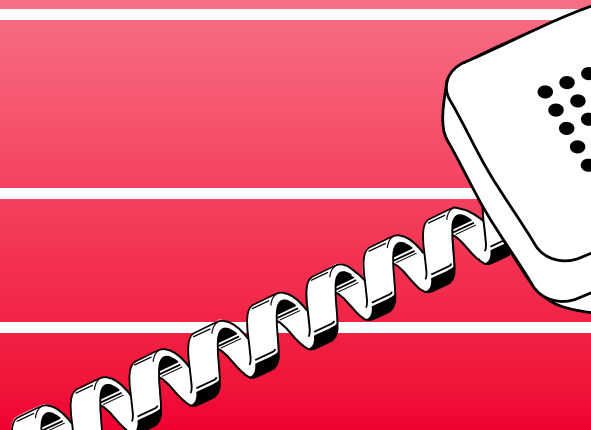


NITSUKO AMERICA ★
TELECOM DIVISION

Digital
System **DS**

**Hardware Manual for
Businesscom DS01**



CEU/Power Supply Site Requirements

Choose a central site for the MDF plywood backboard, within 7' of a dedicated AC outlet and 25' of earth ground. Allow space for multiple CEU's and power supplies. CEU's must be located within 3' of each other. Power supplies must be located within 6' of the CEU and within 6' of a dedicated AC outlet. See Figure 1.

Allow space for telco and station connectors, all ancillary equipment (ie; BGM/MOH source, voice mail, external paging equipment), and expansion. Refer to Nitsuko's Standard Practices Manual (P/N N2710STD01) for general environment and site specifications.

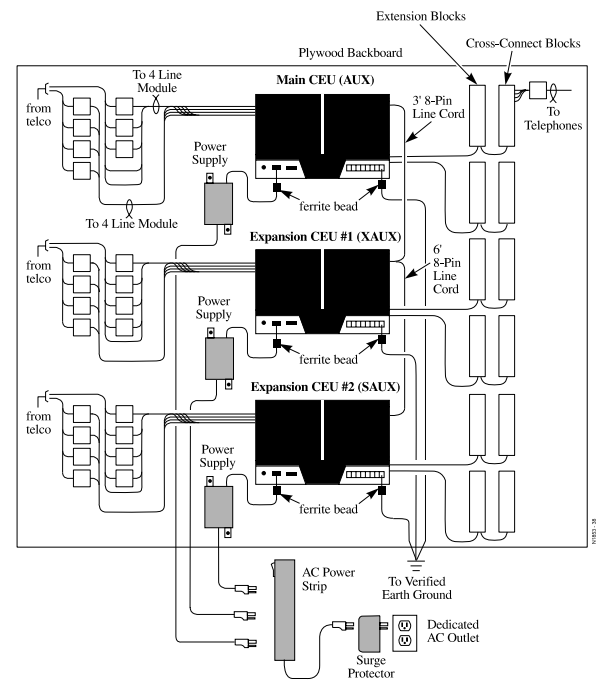


FIGURE 1

Mounting the CEU

1. Locate CEU mounting screws. Drill holes (2) in backboard using a 1/8" drill bit. Refer to mounting dimensions in Figure 2 (or use template, if installed).
2. Install CEU mounting screws (2) in holes. See Figure 2. Use screw gauges to set proper screw depth. (Screws & gauges are in plastic packet).
3. Hang CEU on mounting screws.
4. Drill lower CEU screw hole using a 1/8" drill bit. See Figure 2. Install and tighten screw.
5. Ground each CEU using #12 AWG (or larger) ground wire to earth ground.

Mounting the Power Supply

1. Use power supply as template to locate mounting screw holes.
2. Drill holes (2) in backboard using a 1/8" drill bit.
3. Locate power supply over holes.
4. Install screws (2-not provided).

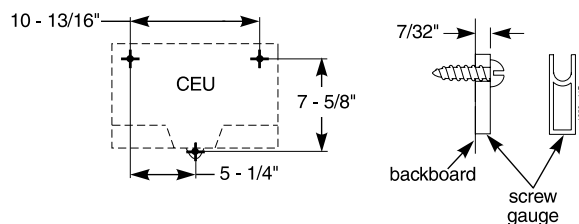


FIGURE 2

Connecting the Power Supply to the CEU

1. Loop the power supply CEU power cord 3 times through a ferrite bead (supplied in box).
2. Plug in the power supply CEU power cord into the **MAIN POWER** connector on the CEU. See Figure 3.
Do not plug the power supply into an AC outlet.

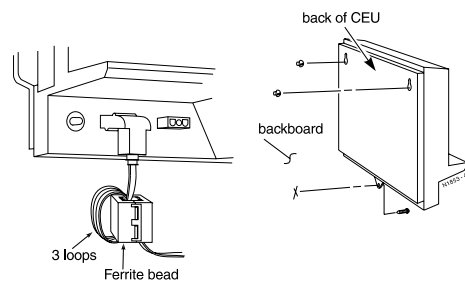


FIGURE 3

Power Strip/Surge Protector Connections

1. Plug the power supply cord into a power strip.
2. Plug the power strip into an AC surge protector.
3. Plug the surge protector into a dedicated AC outlet.

Powering Up

1. Turn the power switch on the power strip ON.
Refer to Power Up Procedure below (see Figure 4) for proper sequence when not using a power strip.

2 CEU's	3 CEU's
1. Exp. CEU (SAUX) 2. Exp. CEU (AUX)	1. Exp. CEU #2 (XAUX) 2. Exp. CEU #1 (SAUX) 3. Main CEU (AUX)

FIGURE 4

Installing CO and Station Modules

Power down to install or remove any module.

To install CO and Station Modules:

1. Line up the screw hole in the new module (i.e., the one you are installing) with the pilot hole in the CEU base or existing module. See Figure 5.
2. Place new module on CEU or existing module. If placing new module on existing module, be sure to line up the ground lugs.
3. When placing new module on CEU, insert short screw through new module and into CEU base. Tighten screw.
OR When placing new module on existing module, insert long screw through new module and into CEU base. Tighten screw.
4. Insert the ribbon cable into the desired connector on the CEU: (a) inside module's ribbon cable plugs into the outside connector (b) outside module's ribbon cable plugs into the inside connector.

