



**COMSPHERE®
3600 SERIES
DATA SERVICE UNITS
MODELS 3610 & 3611**

QUICK REFERENCE

Document No. 3610-A2-GL11-10

PARADYNE®

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COMSPHERE® 3600 Series Data Service Units Models 3610 & 3611

Quick Reference

Document Number 3610-A2-GL11-10

February 2000

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Model 3610 Installation

To install the COMSPHERE® Model 3610 DSU, perform these steps:

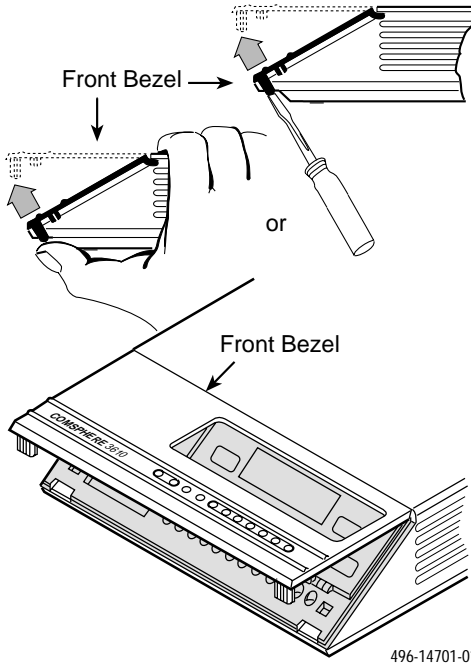
- Read the *Important Safety Instructions* on page 23.
- If you are installing new hardware into an existing system, verify that software and firmware levels are compatible. See *Software and Firmware Version Control* on page 22.
- Verify the S1 switch settings.
- Power up the DSU.
- Connect to the DDS Network.
- Perform network verification testing.
- Connect to the DTE.

Model 3610: Verifying the S1 Switch Settings

The Model 3610 DSU has a switch located under the front panel. To verify or change the S1 switch settings, remove the front bezel:

► Procedure

1. Place a small screwdriver or your thumbs under the two tabs on the outside edges of the front bezel. Firmly press upward to separate the bezel from the tabs.



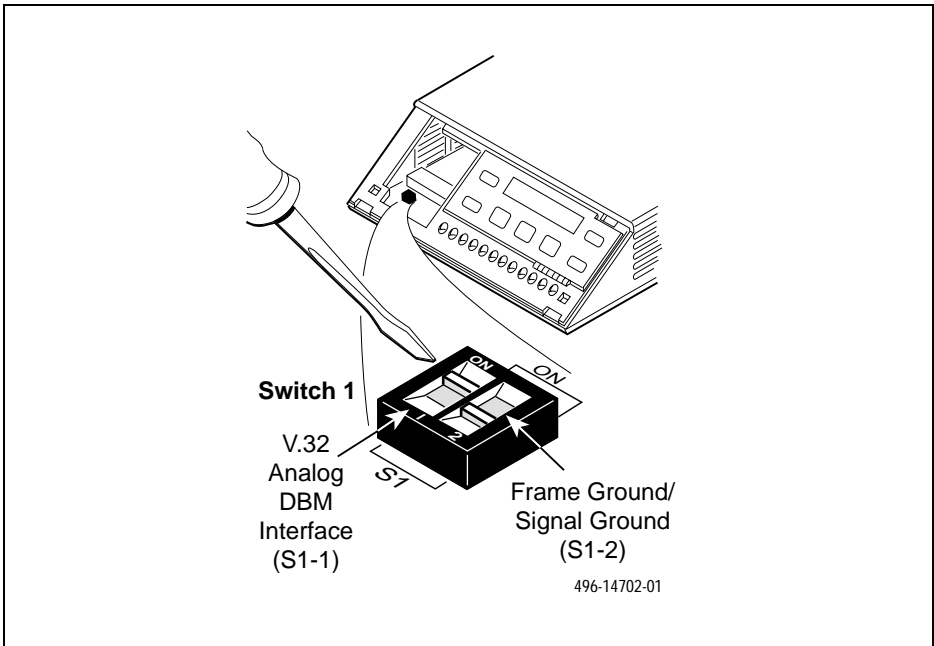
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2. Swing the front bezel up and set aside.
3. Change the switch settings if necessary. Use a small instrument. Do not use a pencil.

If the DSU has . . .	Then use . . .
Two switches	Figure A.
Four switches	Figure B.

4. Reinsert the front bezel's hinge tabs into position at the top and swing the bezel down. Snap the bezel back into place.

