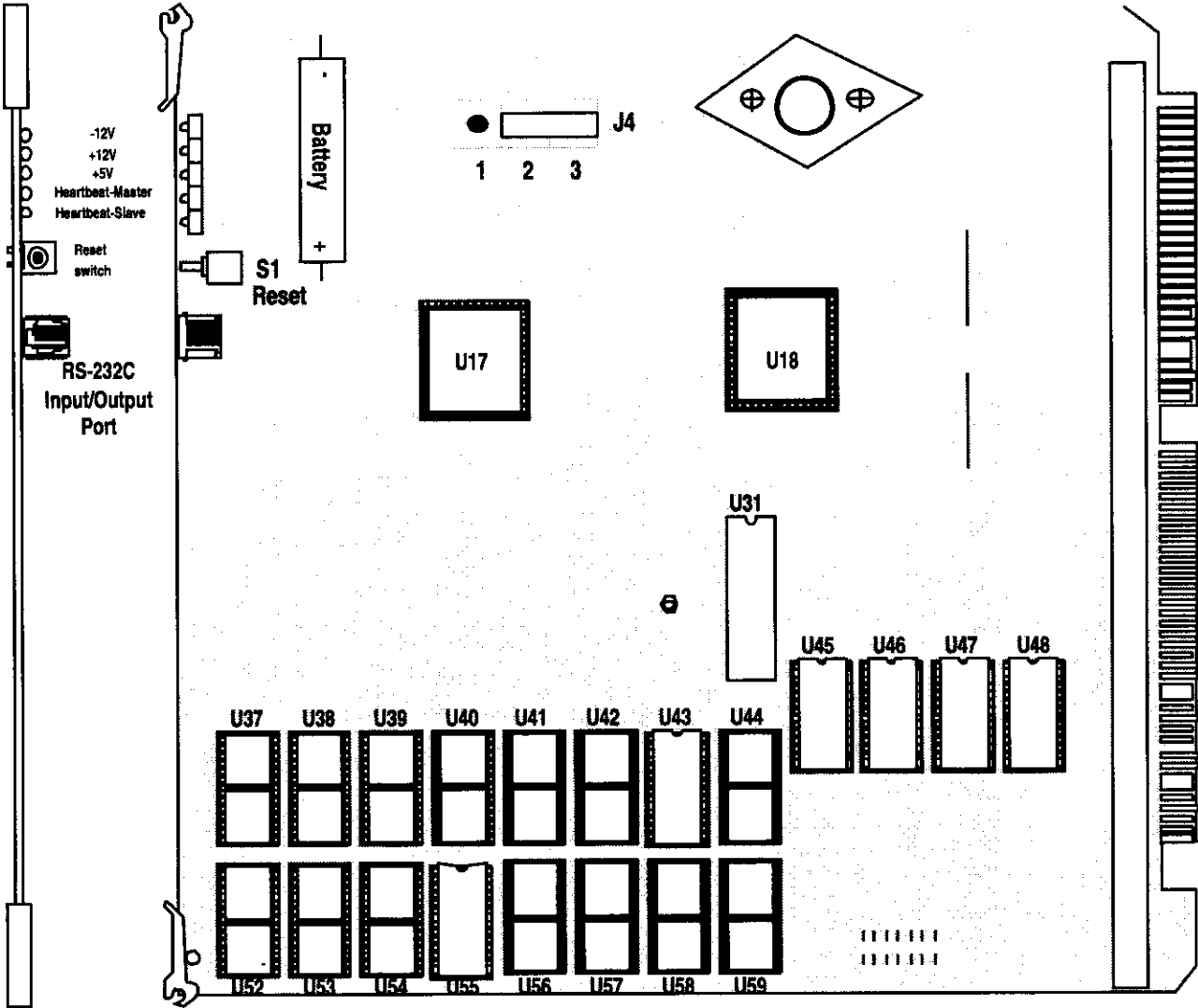
**Figure 400-2 Central Processing Unit (CPU)**

### C.  Voice Control Board (VCB)

The Voice Control Board (VCB) provides the time slot switch to control the digital switching information. The system tones are also generated on this board. This board also contains one DTMF receiver for DISA operation.

### LEDs & Indicators

There are two LEDs on the board to indicate the +5V dc and - 5V dc.

### Modem Interface

The Voice Control Board (VCB) contains an "On-Board" modem that is capable of transmitting data at a rate of 1200 baud. The modem supports and is compatible with the Hayes command protocol.

The Bell System (Western Electric) standards 103 and 212A for modem design is incorporated into the design of this modem. The modem operates on-line in both Full and Half duplex modes.

### Wiring / Pinouts / Connections

There are two phono input connectors on the board. One connector is for background music and the other is for music on hold. There are also two potentiometers to adjust each music source.
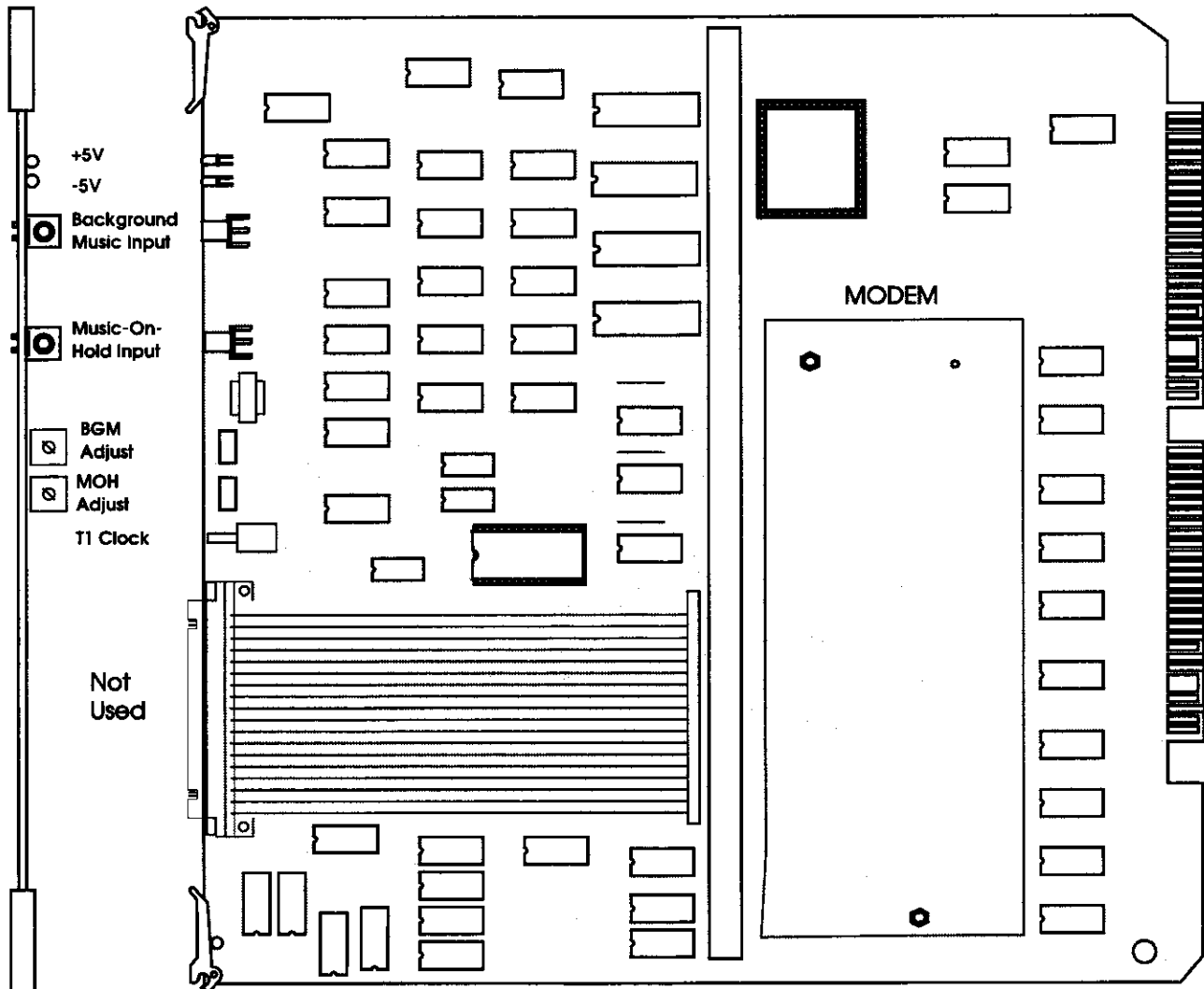


**Figure 400-3 Voice Control Board (VCB)**

### D.  Key Telephone Board (KT12)

The Key Telephone Board (KT12) provides the interface to twelve digital telephones. This board can be plugged into any designated station slot.

### LEDs & Indicators

The Key Telephone Board (KT12) contains two LEDs to indicate the presence of +5V dc and -5V dc. The LEDs are located on the top portion of the board.

### Line/Station Interfaces

The Key Telephone Board (KT12) has one male 50-pin amphenol connector on the front edge. This will interface the circuits on the board to the MDF.

The board also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards.

A Digital DSS Console, a Single Line Telephone Adapter (OPX), or other specifically designed adapter with a digital interface can be assigned to any one of the interface circuits. The Key Station interface circuits are protected from mis-wiring and over-current.

> **NOTE**
> *External Paging Zones start from Card Slots 1 thru 4 for External Paging Zones 1 thru 4. Card Slots 9 thru 11 represent External Paging Zones 5 thru 7. If a Single Line Board (SL12) is inserted between two Key Station Boards (KT12), the External Paging Zone associated with that card slot becomes unusable.*
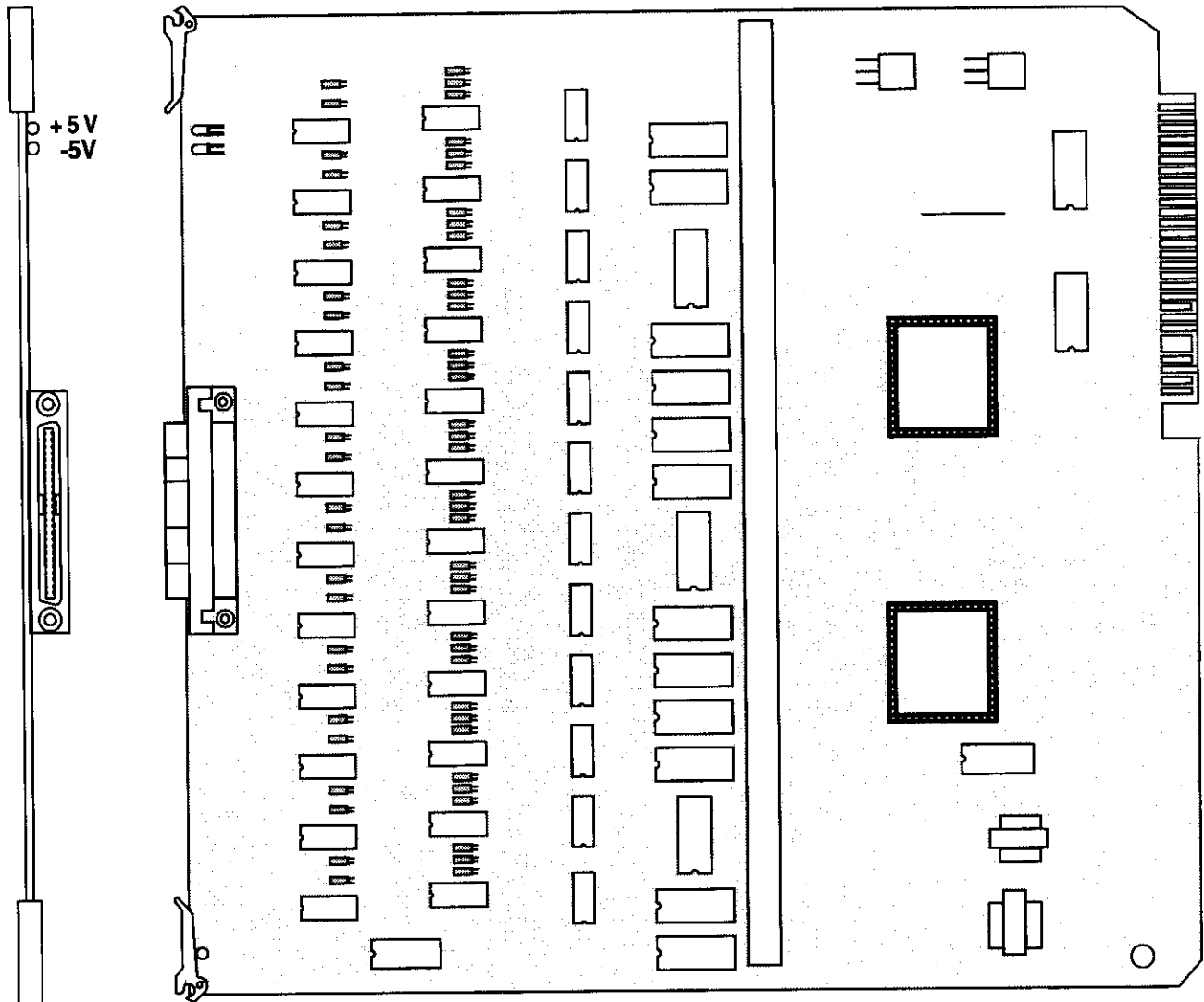


**Figure 400-4 Key Telephone Board (KT12)**

### E. 6x6 Combo Card

The 6x6 Combo Card provides the interface for six digital station ports and six DTMF receiver ports. This board can be plugged into any designated station slot.

The DVX III Digital System will support up to 24 DTMF Receivers. These DTMF receivers can ONLY be configured as follows:

- 4 6x6 Combo cards = 24 DTMF Receivers

- 2 6x6 Combo cards + 3 DTM4 Receivers = 24 DTMF Receivers

For each 6x6 Combo Card plugged into the system, the total station capacity is reduced by six.

- i.e.:1 Combo Card installed = 114 stations maximum
- 2 Combo Cards installed = 108 stations maximum
- 3 Combo Cards installed = 102 stations maximum
- 4 Combo Cards installed = 96 stations maximum

### LEDs & Indicators

Two green LEDs (DS1 & DS2) also located along the front edge are for monitoring the +5v and -5v supply voltages.

> **NOTE** *If a 6x6 Combo card is installed between two KT12 boards, the Station Numbers remain consecutive and the total number of stations in the system is reduced by six. However, if a 6x6 Combo card is installed in place of a KT12 board, all Station numbers after this card will be re-numbered. It is therefore recommended that the 6x6 Combo card be inserted at the end of the station cards if being added to an existing system.*

### Line/Station Interfaces

The station ports of the 6x6 Combo Card are wired to the main distribution frame via a 25-pair, (50-pin) female amphenol type connector located on the front edge of the board, connector J1. A 25-pair cable with a 50-pin male amphenol-type connector is required to extend the station ports to the main distribution frame.



Figure 400-5 6x6 Combo Card

## F. Single Line Board (SL12)

The Single Line Telephone board provides the interface for 12 2500-type single line telephones. This board can be plugged into any designated station slot. It is recommended that the Tri-Output Power Supply be used with this card to provide the 90V ac and -48V dc voltages.

> **NOTE**
>
> *Only one Ring Generator is required per system. One Tri-Output Power Supply will accommodate two SL12 boards. When an SL12 board is installed, it is recommended that the DTM4 DTMF Receiver Module be installed at the same time. If 3 or more SL12 boards are installed in the system, at least 1 DTM4 should be installed. However, no more than 3 SL12 boards with DTM4 receivers on them can be installed in the system.*

Message Waiting capability comes installed on the Single Line Telephone Board. This circuitry provides message waiting lamps to single line telephones equipped with message waiting lamps and supports up to 12 Single Line Telephone Message Waiting lamps at 90V dc typically across tip and ring.

### LEDs & Indicators

The board contains three LEDs to indicate the presence of +5V dc, - 5V dc and -48V dc. The LEDs are located on the top portion of the board.

## Line/Station Interfaces:

The Single Line Telephone board has one female 50-pin amphenol connector on the front edge. This interfaces the circuits on the board to the MDF. The board has one two-conductor molex connector to provide an input for 90V ac ring. A second two-conductor molex connector interfaces -48V dc to the card. Each SL12 installed in the system must have both 90V ac and -48V dc applied to it via these connectors. The card also provides proper fusing or protection to comply with the requirements of UL 1459 Second Edition and CSA C22.2 No. 225 standards.