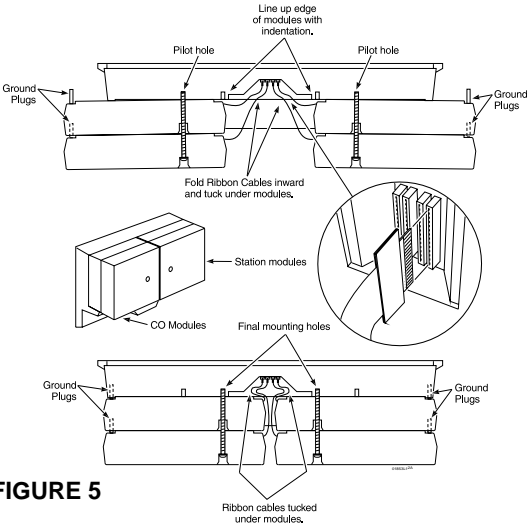


FIGURE 5

CEU	Position	Extensions	PCU	Lines
Main	1 (inside)	300-311	368	1-4
Main	2 (outside)	312-323	369	5-8
Expansion #1	1 (inside)	324-335	370	9-12
Expansion #1	2 (outside)	336-347	371	13-16
Expansion #2	1 (inside)	348-359		17-20
Expansion #2	2 (outside)	360-371		21-24

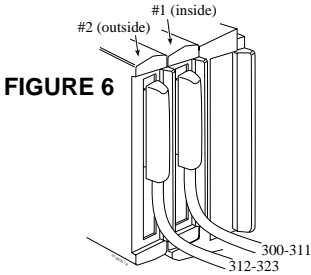


FIGURE 6

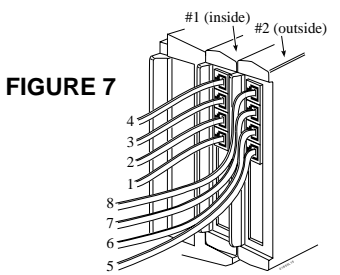


FIGURE 7

Installing AUX, SAUX, and XAUX Modules

A minimum of 7" clearance is required on the right side of a CEU to install an AUX/SAUX/XAUX. Power down to install or remove an AUX/SAUX/XAUX module or an 8-pin line cord.

Note: Initialization is not required to add an AUX to a system running on CEU base software. The numbering plan, however, changes automatically for lines, extensions, and ring groups.

To install an AUX, SAUX, and XAUX Module:

1. Remove cover plate.
2. Close CEU ejector tabs and insert the AUX into the CEU upper and lower rails. *Push the module in until it clears the CEU ejector tabs.* See Figure 8.
3. Open ejector tabs. Locate ribbon cable over connector.
4. Push in the module until it seats firmly into the CEU.
5. Push ribbon cable connector until firmly seated. The CEU ejector tabs close. Tighten module screws (2).

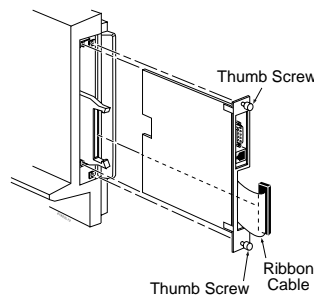


FIGURE 8

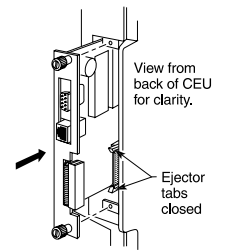


FIGURE 9

To install AUX, SAUX, and XAUX line cords:

1. Install line cords. Two CEU's: AUX-SAUX 6' line cord; three CEU's: AUX-XAUX 3' line cord & XAUX-SAUX 6' line cord. See Figure 10.

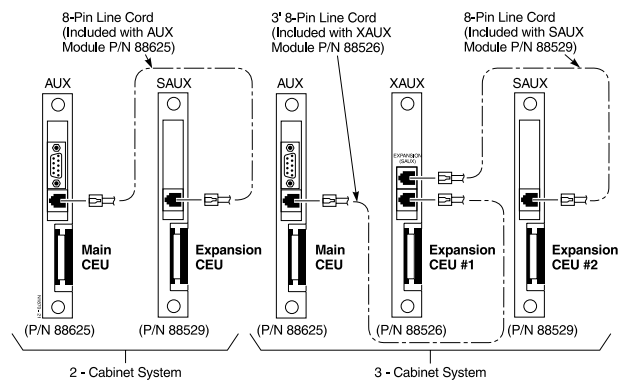


FIGURE 10

Note: AUX terminal program passwords: **ONYXVSK**, if AUX is installed in a working system, but not initialized; **DS01H**, if initialized with AUX installed.

CO Line Installation

A modular line cord is required to connect Telco's RJ11C CO line interface to a 4CO or 4CO\CND module. See Figure 7.

To connect a CO line to a 4CO or 4CO\CND module:

1. Plug one end of a modular line cord into a Telco RJ11C jack.
2. Insert the line cord's other end into the desired modular connector on a 4CO or 4CO\CND module.

Installing Stations

Station connection for each extension requires two-pair twisted station cable and a 4-conductor modular jack. See Figure 11.

Install a Dual ASI (any CEU) and DSS console (Main CEU only) to an even-numbered port (except port 00). Leave the next-highest adjacent odd-numbered port unterminated. See Figure 12.

Note: Single and Dual ASI's cannot be installed in ports 68-71.

To install a multibutton telephone, single port ASI, Electronic Single Line telephone, or DSS console:

1. Install 625 modular jack within 6' feet of each extension.
2. Punch down 2-pair twisted station cable to desired extension on cross-connect block. See Figure 13 for cutdown.
3. Terminate the other end of the station cable at each modular jack.
4. Plug the extension's line cord into the modular jack.

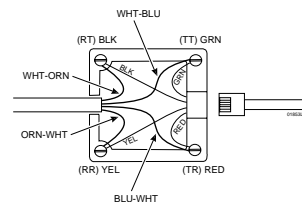


FIGURE 11

Note: Refer to the Data Products Manual to install a Data Module. Refer to the 12SCU/PCU Installation and Programming Instructions when connecting a 500/2500 type device to a 12SCU/PCU module.

To connect the station block and cross-connect block:

1. Punch down 25-pair cable to station block.
2. Plug female connector end of 25-pair cable into Station Module.
3. Use x-connect to bridge station block to cross-connect block.

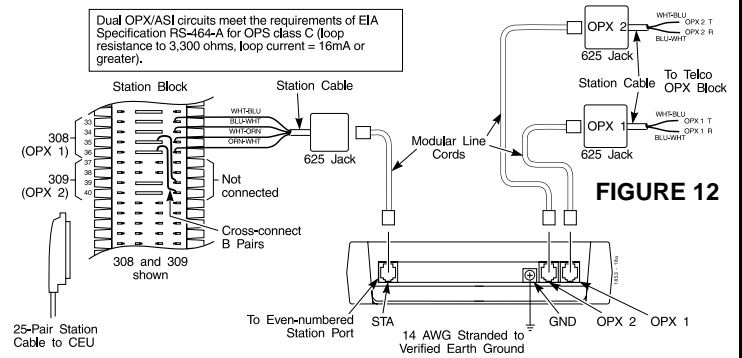
Note: DS01 telephones have electret-type handsets. For headset operation, use Plantronics' Supra Star Mate (model # MH0503-1) or an equivalent electret-compatible headset.

