4. TECHNICAL DATA

TRANSMITTER

<u>Generator</u>

Output signal	DS or MONITOR level

Bit rate
T1: 1.544 Mb/s
T1C: 3.152 Mb/s

Pulse pattern
QRW: $(2^{20} -1)$
T1 limited to 14 zeros
or T1 (clear channel)

QRW w/ERRORS: same but with BPV or
logic errors at a selectable
rate of 1×10^{-9} min
to 9×10^{-2} max

ALL ONES

LOOP UP
CSU (Code:10000)
Network Interface (Code: 11000)

LOOP DOWN
CSU (Code: 100)
Network Interface (Code: 11100)
3 in 24
1:15
24-bit user programmable pattern
(default at 1:7)

Output jack impedance
105 ±10% Ohms

Monitor jack
430-Ohm series resistors in both
lines (tip and ring)
1000 Ohms when terminated with a test
set having a nominal 100-Ohm
impedance (-20 dB)

<u>Fault Locate Signals</u>

Bit rate
T1: 1.544 Mb/s
T1 with B8ZS coding (clear channel)
T1C: 3.152 Mb/s
T1D: 3.152 Mb/s with +5 VDC simplex
T148C: 2.364 Mb/s
9148A: 3.152 Mb/s

Pulse amplitude
3 ±10% volts base-to-peak

Pulse afterkick
Nominally 20%, T1 only

TECHNICAL DATA (continued)

Pulse patterns	M1: alternating (+) and (−) trios
M2: (+) trios with BP pair	
M3: (−) trios with BP pair	
(T1D) (selectable)	64 bit word with "A" and "B" bytes (select ACTIVE filters), or with "A" and enhanced "B" bytes (select PASSIVE filters).
Stress density (selectable)	11 − one trio in 11 slots increasing to 4 − one trio in 4 slots (or 5, if so programmed)
(T1D)	3 "B" bytes increasing to 8 per word

Fault locate frequencies

A	832	Hz	G	1722 Hz
B	928	Hz	H	2008 Hz
C	1048	Hz	J	2193 Hz
D	1206	Hz	K	2413 Hz
E	1340	Hz	L	2680 Hz
F	1508	Hz	M	3017 Hz

Frequency accuracy	2%

FAULT LOCATE RECEIVER

Frequency range	800 to 3100 Hz (nominal)
Input level	−99 to 0 dBm
Level accuracy	±1 dB
Detector	Correlator controlled by transmitter
Effective bandwidth	Varies from 0.03 Hz to 3 Hz

Obscure Test Limits:

Analysis Type (selectable)	REFERENCE: with respect to reference density RELATIVE: with respect to preceding density
Lower Limit (selectable)	−0.5 dB, −1.0 dB, or −1.5 dB
Upper Limit (selectable)	+1.0 dB, or +1.5 dB

Balance signal limits:

M2 and M3 with respect to M1 (selectable)	−6 dB ±1 dB, or −6 dB ±2 dB
M2 with respect to M3	±1 dB

TECHNICAL DATA (continued)

Impedance	900 ±10% Ohms
Fault-line power (selectable)	Nominally (+) / (−) 45, 55, 100 or 110 VDC at 20 mA
Noise weighting	C-message
Noise range	3 to 90 dBrn
Resistance range	<100 Ohms is SHORT >10,000 Ohms is OPEN
Resolution	100-Ohm steps
Accuracy	±10%

ERROR DETECTOR

System	T1 or T1C (T1 with AMI coding is identified as T1; with B8ZS "clear channel" coding, as T1 CC)
Input level	0.2 to 4.0V pulse
Measurement (selectable)	BPV or B8ZS coding violations Logic errors (w/QRW, 3 in 24, or 1:15) Error seconds Severely Errored Seconds (SES) Error rate
Error seconds	Synchronous method
SES	Error rate $>10^{-3}$ or no signal
Error distribution intervals	5 minutes for 2-hour test 1 hour for continuous test

GENERAL

Communications interface: Modem Printer	 RS-232C connector RS-232C connector (includes null modem)
Power	115/230 VAC; 50 or 60 Hz
Temperature	0° to 50°C (+32° to +122°F)
Humidity	95% maximum
Dimensions (excluding handle)	7 in H x 17 in W x 16 in D (17.8 cm H x 42.5 cm W x 40.6 cm D)
Weight	24.5 lb (11.1 kg)