

TalkToTM
616

Electronic Key Telephone System

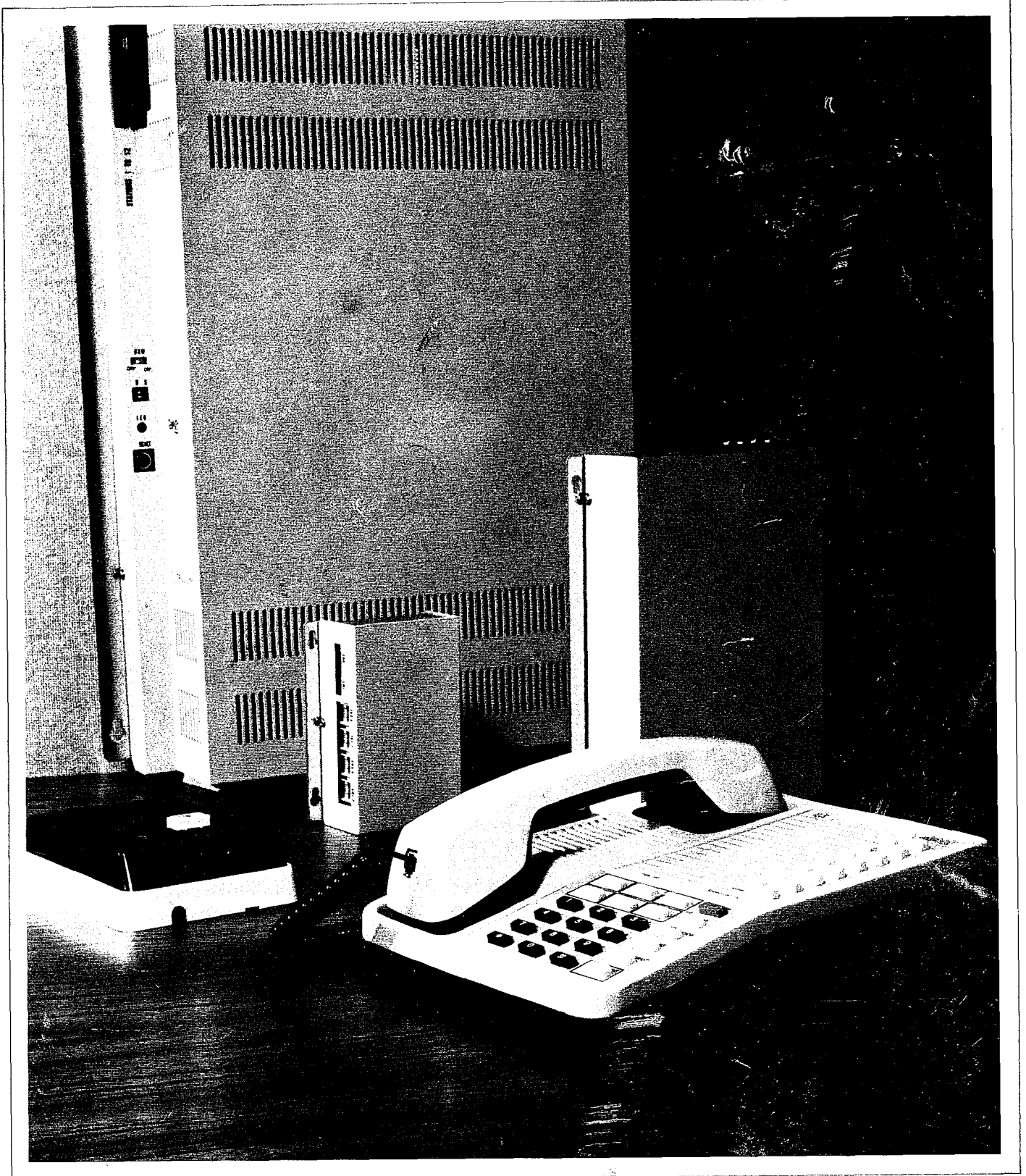


Table of Contents

General Description	Page
Introduction	2
System Components	2
Key Service Unit	2
<i>TalkTo</i> [™] 616 Set	3
Door Answering	4
Power Fail Unit	4
Features	
Standard Features	5
Optional Features	6
Technical Specifications	
System Capabilities	7
Environmental Requirements	7
Power Requirements	7
Signaling	7
Number Plan	7
Connectors	7
Ordering Information	
Key Service Units	12
<i>TalkTo</i> [™] 616 Sets	12
Door Answering Option	12
Power Fail Transfer Option	12
Miscellaneous Parts	12

GENERAL DESCRIPTION

Introduction

The *TalkTo™ 616* is a compact, reliable Electronic Key Telephone System (EKTS) that can be used in a stand-alone mode, behind a PABX, or with Centrex. The system has a maximum capacity of six Central Office/PBX/Centrex lines, sixteen telephone set extensions and three intercom paths. Each telephone extension requires the use of a *TalkTo* proprietary telephone set. Two versions of the set are available, one with handsfree operation, and one without.

The system employs solid state space division switching with stored program control. The *TalkTo 616* Set is available with or without handsfree operation and is equipped with its own microprocessor. The overall operation of the system is controlled by a microprocessor based in the Key Service Unit (KSU). This technology ensures reliable system communication, as well as user friendly service and feature operation.

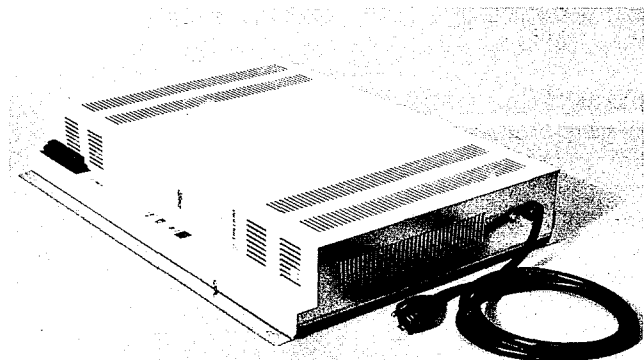
The system has a wide variety of standard features. Other features are available as options. All are described under Features. Any system programming for feature operation is entered at a control set using access codes and the tone dial pad.

Installation is low cost, fast and effective, using a standard twenty-five pair connector, modular cords, jacks and two-pair cable, in a home run (star) configuration.

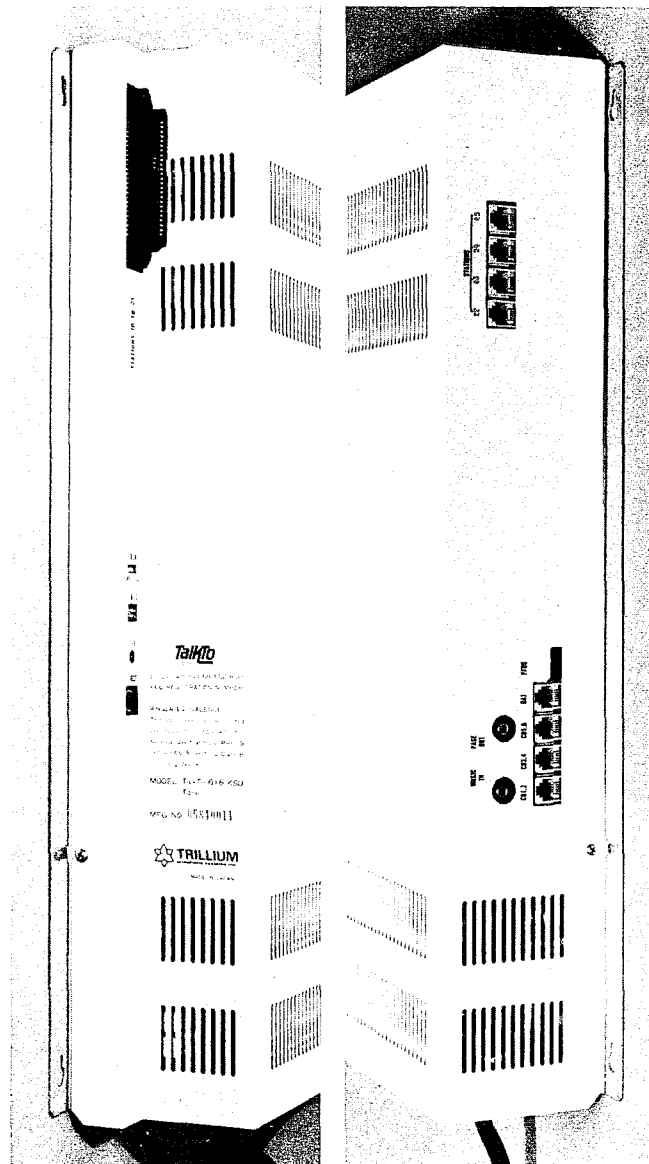
System Components

The main components of the *TalkTo 616* System are a Key Service Unit, and a *TalkTo 616* Set. Door Answer and Power Fail Transfer Units are available as options.

Key Service Unit (KSU)



The KSU is contained in a metal cabinet that is intended to be mounted on a wall. The electronics in the cabinet include the switching circuits, the CPU and power supply. A small battery provides power to the program memory during power fail conditions. The unit is powered by 110V ac, 60Hz, from a commercial power outlet.



The left and right KSU Cabinet side panels showing switch and socket configuration.

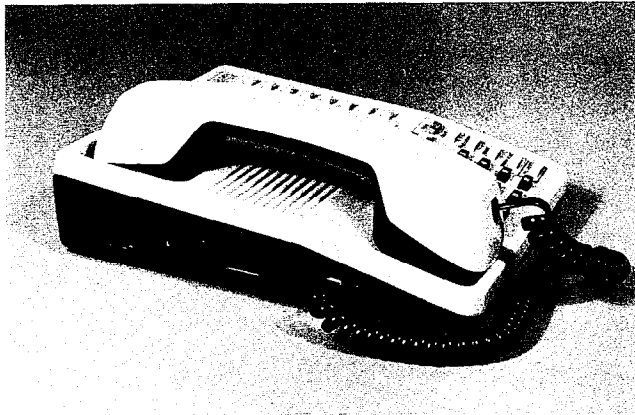
The Central Office/PABX lines are connected using modular RJ type jacks and telephone sets are connected to the KSU using a twenty-five pair industry standard connector and modular RJ type jacks. A paging output and a music source input use standard 1/8 inch mini-jacks.

The KSU Cabinet also contains switches which aid feature programming and option selection, and an indicator lamp which shows system status.

The KSU Cabinet is constructed from metal and is designed for wall mounting on a wood panel. Keyhole slots are provided on the side flanges to facilitate easy installation. The cabinet measures approximately 14 inches (356 mm) wide, 20 inches (508 mm) high and 3.5 inches (88 mm) deep.

TalkTo 616 Set

The *TalkTo 616 Set* is intended for desk or table use, but can be wall mounted using a special bracket available as an option. The electronics in the Set, together with its keyboard, provide the user with a friendly interface to the system and its features:



The *TalkTo 616 Set* ringer loudness and speaker volume controls.

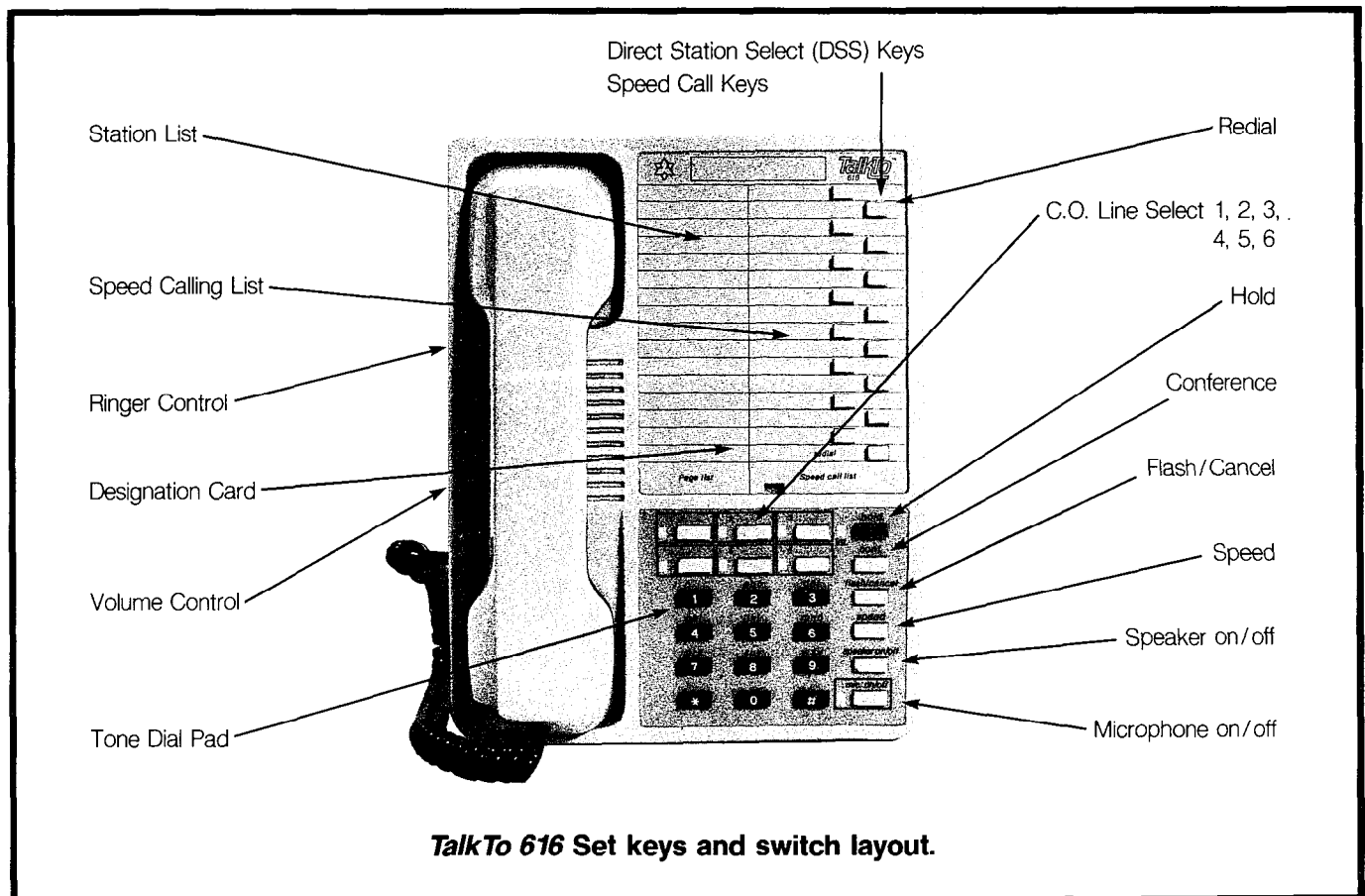
The key complement of the Set includes:

- Direct Station Select/Speed Calling
- Direct Line Select (1, 2, 3, 4, 5, and 6)
- Hold – *hold*
- Conference – *conf.*
- Flash/Cancel – *flash/cancel*
- Speed Calling – *speed*
- Speaker on/off – *speaker on/off*
- Microphone on/off – *mic. on/off*

Status indicators are also included for Direct Line Select 1 through 6; Internal Line Status *int.* and Microphone on/off *mic. on/off*. A personalized Page/Speed Call Directory is also included.

Controls for ringer loudness and speaker volume are situated on the left side of the Set. The handset is attached to the base with a detachable modular cord. A second cord, fitted with a modular RJ style plug is provided for connecting the Set to the system.

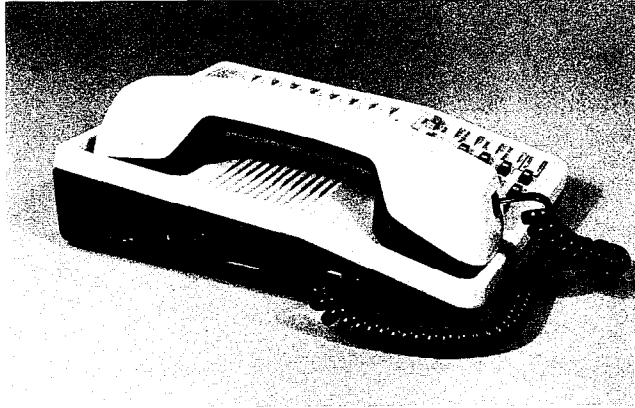
The Set is moulded in beige and black plastic, and includes rubber feet for normal desk or table top use. A plastic bracket for wall mounting the Set is also available as an option. The Set measures approximately 7 inches (178 mm) × 9 inches (229 mm) and stands about 3.5 inches (89 mm) high.



TalkTo 616 Set keys and switch layout.

TalkTo 616 Set

The *TalkTo 616 Set* is intended for desk or table use, but can be wall mounted using a special bracket available as an option. The electronics in the Set, together with its keyboard, provide the user with a friendly interface to the system and its features:



The *TalkTo 616 Set* ringer loudness and speaker volume controls.