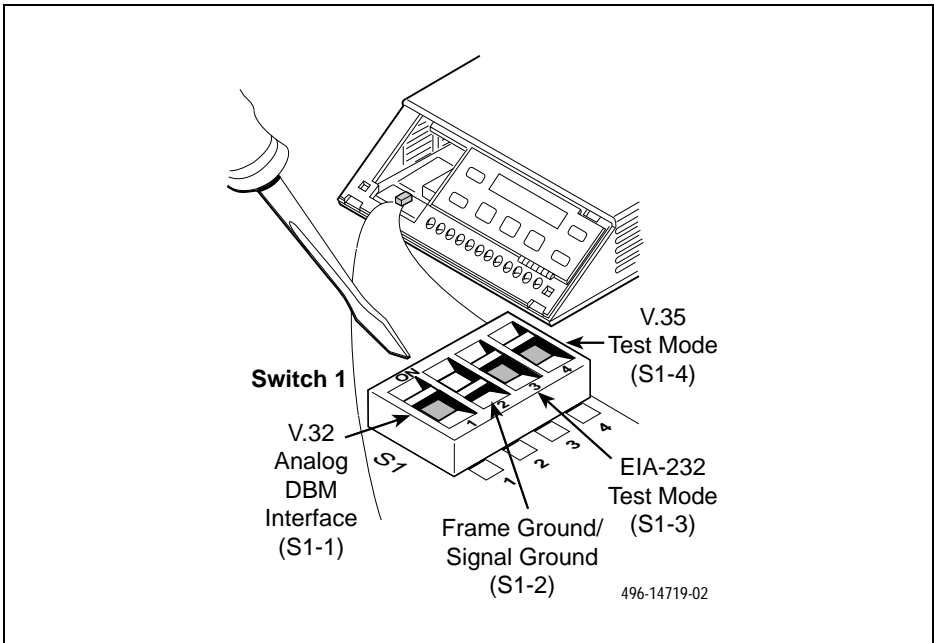
Figure A



Switch	Setting	Function
S1-1 V.32 Analog DBM only	ON (default)	Permissive transmit output level of -9 dBm
	OFF	Programmable transmit output level between -12 dBm and 0 dBm
S1-2	ON	Frame ground (FG) connected to signal ground (SG)
	OFF (default)	FG connected to SG through 100-ohm resistor

ON is to the rear as you face the front of the DSU.
OFF is to the front.

Figure B



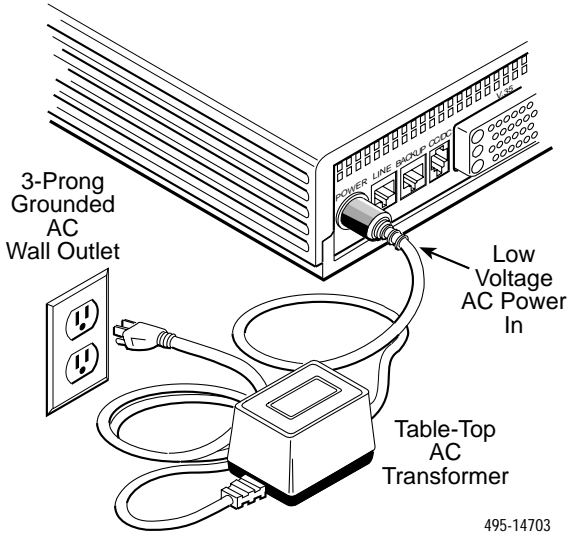
Switch	Setting	Function
S1-1 V.32 Analog DBM only	ON (default)	Permissive transmit output level of -9 dBm
	OFF	Programmable transmit output level between -12 dBm and 0 dBm
S1-2	ON	Frame ground (FG) connected to signal ground (SG)
	OFF (default)	FG connected to SG through 100-ohm resistor
S1-3	ON (default)	Enables EIA-232 Test mode; Pin 25 controlled by the DSU
	OFF	Disables EIA-232 Test mode
S1-4	ON (default)	Enables V.35 Test mode; V.35 lead NN controlled by the DSU
	OFF	Disables V.35 Test mode

ON is to the left as you face the front of the DSU.
 OFF is to the right.

Model 3610: Powering Up the DSU

► Procedure

1. At the rear of the DSU, insert the round end of the power cable into the receptacle labeled POWER.



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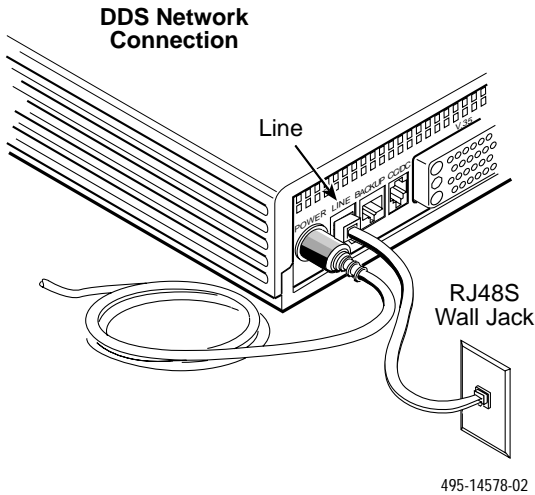
2. Connect the 3-prong plug at the other end of the cable to an ac outlet.

Model 3610: DDS Network Connection

To connect the DSU to the DDS network:

► Procedure

1. For countries other than Canada, use an 8-pin to 8-pin network cable (Feature Number 3600-F3-501 or 3600-F3-502). Plug either end into the wall jack.
For Canada, ensure that approved primary protectors have been installed on the circuit in accordance with Article 800 of the National Electric Code, NFPA 70, in the United States and Section 60 of the Canadian Electric Code, Part 1, in Canada.
Plug the 6-pin cable end (Feature Number 3600-F1-006) into the wall jack.
2. Plug the other end of the cable into the DSU jack labeled **LINE**.



If a remote DSU is also connected to the network and there are no other facility alarms, the:

- DSU's green **OK** LED lights.
- **Alrm** indicator is no longer lit.
- Health and Status screen no longer displays a **No Signal** message. The DDS data rate displays Auto while detecting a rate. Change the Rate(Kbps) to a set rate when the data rate has been detected.

If connecting the DSU to a LADS network, set the data rate. There are distance limitations that govern the use of DSUs on the network.