These single line telephones can be equipped with a standard Message Waiting Lamp (90V T & R) that operate on the "tip" and "ring" leads. Additionally each circuit provides a loop interrupt of 700ms duration. This is the duration of loop interrupt provided to a single line port if loop interrupt is detected on a CO line that the single line port was connected to. Also provided if a station calls an SLT port and hangs up. The card will support single line telephones up to 2000 feet from the Basic KSU cabinet. Refer to Table 400-4 Loop Limits for additional wiring information. On-premise single line telephones should present a load to the port totaling a maximum ringer equivalence of 2.5.
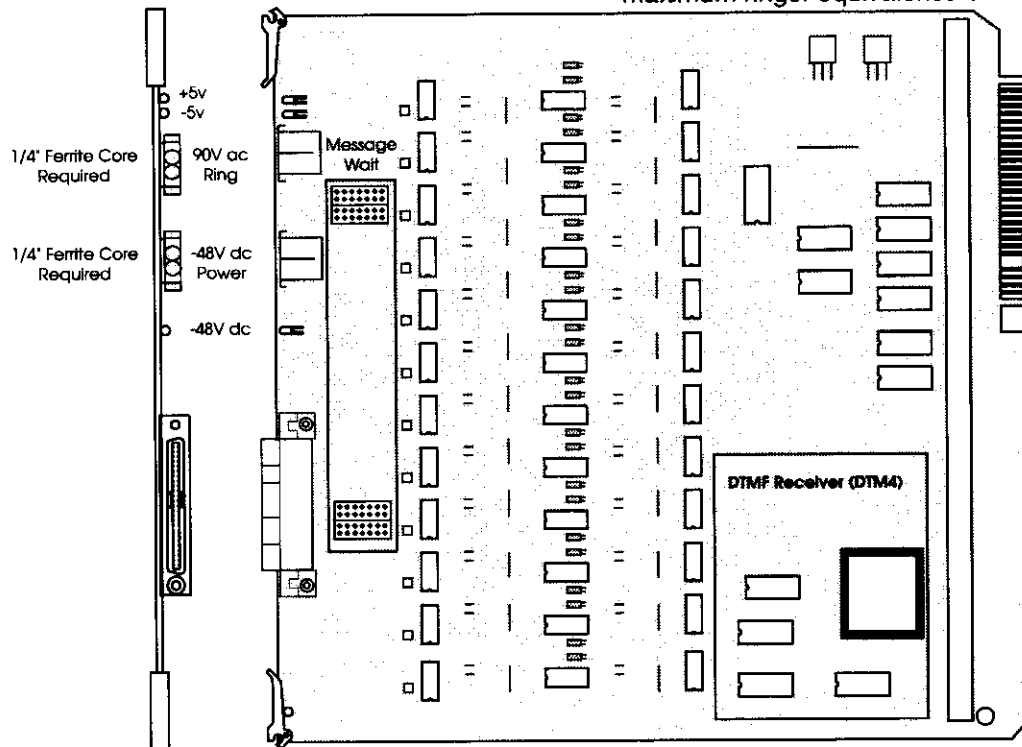


**Figure 400-6 Single Line Telephone Board (SL12)**

### G. CO Loop Interface Board (CO12)

This board interfaces 12 Loop Start CO lines to the system. This board can be plugged into any designated trunk slot.

### LEDs & Indicators

The board contains two LEDs to indicate the presence of -5V dc and +5V dc. In addition, the board has 12 red LEDs to provide the status of each CO line on the board. A lighted LED will indicate an in-use condition, while an un-lit LED reflects an idle state.

### Line/Station Interfaces

The board has one female 50-pin amphenol connector on the front edge. This will interface the circuits on the board to the MDF.
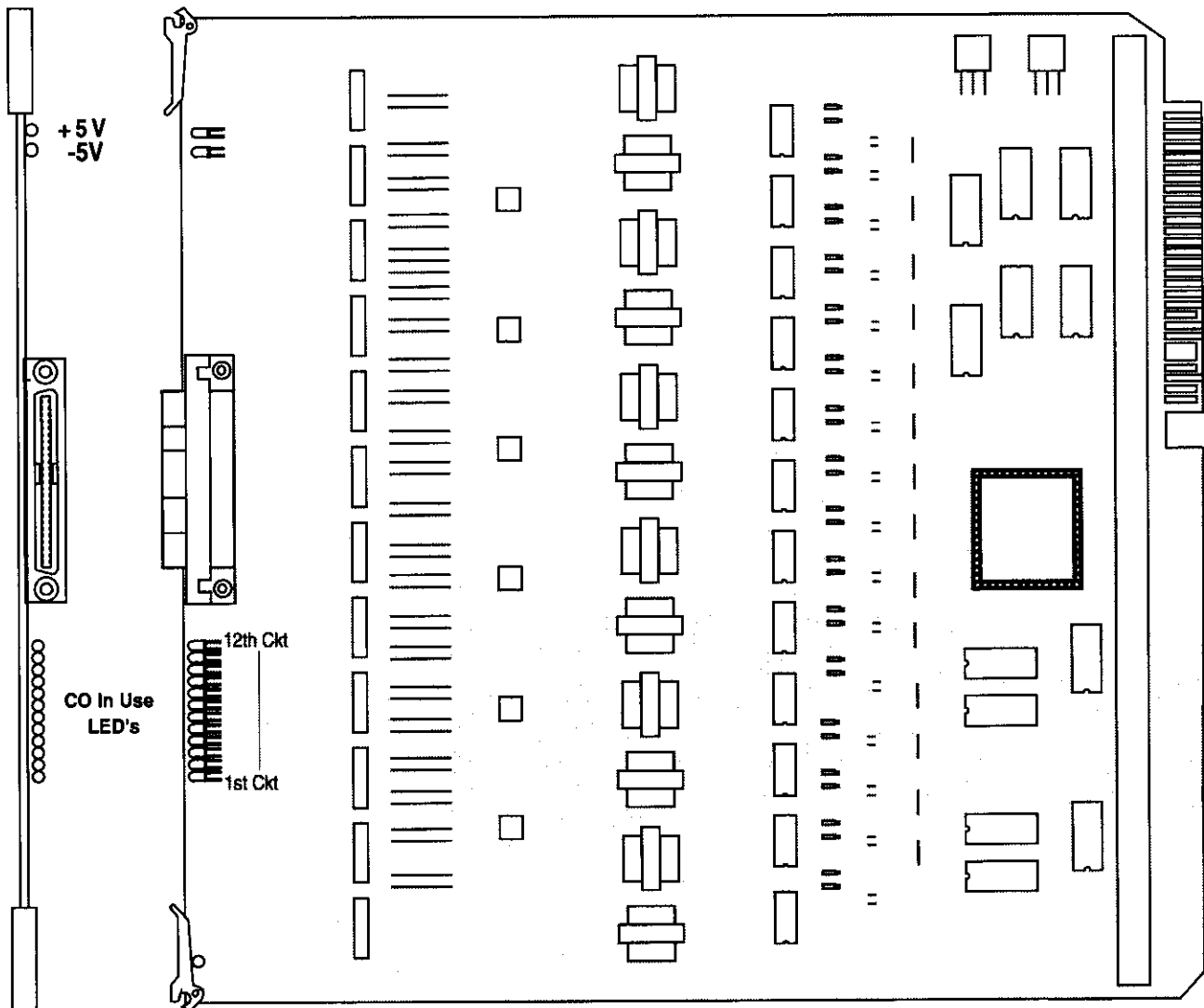
**Figure 400-7 12-Circuit CO Line Board (CO12)**

## H. DID Interface Board (DID)

The Direct Inward Dialing (DID) Interface Board provides for One-Way Direct access to specific stations on specific DID lines from the public telephone network, without going through an attendant answering position. DID capabilities refer to incoming calls only. This board can be plugged into any designated station slot. The System Memory Expansion Kit is required.

The DID Interface Board provides 12 one-way DTMF DID circuits, and requires externally supplied 48v dc power. The system can accept from 2 to 7 digits from the Central Office. It should be noted that there are no "On-Board" relay contacts available on the DID Interface Board.

### LEDs & Indicators

12 red LEDs located along the front edge of the DID Interface Board (DID), one for each DID circuit to indicate when it is in use and one green LED (DS15) that monitors the -48v power supply source. Two green LEDs (DS13 & DS14) also located along the front edge are for monitoring the +5v and -5v supply voltages.

### CO Line/ Interfaces

The CO Ports of the DID Interface Board are wired to the main distribution frame via a 25-pair, (50-pin) female amphenol type connector located on the front edge of the board, connector J1. A 25-pair cable with a 50-pin male amphenol-type connector is required to extend the CO ports to the main distribution frame.
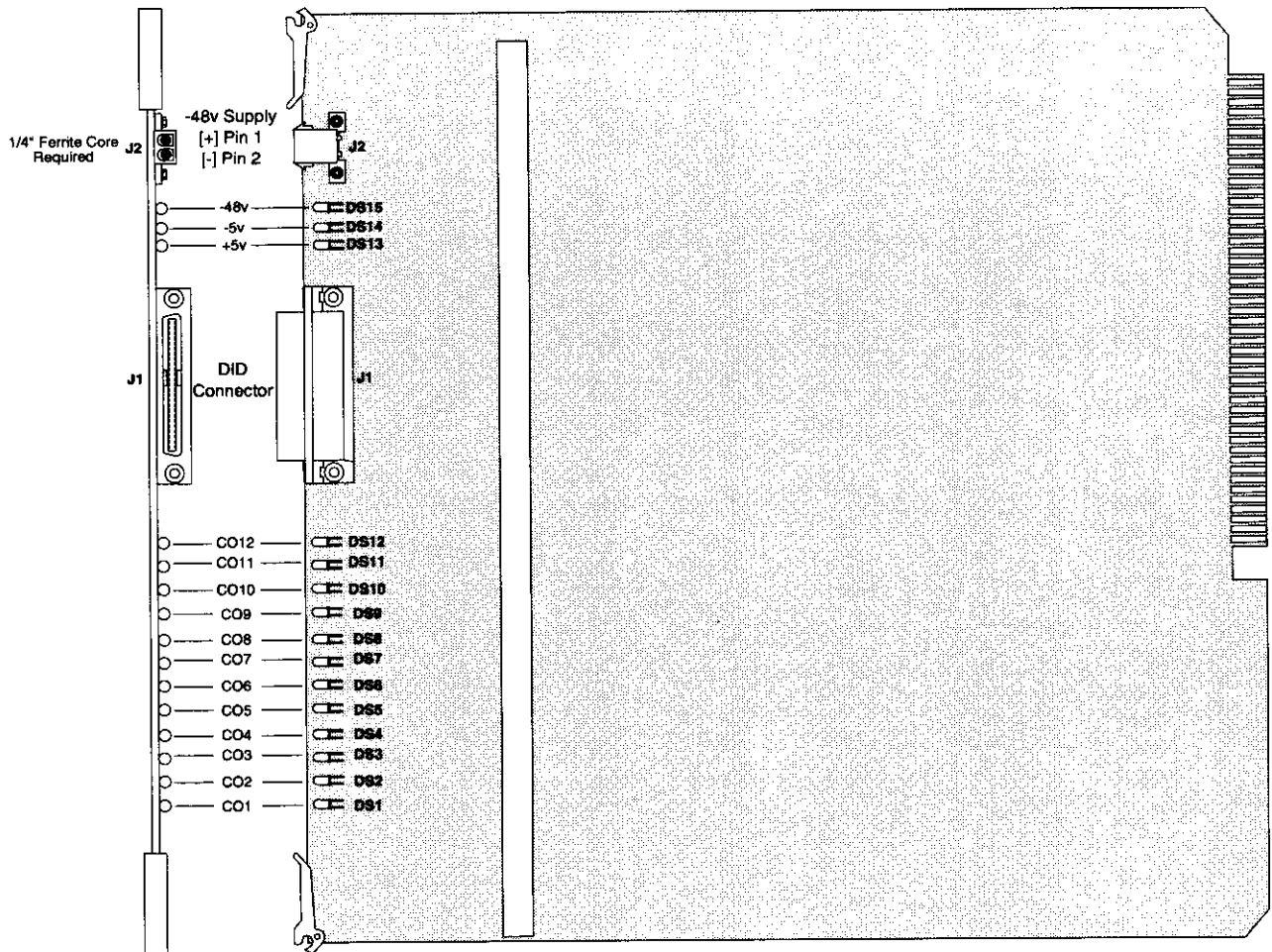


**Figure 400-8 DID Interface Board (DID)**

## I.   TIE Line Interface Board (E&M)

E&M TIE trunks enable the Starplus SPD 4896 Digital System to connect the system to a telco provided E&M interface. This allows the digital system to network to other VCS Digital Systems (SPD 2856/SPD 4896) or other vendors systems via a standard E&M interface.

The TIE Line Interface card consists of six digital station circuits and four E&M circuits. **These circuits are 2-wire type II signaling.** Additionally, two DTMF receivers are located on the TIE Line Interface card. When a TIE Line Interface card is installed, the CO capacity is reduced by eight and the station capacity is reduced by six (6).

### LEDs & Indicators:

Four red LEDs are located along the front edge of the TIE Line Interface Board, one for each TIE Trunk to indicate when it is in use or idle. Two green LEDs (DS1 & DS2) also located along the front edge are for monitoring the +5v and -5v supply voltages.

### CO Line/Station Interfaces:

The Station and CO Line ports of the Tie Line Interface Board are wired to the main distribution frame via a 25-pair, (50-pin) male amphenol type connector located on the front edge of the board, connector J1. A 25-pair cable with a 50-pin female amphenol-type connector is required to extend the Station and CO ports to the main distribution frame.
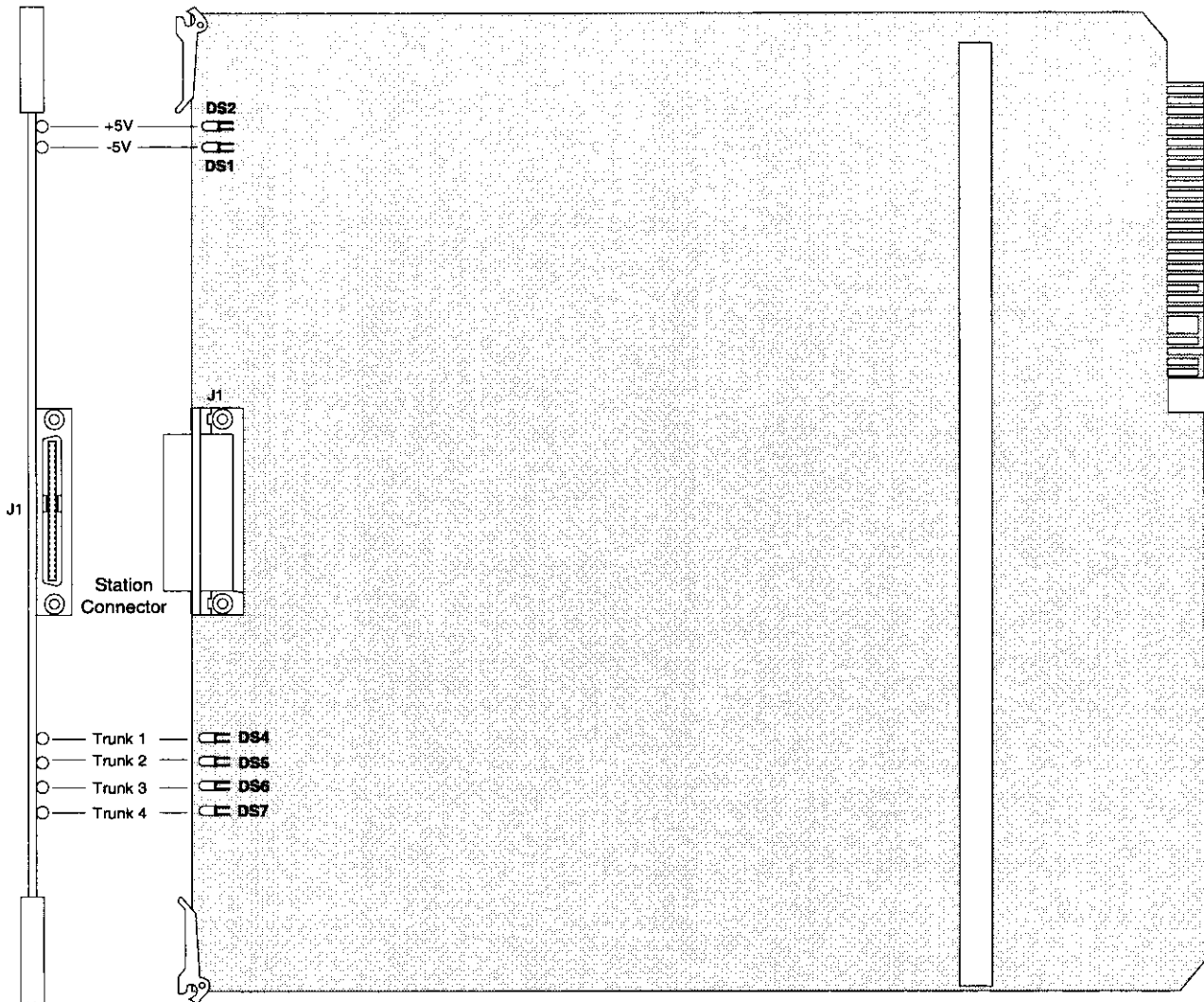


**Figure 400-9 TIE Line Interface Board (E&M)**

## J. T-1 Trunk Board

The T-1 trunk card provides the Starplus SPD 4896 Digital System the ability to connect to digital T-1 trunk circuits. The T-1 trunk card supports the standard D4 framing format with Alternate Mark Inversion (AMI) coding. The system can support E&M, loop start, ground start, and DID signaling per channel. The T-1 trunk card fits into one card slot, however, it takes up two card slots worth of time slots. Extended Superframe (ESF) format is not supported at this time. The System Memory Expansion Kit is required.