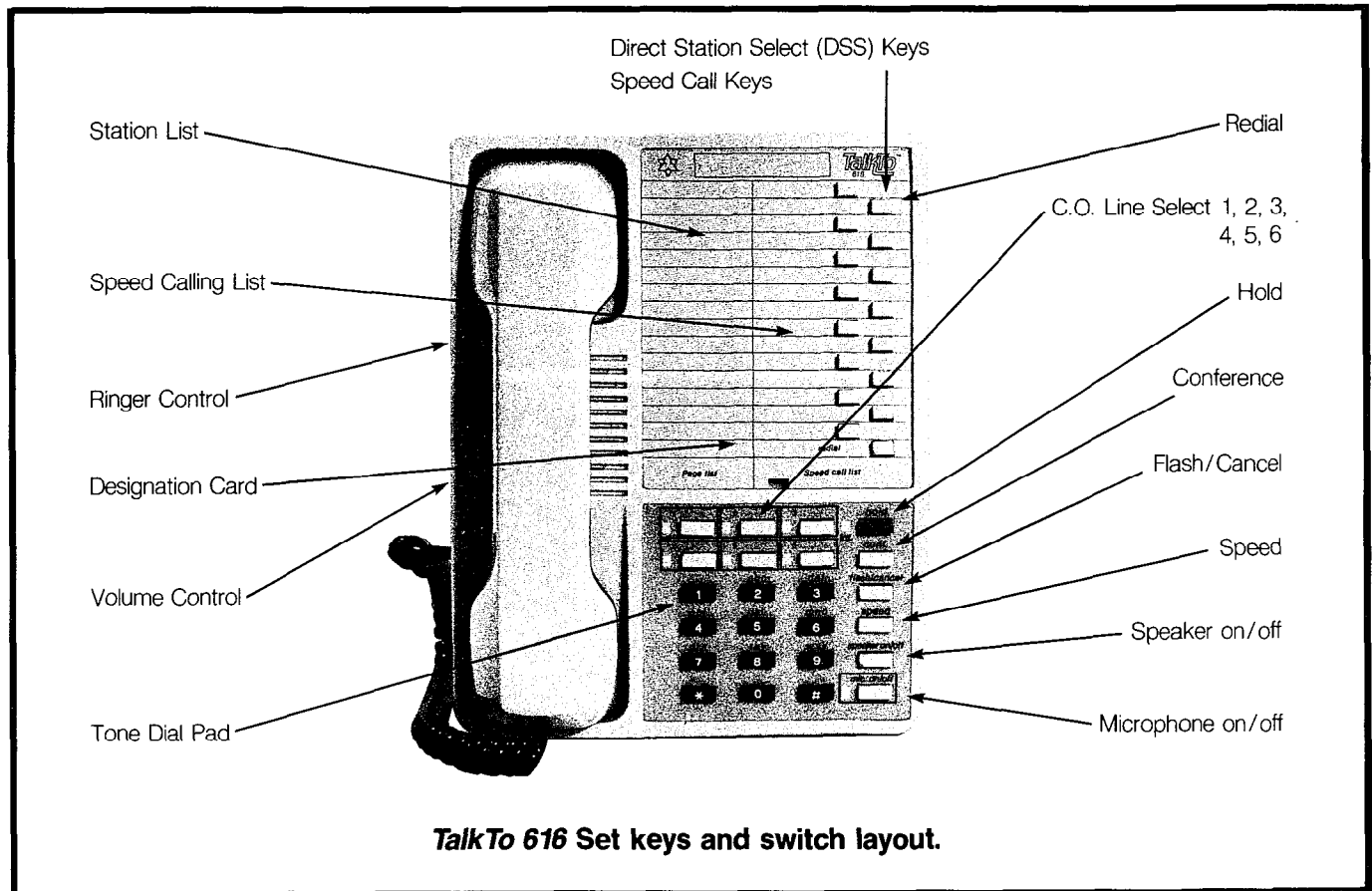
The key complement of the Set includes:

- Direct Station Select/Speed Calling
- Direct Line Select (1, 2, 3, 4, 5, and 6)
- Hold – *hold*
- Conference – *conf.*
- Flash/Cancel – *flash/cancel*
- Speed Calling – *speed*
- Speaker on/off – *speaker on/off*
- Microphone on/off – *mic. on/off*

Status indicators are also included for Direct Line Select 1 through 6; Internal Line Status *int*; and Microphone on/off *mic. on/off*. A personalized Page/Speed Call Directory is also included.

Controls for ringer loudness and speaker volume are situated on the left side of the Set. The handset is attached to the base with a detachable modular cord. A second cord, fitted with a modular RJ style plug is provided for connecting the Set to the system.

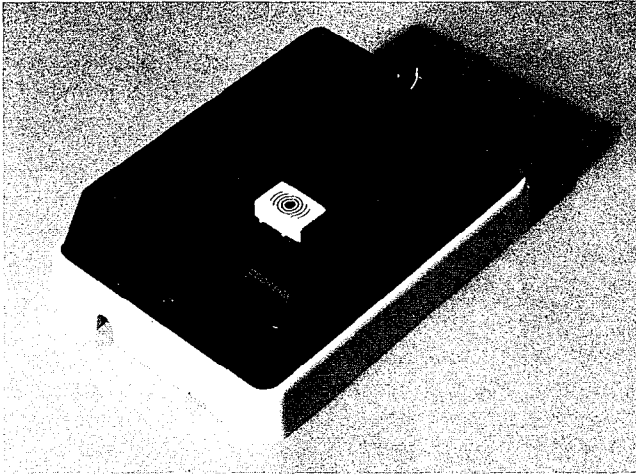
The Set is moulded in beige and black plastic, and includes rubber feet for normal desk or table top use. A plastic bracket for wall mounting the Set is also available as an option. The Set measures approximately 7 inches (178 mm) × 9 inches (229 mm) and stands about 3.5 inches (89 mm) high.



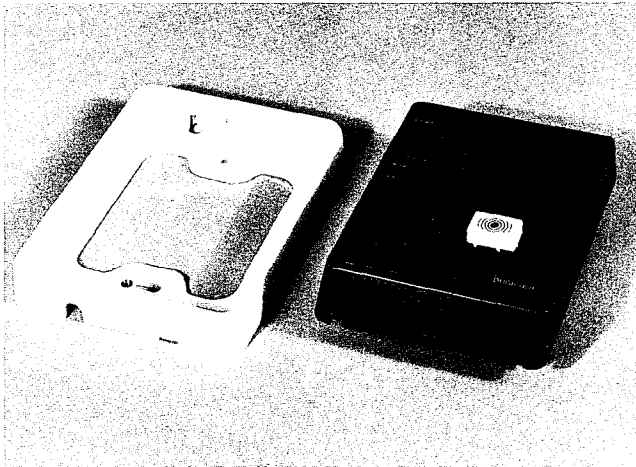
GENERAL DESCRIPTION

Door Answering

TalkTo 616 optional Door Answering feature allows one or two doors to be equipped with intercom service. The service is controlled by the Door Answer Unit, which is connected to the KSU. Each door is equipped with a small Door Answer Module which is connected to the Door Answer Unit.

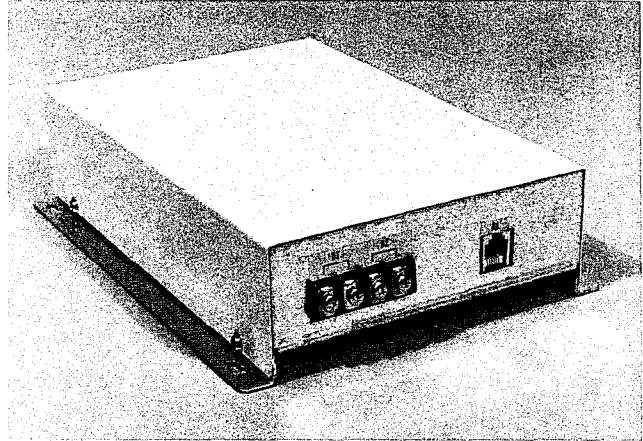


Door Answer Module: The module is moulded in plastic and measures 4 inches (101 mm) × 5 inches (127 mm) × 1.5 inches (38 mm) deep, and is fitted at the door requiring intercom service. The front cover can be detached during installation to give access to the screw slots, and two screw terminals. The front cover contains a push button, a loud-speaker, microphone and associated electronics. Connection to the Door Answer Unit is made using a two wire cable, connected to the two screw terminals.



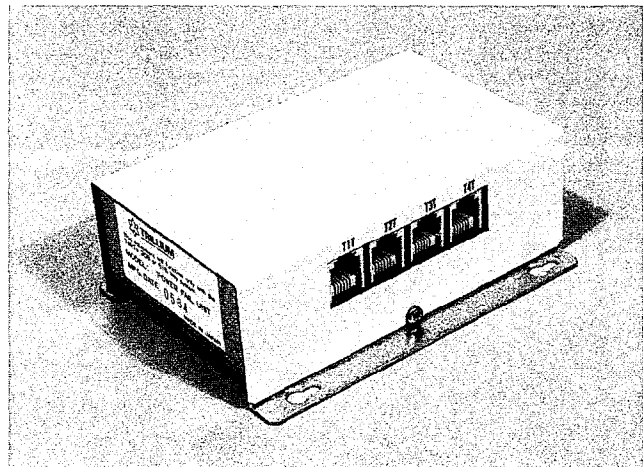
The Door Answer Module and wall mounting base.

Door Answer Unit: This is a small metal cabinet measuring approximately 6.25 (158 mm) inches × 8 inches (203 mm) high and 2 (50 mm) inches deep, designed for wall mounting adjacent to the KSU. It contains controls for two Door Answer modules. A modular RJ type jack is provided for making connections to the KSU. A small four position screw terminal strip provides connection for the wires from two Door Answer Modules (1 pair to each door). Keyhole slots are incorporated into the side flanges of the cabinet to facilitate easy installation on a wooden backboard.



Power Fail Transfer Unit

The *TalkTo 616* Power Fail Transfer Unit is a small metal cabinet measuring approximately 3.5 inches (88 mm) × 4-5 inches (114 mm) high and 1.5 inches (38 mm) deep. It is designed to be wall mounted adjacent to the KSU. Keyhole slots are incorporated into the side flanges of the cabinet to facilitate easy installation.



Connection is simple – two sets of four modular RJ type jacks are provided, one set through which two Central Office lines are connected, and one for connecting single line telephones. Two small connectors are provided. One connects the power fail supply from the KSU, and the second relays the same supply to another Power Fail Transfer Unit, if six telephones are required in a power fail situation.

The *TalkTo 616* system is equipped with a wide range of standard features. The only options are:

- *TalkTo 616* Set, which is available with or without hands-free operation.
- Door Answering, which requires the addition of a Door Answer Unit, and up to two Door Answer Modules.
- Power Fail Transfer, which requires the addition of Power Fail Transfer Units and up to six regular telephones.

x x x

Standard Features

Add-On Conference

The *TalkTo 616* system provides 3 party conferencing. The conference may include 3 *TalkTo* stations, 2 *TalkTo* stations plus 1 Central Office (CO) line, or 1 *TalkTo* station plus 2 CO lines.

All Page

Each *TalkTo 616* Set user can make a paging announcement, using a single key, through the speakers of all other Sets. An alert tone precedes the announcement.

Automatic Intercom Path Selection

The *TalkTo 616* System has 3 intercom paths, one of which is selected automatically each time a request for intercom service is initiated.

Automatic Privacy

Prevents all other users from entering or listening to your CO or intercom call.

Background Music

When a *TalkTo 616* Set is not in use, the user may choose to listen to music. To enable this feature, dial *4. Music is heard through the Set's speaker. A customer provided music source must be connected to the music interface jack.

Call Hold

Allows a Set user to place a call on hold, go on-hook, or use the *TalkTo* Set for another call. This call can be picked up at any other Set. When the call is placed on hold, the *TalkTo* Set user receives a visual indication (flashing) for the line on hold.

Direct Station Selection

Each *TalkTo 616* Set is equipped with 15 direct station select keys. When a DSS key is pressed the system automatically dials the number of the Set to which the key is assigned.

Discriminating Ringing

Allows a Set user to distinguish between incoming CO calls and intercom calls.

Do Not Disturb

Disallows internal calls from ringing at a *TalkTo 616* Set. This feature is enabled when the Set user dials *9. To return the Set to normal, dial *9 again. In the DND mode, the user may use the Set for outgoing calls in the normal manner.

Exclusive Hold with Indication

A CO call may be placed on exclusive hold (by pressing hold key twice). This prohibits the call from being retrieved from any other Sets. With exclusive hold, the CO line indicator has a very fast distinctive flash rate.

External Loudspeaker Paging

A connector provides an interface to an external paging system. If connection is made, all *TalkTo 616* Sets are allowed access to a customer provided external paging system. After dialing the access code (59), the Set user hears a short tone indicating that the *TalkTo 616* Set is now connected to the paging equipment, and the paging announcement can begin.

Flash/Cancel Key

This key may be programmed as a calibrated flash hook or as cancel. As flash, each time the key is pressed, a timed flash will be sent to the CO or PABX, to access custom calling features. This calibrated flash may be programmed for 250ms, 500ms, 1000ms or 2000ms.

As cancel, an external call may be terminated by pressing the cancel key without replacing the handset in the cradle.

Flexible Ringing Assignment

Each CO line may be programmed to ring all *TalkTo 616* Sets, or selected Sets.

Hold Recall

A Set user that has placed a call on hold, will receive an audible signal (from the Set's speaker), after a programmable interval (1, 2, 3 or unlimited minutes).

I-Hold Indication

The indicator for the CO line placed on hold at your Set will have a faster flash rate to those lines held at other Sets.

My-Line Indication

Indication that allows the user to distinguish between the user's line and other lines. The indicator for the CO line in use gives a winking flash.

FEATURES

Last Number Redial

Allows last number dialed at each *TalkTo 616* Set to be stored and later redialed automatically upon request by pressing the redial key.

Meet-Me Answer

Any *TalkTo 616* Set can answer all page by dialing the access code – *1.

Microphone On/Off

The *mic. on/off* switch allows the user to disable the microphone at any time.

Multi-Line Pickup and Transfer

All Sets may originate and receive CO calls, and may initiate transfers.

Music On-Hold (MOH)

When a CO call is placed on hold, the caller hears music provided an external music source is connected to the music input jack.

Music: On-Hold/Background Interface

A 1/8 inch mini-jack is provided on the KSU for connecting an external music source to provide Music On-Hold and Background music for the system.

Night Transfer

When in the night mode, all C.O. calls are routed to selected Sets programmed for this purpose. To place system in the night mode, dial *9 from the control Set (number 10). To remove from night mode, dial *8 from the control Set.

On-Hook Dialing

All *TalkTo 616* Set users may dial with the handset on-hook.

Outgoing Call Restriction

Each *TalkTo 616* Set may be programmed to disallow outgoing calls.

Paging – Individual (Tone First)

A voice call can be made to an individual Set and is preceded by an alert tone. Answer back is completely handsfree, and the conversation is fully duplex. At a *TalkTo 616* Set without the handsfree option, the call is originated using the handset. If the Set is equipped with the handsfree option, the call can be originated using the handset or microphone.

PBX Pause

When the *TalkTo 616* system is used behind a PABX, the digits 7, 8, 9, and 0 may be programmed to initiate a three second pause when dialed as the first digit. This pause allows second dial tone to be returned when dialing out to a CO line.

Private CO Line

CO line number 1 can be made exclusive to one Set only by programming. The private CO line cannot be answered or accessed from any other Set.

Speakerphone

The *TalkTo 616* Set (handsfree model) provides the user with the convenience of originating or receiving calls and talking, without having to use the handset.

Speaker Volume Control

A slider controls the volume of the speaker output of the Set.

Speed Calling Common

All Sets have access to 40 common speed call numbers, each up to 16 digits maximum, using access codes. Programming of numbers is simple, using the Control Set (number 10). A mixture of speed call and manually dialed numbers can be made. Two speed call numbers may be linked together.

Speed Calling – Private

Each *TalkTo 616* Set has access to 10 private speed call numbers, each up to 16 digits maximum, using a single key. Programming of numbers is simple, using the individual Set. Access codes to PABX custom features may be stored in place of directory numbers. Mixtures of speed call and manually dialed numbers can be made. Two speed call numbers may be linked together.

Toll Restriction

Each *TalkTo 616* Set may be programmed to disallow toll calls. The system will restrict on 0/1 for the first dialed digit, and if more than 7 digits are dialed.

Tone Ringer Control

A 3-position slide switch controls the loudness of the tone ringer.

Optional Features

Door Answering

The addition of a Door Answer Unit, and two Door Answer Modules provides intercom service at the two doors where the modules are installed.

Pressing the button on the door module causes a distinctive tone to be heard at all the *TalkTo 616* Set speakers. Lifting the handset and depressing CO Line Key number 6 allows the Set user to converse with the person at the door.

Power Failure Transfer (PFT)

One Power Fail Transfer unit provides PFT for 4 CO lines, provided four single line telephones are also installed. If power to the KSU fails, the 4 CO lines will be automatically switched to the 4 industry standard telephones. A second unit may be added to provide another 2 power fail protected telephones.

System Capabilities

C.O./PBX lines	6 (5 if door answer option is installed)
<i>TalkTo 616</i> Sets	16
Intercom Speech Paths	3
Door Modules	2 maximum
Power Fail Transfer	4 C.O./PABX lines to 4 single line telephones, if power fail transfer option is provided using one PFT unit. A second unit can be added.
Station Loop Limit	105 ohms (equivalent to 2000 feet 24 AWG) All stations are home run
C.O. Loop Limit	1500 ohms
Paging Output Level	300 mVrms 700 ohms load
Music Input Level	50 mVrms

Environmental Requirements

Temperature (operating)	0°C to 40°C (32°F to 104°F)
Relative Humidity	90% or less, non-condensing

Power Requirements

AC – 115 Volts ± 10% (50/60 cycle) 1 Amp max load

Signaling

DTMF – The system will only recognize standard DTMF signals, and is not compatible with rotary dialing.