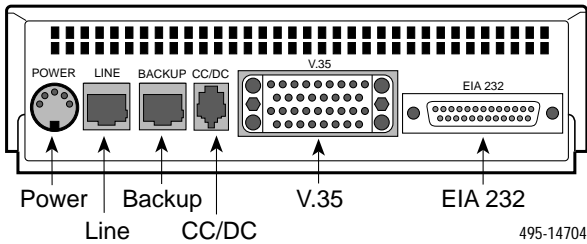
Model 3610: DTE Connections

The distance between the DSU and the DTE must be within the EIA-232 or V.35 interface limits.

To install the Model 3610 DTE connection:

► Procedure

1. Connect the plug end of the DTE cable to the proper port on the back panel of the DSU (EIA232 or V.35). Tighten the two holding screws, if present, to secure the connector.



NOTE:

If connecting the DTE to the V.35 connector, set the DTE Port in General Configuration Options to **V.35** so the DSU can communicate with the DTE. The default for this configuration option is EIA232.

2. Connect the other end of the cable to the appropriate port on the DTE. Tighten the two holding screws, if present.
3. Perform Local Loopback (**LL**) and DTE Loopback tests.

Model 3610: Network Diagnostic Connection

A hubbing device and a 6-position modular cable (Feature Number 4400-F1-510, 4400-F1-511, or 4400-F1-512) are needed to connect the control DSU to a 6700 or 6800 Series NMS. The hubbing device provides two 8-pin modular jacks for diagnostic channel (DC) and control channel (CC) connections.

To install the hubbing device:

► Procedure

1. Plug the 4-pin modular plug of the hubbing device into the modular jack labeled **CC/DC** located on the rear of the DSU.
2. Plug one end of the 6-position cable into the hubbing device jack labeled **CC IN/DC OUT**.
3. Plug the opposite end of the cable into the appropriate 6700 or 6800 Series NMS jack.

Refer to your COMSPHERE 6700 or 6800 Series NMS documentation to control and configure the DSU from the NMS.

Model 3610: SNA Diagnostic Interface Verification

► Procedure

1. Enable the LPDA option.
2. Send a **DSU/CSU** and **Line Status** test from the IBM NetView console to the control DSU and each tributary.
3. As the status for each DSU is returned to NetView, check the network address. If the address is correct, the verification procedure is complete.

Model 3610: Async Terminal Connection

Use a CC-to-DB25 cable to connect an async terminal to a DSU. This feature is available for the Model 3610 standalone unit only.

► Procedure

1. Plug the 4-pin modular plug of the DSU CC-to-DB25 cable (Feature Number 3600-F3-504) into the DSU jack labeled **CC/DC**.
2. Connect the EIA-232 (DB25) end of the cable to the async terminal. Tighten the holding screws.

Model 3611 Installation

To install the COMSPHERE Model 3611 DSU, perform these steps:

- Read the *Important Safety Instructions* on page 23.
- If you are installing new hardware into an existing system, verify that software and firmware levels are compatible. See *Software and Firmware Version Control* on page 22.
- Install the appropriate Network Interface Module (NIM) on the COMSPHERE 3000 Series Carrier.
- Attach the connector plate (for single-slot DSUs) or connector module (for DSUs with a mux card attached) to the carrier.
- Install the 3611 circuit card.
- Connect the DTE and network cables.

The procedures for installation are contained in the *COMSPHERE 3000 Series Carrier Installation Manual*, Document No. 3000-A2-GA31. If ferrite chokes are included with your DSU, install them according to the following procedure.

Model 3611: Ferrite Choke Installation

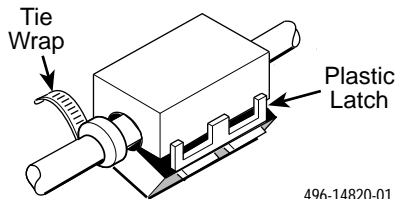
One ferrite choke is provided with every Model 3611 DSU with a Dial Backup Module (DBM). Attach the ferrite choke to the DTE cable. Six ferrite chokes are provided with every Model 3611 MUX circuit card. Attach one ferrite choke to each DTE cable. **All ferrite chokes that are supplied must be installed following these instructions to ensure compliance with FCC Part 15 Rules.**

To install the ferrite choke on the DTE interface:

► Procedure

1. Pull up on the latch to open the ferrite choke.
2. Place the ferrite choke around the cable as close to the cable connector as possible.
3. Close the two halves around the cable and snap the ferrite choke shut.

Ferrite Choke



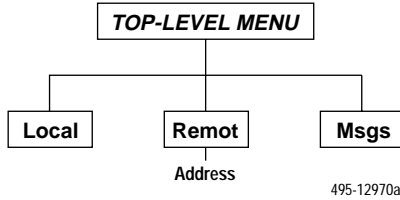
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4. Press down on the plastic latch to secure the ferrite choke in place around the cable.

Menu Structure

You access the menu tree, a representation of the DSU's menu structure, via the front panel. The menus that appear depend upon the DSU's function within the network (i.e., control or tributary) and the hardware options that are installed (e.g., a DBM or MUX).

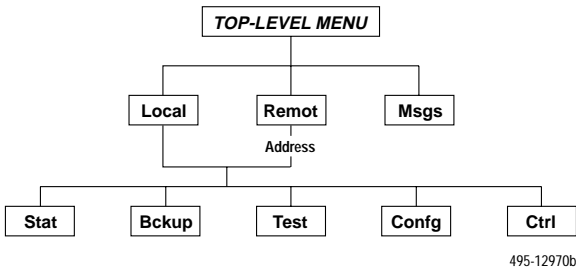
Access to all network management tasks begins at the top-level menu, the head of the menu hierarchy.