To install a Dual ASI:

1. Ground Dual ASI to earth ground using 14AWG ground wire.
2. Punch down 2-pair twisted station cable to an even-numbered port on station block. Install bridging clips as shown in Figure 12.
3. Jumper to adjacent port's B pair using one-pair x-connect.
4. Terminate the other end of the station cable to a modular jack.

To install a Dual ASI (cont'd.)

5. Plug one end of a 4-conductor line cord into the jack and the other end into the Dual ASI's STA connector.
6. Plug in a line cord(s) from Dual ASI's OPX 1 and OPX 2 ports to 2500-type device or Telco's OPX block.



25-PAIR CABLE									
CONN PIN	BLOCK TERM.	COLOR CODE	MAIN CEU (INSIDE)	MAIN CEU (OUTSIDE)	EXP. CEU 1 (INSIDE)	EXP. CEU 1 (OUTSIDE)	EXP. CEU 2 (INSIDE)	EXP. CEU 2 (OUTSIDE)	FUNC.
26	1	WHT-BLU	300 (00)	312 (12)	324 (24)	336 (36)	348 (48)	360 (60)	TT
1	2	BLU-WHT							TR
27	3	WHT-ORN							RT
2	4	ORN-WHT							RR
28	5	WHT-GRN	301 (01)	313 (13)	325 (25)	337 (37)	349 (49)	361 (61)	TT
3	6	GRN-WHT							TR
29	7	WHT-BRN							RT
4	8	BRN-WHT							RR
30	9	WHT-SLT	302 (02)	314 (14)	326 (26)	338 (38)	350 (50)	362 (62)	TT
5	10	SLT-WHT							TR
31	11	RED-BLU							RT
6	12	BLU-RED							RR
32	13	RED-ORN	303 (03)	315 (15)	327 (27)	339 (39)	351 (51)	363 (63)	TT
7	14	ORN-RED							TR
33	15	RED-GRN							RT
8	16	GRN-RED							RR
34	17	RED-BRN	304 (04)	316 (16)	328 (28)	340 (40)	352 (52)	364 (64)	TT
9	18	BRN-RED							TR
35	19	RED-SLT							RT
10	20	SLT-RED							RR
36	21	BLK-BLU	305 (05)	317 (17)	329 (29)	341 (41)	353 (53)	365 (65)	TT
11	22	BLU-BLK							TR
37	23	BLK-ORN							RT
12	24	ORN-BLK							RR
38	25	BLK-GRN	306 (06)	318 (18)	330 (30)	342 (42)	354 (54)	366 (66)	TT
13	26	GRN-BLK							TR
39	27	BLK-BRN							RT
14	28	BRN-BLK							RR
40	29	BLK-SLT	307 (07)	319 (19)	331 (31)	343 (43)	355 (55)	367 (67)	TT
15	30	SLT-BLK							TR
41	31	YEL-BLU							RT
16	32	BLU-YEL							RR
42	33	YEL-ORN	308 (08)	320 (20)	332 (32)	344 (44)	356 (56)	368 (68)	TT
17	34	ORN-YEL							TR
43	35	YEL-GRN							RT
18	36	GRN-YEL							RR
44	37	YEL-BRN	309 (09)	321 (21)	333 (33)	345 (45)	357 (57)	369 (69)	TT
19	38	BRN-YEL							TR
45	39	YEL-SLT							RT
20	40	SLT-YEL							RR
46	41	VIO-BLU	310 (10)	322 (22)	334 (34)	346 (46)	358 (58)	370 (70)	TT
21	42	BLU-VIO							TR
47	43	VIO-ORN							RT
22	44	ORN-VIO							RR
48	45	VIO-GRN	311 (11)	323 (23)	335 (35)	347 (47)	359 (59)	371 (71)	TT
23	46	GRN-VIO							TR
49	47	VIO-BRN							RT
24	48	BRN-VIO							RR
50	49	VIO-SLT							N/C
25	50	SLT-VIO							N/C

FIGURE 13

Note: DS01 telephones supplied with this system are hearing-aid compatible. Refer to Nitsuko America's Standard Practices Manual for FCC Hearing-Aid Compatible application requirements.

Installing a Music Source - Background Music or Music on Hold
 A music source (radio, cassette, CD) connected to MOH terminals on the Main CEU provides input for Background Music (BGM), or Music on Hold (MOH), or both. MOH can be provided for CO calls only or for CO and ICM calls.

BGM and/or MOH for ICM calls disables the Main CEU's 4th CO line circuit. MOH for CO calls only does not disable a line circuit. Each Expansion CEU can have its own MOH source or use the Main CEU's.

To connect a music source:

1. Install the music source per the manufacturer's instructions.
Caution: The music source output must not exceed the system's music source input specifications. Some music sources may require the installation of a matching transformer.
2. Connect the music source to the Main CEU's **MOH** terminals using station or audio cable. **Note:** Bridge the music source output to an Expansion CEU's MOH terminals, if required.
3. Program BGM and MOH per the Terminal Programming Manual (E2 + QM) or Administrator's Guide (Programs 7 and 10).
4. Install RFI suppressor beads. (Refer to RFI bead installation)
5. Power up the music source. Activate BGM/MOH. Adjust the music source for a distortion-free signal.