Rotary – Requires the use of a KSU with Tone to Pulse conversion

Numbering Plan

TalkTo 616 Set numbers 10 -25
Control Set is number 10

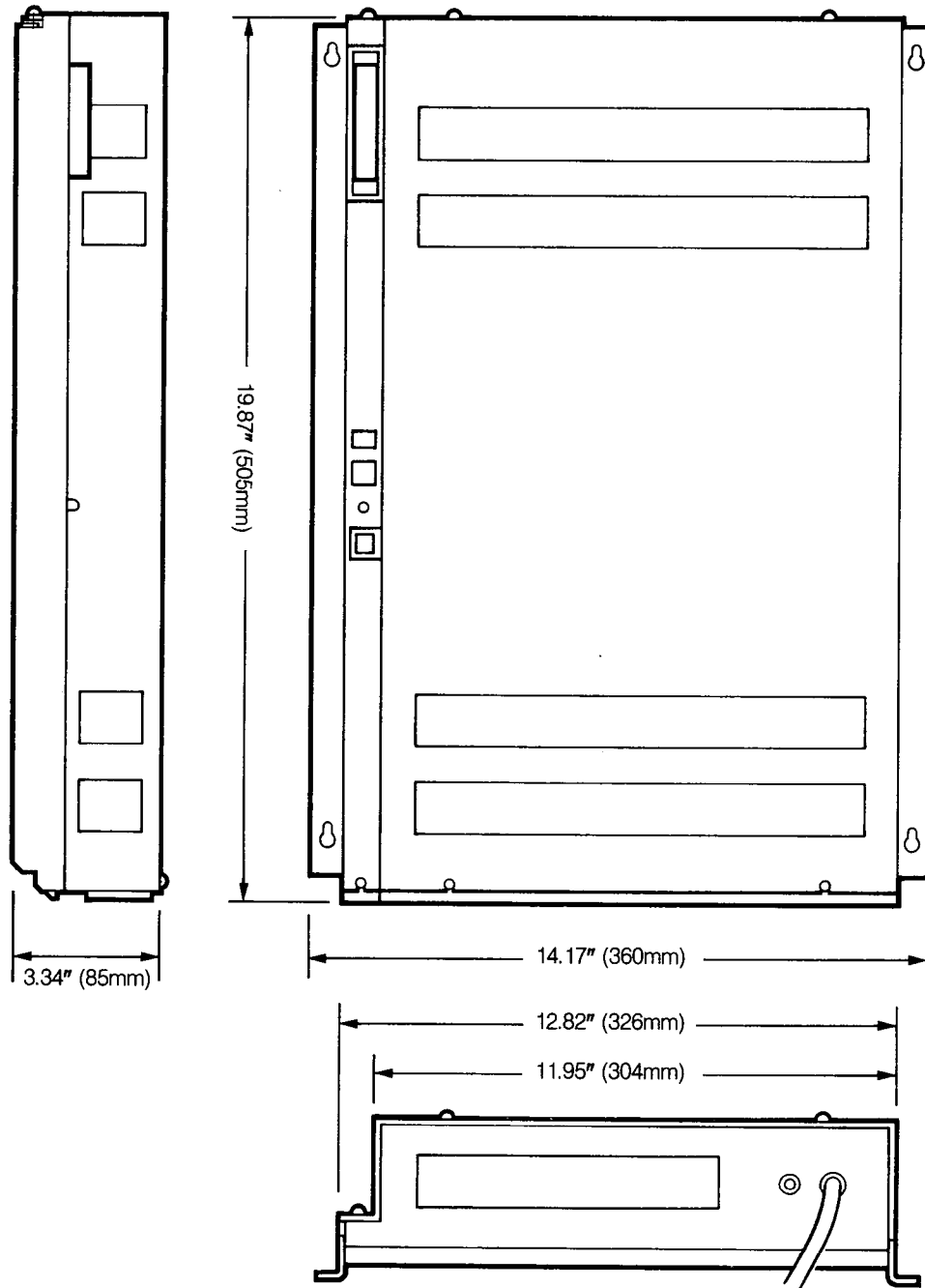
KSU

Connectors

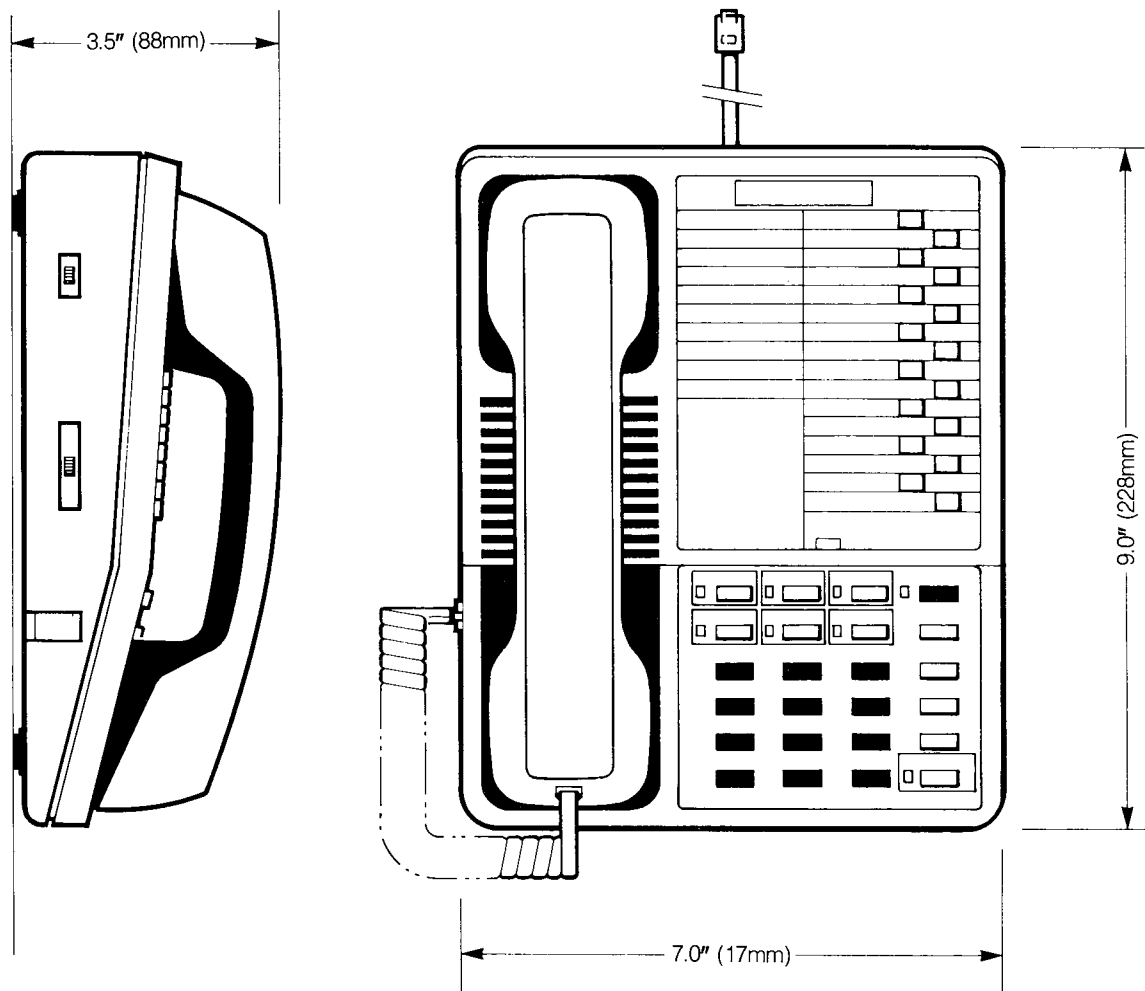
Line 1.2	Modular RJ Type Jack	4 wires
Line 3.4	Modular RJ Type Jack	4 wires
Line 5.6	Modular RJ Type Jack	4 wires
<i>TalkTo 616</i> Set		
10 to 21	Modular RJ Type Jack	25 pairs
22 to 25	Modular RJ Type Jack	4 wires
Door Answer	Modular RJ Type Jack	6 wires
Power Fail Transfer	Modular RJ Type Jack	4 wires
Music Input	1/8 inch Mini Jack	
External Paging Output	1/8 inch Mini Jack	
Door Answer Unit		
	Modular RJ Type Jack	6 wires (to KSU)
	Screw Terminals	(To Door Modules)
Power Fail Transfer Unit		
C.O. Lines	Modular RJ Type Jack	4 wires
Power Fail Telephone Inputs	Modular RJ Type Jack	2 wires

Design and specifications subject to change without notice.

Specifications

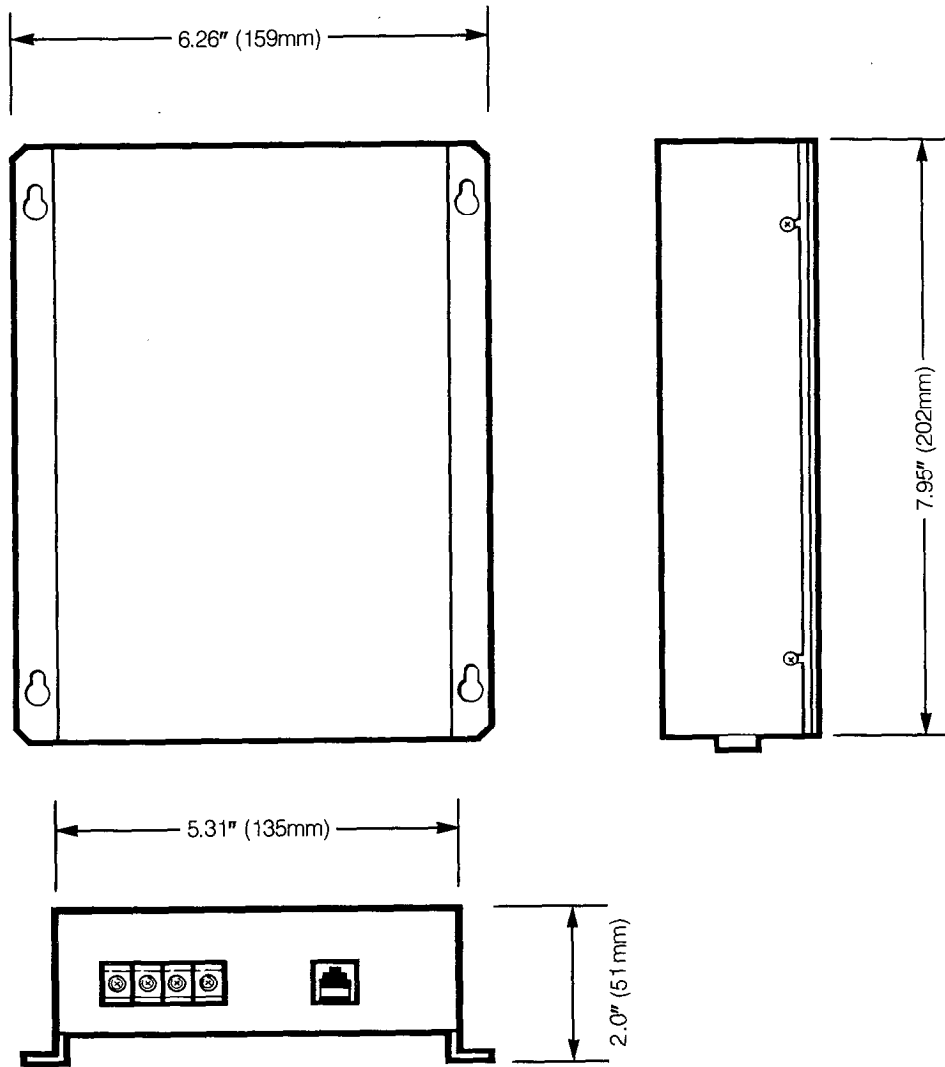


TalkTo 616 KSU-Tone Cabinet - Dimensions

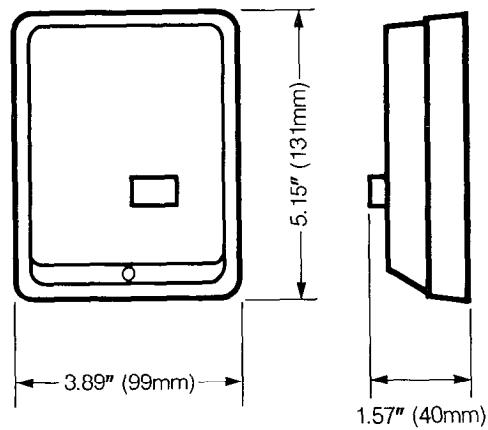


TalkTo 616 Set - Dimensions

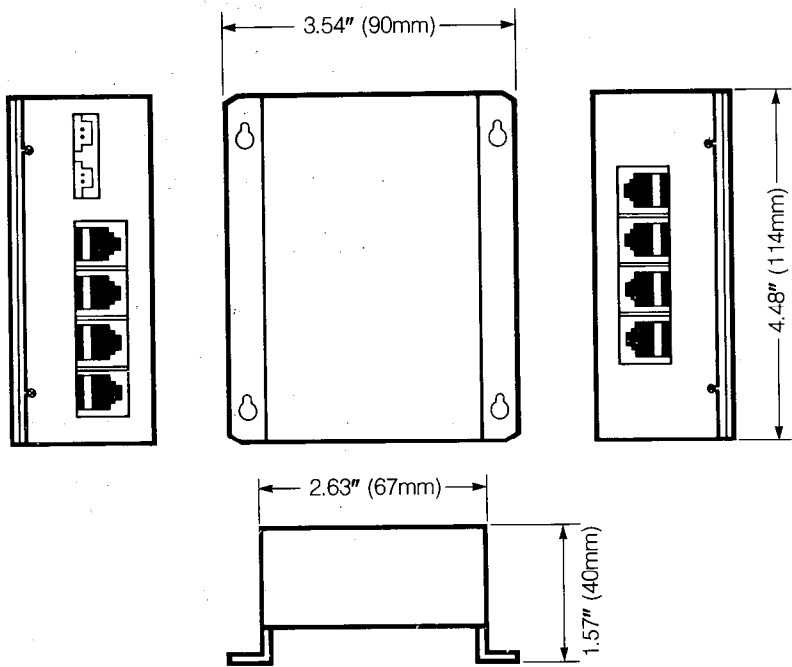
Specifications



Door Answer Unit - Dimensions



Door Answer Module - Dimensions



Power Fail Transfer Unit - Dimensions

ORDERING INFORMATION

Each *TalkTo 616* system requires the following:

- One Key Service Unit.
- A number of *TalkTo 616* Sets, up to 16 maximum.
- One Door Answering Unit (optional).
- One or two Door Answer Modules (optional).
- One Power Fail Transfer Unit (optional).

Description	Part No.
<i>TalkTo 616</i> KSU (Tone C.O. lines)	90-0050
<i>TalkTo 616</i> KSU (Rotary or Tone C.O. lines)	90-0054
<i>TalkTo 616</i> Set	90-0056
<i>TalkTo 616</i> Handsfree Set	90-0051
Door Answer Unit	90-0057
Door Answer Module	90-0058
Power Fail Transfer Unit (For 4 C.O. lines)	90-0052
<i>TalkTo</i> Set Wall Mount Bracket	90-0059

Key Service Units

If the C.O. service is strictly tone (DTMF) only, order KSU part number 90-0050. This unit will not recognize rotary dialing.

If the C.O. service is rotary dialing, order KSU part number 90-0054.

TalkTo 616 Set

All 616 system stations must be equipped with *TalkTo 616* Sets. There are two versions of the set, one with handsfree operation, and one without. The number of sets may not exceed eight total. Part numbers for the sets are:

- *TalkTo 616* Set 90-0056
- *TalkTo 616* Set 90-0051 (with "handsfree" operation)

Door Answering Option

Door answering option allows intercom service to two doors to be added to the basic 616 system. If the option is required, order one Door Answer Unit part number 90-0057, and one or two Door Answer Modules, part number 90-0058. The number of Door Answer Modules depends on whether service to one or two doors is required.

Power Fail Transfer Option

This option allows single line service for the four C.O. lines, in the event of a power failure to the KSU. Few industry standard telephone sets are required for this option and are not supplied with the PFT unit.

A second PFT unit can be connected to the first, to provide power fail service to another two telephones which are not supplied with the PFT option.

Miscellaneous Parts

The do-it-yourself homeowner who wishes to install the system, will require a number of Modular Telephone Extension Cords to complete the hook-up of the telephone sets and options. These are readily available through any retail store selling telephones and accessories.

Disclaimer

There are no warranties which extend beyond the description on the face hereof. Manufacturer disclaims any implied warranty of merchantability or fitness for a particular purpose.