The top-level menu contains the:

- **Local** selection: For a control DSU.
- Remote (**Remot**) selection: Used for control of a remote DSU.
- Messages (**Msgs**) selection: Appears when an NMS message has been received and not cleared. The OK LED flashes. Once the NMS messages are cleared, the Msgs selection disappears and the OK LED no longer flashes.

Local/Remote Menu Branches



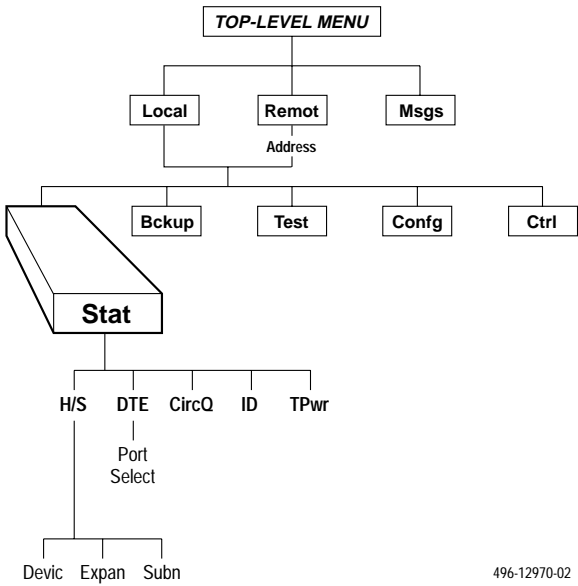
The Local menu has five branches; the Remote menu has four (Bckup is not available). Each selection leads to submenus.

- Status (**Stat**) branch
- Backup (**Bckup**) branch
- **Test** branch: The Test branch does not appear when the DSU is in Display mode.
- Configuration (**Config**) branch
- Control (**Ctrl**) branch

Status Branch

The Status (**Stat**) branch reports on the:

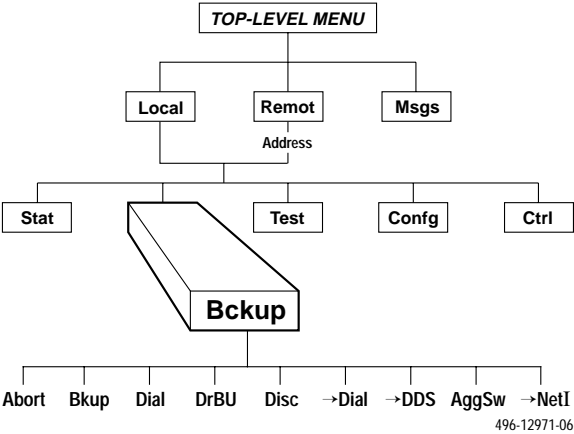
- Health and status of the DSU and DBM
- DTE interface
- Circuit quality:
 - For an analog DBM connection, Network Signal Level and Quality
 - For a DSU with App Module ID displaying XLOOP, DDS Signal Quality
- Identity of the DSU
- Terminal's power – status of voltage on the DTE's RTS lead



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Backup Branch

The Backup (**Bckup**) branch appears when the configuration option Network Interface (**NetIntf**) is set to AggSw or Forc or a DBM is installed. The DSU provides an internal aggregate data stream for diagnostics, standby mode, and framing on the alternate V.35 or EIA-232 interface of Port 1. The aggregate port can be connected to an external dial backup unit (DBU).

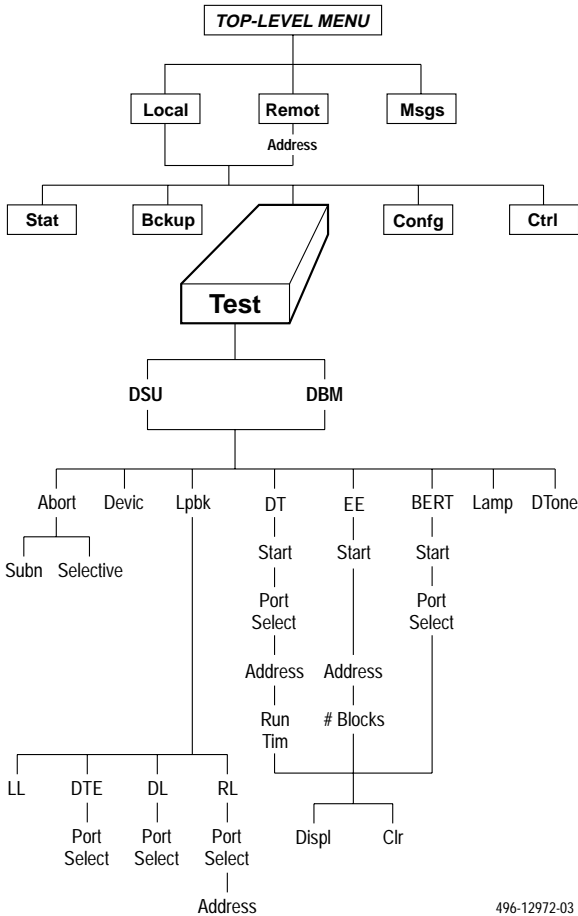


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For additional use of the Backup branch, refer to the *TDM/MCMP/Digital Bridge Options Supplement*, Document No. 3610-A2-GB48, and the *DBM Options Supplement*, Document No. 3610-A2-GB49.

