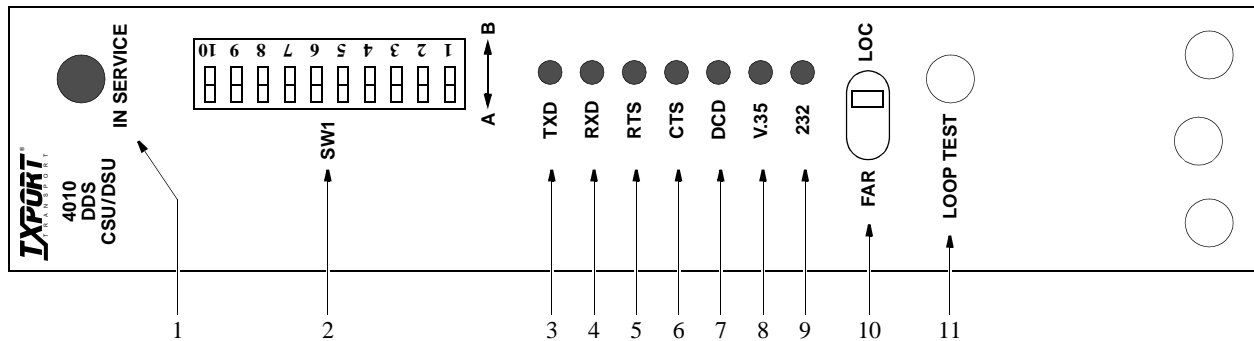


4010 Front Panel



Front Panel Description

1	In Service: This three-color IN SERVICE LED indicates the DDS loop receiver's operating status as follows: GREEN: Indicates DDS signal at the receiver (either customer data or zero suppression). AMBER: Indicates DDS signal is still present, but received data is idle or out of service. RED: Indicates an insufficient signal for the DDS receiver to operate properly.
2	Switch SW1: This 10-position LED switch is described on the reverse side.
3	TXD: This green transmit-data LED lights when the data lead is a mark and is off when the data lead is a space. Therefore, the LED varies from full intensity to off, depending on the relative number of marks and spaces.
4	RXD: This green receive-data LED lights when the data lead is a mark and is off when the data lead is a space. Therefore, the LED varies from full intensity to off, depending on the relative number of marks and spaces.
5	RTS: This green request-to-send LED lights when circuit CA is in the ON state at the DSU interface.
6	CTS: This green clear-to-send LED lights when circuit CB is in the ON state at the DSU interface.
7	DCD: This green receive-line-signal-detector LED lights when circuit CF is in the ON state at the DSU interface.
8, 9	V.35 and 232: The green V.35 LED is ON when the DTE electrical interface is set to V.35. The green 232 LED is ON when the interface is set to RS-232. If neither light is on, the configuration switches are set incorrectly.
10	Test Switch: This three-position switch operates as follows: The LOC position places the unit in a local-loop mode. Data from the DTE is looped back to the DTE. Data from the network is looped back to the network. The FAR position initiates an automated V.54 remote loop and BERT sequence of assigned data channels. The TEST LED is green if the test is successful (the far-end unit loops and returns the data error free with the V.54 code). If errors are detected, the TEST LED is red. The center position deactivates the loop codes for normal operation.
11	LOOP TEST: This LED remains amber if there is a local loop or a remote loop. The LED turns red if the V.54 BERT test fails or green if the V.54 BERT test passes.

Specifications

Network Interface

Line Rate:	2.4, 4.8, 9.6, 19.2, 28, 38.4, 56, and 64 kbps
Line Code:	AMI
Line Impedance:	balanced 135 Ω
Input Signal:	+1 to -40 dB (ALBO)
Output Signal:	3.0 V (±15%) base-peak into 135 Ω, 1.5 V (±15%) at the 9.6 kbps line rate
Line Protection:	1000 V lightning, input and output

Power

Power:	-48 VDC (± 10%), 50 mA max, 3 watts, 10 BTU max
Connection:	Powered through chassis

Mechanical

Mounting:	1051 nest mount chassis
Dimensions:	6.8" H, 1.75" W, 10.5" D
Weight:	2 lbs.