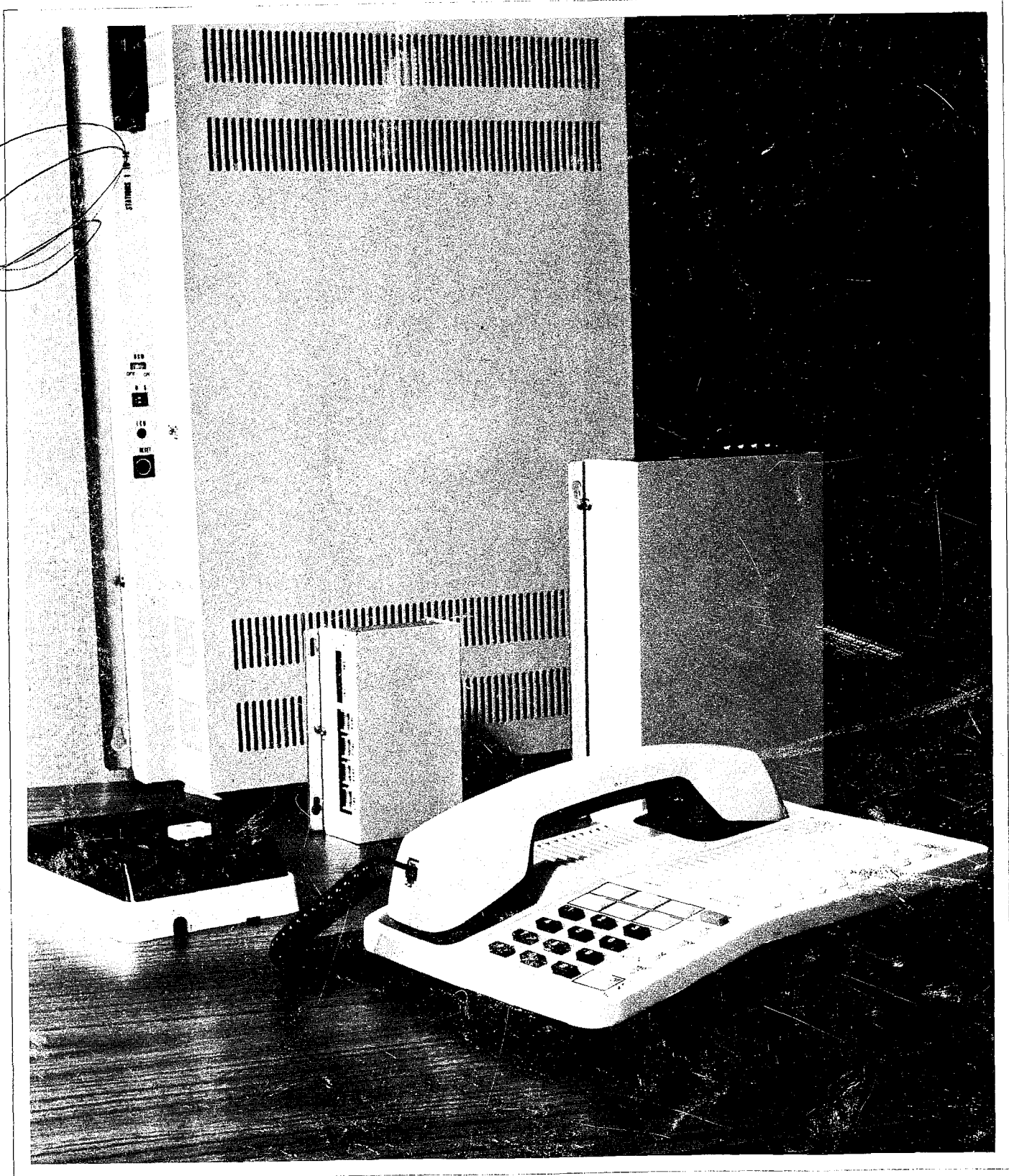
2/19/17/15/21/22/66

10-18 20 15



Electronic Key Telephone System

10
4
4
5
8
20



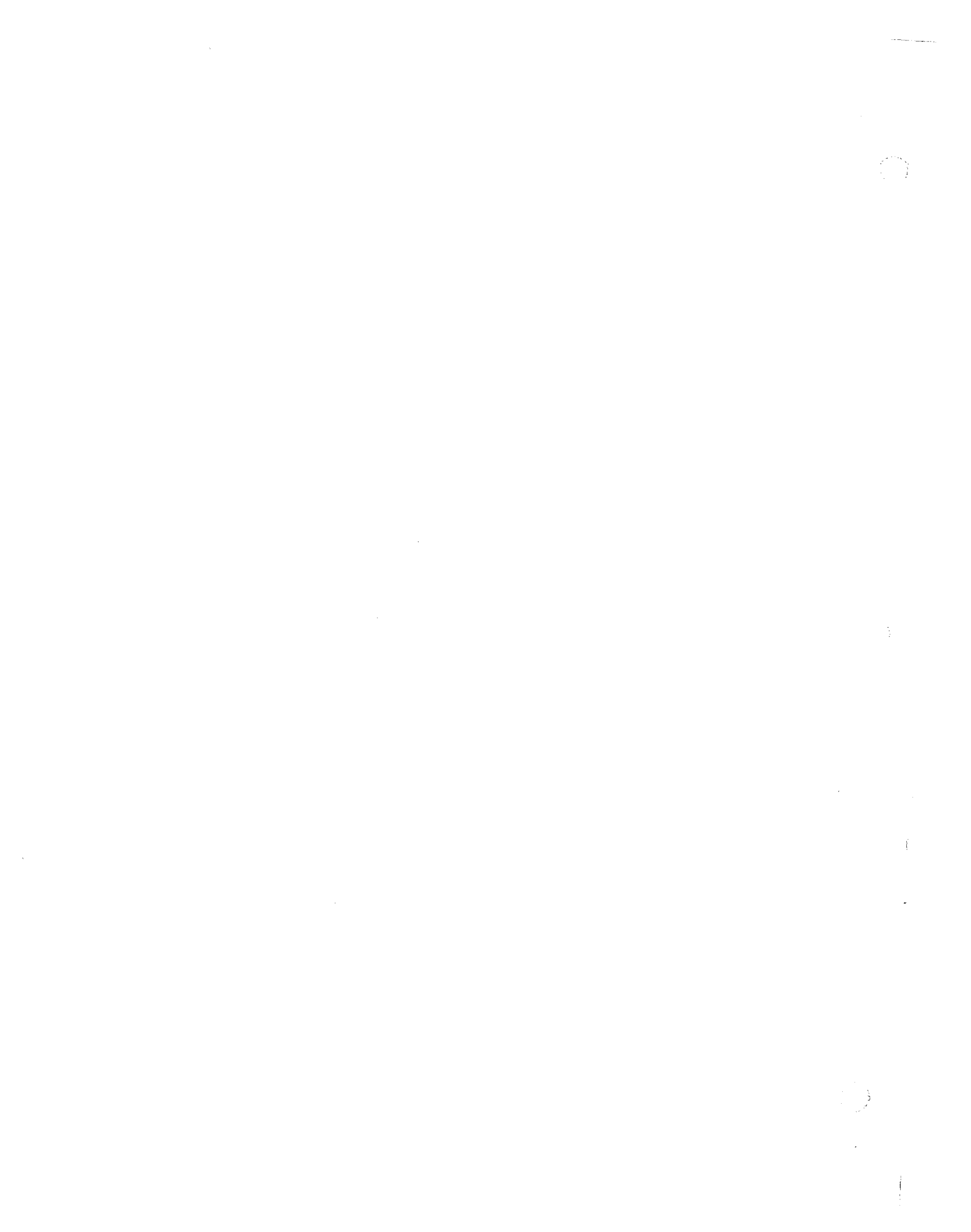


Table of Contents

FCC Requirements and Warnings.....	2
------------------------------------	---

Introduction

Preparation.....	4
Pre-installation Requirements.....	4

Installation

KSU Installation.....	5
Station Wiring Method 1.....	7
Station Wiring Method 2.....	10
Central Office/PBAX Line Connection.....	10
Music Input.....	11
Paging Output.....	11
Door Answer Option.....	11
Power Failure Transfer Option.....	13

System Programming

Preparation.....	18
Programming Mode.....	18
Initial Programming.....	18
Reprogramming.....	18
Feature Programming.....	18

Individual Feature Programming

Hold Recall — Pulse Duration — Flash Cancel.....	19
C.O./PABX Line.....	19
Incoming Call Only — By Line.....	20
Outgoing Call Restriction — By Station.....	20
Night Transfer and Private Lines — By Station.....	20
Flexible Ringing — By Station and C.O. Line.....	21
Calibrated Flash/Cancel.....	21
Pause on Number.....	21
Operating Mode.....	21
Speed Calling — Common Numbers, Programming.....	21

Troubleshooting	23
------------------------------	-----------

FCC Requirements

The Federal Communications Commission (FCC) has established rules which permit the Trillium Telephone Systems *TalkTo 616* Electronic Key Telephone System to be directly connected to the telephone network. A jack is provided by the telephone company. Jacks for this type of customer provided equipment will not be provided on party lines or coin lines.

If the system is malfunctioning, it may also be causing harm to the telephone network; the system should be disconnected until the source of the problem can be determined and until repair has been made. If this is not done, the telephone company may temporarily disconnect service.

The telephone company may make changes in its technical operations and procedures; if such changes affect the compatibility or use of the system, the telephone company is required to give adequate notice of the changes.

Service Requirements

In the event of equipment malfunction, all repairs will be implemented by Trillium Telephone Systems. It is the responsibility of users requiring service to report the need for service to Trillium Telephone Systems or to one of their authorized agents.

Company Notification

Before connecting the *TalkTo 616* Electronic Key Telephone System to the telephone network, the telephone company must be provided with the following:

- Your telephone number
- The FCC Registration Number
- The Ringer Equivalence Number
- The USOC jacks required.

The FCC Registration Number, and the Ringer Equivalence are indicated on the System label.

The jacks for the system are:

- Lines one and two — RJ14C.
- Line three and four — RJ14C.
- Lines five and six — RJ14C.

Warnings

Radio Frequency Energy

The *TalkTo 616* Electronic Key Telephone System generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart I of Part 15 of FCC rules which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this

equipment causes interference to radio or television reception, which can be determined by unplugging the *TalkTo 616* Key Service Unit (KSU), from electrical power, the user is encouraged to try to correct the interferences by one of the following measures:

- Re-orient the receiving antenna.
- Relocate *TalkTo 616* units with respect to the receiver.
- Move *TalkTo 616* units away from the receiver.

If necessary, the user should consult the supplier or an experienced radio/television technician for additional suggestions. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Hearing Aid Compatibility

"This telephone is not hearing aid-compatible as is defined in Section 68.316 of Part 68 FCC Rules. As such, the FCC rules prohibit the use of this telephone in the following locations:

a) Coin telephones. All new and existing coin-operated telephones whether located on public property or in a semi-public location (e.g. drugstore, gas station, private club).

b) Emergency use telephones. Telephones "provided for emergency use" include the following:

1) Telephones in places where a person with impaired hearing might be isolated in an emergency, including but not limited to, elevators, automobiles, railroad or subway tunnels, and highways.

2) Telephones specifically installed to alert emergency authorities, including, but not limited to, police or fire departments or medical assistance personnel.

3) Telephones needed to signal life-threatening or emergency situations in confined settings, including, but not limited to, rooms in hospitals, residential health care facilities for senior citizens convalescent homes, and prisons. A telephone is not needed to signal life-threatening or emergency situations if an alternative means of signalling such a situation is available.

c) Telephones frequently needed by the hearing impaired.

1) Any telephone on which calls may only be paid for by credit card or other pre-arranged credit. Each such telephone must be hearing aid-compatible unless a hearing aid-compatible coin-operated telephone providing similar services is nearby and readily available.

2) Any telephone made available at the work station of a hearing-impaired employee for use by that employee in his or her employment duty. An employee's "work station" is defined as the location within a workplace where that employee is usually found in the course of his or her employment duties.

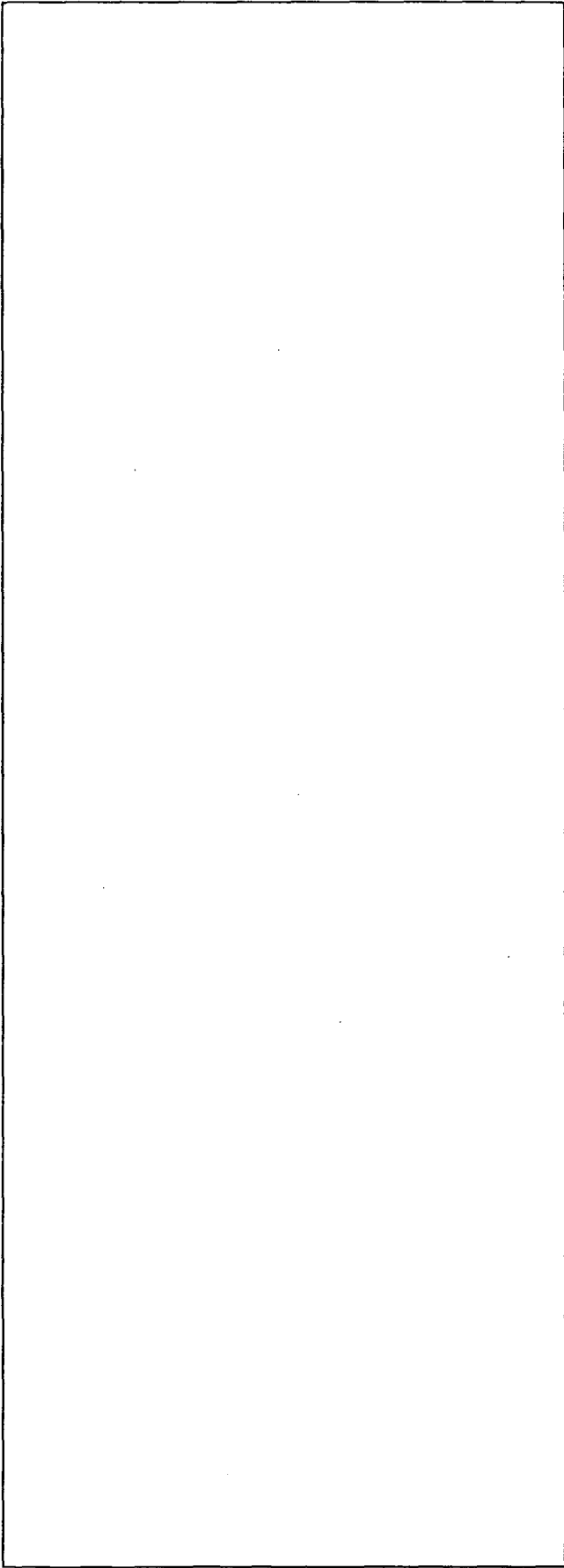
3) Any telephone, including internal extensions and telephones restricted to local calling areas, made available for use by the public in places of business or buildings in which visits by the public are reasonably expected. Examples include, but are not limited to, telephones located in lobbies of hotels or apartment buildings; telephones in stores, which are used by patrons to order merchandise; telephones in public transportation terminals which are used to call taxis or to reserve rental automobiles.

4) Any telephone in a hotel or motel room. **Provided that**, if at least ten percent of the rooms in a hotel or motel are equipped to accommodate a hearing impaired customer, the hotel or motel need not purchase or install a compatible telephone when it replaces a telephone. A room is equipped to accommodate a hearing impaired customer if (1) it contains a permanently installed hearing aid-compatible telephone; or (2) it contains a telephone which will accept a plug-in hearing aid-compatible handset, which shall be provided to the hearing impaired customer by the hotel or motel; or (3) the room contains a jack into which a hearing aid-compatible telephone provided to the customer by the hotel or motel may be plugged (i.e., in addition to a permanently installed telephone which is not hearing aid-compatible).

If fewer than ten percent of the rooms in a hotel or motel are hearing aid-compatible, when replacing a telephone the hotel or motel must, until the ten percent minimum is reached: (1) replace it with a hearing aid-compatible telephone, **or** (2) procure and maintain a plug-in hearing aid-compatible telephone handset which it will provide to a hearing impaired customer upon request at check-in.

5) Any telephone in the locations listed in (b) (3) in which an alternative means of signalling a life-threatening or emergency situation is not available.

* * *



INSTALLATION

Introduction

This manual details the procedures to install and program the *TalkTo 616* Electronic Key Telephone System. A section on Troubleshooting is also included.

Installation is easy, and can be carried out by a certified installer, using standard cable runs and modular jacks; or if so desired by the end-user, using standard modular telephone line cords, extension cords, and adapters.

Preparation

The installer should ensure that the area chosen to mount the KSU is:

- Clean, dry and well ventilated. The temperature should be between 0° and 40°C (32° and 104°F). The relative humidity should be 90% or less, and be non-condensing.
- Within seven feet of the C.O./PABX line terminations.
- Within close proximity to the station terminations (in the case where outdated equipment is being replaced). The distance to each station is limited to a maximum of 2000 feet (609 meters) when 24 AWG wire is used.
- Within five feet (1.5 meters) of a 110V ac 60Hz three-wire dedicated unswitched power outlet.

Station wiring should be standard two pair twisted communication cable, 24 AWG. It is assumed that the C.O. lines are terminated at RJ style modular jacks.

Pre-installation Requirements

Unpack the system and check that all items conform to the list of parts ordered. Make sure that the customer's feature requirements have been documented on a Customer Feature Selection form.

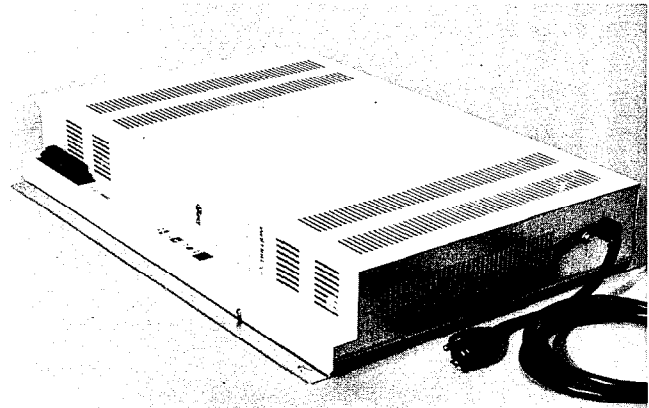
Description	Part Number
<i>TalkTo 616</i> Key Service Unit (KSU) (DTMF)	90-0050
<i>TalkTo 616</i> Key Service Unit (KSU) (Rotary or DTMF)	90-0054
<i>TalkTo 616</i> Set	90-0056
<i>TalkTo 616</i> Set (Handsfree)	90-0051
<i>TalkTo</i> Door Answer Unit	90-0057
<i>TalkTo</i> Door Module	90-0058
<i>TalkTo</i> Power Fail Transfer Unit	90-0052

If the Key Service Unit (KSU) is to be mounted on a concrete or masonry wall, a plywood backboard should be provided.

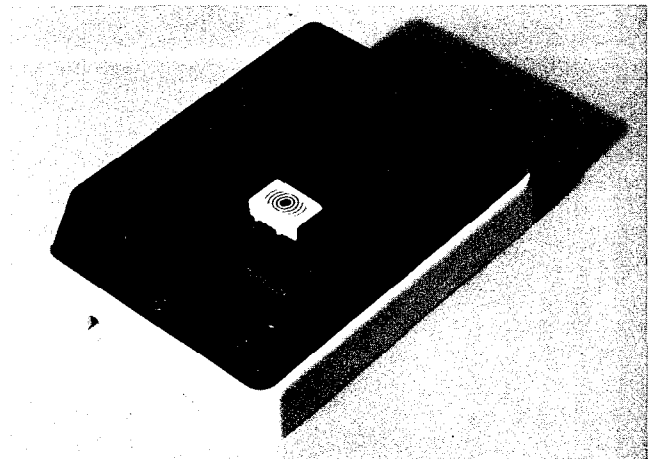
It is recommended that a surge protector be provided for the dedicated power outlet. A suitable device is the TII Model 428 plug-in protector or equivalent.



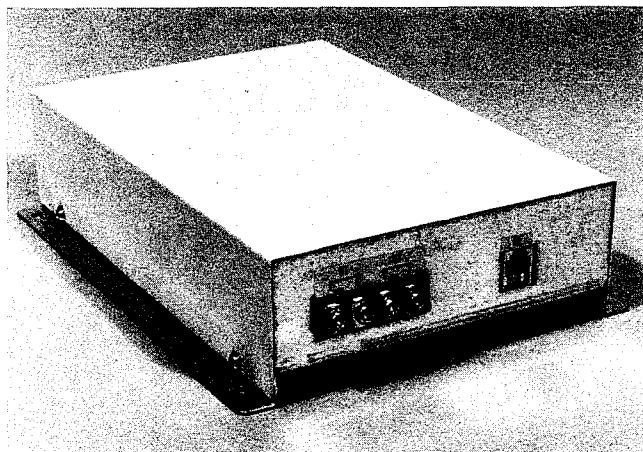
The TalkTo 616 Set is intended for desk or table use, but can be wall mounted using a special bracket available as an option.



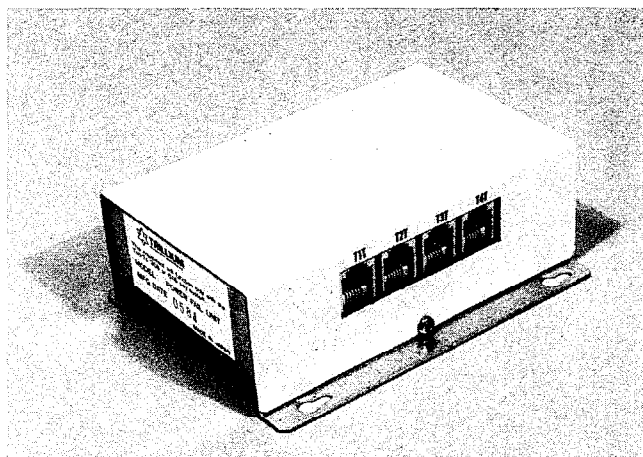
The Key Service Unit (KSU) is contained in a metal cabinet and should be wall mounted.