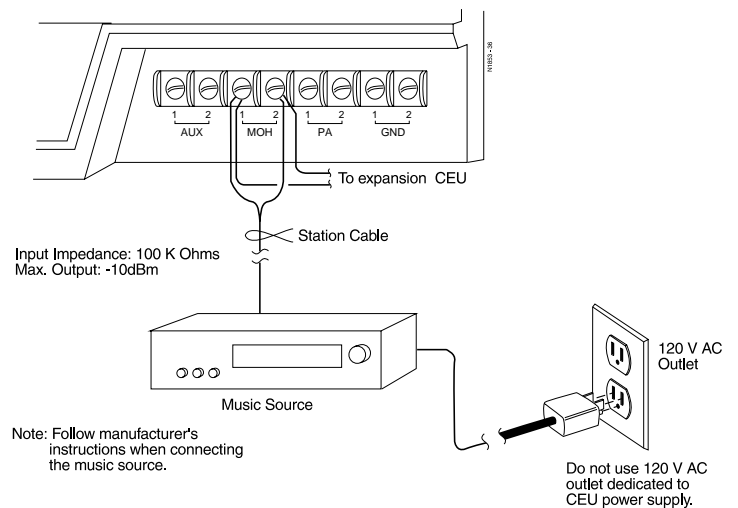


FIGURE 14

Installing External Paging or an External Relay Device (Loud Bell)

The PA terminals on the Main and Expansion #1 CEU's provide talk paths for external paging systems. The Main CEU PA terminals are for external zone 1. The Expansion #1 CEU PA terminals are for external zone 2. A paging system receives internal or external pages, or Night Audible ringing, or both. Each page system disables a line circuit: Main CEU - line 4; Expansion CEU #1 - line 12. The AUX terminals on the Main and Expansion #1 CEU's provide a dry contact ring relay. The relay can be used for a loud bell, a door striker, etc.

To connect an external paging system or relay sensor:

1. Install the paging system/relay sensor per manufacturer's instructions. **Caution:** The paging system must not exceed the system's paging input specifications. Some paging systems may require the installation of a matching transformer. See Figure 15.
2. Connect the paging system to the **PA** terminals or the relay sensor to the **AUX** terminals using station or audio cable.
3. Program External Paging/Relay Owner per the Terminal Programming Manual (E2 + QM) or Administrator's Guide (Programs 7 + 10).
4. Install RFI suppressor beads. (Refer to RFI bead installation).
5. Power up the paging system. Make page. Adjust the paging system for a distortion-free signal. Check relay sensor by dialing the relay owner extension number.

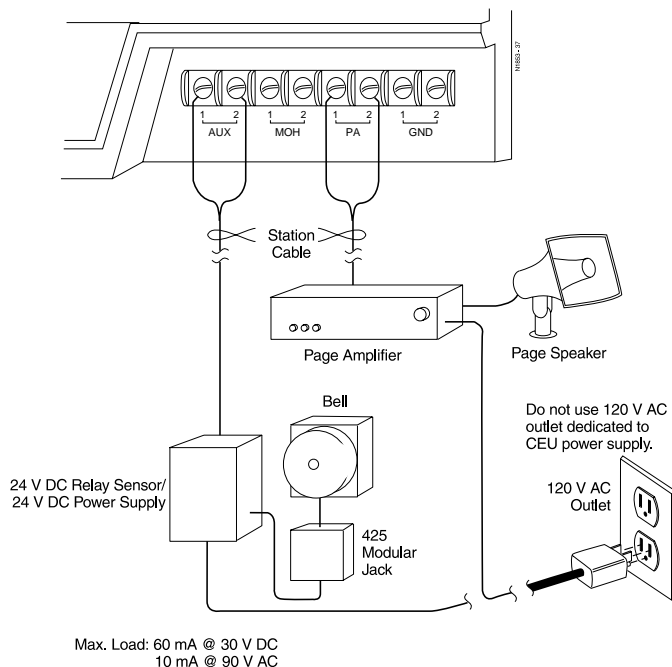


FIGURE 15

Installing a Programming Terminal, SMDR printer, PC, or Modem

The AUX Module DCE 9-pin male RS-232 serial port interfaces a programming terminal, SMDR printer, PC (DTE), or a modem (DCE). A DB9-DB25 adaptor is required. DTE connection requires a straight-thru RS-232 cable. DCE connection requires a DCE-DCE adaptor and a straight-thru RS-232 cable OR a null modem cable.

Note: A null modem or RS-232 cable requires DB25 connectors. Gender of the DB25 connectors depend on the adaptor and the terminal, SMDR printer, or PC's serial port.

To connect a DTE programming terminal, SMDR printer, or PC:

1. Plug a DB9-DB25 adaptor into the AUX port. The DB9 must be female.
2. Connect one end of the RS-232 cable to the adaptor's DB25 connector.
3. Connect the other end of the RS-232 cable to the serial port on the programming terminal, SMDR printer, or PC. See Figure 16.

Note: When connecting a laptop PC equipped with 9-pin serial port, use a straight-thru 9-pin RS-232 cable.

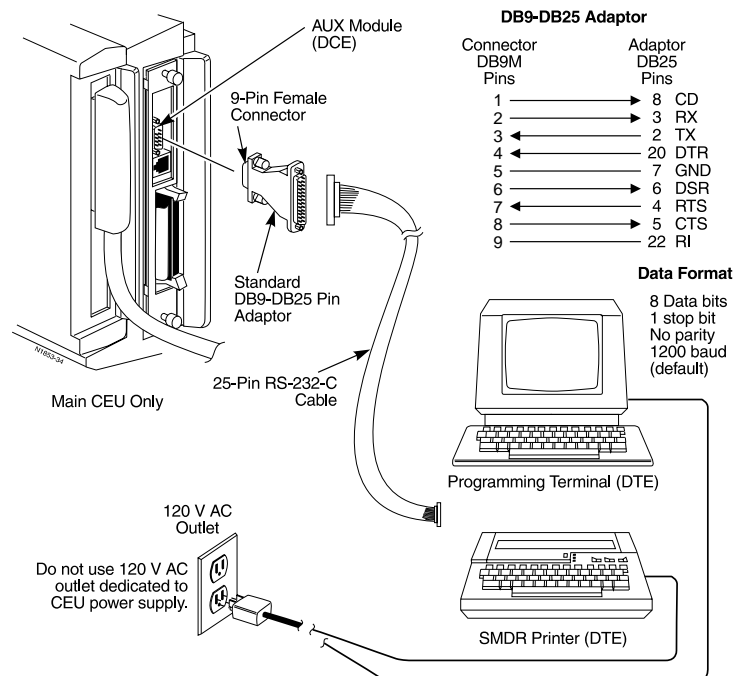


FIGURE 16

Installing a Modem

You can connect a modem to the AUX Module serial port for remote programming and diagnostics.

To connect the AUX Module to a modem (DCE):

1. Plug a DB9-DB25 adaptor into the AUX port. The DB9 must be female.
2. Connect one end of the RS-232 cable to the adaptor's DB25 connector.

OR

- Connect a 25-pin null-modem cable into the adaptor's DB25 connector.
3. Connect the other end of the RS-232 cable to a DCE-DCE adaptor. Skip Step #3 when using a null modem cable.
 4. Connect the other end of the DCE-DCE adaptor or null modem cable to the modem's serial port. See Figure 17.