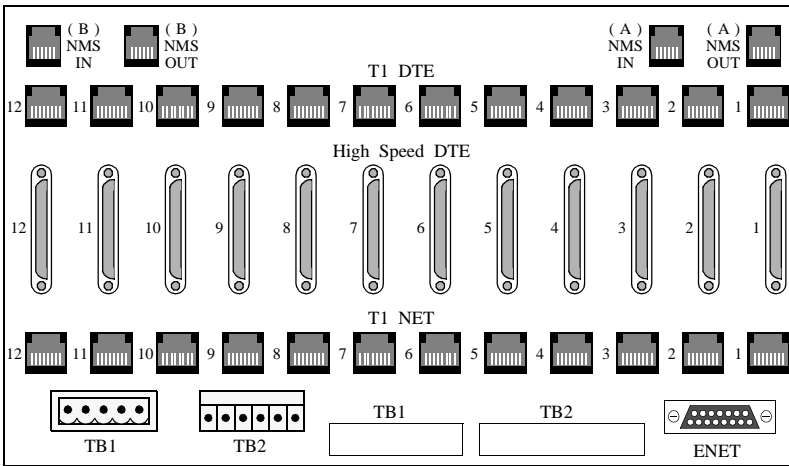
Industry Standards

FCC Compliance:	Part 15 Subpart B, Class A
FCC Part 68 Reg:	FXKUSA-22989-DE-N
NRTL:	
CSA Certified:	
AT&T TR 62310	
AT&T TR 41450	

Environmental

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

TxPORT 1051-2 Chassis Rear View

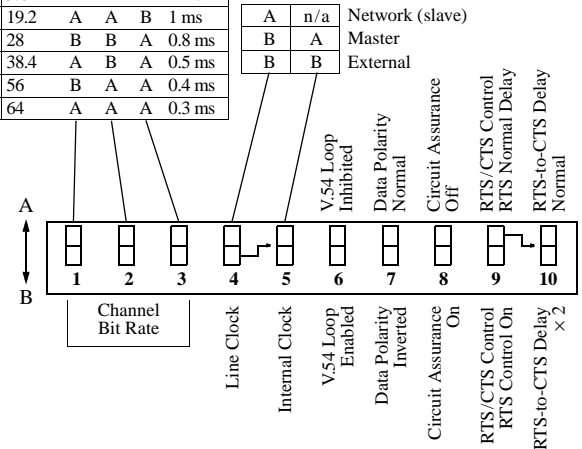


The RS-232 version of the chassis is shown. The V.35 version is also available.
The 4010 DDS CSU/DSU is only for use in the TxPORT-model 1051 chassis.

Switch SW1 Description

1 - 3	Channel Bit Rate Select: These three positions select the channel bit rate (refer to the table on the right). The RTS-to-CTS delays are multiplied by two when SW1-10 is in the B position.
4	Line Clock: This position selects either an internal clocking source or a loop timing source from the received data.
5	Internal Clock: This position selects either the DSU external clock input or the crystal oscillator as the clocking source. It is applicable only if SW1-4 is in the B position.
6	V.54 Loop Operation: This position enables or inhibits V.54 loop operation.
7	Data Polarity: This position determines whether data bits are inverted. In the A position, marks equals pulses. In the B position, spaces equal pulses. Receipt of OOF, OOS, idle, or loop codes forces the DSU data to all marks (A position) or spaces (B position).
8	Circuit Assurance: On allows the status of CF (receive line signal detector) and CA (request to send) to control the output CB (clear to send). If either CA or CF is Off (A position), CB is Off. If CA and CF are On (B position), CB is On.
9	RTS/CTS Control: In the B position, CTS is forced On regardless of the RTS input status. In the A position, delays are determined by SW1-10.
10	RTS-to-CTS Delay: In the A position, the RTS-to-CTS delay is as shown in the bit rate table of the diagram. In the B position, the delays shown are multiplied by two.

