///ADC®

DSXpert™ 2005 Chassis
DS3/E3 Remote Test Access System
Installation Instructions

Content   **Page**

INTRODUCTION

This manual provides procedures for installing the DSXpert 2005, DS3/E3 Remote Test Access System modular chassis and corresponding chassis components. The manual is intended for use at communications network facilities and users who monitor and maintain the network.

Revision History

ISSUE	DATE	REASON FOR CHANGE
Issue 1	03/2000	Original
Issue 2	11/2000	Update hardware installation procedures, diagrams and customer information sections

Trademark Information

ADC is a registered trademark of ADC Telecommunications, Inc.

Related Publications

Listed below are related manuals and their publication numbers. Copies of these publications can be ordered by contacting the ADC Technical Assistance Center at 1-800-366-3891 (in U.S.A. or Canada) or 952-946-3000, extension 63475 (outside U.S.A. and Canada).

Title/Description	ADCP Number
DSXpert 2005, DS3/E3 Remote Test Access System User Manual Contains an introduction to the ADC DSXpert 2005 DS/E3 system, hardware and software descriptions, application, and engineering information required for system deployment.	**80-411**

Admonishments

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. An admonishment identifies a possible hazard and then explains what may happen if the hazard is not avoided. The admonishments — in the form of Dangers, Warnings, and Cautions — must be followed at all times. These warnings are flagged by use of the triangular alert icon (seen below), and are listed in descending order of severity of injury or damage and likelihood of occurrence.

⚠ **Danger**: *Danger is used to indicate the presence of a hazard that **will** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*

⚠ **Warning**: *Warning is used to indicate the presence of a hazard that **can** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*

⚠ **Caution**: *Caution is used to indicate the presence of a hazard that **will** or **can** cause minor personal injury or property damage if the hazard is not avoided.*

General Safety Precautions

The following general safety precautions apply to the DSXpert OTAU module.

⚠ **Danger**: *Invisible laser radiation is present within this device. Avoid direct exposure to the beam.*

⚠ **Danger**: *To avoid the possibility of severe and potentially fatal electric shock, never install electrical equipment in a wet location or during a lightning storm.*

⚠ **Caution**: *Always wear an anti-static discharge wrist strap to prevent static electric discharge damage to the electronic circuitry.*

FCC Compliance Statement

This product has been tested and certified to comply with the following requirements:

UL 1950 3rd Edition
FCC Pt-15 Class-A
NEBS Level-3 (GR-1089 CORE and GR-63 CORE)
CSA 22.2 No.950-95
CSA C108.8-M1983 (R1989) (R1994)
EN 60 950 (1992) EN 300 386-2 V1.1.3
IEC 950CISPR-22 Class-A (IEC 1000-4-2, IEC 1000-4-3, IEC 1000-4-4, IEC 1000-4-5 and IEC 1000-4-6)

⚠ **Warning:** *This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with limits for a Class A digital device pursuant to Subpart A of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference to TV and radio reception in which case the user, at their own expense, will be required to take whatever measures may be required to correct the interference.*

This equipment does not exceed Class A limits for radio emission for digital apparatus, set out in the radio interference regulation of the authorization methods of Industry Canada. Operation in a residential area may cause unacceptable interference to TV and radio reception requiring the owner or operator to take whatever steps are necessary to correct the interference.

List of Acronyms and Abbreviations

The acronyms and abbreviations used in this manual are detailed in the following list:

ASCII	American Standard Code for Information Interchange
AUX	Auxiliary
AWG	American Wire Gauge
COMM	Communication
CTS	Clear to Send
DCE	Data Communications Equipment
DIP	Dual In-line Package
DS3	Digital Signal, Level 3
DSR	Data Set Ready
DTE	Data Terminal Equipment
DTR	Data Terminal Ready
ESD	Electrostatic Discharge
FB	Fallback
FCC	Federal Communications Commission
GND	Ground
RTS	Request to Send
RXD	Receive Data
TL1	Transaction Language 1
TXD	Transmit Data
WinTAC	Windows Test Access Communication

1 GENERAL

1.1 Chassis Diagrams
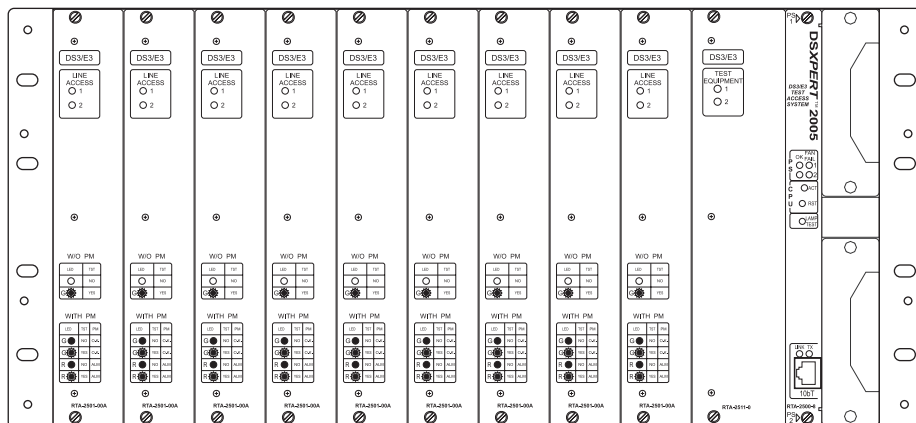
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Figure 1. DSXpert 2005 Modular Chassis with Modules Inserted (modules may vary), Front View
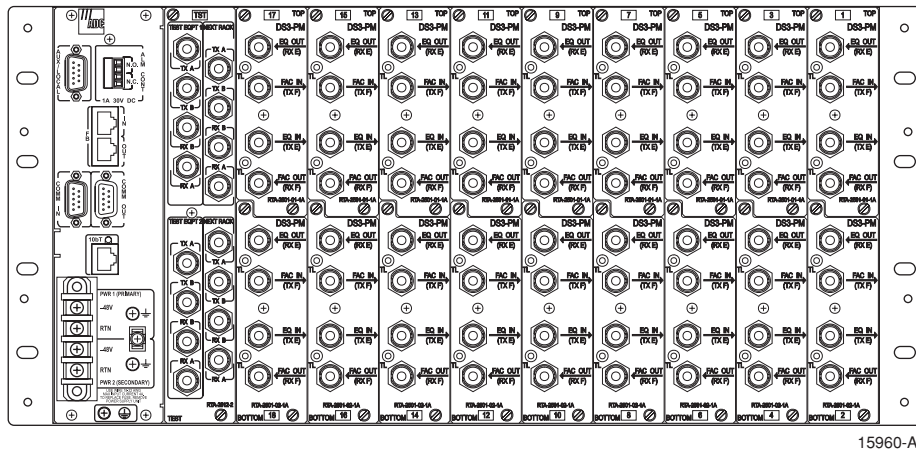
15960-A

Figure 2. DSXpert 2005 Modular Chassis with Modules Inserted (modules may vary), Rear View

1.2 Description

The DSXpert 2005 DS3/E3 Remote Test Access System chassis and modules, hereafter referred collectively as DSXpert, provide a common point for remote test access to DS3 (44.736 Mbps) and E3 (34.368 Mbps) digital bit rate circuits. The chassis backplane serves as an interconnection point for DS3/E3 circuits connected between facility and equipment sides of a network. Modules provide chassis power, test access functionality and support for DS3/E3 circuits, test equipment and remote connections.

Modules for the modular chassis include several DS3/E3 line access card sets, a test card set, control card and power supplies. The control card is a microprocessor-based card that contains the system firmware and provides control for the entire chassis. It coordinates all unit functions and communicates with other units, control consoles and other management devices. The Test Card set coordinates functions for test devices connected to the chassis. The Test Card set consists of one front card and one corresponding rear card, and provides BNC ports to support two test devices. The Line Access Card sets coordinate functions for the DS3/E3 lines. Each Line Access Card set consists of one front card and two corresponding rear cards, and provides BNC ports to support two DS3/E3 circuits. The Power Supplies provide power at -48 V DC to the chassis and modules. Only one Power Supply is required for operation. A second Power supply provides power supply redundancy.

The DSXpert equipment is normally shipped with the modules installed in the chassis. If the modules are not contained in the chassis location slots when the equipment is received, perform the necessary module installation procedures.

1.3 Outline of Installation

It is recommended that the DSXpert 2005 installation procedures be followed in the order that they are presented in the manual, as listed in the Table of Contents:

- General
- Installation
- Network Configuration
- System Verification

2   INSTALLATION

2.1   Hardware

⚠ **Danger:** *To prevent electrical shock, never install equipment in a wet location or during a lightning storm.*

⚠ **Caution:** *Electronic modules can be damaged by electrostatic discharge (ESD). Before handling modules, wear an anti-static discharge wrist strap to prevent damage to electronic components. Place modules in packing material when transporting or storing. When working on modules, always place them on an approved anti-static mat that is electrically grounded.*

Some chassis may be fully configured prior to shipment and can therefore be installed directly into a rack when received. Otherwise, the chassis should be configured according to the installation sections of the manual.

2.1.1   Chassis

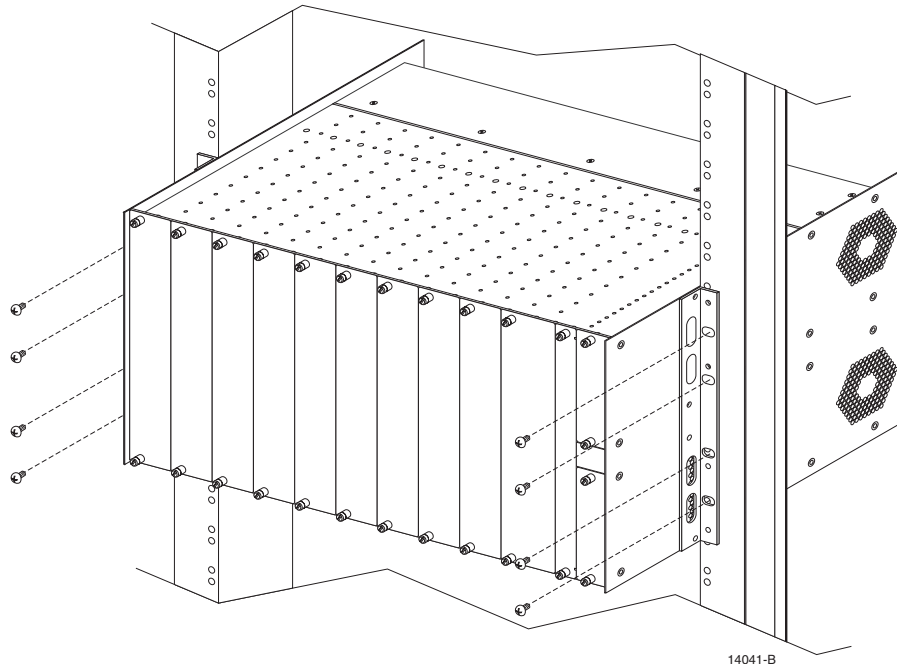Install chassis into rack as shown in Figure 3.