The T-1 trunk card can be used to connect 24 lines (24 channels per T-1 circuit) from a central office to the system. These lines can be any mix of inbound WATS, outbound WATS, standard DDD lines, DID lines, or E&M lines, etc.

The T-1 trunk card interfaces to a high speed data line with a 1.544 megabyte per second data line. The T-1 is divided up in to 24 channels of 64 kilobits per second per channel. One voice connection can be carried on a two-way 64 kilobit per second data channel.

Each of the 24 channels consists of a 64 kilobit data stream with a small portion of the bandwidth being used to provide signaling. The signaling protocols provided with this technique are: Loop Start, Ground Start, and E&M. The Starplus SPD 4896 Digital System uses the E&M signaling simulation from the Central Office to add the additional protocol of Direct Inward Dial (DID).

A T-1 trunk card can be installed in any peripheral card slot 1-18. Since the T-1 trunk card uses 24 time slots, the trunk card uses two card slots in the system. After a T-1 trunk card is installed, the card slot immediately to the left of the T-1 trunk card cannot be used. Four (4) T-1 trunk cards may be plugged into the system providing the maximum capacity of 96 trunks.

### LEDs & Indicators:

The T-1 trunk card has six LEDs mounted on the edge of the card for troubleshooting purposes. These LED's either light or flash to indicate a variety of conditions on the T-1 circuit. Two green LEDs (DS1 & DS2) also located along the front edge are for monitoring the +5v and -5v supply voltages.
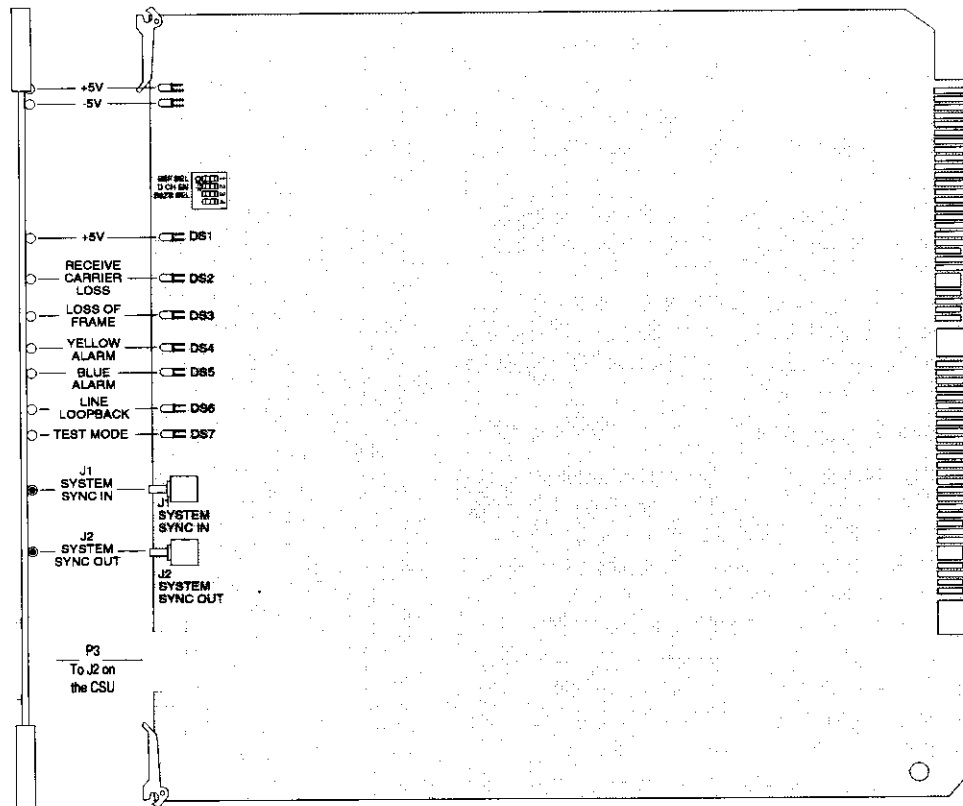


**Figure 400-10 T-1 Trunk Board**

## 400.3    APPLICATION MODULES

### A.    4-Circuit DTMF Receiver Module (DTM4)

This board provides four DTMF receivers for SL12 boards. This board is connected onto each SL12 board. Each SL12 board may contain 1 DTM4 board. No more than 3 SL12 boards with DTM4 Receiver Modules on them can be installed in the system.



DTM4 DTMF RCVR CARD
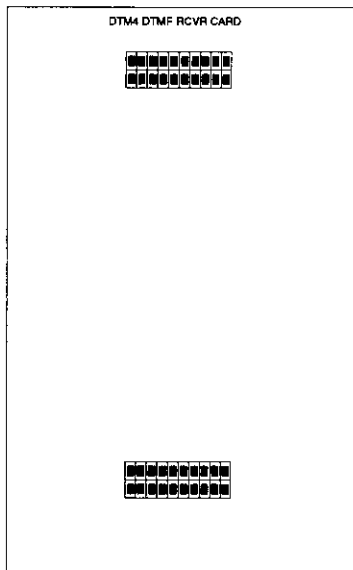
Wiring / Pinouts / Connections

The board has one molex connector at each end that plugs onto metal pins located on each SLT board.

Generally, one receiver will support DISA and/or eight SLT stations under light to moderate traffic. If SLT and or DISA traffic is heavy, additional DTMF receivers should be added. It is also recommended to add additional DTMF Receivers when a Voice Mail or Auto Attendant is connected to the system.

### B.    Tri-Output Power Supply

The Tri-Output power supply interfaces with the Single Line Board (SL12) and contains a -48V dc supply, 24V dc supply, and a Ring Generator. This is a wall mountable unit and contains screw type terminals for its connections. Each Tri-Output power supply can accommodate two SL12 boards for the -48V supply. The Ring Generator portion of the Tri-Output power supply can accommodate all SL12 boards installed in the system.

The Tri-Output power supply can provide a -48V dc source up to 1 amp of current. The 24V dc source will handle up to 1 amp of current. The Ring Generator can supply up to 5 watts of Ring voltage.

### C.    Backplane I/O Expansion Module

The Backplane I/O Expansion Module is a wall mount unit with a 36-pin input connector and four RS-232C output connectors.

The Backplane I/O Expansion kit consists of one connecting cable and the I/O Expansion Module.

Locate the Backplane I/O Expansion Module in a location on the MDF backboard convenient to the KSU.

## 400.4   DIGITAL TERMINALS

### A.   Executive (Display) Terminal

The 34-button Digital Terminal is one in a line of Digital electronic telephone terminals. The line consists of an Executive (Display) telephone, an Enhanced (non-display) telephone and a Basic telephone. These telephones are designed to operate with the new line of Starplus Digital Key Systems and PBX Systems.

The digital terminals are connected to the KSU via a four wire (two twisted pair) connection from an appropriate electronic terminal interface board.

### LCD Display:

The Executive Digital Display Terminal has a 48 character Liquid Crystal Display. The display provides information such as station extensions calling, Line ringing information, camp-on information, Message waiting information and so on. The LCD Display is a 48-character display divided into 3 fields:

- Field 1 = Current Status (top line, 24-characters)
- Field 2 = Date (Left half of bottom line, 12-characters)
- Field 3 = Time of day (Right half of bottom line, 12-characters)

These fields are separately maintained by the KSU processing to show current and pending station activity. Each field is re-created upon any display change except additional digits which are added to the end of the existing display.

The terminal communicates to the KSU through two 64K digital channel arrangements. One channel is used as the primary voice channel, a second is used for terminal to KSU command transmission. Power is also provided to the terminal via the four wire connection.

### Buttons and LEDs:

The Executive Digital Terminal printed circuit board provides long life "super bright" Light Emitting Diodes (LEDs) and button assemblies that protrude through the top housing. The buttons are small rectangular in shape with a clear end for proper LED visibility and diffusion. The Executive Digital Terminal has 34-buttons all containing LEDs plus a 12-key dial pad.

The Executive Digital Terminal scans the key board for dial pad and button debounces and depressions for command transmission to the KSU. The keyset has the following buttons defined as follows:

### Display and Non-Display:

12 Dial Key Pad*

28 Flexible Buttons, of which there is:
- 1 Camp-On button (flexible)
- 1 Line Que button (flexible)
- 1 Call Back button (flexible)
- 1 Pick_up button (flexible)
- 1 MSG button (flexible)
- 1 FWD button (flexible)
- 1 DND button (flexible)
- 1 CONF button (flexible)

6 Fixed Feature buttons:
- 1 HOLD button (fixed)
- 1 TRANS button (fixed)
- 1 FLASH button (fixed)
- 1 SPEED button (fixed)
- 1 MUTE button (fixed)
- 1 ON/OFF button (fixed)

* All buttons except the 12-key dial pad have an LED associated with it. Refer to Figure 400-11 Executive Digital Terminal.

### Speakerphone:

Each Executive Digital Terminal is equipped with a unit that enables the telephone to be used handsfree in two-way conversations. The user activates the speakerphone by pressing the ON/OFF button (LED lights steady). To terminate a speakerphone call, the ON/OFF button is toggled OFF (LED extinguished). The MUTE feature is used in conjunction with the speakerphone option. To mute the speakerphone microphone, the MUTE button is pressed (LED lights steady). To reactivate the microphone, the MUTE button is pushed again (LED extinguished).

Several programmable options control the speakerphone operation. Each digital terminal can be programmed for full speakerphone operation, or monitor/On-Hook dialing capabilities with no full speaker phone operation.

When Automatic Pre-selection is enabled at the station when any button is pressed (i.e. CO, DSS, Page etc...) the station and speakerphone is automatically activated.

### Volume Controls:

Separate "slide" switches are provided on the front of the Starplus Digital Terminal to adjust the volume of the voice and tones presented to the terminal speaker.
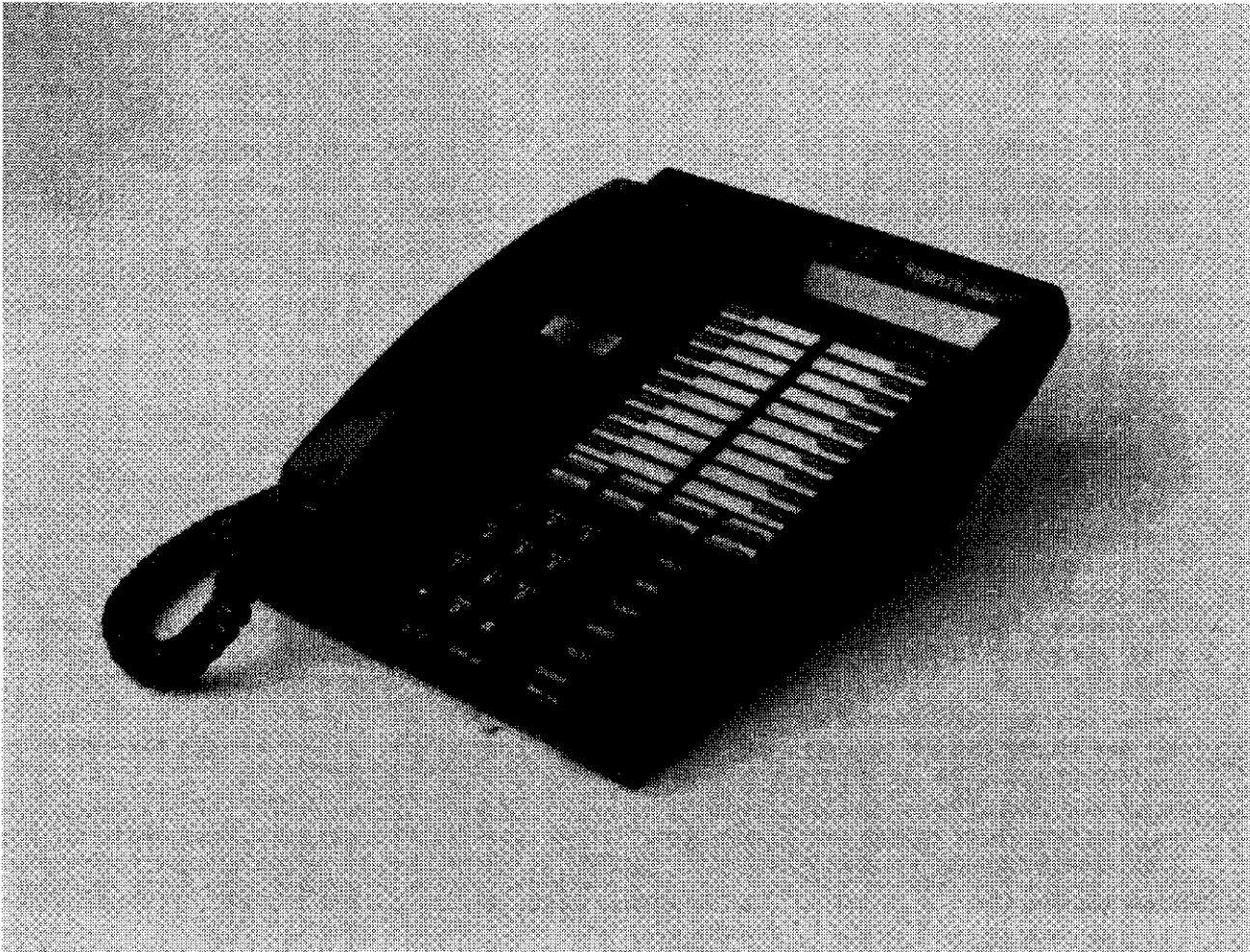
Figure 400-11 Executive Digital Terminal

- The "SPKR VOL" will control all voice signals sent to the speaker i.e. Speaker Phone conversations, BGM, and Page announcements.
- The "RING VOL" will control all tone signals presented to the speaker i.e. Ringing, splash tones, Camp-On etc... Muted ringing will also be controlled by the ringing volume slide switch. The muted ringing volume will be proportionately quieter than normal ringing based on the current switch setting.

### H-T-P Switch:

A three position slide switch is located on the front of the Digital Display Terminal that controls the method of receiving intercom calls.
- The "H" position allows intercom call announce with hands free reply.
- The "T" position provides Tone only intercom ringing
- The "P" position allows Call Announce intercom calls only.

This switch allows users to set and control the method in which they receive their intercom calls. However, a dial code that users can dial before placing an intercom call can override a called station's switch setting of "H" or "P" to force the station to Tone ring.

### Directory Tray:

Each Executive Digital Terminal is equipped with a slide-out Directory Tray accessed from the front of the digital terminal.

### Wall Mounting:

The Executive Digital Terminal was designed with a reversible base that will allow the terminal to be wall mounted on industry on industry standard 630 type wall jacks. A 4-inch line cord is also provided as a standard item with each phone (the line cord is placed inside the reversible wall mount base).

### Handset/line Cords:

The Executive Digital Terminal uses a color coordinated K-Style handset with a matching 12-foot handset cord. A 9-foot four conductor base line cord is included with every Terminal.

The Executive Digital Terminal uses an electret-type transmitter. Compatible headsets can be plugged into the Terminals handset jack for headset operation.

### B. Executive/PC Interface Terminal (ICLID)

The Executive/PC Interface Terminal is similar to the Executive Display model and all of the information listed above applies to the Executive/PC Interface model except this terminal is used to deliver specific data messages identifying call states to a device attached to the phone via a serial channel following the data transmission requirements of RS-232C. The interface parameters to be used are 2400bps, no parity, 8 data bits, and 1 stop bit. This feature will deliver ICLID data to a Personal Computer attached to the phone for look-up of customer records and subsequent processing by the individual answering the telephone call. Calls can also originate from the Personal Computer through the digital terminal.

The Executive/PC Interface terminal provides transmit, receive, and ground data lines from the phone micro-processor which are used on command from the KSU to output information. The use of this capability would be to output the ICLID information to a PC attached to the phone. The VODAVI Call Tracker software program is available to support these Caller ID applications. Future use could be made of this capability for low speed data provided to equipment attached to the phone.