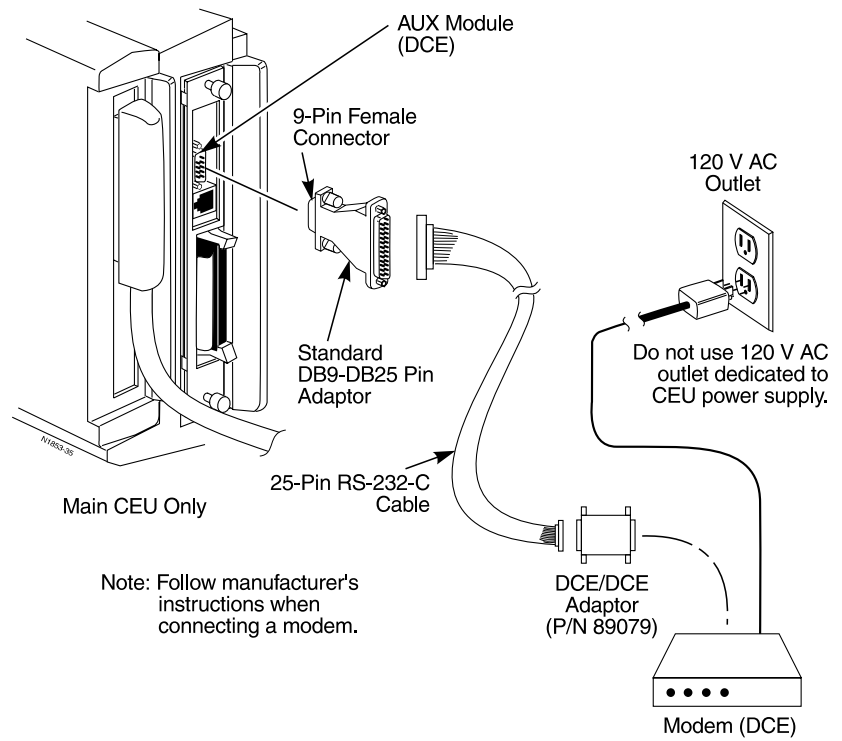


FIGURE 17

To set the AUX serial port baud rate (from extension 300/port 00):

1. Lift handset + press ICM.
2. Dial: #, 0.
3. Dial a digit to select baud rate:
 0 = 300, 1 = 1200, 2 = 2400
 3 = 4800, 4 = 9600, 5 = 19.2K

DATA FORMAT

- Data bits = 8
- Stop bits = 1
- Baud rate = 1200
- Parity = none

Installing Battery Backup (Optional)

One Valcom VPB-260 battery backup unit provides a CEU with short-term power (2 hours - max.) during a commercial AC power failure. One per CEU max.

To install the VPB-260:

1. Mount the VPB-260 on the MDF backboard within 3' of the CEU. Follow manufacturer's mounting instructions.
2. Power down the CEU's power supply.
3. Plug the VPB-260 3-pin female plug into the 3-pin male **AUX POWER** connector on the CEU.
4. Plug the VPB-260 power cord into a dedicated 120VAC outlet.

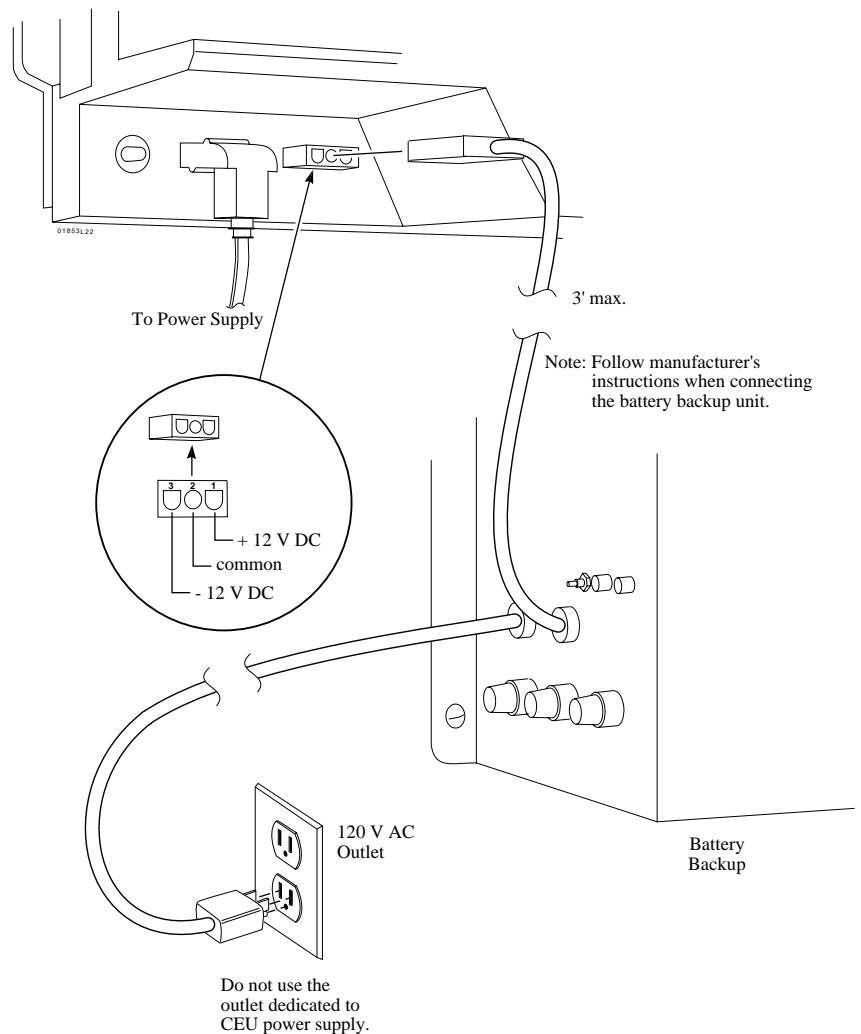


FIGURE 18

Installing Power Failure (PF) Telephones (Optional)

The first circuit in each 4CO or 4CO/CND module (1/5, 9/13, 17/21) provides a PF cut-through relay. Each PF relay, corresponding modular jacks, and cross-connections redirect a CO line to a 500/2500 single line telephone for full incoming/outgoing operation during an AC power outage.