14041-B

Figure 3. Chassis Installation into Rack

The DSXpert chassis can be mounted into a 19" rack (EIA 1.75" spacing and WECO 2.0" spacing). Bracket attachments on the unit allow positioning from a flushed to an extended mount. The chassis also can be mounted into a 23" rack (with 19"-to-23" extender brackets) and 600mm rack (with 19"-to-600mm extender brackets).

2.1.2 Blank Panels
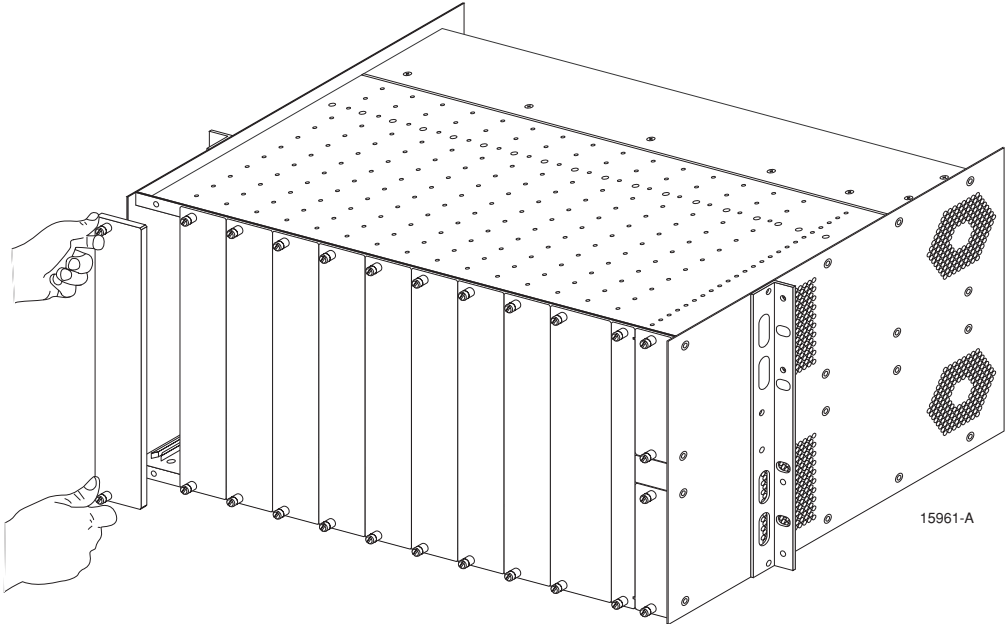
Remove blank panels as shown in Figures 4 and 5.
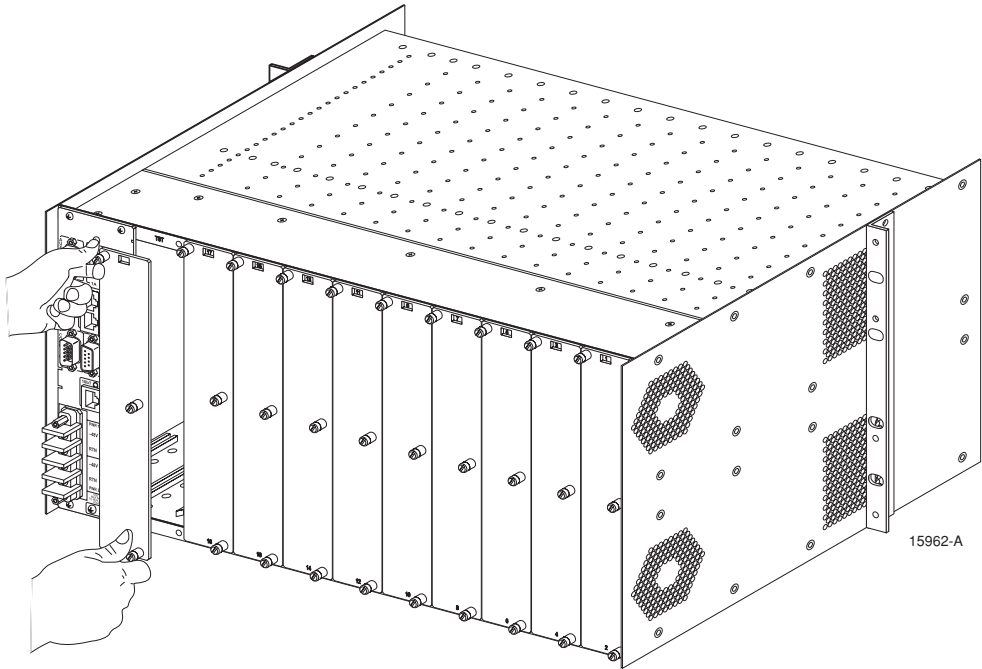
Figure 4. Removal of Front Blank Panels

Figure 5. Removal of Rear Blank Panels

2.1.3   Line Access Cards

⚠ **Caution:** *Electronic modules can be damaged by electrostatic discharge (ESD). Before handling modules, wear an anti-static discharge wrist strap to prevent damage to electronic components. Place modules in packing material when transporting or storing. When working on modules, always place them on an approved anti-static mat that is electrically grounded.*

Install line access cards as shown in Figures 6 and 7. The front line cards are installed in front slots 1 to 9. There are two corresponding rear line cards (top and bottom) for each front line card (see Table 1). The rear line cards are installed in rear slots 1 to 18. All line access cards are hot-swappable and can be installed without powering down the chassis.
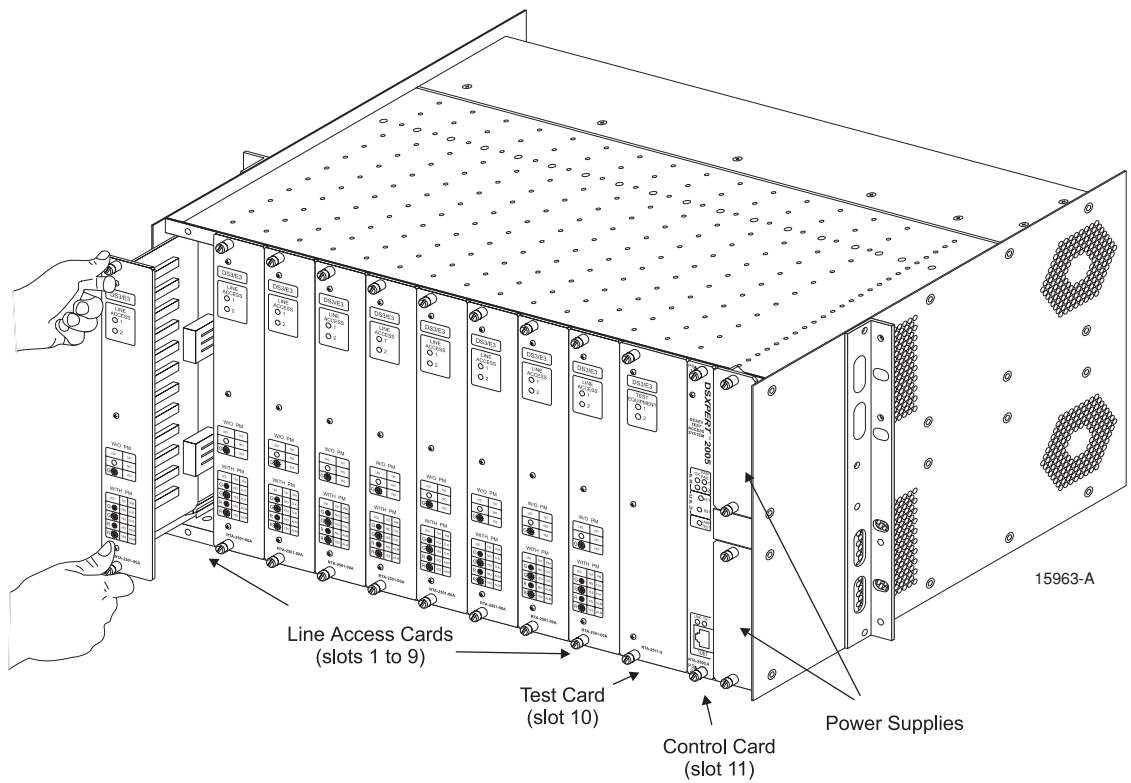

Line Access Cards
(slots 1 to 9)

Test Card
(slot 10)

Control Card
(slot 11)