Rate (kbps)	1	2	3	RTS-to-CTS Delay
2.4	B	B	B	8 ms
4.8	A	B	B	4 ms
9.6	B	A	B	2 ms
19.2	A	A	B	1 ms
28	B	B	A	0.8 ms
38.4	A	B	A	0.5 ms
56	B	A	A	0.4 ms
64	A	A	A	0.3 ms



The symbol \lrcorner indicates that the switch pointed to does not function unless the opposite end of the arrow is in the position shown. For example, SW1-5 does not function unless SW1-4 is in the B position.

V.35 and RS-232 Interface

Ckt.	V.35	RS-232	Signal Name - Function	DCE
101	A	1	Frame Ground - This circuit is used to terminate shields.	Gnd
102	B	7	Signal Ground - This circuit is used as the return reference for unbalanced signals.	Gnd
103	P/S	2 / 14	Transmit Data - This input is used for synchronous TD from the DTE. It is transmitted on the DDS side.	In
104	R/T	3 / 16	Receive Data - This output is the data decoded from the incoming DDS receive data.	Out
105	C	4	Request To Send - This input is a control line from the DTE, indicating data is to be transmitted. When RTS is ON (space), the data transmitter, the zero suppression circuitry, and the CTS are enabled. When RTS is OFF, the transmitter sends idle code and the CTS is forced OFF.	In
106	D	5	Clear To Send - This output is a DCE response, indicating that either RTS is ON or SW1-9, position B, is forcing RTS ON. When SW1-8 is in position B, RTS and RLSD must be ON for CTS to be ON.	Out
107	E	6	Data Set Ready - This output is ON when the unit is not in a test mode (other than a V.54 test).	Out
109	F	8	Data Carrier Detect - This output is ON when the correct data or zero suppression code is being received and DSR is ON. It is OFF when either DSR is OFF, the DDS receiver has lost sufficient signal to operate for at least one second, or the receiver has received OOS, OOF, idle, or loop codes for about 20 U.I.	Out
113	U/W	24 / 11	External Transmit Clock - This is the synchronous transmit clock input from the DTE. When both SW1-4 and SW1-5 are in the B position, this clock controls the frequency of the DDS transmit clock and clocks circuit 103 (TD). When either SW1-4 or SW1-5 is in the A position, this input has no effect on DDS operation.	In
114	Y/AA	15 / 12	Transmit Clock - This output is supplied by the DCE as an external DTE timing source. It is generated from the internal data clock or the far-end transmit data. Not available if SW1-4 and S1-5 are in the B position.	Out
115	V/X	17 / 9	Receive Clock - This clock output is the timing for the RD and is always used to time the receive data. This clock is always derived from the DDS receive data.	Out

Note: When two pins are listed, RS-232 uses the first pin. All pins not specified are open.

Notes:

Standard Equipment: A cable is supplied for the NET connector which puts the DDS signal on the proper pairs. The TxPORT part number is 9-1001-069-1. If this cable is not used, the DDS output (TX) is on pins 4 and 5 and the DDS input (RX) is on pins 1 and 2 of the T1 network connector.

DTE Interface: The rear of the circuit card has Switch S1 and Switch S2 which are used to select the type of DTE interface. Move *both* switches to the V.35 position to select a V.35 interface (factory default) or move *both* switches to the 232 position to select an RS-232 interface.

Factory Defaults: The A position is the factory default for Switch SW1 settings. If a particular user configuration requires that a switch be placed in the B position, then mark this sheet for future reference.

Switch SW1

TXPORT
TRANSPORT

TxPORT
127 Jetplex Circle
Madison, Alabama 35758

Customer Service
800-926-0085, ext. 2227
888-4TxPORT, ext. 2227

Product Technical Support
(8 a.m. to 5 p.m. Central)
888-4TxPORT,
800-285-2755, or
205-772-3770

Emergency After Hours
800-285-2755

E-Mail (Internet Address):
support@txport.com
customer@txport.com