### C. Enhanced Digital Terminal

The Enhanced Digital Terminal is similar to the Executive Digital Terminal and all of the information listed above applies except there is no LCD display.
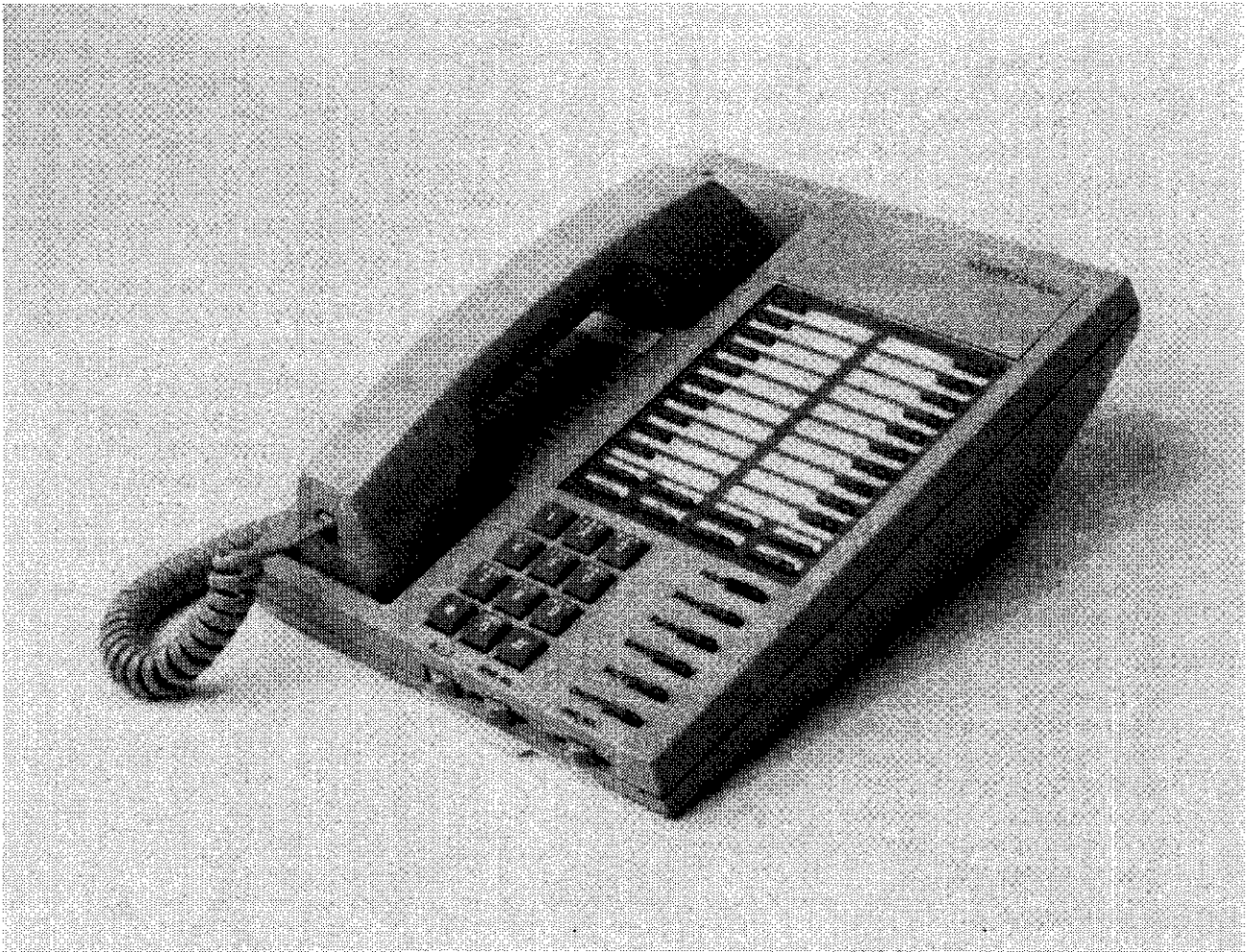
**Figure 400-12 Enhanced Digital Terminal**

## D. Basic Digital Terminal

The Basic Digital Terminal is one in a line of digital electronic telephone terminals. This new telephone is designed to operate with the line of Starplus Digital Key Systems and PBX Systems.

### Buttons and LEDs:

The Basic Digital terminal key board PCB provides long life "super bright" Light Emitting Diodes (LEDs) and button assemblies that protrude through the top housing. The buttons are small rectangular in shape with a clear end for proper LED visibility and diffusion. The 14-button Digital Terminal has eight buttons all containing LEDs plus a 12-key dial pad.

The Basic Digital Terminal scans the key board for dial pad and button debounces and depressions for command transmission to the KSU. The keyset has the following buttons defined as follows:

12 Dial Key Pad*

14 buttons, 8 of which are flexible
- 1 CO Line 1 button (flexible)
- 1 CO Line 2 button (flexible)
- 1 LOOP button (flexible)
- 1 POOL button (flexible)
- 1 MSG button (flexible)
- 1 FWD button (flexible)
- 1 DND button (flexible)
- 1 CONF button (flexible)
6 Fixed Feature buttons:
- 1 HOLD button (fixed)
- 1 TRANS button (fixed)
- 1 FLASH button (fixed)
- 1 SPEED button (fixed)
- 1 MUTE button (fixed)
- 1 ON/OFF button (fixed)

* All buttons except the 12 key dial pad, have an LED associated with it. Refer to Figure 400-13 Basic Digital Terminal.

### Speakerphone:

Each Basic Digital Terminal is equipped with a unit that enables the telephone to be used handsfree in two-way intercom conversations only. The user activates the speakerphone by pressing the ON/OFF button (LED lights steady). To terminate a speakerphone call, the ON/OFF button is toggled OFF (LED extinguished). The MUTE feature is used in conjunction with the speakerphone option. To mute the speakerphone microphone, the pre-programmed MUTE flex button is pressed (LED lights steady). To reactivate the microphone, the MUTE button is pushed again (LED extinguished).

### Volume Control:

Separate "slide" switches are provided on the front of the Starplus Basic Digital Terminal to adjust the volume of the voice and tones presented to the terminal speaker.
- The "SPKR" slide switch controls the speaker volume which controls all voice signals sent to the speaker i.e. intercom conversations, BGM, and Page announcements.
- The "RING" slide switch controls the ringing volume which controls all tone signals presented to the speaker i.e. Ringing, splash tones, Camp-On etc... Muted ringing is also controlled by the slide switch. The muted ringing volume will be proportionately quieter than normal ringing based on the current switch setting.

### H-T-P Switch:

A three position slide switch is located on the front of the Basic Digital Terminal that controls the method of receiving intercom calls.
- The "H" position allows intercom call announce with hands free reply.
- The "T" position provides Tone only intercom ringing
- The "P" position allows Call Announce intercom calls only.

This switch allows users to set and control the method in which they receive their intercom calls. However, a dial code that users can dial before placing an intercom call can override a called station's switch setting of "H" or "P" to force the station to Tone ring.

### Directory Tray:

Each Basic Digital Terminal is equipped with a slide-out Directory Tray accessed from the front of the digital terminal.

### Wall Mounting:

The Basic Digital Terminal was designed with a reversible base that allows the terminal to be wall mounted on industry standard 630 type wall jacks. A 4-inch line cord is also provided as a standard item with each bracket.

### Handset/line Cords:

The Basic Digital Terminal uses a color coordinated K-Style handset with a matching 12-foot handset cord. A 9-foot four conductor base line cord is included with every Terminal.

The Basic Digital Terminal uses an electret-type transmitter. Compatible headsets can be
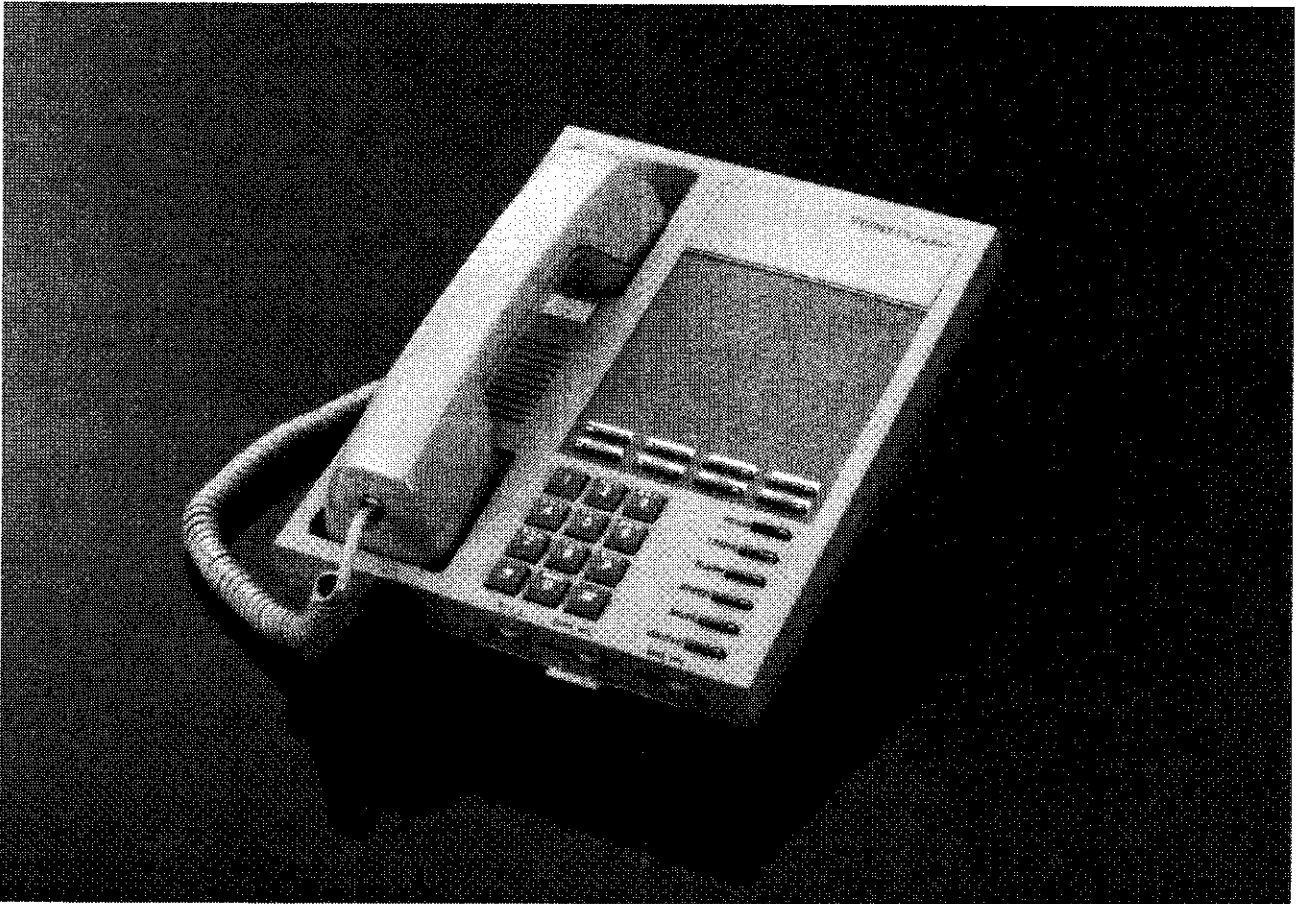
**Figure 400-13 Basic Digital Terminal**

plugged into the Terminals handset jack for headset operation.

## E. Digital DSS/DLS Console

The Digital Direct Station Selector /Direct Line Selector (DSS/DLS) Consoles can be installed in place of any digital terminal circuit. The DSS/DLS Digital Console was designed in a housing similar in looks to the 34-button digital terminal.

The Direct Station Selector/Direct Line Selector (DSS/DLS) Console to be used with the family of Starplus digital systems is modular in nature. The DSS/BLF console provides 48 buttons (3 columns of 16 buttons) and requires a separate four-conductor line cord each connected to a digital terminal station port.

The DSS/DLS Console unit can access Stations, Direct Appearing CO Lines, or features that may be assigned to any of the flexible buttons.

A DSS/DLS unit may be assigned to one of the different MAP configurations available. Any one of the four MAP configurations may be assigned to the DSS/DLS and any number of maps may be assigned to one station. However, MAPs that have buttons assigned as CO lines cannot be changed, buttons assigned as Stations can be changed by the user. Up to three DSS/DLS units may be assigned to one station.

## DSS/DLS Console Button Mapping

The buttons on the DSS/DLS console can be mapped with either a combination of fixed and flexible or completely flexible buttons where the station user may change the button programming to suit their needs.

There are five pre-defined MAPs for the DSS/DLS Console with default Button Programming. Refer to Figure 400-15 DSS Console Map 1, Figure 400-16 DSS Console Map 2 and Map 3, and Figure 400-17 DSS Console Map 4 and Map 5 for a button layout of each DSS Console Map.
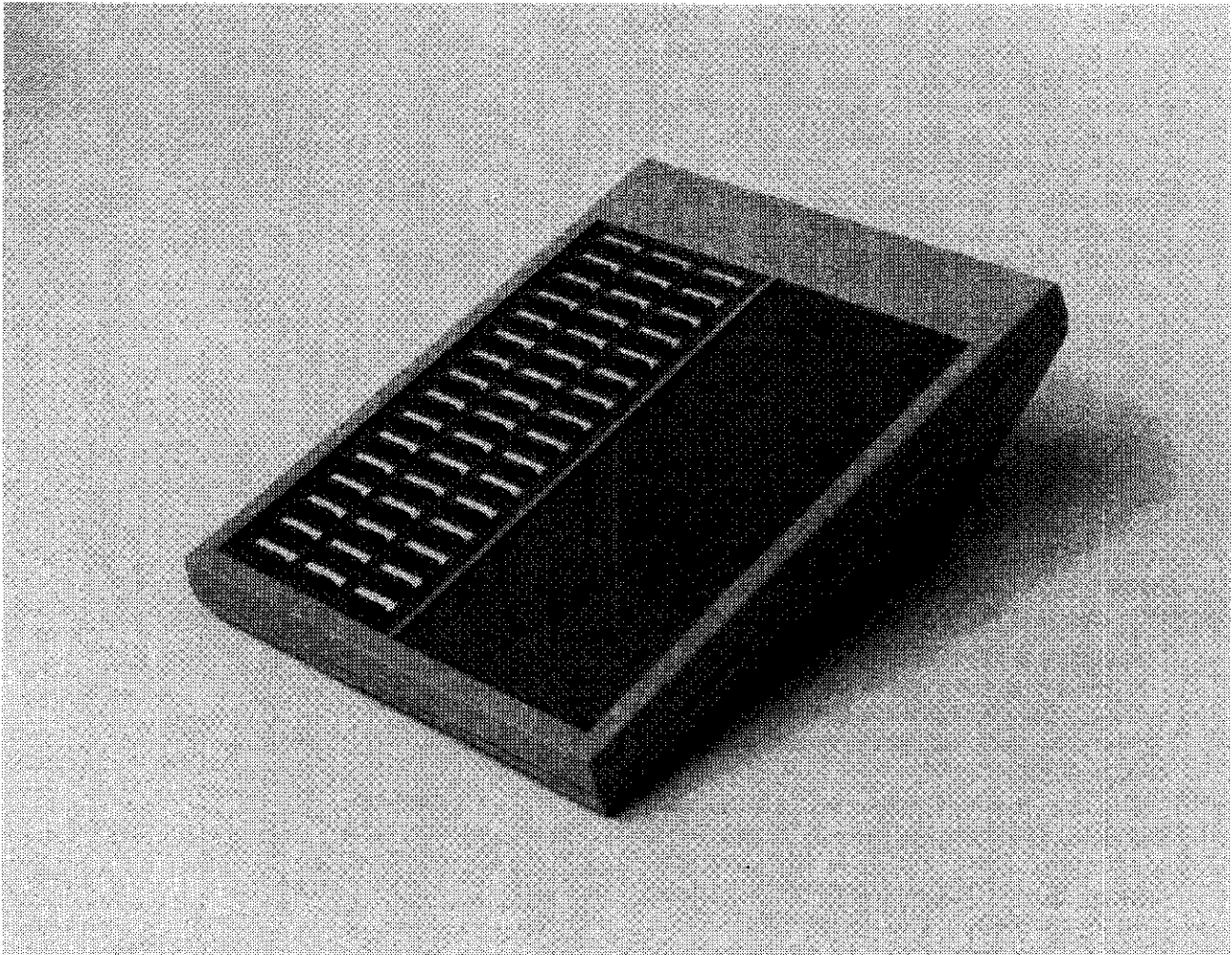
Figure 400-14 48-Button DSS/DLS Console

**MAP #1** has by default the first 12 CO lines and the first 36 Stations 100-135. This provides a default layout of a 12x36 configuration.