To install a PF telephone:

1. Install 3 modular jacks for each line requiring PF operation. Label jacks CO Line, PF Line, and PF Telephone. (The PF Line jack must be 6-conductor).
2. Connect GRN/RED from the CO Line jack to GRN/RED of the PF Line jack using one-pair x-connect cable. See Figure 19.
3. Connect WHT/BLU from the PF Line jack to GRN/RED of the PF Telephone jack using one-pair x-connect cable.
4. Connect Telco's RJ11C to the Line jack using a standard line cord.
5. Connect the PF Line jack to the 4CO module's modular connector (lines 1/5, 9/13, 17/21) using a 6-conductor line cord.
6. Connect a PF telephone to the PF Telephone jack with a standard line cord.

To test power failure cut-through at a PF telephone:

1. Power down the system.
2. Lift the handset on the PF telephone. (You should hear dial tone.) Place a call from the PF telephone.

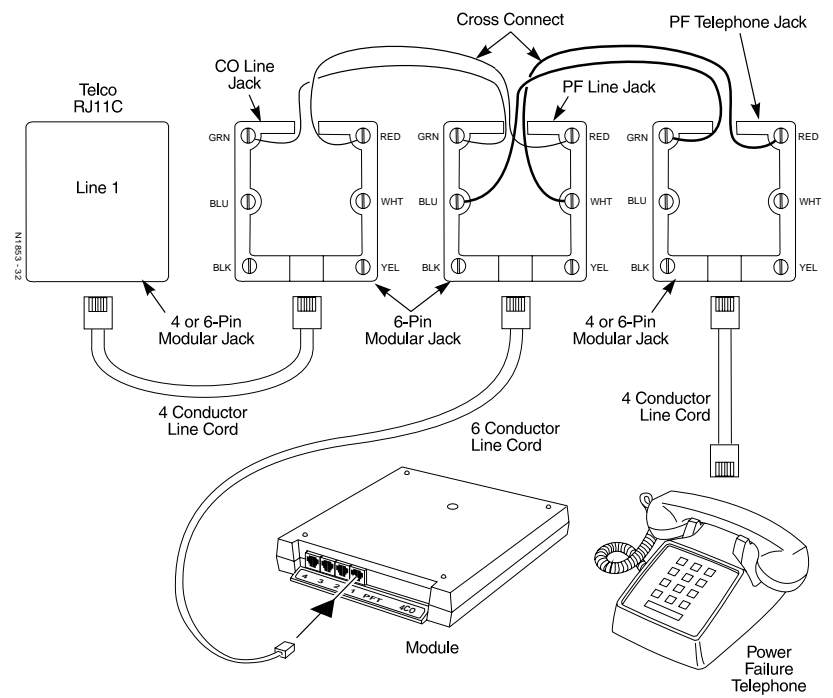


FIGURE 19

Installing the Digital Door Box

The Digital Door Box (P/N 88545) provides one-button signaling and intercom. Up to four Digital Door Boxes can be installed at extensions 310, 311, 322, and 323 only. Each Digital Door Box provides a distinctive chime signal. Any keyset can receive any/all chime signals.

To install the Digital Door Box:

1. Snap open the Door Box case.
2. Punch down one end of a two-pair twisted station cable on the extension block as shown below. *Digital Door Boxes have the same cabling requirements as Electronic Single Line telephones.*
3. Run the station cable through the hole in the back of the Door Box. *When wall mounting, use the two holes in the base of the door box for the mounting screws.*
4. Strip the free conductors back about 1/2 inch and connect to the Door Box terminals as shown in Figure 20.
5. Snap the Door Box cover onto the base.
6. In **E-Extensions, E3-Class of Service** (or **Program 18I** option COS from the administrator's telephone), assign each Door Box extension Class of Service 28. In **QV- Peripheral Ports, Door Box Alert Time** (or **Program 18I** option DB from the administrator's telephone), set which extensions should receive Door Box Chimes. Refer to your Software Administrators Manual for additional programming details.

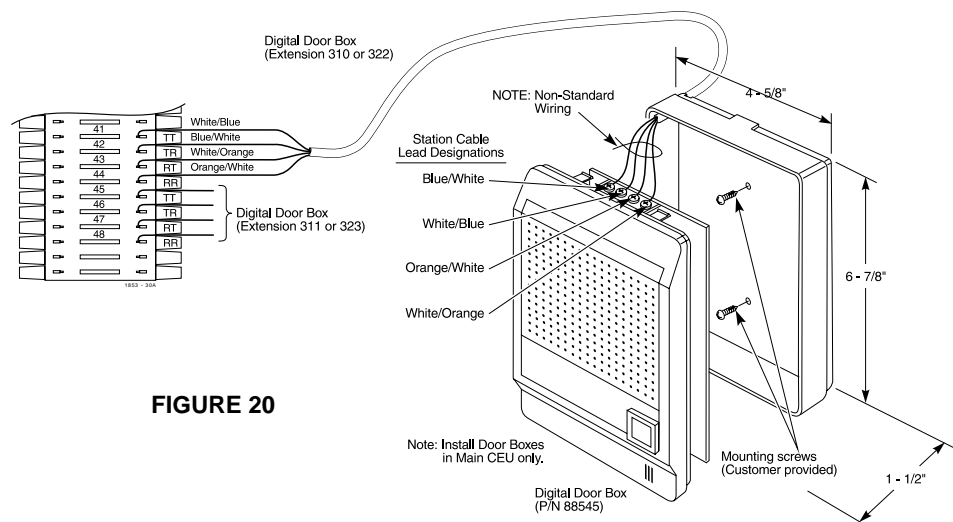


FIGURE 20

Installing the Relay Box

The Relay Box (P/N 88546) provides three normally-open relays which typically are used to activate an electric strike door-unlock mechanism for an entrance door equipped with a Digital Door Box. After responding to a Door Box chime signal, the user activates the relay (opening a door) by pressing the FTR button on the telephone dialpad.

To Install the Relay Box:

1. Punch down a 4-conductor station cable to extension 309.
2. Terminate the other end of the cable to a modular jack. See Figure 21.
3. Plug in a 4-conductor line cord into the modular jack. Plug the other end into the Relay Box.

Operation

To activate relays from a multibutton set:

1. Lift handset to answer the Door Box chimes.
If you have a Door Box Hotline or Call Coverage key, you can press it instead.

OR

Place call to Door Box.

You can press Intercom and dial the Door Box extension number. You can also press your Door Box Hotline or Call Coverage key (if you have one).

2. Talk to the visitor at the door.
3. Press and hold FTR.
The relay activates as long as you hold down the FTR key (up to 60 seconds).
4. Hang up when you are through.

To activate relays from a single line set:

1. Lift handset to answer the Door Box chimes.

OR

Place call to Door Box (i.e., dial Door Box extension number).