Power Supplies
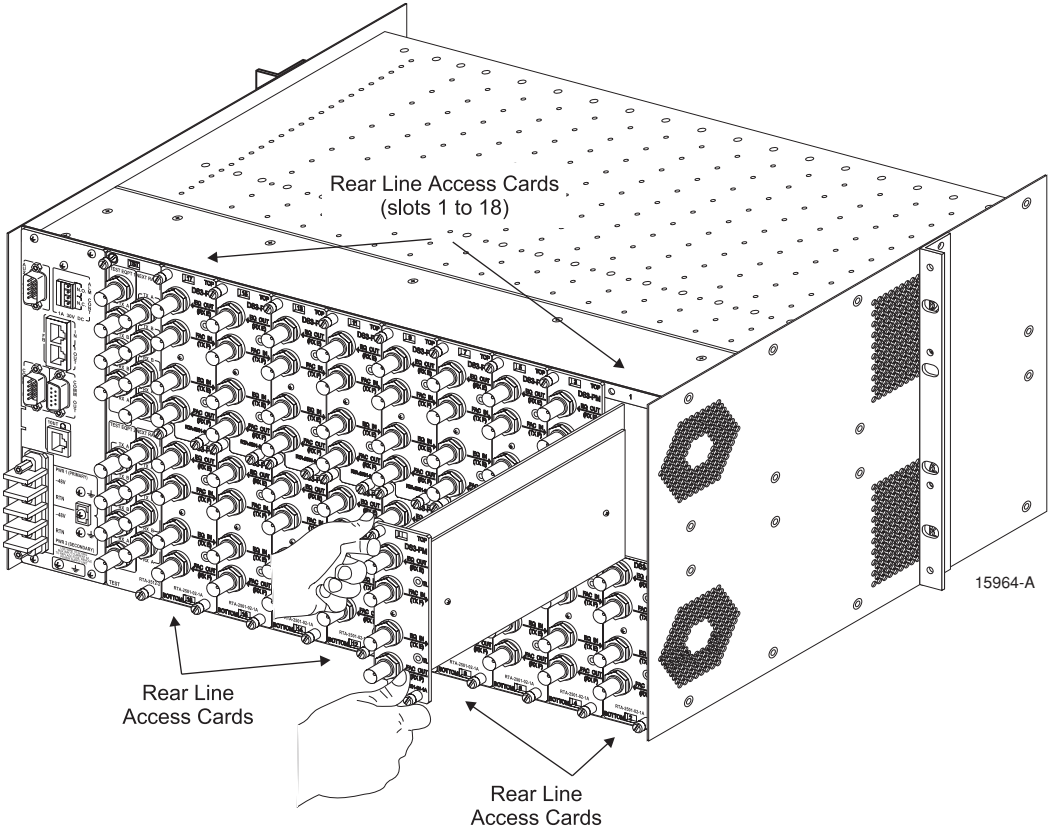
15963-A

Figure 6. Installation of Front Line Access Cards

Figure 7. Installation of Rear Line Access Cards

Table 1. Line Access Card Slot Positions

SLOT POSITIONS OF LINE ACCESS CARDS	
Front Slot	**Corresponding Rear Slot**
1	1, 2
2	3, 4
3	5, 6
4	7, 8
5	9, 10
6	11, 12
7	13, 14
8	15, 16
9	17, 18

2.1.4   Test Equipment Card

⚠️ **Caution:** *Electronic modules can be damaged by electrostatic discharge (ESD). Before handling modules, wear an anti-static discharge wrist strap to prevent damage to electronic components. Place modules in packing material when transporting or storing. When working on modules, always place them on an approved anti-static mat that is electrically grounded.*

Install test equipment card as shown in Figures 8 and 9. The front test equipment card is installed in front slot 10. The corresponding rear test equipment card is installed in rear slot labeled "TST". The test equipment cards are hot-swappable and can be installed without powering down the chassis.
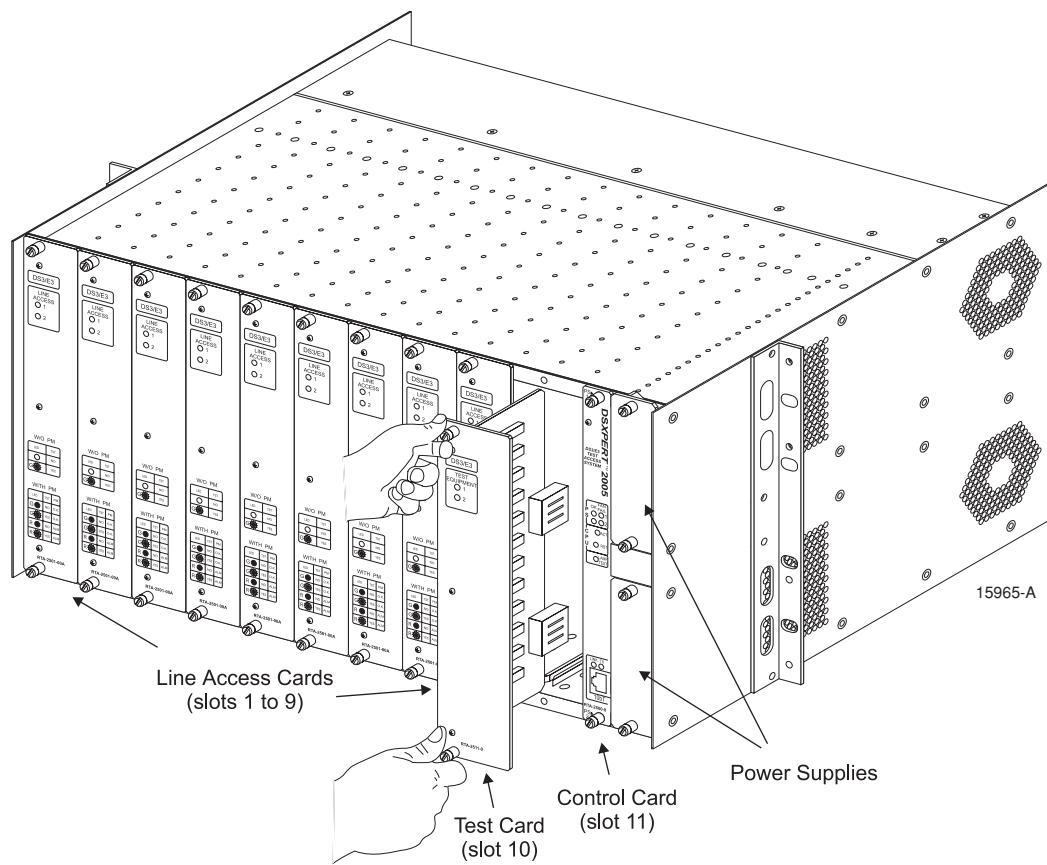

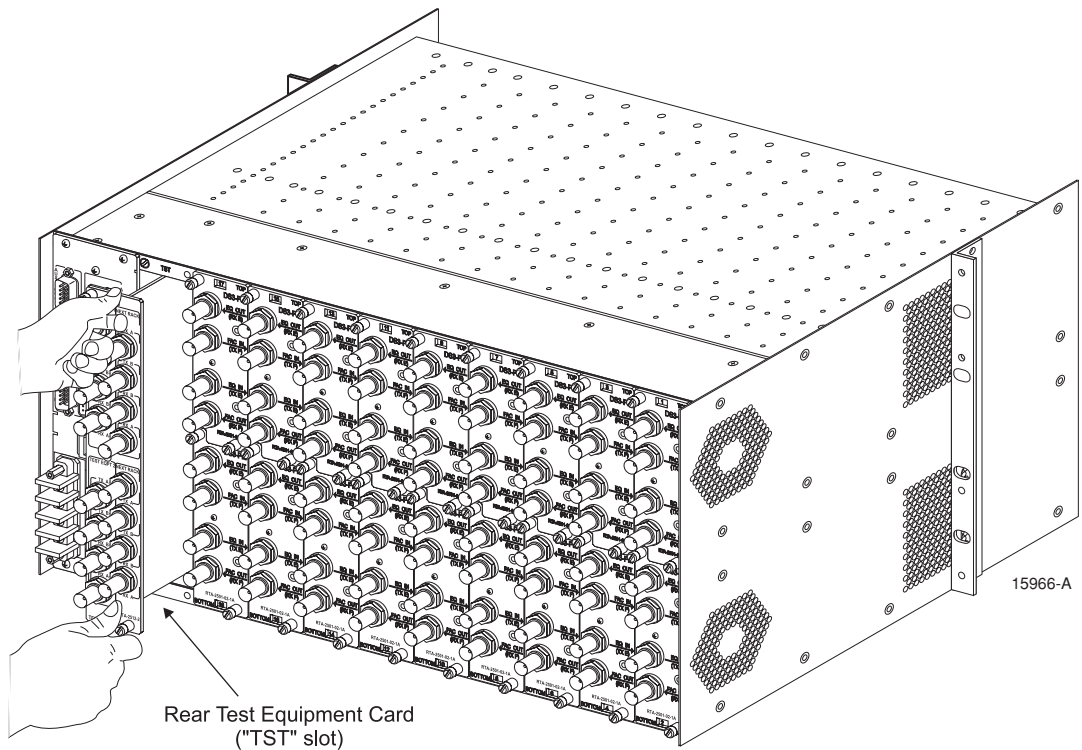**Figure 8. Installation of Front Test Equipment Card**

15966-A

Rear Test Equipment Card
("TST" slot)

Figure 9. Installation of Rear Test Equipment Card

2.1.5   Control Card

⚠ **Caution:** *Electronic modules can be damaged by electrostatic discharge (ESD). Before handling modules, wear an anti-static discharge wrist strap to prevent damage to electronic components. Place modules in packing material when transporting or storing. When working on modules, always place them on an approved anti-static mat that is electrically grounded.*

Before installing the control card, the following procedures in this section must be performed:

