

Riser Bond Model 6000DSL

Multi-function telephone network analyzer

Features / key benefits

- **Diagnostic and fault location functions in one instrument** – Integrated testing system enables the technician to diagnose and locate faults in POTS and DSL service with one easy to use, high quality instrument.
- **Diagnostic Test Package** – Identify conditions on the line that can adversely affect POTS and/or DSL service using the following diagnostic tools:
 - Multi-Meter** – Measure AC volts, DC volts, foreign battery, resistance and insulation resistance.
 - Pair Quality Tests** – Measure loop current, noise metallic, power influence and longitudinal balance.
 - Power Spectral Density** – Find signals causing interference on active/inactive DSL lines.
 - Insertion Loss** – Measure voice frequency and wideband signal loss using tones generated by the Model 6000DSL's remote device.
 - Crosstalk Tests** – Measure both NEXT and FEXT Crosstalk, selecting either a single frequency to test or a sweep of voice or wideband frequencies.
- **Fault Location Test Package** - Restore existing service quicker or reclaim unused lines for new service with accurate fault location tools:
 - **Time Domain Reflectometer (TDR)** – Accurately locate opens, shorts, water in cable, bad splices and cable damage with the same full-function TDR found in Riser Bond's stand-alone instruments.
 - **Resistance Fault Locator (RFL)** – Three test modes. Locate resistance faults on a pair or on a single conductor.
 - **Stress TDR** – This exclusive feature enhances the instrument's ability to locate faults due to moisture in the cable.
 - **Open/Capacitance Meter** – Measure capacitance to the end of the pair or locate a fault caused by an open circuit.
- **Ease-of-Use Features** – The soft-key menu's intuitive left-to-right operation guides the technician through logical testing steps to diagnose and locate faults. Most tests are performed using the same connection to the line.
- **Auto-Test and Fault Analysis Functions** – Press the Auto-Test key to perform a series of basic diagnostic tests. The Fault Analysis function will then suggest the appropriate fault location tool to use to most effectively locate the problem.
- **SUPER-STORE Waveform Data Storage** – Analyze TDR waveforms in a more convenient time or place. The instrument also stores Auto-Test and Power Spectral Density records.
- **WAVE-VIEW Software** – View, manipulate, print and archive TDR waveforms on your computer. Document plant, certify new builds, and store waveforms for later comparisons.
- **Remote Device** – One unassisted technician working at a distance from the exchange can disconnect a customer's service, identify the cable pair, open and close the circuit, and reconnect the customer after desired tests are complete. Use up to three remotes simultaneously to test different sections of a line.
- **Large LCD Display** – Test results and interpretive information are presented in an easy to read format on a screen that is larger than those found on many competitive units.



Product Specifications

Physical Dimensions

Main instrument without carrying case and accessories:

Width:	10.71 inches (272mm)
Height:	6.93 inches (176mm)
Depth:	3.15 inches (80mm)
Weight:	4.8 pounds (2.2kg)

Main instrument with carrying case and accessories:

Width:	11.18 inches (284mm)
Height:	7.80 inches (198mm)
Depth:	7.0 inches (178mm)
Weight:	7.9 pounds (3.6kg)

Remote Device:

Width:	3.94 inches (100mm)
Height:	8.50 inches (216mm)
Depth:	1.58 inches (40mm)
Weight:	1 pound (0.4kg)

Oscillator/Far End Unit:

Width:	1.38 inches (35mm)
Height:	9.06 inches (230mm)
Depth:	0.98 inches (25mm)
Weight:	7.41 ounces (210g)

Power

Internal:	Rechargeable, 7.2V Nickel metal hydride battery pack
External:	12VAC or VDC, 1250mA power supply
Operating Time:	4.75 hours, continuous without backlight

Environment

Operating temperature: 0°C (+32°F) to +50°C (+122°F)
Storage temperature: -20°C (-4°F) to +60°C (+140°F)
Humidity: 95% maximum relative humidity, non-condensing

Vibration:	IEC 68-2-6
Shock (Bump):	IEC 68-2-29, 40g, 6ms, 1000 shocks in each axis
Drop:	IEC 68-2-27, 1m free fall, packaged in carry case
Moisture rating:	IP54

Display

320 x 240 dot-matrix, liquid crystal display (LCD) with CCFL backlighting

Multi-Meter

DC Voltage:	0 to 400V
Resolution:	0.1V
Accuracy:	1% ±0.1V

AC Voltage:	0 to 400V
Resolution:	0.1V
Accuracy:	2% ±0.1V

Foreign Battery:	2 to 400V
Resolution:	0.1V
Accuracy:	1% ±0.1V

Resistance:	0 to 1999.9Ω
Resolution:	0.1Ω
Accuracy:	0.2% ±0.2Ω
2kΩ to 10kΩ	
Resolution:	1Ω
Accuracy:	0.2% ±1Ω

