Model 1205CX

Metallic Time Domain Reflectometer
Cable Fault Locator

Sensitive to a Fault

Riser Bond
INSTRUMENTS

The best TDR just got better!

Innovative new and existing features make the Model 1205CX the most versatile and cost effective TDR available today! The sub-nanosecond pulse width enables the operator to find small faults that can plague high bandwidth systems or can cause digital signal interruption.

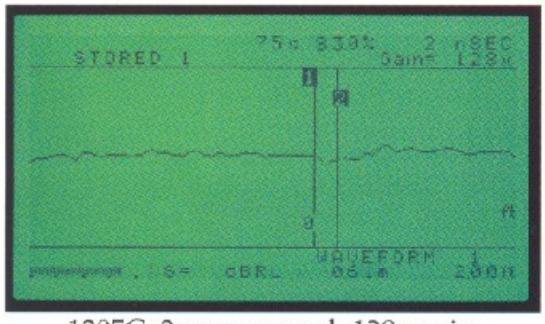
- Locate cable faults in all coaxial and twisted pair applications.
- Identify small, often unsuspected faults that may be within inches of each other by using the sub-nanosecond pulse width.
- Use the exclusive SUPER-STORE waveform data storage to store both on-screen and off-screen cable waveform information. The operator can move the cursors, change the VOP, and increase or decrease the gain and zoom settings, *even on stored waveforms!*
- Live, stored, and multiple waveform display.
- RS-232 Port with WAVE-VIEW for Windows software. Cable waveform information can be analyzed, stored, compared, adjusted, and printed on your computer while your TDR goes back into the field.
- Monitor and locate hard-to-find intermittent faults using the Intermittent Fault Detection (IFD) mode.
- Automatic fault severity calculation and display.
- AUTO-SEARCH and manual cursor placement.
- Measure between any two points on the waveform using unique dual independent cursors.
- Eliminate unwanted waveform noise with multi-level filtering.
- Range feature pre-sets pulse width and distance measurements.

A sub-nanosecond pulse width for *superior* cable fault location.

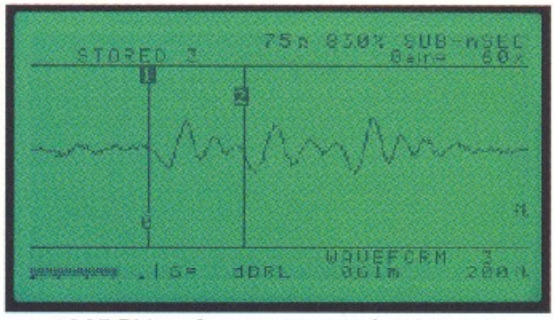
In the past, it was not as important to be able to detect small imperfections in coaxial cable. Today, communications systems are pushing the upper bandwidth and cable quality is critical. Small faults are a big problem.

Model 1205CX, with a new sub-nanosecond pulse, pinpoints faults which cause micro-reflections that interrupt digital signals. Now, you can locate previously undetected problems which occur only at higher frequencies.

These waveforms show two tests of the same cable. The test on the left uses the 2 nanosecond pulse width. The test on the right uses the new sub-nanosecond pulse width.