Test Branch

The **Test** branch provides extensive testing capabilities for the DSU, the DDS circuit, the DBM, and the backup circuit. When the tributary DSU receives a test request from the control DSU, the DSU aborts any locally initiated test in progress.

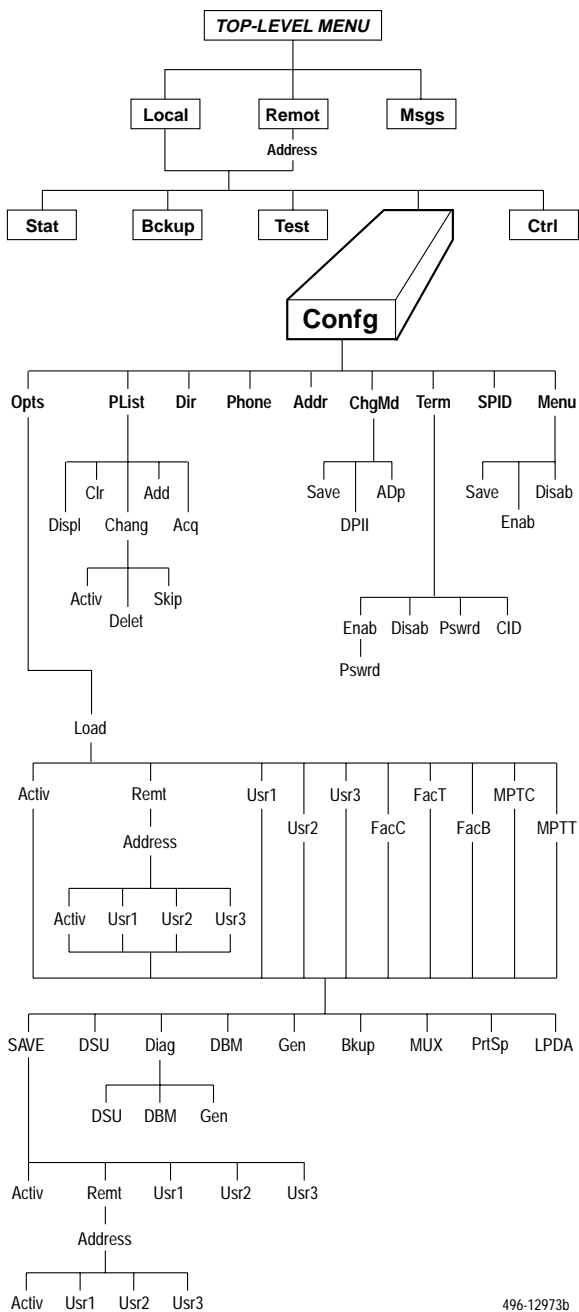


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Configuration Branch

The Configuration (**Confg**) branch allows you to configure or customize the DSU and its options to:

- Fit site requirements.
- Enter and change telephone numbers (if a DBM is installed).
- Specify the protocol used by a connected NMS.



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Saving and Changing Configuration Options

For Model 3610 and Model 3611 DSUs, change configurations options from:

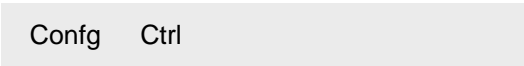
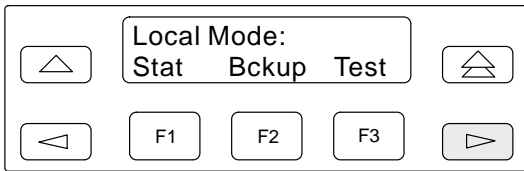
- A front panel, or
- A 6700 or 6800 Series NMS, or
- An async terminal (Model 3610 standalone only)

Configuration options supporting TDM, MCMP, and digital bridging are in Document No. 3610-A2-GB48. Configuration options supporting DBMs are in Document No. 3610-A2-GB49.

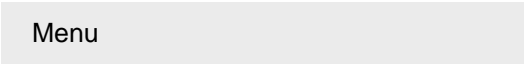
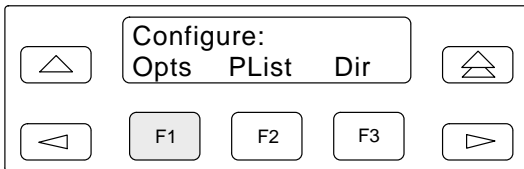
The DSU preconfigured at the factory for FacT with default settings for a tributary, point-to-point circuit, and a data rate of Auto. Set the data rate to match the service provider's rate.

If you have a point-to-point configuration, enable one unit as the control and the other unit as the tributary.

1. From the Home screen select Local (F1). The following screen appears on the LCD.



2. To access the Configuration (**Config**) branch, press the \triangleright key until Config appears. Press the function key below Config. The following screen appears.



3. Select **Opts** (for Configuration Options). The following screen appears.

Load from:
Activ Remt Usr1

F1 F2 F3

Usr2 Usr3 FacC FacT FacB

MPTC MPTT

4. The selections on the screen are configuration option sets stored in the DSU's memory. Table 1 lists the **Load from** menu selections and their source.
From the **Load from** menu, any selection except Remote loads a complete set of configuration option values into a working buffer.
5. After changing and not saving configuration options, the following prompt appears when the \triangle or \triangleleft key is pressed.

Save Options?
Yes No

F1 F2 F3

6. If you press F1 for Yes, the **Save to** screen appears.

Save to:
Activ Remt Usr1

F1 F2 F3

Usr2 Usr3 FacC FacT FacB

MPTC MPTT

If Save to is not displayed, press \triangle until the prompt appears.

