

ACTERNA

T-BERD 2310

The Acterna T-BERD 2310 is a portable, handheld transmission analyzer designed for comprehensive testing, troubleshooting, and maintenance of DS3 and DS1 (T1) telecommunications circuits and networks. Built with a rugged, field-ready design, it delivers dual-port testing, pulse shape analysis, and error performance monitoring in a compact form factor.

SPECIFICATIONS

General

Interfaces	BNC (DS3 Tx, DS3 Rx, DS3 Rx2/Ref), Bantam (DS1 Tx, DS1 Rx, DS1 Rx2), RS-232 serial
Display	Backlit graphic LCD

Physical

Power Supply	90 to 264 VAC, 47 to 63 Hz via external AC adapter/charger; internal rechargeable NiMH battery
Operating Temperature	0°C to 45°C °C
Dimensions (W×H×D)	190 x 292 x 89 mm mm
Weight	2.5 kg kg

DS3 Physical Interface

DS3 Line Rate	44.736 Mbps
DS3 Port Impedance	75 ohms nominal
DS3 Line Coding	B3ZS
DS3 Framing Formats	M13, C-Bit Parity, Unframed
DS3 Receiver Input Modes	Terminate, Monitor, High, DSX-3
DS3 Tx Clock Sources	Internal, Recovered (Loop), External Reference

DS1 Physical Interface

DS1 Line Rate	1.544 Mbps
DS1 Port Impedance	100 ohms nominal
DS1 Line Coding	AMI, B8ZS
DS1 Framing Formats	SF (D4), ESF, Unframed
DS1 Receiver Input Modes	Terminate, Monitor, Bridge
DS1 Line Build Out (LBO) Settings	0 dB, -7.5 dB, -15 dB, -22.5 dB

Signal Generation & Error Insertion

DS3 Error Insertion Types	BPV, Frame, Parity, C-bit, FEBE, Bit
DS1 Error Insertion Types	BPV, Frame, CRC, Bit
Error Insertion Rates	Single error, Fixed rates from 10^{-3} to 10^{-9}
DS3 Alarm Generation	LOS, OOF, AIS, Idle, Yellow (FERF)
DS1 Alarm Generation	LOS, OOF, AIS, Yellow (RAI)

Receiver Analysis & Measurements

DS3 Measurements	BPVs, Frame Errors, Parity Errors, C-bit Errors, FEBEs, Bit Errors
DS1 Measurements	BPVs, Frame Errors, CRC Errors, Bit Errors
Standard Analysis Standards	ITU-T G.821, G.826, M.2100
DS3 Alarms Detected	LOS, OOF, AIS, Idle, Yellow (FERF)
DS1 Alarms Detected	LOS, OOF, AIS, Yellow (RAI)
Signal Level Measurement Units	dBdsx, Volts peak-to-peak (Vp-p)
Frequency Deviation Measurement	Measured in Hz and ppm (parts per million)
Round Trip Delay Range	Up to 2.0 seconds
Round Trip Delay Resolution	1 microsecond (μ s)

Test Patterns

DS3 Pseudo-Random Patterns	$2^{15}-1$, $2^{20}-1$, $2^{23}-1$
DS1 Pseudo-Random Patterns	QRSS, $2^{15}-1$, $2^{20}-1$, $2^{23}-1$
Fixed Test Patterns	All 1s, All 0s, 1:7, 2 in 8, 3 in 24, 55-octet, T1-Daly

Options & Enhancements

Jitter and Wander Testing Options	Available with optional Jitter Hardware/Software
Pulse Shape Analysis Options	Available with optional Pulse Shape Analysis software

General Platform Performance

Internal Storage Capacity	Save and recall of user-defined configurations and test results
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Connectivity & Remote Management

Remote Control Port Protocol	TTC Standard Command Set, ASCII Printer output
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Power Specifications

Battery Operation Life	Up to 4 hours depending on configuration and backlight usage
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DS3 Testing

DS3 FEAC Support	Generation and detection of Far End Alarm and Control (FEAC) codes
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DS1 Testing

DS1 Loopback Codes	CSU, NIU, and programmable loopback codes
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Connectors

DS3 Connectors	BNC (75 ohm)
DS1 Connectors	Bantam (100 ohm)

DS3 Transmitter

DS3 Transmitter Pulse Shape	Conforms to ANSI T1.102 and ITU-T G.703
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DS1 Transmitter

DS1 Transmitter Pulse Shape	Conforms to ANSI T1.102, AT&T Pub 62411, and ITU-T G.703
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TECHNOLOGY

T-Carrier / Plesiochronous Digital Hierarchy (PDH)

APPLICATIONS

DS1 (T1) and DS3 telecommunications network transmission analysis and troubleshooting

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.