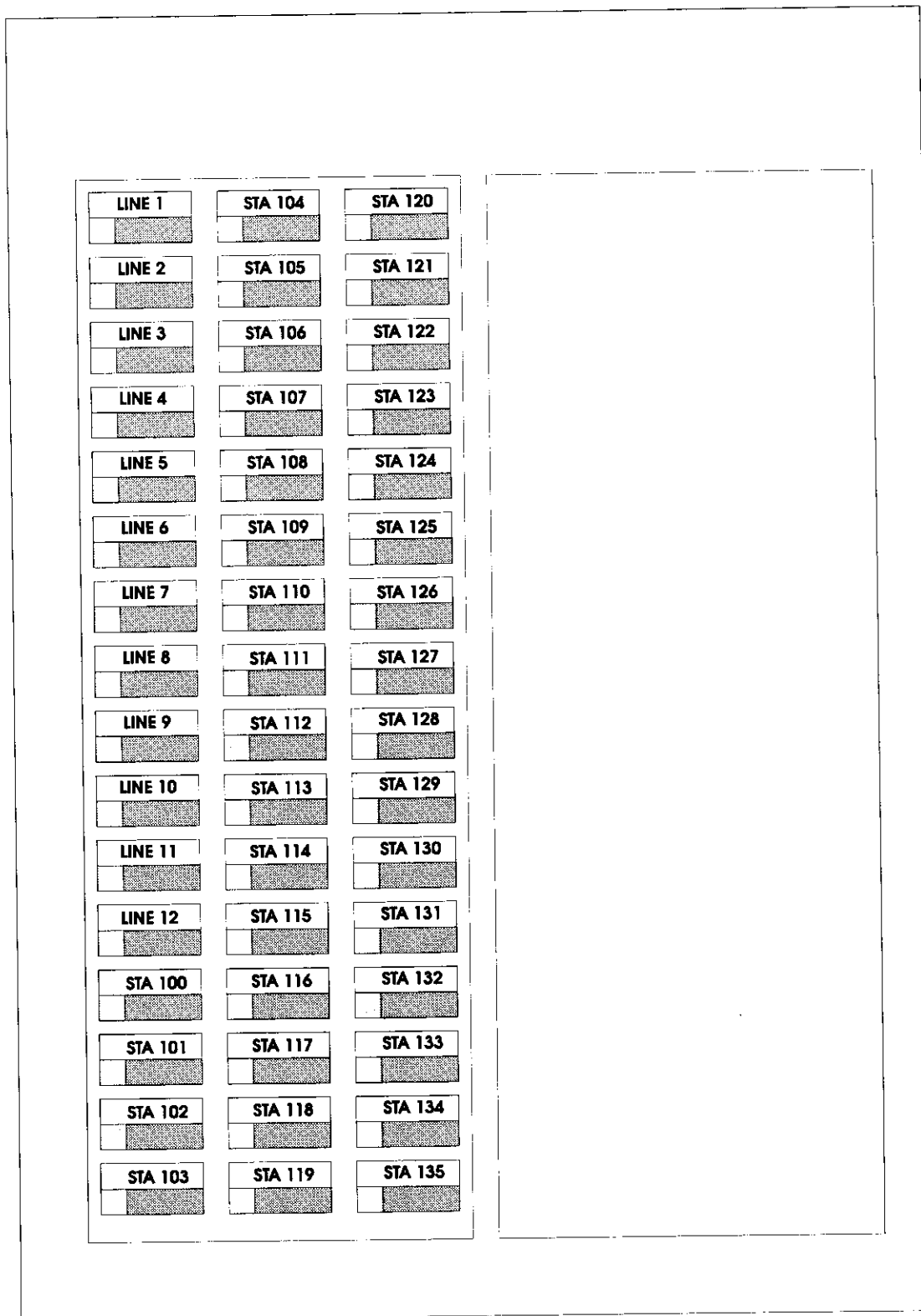| | | |
|---|---|---|
| LINE 1 | STA 104 | STA 120 |
| LINE 2 | STA 105 | STA 121 |
| LINE 3 | STA 106 | STA 122 |
| LINE 4 | STA 107 | STA 123 |
| LINE 5 | STA 108 | STA 124 |
| LINE 6 | STA 109 | STA 125 |
| LINE 7 | STA 110 | STA 126 |
| LINE 8 | STA 111 | STA 127 |
| LINE 9 | STA 112 | STA 128 |
| LINE 10 | STA 113 | STA 129 |
| LINE 11 | STA 114 | STA 130 |
| LINE 12 | STA 115 | STA 131 |
| STA 100 | STA 116 | STA 132 |
| STA 101 | STA 117 | STA 133 |
| STA 102 | STA 118 | STA 134 |
| STA 103 | STA 119 | STA 135 |

**Figure 400-15 DSS Console Map 1**

**MAP #2** has by default the first 48 Stations, 100-147. All buttons on Map #2 are flexible and can be changed by the station user. This map can be duplicated on another DSS/DLS Console and assigned to the same station.

**MAP #3** by default is intended to be used with Map #2 in that it has the remaining stations, 148-195 to provide a full Station mapping. All of the buttons on Map #3 are flexible and can be changed by the user. This map can be duplicated on another DSS/DLS Console and assigned to the same station.
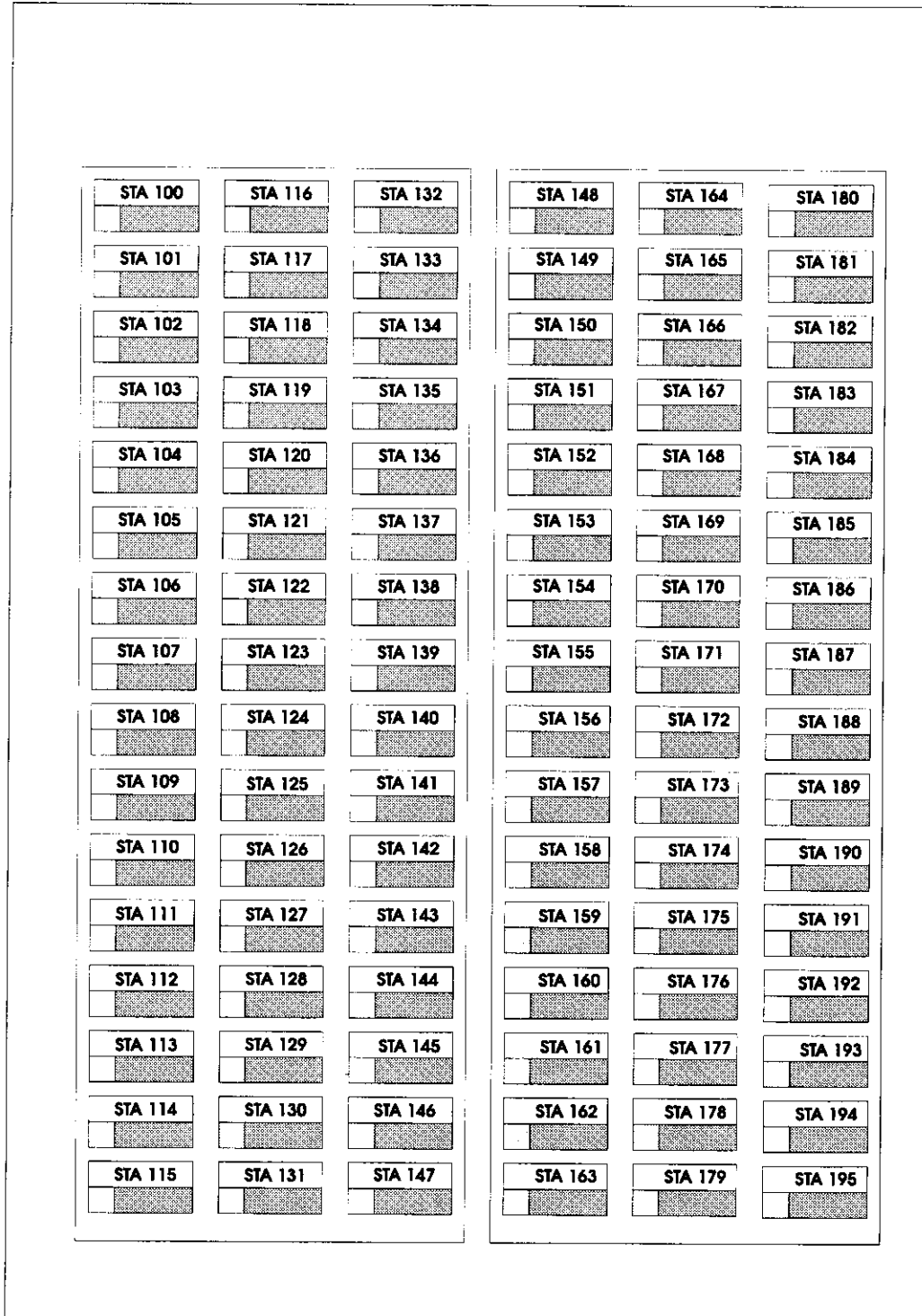
| STA 100 | STA 116 | STA 132 | STA 148 | STA 164 | STA 180 |
| STA 101 | STA 117 | STA 133 | STA 149 | STA 165 | STA 181 |
| STA 102 | STA 118 | STA 134 | STA 150 | STA 166 | STA 182 |
| STA 103 | STA 119 | STA 135 | STA 151 | STA 167 | STA 183 |
| STA 104 | STA 120 | STA 136 | STA 152 | STA 168 | STA 184 |
| STA 105 | STA 121 | STA 137 | STA 153 | STA 169 | STA 185 |
| STA 106 | STA 122 | STA 138 | STA 154 | STA 170 | STA 186 |
| STA 107 | STA 123 | STA 139 | STA 155 | STA 171 | STA 187 |
| STA 108 | STA 124 | STA 140 | STA 156 | STA 172 | STA 188 |
| STA 109 | STA 125 | STA 141 | STA 157 | STA 173 | STA 189 |
| STA 110 | STA 126 | STA 142 | STA 158 | STA 174 | STA 190 |
| STA 111 | STA 127 | STA 143 | STA 159 | STA 175 | STA 191 |
| STA 112 | STA 128 | STA 144 | STA 160 | STA 176 | STA 192 |
| STA 113 | STA 129 | STA 145 | STA 161 | STA 177 | STA 193 |
| STA 114 | STA 130 | STA 146 | STA 162 | STA 178 | STA 194 |
| STA 115 | STA 131 | STA 147 | STA 163 | STA 179 | STA 195 |

**Figure 400-16 DSS Console Map 2 and Map 3**

**MAP #4** has by default, CO Lines 1-48 appear in sequential order.

**MAP #5** has by default, CO Lines 49-96 appear in sequential order. Provides the receiving station with CO Line buttons when used in conjunction with DSS Map 4 for a full 96 CO Line mapping. CO Line ringing on Maps 1, 4 and 5 is determined by CO Line Ringing Assignments.
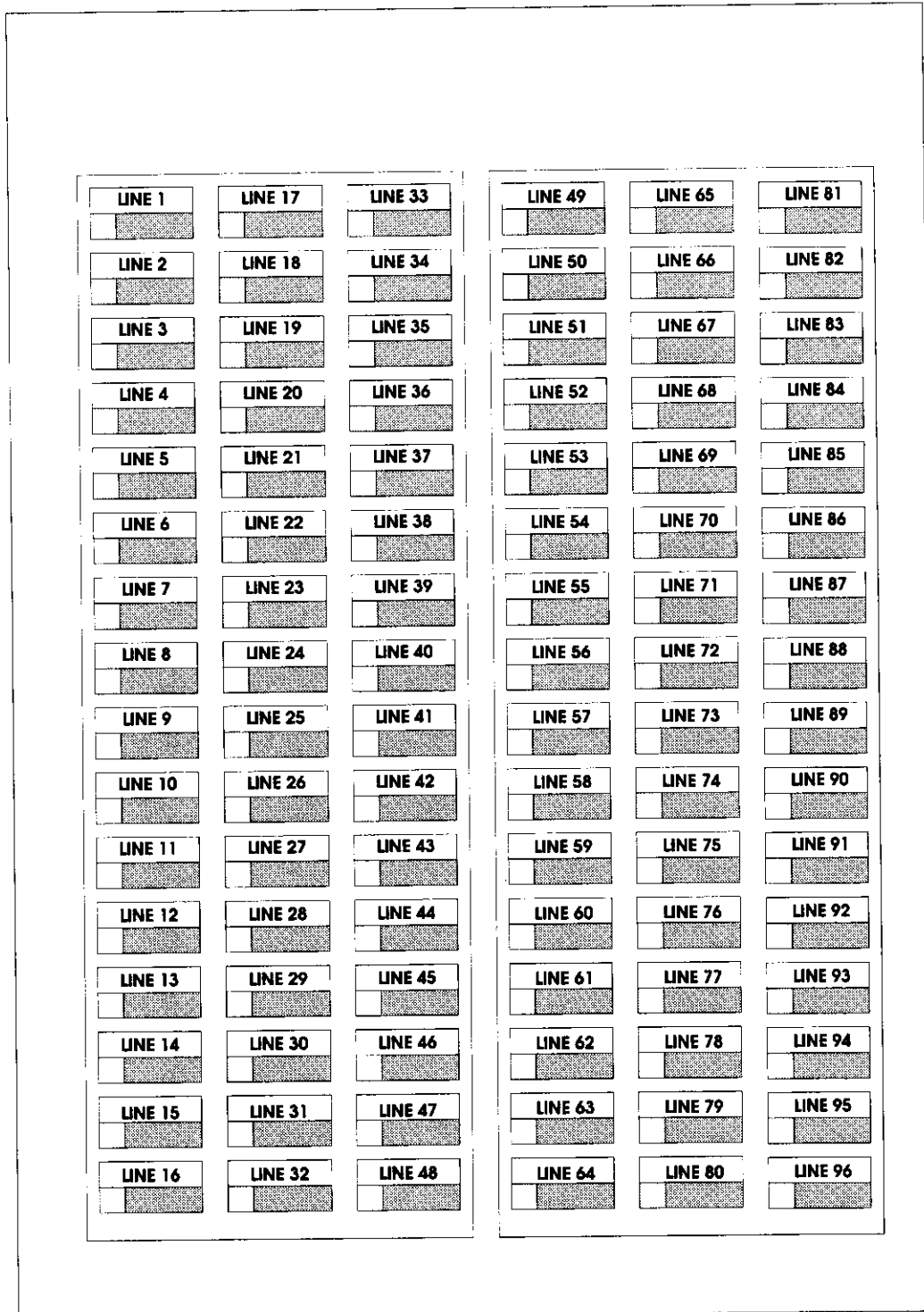
| LINE 1 | LINE 17 | LINE 33 | LINE 49 | LINE 65 | LINE 81 |
| LINE 2 | LINE 18 | LINE 34 | LINE 50 | LINE 66 | LINE 82 |
| LINE 3 | LINE 19 | LINE 35 | LINE 51 | LINE 67 | LINE 83 |
| LINE 4 | LINE 20 | LINE 36 | LINE 52 | LINE 68 | LINE 84 |
| LINE 5 | LINE 21 | LINE 37 | LINE 53 | LINE 69 | LINE 85 |
| LINE 6 | LINE 22 | LINE 38 | LINE 54 | LINE 70 | LINE 86 |
| LINE 7 | LINE 23 | LINE 39 | LINE 55 | LINE 71 | LINE 87 |
| LINE 8 | LINE 24 | LINE 40 | LINE 56 | LINE 72 | LINE 88 |
| LINE 9 | LINE 25 | LINE 41 | LINE 57 | LINE 73 | LINE 89 |
| LINE 10 | LINE 26 | LINE 42 | LINE 58 | LINE 74 | LINE 90 |
| LINE 11 | LINE 27 | LINE 43 | LINE 59 | LINE 75 | LINE 91 |
| LINE 12 | LINE 28 | LINE 44 | LINE 60 | LINE 76 | LINE 92 |
| LINE 13 | LINE 29 | LINE 45 | LINE 61 | LINE 77 | LINE 93 |
| LINE 14 | LINE 30 | LINE 46 | LINE 62 | LINE 78 | LINE 94 |
| LINE 15 | LINE 31 | LINE 47 | LINE 63 | LINE 79 | LINE 95 |
| LINE 16 | LINE 32 | LINE 48 | LINE 64 | LINE 80 | LINE 96 |

**Figure 400-17 DSS Console Map 4 and Map 5**

**400.5    SLT ADAPTER / OFF-PREMISE EX-
           TENSION MODULE**

This external module provides the interface for one long loop (OPX) single line telephone (2500 type) extension. This module requires a separately provided -48V dc power supply to provide the necessary current for long loop applications and to support ring generation. This module is wired to and interfaces with a digital terminal (key station) port from the Starplus SPD 4896 System.

The OPX box meets the requirements of the FCC for connection to the telephone (Telco) network. Telephones connected to the OPX box must be DTMF only (2500 type).