Insulation Resistance

Voltages:	50V/100V/250V/500V
0Ω to 9.99MΩ	
Resolution:	0.01MΩ
Accuracy:	2% ±0.01MΩ
10MΩ to 99.9MΩ	
Resolution:	0.1MΩ
Accuracy:	4%
100MΩ to 999MΩ	
Resolution:	1MΩ
Accuracy:	10%

Open/Capacitance Meter

0 to 1000ft (0 to 305m)	
Resolution:	1ft (0.3m)
Accuracy:	2% ±3ft (1m)
1000ft to 10,000ft (305m to 3,050m)	
Resolution:	10ft (3m)
Accuracy:	±3%
10,000ft to 100,000ft (3,050m to 30,500m)	
Resolution:	100ft (30m)
Accuracy:	±5%
100,000ft to 150,000ft (30,500m to 45,700m)	
Resolution:	1000ft (300m)
Accuracy:	±8%

Pair Quality

Loop Current:	0 to 120mA
Resolution:	0.1mA
Accuracy:	5% ±0.2mA
Noise Metallic (POTS):	0 to 50dBmC
Resolution:	1dB
Accuracy:	±2dB

Power Influence (POTS):	40 to 100dBmC
Resolution:	1dB
Accuracy:	±2dB

Longitudinal Balance (POTS):	40 to 62dB
Resolution:	1dB
Accuracy:	±2dB

Insertion Loss: 0 to 60dB

Frequency Range: 50Hz to 2MHz

Resolution: 1dB

Output Level: 0 and -10dBm

Crosstalk (NEXT and FEXT): 0dB to -40dB

Frequency Range: 50Hz to 2MHz

Resolution: 1dB

Output Level: 0 and -10dBm

Impedance: 100, 120, 135, 600, 900Ω and TN12

Power Spectral Density

Wideband Dynamic Range: -20dB/Hz to -140dB/Hz

Frequency Range: 20kHz to 2MHz

Resolution: 10kHz

Impedance: 100Ω, 120Ω and 135Ω

Time Domain Reflectometer (TDR)

Loaded and non-loaded cable

Maximum Ranges:

Live waveform:

63,700 feet (19,400 meters) at 99.0% VOP
38,600 feet (11,700 meters) at 60.0% VOP
Range varies with VOP. Maximum testable cable length varies with pulse width and cable type.

Stored waveform:

11,900ft (3,600.0m) at 99.0% VOP
7,200ft (2,200.0m) at 60.0% VOP
Range varies with VOP.

Horizontal Resolution:

Up to 2,000ft (610m): <0.25ft (0.07m) at 99.0% VOP
<0.07ft (0.02m) at 30.0% VOP
Over 2,000ft (610m) 1ft (0.3m) at any VOP

Vertical Resolution: 14 bits with 137 dots displayed

Vertical Sensitivity: Greater than 65dB

Output Signal: Pulse widths of 2ns, 25ns, 100ns, 500ns, 1.5μs, 4.4μs and 330μs

Output Balance: Variable, from 80Ω to 120Ω

Velocity of Propagation:

Two user-selectable display formats:
VOP (%): Non-loaded cable: 30.0% to 99.0%

Loaded cable: 0.8% to 20.0%
V/2: Non-loaded cable: 147.5 to 486.9ft/μs (45.0 to 148.4m/μs)

Loaded cable: 3.9 to 98.4ft/μs (1.2 to 30.0m/μs)

Input Protection: 400 VAC or VDC up to 60Hz

Distance Accuracy:

Accuracy will vary with cable VOP and cable type: ±0.5ft (0.15m) plus ±0.1% of reading

Software Noise Filters

50/60Hz, 4x, 8x, 16x, 32x, 64x, 128x

Resistance Fault Locator (RFL)

Location Range: 0 to 150kft (0 to 45km)

Resistance fault range: 0 to 50MΩ

Accuracy:

3-Wire Test: ±0.25% of DTS plus ±0.4Ω
4-Wire Test: ±0.25% of DTS plus ±0.25Ω
Kupfmuller Test: ±1.0% of DTS plus ±1Ω

Waveform Storage

All with full vertical resolution: 32 waveforms

Riser Bond remote and optional Oscillator

Remote Device:

Communications for: short pair, open pair, exchange connect, disconnect, send loss/crosstalk signals, set terminations, pair identification tone.

Oscillator/Far End Unit:

Communications for: short pair, open pair, exchange connect, disconnect, pair identification tone.

Accessories:

Standard: Operator's Manual, 110V or 220V charger, nylon carry/accessory bag, shoulder strap, 2 sets telco connection leads plus ground lead, pair shorting strap, VOP card.

Technological advances allow changes in specifications and/or components Changes may be made without notification.

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