The Door Answer Module is moulded in plastic, measures 4 inches x 5 inches, and is fitted at the door requiring intercom service.



The Door Answer Unit measures 6.25 inches x 8 inches and should be wall mounted adjacent to the KSU.



The Power Fail Transfer Unit measures 3.5 inches x 4.5 inches and should be wall mounted adjacent to the KSU.

* * *

Installation

The TalkTo 616 System is easily installed using the following procedures:

- KSU installation
- Station Wiring (2 methods)
- Music Input
- Paging Output
- Door Answer Option
- Power Fail Transfer Option

KSU Installation

The KSU contains no user adjustable controls or parts. All switches used during programming are accessible at the exterior of the KSU. An indicator on the left side of the KSU flashes when the system is up and running.

The 110V ac three-wire outlet should be dedicated to the KSU. At the service panel, the electrical breaker for this outlet should be equipped with a locking clip, or marked with label, to prevent accidental shut-down of the system. A surge protector should be installed at the 110V ac outlet.

A suitable unit is the TII Model 428, plug in power line surge protector. Install the protector in accordance with the manufacturer's instructions.

The KSU is intended for wall mounting only. If a backboard is to be used, start the KSU installation by mounting the backboard on the wall. Then:

- Mark the position of the four KSU mounting screws on the backboard.
- Drive in four screws (supplied with the KSU) to within 1/8 inch of the board surface.
- Using the four keyhole slots in the KSU cabinet, hang the unit on the four screws.
- Tighten the screws to secure the KSU to the backboard.

Connect the ground lug of the KSU, to a metal cold water pipe or ground stake, using 12 AWG (2.64mm diameter) or heavier, copper wire. If a cold water pipe is used, ensure that the continuity to ground is not broken by the use of plastic pipe. If a ground stake is used for this purpose, it must be properly installed in accordance with the local electrical code.

Caution: Failure to properly ground the KSU may affect the system warranty.

Carry out a preliminary check of the KSU operation as follows:

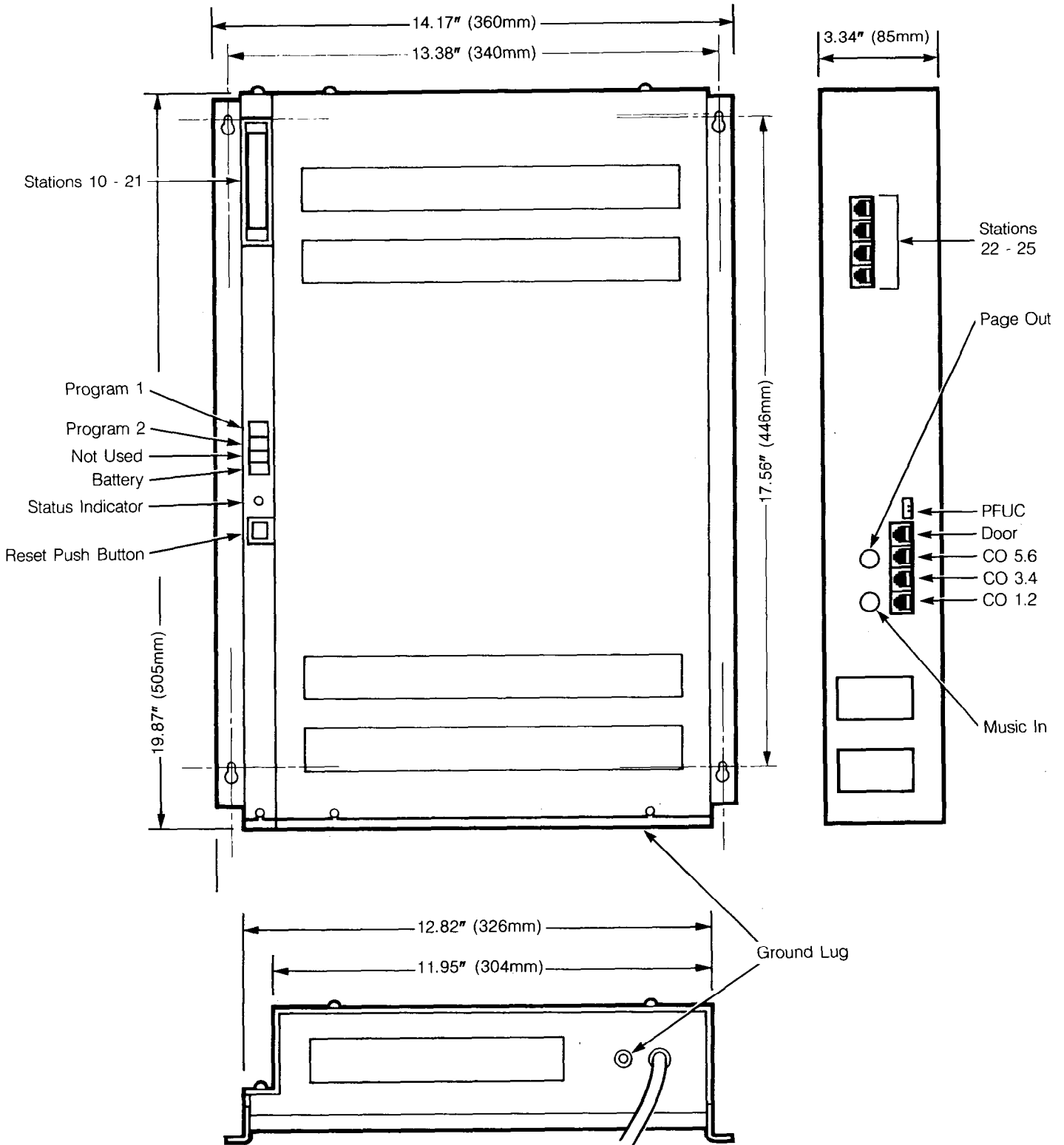
- Set the switch, **Battery**, to **On**.
- Set the Switches, **Program 1** and **2**, to **Off**.
- Connect the KSU power cord to the surge protector previously installed at the 110V ac power outlet.
- **Status indicator** lamp should flash.

This indicates that the KSU is operative.

To prevent accidental damage to the KSU while the system wiring is being installed, remove the power from the KSU as follows:

- Set the switch, **Battery**, to **Off**.
- Disconnect the power cord from the surge protector.

INSTALLATION



TalkTo 616 KSU Cabinet - Dimensions

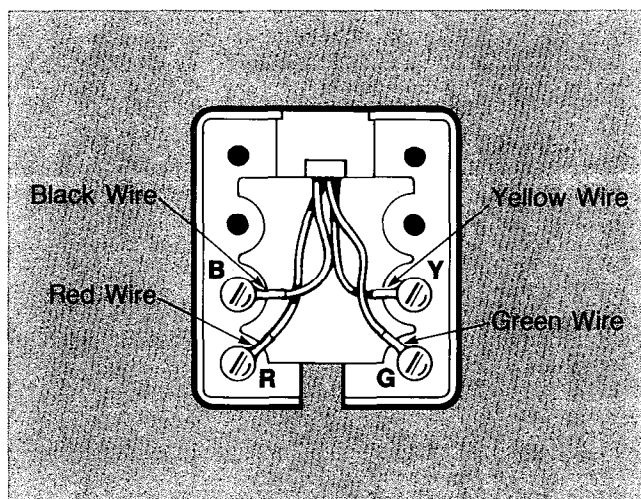
Station Wiring — Method 1

This method uses 25 pair standard cabling and a 66 Type Punch Down Block, to connect 12 stations, and 4 modular line cords and half 66 Type Punch Down Block to connect the remaining 4 stations. Cable runs to the station locations use communication cable (2 pair 24 AWG), 625 type four-wire jacks, and modular line cords.

Adjacent to the left hand side of the KSU, install the 66 Type Punch Down Block (**S66-M1-50R or similar**). Prepare a 25 pair cable of appropriate length with a jack on the KSU end and a plug at the Punch Down Block end. (If a **66M1-50** block is used, installer cut down will be required at the block). Connect the 25 pair cable to the KSU and 66 type block (see Method 1 Wiring Table). Run communication cable to each station location, and terminate each run with a 625 type modular jack. Install each set with a modular line cord (one is supplied with each set).

Adjacent to the right hand side of the KSU, install the half 66 Type Punch Down Block (**S66-M4-25TLM-A**) or similar. Prepare four short 4-wire modular line cords of appropriate length, with a plug at both ends. Plug the cords into the KSU (**STA22-STA25**), and into the four modular jacks on the Punch Down Block. Observe the correct station connections at block. Run communication cable to each set location, and terminate each run with a 625 type modular jack. Install each set using a modular line cord (one is supplied with each set).

You are now ready to connect the KSU to the C.O./PABX lines.



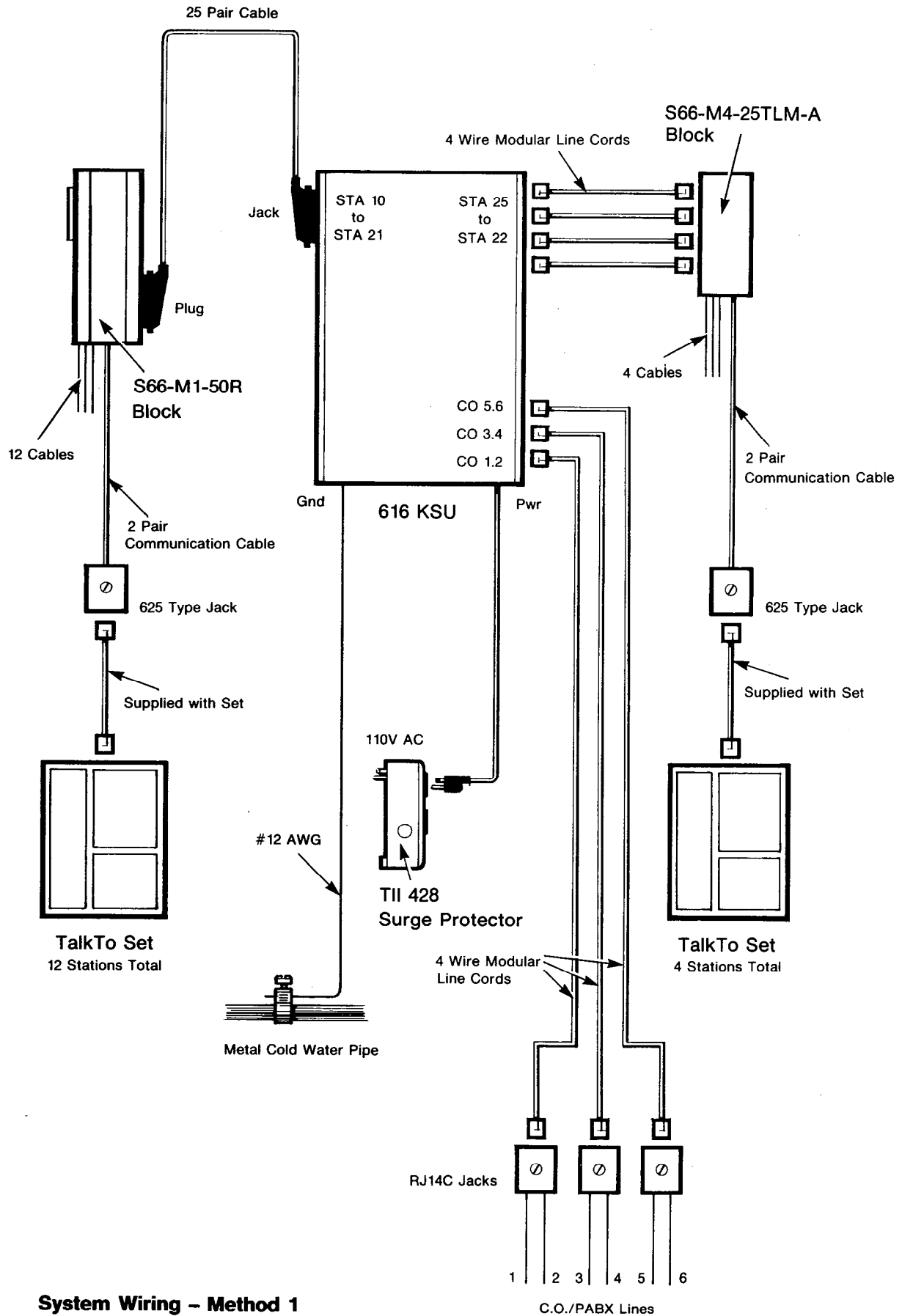
Typical 625 type jack showing wiring connections.

Method 1 Wiring Table

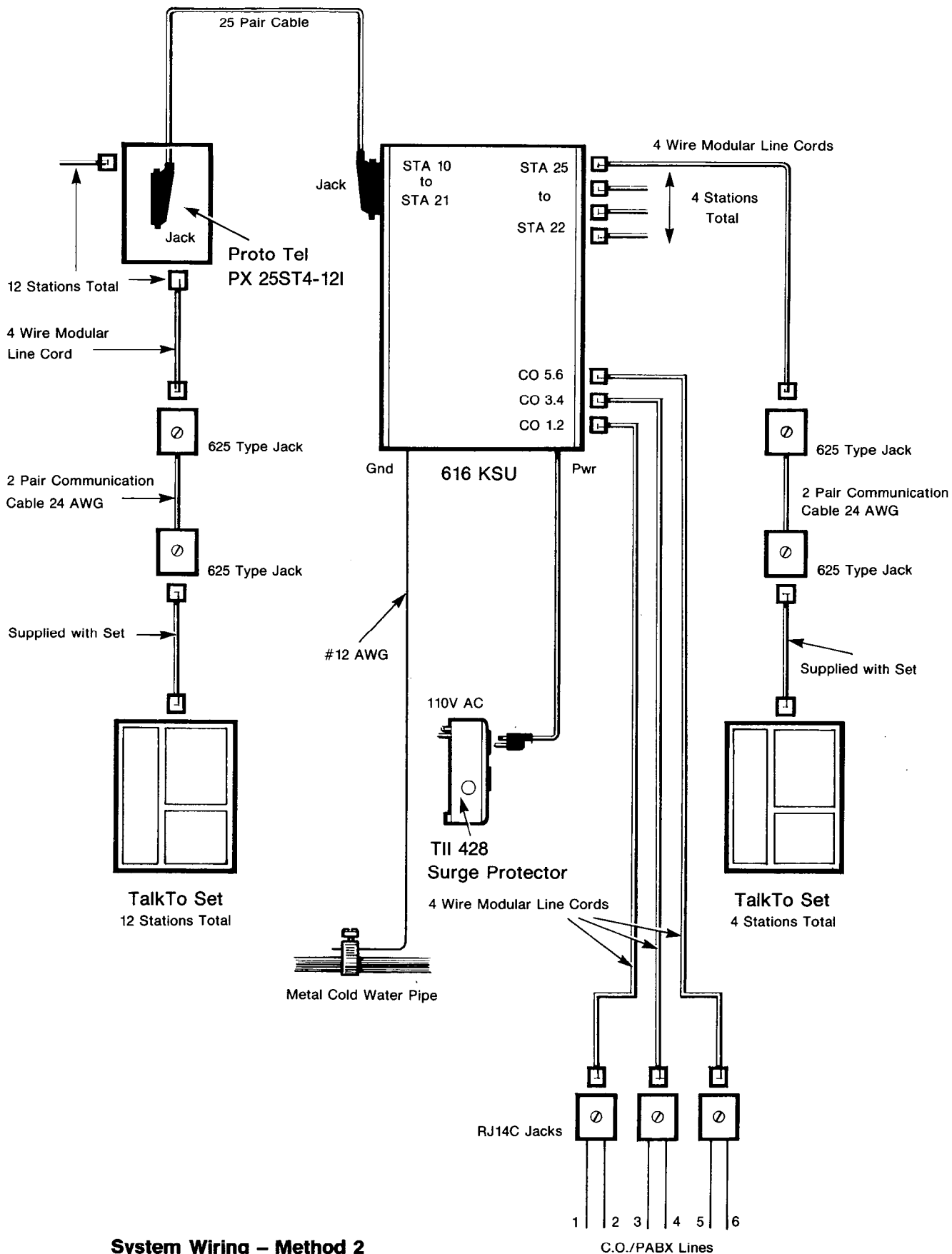
Pin	Lead Desig.	25 Pair Cable Colors	Comm. Cable Colors	Line Cord Colors	Sta. No.
26	1VT	White-Blue	White-Blue	Green	10
1	1VR	Blue-White	Blue-White	Red	
27	1DT	White-Orange	White-Orange	Black	
2	1DR	Orange-White	Orange-White	Yellow	
28	2VT	White-Green	White-Blue	Green	11
3	2VR	Green-White	Blue-White	Red	
29	2DT	White-Brown	White-Orange	Black	
4	2DR	Brown-White	Orange-White	Yellow	
30	3VT	White-Slate	White-Blue	Green	12
5	3VR	Slate-White	Blue-White	Red	
31	3DT	Red-Blue	White-Orange	Black	
6	3DR	Blue-Red	Orange-White	Yellow	
32	4VT	Red-Orange	White-Blue	Green	13
7	4VR	Orange-Red	Blue-White	Red	
33	4DT	Red-Green	White-Orange	Black	
8	4DR	Green-Red	Orange-White	Yellow	
34	5VT	Red-Brown	White-Blue	Green	14
9	5VR	Brown-Red	Blue-White	Red	
35	5DT	Red-Slate	White-Orange	Black	
10	5DR	Slate-Red	Orange-White	Yellow	
36	6VT	Black-Blue	White-Blue	Green	15
11	6VR	Blue-Black	Blue-White	Red	
37	6DT	Black-Orange	White-Orange	Black	
12	6DR	Orange-Black	Orange-White	Yellow	
38	7VT	Black-Green	White-Blue	Green	16
13	7VR	Green-Black	Blue-White	Red	
39	7DT	Black-Brown	White-Orange	Black	
14	7DR	Brown-Black	Orange-White	Yellow	
40	8VT	Black-Slate	White-Blue	Green	17
15	8VR	Slate-Black	Blue-White	Red	
41	8DT	Yellow-Blue	White-Orange	Black	
16	8DR	Blue-Yellow	Orange-White	Yellow	
42	9VT	Yellow-Orange	White-Blue	Green	18
17	9VR	Orange-Yellow	Blue-White	Red	
43	9DT	Yellow-Green	White-Orange	Black	
18	9DR	Green-Yellow	Orange-White	Yellow	
44	10VT	Yellow-Brown	White-Blue	Green	19
19	10VR	Brown-Yellow	Blue-White	Red	
45	10DT	Yellow-Slate	White-Orange	Black	
20	10DR	Slate-Yellow	Orange-White	Yellow	
46	11VT	Violet-Blue	White-Blue	Green	20
21	11VR	Blue-Violet	Blue-White	Red	
47	11DT	Violet-Orange	White-Orange	Black	
22	11DR	Orange-Violet	Orange-White	Yellow	
48	12VT	Violet-Green	White-Blue	Green	21
23	12VR	Green-Violet	Blue-White	Red	
49	12DT	Violet-Brown	White-Orange	Black	
24	12DR	Brown-Violet	Orange-White	Yellow	
50	—	Violet-Slate	—	—	—
25	—	Slate-Violet	—	—	—

VT: Voice Tip VR: Voice Ring DT: Data Tip DR: Data Ring

INSTALLATION



System Wiring - Method 1



System Wiring - Method 2

INSTALLATION PROCEDURES

Station Wiring — Method 2

This method assumes that connections from the KSU to Stations will be made using 625 jacks and modular cords, and does not require the use of any special tools. However, since twelve station outputs from the KSU are terminated with a 25 pair plug, it is necessary to use a short 25 pair cable, and an adapter which converts the 25 pair cable to 12 modular jacks (Proto-Tel **PX 25ST4-121** or similar).