This module also provides for one Power Fail circuit in the event of an AC power failure and contains its own DTMF receiver.
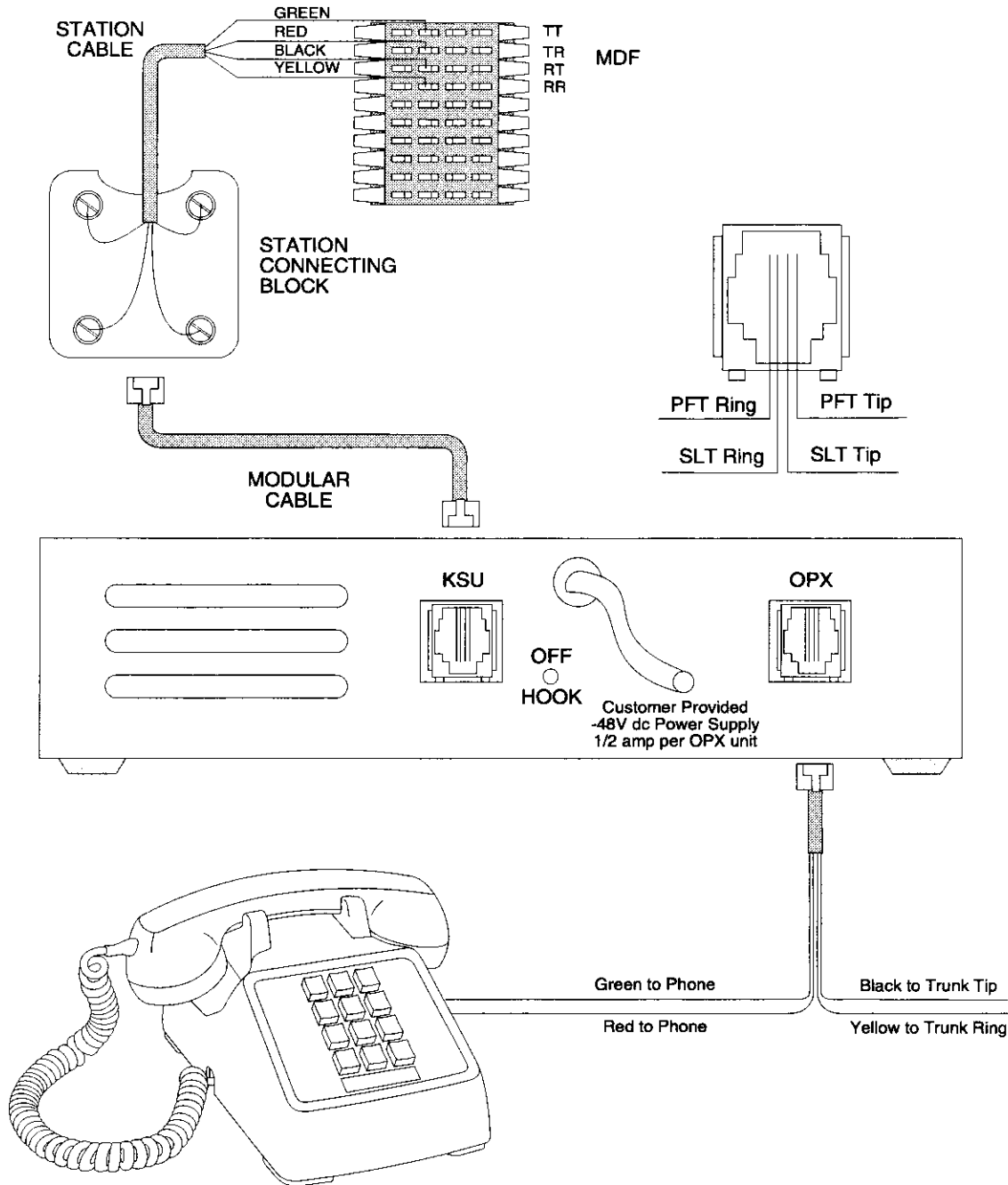


**Figure 400-18 Off-Premise Extension (OPX) Module**

## 400.6 RELAY / SENSOR INTERFACE MODULE

The Relay Sensor Interface Module connects to the Starplus SPD 4896 System using one digital station port and provides three relay activated contacts and three sensing circuits. The system will support up to 4 Relay/Sensor Modules. The relays provide for applications such as Loud Bell Control contacts, CO Line control contacts, RAN Start contacts, Page Relays, Power Fail contact

and additional applications as software will permit. The sensing circuits provide for such applications as RAN Stop (end of message) and other applications as developed and allowed by software.

An external power source is required to drive equipment connected to the relay contacts. The contacts are rated at 24V dc max. at 1 amp.
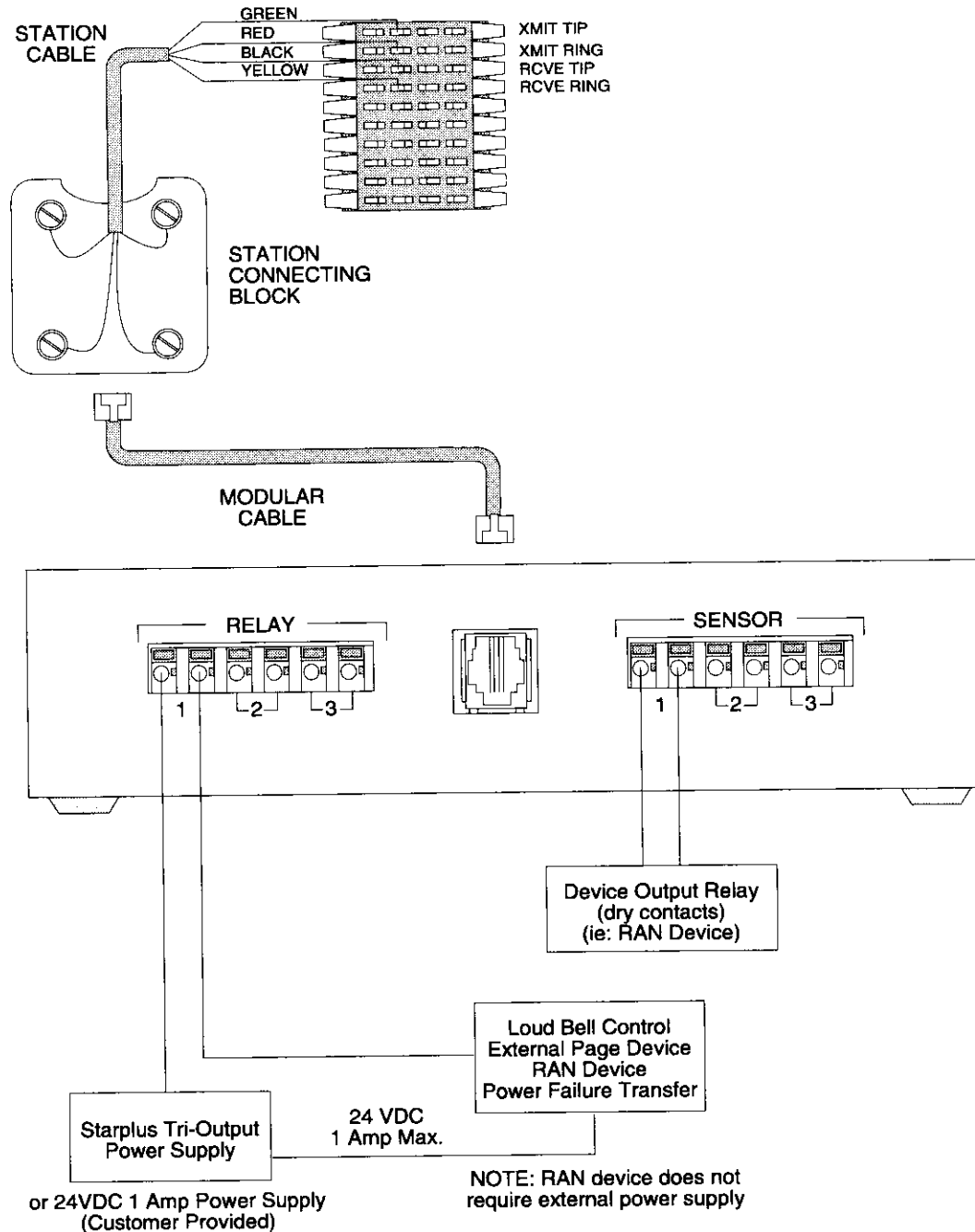


**Figure 400-19 Relay / Sensor Interface Module**

### 400.7    POWER FAILURE TRANSFER UNIT (PFTU)

This unit provides the relay transfer circuits for up to 12 CO lines in the event of a power or processor failure. The unit is housed in its own enclosure and mounts external to the KSU. Activation of the PFT relays is controlled by the Relay/Sensor Interface Module that is programmed for PFT. A customer provided 12V dc power supply is required to operate the unit. There is a manual switch that activates the PFTU for testing purposes.

With loss of power to the system or a failure of system processing, the PFTU will automatically connect up to twelve CO lines to prewired 500/2500 type telephones. When power is restored, the PFTU will automatically restore the CO trunks and stations to normal operation. These SLT stations do not have to be used for intercom, but can be if so desired.
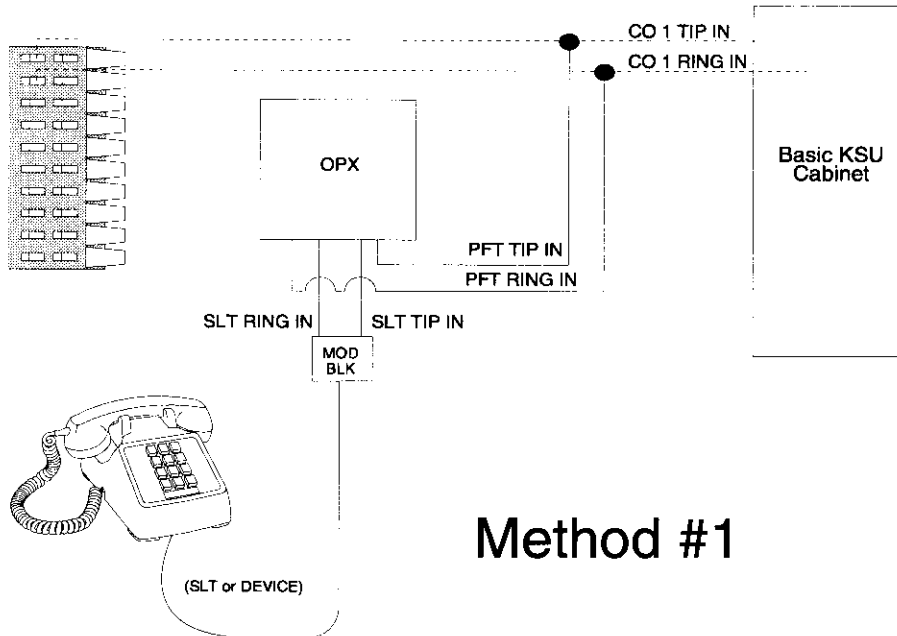


## Method #1
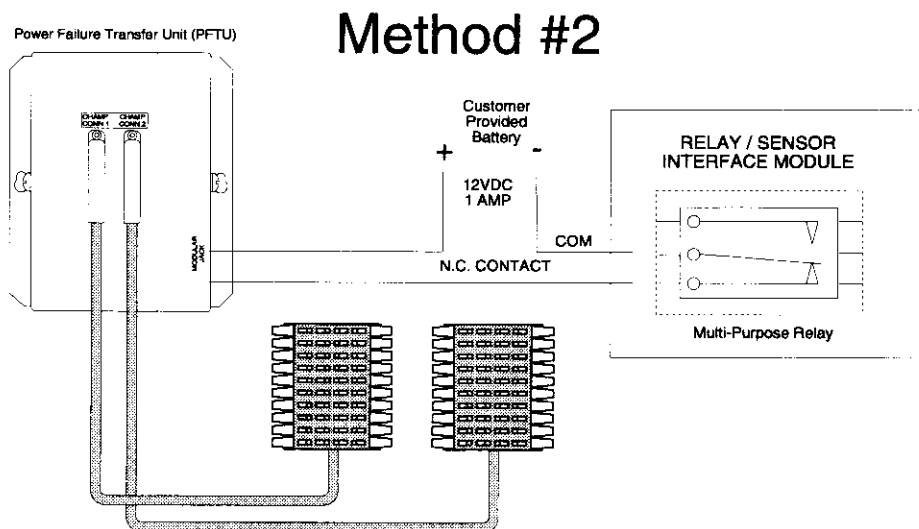


## Method #2

**Figure 400-20 Power Failure Transfer Wiring Options**
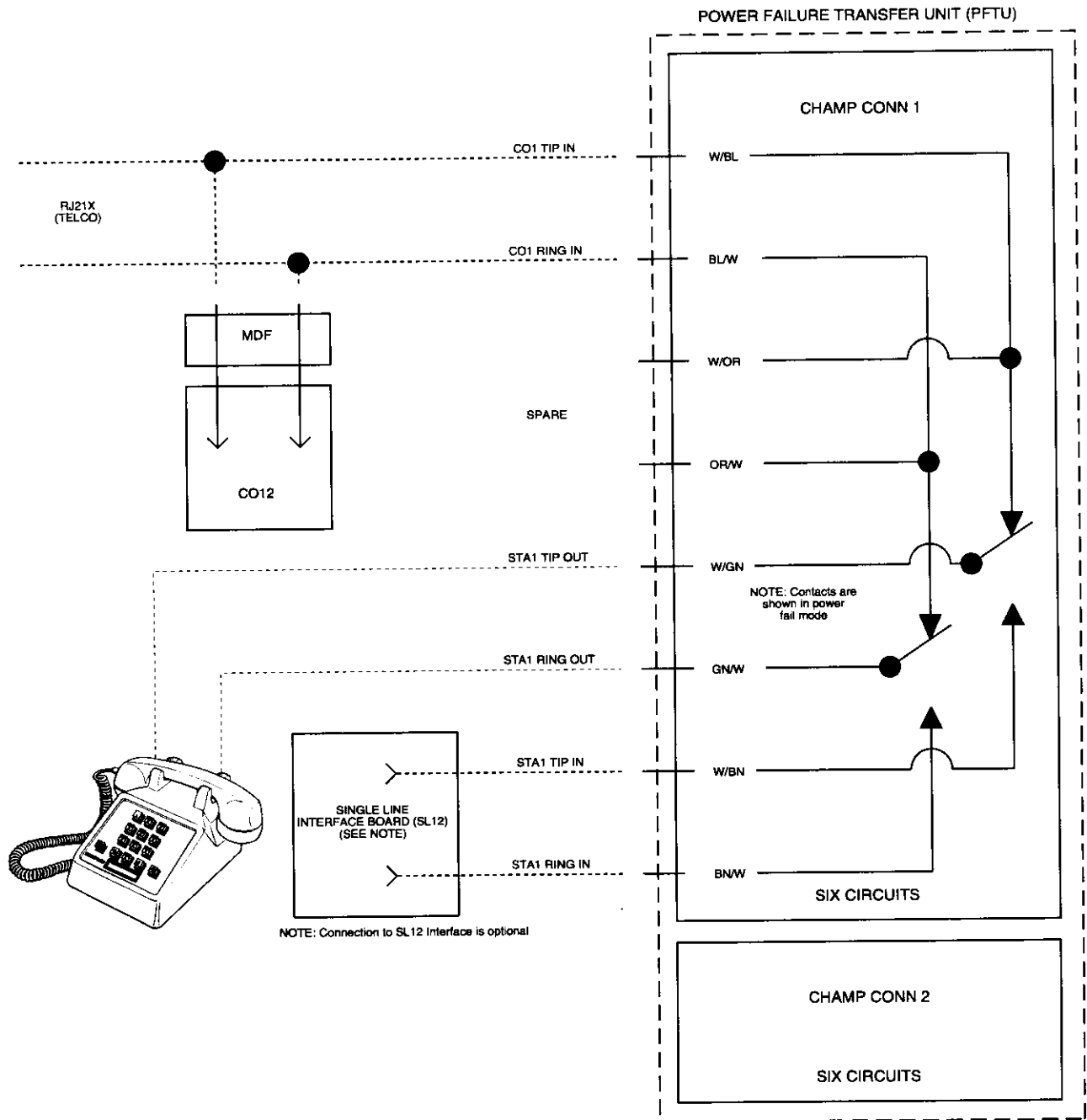
**Figure 400-21 Power Failure Transfer Circuit**

## 400.8 DATA FEATURE

The Data Feature is a time division switched, point to point data transmission capability which permits simultaneous (on the same system but not the same port) voice and data communications. The Data Feature offers the ability to transmit data information between personal computers, printers, plotters, modems, CRT terminals, and main frame computer ports.

To establish a Data call, a Digital Data Interface Unit (DDIU) is required to be connected to each data communications device. Data information can be switched through the system at speeds of 300, 1200, 2400, 4800, 9600, 19.2K and 38.4K baud asynchronous. Refer to Figure 400-22 Digital Data Interface Unit (DDIU) wiring.