1. Enable battery on control card via jumpers (section 2.1.5.2).

2. Configure DIP switches on control card (section 2.1.5.3).

2.1.5.1   Card Replacement

If required, remove the control card as shown in Figure 10. The control card for the DSXpert modular chassis is hot-swappable and can be inserted and removed without powering down the chassis.
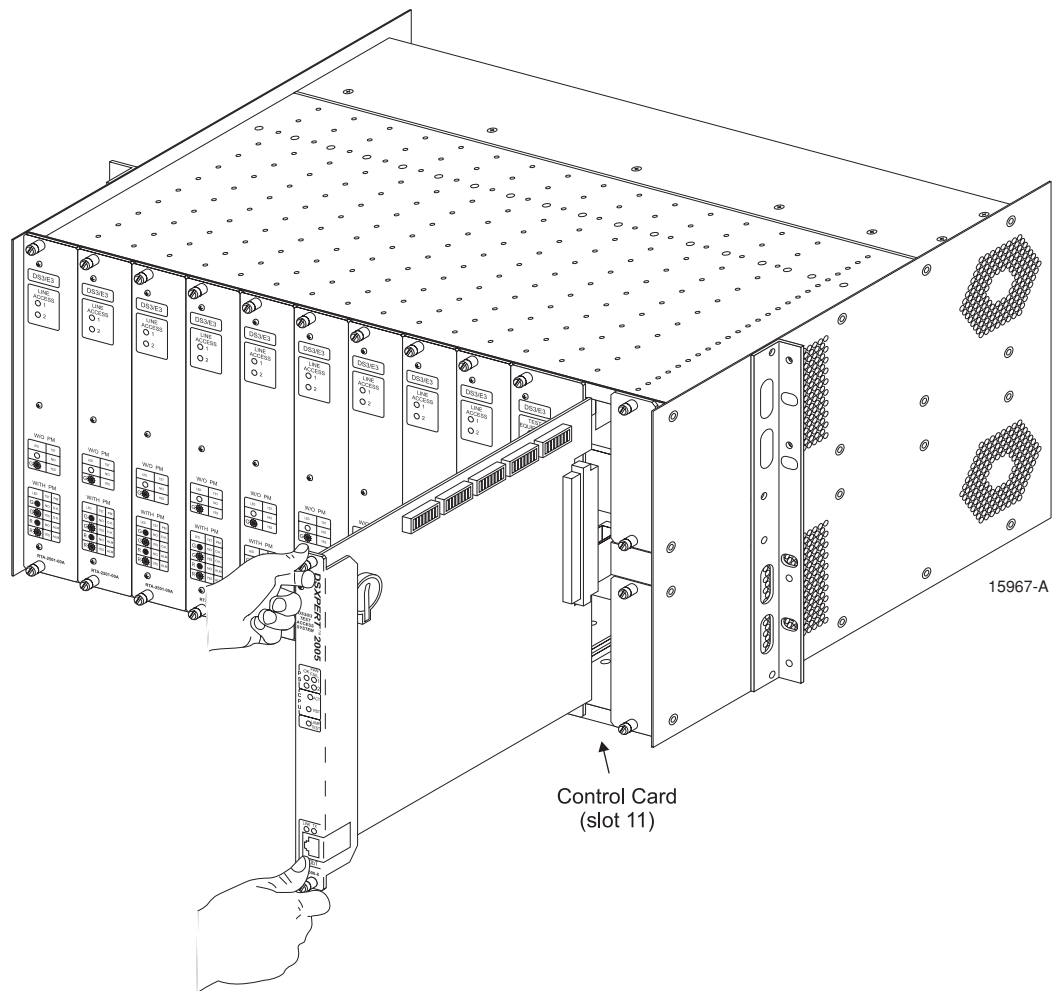
Figure 10. Removal of Control Card

2.1.5.2 Battery Setting

⚠ **Danger:** *The control card module uses a lithium battery. Waste lithium batteries can be considered reactive hazardous waste if there is a significant amount of unreacted, or unconsumed, lithium in the spent battery. Dispose of used batteries according to the manufacturer's instructions. Incorrect replacement of battery can cause the battery to explode. Replace battery only with same (Panasonic CR2032 coin type 3V lithium battery) or equivalent type recommended by manufacturer.*

Before installing the control card, enable the onboard lithium battery via JP9 jumpers as shown in Figure 11. The lithium battery is used for short term data backup.

➤ **Note:** To prolong battery life, the module is shipped with the battery jumper in the disabled position. The battery should be disabled during storage and prolonged periods of power outage.
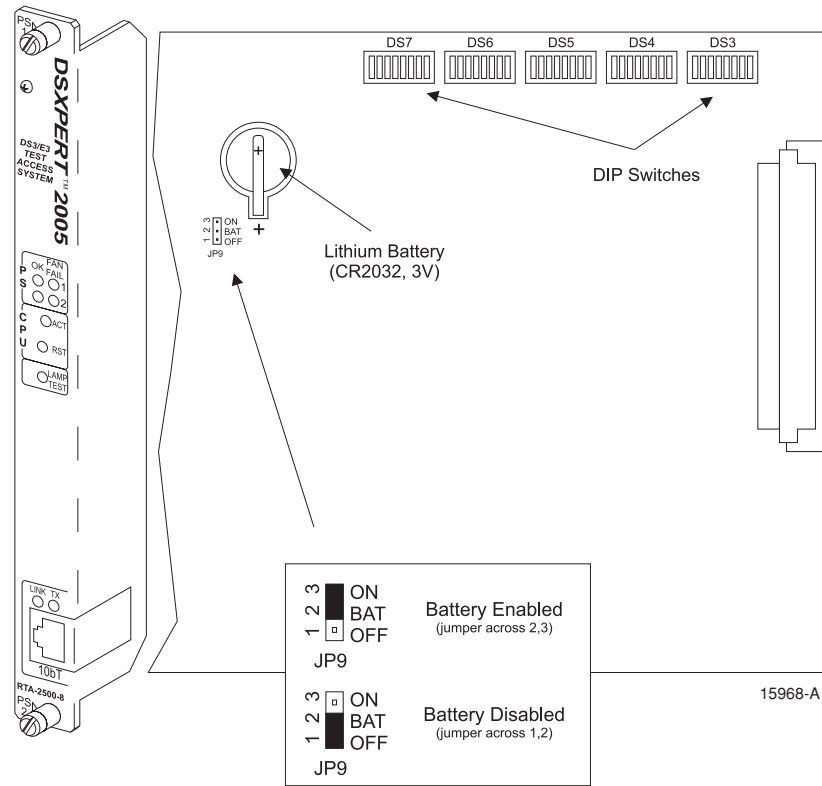
Figure 11. To enable battery, set JP9 jumper across 2, 3.
To disable battery, set JP9 jumper across pins 1, 2.

2.1.5.3 DIP Switch Settings

Before installing the control card, the onboard DIP switches must be properly configured to ensure proper operation of the DSXpert unit. Figure 12 shows the location of the DIP switch packages on the control card and their ON/OFF positions.

To set DIP switches:

1. Locate DIP switch packages labeled DS7, DS6, DS5, DS4, and DS3 on control card.

2. For each package, set switches according to the following DIP Switch Tables 2 through 6. Refer to Figure 12 for ON/OFF positions of the DIP switches.

The DIP switches on the DS3 package are used for TL1 applications. The TL1 command set does not include commands for setting the amplifier, termination resistor, bridge resistor and loopback features, and must therefore employ use of DIP switches. All other control applications (for example, HP OpenView SNMP) can use commands from the ASCII command set or MIB to enable or disable these features.
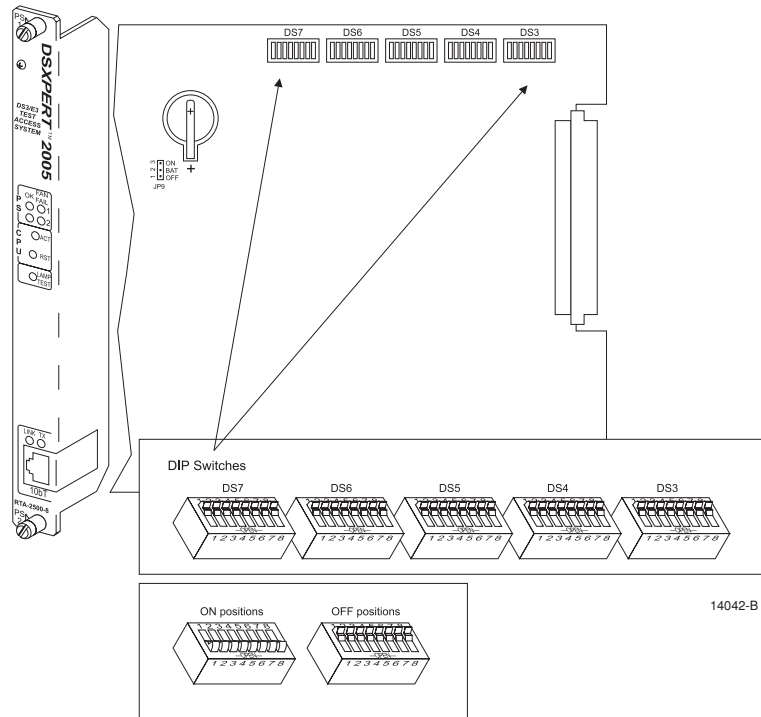
Figure 12. DIP Switch Packages on Control Card (ON and OFF positions shown)

To set DIP switches:

1. Locate DIP switch packages labeled DS7, DS6, DS5, DS4, and DS3 on control card.

2. For each package, set switches according to the following DIP switch tables 2 through 6. Refer to figure 12 for ON/OFF positions of the DIP switches.

Table 2. DIP Switch Positions, DS7 Package

DS7 PACKAGE					
1	**2**	**3**	**4**	**Function**	**Notes**
On				Enables ethernet port.	Applicable to 8-bit CPU with ethernet board. For 16-bit CPUs, this is ignored.
Off				Disables ethernet port (default).	Set to Off.
	Off			Factory use only (default).	Set to Off.
		Off		Not used (default).	Set to Off.
			Off	Not used (default).	Set to Off.
5	**6**	**7**	**8**	**Function**	**Notes**
Off				Not used (default).	Set to Off.
	Off			Not used (default).	Set to Off.
		Off		Not used (default).	Set to Off.
			Off	Not used (default).	Set to Off.

Table 3. DIP Switch Positions, DS6 Package

DS6 PACKAGE					
1	**2**	**3**	**4**	**Function**	**Notes**
Off				Not used (default).	Set to Off.
	Off			Not used (default).	Set to Off.
		Off		Factory use only (default).	Set to Off.
			Off	Not used (default).	Set to Off.
5	**6**	**7**	**8**	**Function**	**Notes**
Off	Off	Off	On	Sets unit ID to 1 (default).	Set switches to assign an ID number to the unit, for
Off	Off	On	Off	Sets unit ID to 2.	identification when daisychained with other other
Off	Off	On	On	Sets unit ID to 3.	units. Stand- alone chassis and first chassis in daisy-
Off	On	Off	Off	Sets unit ID to 4.	chain should be set to an ID of 1. The first chassis is
Off	On	Off	On	Sets unit ID to 5.	defined as that connected to the external operating
Off	On	On	Off	Sets unit ID to 6.	support system. Subsequent chassis in daisy-chain
Off	On	On	On	Sets unit ID to 7.	should be set in sequential ID order. Up to 4 chassis
On	Off	Off	Off	Sets unit ID to 8.	can be daisy-chained.