Adjacent to the left hand side of the KSU, install the **PX-25ST4-121** Type Adapter in accordance with the manufacturer's instructions. Using a 25 pair cable of appropriate length (plug at the adapter end and a jack at the KSU end), connect the adaptor to the KSU. At the adapter, break out the plastic tabs protecting the modular jacks. Break only those which are to be used. Close the cover of the adapter.

Mount 625 type 4-wire jacks adjacent to the KSU. If more than twelve stations are being installed, 12 jacks should be installed close to the Proto-Tel Adapter, and four should be installed adjacent to the KSU outputs for stations 22 to 25 (right hand side of KSU).

Run communication cable (2 pair 24 AWG) from each 625 type jack to the location of each set. Terminate each run with a 625 type jack. Always observe the colour codes, as shown in the following table.

625 Type Jack	Quad Cable	Communication Cable	Function
Green	Green	White/Blue	Voice Tip
Red	Red	Blue/White	Voice Ring
Black	Black	White/Orange	Data Tip
Yellow	Yellow	Orange/White	Data Ring

The older type quad cable is shown for reference.

At the KSU installation, connect each of the modular jacks of the Proto-Tel Adapter to one of the 625 type jacks using modular 4-wire line cords. Note the station allocation. If KSU station jacks STA22 to 25 are being used, connect these to the adjacent 625 jacks using short modular 4-wire line cords.

Install the Sets using modular 4-wire line cords (one is supplied with each set).

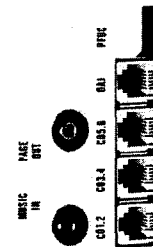
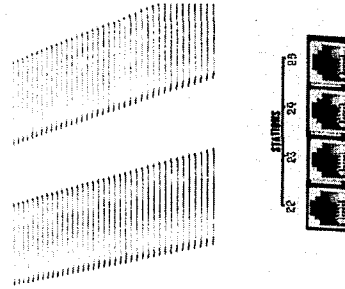
You are now ready to connect the KSU to the C.O./PABX lines.

Central Office/PABX Line Connection

These lines are normally terminated by RJ type jacks. When requesting service from the telephone company, please request that the lines are terminated with RJ14C type jacks. Alternatively, if the lines are already installed using RJ11C type jacks, an adapter such as an **SE 267B** (Suttle Apparatus Corp.) will be required.

Where the connection is made directly from the C.O. line 625 type jack to the KSU, use a four conductor modular line cord.

Where the connection is made using the splitter adapter **SE 267B**, the connections from the 625 type C.O. line jacks to the adapter are made using modular line cords. The connection from the adapter to the KSU is made using a modular telephone extension cord (female to male).



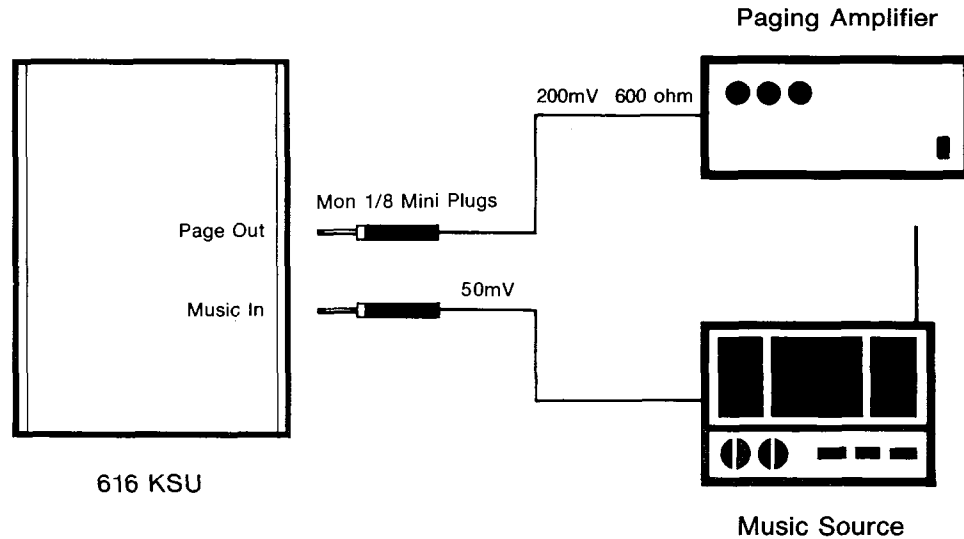
* * *

Music Input

The *TalkTo 616* System provides both music on hold (MOH) and background music if an external music source is provided. This music source is connected via the **Music In** jack on the KSU with a 1/8 inch miniature plug. The KSU requires a music signal not exceeding 50mV rms.

Paging Output

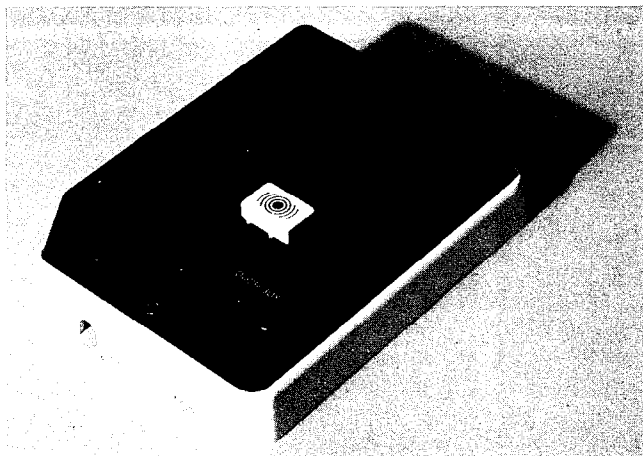
The *TalkTo 616* System provides external loudspeaker paging by the stations through the **Page Out** jack. The voice output from the KSU to the customer provided external amplifier is connected with a 1/8 inch miniature plug. The output is 200mV rms at 600 ohm impedance.



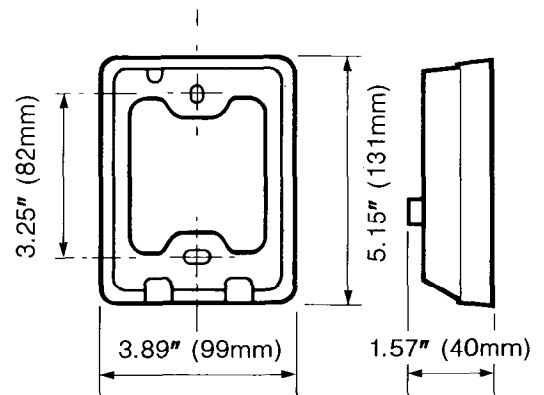
Music and Paging Connections

Door Answer Option

The *TalkTo 616* System will provide door signaling and 2 way conversation with up to 2 doors. To provide this option, one door answer unit and a maximum of 2 door modules are required.

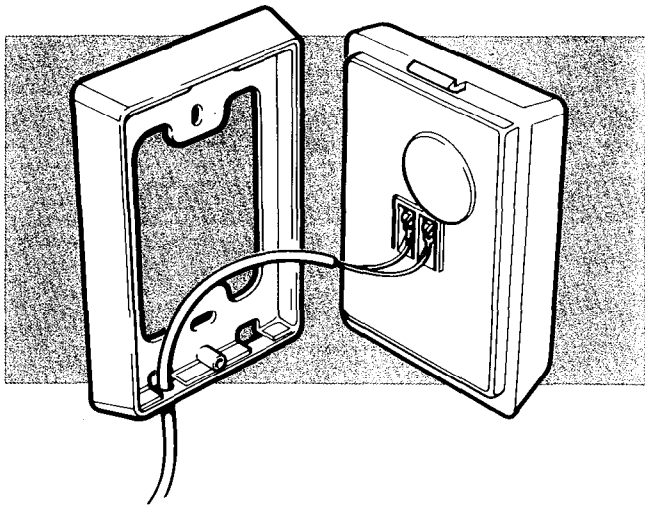


The Door Answer Module is moulded in plastic, measures 4 inches x 5 inches, and is fitted at the door requiring intercom service.



Caution: If the Door Answer Unit is connected it replaces the sixth C.O./PABX line; therefore with the door option installed the system will only accommodate 5 C.O./PABX lines. Do not use jack C.O.6.

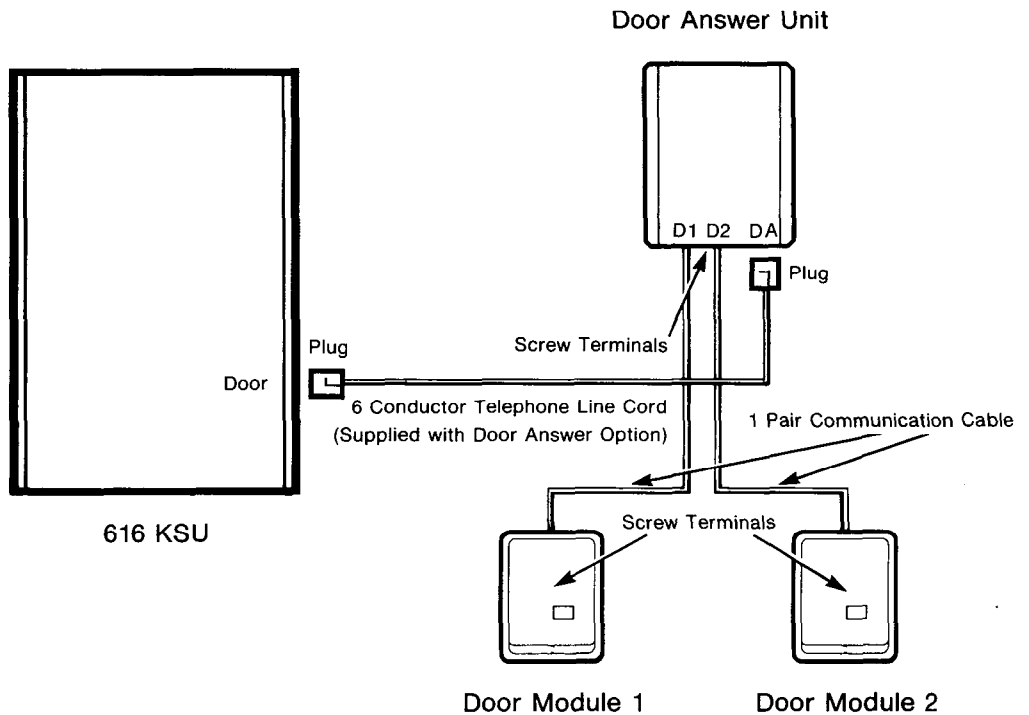
INSTALLATION



The Door Answer Module with front cover detached showing the two screw terminals.

Door Answer Unit

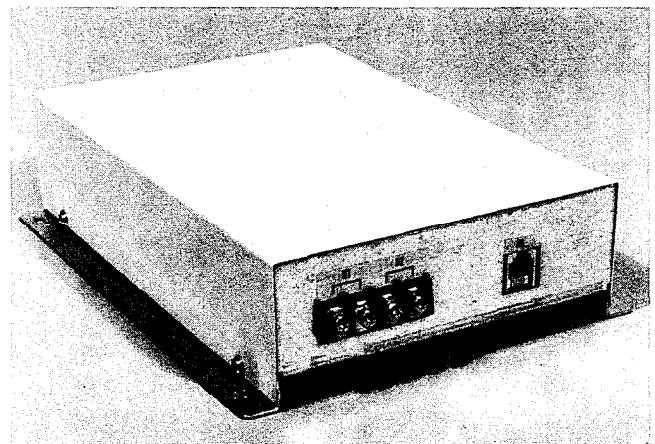
The Door Answer Unit (DAU) is mounted on the backboard with the screws supplied. The Door Answer Unit is connected with a modular 6 conductor cord supplied with the Unit. At the KSU plug the 6 conductor cord into the jack labeled **Door**. At the Door Answer Unit, plug the cord into the jack labeled **DA**.

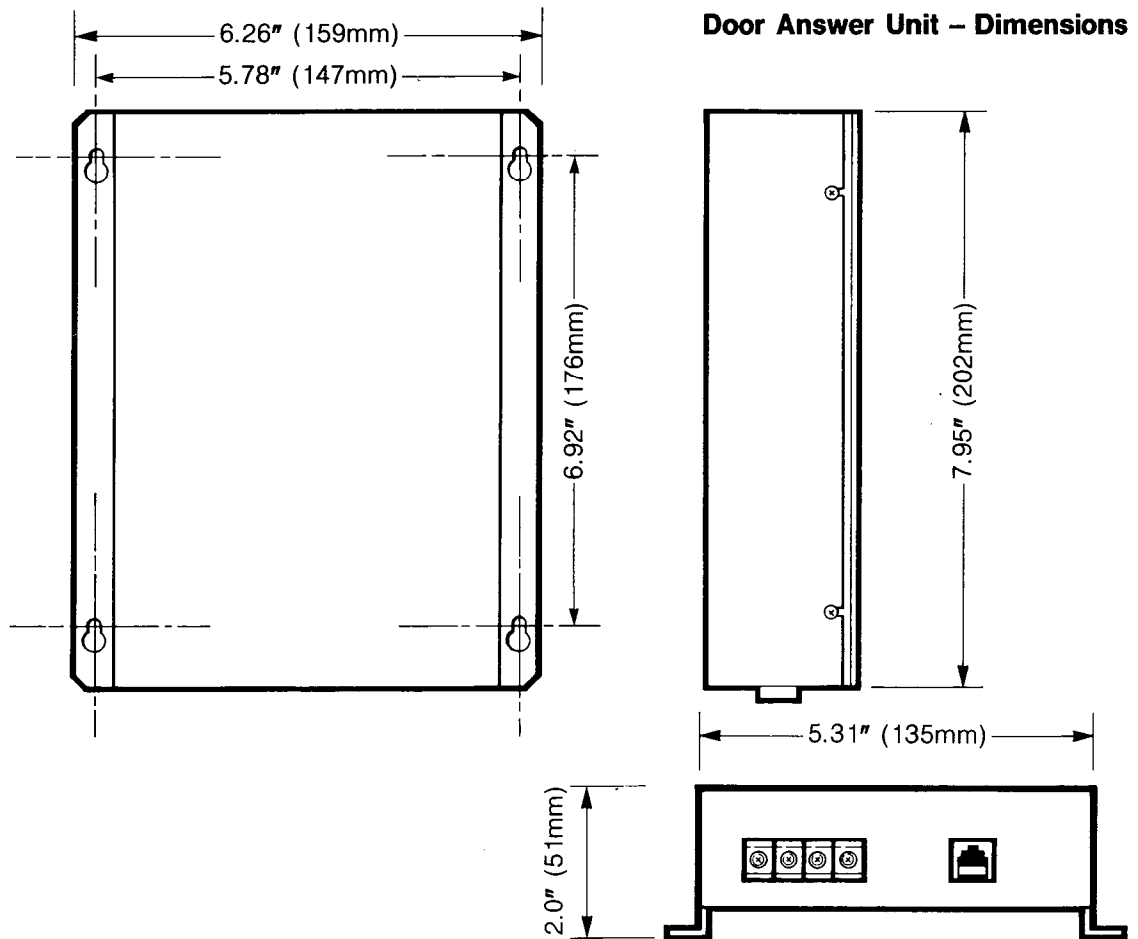


Door Answer Option Connections

Mount each of the door modules adjacent to the door to be equipped with intercom service. The door module consists of 2 pieces, the base and the electronics unit. To separate the base from the electronics unit, remove one screw at the bottom front face. Mount the base on the wall or on an electrical outlet box using the screws provided.

Run 2 conductor cable from the Door Answer Unit to each of the door modules. Connect the wires under the screw terminals at each end. At the Door Answer Unit, **Door 1** connects to **D1** terminals and **Door 2** connects to **D2** terminals. After connecting the 2 wires at the door module, replace the electronics unit in the base.





Power Failure Transfer Option

To provide telephone service in the event of a commercial power outage, a Power Failure Transfer Unit (PFT) must be installed. The PFT will allow all 6 of the *TalkTo 616* system's C.O./PABX lines to be transferred to 6 individual industry standard 2 wire telephones when the commercial power fails.

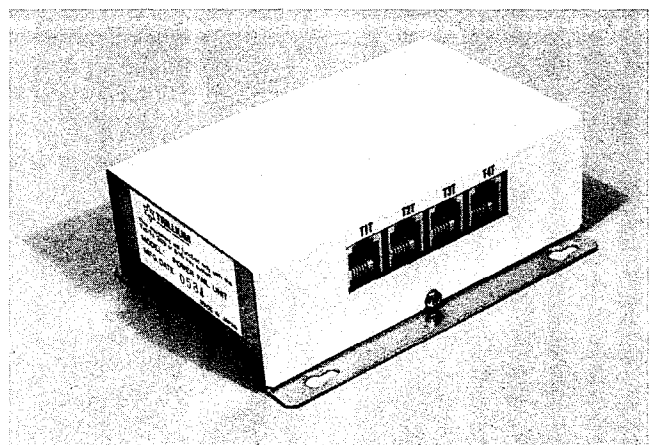
Mount the PFT unit on the backboard near the KSU. Install the 2 conductor special cable supplied with the unit. At the KSU, plug one end into the jack marked **PFUC**. At the PFT unit, plug the other end into the jack marked **CNJ**.