The Digital Data Interface Unit (DDIU) is wired to the Starplus Digital Key Telephone Systems like a digital telephone, and requires one station port.

All connections to the DDIU are made on the back panel. The back panel has a modular jack and a DB-25 type connector. The modular jack, labeled KSU, is used to connect the DDIU to the station port of the system. The DB-25 connector supports an RS-232C connection and is used to connect the data device to the system.

A green LED lights to indicate the DDIU is properly wired to the system.

Connection of the individual data communication devices requires that the installer be familiar with data communications terms, and has access to the appropriate information for connecting the variety of data communications devices that may be encountered. This information consists of, but is not limited to:

1. Is the device configured as data terminal equipment (DTE), or data communications equipment (DCE.

2. What pin on the RS-232C type connector performs what function?

3. What signal leads are required to make the device operate?

When planning the installation of the data feature, use a digital display phone at any location that is to originate a data connection. A DDIU can only be called; it cannot originate a connection. A DDIU would typically be used in conjunction with the digital display phone. A DDIU would typically be connected to a printer, or a MODEM.

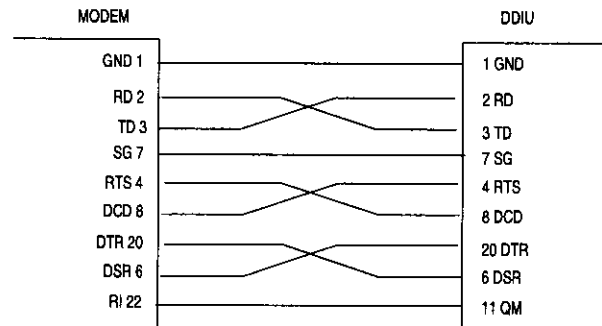The station wiring for a digital display phone and a DDIU are identical.

The data connector of the Digital Data Interface Unit (DDIU) is a 25-pin, type D connector which is configured as Data Communications Equipment with the following pin configurations.

| PIN # | USE | DIRECTION |
|---|---|---|
| 2 | Receive Data | DDIU |
| 3 | Transmit DATA | DDIU |
| 4 | Request To Send | DDIU |
| 5 | Clear To Send | DDIU |
| 6 | Data Set Ready | DDIU |
| 7 | Signal Ground | |
| 8 | Data carrier detect | DDIU |
| 20 | Data Terminal Ready | DDIU |

The following diagram will aid in the design of cables to connect the many different configurations of data communications devices.
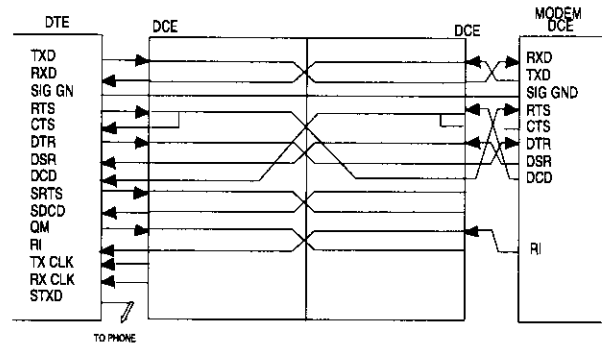


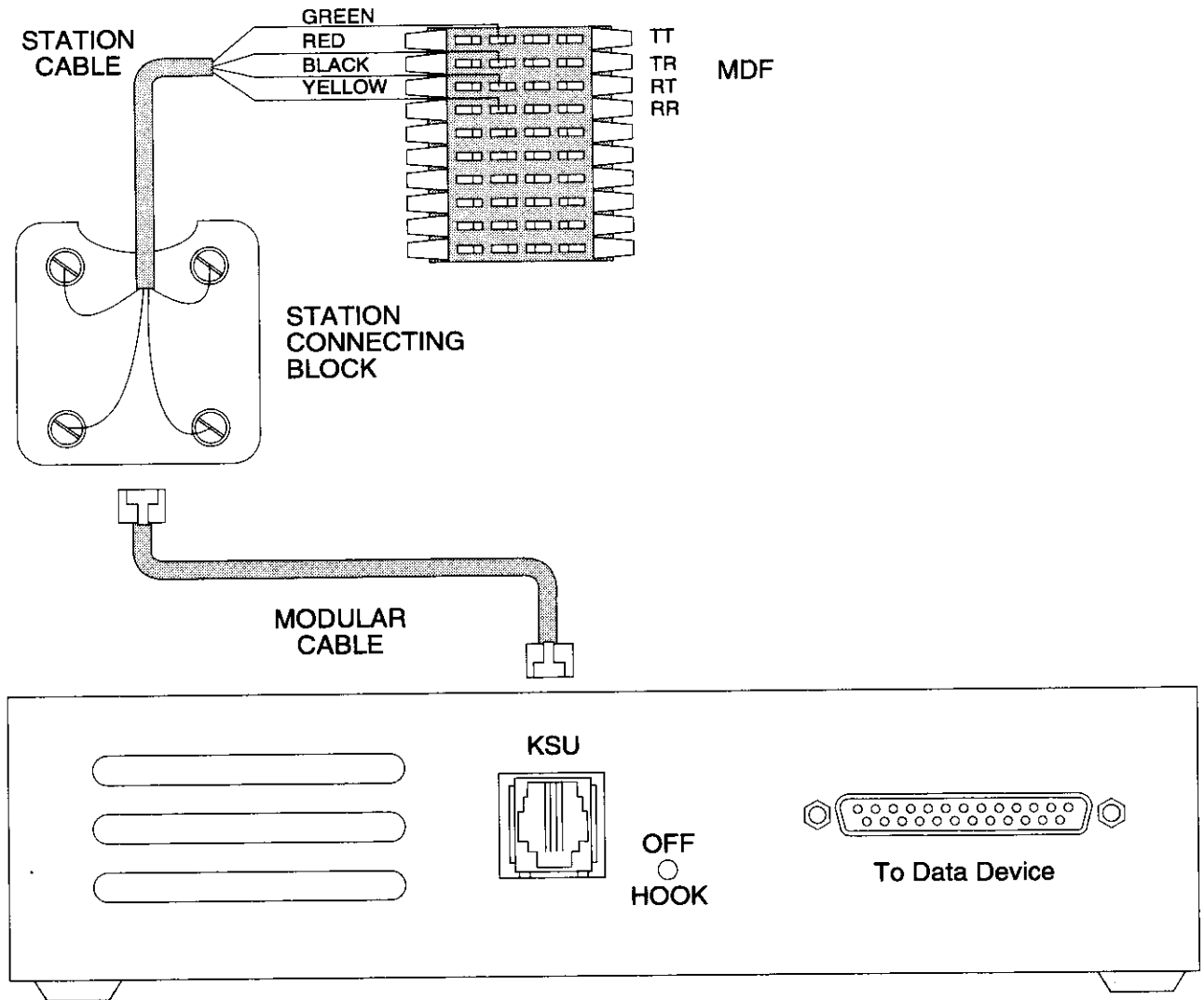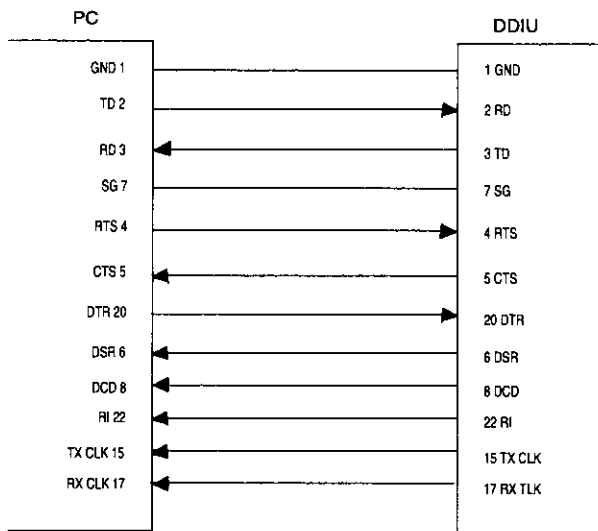**Digital Systems Data Switching**



**Modem to DDIU Cable**

STATION
CABLE

GREEN
RED
BLACK
YELLOW

TT
TR
RT
RR

MDF

STATION
CONNECTING
BLOCK

MODULAR
CABLE

KSU

OFF
○
HOOK

To Data Device

**Figure 400-22 Digital Data Interface Unit (DDIU) wiring**

```
     PC                                    DDIU
   ┌──────────┐                        ┌──────────┐
   │  GND 1   │────────────────────────│ 1 GND    │
   │   TD 2   │───────────────────────▶│ 2 RD     │
   │   RD 3   │◀───────────────────────│ 3 TD     │
   │   SG 7   │────────────────────────│ 7 SG     │
   │  RTS 4   │───────────────────────▶│ 4 RTS    │
   │  CTS 5   │◀───────────────────────│ 5 CTS    │
   │  DTR 20  │───────────────────────▶│ 20 DTR   │
   │  DSR 6   │◀───────────────────────│ 6 DSR    │
   │  DCD 8   │◀───────────────────────│ 8 DCD    │
   │   RI 22  │◀───────────────────────│ 22 RI    │
   │ TX CLK 15│◀───────────────────────│ 15 TX CLK│
   │ RX CLK 17│◀───────────────────────│ 17 RX TLK│
   └──────────┘                        └──────────┘
```

**Computer to DDIU Cable**

To establish a connection to any idle data port:

1. A user with an associated DDIU dials the station number of the DDIU or the group access number of the group that the DDIU has been inserted into or presses a DSS button representing the DDIU. The digital key system will then determine the baud rate setting for the called DDIU and convert the user's associated DDIU to the same baud rate. The system will then complete the connection.

A second method to establish a connection between two DDIUs is done by the first attendant.

1. The first attendant dials the extension number of one data unit. Dial tone is received and the display will show the BAUD RATE.

2. Then dials the station number of the second data unit, confirmation tone is heard.

To break down an established connection:

1. The station user dials his associated DDIU number or press the DSS button for the associated DDIU followed by pressing the FLASH button. The first attendant can also force a disconnect by dialing one of the DDIUs, followed by pressing the FLASH button.

Conditions:

- The System is transparent to the devices being connected. Therefore each DDIU must be configured with a specific baud rate, number of data bits and number of stop bits. This configuration will be done by the first attendant or in the case of an associated data unit can be configured by the user.

- Data switching is accomplished using the same wiring the telephone station uses for voice switching.

- Data ports can be arranged in UCD Groups or Hunt Groups.

- Data ports do not have to be associated with a keyset, however to connect two DDIU devices one of them must be associated with a keyset unless the connection is made by the first attendant.

- When the data connection has been completed, the baud rate used in the connection will be displayed on the keyset.

- Non associated DDIU connections can be broken down by the first attendant.

- A DDIU has a DCE interface. Therefore a straight through RS-232C cable can be used connect to a DTE device (printer, PC, etc.).

- Each DDIU requires a digital terminal port.

Refer to Station Attributes Programming, 630.2, Station Identification for programming the Station ID of the Digital Data Interface Unit (DDIU). Also refer to Sec. 630.3, Digital Data Interface Unit (DDIU) for programming the parameters of the Digital Data Interface Unit (DDIU).

### 400.9 SYSTEM SPECIFICATIONS AND CAPACITY

The Starplus SPD 4896 system is card slot cabinet oriented with plug in modules (cards) expanding the system via station boards and CO boards. The boards are configured as 12 CO/PBX/Centrex lines, 12 digital stations, or 12 single line stations. A complete system capacity allows for use of up to 216* ports for Stations, CO Lines, or Data switching Modules.

DSS/DLS's can be installed in place of any Digital Key terminal. Standard single line telephones (2500 type) can be supported instead of key stations by installing single line boards (SL12) in place of the key station board (KT12). Twelve single line telephones can replace 12 Digital Display Terminals for each board exchanged. An ON/OFF switch is located on the front of the power supply.

- The system capacities are listed in Table 400-1 Digital System Capacities.

- Electrical specifications are listed in Table 400-2 Electrical Specifications.

- Environmental specifications are listed in Table 400-3 Environmental Specifications.

- Loop limits are listed in Table 400-4 Loop Limits.

- Dialing specifications are listed in Table 400-5 Dialing Specifications.

- FCC Registrations Numbers are listed in Table 400-6 FCC Registration Numbers.

- Trunk Ordering information is listed in Table 400-7 Trunk Ordering Info: Public Network Lines and Table 400-8 Trunk Ordering Info: Private Lease Lines.

- Miscellaneous Specifications are listed in Table 400-10 Miscellaneous Specifications.

- Key telephone, Single Line Telephone and OPX Audible Indications are listed in Table 400-11 Digital Terminal Audible Signals, Table 400-12 Single Line Telephone Audible Signals and Table 400-13 OPX Telephone Audible Signals.

- Key Telephone Visual Indications are listed in Table 400-14 DSS/BLF Button Visual Indicators, Table 400-15 CO Line Button Visual Indicators, and Table 400-16 Function Button Visual Indicators.

**Table 400-1 Digital System Capacities**

| | |
|---|---|
| Time Slots: | 216* PCM/TDM time slots |
| Ports: | |
|   CO/PBX/Centrex Lines | 96* (max.) loop start (12 per CO12 board) |
|   Digital Terminal Stations | 120* (max.) Digital Terminals (12 per KT12 board) |
|   Standard Single Line Telephones | 108 (max.) Standard 2500 type SLTs (12 per SL12 board) |
|   Off-Premise Extensions | 119 (max.) OPX Stations (1 per single line adapter (OPX) |
|   DID Lines | 96 (max.) (12 per DID Interface Board) |
|   TIE Lines | 72 (max.) (4 per TIE Line Interface Board) |
|   T1 Trunks | 24 (max.) (12 per T1 Trunk Board) |
| Paging: (one way paging) | |
|   Internal Paging | 4 (max.) Internal Page Zones (software controlled) |
|   External Paging | 7 (max.) One zone per KT12 board. |
| DTMF Receivers: | 24 (max.) per system (one 4-ckt card on each SL12 board) (up to a max of 3 SL12 boards w/DTM4's can be installed in the system), two Combo Cards (6x6) can also be installed in addition to the 3 SL12 boards or four Combo Cards (6x6) can be installed |
| DTMF Sender: | 1 per system (time shared) |
| I/O Ports: | 3 (max.) per system (one RS-232C included on CPU) and two RS-232C on optional Backplane I/O Expansion Module |
| Contacts/Sensors (Relay Sensor Module) | 4 Relay/Sensor Modules per system. Each Relay/Sensor Module has 3 relays and 3 sensing circuits. |
| Conference: | |
|   Circuits | 10 Conference "bridges" per system (software controlled) |
|   Parties per "bridge" | 8 parties per "bridge" |
| DISA Circuits: | An unlimited number of CO Lines may be programmed simultaneously. |
| Attendants: | Up to 3 stations can be designated as attendant(s). |
| Digital DSS/DLS Consoles: | 72 (max.) Up to 3 DSS/DLS units can be programmed to function with each station. Each DSS/DLS unit reduced station capacity by 1. (96 Ports ÷ 4= 24 ports. 24 ports × 3 = 72 ports used for DSS Consoles) |
| Hunt Groups: | |
|   Groups: | Software supports up to 8 groups. |
|   Members: | Software supports up to 8 stations in each group. |
|   Types: | Station or Pilot Hunting |
| ACD Groups: | |
|   Groups: | Software supports 16 Groups. |
|   Members: | Software supports up to 16 stations per group. |
|   RAN Announcements: | Eight RAN Announcements with any two per ACD Group. |
|   Calls in Queue: | All CO Lines may be in queue for an ACD Group. |
| UCD Groups: | |
|   Groups: | Software supports 8 Groups. |
|   Members: | Software supports up to 8 stations per group. |
|   RAN Announcements: | Eight RAN Announcements with any two per UCD Group. |
|   Calls in Queue: | All CO Lines may be in queue for an UCD Group. |

*Based on the default configuration of 96 CO Lines and 120 Stations. Stations can be added to the system by reducing the number of CO12 boards.