When you press a function key from the **Save to** screen, the DSU performs a verification routine to ensure that the configuration options chosen are compatible.

Default Configuration Option Sets

Load from	Source of Configuration Options
Activ	Active: Currently active configuration options for the addressed DSU; use to change and save configuration options.
Remt	<p>Remote: Configuration options that can be retrieved from a selected tributary DSU; these will be from the tributary's Active set and appear based on local hardware. They are filtered when the front panel is locked.</p> <p>The selected option set can then be displayed, edited, and saved back to the same tributary, another tributary, or the control DSU. The five factory default option sets do not appear when in Remote mode.</p> <p>Remote is filtered for a multipoint tributary or a unit with Diag Type of None.</p>
Usr1	User 1: User-defined option sets.
Usr2	User 2: User-defined option sets.
Usr3 [*]	User 3: User-defined option sets, and factory default settings for a DBM-X (Model 3611 DBM-D, DBM-I, DBM-S, and DBM-V; does not function as a DSU).
FacC	Factory Control: Control DSU factory default settings.
FacT	Factory Tributary: Tributary DSU factory default settings.
FacB	Factory Digital Bridge: Central-site digital bridge factory default settings. FacB is filtered when MUX CCA is not installed.
MPTC	Multipoint Control: Multipoint Control DSU factory default settings. MPTC is filtered when TDM CCA is installed.
MPTT	Multipoint Tributary: Multipoint Tributary DSU factory default settings.
* When configuring a DBM-X, do not SAVE to Usr3.	

7. Select SAVE for changes to take effect.

Configuration Options

Configuration options are accessed from the Configuration branch of the front panel menu.

In the following tables, FacT (Factory Tributary) defaults are shown in **boldface**. If different from the FacT defaults, FacC (Factory Control) defaults are shown in *italics*.

Key to symbols:

- When the Async→Sync configuration option is enabled using the General branch, the following PrtSp(Kbps) settings do not appear: 32, 24.0, 18.8, 18.0, 9.2, 8.4, 4.4, 4.0, and 2.0 kbps
- 19.2 Power Level defaults to +6 dB when App Module ID displays XLOOP
- ★★ V.32 Analog DBM only
- ◀ These configuration options do **not** appear when Full mode is disabled using Menu from the Configuration branch.

DSU Configuration Options	Value
Rate(Kbps)	Auto , 64CC, 64L, 56, 38.4, 19.2, 9.6, 4.8, 2.4
PrtSp(Kbps) ●	64, 56, 48, 38.4, 32, 28.8, 24.0, 19.2, 18.8, 18.0, 16.8, 14.4, 12.0, 9.6 , 9.2, 8.4, 7.2, 4.8, 4.4, 4.0, 2.4, 2.0, 1.2, Disab
TxCkSource	Int, RXC, Ext, DDS , Prt1, Prt2, Prt3, Prt4, Prt5, Prt6
Msg Clamp	◀ Enab , Disab
TxElasStor	Enab, Disab
RxElasStor	◀ Enab, Disab
19.2 PowrLvl ●●	◀ +6 , 0, -10
64KScramblng	◀ On, Off
64KLatchLpbk	◀ On , Off
NetIntf	◀ AggSw, Forc, Disab
Net ITiming	◀ Int, NetI , Prt1, Prt2, Prt3, Prt4, Prt5, Prt6
V.54 Lpbk	◀ Enab, Disab

Diagnostic DSU Configuration Options	Value
Diag Type	NonD, Disr , Mixed, None
2nd Ch(bps)	◀ 100, 400 , 800, 1200, 1600
Disr Type	2500, 2600, 3600s, 3600e , Br56

Diagnostic General Configuration Options	Value
Position	<i>Cntrl</i> , Trib , G2Trb
LinkConfg	Pt-Pt , M-Pt
Resp Period	◀ 1, 2, 10
TribTimOut	◀ 0:10 (5 sec to 10 min)
Diag Conn	CC , DC
Link Delay	◀ 0s , 1s, 2s, 5s, 10s, 20s, 50s
Network Delay	◀ 0s , 1s, 2s, 5s, 10s, 20s, 50s
Packet Delay	◀ 0s , 1s, 2s, 5s
Extend Chan	◀ Yes, No
Upstrm Port	◀ Prt1 , Prt2, Prt3, Prt4, Prt5, Prt6
M-PtSymPrt	◀ Enab, Disab
Fast Sel	◀ Enab , Disab

LPDA-2 Configuration Options	Value
LPDA-2	Enab, Disab
LPDA Address	1 (1 – 256)
SNA Backup	Enab, Disab
Code 1	582210 (Model 3610) 582218 (Model 3611)
Code 2	5822101 (Model 3610) 5822181 (Model 3611)

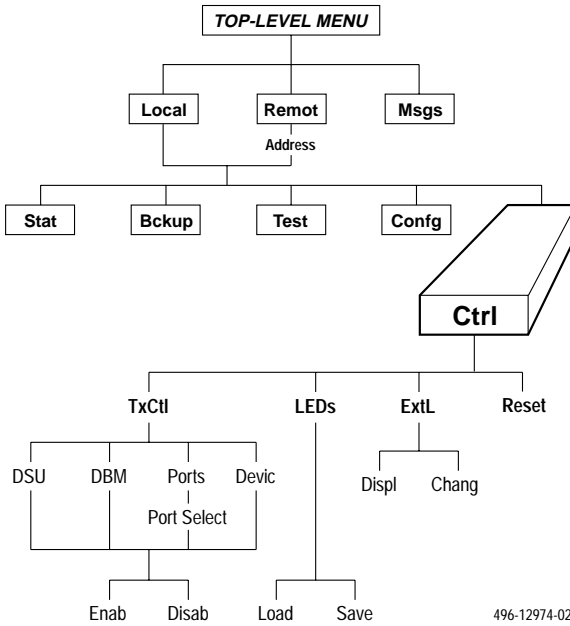
ChgMd Configuration Settings	Value
Protocol Mode	DPII, ADp