If all six C.O. lines are to be equipped with standard 2-wire telephones, it will be necessary to install a second PFT unit. The 2 conductor special cables supplied with the unit should be plugged into the jack marked **CNK** at the first PFT unit, and into the jack marked **CNJ** at the second unit.

Using 4 conductor modular line cords, connect the C.O./PABX lines to the jacks marked **CO 1.2**, **CO 3.4** on the first PFT unit and into **C.O. 1.2** on the second unit. Connect the PFT line outputs to the KSU using 4 conductor modular line cords. At first PFT unit, connect **TK 1.2** and **TK 3.4**, to **CO 1.2**, and **CO 3.4** respectively, at the KSU. At the second PFT unit, connect **TK 1.2** to **CO 5.6** at the KSU.

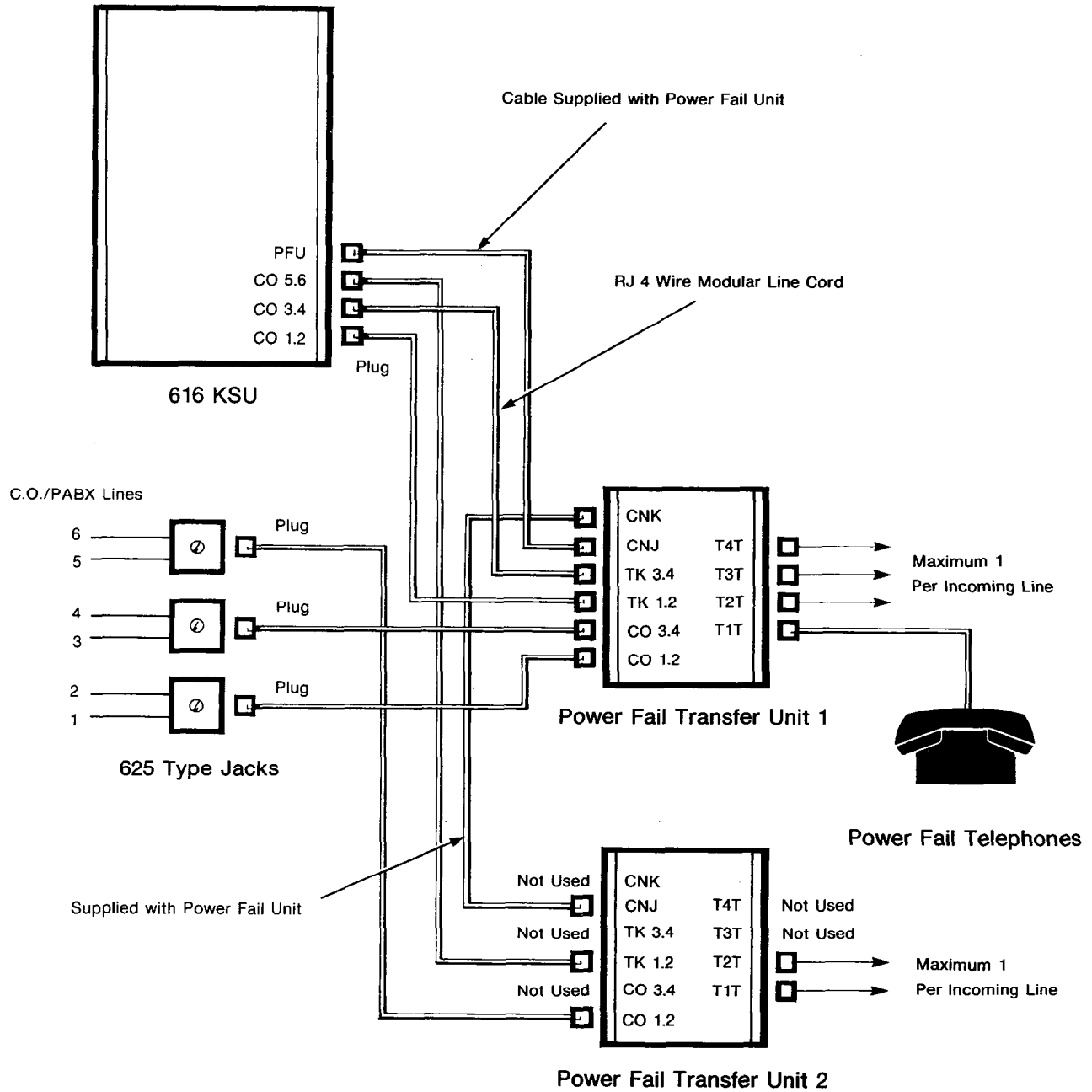
Mount up to 6 industry standard 2 wire telephone sets in convenient locations. Connect four of these to the jacks marked **T1T** through **T4T** on the first PFT unit. Connect two more to the jacks marked **T1T** and **T2T** on the second PFT unit.

The system is now ready for programming.

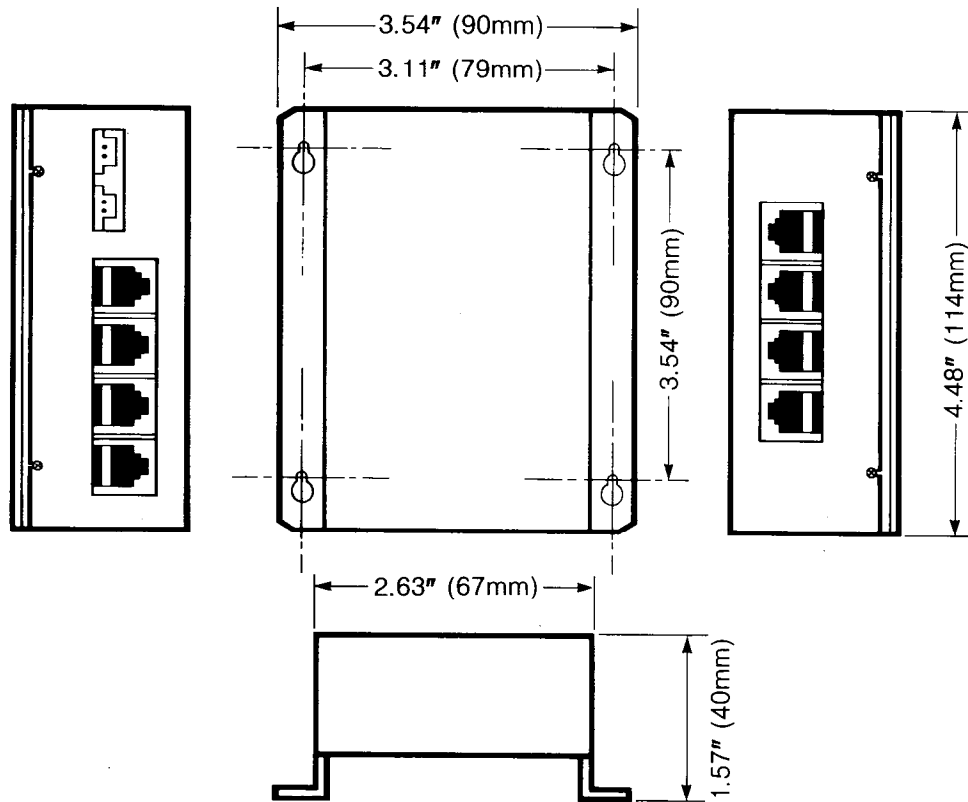


The Power Fail Transfer Unit should be wall mounted adjacent to the KSU.

INSTALLATION



Power Fail Transfer Option Connections



Power Fail Transfer Unit – Dimensions

System Programming

Before programming the system, check that the customer has completed a **Features Selection form**. A copy of the form and instructions for feature selection is included in this section.

It is recommended that the system is programmed immediately following installation. Programming makes use of station 10 dial pad, keys and indicator lamps when entering selected feature parameters.

System Requirements for Programming

For the system to be programmed to meet your requirements, it is necessary to decide what features are needed, and what parameters are required for those features selected. The following notes are intended to aid you in choosing the correct features and parameters. For reference purposes, please complete the accompanying programming form.

(1) Hold Recall Time: Determines the time period between putting a caller on hold and receiving a tone reminder that the caller is still on hold. Periods are 1 minute, 2 minutes, 3 minutes or no hold recall.

(2) Tone Duration: This sets the time duration for each dialed DTMF tone. Can be 55ms or 75ms.

(3) Flash/Cancel: Which function is the flash/cancel key to have? There are four calibrated periods — 250ms, 500ms, 1 sec., or 3 secs. to choose from.

(4) Pause on Number: Allows an automatic pause to be inserted into speed called numbers. Used when the system is behind a PABX, and it is necessary to wait a short period of time for C.O. dial tone to be returned. Pause can be inserted after the digit 7, 8, 9 or 0.

(5) C.O./PABX Line: Used to tell the system whether the lines are C.O. or PABX types.

(6) Incoming Call Only By Line: Allows individual C.O./PABX lines to be restricted to incoming calls only. Restriction is system wide.

(7) Outgoing Call Restriction By Station: Allows individual stations to be restricted for toll and outgoing calls. There are three classes of service: A, B or C.

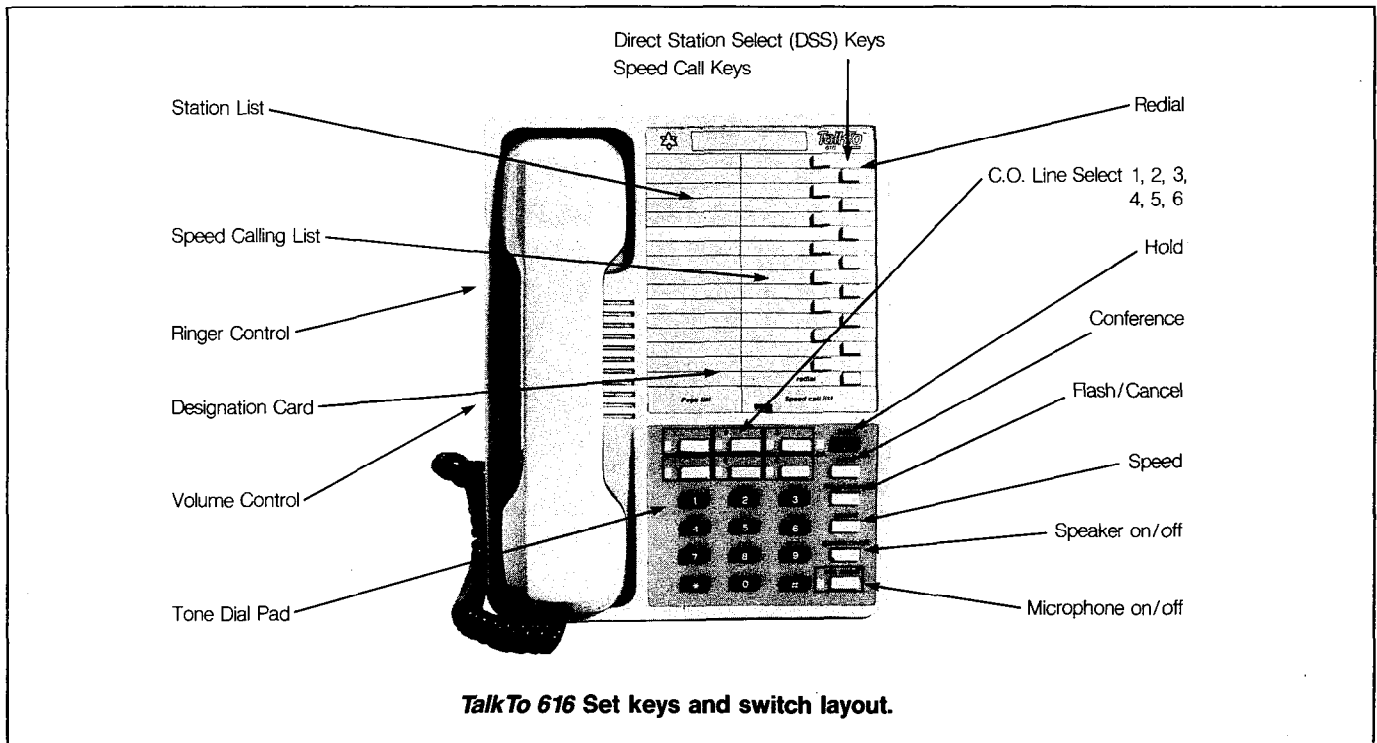
- **Class A:** No restriction.
 - **Class B — C.O. Line:** Dialing 0 + a number, 1 + a number or dialing more than 8 digits, is restricted.
 - **Class B — PABX Line:** Dialing C.O. line access code + 0 + a number, C.O. line access code + 1 + a number, or C.O. line access code + more than 8 digits, is restricted.
 - **Class C:** Calling is restricted to other stations connected to the system. No outside access at all.
- If class B is selected private speed call numbers are restricted, common speed call numbers are not.

(8) Night Transfer: Allows ringing to be assigned to selected stations when the system is put into a night transfer mode. At least one station must be selected, if night transfer is to be used.

(9) Private Line: Allows line 1 to be assigned to a designated station as a private line. Other stations do not have access to the assigned C.O./PABX line.

(10) Flexible Ringing Assignment: Allows ringing to be assigned by C.O. line at selected stations. Note that if C.O. line 1 is assigned as a private line to a designated station, ringing will be heard, at that station irrespective of whether ringing is assigned or not.

(11) Door Answering: If the door option is equipped, C.O. line 6 is always associated with door answering, and cannot be used as a C.O./PABX line.



Customer Feature Selection

Hold Recall (1)*	*Select one item per Line 1 min <input type="checkbox"/> 2 min <input type="checkbox"/> 3 min <input type="checkbox"/> No Recall <input type="checkbox"/>																																																																																																																									
Tone Duration (2)*	55ms <input type="checkbox"/> 75ms <input type="checkbox"/>																																																																																																																									
Flash/Cancel (3)*	Flash <input type="checkbox"/> Cancel <input type="checkbox"/>	250 ms <input type="checkbox"/> 500ms <input type="checkbox"/> 1 sec <input type="checkbox"/> 3 sec <input type="checkbox"/> 500ms is recommended for calibrated flash																																																																																																																								
Pause on Number (4)	Yes <input type="checkbox"/> No <input type="checkbox"/>	7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 0 <input type="checkbox"/>																																																																																																																								
C.O./PABX LINE (5)	C.O. <input type="checkbox"/> PABX <input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>																																																																																																																								
Incoming Call Only By Line (6)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Line 1 <input type="checkbox"/> Line 2 <input type="checkbox"/> Line 3 <input type="checkbox"/> Line 4 <input type="checkbox"/> Line 5 <input type="checkbox"/> Line 6 <input type="checkbox"/>																																																																																																																								
Outgoing Call Restriction By Station (7)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Stn/Class <table border="1"> <tr> <td>1 0</td> <td>1 1</td> <td>1 2</td> <td>1 3</td> </tr> <tr> <td>1 4</td> <td>1 5</td> <td>1 6</td> <td>1 7</td> </tr> <tr> <td>1 8</td> <td>1 9</td> <td>2 0</td> <td>2 1</td> </tr> <tr> <td>2 2</td> <td>2 3</td> <td>2 4</td> <td>2 5</td> </tr> </table>	1 0	1 1	1 2	1 3	1 4	1 5	1 6	1 7	1 8	1 9	2 0	2 1	2 2	2 3	2 4	2 5																																																																																																								
1 0	1 1	1 2	1 3																																																																																																																							
1 4	1 5	1 6	1 7																																																																																																																							
1 8	1 9	2 0	2 1																																																																																																																							
2 2	2 3	2 4	2 5																																																																																																																							
Night Transfer (8)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Stn # <table border="1"> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td></td> <td></td> </tr> </table>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																								
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																																					
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																																					
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																																							
Private Lines (9)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Stn/Line <table border="1"> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td>1</td> </tr> </table>	<input type="text"/>	<input type="text"/>	1																																																																																																																					
<input type="text"/>	<input type="text"/>	1																																																																																																																								
Flexible Ringing (10)	Yes <input type="checkbox"/>	Stn/Line <table border="1"> <tr> <td>1 0</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>1 8</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>1 1</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>1 9</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>1 2</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>2 0</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>1 3</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>2 1</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>1 4</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>2 2</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>1 5</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>2 3</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>1 6</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>2 4</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> <tr> <td>1 7</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td>2 5</td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </table>	1 0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1 0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												
1 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												
1 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												
1 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												
1 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												
1 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												
1 6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												
1 7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	2 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																												

Should you require service, please call the following number:

<input type="text"/>

SYSTEM PROGRAMMING

Preparation

Before attempting to program the system, check

- Station 10 is connected.
- The switches, **Program 1** and **Program 2**, are set to **Off**.
- The KSU is connected to a 110V ac power supply.
- The **status indicator** on the KSU is **flashing**.
- The switch, **Battery**, is set to **On**.
- A Features Selection form, completed by the customer, is available.

Note: Default Data

Default data is automatically loaded as feature programming if the switches, **Program 1** and **Program 2**, are set to **On**, and the **Reset** button is pressed. The default states are shown in the Feature Programming Tables.

Programming Mode

Caution: If the system is already in use and is to be reprogrammed, the following operations should be carried out at a low traffic period. The system cannot be used during programming.

Initial Programming

To put the system into programming mode; at the KSU:

- Ensure that the switch, **Battery**, is set to **On**.
- Set the switches, **Program 1** and **Program 2** to **On**.
- Press the **Reset** key.

- Status Indicator lamp stops flashing.
- Set the switch, **Program 1** to **Off**.
- Press the **Reset** key.
- Press * key on station 10.
- **int.** indicator comes on.
- System now ready to be programmed.