**Table 400-1 Digital System Capacities (Cont'd)**

| Voice Mail Groups: | |
|---|---|
| Groups: | Software supports 8 Groups. |
| Members: (ports) | Software supports up to 8 stations per group. |
| Integration Method: | In-Band Signaling. (DTMF) |
| VM Message Wait: | [420] to turn message waiting on, |
|  | [421] to turn message waiting off. |
| VM Disconnect Signal: | Programmable 12-digit (DTMF) string. If no digits are programmed, |
|  | 15 seconds of silence followed by busy tone. |
| Loop Supervision Disconnect: | 700 msec duration. (CO or Internal call to SLT) |

**Table 400-2 Electrical Specifications**

| AC Input to Power Supply: | 117V ac ± 10%, 60 Hz single phase |
|---|---|
| Power Consumption: | 120V ac @ 750VA max. |
|  | 430 watts maximum (per power supply) |
| Power Supply Fuse - AC input: | 10A, 250V ac |
| Longitudinal Balance: | Better than 60db from 200 Hz to 1,000 Hz |
|  | Better than 40db from 1,000 Hz to 4,000 Hz |
| Idle Channel Noise: | Less than 15 dbmc for all connections |
| Cross Talk Attenuation: | Greater than 75dbm Station to CO and Station to Station |
| Single Frequency Distortion: | Station to CO Line and Station to Station: |
| (300 Hz - 3400 Hz) | Better than 2.0% or 34db |
|  | Output level -30 dbm to 0 dbm |
| Ringing Sensitivity: | 16 Hz to 30 Hz at 40 VRMS minimum |
|  | 30 Hz to 67 Hz at 50 VRMS minimum |
| Ringer Equivalence Number: (REN) | 1.9B |
| CO Line Signaling - DTMF: | Frequency pair at -5 dbm to 0 dbm |
|  | Frequency tolerance, better than ±1.5% |
| Music Source (input): | 0 dBm max at 600 ohms input impedance |
| Contact Rating | |
| Multi Purpose Relay | 1.0A, 24V dc |
| External Page Port | |
| Output Impedance | 600 ohms @ 0 dBm |
| Output Power w/o compression | 1 mW Maximum |
| Single Line Adapter (OPX) | Each OPX box requires -48v dc @0.5 amps of current. |
| Battery Backup (UPS) Specifications:* | 750VA min., Sine-wave output, on-line type |
| Maximum Current Drain: (per system) | 550 watts |
| UL File Number: | E109461 |

* End user must determine battery size needed for desired backup time.

**Table 400-3 Environmental Specifications**

| | |
|---|---|
| Operating Temperature | $32^\circ$ to $104^\circ$ F |
| Recommended Operating Temperature | $60^\circ$ to $80^\circ$ F |
| Storage Temperature | $-40^\circ$ to $140^\circ$ F |
| Relative Humidity | 5% to 95% non-condensing |
| Heat Dissipation (BTU's) | 1200 BTU's per power supply (maximum) |

**Table 400-4 Loop Limits**

| | |
|---|---|
| Electronic Telephone: (including DSS/DLS Console) | 1000 feet of 26 AWG Cable<br>1000 feet of 24 AWG Cable<br>1000 feet of 22 AWG Cable |
| Standard Single Line Telephones | 2000 feet of 24 AWG Cable |
| Off-Premise Extensions (OPX) (Adapter to SLT) | 1400 Ohms maximum loop, not including telephone. |

**Table 400-5 Dialing Specifications**

| | |
|---|---|
| DTMF Dialing | |
|     Frequency Deviation | $\pm 1.5\%$ |
|     Rise Time | 5 msec. |
|     Duration of DTMF Signal | 75 msec. minimum |
|     Interdigit Time | 75 msec. minimum |
| PULSE Dialing | |
|     Pulse Dialing Rate | 10 or 20 pps. |
|     Pulse Break/Make Duration | 60/40 or 66/33 |
| CO Type | Loop Start, 600 ohm, current sensing |

**Table 400-6 FCC Registration Numbers**

| | |
|---|---|
| For Systems configured as a key system (button appearance) use: | DLPHKG-74722-KF-E |
| For Systems configured as a hybrid system (dial access codes) use: | DLPHKG-74723-MF-E |

**Table 400-7 Trunk Ordering Info: Public Network Lines**

| SYSTEM PORT IDENTIFICATION, FACILITY INTERFACE & SERVICE ORDER CODES | | | |
|---|---|---|---|
| INTERFACE CARD | RINGER EQUIVALENT NUMBER (REN) | FACILITY LINE INTERFACE | JACK TYPE |
| CO Port: | 1.9 | 02LS2 | RJ21X |
| Direct Inward Dialing (DID) | 0.0B | 02RV2-T | RJ21X |
| Off-Premise Extension: (OPX) | | OL13C | RJ21X |

**Table 400-8 Trunk Ordering Info: Private Lease Lines**

| SYSTEM PORT IDENTIFICATION, ANALOG PRIVATE LINE INTERFACE & SERVICE ORDER CODES | | | |
|---|---|---|---|
| INTERFACE CARD | SERVICE ORDER | ANALOG PRIVATE LINE INTERFACE* | JACK TYPE |
| Tie Line Interface Board 2-Wire Voice | 9.0F | TL12M | RJ2GX |

*Analog Facility Interface Code Translation:

| | |
|---|---|
| First Character:<br>  A=Automatic Identification Outward Dialing<br>  M=Message Registration<br>  O=Off-Premise Station<br>  T=Tie Trunk | Fourth Character:<br>  1=Type I E&M signaling interface<br>  2=Type II E&M signaling interface<br>  3=Loop Signaling interface<br>  4=Reserved<br>  5=Simplex signaling |
| Second Character:<br>  C=Conventional Term. Set<br>  L=Lossless Interface<br>  X=Reserved | Fifth Character:<br>  A=Registered Class A OPS port<br>  B=Registered Class B OPT port<br>  C=Registered Class C OPT port<br>  E=Equipment provides ground on E lead to originate<br>  M=Equipment provides battery on M lead to originate<br>  X=Reserved |
| Third Character:<br>  1=Type I transmission interface (2-wire)<br>  3=Type III transmission interface (4-wire) | |

**Table 400-9 Dimensions and Weight**

| KEY SERVICE UNIT | | 34-BUTTON ENHANCED TERMINAL | |
|---|---|---|---|
| Height | 16" | Height | 3.5" |
| Width | 26" | Width | 7.625" |
| Depth | 15" | Depth | 9.625" |
| Weight | 42 lbs. (unloaded) | Weight | 3 lbs. |
| POWER SUPPLY | | 34-BUTTON EXECUTIVE DISPLAY TERMINAL | |
| Height | 14.5" | Height | 3.5" |
| Width | 7.25" | Width | 7.625" |
| Depth | 6" | Depth | 9.625" |
| Weight | 19.5 lbs. | Weight | 3 lbs. |
| OFF-PREMISE EXTENSION MODULE (OPX) | | 14-BUTTON BASIC TERMINAL | |
| Height | 1.75" | Height | 3.5" |
| Width | 7.625" | Width | 7.625" |
| Length | 8.0" | Depth | 9.625" |
| Weight | 3.5 lbs. | Weight | 2.0 lbs. |
| RELAY/SENSOR MODULE/DDIU UNIT | | DSS/DLS CONSOLE | |
| Height | 1.75" | Height | 3.0" |
| Width | 7.625" | Width | 7.625" |
| Length | 8.0" | Depth | 9.625" |
| Weight | 3.5 lbs. | Weight | 2 lbs. |
| TRI-OUTPUT SUPPLY | | | |
| Height | 9" | | |
| Width | 4" | | |
| Length | 8.25" | | |
| Weight | 10 lbs. | | |

**Table 400-10 Miscellaneous Specifications**

| Memory: | |
|---|---|
| Programmable Read-Only Memory (EPROM) | 512K expandable to 4 Megabytes |
| Random Access Memory (RAM): | 256K expandable to 2 Megabytes |
| Telephone Transmitter: | Electret mic compatible. |
| Talk Paths: | |
| CO/PBX/Centrex paths: | 96 CO/PBX Centrex talk paths (non-blocking) |
| Intercom Paths: | Non blocking |
| Music Channels: | 2 channels provides for music-on-hold and background music |
| Account Codes: | |
| Number of digits per account code: | up to 12 unverified digits |
| Number of Account Codes: | unlimited (unverified) |
| Speed Dialing Memory: | |
| Station Speed Dial: | 20 bins per station (24-digits) |
| System Speed Dial: | 80 bins per system (24-digits) |
| Total speed dial bins: | 1980 speed locations to be divided among all telephones. |

### Table 400-11 Digital Terminal Audible Signals

| TYPE OF SIGNAL | FREQUENCY | SIGNAL DURATION |
|---|---|---|
| Key Telephone Signals: | | |
| Incoming CO Line | 1215/1471 | 0.8s on/2.4s off; repeated |
| Intercom Tone Ringing | 1215/1471 | 0.4s on/0.4s off/0.4s on/2.0s off |
| Intercom Call Announce | 935 | 0.2s on/0.2s off (2 bursts) |
| (H-P) | | |
| Transferred CO Line | 1215/1471 | 0.8s on/2.4s off |
| CO Line Recall | 1215/1471 | 0.2s on/.6s off, repeated |
| Message Wait Call Back | 1215/1471 | 0.4s on/0.4s off/0.4s on/2.0s off |
| Message Wait Reminder Tone | 771 | 0.6s on (timed) |
| CO Queue Call Back | 1215/1471 | 0.2s on/0.6s off; repeated |
| Camp-on | 1215/1471 | 0.2s on (1 burst) |
| Paging Alert Tone | 935 | 1 sec. (1 burst) |
| | | |
| Key Telephone Confidence Tones: | | |
| Intercom Ringback | 701 | 0.4s on/0.4s off/0.4s on/2.0s off |
| Call Announce | 935 | 0.2s on/0.2s off (2 bursts) |
| Busy Tone | 701 | 0.4s on/0.4s off, repeated |
| Error Tone | 701 | 0.2s on/0.2s off, repeated |
| Intercom Dial Tone | 421 | Continuous |
| DND Tone | 701 | 0.2s on/0.2s off, repeat 3x's. pause, 0.6s repeat |
| Paging Confirmation | 935 | 1 sec burst |
| Programming Confirmation | 1471 | 1.4 sec burst |
| Programming Error | 1471 | 0.2s on/0.2s off, 6x's |
| Confirmation Tone | 1471 | 1.4 sec burst, 1 time |

### Table 400-12 Single Line Telephone Audible Signals

| TYPE OF SIGNAL | FREQUENCY | SIGNAL DURATION |
|---|---|---|
| Single Line Signals: | | |
| Incoming CO Line | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| Intercom Tone Ringing | 30 Hz, 50-90V AC | 1.0s on/0.2s off/0.8s on/4.0s off |
| Transferred CO Line | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| CO Line Recall | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| CO Queue Call Back | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| | | |
| Single Line Confidence Tones: | | |
| Intercom Ringback | 440+480 | 1.0s on/3.0s off; repeated |
| Call Announce | 420 | 0.2s on/0.2s off (3 bursts) |
| Busy Tone | 480+620 | 0.5s on/0.5s off; repeated |
| Error Tone | 480+620 | 0.25s on/0.25s off; repeated |
| Intercom Dial Tone | 420 | Continuous |
| DND Tone | 480+620 | 0.2s on/0.2s off, repeat 3x's, pause, 0.5s; repeated |
| Paging Time-out | 480+620 | 0.5s on/0.5s off; repeated |
| Call FWD Warning Tone | 420 | 0.2s on/0.2s off (six times) |
| Camp-on Tone | 420 | 0.2s burst (1 time) |
| Conference Warning Tone | 420 | 1 sec burst (1 time) |
| Confirmation Tone | 420 | 1.4 sec burst (1 time) |
| DND Warning Tone | 420 | 0.2s on/0.2s off (6 bursts) |

## Table 400-13 OPX Telephone Audible Signals

| TYPE OF SIGNAL | FREQUENCY | SIGNAL DURATION |
|---|---|---|
| OPX Signals: | | |
| Incoming CO Line | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| Intercom Ringing | 30 Hz, 50-90V AC | 2.0s on/4s off |
| Transferred CO Line | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| CO Line Recall | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| CO Queue Call Back | 30 Hz, 50-90V AC | 2.0s on/4.0s off |
| | | |
| OPX Confidence Tones:* | | |
| Intercom Ringback | 440+480 | 1 s on/3s off |
| Busy Tone | 480+620 | 0.5s on/0.5s off; repeated |
| Error Tone | 480+620 | 0.25s on/0.25s off, repeated |
| Intercom Dial Tone | 350+440 | Continuous |
| DND Tone | 480+620 | 0.2s on/0.2s off, repeat 3x's, pause, 0.5s; repeated |
| Paging Time-out | 420 | 0.5s on/0.5s off |
| Call FWD Warning Tone | 420 | 0.2s on/0.2s off (six times) |
| Camp-on Tone | 420 | 0.2s burst (1 time) |
| Conference Warning Tone | 420 | 1 sec burst (1 time) |
| Confirmation Tone | 420 | 1.4 sec burst (1 time) |
| DND Warning Tone | 420 | 0.2s on/0.2s off (6 bursts) |

*Precise Tone Plan

**Table 400-14 DSS/BLF Button Visual Indicators**

| TYPE OF SIGNAL | INDICATOR FLASH RATES |
|---|---|
| Off-Hook/Busy (All Stations) | Steady |
| Incoming Intercom Ring (Destination) | 120 ipm flutter (Default) |
| Call Announce (Destination) | steady |
| Message Waiting Call Back (Destination) | 120 ipm flutter |
| Do Not Disturb (All Stations) | 480 ipm triple wink |
| Automatic Call Back (Destination) | 120 ipm flash |
| ACD/UCD Available/Unavailable | 60 ipm flash |
| ACD Overflow Station Available/Unavailable | 60 imp flash |

**Table 400-15 CO Line Button Visual Indicators**

| TYPE OF SIGNAL | INDICATOR FLASH RATES |
|---|---|
| Incoming CO Ring | 30 ipm flash (Default) |
| Transferred CO Ring | 120 ipm flash |
| Recall | 480 ipm flutter |
| Queued Line | 480 ipm flutter |
| Exclusive Hold | 120 ipm flash |
| System Hold | 60 ipm double wink |
| I-Hold (only when hold preference is system) | 60 ipm wink |
| In Use | Steady |

**Table 400-16 Function Button Visual Indicators**

| TYPE OF SIGNAL | INDICATOR FLASH RATES |
|---|---|
| Call Forward (active) | 30 imp flash (Default) |
| Message Waiting (active) | 15 ipm flash (Default) |
| Camp-on (active) | 120 ipm flash |
| Call Back (active-initiator) | 120 ipm flash |
| CO Line Queue (active) | 480 flutter |
| Do Not Disturb (DND active) | 60 ipm flash |
| Mute (microphone off, handset xmit off) | Steady |
| ON/OFF (speakerphone on/on-hook dialing | Steady |
| Conference (active) | Steady |
| Speed (momentarily ON until bin address dialed) | Steady |
| Personalized Messages | 15 ipm flash |
| Intercom Call (Hold Button) | 15 ipm flash |
| Loop | Same as CO Line buttons |
| Pool | Same as CO Line buttons |
| Transfer | Steady until transfer complete |

# DIGITAL SYSTEMS PART NUMBERS

### Appendix A-1 Digital System Component List

| Description | Part No. |
|---|---|
| Starplus SPD 4896 Components: | |
| Key Service Unit (KSU) | 4800-00 |
| Central Processor Unit (CPU) | 4830-00 |
| Voice Control Board (VCB) | 4830-10 |
| Key Telephone Board (KT12) | 4832-00 |
| 6x6 Combo Card | 4832-10 |
| Single Line Board (SL12) | 4833-00 |
| CO Line Board (CO12) | 4831-00 |
| DID Interface Board (DID) | 4831-10 |
| TIE Line Interface Board (E&M) | 4831-20 |
| T-1 Trunk Board | 4831-30 |
| Power Supply | 4871-00 |
| | |
| Starplus SPD 4896 Digital Terminals: | |
| 34-Button Executive (Display) Telephone | 1414-XX* |
| 34-Button Executive/PC Interface Telephone | 1418-XX* |
| 34-Button Enhanced (Non-Display) Telephone | 1412-XX* |
| 14-Button Basic Telephone | 1411-XX* |
| DSS/DLS Console Unit | 1410-XX* |
| DSS/DLS Expansion Module | 1410-10 |
| Handset Assembly | 1464-XX* |
| 34-Button Wall Mount Bracket | 1440-XX* |
| Single Line Adapter (SLA/OPX) | 1484-00 |
| | |
| Starplus Digital Systems Manuals: | |
| Description, Installation and Maintenance Manual | 4850-02 |
| Station User's Guide (pkg of 4) | 1452-02 |
| SLT User's Guide (pkg of 4) | 1453-02 |
| Attendant User's Guide | 1454-02 |
| Automatic Call Distribution (ACD) User's Guide (pkg of 4) | 1455-02 |
| | |
| Starplus Digital Systems Optional Components: | |
| 4-Circuit DTMF Receiver Module (DTM4) | 4834-00 |
| Relay/Sensor Interface Module | 1435-00 |
| Digital Data Interface Unit (DDIU) | 1485-00 |
| Backplane I/O RS-232C Expander Module | 4873-00 |
| Tri-Output Power Supply | 4872-00 |
| System Memory Expansion Kit | 4830-20 |

\* Colors:   08=Off White, 60=Burgundy, 70=Lt. Gray, 71=Charcoal Gray