SECTION 1: GENERAL INFORMATION

1.1 INTRODUCTION

Riser-Bond Instruments' Model 1205TX is a multipurpose Metallic Time Domain Reflectometer, Cable Fault Locator for use in Outside Plant. The Model 1205TX combines the latest in technology and user-friendly operation, creating the most versatile and accurate troubleshooting test set available.

Model 1205TX is designed to quickly and easily locate faults in metallic cables. Using time domain reflectometry, or cable radar, the Model 1205TX transmits a signal down the cable. Impedance discontinuities along the length of the cable reflect some or all of the signal energy back to the instrument. There is a live waveform displayed and the reflections are measured and displayed as a numeric distance to the fault.

Model 1205TX is microprocessor controlled to provide the operator quick, simple and accurate measurements of cable lengths, conditions and faults. Digitized waveform, auto-distance calculation and fault severity are all displayed simultaneously.

The Model 1205TX will test all types of metallic paired cable for opens, shorts, crosstalk, impedance discontinuities, faulty connectors, water problems, bridged taps, load coils, rodent damage, intentional and accidental tampering, bad splices and system components.

The 330 usec pulse width of the Model 1205TX can test through load coils in a telephone network. This function allows the user to identify major damage on long lengths of loaded telephone cable and indicate the load section which has a fault. The 330 usec pulse width can locate opens, shorts and missing loads.

The simplicity of the Model 1205TX enables the instrument to be utilized by almost anyone from the first level technician to the highest level engineer. The versatility of the Model 1205TX provides excellent results from the simplest tests to the most sophisticated documentation and troubleshooting.

A complete review of the operator's manual combined with field testing experience will result in the most successful use of your TDR. Experiment in-house and in the field on known trouble to become familiar with the instrument. If you have questions regarding any portion of this manual or the operation of the Model 1205TX, call Riser-Bond Instruments' Assistance Lines:

(800) 688-8377 or (402) 466-0933

1.2 SPECIFICATIONS

Physical Dimensions:
Height: 10.5 inches (267 mm)
Width: 9.75 inches (247.6 mm)
Depth: 5 inches (127 mm)
Weight: 8 lbs (3.6 kg)

Power: Lead acid or NiCad battery pack.

External Charging Power Supply:
Input: 110V or 220V (user specified)
Output: 10 to 18 VAC or VDC, 1A, 49 to 62 Hz, CE approved if used in the European Union.

Environmental:
Operating temperature: 0°C (+32°F) to +50°C (+122°F)
Typical Operating temperature: -15°C (+5°F) to +60°C (+140°F)
Storage temperature: -20°C (-4°F) to +60°C (+140°F)
Humidity: 95% maximum relative humidity, non-condensing.

Display: 128 X 256 dot-matrix, Liquid Crystal Display (LCD) with Electroluminescent backlighting.

Distance Accuracy:
High Frequency (Short Range):
+/- .5 ft (0.15 m) plus +/- .01% of reading.
Voice Frequency (Long Range):
+/- 30 ft (9 m) plus +/- .01% of reading.

Output Pulse: Multiple adjustable output pulse widths. Amplitude is less than +/-20 volts.

Horizontal Resolution:
<2000 ft (610 m): <.25 ft (.07 m) at .99 VOP
<.07 ft (.02 m) at .30 VOP
>2000 ft (610 m): 1 ft (.10 m) at any VOP
330 usec resolution: 245 ft (74 m) at .078% VOP

Vertical Resolution: 17 bits with 93 dots displayed.

Vertical Sensitivity: Greater than 65 dB.

Output Connectors: Front Panel Female Banana Jack

Serial I/O Port: RS-232

Maximum Range:
High Frequency (Short Range):
63,000 feet (19,400 meters) at .99 VOP
High Frequency (Short Range):
38,000 feet (11,700 meters) at .60 VOP
Voice Frequency (Long Range):
420,000 feet (130 km) at .078 VOP
Range varies with VOP. Maximum testable cable lengths varies with pulse width and cable type.

Input Protection:
300 volts (AC+DC) from DC to 400 Hz and decreases to 10 volts at 1 MHz.

Auto Crosstalk: 2 digit crosstalk calculation at cursor set.

Auto dBRL: 2 digit auto dBRL calculation at cursor set.

Noise Filter:
Standard: Two averaging filters.
Optional: Multi-function/level filter routines.

Velocity of Propagation:
Keypad selection from .001 to .990 in .01 or .001 increments.

Waveform Storage: *All with 17 bit vertical resolution.*

Standard	Optional	Samples per waveform
4	16	12,000
8	32	6,000
16	64	3,000

Accessories:
Standard: Battery pack, Battery charger, Operator's manual, Shoulder strap, 2 Probes, WAVEVIEW for Windows software diskette.
Optional: Additional waveform storage package, Additional filtering package, Custom soft-side carrying case, Strand hooks kit, Extended warranty.

1.3 SAFETY INFORMATION

Symbols:

Caution: Refer to accompanying documents

Frame or chassis symbol

Warning Any ***Warning*** sign identifies a procedure or process, which if not correctly followed, may result in personal injury.

Caution Any ***Caution*** sign identifies a procedure or process, which if not correctly followed, may result in equipment damage or loss of data.