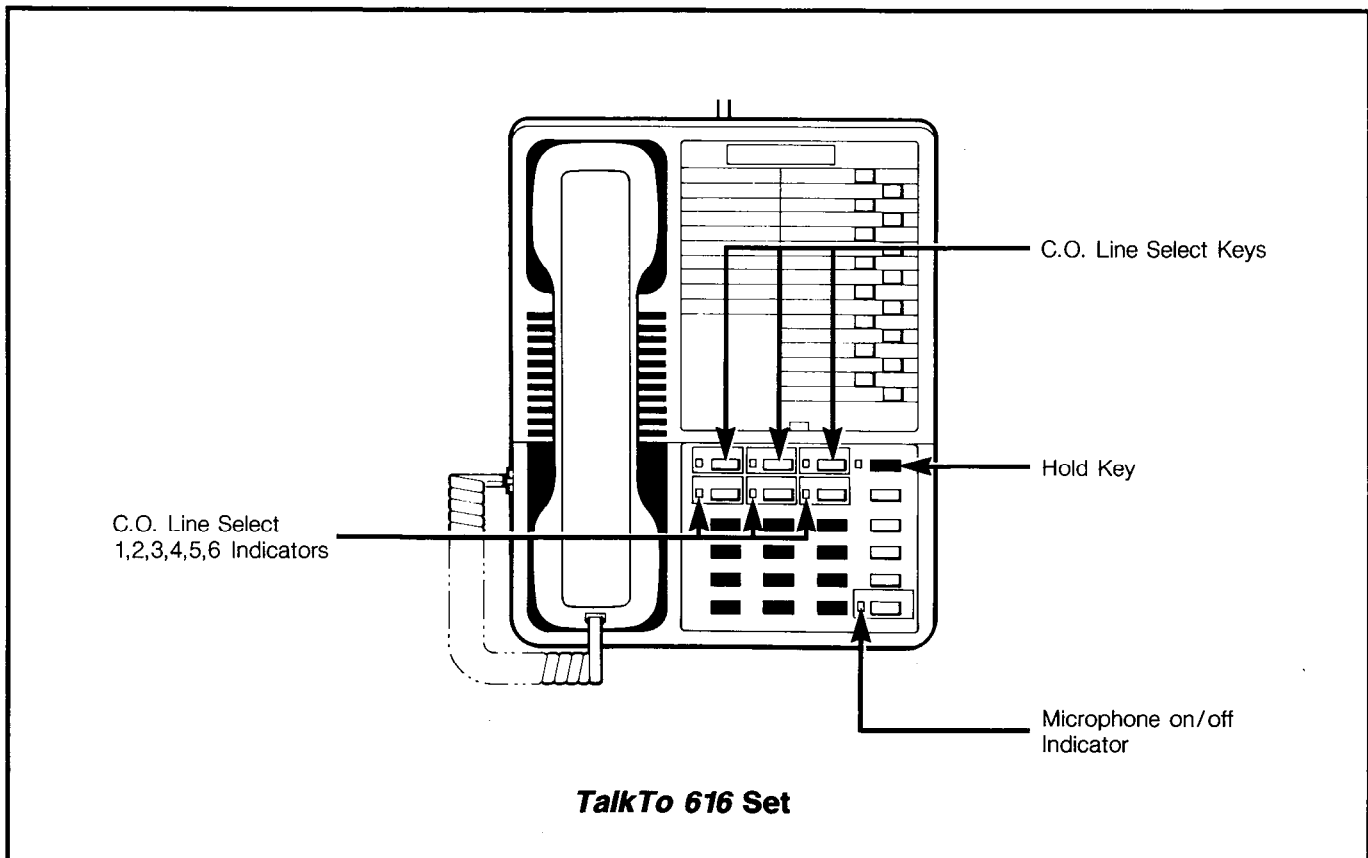
Reprogramming

To put the system into a reprogramming mode; at the KSU:

- Ensure that the switch, **Battery**, is set to **On**.
- Set the switch, **Program 2**, to **On**
- Press the **Reset** key.
- Status indicator lamps stop flashing.
- Press * key on station 10.
- **int.** indicator comes on.
- System now ready to be reprogrammed.

Feature Programming

Feature programming is entered using station 10. Each feature is accessed using a 3-digit code entered from the dial pad. The status of the feature is then displayed on the **C.O. Line 1, 2, 3, 4, 5, 6** and **mic. on/off** indicator lamps. The status can be changed by pressing the key associated with appropriate indicator lamp. In the case of the **mic. on/off** indicator, the key used is **hold**. Each access key functions as a press on/off switch; press once, the lamp turns on, press again, the lamp turns off.



Individual Feature Programming

Features need not necessarily be programmed in a specific order. Each is accessed simply by entering the specific 3-digit access code. The following charts show the Feature, the Access Code the Access Keys and their functions.

Hold Recall — Pulse Duration — Flash/Cancel

Access Code 010

Default is — No recall — 75ms — Flash

Feature Data	C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	hold mic. on/off
No Recall 1 Minute 2 Minutes 3 Minutes 55ms Tones 75ms Tones (Recommended) Flash Cancel	off on off on	off off on on	 on off	 NOT APPLICABLE			 off on
Examples: 1 Minute Recall 55ms Tones Flash	 on	 off	 on				 off
1 Minute Recall 75ms Tones Cancel	on	off	off				on

C.O./PABX Line

Access Code 060

Default is — C.O.

Feature Data	C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	hold mic. on/off
C.O. Line 1 PABX Line 1 C.O. Line 2 PABX Line 2 C.O. Line 3 PABX Line 3 C.O. Line 4 PABX Line 4 C.O. Line 5 PABX Line 5 C.O. Line 6 PABX Line 6	off on	 off on	 off on	 off on	 off on	 off on	 NOT APPLICABLE
Example: Line 1 — C.O. Line 2 — C.O. Line 3 — C.O. Line 4 — C.O. Line 5 — PABX Line 6 — PABX	 off	 off	 off	 off	 on	 on	

INDIVIDUAL FEATURE PROGRAMMING

CA 646
Paul

Incoming Call Only - By Line **Access Code 070** Default is — No Restriction

Feature Data	C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	hold mic. on/off
Line 1 Unrestricted Line 1 Restricted Line 2 Unrestricted Line 2 Restricted Line 3 Unrestricted Line 3 Restricted Line 4 Unrestricted Line 4 Restricted Line 5 Unrestricted Line 5 Restricted Line 6 Unrestricted Line 6 Restricted	off on	off on	off on	off on	off on	off on	NOT APPLICABLE
Examples: Line 1 Unrestricted Line 2 Unrestricted Line 3 Unrestricted Line 4 Restricted Line 5 Restricted Line 6 Restricted	off	off	off	on	on	on	

Outgoing Call Restriction, Night Transfer and Private Lines — By Station

Access Code 1XX (where XX is station number 10 - 25)

Default is — No Restriction, No Ringing, No Private Line

Feature Data	C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	hold mic. on/off
C.O. Line Restrictions Class A— No Restriction Class B— Dialing 0 + number – Dialing 1 + number – Dialing more than 8 digits Class C— Dialing an outside line	off <u>on</u> off	off off on					NOT APPLICABLE
Night Transfer No ringing Ringing Private Line (only applies to Line 1) C.O. Line 1 No C.O. Line 1 Yes			off on				NOT APPLICABLE off on
Examples: Station 13 Class B Restrictions, Night Transfer Ringing C.O. 1 Private Line Access Code 113	on	off	on				NOT APPLICABLE on

Notes:

Class B Restrictions — If the line is a PABX line, the C.O. line access code is included in the restriction.

Class C Restrictions — If the line is a PABX line dialing the C.O. line access code only, is restricted.

PANTHER

2 REST

2 --- LINE INTER

INDIVIDUAL FEATURE PROGRAM

HOLD

1-4

2 - - 1

Flexible Ringing — By Station and C.O. Line

Access Code 2XX (where XX is station number 10 to 25) Default is — No Ring

Feature Data	C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	hold mic. on/off
C.O. 1 No ringing C.O. 2 No ringing C.O. 3 No ringing C.O. 4 No ringing C.O. 5 No ringing C.O. 6 No ringing	off	off	off	off	off	off	NOT APPLICABLE
C.O. 1 Ringing C.O. 2 Ringing C.O. 3 Ringing C.O. 4 Ringing C.O. 5 Ringing C.O. 6 Ringing	on	on	on	on	on	on	
Examples: Station 10 rings for C.O. 1 and 2, but not C.O. 3 Access Code 210	on	on	off	off	off	off	NOT APPLICABLE
Station 17 rings for C.O. 3 only Access Code 217	off	off	on	off	off	off	

Calibrated Flash/Cancel

Access Code 030 Default is — 250ms

Feature Data	C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	hold mic. on/off
250ms	Not applicable		off	Not applicable			off
500ms	applicable		on	applicable			off
1 second	able		off	able			on
3 seconds			on				on

Note: 500ms is recommended for calibrated flash.

Pause on Number

Access Code 040 Default is — no pause

Feature Data	C.O. 1	C.O. 2	C.O. 3	C.O. 4	C.O. 5	C.O. 6	hold mic. on/off
7	on	off	off				off
8	off	on	off				off
9	off	off	on	Not Applicable			off
0	off	off	off				on
No pause	off	off	off				off
Examples							
Pause on 7, 8, only	on	on	off				off
Pause on 9 only	off	off	on				off

Operating Mode

Once programming has been satisfactorily completed, the system should be switched to its operating mode as follows.

At the set:

- Press # key.
- All indicator lamps at station 10 turned off.

At the KSU:

- Set the switch, **Program 2**, to **Off**.
 - Press **Reset** key.
 - Indicator lamp at KSU starts to flash.
- The system is now ready for use.

Speed Calling — Common Numbers, Programming

A maximum of forty numbers can be programmed. Numbers are stored against two digit access codes in the range 20 to 59 inclusive. These numbers must be programmed from station 10.

Before programming check that the **int.** indicator is off

- Press the **speed** key.
- **int.** indicator winks slowly (My-Line).
- Internal dial tone is heard at the Set's speaker.
- Dial the two digit access code (20 to 59).
- **int.** indicator flashes very quickly, and dial tone is turned off.
- Dial the speed call number to be programmed (Maximum number of digits is 16).

INDIVIDUAL FEATURE PROGRAMMING

- For each subsequent number to be programmed, press the **speed** key, dial the two digit access code, followed by the speed call number to be programmed.

At the completion of programming:

- Press the **speaker on/off** key.
- **int.** indicator stops flashing.

New numbers can be entered at anytime. Simply press the **speed** key, dial the two digit access code, enter the speed call number, and then press the **speaker on/off** key.

Speed call numbers can be access codes for PABX, Centrex, and C.O. Calling Features. Numbers greater than 16 digits can be linked together by programming two access codes.

Common Speed Calling List

Access	Telephone Number	Name/Company
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		

Troubleshooting

The purpose of this section is to assist maintenance personnel in locating and clearing faults in the *TalkTo 616* System.

The system is composed of the following major components:

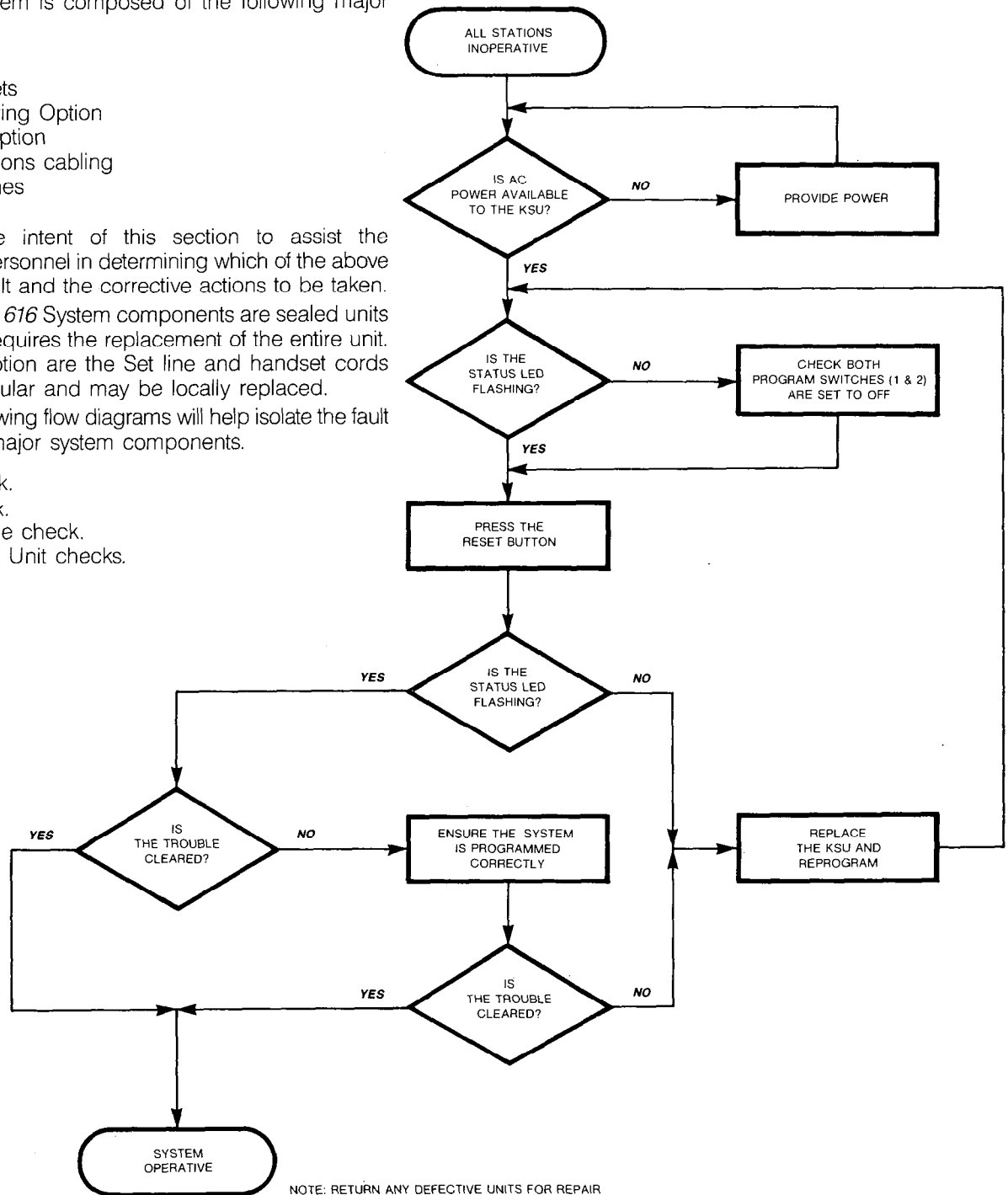
- KSU
- *TalkTo 616* Sets
- Door Answering Option
- Power Fail Option
- Communications cabling
- C.O./PABX lines

It is the intent of this section to assist the maintenance personnel in determining which of the above items are at fault and the corrective actions to be taken.

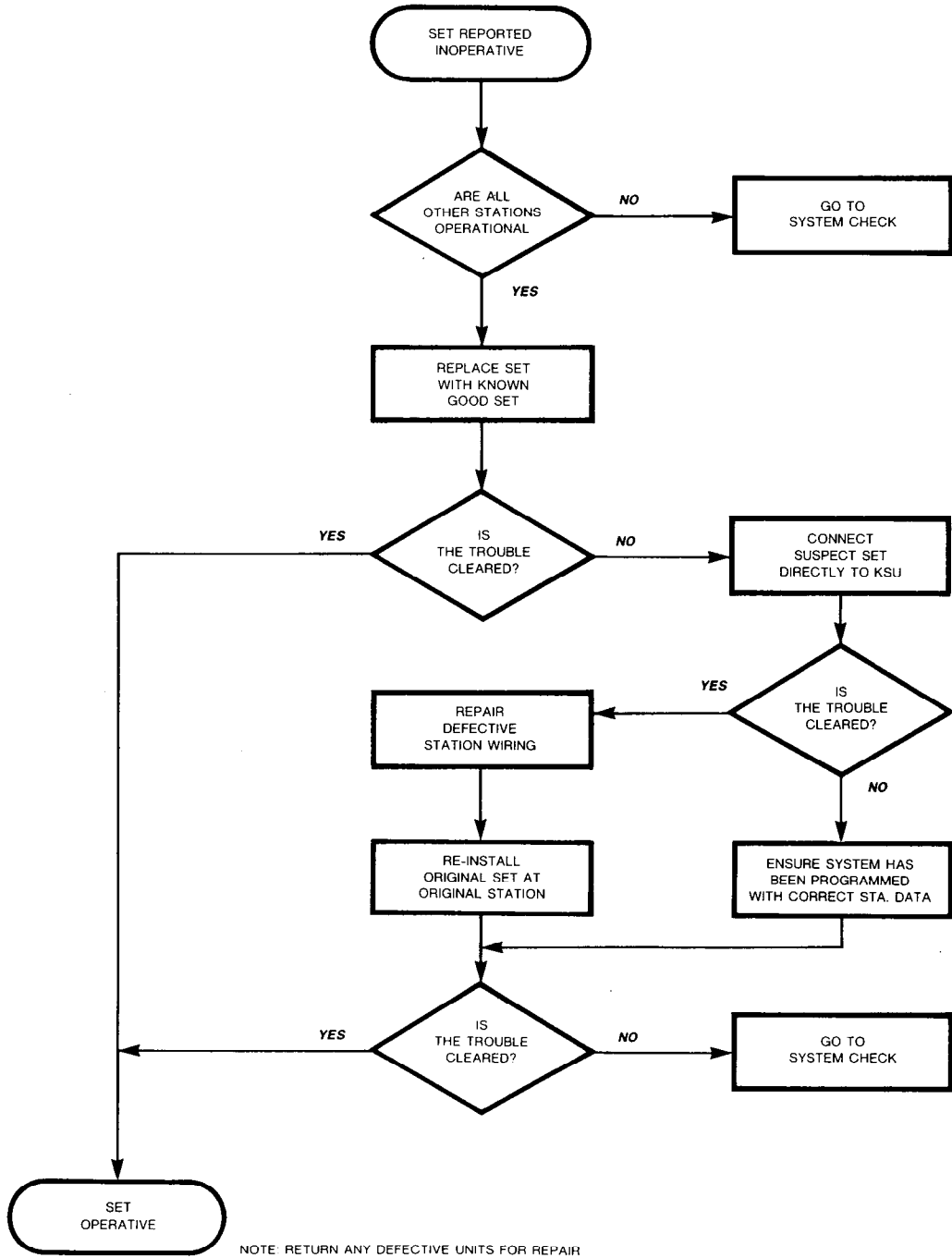
All *TalkTo 616* System components are sealed units and any fault requires the replacement of the entire unit. The only exception are the Set line and handset cords which are modular and may be locally replaced.

The following flow diagrams will help isolate the fault to one of the major system components.

- System check.
- Station check.
- C.O./PABX line check.
- Door Answer Unit checks.



System Check



Station Check