Table 4. DIP Switch Positions, DS5 Package

DS5 PACKAGE					
1	**2**	**3**	**4**	**Function**	**Notes**
On				Enables TL1 error responses.	Set to On if using TL1. For all other
Off				Enables ASCII error responses (default).	applications, set to Off.
	On			Echo on COMM port Enabled.	Set according to preference. However,
	Off			Echo on COMM port Disabled (default).	for WinTAC applications, set to Off.
		On	On	COMM Baud Rate = 2400	All DSXpert units and control
		Off	On	COMM Baud Rate = 4800	devices MUST be set to the same COMM
		On	Off	COMM Baud Rate = 9600 (default)	port baud rate.
		Off	Off	COMM Baud Rate = 19200	
5	**6**	**7**	**8**	**Function**	**Notes**
On				Modem Timeout Enabled.	When enabled, disconnects users communicating
Off				Modem Timeout Disabled (default).	to DSXpert chassis via modem after user-
					defined time of inactivity.
	On			AUX Port circuit is present (default).	Set to On.
		On	On	AUX Baud Rate = 2400	Set AUX port baud rate for WinTAC and
		Off	On	AUX Baud Rate = 4800	Telnet applications. To baud rate must be
		On	Off	AUX Baud Rate = 9600 (default)	equal to or less than the baud rate for
		Off	Off	AUX Baud Rate = 19200	COMM IN. For all other applications, set to Off.

Table 5. DIP Switch Positions, DS4 Package

DS4 PACKAGE					
1	**2**	**3**	**4**	**Function**	**Notes**
On				Test Port 2: Next Chassis Enabled.	When enabled (On) allows sharing of
Off				Test Port 2: Next Chassis Disabled (default).	test devices across two or more chassis.
	Off			Not used (default).	Set to Off.
		Off		Not used (default).	Set to Off.
			Off	Not used (default).	Set to Off.
5	**6**	**7**	**8**	**Function**	**Notes**
On				Test Port 1: Next Chassis Enabled.	When enabled (On) allows sharing of
Off				Test Port 1: Next Chassis Disabled (default).	test devices across two or more chassis.
	Off			Not used (default).	Set to Off.
		Off		Not used (default).	Set to Off.
			Off	Not used (default).	Set to Off.

Table 6. DIP Switch Positions, DS3 Package

DS3 PACKAGE					
1	**2**	**3**	**4**	**FUNCTION**	**NOTES**
On				Test Port 2: Amplifier Enabled[1].	For TL1 applications only. For all
Off				Test Port 2: Amplifier Disabled (default).	other applications, set to Off and
	On			Test Port 2: Termination Resistor Enabled[2].	use ASCII commands to
	Off			Test Port 2: Termination Resistor Disabled (default).	enable/disable amplifier,
		On		Test Port 2: Bridge Resistor Enabled[3].	termination, bridge, and loopback
		Off		Test Port 2: Bridge Resistor Disabled (default).	features. Refer to DSXpert User
			On	Test Port 2: Loopback Enabled[4].	Manual for ASCII command set.
			Off	Test Port 2: Loopback Disabled (default).	
5	**6**	**7**	**8**	**FUNCTION**	**NOTES**
On				Test Port 1: Amplifier Enabled[1].	For TL1 applications only. For all
Off				Test Port 1: Amplifier Disabled (default).	other applications, set to Off and
	On			Test Port 1: Termination Resistor Enabled[2].	use ASCII commands to
	Off			Test Port 1: Termination Resistor Disabled (default).	enable/disable amplifier,
		On		Test Port 1: Bridge Resistor Enabled[3].	termination, bridge, and loopback
		Off		Test Port 1: Bridge Resistor Disabled (default).	features. Refer to DSXpert User
			On	Test Port 1: Loopback Enabled[4].	Manual for ASCII command set.
			Off	Test Port 1: Loopback Disabled (default).	

1 **Amplifier**—When set to ON (enabled), the DS3 signal at the test port TX connection(s) is amplified to a (nominal) 0db DSX level during monitor access modes. For use only when the external DS3 test equipment requires DSX level signals (cannot receive monitor level). Please check your test equipment specifications to determine the appropriate settings.

2 **Termination Resistor**—When set to ON (enabled), a line termination resistor is internally connected to the test port TX connection(s) during split access modes. For use only when the external test equipment does not provide line termination.

3 **Bridge Resistor**—When set to ON (enabled), the signal level for the line under test at the test port TX connection(s) is attenuated 20db during split access modes. For use only when a Bridge level signal is desired at the test port for connection to external test equipment.

4 **Loopback**—When set to ON (enabled) the test ports are placed in loopback whenever they are not in use. Some test equipment may require this. When daisy chaining test ports to share test equipment, only the last rack in the test port chain should have loopback enabled.

2.1.6   Power Supplies

⚠ **Caution:** *Electronic modules can be damaged by electrostatic discharge (ESD). Before handling modules, wear an anti-static discharge wrist strap to prevent damage to electronic components. Place modules in packing material when transporting or storing. When working on modules, always place them on an approved anti-static mat that is electrically grounded.*

Install power supplies into DSXpert unit as shown in Figure 13. There are two power supply slots. Only one power supply is needed to supply chassis power. The other power supply provides power redundancy. During maintenance, replace one power supply module at a time in order to sustain chassis power, provided the installed supply is functioning properly.
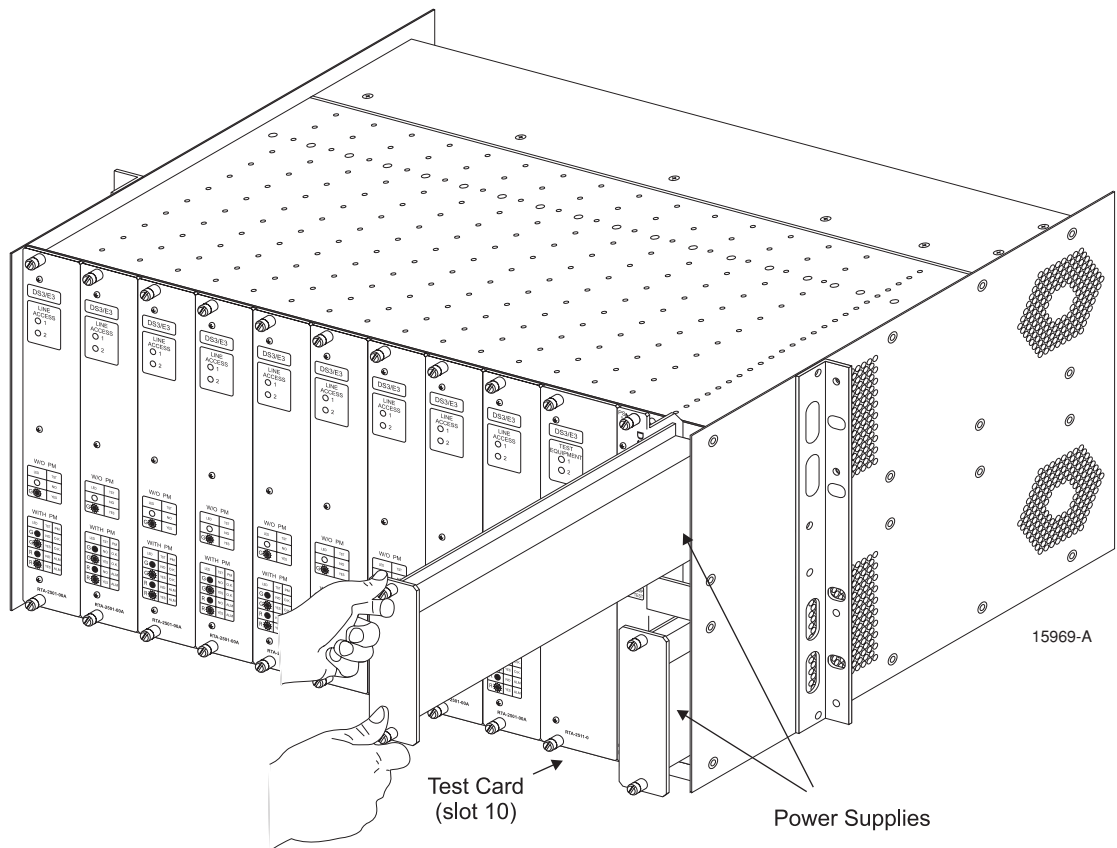