S1 Hardware Settings	Value
DBM Interface ★★	Permissive (ON) , Programmable (OFF)
Frame Ground/ Signal Ground	Connected (ON), Disconnected (OFF)
EIA-232 Test Mode	Enable (ON) , Disable (OFF)
V.35 Test Mode	Enable (ON) , Disable (OFF)

General Configuration Options	Value
DTE Port	EIA232 , V.35
RTS Cntrl	<i>FrcOn</i> , DTE
CTS Cntrl	Std , =RTS
AntiStream	◀ Disab , 1 – 100 sec (async term = 0–100)
LSD Lead	◀ Std , Delay, <i>FrcOn</i>
CTS Lead	◀ Std , Delay, <i>FrcOn</i>
DSR <i>FrcOn</i>	◀ Enab , <i>Disab</i>
SystemStat	◀ Enab , <i>Disab</i>
DSR on Tst	◀ Enab , <i>Disab</i>
Circ Assur	◀ <i>Enab</i> , Disab
Tst Pattern	◀ AT&T, Std
RespondRDL	◀ Enab , <i>Disab</i>
LL by DTE	◀ <i>Enab</i> , Disab
RL by DTE	◀ <i>Enab</i> , Disab
Bilat Lpbk	◀ <i>Enab</i> , Disab
Ext Leads	◀ ExtLd, Rate , RPower
CCN by EL	◀ <i>Enab</i> , Disab
DTR Alarm	◀ <i>Enab</i> , Disab
SW Vers	◀ 3.24, 4.43, 6.66, Normal
AnswExtBU	◀ <i>Enab</i> , Disab
Async→Sync	<i>Enab</i> , Disab
AsyncBit/Char	6, 7, 8 , 9, 10
Stop Bits	1 , 2
Overspeed	1.0, 2.3
PowerOnTst	Enab , <i>Disab</i>

Control Branch

The Control (**Ctrl**) branch allows you to enable or disable the DSU's transmitter, as well as the DBM's, and to display/change the status of the general purpose external DTE leads.

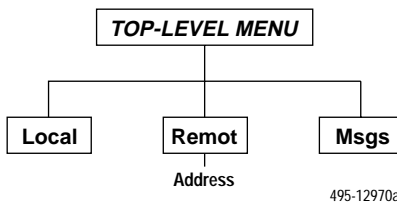


Remote Branch

The Remote (**Remot**) branch allows front panel access to remote units.

- Point-to-point configuration: access DSU at the other end.
- Multipoint configuration: enter DSU remote addresses and access each unit.

When the Remote branch is accessed, the front panel displays the local menu tree with the remote unit's data.



Software and Firmware Version Control

Verify that the control and tributary DSUs have the same firmware version or that the control has the highest firmware version. If the control DSU software version is less than 7.24 but greater than 1.10, changes are required to the DSU tributary firmware version in the General configuration options.

If Control DSU is:		If Tributary DSU is:		Set Tributary DSU's SW Version to:	Supported by 6700 Release	Supported by 6800 Release
Release	FW Version	Release	FW Version			
2	3.xx	3	4.xx	3.20	3.0/1.0	3.0
2	3.xx	3.1	5.xx	3.21	3.0/1.0	3.1
2	3.xx	3.2 or 3.3	6.xx	3.22	4.0.0/1.2	4.1
2	3.xx	3.4	7.xx	3.23	4.0.5/1.2.1	4.2.7
2	3.xx	3.5	8.xx	3.24	4.0.7/1.3	4.2.9
3	4.xx	3.1	5.xx	4.40	3.0/1.0	3.1
3	4.xx	3.2 or 3.3	6.xx	4.41	4.0.0/1.2	4.2.6
3	4.xx	3.4	7.xx	4.42	4.0.5/1.2.1	4.2.7
3	4.xx	3.5	8.xx	4.43	4.0.7/1.3	4.2.9
3.1	5.xx	3.1	5.xx	Normal	3.0/1.0	3.1
3.1	5.xx	3.2 or 3.3	6.xx	Normal	4.0.0/1.2	4.2.6
3.1	5.xx	3.4	7.xx	6.65	4.0.5/1.2.1	4.2.7
3.1	5.xx	3.5	8.xx	6.66	4.0.7/1.3	4.2.9
3.2	6.2x	3.2	6.2x	Normal	3.0.10/1.1	4.1.6
3.2	6.2x	3.3	6.33–6.99	Normal	4.0.0/1.2	4.2.6
3.2	6.2x	3.4	7.xx	6.65	4.0.5/1.2.1	4.2.7
3.2	6.2x	3.5	8.xx	6.66	4.0.7/1.3	4.2.9
3.3	6.33–6.99	3.3	6.33–6.99	Normal	4.0.0/1.2	4.2.6
3.3	6.33–6.99	3.4	7.xx	6.65	4.0.5/1.2.1	4.2.7
3.3	6.33–6.99	3.5	8.xx	6.66	4.0.7/1.3	4.2.9
3.4	7.xx	3.4	7.xx	Normal	4.0.5/1.2.1	4.2.7
3.4	7.xx	3.5	8.xx	Normal	4.0.7/1.3	4.2.9
3.5	8.xx	3.5	8.xx	Normal	4.0.7/1.3	4.2.9