2. Talk to the visitor at the door.
3. Dial *.
*Do not hold down the * key. The relay activates for six seconds and then automatically releases.*
4. Hang up when you are through.

Programming Notes: At extension 309, set E2-Circuit Type to X. Set E3-Class of Service to 28. At each extension that should activate the strike: In QV-Peripheral Ports (Alert Programming), enable Alert for each Door Box. If an extension receives chimes, it can activate the associated Relay Box strike.

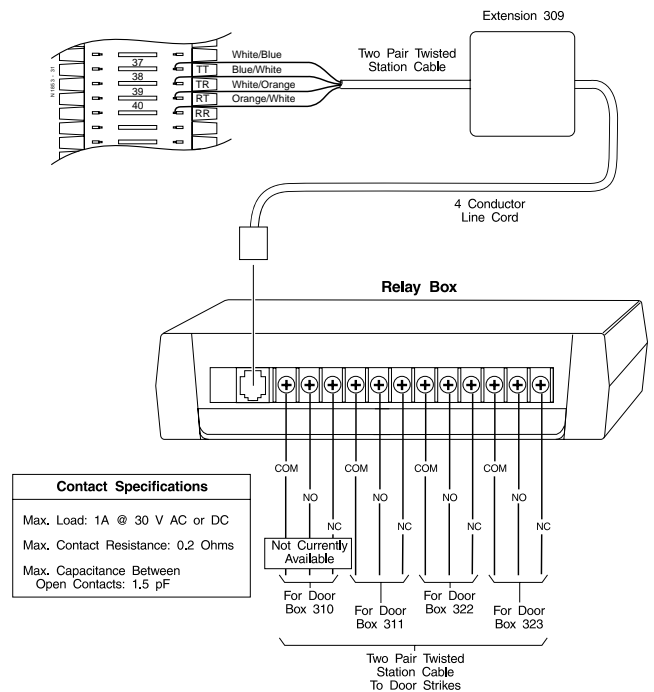


FIGURE 21

CEU Specifications:

	Lines	Stations
Main CEU	8	24
Expansion CEU #1	8	24
Expansion CEU #2	8	24
Total	24	72

System Capacity:

Power Failure Cut-Through Circuit	1 per CO Module
Talk Timeslots (Intercom/lines)	Non-blocking
DTMF Tone Duration (manual dial)	256 ms on/128 ms off
DTMF Tone Duration (speed dial)	128 ms on/128 ms off
Internal Page Zones	7 (and all-call)
External Page Zones	1 output per Main & Exp.CEU #1
External Control Relay Circuits	1 set of contacts per Main & Exp. CEU #1

Electrical Specifications:**AC Input:**

115 V AC +/- 10% @ 57-63 Hz, Dedicated 15 A circuit.

Grounding Requirements:

Copper wire, continuous, No. 14 AWG, or larger.

Power Requirements:

75-100VA maximum (per CEU) - Refer to power supply label.

Heat Dissipation:

256 BTU per CEU

AUX Relay Contact Rating:

Max. Load: 60 mA @ 30 V DC

10 mA @ 90 V AC

Maximum Initial Contact Resistance:

50 m OHMS

External Zone Paging:

Output Impedance: 600 OHMS

Max. Output: +3 dBm

Background Music\Music on Hold:

Input Impedance: 100 K OHMS

Maximum Input: -10 dBm

Cable Requirements: From CEU to Keysets or ASI:

Four-conductor (two-pair twisted station cable)

1,500 feet w/No. 26 AWG

2,000 feet w/No. 24 AWG

2,500 feet w/No. 22 AWG

From ASI to connected OPX device:

100 feet using 22 AWG four-conductor.

Use 25-pair cables with Type 57 female connectors to connect to Station Modules.

Use four conductor modular line cords to connect to CO Modules.

Use multiconductor "riser cables" to an Intermediate Distribution Frame (IDF) when required.

Mechanical Specifications				
	Width	Height	Depth	Weight
CEU	14 5/16" 39.2 cm	9 1/4" 23.7 cm	3" 7.6 cm	3 lb, 11 oz 1.7 kg
CO Module	6 3/4" 17.1 cm	6 3/4" 17.1 cm	1 1/2" 3.8 cm	1 lb .5 kg
Station Module	6 3/4" 17.1 cm	6 3/4" 17.1 cm	1 1/2" 3.8 cm	1 lb .7 kg
Power Supply	2 13/16" 7.2 cm	5" 12.7 cm	2 3/4" 7.0 cm	3 lbs 1.4 kg
Keysets	3 1/2" 8.9 cm	7 1/2" 19.1 cm	10 1/8" 25.8 cm	2.7 lb 1.3 kg

NOTE: Weight of CEU is with modules not installed.

Environmental Specifications

Refer to the Standard Practices Manual (P/N N2710STD01).

FCC Registration Information

Model: DS01
 Manufacturer: Nitsuko America
 Load number (DOC): 20
 FCC Part 15 Registration: Class A
 Sample FCC Registration Number: 1ZDTHA-65325-MF-E

Type of Interface	USOC Jack Connector	REN/Service Code	Facility Interface Code
2-Wire Loop	RJ11C	2.5B	02LS2

Load Factor Table

Item	Load Factor*	Circuit Type	Notes
Display keyset	1	02	1 port, auto-ID
DSS console	2	06	2 port, auto-ID
Dual-ASI	3	51	2 port, no auto-ID
Standard keyset	1	01	1 port, auto-ID
ASI	1	51	1 port, no auto-ID
ESL	1	00	1 port, auto-ID
Door Box	1	X	310/311/322/323 only
Relay Box	1	X	Installed at 309 only Relay for 310 cannot be used
Data Module	1	01	1 port, no auto-ID

* Total load per CEU not to exceed 24.