Figure 13. Installation of Power Supplies

2.2 Cable Routing

2.2.1 DS3/E3 Line Ports

For each DS3/E3 circuit, connect the line ports as shown in Figures 14 to 16, which show the DS3/E3 line ports and typical connection configurations, respectively. The DS3/E3 line ports are located on the rear of the DSXpert chassis. Up to 18 DS3/E3 circuits per chassis are supported. Use BNC cables, 75 ohm shielded coax for DS3/E3 circuit connections.
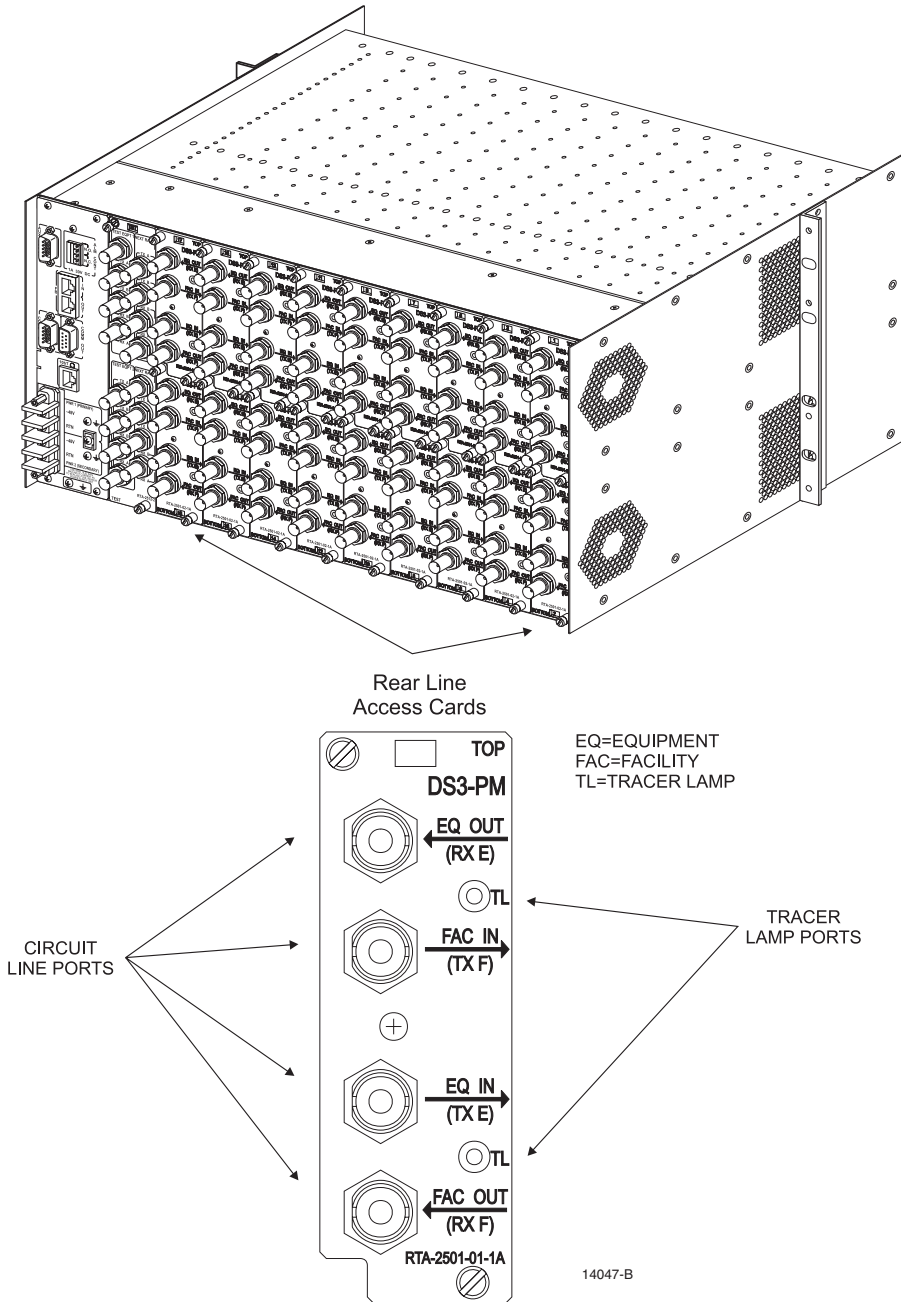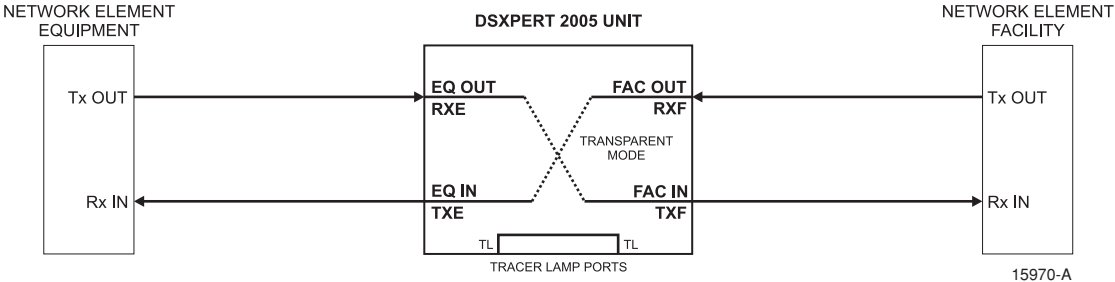

Figure 14. DS3/E3 Line Access Ports on Rear of Chassis

Figure 15. DS3/E3 line Port Connections to Equipment and Facility Network Elements
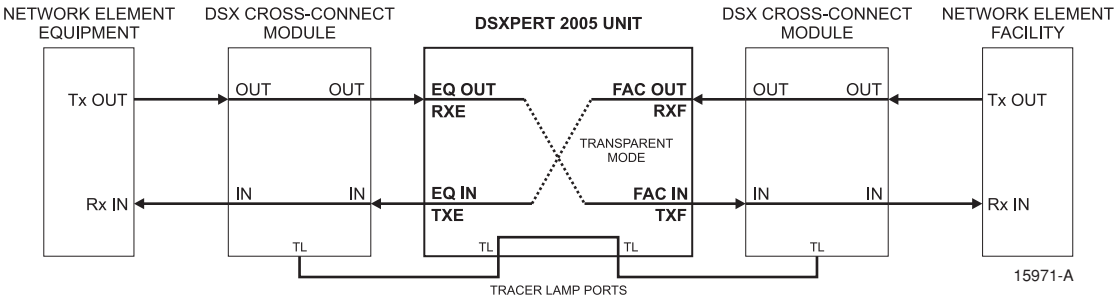

Figure 16. DS3/E3 Line Port Connections to DSX Cross-Connect Modules

2.2.2 DS3/E3 Test Ports

For each test set, connect the DS3/E3 test equipment ports as shown in Figure 17. The DS3/E3 test equipment ports are located on the rear of the DSXpert chassis. They are used to connect test equipment sets to the DSXpert units for monitoring and line testing. Two test sets are supported. Use BNC cables, 75 ohm shielded coax for DS3/E3 test port connections.
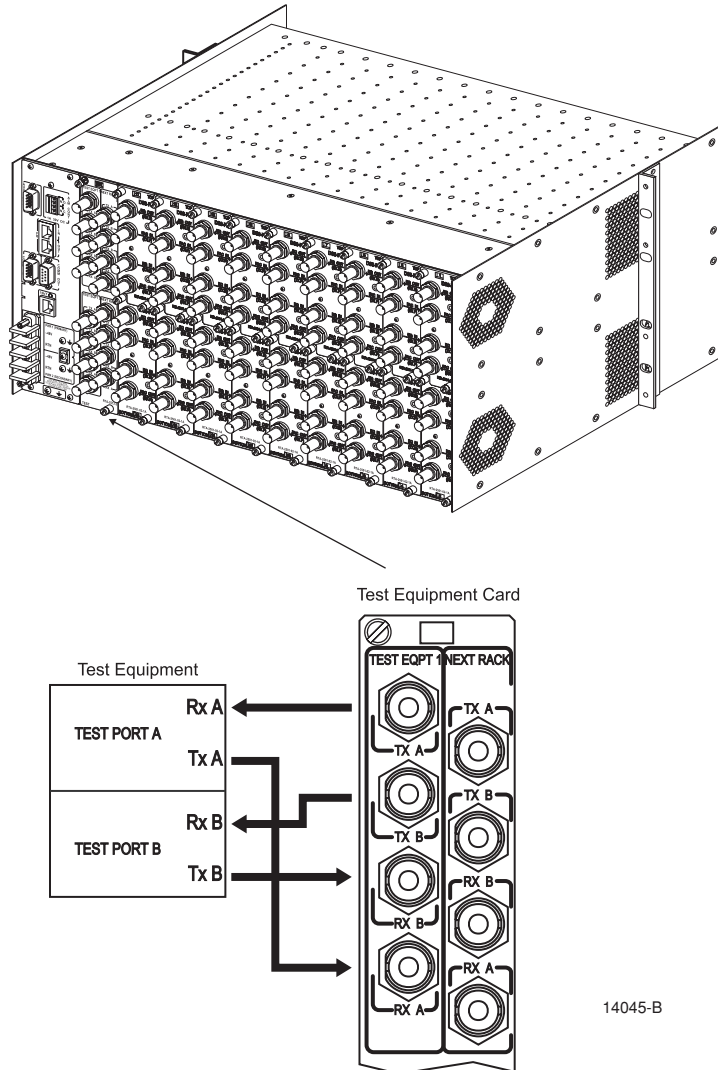

Figure 17. Connection of DS3/E3 Test Ports

2.2.2.1 Daisy-Chaining Test Ports (Optional)

Optionally, test equipment ports may be daisy-chained across several 2005 DSXpert units to allow sharing of test sets among the chassis. It is not related to daisy-chaining of the COMM IN/COMM OUT serial control ports.

To daisy-chain the test equipment ports, connect the ports as shown in Figure 18. Up to 4 DSXpert 2005 units can be daisy-chained together via their NEXT RACK ports.
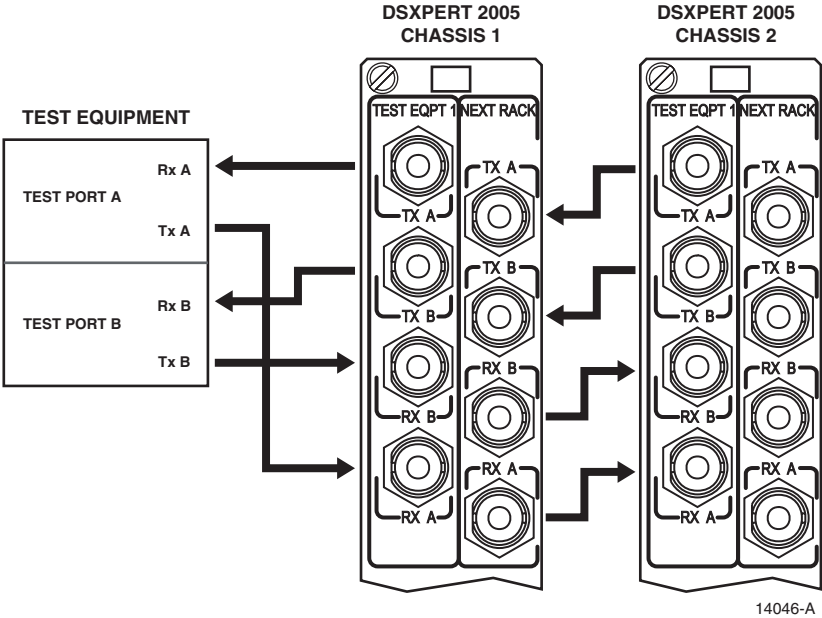

14046-A

Figure 18. Daisy-Chaining of Test Ports across Multiple DSXpert Chassis (Optional)

2.2.3 COMM Ports

To prepare the DSXpert unit for network communication, connect the COMM IN port on the rear of the DSXpert chassis to a terminal or PC as shown in Figure 19. Refer to Tables 7 and 8 for proper cable and pin connections.
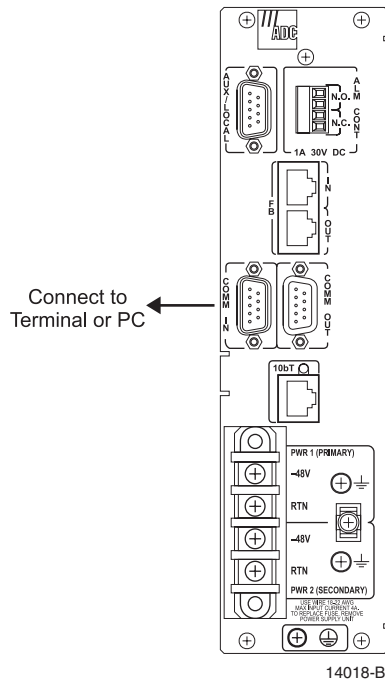

Connect to Terminal or PC

14018-B

Figure 19. Connection of COMM IN Port

The COMM (communication) ports provide a serial connection from the DSXpert unit to a DTE (for example, a VT100 terminal or PC), DCE (for example, a modem), or other DSXpert units. Primarily, the serial connection allows the DSXpert unit to be configured locally for network communication. The network setup is continued in the Network Configuration chapter.