▲ Important Safety Instructions

1. Read and follow all warning notices and instructions marked on the product or included in the manual.
2. This product is intended to be used with a three-wire grounding type plug – a plug which has a grounding pin. This is a safety feature. Equipment grounding is vital to ensure safe operation. Do not defeat the purpose of the grounding type plug by modifying the plug or using an adapter.
Prior to installation, use an outlet tester or a voltmeter to check the ac receptacle for the presence of earth ground. If the receptacle is not properly grounded, the installation must not continue until a qualified electrician has corrected the problem.
If a three-wire grounding type power source is not available, consult a qualified electrician to determine another method of grounding the equipment.
3. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these slots and openings must not be blocked or covered.
4. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.
5. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous high voltage points or other risks. Refer all servicing to qualified service personnel.
6. General purpose cables are provided with this product. Special cables, which may be required by the regulatory inspection authority for the installation site, are the responsibility of the customer.
7. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.
8. A rare phenomenon can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate buildings are **interconnected**, the voltage potential may cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action prior to interconnecting the products.
9. In addition, if the equipment is to be used with telecommunications circuits, take the following precautions:
 - Never install telephone wiring during a lightning storm.
 - Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
 - Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
 - Use caution when installing or modifying telephone lines.
 - Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
 - Do not use the telephone to report a gas leak in the vicinity of the leak.

Notices

WARNING:

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE. THE AUTHORITY TO OPERATE THIS EQUIPMENT IS CONDITIONED BY THE REQUIREMENTS THAT NO MODIFICATIONS WILL BE MADE TO THE EQUIPMENT UNLESS THE CHANGES OR MODIFICATIONS ARE EXPRESSLY APPROVED BY PARADYNE.

WARNING:

TO USERS OF DIGITAL APPARATUS IN CANADA: THIS CLASS A DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A RESPECTE TOUTES LES EXIGENCES DU RÈGLEMENT SUR LE MATÉRIEL BROUILLEUR DU CANADA.

Government Requirements

Certain governments require that instructions pertaining to connection to the telephone network be included in the installation and operation manual. Specific instructions are listed in the following sections.

United States – Notice to Users of the Telephone Network

This equipment complies with Part 68 of the FCC rules. On the bottom of the equipment is a label or silk-screened text that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. If requested, please provide this information to your telephone company.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your number is called. In most areas, the sum of the RENs of all devices should not exceed 5. Call your local telephone company to ascertain the maximum REN for your calling area.

If your Model 3610 or 3611 DSU with DBM causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.

Your telephone company may make changes in facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If so, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.

The DBM cannot be used on public coin-operated telephone service provided by the telephone company. Connection to party-line service is subject to state tariffs. Contact the state public utility commission, public service commission, or corporation commission for information.

No repairs may be performed by the user. Should you experience difficulty with this equipment, refer to *Warranty, Sales, Service, and Training* inside the cover of this document.

For Digital Data Service (DDS) installations, inform the local telephone company of the appropriate facility interface code for the service you desire.

DDS Facility			
Interface Code	Data Rate (bps)	Interface Code	Data Rate (bps)
04DU5-24	2400	04DU5-38	38,400
04DU5-48	4800	04DU5-56	56,000
04DU5-96	9600	04DU5-64	64,000
04DU5-19	19,200		

For DBM installations, the proper service and jack must be ordered from the telephone company. Refer to the following table for this information.

DBM Jack Installation Requirements				
DBM Type	USOC Jack (Standalone)	USOC Jack (Carrier)	Canadian Jack (Standalone)	Canadian Jack (Carrier)
12.0 or 14.4 kbps V.32bis DBM	RJ11C Permissive RJ45C Programmable	RJ21X Permissive RJ27X Programmable	CA11A Permissive CA27A Programmable	CA21A Permissive CA27A Programmable
2-Wire Switched 56 DBM	SJA48	SJA48 (uses an adapter cable)	CA11 (metallic channel)	CA21A (metallic channel)
4-Wire Switched 56 DBM	SJA56	SJA57	Not available in Canada	Not available in Canada
ISDN BRI DBM	RJ49C	RJ49C (uses an adapter cable)	CA-A11	CA-A11 (uses an adapter cable)

After the telephone company has installed the requested service and jack, you can connect the DSU with the cable provided. An FCC-compliant telephone cord and modular plug are provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack that is Part 68 compliant.

Canada – Notice to Users of the Canadian Telephone Network

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

Before installation, verify connectivity of this equipment to the local telecommunications company's facilities. The equipment must be connected by an acceptable method. In some cases, the telecommunications company's inside wiring associated with single-line individual service may be extended with a certified connector assembly (telephone connection cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

If you experience difficulty with this equipment and require service, refer to *Warranty, Sales, Service, and Training Information* in the front of this document.

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

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

CAUTION:

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

The load number (LN) is labeled on the equipment. The LN denotes the percentage of the total load to be connected to a telephone loop used by this equipment. To prevent an overload, the total of the LNs of all devices attached to the loop may not exceed 100. The LN also specifies the appropriate ringing type (A or B), if applicable. For example, LN = 20A designates a load number of 20 and an A type ringer.

If you experience trouble with this equipment, please contact your sales or service representative (as appropriate) for repair or warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.



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