Description	Part Number
Common Equipment	
Power Supply	60001
CEU - (includes: 1 Common Equipment Unit base + 1 - 60001 + RFI beads, no modules).....	88600
4x12 Kit (no phones):	88601
1 - 88600 (includes: 1 - CEU + 1 - 60001 + RFI beads)	
1 - 88511 4 CO Module, 1 - 88521 12 Station Module (digital)	
4x12 Kit (8 phones):	88691
1 - 88601 (includes: 1 - 88600 + 88511 + 88521 + RFI beads)	
1 - 88663 HF Display Telephone, 7 - 88661 HF Telephones	
12x36 Kit (10 phones):	88692
2 - 88601 (includes: 1 - 88600 + 88511 + 88521 + RFI beads)	
1 - 88511 4 CO Module	
1 - 88521 12 Station Module	
1 - 88625 AUX Module	
1 - 88529 SAUX Module (includes: 1 - 88587 6' 8-conductor cable)	
2 - 88663 HF Display Telephones	
8 - 88661 HF Telephones	
Modules	
4 CO Module	88511
4 CO Caller ID Module	88512
12 Station Module (digital).....	88521
AUX Module	88625
SAUX Module (includes: 1 - 88587 6' 8-conductor cable).....	88529
XAUX Expansion AUX Module (includes: 1 - 88588 3' 8-conductor cable).....	88526
12SCU/VMU Voice Module Unit (12 stations + 3 VMU ports).....	88522
12SCU/PCU Peripheral Control Unit Module (12 stations + 2 - 2500 circuits).....	88530
AUX/SAUX Kit:	88695
1 - 88625 AUX Module	
2 - 88529 SAUX Module (includes: 1 - 88587 6' 8-conductor cable)	
Software	
CEU base software upgrade - latest release - (2 IC chips)	88608
AUX module software upgrade - latest release - (2 IC chips)	88628
SAUX/XAUX module software upgrade - latest release (1 IC chip)	88589
Upload/Download Program - (1 floppy disk).....	88217
Station Equipment	
16 Button Non-HF Telephone (Taupe)	88660
16 Button HF Telephone (Taupe).....	88661
16 Button HF Display Telephone (Taupe)	88663
16 Button Non-HF Telephone (Graphite)	88670
16 Button HF Dual LED Telephone (Graphite).....	88671
16 Button HF Display Dual LED Telephone (Graphite).....	88673
Digital Single Line Telephone (Taupe)	88650
Digital Single Line Telephone (Graphite).....	88676

CEU/Power Supply Site Requirements

Choose a central site for the MDF plywood backboard, within 7' of a dedicated AC outlet and 25' of earth ground. Allow space for multiple CEU's and power supplies. CEU's must be located within 3' of each other. Power supplies must be located within 6' of the CEU and within 6' of a dedicated AC outlet. See Figure 1.

Allow space for telco and station connectors, all ancillary equipment (ie; BGM/MOH source, voice mail, external paging equipment), and expansion. Refer to Nitsuko's Standard Practices Manual (P/N N2710STD01) for general environment and site specifications.

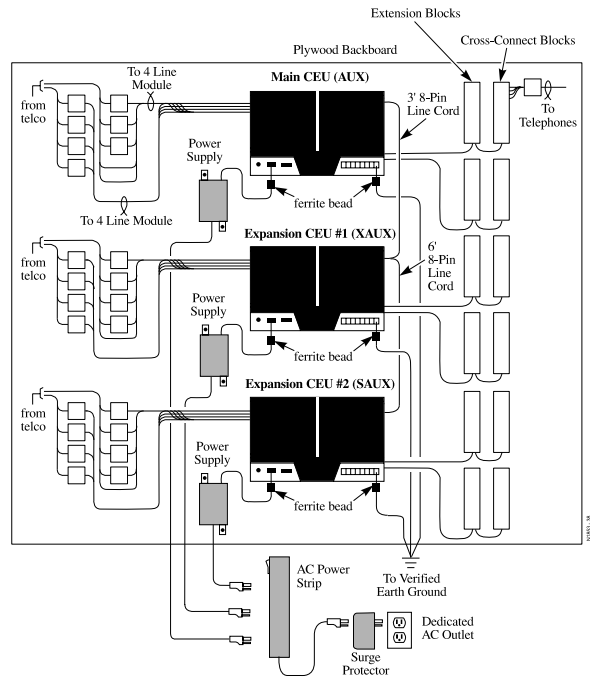


FIGURE 1

Mounting the CEU

1. Locate CEU mounting screws. Drill holes (2) in backboard using a 1/8" drill bit. Refer to mounting dimensions in Figure 2 (or use template, if installed).
2. Install CEU mounting screws (2) in holes. See Figure 2. Use screw gauges to set proper screw depth. (Screws & gauges are in plastic packet).
3. Hang CEU on mounting screws.
4. Drill lower CEU screw hole using a 1/8" drill bit. See Figure 2. Install and tighten screw.
5. Ground each CEU using #12 AWG (or larger) ground wire to earth ground.

Description

Other Station Equipment

DSS Console (Taupe)	88655
DSS Console (Graphite)	88675
Digital Door Box	88545
Relay Box	88546
ASI - Analog Station Interface (single port w/DTMF receiver)	88749
Dual Port ASI (dual port w/DTMF receivers)	88750
Wall Mount Kit (Taupe)	88679
Wall Mount Kit (Dark Gray)	88779
Wall Mount Hanger	88680

Data Products

Data Module	88400
Dataport PCB	88460
Modem Pooling PCB	88465
Mini Data Unit	89408
Mini Data Unit Power Supply	89409
DCE-DCE Adaptor	89079

Replacement Parts

K1 Handset (Taupe)	88685
K1H Handset (Dark Gray)	88775
Handset Cord (6 foot)	88685-6
Handset Cord (9 foot)	88685-9
Handset Cord (13 foot)	88685-13
Line Cord (7 foot)	88686-7
Line Cord (14 foot)	88686-14
Line Cord (25 foot)	88686-25
8-conductor 6' cable (AUX-SAUX w/2CEU's or SAUX-XAUX w/3 CEU's)	88587
8-conductor 3' cable (AUX-XAUX w/3 CEU's)	88588

Installation Equipment

- Plywood Backboard¹
- 66M1-50 connecting block(s)¹
- 25-pair cable(s)¹
- 22/24 AWG 4-conductor twisted-pair station cable¹
- Cross-connect wire¹
- Bridging clips¹
- Modular jack (1 per station)¹
- Modular line cords (1 per CO line)¹
- Ground wire (1 per CEU)¹
- RJ11C Telco interface (1 per CO line)¹
- AC surge protector (1 per CEU)¹

¹ Item not supplied by Nitsuko America.

Description	Part Number
Other Station Equipment	
DSS Console (Taupe)88655
DSS Console (Graphite).....	.88675
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Relay Box88546
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DCE-DCE Adaptor.....	.89079
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Plywood Backboard ¹	
66M1-50 connecting block(s) ¹	
25-pair cable(s) ¹	
22/24 AWG 4-conductor twisted-pair station cable ¹	
Cross-connect wire ¹	
Bridging clips ¹	
Modular jack (1 per station) ¹	
Modular line cords (1 per CO line) ¹	
Ground wire (1 per CEU) ¹	
RJ11C Telco interface (1 per CO line) ¹	
AC surge protector (1 per CEU) ¹	

¹ Item not supplied by Nitsuko America.

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