For COMM port pin assignments, refer to . Different cable types are used depending on the type of connection:

- Type 1 Cable: Connects COMM IN port on chassis to a terminal.

- Type 2 cable: Connects COMM IN port on chassis to a PC.

- Type 3 cable: Connects COMM IN port on chassis to a modem.

- Type 4 cable: Connects COMM OUT port on chassis to a COMM IN port on next chassis.

- Type 5 cable: Connects COMM IN port on chassis to a CENTEST® 650 test device (special application).

Table 7. COMM Port Pin Assignments

DB9-MPIN#	SIGNAL	DIRECTION	DB9-FPIN#	SIGNAL	DIRECTION
COMM IN PORT *			COMM OUT PORT		
1	COMM IN First Unit	IN	1	COMM OUT First Unit	OUT
2	Receive Data (RXD)	OUT	2	Receive Data (RXD)	IN
3	Transmit Data (TXD)	IN	3	Transmit Data (TXD)	OUT
4	Data Terminal Ready (DTR)	IN	4	Data Terminal Ready (DTR)	OUT
5	Signal Ground	—	5	Signal Ground	—
6	Data Set Ready (DSR)	OUT	6	Data Set Ready (DSR)	IN
7	NOT USED	—	7	NOT USED	—
8	NOT USED	—	8	NOT USED	—
9	NOT USED	—	9	NOT USED	—

* Do NOT connect pins 1, 8, and 9 on the COMM IN port when connecting with a controlling device, such as a terminal, PC, or modem.

Table 8. Cable Types for COMM Ports

TYPE 1 CABLE* Connects COMM IN Port with Terminal	
DB9 Female Pin#	**DB25 Male Pin#**
2	3
3	2
4	20
5	7
6	6

TYPE 2 CABLE* Connects COMM IN Port with PC	
DB9 Female Pin#	**DB9 Female Pin#**
2	2
3	3
4	4
5	5
6	6

TYPE 3 CABLE* Connects COMM IN Port with Modem	
DB9 Female Pin#	**DB25 Male Pin#**
2	2
3	3
4	8
5	7

TYPE 4 CABLE Connects COMM OUT Port on Unit with COMM IN Port on Other Unit	
DB9 Male Pin#	**DB9 Female Pin#**
1	1
2	2
3	3
4	4
5	5
6	6

TYPE 5 CABLE (SPECIAL)* Connects COMM IN Port with CENTEST 650		
DB9 Female Pin# (DSXpert)	**DB9 Female Pin# (CENTEST)**	**Signals**
2	3	TXD (IN)
3	2	RXD (OUT)
4	6	DSR (OUT)
5	5	GND
6	7	RTS (IN)

* Do NOT connect pins 1, 8, and 9 on the COMM IN port when connecting with a controlling device, such as a terminal, PC, or modem.

2.2.3.1 Daisy-Chaining Chassis (Optional)

Optionally, several DSXpert chassis can be daisy-chained at their COMM ports and FB (Fallback) ports. This allows up to four units to share a single communication link, such as a common IP address. Both the COMM and the FB ports must be used. Additionally, refer to the DIP switch tables for proper DIP switch settings when daisy-chaining.

To daisy-chain the COMM/FB ports, connect the ports as shown in Figure 20. Use type 4 cable (straight-through) for the COMM port connections. Use RJ-45 shielded straight-through cable for the FB port connections.
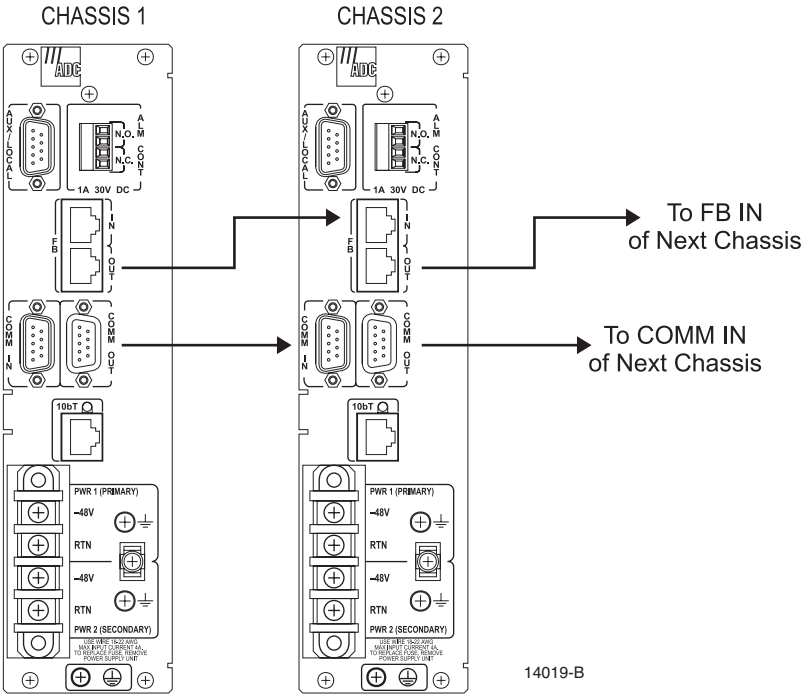
Figure 20. Daisy-Chaining Communication Ports

2.2.4 AUX/Local Port

Perform this connection only for WinTAC and terminal server applications, as shown in Figure 21. Refer to Tables 9 and 10 for proper cable and pin connections. Other test equipment may be used than what is given in the table, but cabling requirements will have to be determined by the user.

The DSXpert chassis has an AUX/LOCAL port (DB9 male connector) on the rear of the chassis that supports an independent RS-232 channel.
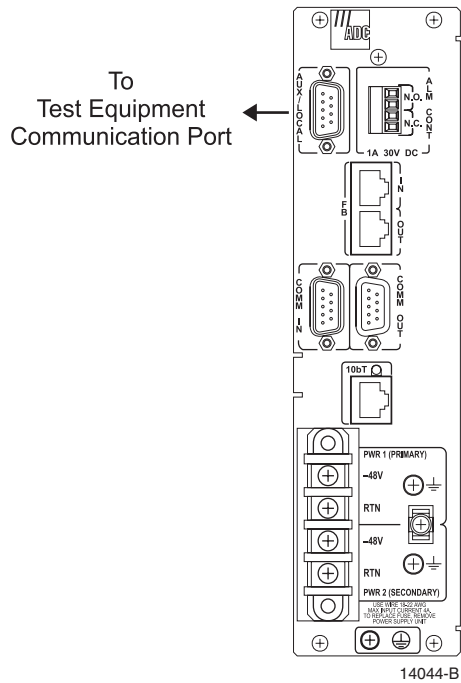

Figure 21. Connection of AUX/Local Port

The AUX/LOCAL port can be used for WinTAC applications by providing a connection to the test equipment from the DSXpert unit. This allows the DSXpert unit and test equipment to share a single communication link, such as a common IP address or modem connection. The user can telnet to the AUX using the same IP address as the control card and socket 2004. For example, TELNET 192.2.2.2 2004.

For proper usage of the AUX/LOCAL port, the following information may be useful:

1. The AUX/LOCAL port is configured as DCE

2. The pin assignments for the AUX/LOCAL port are specified in Table 9.

Table 9. AUX/LOCAL Port Pin Assignment

AUX/LOCAL PORT		
DB9 Male Pin#	**Signal**	**Direction**
1	NOT USED	—
2	Receive Data (RXD)	OUT
3	Transmit Data (TXD)	IN
4	NOT USED	—
5	Signal Ground	—
6	NOT USED	—
7	Request to Send (RTS)	IN
8	Clear to Send (CTS)	OUT
9	NOT USED	—

Table 10. AUX Port Cable Types

TEST DEVICE	SOFTWARE	BAUD	CONTROL CABLE PIN CONFIGURATION	
			PINS	**SIGNAL, DIRECTION (DSXPERT)**
TTC FIREBERD	TTC Distributed Test Manager, Version 4.0	9600	DB25M DB9F Tester Port AUX Port 3————————3 2————————2 7————————5 (8 looped to 20 on Tester Port)	TD, IN RD, OUT GND
HP Cerjac E6325A T1 Test Advisor, Version 2.02	T1 Test Advisor (P/N E4594-10003), Version 2.17	9600	DB9M DB9F Tester Port AUX Port 2————————3 3————————2 5————————5	TD, IN RD, OUT GND
Sage Instruments 930A Communication Test Set, Version 4.06-02	Sage Instruments 930 Win, Beta 6	300-19.2k	DB25M DB9F Tester Port AUX Port 3————————3 2————————2 7————————5	TD, IN RD, OUT GND
Sunrise Telecom Sunset T1, Version 5.03	VT-100 Terminal	1200-19.2k	DB25F DB9F Tester Port AUX Port 2————————3 3————————2 5————————8 7————————5	TD, IN RD, OUT CTS, OUT GND

2.3 Power Connection

Connect the -48V dc power supply as shown in Figure 22. Use wire gauge 18-22 awg, shielded. For power supply redundancy, attach each pair of connectors to a separate power source. If only one power source is available, to create power supply redundancy, join the two sets of connectors in parallel to each other.

