

# TxPORT 4001 DDS CSU/DSU

## Configuration Guide (chassis version)

### Front Panel Description

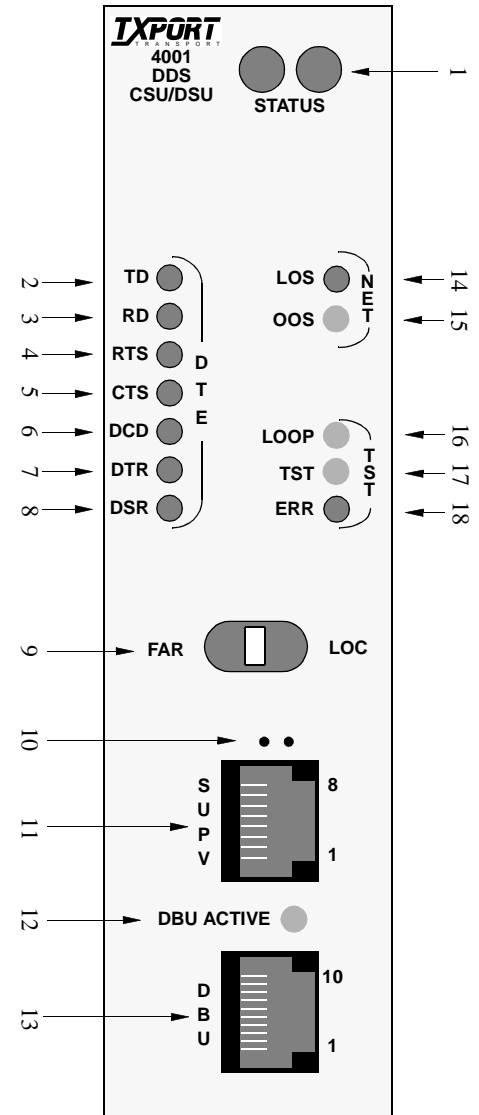
1	<b>Status:</b> The green LED lights when the unit is powered and operation is normal. The red LED lights if an alarm exceeding thresholds is detected or for other unit failure.
2	<b>TD:</b> This green LED lights during a mark condition on the high-speed transmit data line.
3	<b>RD:</b> This green LED lights during a mark condition on the high-speed receive data line.
4	<b>RTS:</b> This green LED lights when the request-to-send signal is active.
5	<b>CTS:</b> This green LED lights when the clear-to-send signal is active.
6	<b>DCD:</b> This green LED lights when the data-carrier-detect signal is active.
7	<b>DTR:</b> This green LED lights when the data-terminal-ready signal is active.
8	<b>DSR:</b> This green LED lights when the data-set-ready signal is active.
9	<b>Test Switch:</b> This switch (FAR/LOC) is used for local testing. When in the FAR position, the unit sends five seconds of the V.54 loop pattern, then switches to the 511 pattern. When transmitting a test pattern, the TEST LED is lit continuously. The ERR LED lights for one second when a bit error or sync loss on the returned data is detected. After the FAR test has been completed, the ERR LED is <i>Off</i> for "passed" or <i>On</i> for "failed." When in the center position, the unit sends five seconds of V.54 loopdown code and then returns to its normal operating mode. When in the LOC position, the unit performs a network LLB and the LOOP LEDs light.
10	<b>Activity Indicators:</b> This two small, recessed LEDs indicate supervisory and network manager port activity.
11	<b>SUPV:</b> This supervisory jack provides direct terminal access for controlling the unit. Refer to the pinout table below.
12	<b>DBU Active:</b> This yellow LED lights when the dial backup is active. It blinks when a dial backup connection is being established.
13	<b>DBU:</b> This 10-pin jack provides a sync or async interface for external dial backup equipment and also provides a connection to the internal DBU, when installed.
14	<b>LOS:</b> This LED lights with a loss of signal from the DDS network.
15	<b>OOS:</b> This LED lights when an out-of-service code is detected.
16	<b>LOOP:</b> This LED lights continuously when the network interface is in a line loopback.
17	<b>TST:</b> This LED lights continuously whenever the BERT pattern generator is active, including during LOOP, UNLOOP, and FAR test.
18	<b>ERR:</b> This LED lights when BERT pattern errors are detected. At the end of a FAR test, it indicates the results of the test as long as the FAR/LOC switch remains in the FAR position.