⚠ **Warning:** *To fully power down the unit equipped with -48V dc connectors, shut off power at the connecting power source. Do not disconnect dc connectors at terminal blocks on rear of chassis while power is being supplied to the unit.*
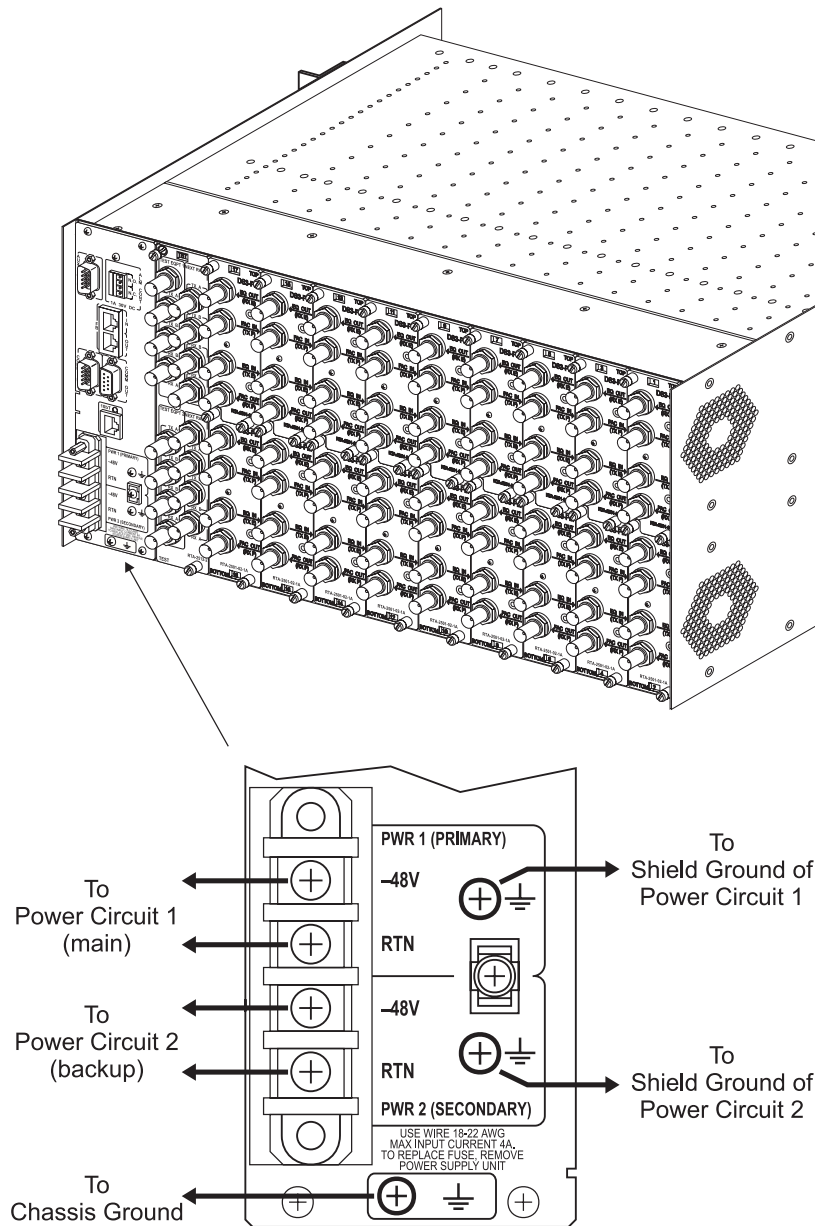
Figure 22. Connection of Power Supplies (–48V)

3   NETWORK CONFIGURATION

Perform the following steps to configure the DSXpert unit for network communication:

Step 1. Connect the DSXpert chassis to a terminal or PC. Connect the COMM IN port on the rear of the DSXpert chassis to a terminal or PC as shown in COMM Port section, Figure 20. Refer to Tables 7 and 8 for proper cable and pin connections.

Press the ENTER key on the keyboard several times. The terminal should display the following:

n:OK

Where n is the chassis number from 1 to 8 assigned via DIP switch settings.

▶   **Note:** If the terminal screen does not display any characters being typed, the ECHO setting is probably turned off. To turn echo on, type the following (characters will not be shown), and press return:

SET UNIT n ECHO ON

Where n is the chassis number. For example, SET UNIT 1 ECHO ON. The characters being typed should now display.

Step 2. Set Factory Defaults. Initialize the DSXpert unit by restoring its factory defaults. Enter the following command:

SET UNIT n FACTORY DEFAULTS

Where n is the chassis number.

Step 3. Enter IP addresses of the chassis, default router, and subnet mask. Enter the following commands to set the IP addresses of the DSXpert unit, default router and subnet mask:

SET UNIT n IP ADDRESS x.x.x.x

SET UNIT n DEFAULT ROUTER x.x.x.x

SET UNIT n SUBNET MASK x.x.x.x

Where n is the chassis number and x.x.x.x is the IP address.

Step 4. Enter passwords. Enter the following commands to set passwords for accessing the DSXpert unit. TELNET password allows full access to DSXpert unit commands via telnet sessions. TFTP password allows flashing of DSXpert unit firmware. MENU password allows access to menu screen only. All passwords are initially set to NONE (no password). Each password entered must be unique.

SET UNIT n TELNET PASSWORD oldpassword|NONE newpassword|NONE

SET UNIT n TFTP PASSWORD oldpassword|NONE newpassword|NONE

SET UNIT n MENU PASSWORD oldpassword|NONE newpassword|NONE

Where n is the chassis number, oldpassword is the current password, newpassword is the new password to be assigned. Enter NONE for no password.

For example, SET UNIT 1 TELNET PASSWORD NONE KAPPA123

◆ **Note:** TELNET password must be assigned in order to assign MENU password. TELNET password can be set to NONE (no password) only after MENU password is set to NONE.

Step 5. Reset DSXpert unit. Enter the following command to reset the chassis and apply new settings:

RESET UNIT n

Where n is the chassis number.

Step 6. Connect Ethernet Port (10baseT Port). Connect the ethernet port to the LAN as shown in Figure 23. The port is located on the front of the control card and chassis rear, and provides remote access to the DSXpert unit via 10 baseT. The ethernet port is labeled 10bT.

◆ **Note:** As of the date of this publication, only the 10baseT ethernet port on the front of the control card is active. The 10baseT ethernet port on the rear of the chassis is reserved for future implementation.
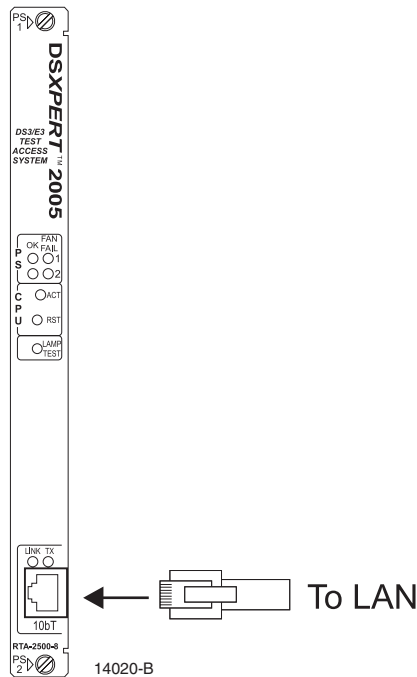

Figure 23. 10bT Connection to Ethernet Port on Control Card, Front Panel

The pin assignments for the ethernet port are shown in Table 11.

Table 11. Line Access Card Slot Positions

ETHERNET PORT (RJ-45, 10BT)	
Pin #	Signal
1	TD+
2	TD-
3	RD+
4	—
5	—
6	RD-
7	—
8	—

Step 7. Disconnect Terminal or PC from COMM IN port. Disconnect the terminal or PC from the COMM IN port used to locally configure the DSXpert unit.

4 SYSTEM VERIFICATION

4.1 LED Test

Test the LEDS by depressing the LAMP TEST button on the front of the control card. All LEDs on the front card modules should illuminate.
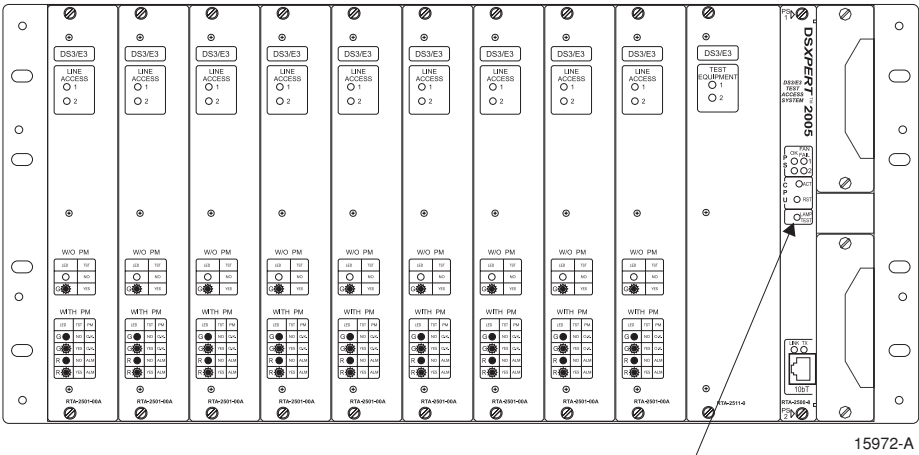
LAMP TEST Button

Figure 24. LAMP TEST pushbutton

5   CUSTOMER INFORMATION AND ASSISTANCE

For customers wanting information on ADC products or help in using them, ADC offers the services listed below. To obtain any of these services by telephone, first dial the central ADC telephone number, then dial the extension provided below.

The central number for calls originating in the U.S.A. or Canada is **1-800-366-3891**. For calls originating outside the U.S.A. or Canada, dial country code "1" then dial **952-946-3000**.

Sales Assistance **Extension 63000**	• Quotation Proposals • Ordering and Delivery • General Product Information
Systems Integration **Extension 63000**	• Complete Solutions (from Concept to Installation) • Network Design and Integration Testing • System Turn-Up and Testing • Network Monitoring (Upstream or Downstream) • Power Monitoring and Remote Surveillance • Service/Maintenance Agreements • Systems Operation
BCG Technical Assistance **Center** **Extension 63475** **E-Mail: bcg_tac@adc.com**	• Technical Information • System/Network Configuration • Product Specification and Application • Training (Product-Specific) • Installation and Operation Assistance • Troubleshooting and Repair
Product Return Department **Extension 63748** **E-Mail: repair&return@adc.com**	• ADC Return Authorization number and instructions must be obtained before returning products.

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