### SUPV Port Pinout

Pin	Signal
1	DCD Out
2	CTS Out
3	Frame Ground
4	Data Out
5	Data In
6	Signal Ground
7	RTS In
8	DTR In

### DBU Port Pinout

Pin	Signal
1	Rx Clock Out
2	DTR Out
3	RTS Out
4	Frame Ground
5	Data Out
6	Data In
7	Signal Ground
8	CTS In
9	DCD In
10	Tx Clock Out



### SPECIFICATIONS

#### Network Interface

Service Types:	DDS-I conforming to TR 62310 and TR 41450
Operating Modes:	Full Duplex, Point-to-Point, and Multi-Point
Line Rates:	2.4, 4.8, 9.6, 19.2, 38.4, and 56 kbps (64 kbps for LDM only)
Loop Range:	Up to 45-dB loss
Timing Source:	Network, DTE, Internal

#### Equipment Interface

Sync Data Rates:	2.4, 4.8, 9.6, 19.2, 38.4, 54, 56, 62, and 64 kbps
Async Data Rates:	2.4, 4.8, 9.6, 19.2, 38.4, and 57.6 kbps
Rate Adaptation:	Adapts substrate data port speeds to 56- or 64-kbps line rate
Anti-Stream Timer:	Up, 10, 30, or 60 seconds
DTE Connection:	DB-25 (PN 1051-2) or V.35 connector (PN 1051-3). Selection depends on chassis model.
DTE Interface:	RS-232 or CCITT V.35

#### Power

-48 VDC: 130 mA, 20 W, 73 BTU maximum

#### Diagnostics

Status Indication:	Front panel LEDs Terminal interface on SUPV port Telnet session or SNMP management via TxPORT 8100A Site Controller
Loopbacks:	CSU, V.54 (receive and send) front panel switch for loop activation
BERT:	511 pattern

#### Configuration

Card Edge:	Four DIP switches, two slide switches (Supervisory port to terminal interface)
SUPV Port:	8-pin modular (RS-232)
Connection:	8-pin modular (RS-232)
Data Rates:	1.2, 2.4, 9.6, and 19.2 kbps
Management:	Terminal interface session Telnet session via 8100A SNMP management system via 8100A

#### Dial Backup

Connection:	RS-232, 10-pin modular
Backup Service:	PSTN or ISDN (external) optional 14.4 modem (internal)
Configuration:	Information for backup unit is stored in 4001 and transmitted to backup unit by inband AT commands

Dialing:	Numbers programmed and stored in 4001 and transmitted to backup unit by inband AT commands
Restoral:	Manual or automatic restoral to leased line service

#### Mechanical

Mounting:	Fits TxPORT 1051 chassis
Dimensions:	1.72" W, 6.8" H, 10.5" D (unit) 17.2" W, 7" H, 10.5" D (chassis)

#### Environmental

Operating Temp:	0° to 50°C (32° to 122°F)
Storage Temp:	-20° to 85°C (-4° to 185°F)
Humidity:	95% maximum (non-condensing)

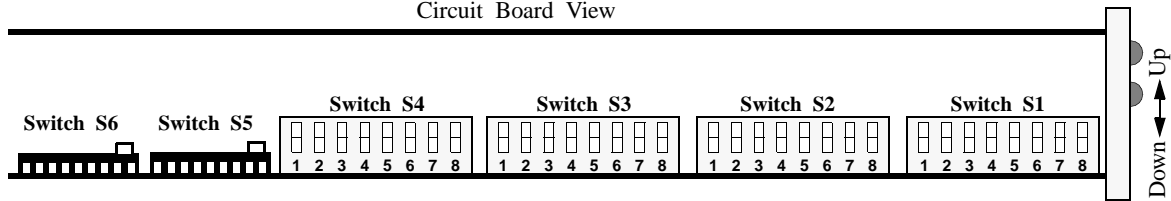
#### Compatibility

AT&T TR 62310  
AT&T TR 41450

#### Industry Listings

FCC Compliance:	Part 15 subpart B, Class A and Part 68
NRTL:	UL 1459
CSA Certified:	Pending
DOC/CSO3:	Pending

Circuit Board View



**S1 - Network Clock Reference**

Clock Reference	S1-1	S1-2
Network Clock	Down	Down
DTE External Clock	Down	Up
Internal Clock	Up	Down

**S1 - Network Rate**

Rate	S1-3	S1-4	S1-5
<u>56 kbps</u>	Down	Down	Down
64 kbps	Down	Down	Up
2.4 kbps	Down	Up	Down
4.8 kbps	Down	Up	Up
9.6 kbps	Up	Down	Down
19.2 kbps	Up	Down	Up
38.4 kbps	Up	Up	Down

**S1 - DTE Rate TxPORT Sync Mode and Line Rate = 56 kbps**

Rate	S1-6	S1-7	S1-8
54 kbps	Down	Down	Down
2.4 kbps	Down	Down	Up
4.8 kbps	Down	Up	Down
9.6 kbps	Down	Up	Up
19.2 kbps	Up	Down	Down
38.4 kbps	Up	Down	Up
TxPORT Sync Mode not allowed at Line Rates below 56 kbps.			

**S1 - DTE Rate TxPORT Sync Mode Line Rate = 64 kbps**

Rate	S1-6	S1-7	S1-8
62 kbps	Down	Down	Down
56 kbps	Down	Down	Up
2.4 kbps	Down	Up	Down
4.8 kbps	Down	Up	Up
9.6 kbps	Up	Down	Down
19.2 kbps	Up	Down	Up
38.4 kbps	Up	Up	Down
TxPORT Sync Mode not allowed at Line Rates below 56 kbps.			

**S1 - DTE Rate TxPORT Async Mode Line Rate ≥ 56 kbps**

Rate	S1-6	S1-7	S1-8
57.6 kbps	Down	Down	Down
2.4 kbps	Down	Down	Down
4.8 kbps	Down	Up	Up
9.6 kbps	Down	Up	Up
19.2 kbps	Up	Down	Down
38.4 kbps	Up	Down	Down
For TxPORT Async Mode Line Rates below 56 kbps, DTE Rate must match the Line Rate.			

In Standard Sync Mode Line Rate = DTE Rate; S1-6, S1-7, and S1-8 do not matter.

**S2**

S2-1 DTE Mode	S2-2 Operational Mode	S2-3 RTS/CTS	S2-4 RTS/CTS Delay	S2-5 Loop Mode	S2-6 Reset Mode
Async (Up)	TxPORT (Up)	Forced (Up)	Long (Up)	Unidirectional (Up)	Download (Up)
<u>Sync (Down)</u>	<u>Standard (Down)</u>	<u>Normal (Down)</u>	<u>Normal (Down)</u>	<u>Bidirectional (Down)</u>	<u>Normal (Down)</u>

**S2 - Boot Mode**

Mode	S2-7	S2-8
Saved	Down	Down
Factory	Down	Up
<u>Switches</u>	Up	Down
Manager	Up	Up

**S3 - NMS and SUPV Rates**

Rate	NMS Rate		SUPV Rate	
	S3-1	S3-2	S3-3	S3-4
<u>19.2 kbps</u>	Down	Down	Down	Down
1.2 kbps	Down	Up	Down	Up
2.4 kbps	Up	Down	Up	Down
9.6 kbps	Up	Up	Up	Up

**S3 - DBU Select**

Mode	S3-5
Enable	Up
<u>Disable</u>	Down

**S3 - DBU Rate**

Rate	S3-6	S3-7	S3-8
<u>57.6 kbps</u>	Down	Down	Down
2.4 kbps	Down	Down	Up
4.8 kbps	Down	Up	Down
9.6 kbps	Down	Up	Up
19.2 kbps	Up	Down	Down
38.4 kbps	Up	Down	Up

**S4 - NMS Address**

Switch Value	S4-1	S4-2	S4-3	S4-4	S4-5	S4-6	S4-7	S4-8
	1	2	4	8	16	32	64	128
001	Up	Down	Down	Down	Down	Down	Down	Down
002	Down	Up	Down	Down	Down	Down	Down	Down
003	Up	Up	Down	Down	Down	Down	Down	Down
004	Down	Down	Up	Down	Down	Down	Down	Down

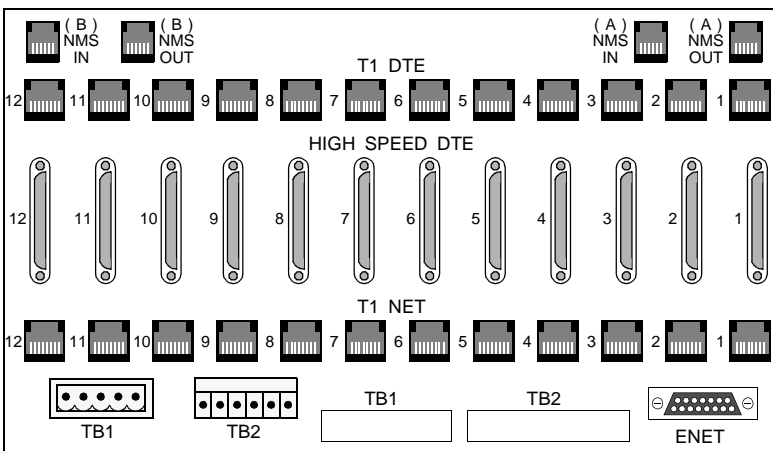
**S5 and S6 - RS-232/V.35 Setting**

Switches S5 and S6 are slide switches that set the unit to either RS-232 or V.35. Both switches must be set to the same selection (either RS-232 or V.35).

Factory default settings are underlined.

127 Jetplex Circle Madison, Alabama 35758	<b>Technical Support</b> (8 a.m. to 5 p.m., Central) 888-4TxPORT	<b>TXPORT</b> TRANSPORT
<b>Customer Service</b> 888-4TxPORT, ext. 2227 800-926-0085, ext. 2227	800-285-2755 205-772-3770	
		<b>Emergency After Hours</b> 800-285-2755

**Rear Panel Connections**



Pin	T1 NET	DDS NET*	TB1 Network/Clock	TB2 Alarm/Power	T1 DTE (Internal Modem Option)
1	Data In	Data Out	Network In	48-V Return	N/A
2	Data In	Data Out	Network In	Signal Ground	N/A
3	Not Used	Not Used	Network Out	-48 VDC	N/A
4	Data Out	Not Used	Network Out	Frame Ground	Modem Tip
5	Data Out	Not Used	Station Clock	Alarm Contact	Modem Ring
6	Not Used	Not Used	Station Clock	Common	N/A
7	Not Used	Data In	N/A	N/A	N/A
8	Not Used	Data In	N/A	N/A	N/A

\* T1 NET connector converts to DDS NET using a supplied DDS Adapter Cable (PN 9-1001-075-1).