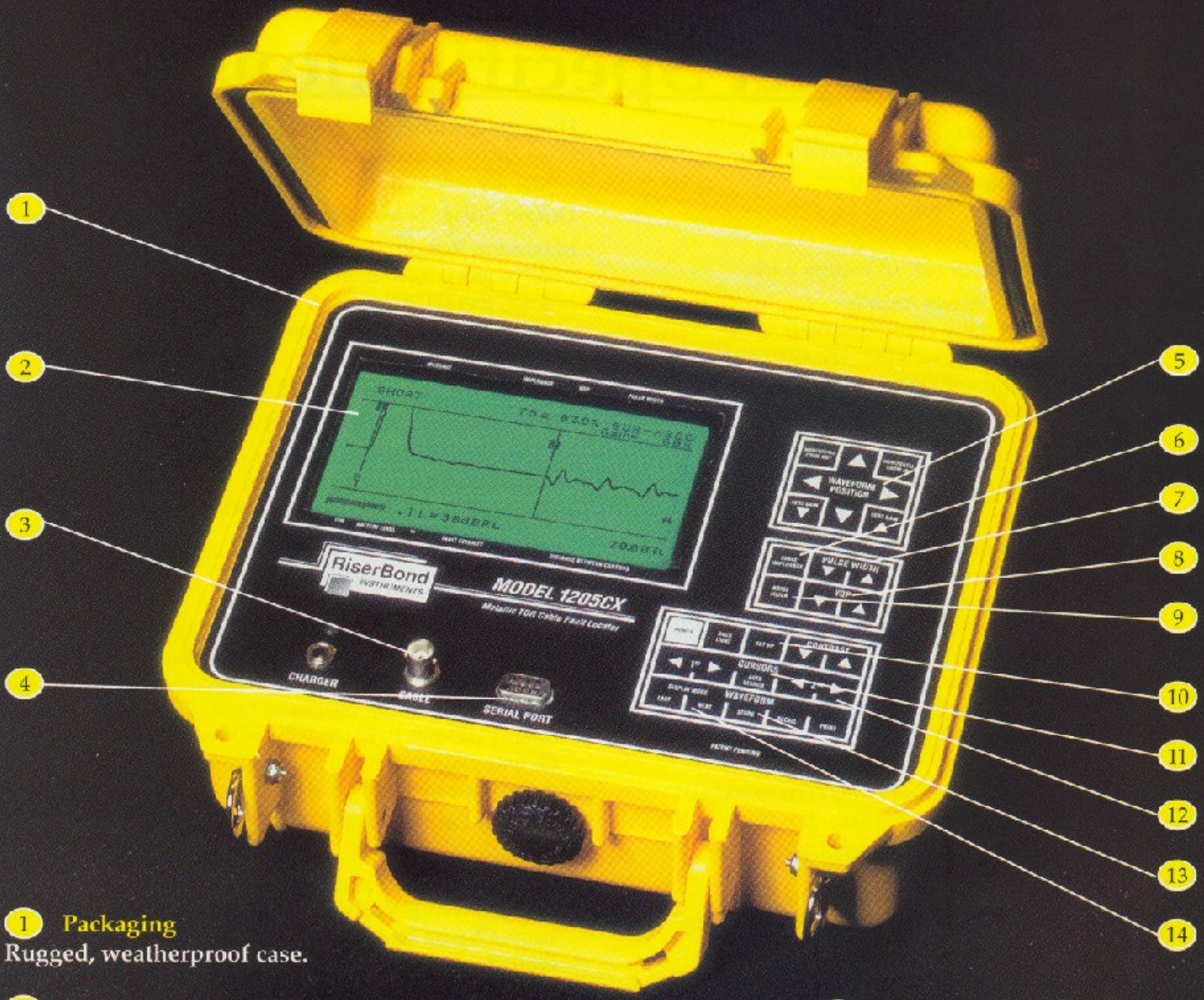


1205C, 2 nanosecond, 128x gain



1205CX, sub-nanosecond, 60x gain

Using Riser-Bond Instruments' Model 1205CX with the sub-nanosecond pulse width results in superior fault location and resolution.



1 Packaging
Rugged, weatherproof case.

2 Display
High contrast liquid crystal display with electroluminescent backlight.

3 Line Connector
BNC input connector for live waveform testing or comparing a live waveform with a stored waveform.

4 RS-232 Port
Transfer cable waveform information to be analyzed, stored, compared, adjusted and printed on your computer.

5 Waveform Position / Gain
Move, expand and contract the waveform vertically or horizontally.

6 Cable Impedance
Selectable output impedance.

7 Pulse Width
Selectable pulse widths for testing various lengths of cable.

8 VOP
Adjustable velocity of propagation allows the operator to test all types of metallic, two-conductor cable.

9 Noise Filter
Multiple filter levels and functions provide unique testing capabilities in noisy environments.

10 Set Up
Specify display preferences and create stored waveform tagging.

11 AUTO-SEARCH and Range
AUTO-SEARCH automatically locates major faults and places the cursors for instant readings. Range steps through preset ranges.

12 Independent Cursors
Cursors can be moved independently for measurement between any two points on the waveform.

13 SUPER-STORE
Store both on and off screen waveform information for more versatile waveform recall, analysis, adjustment and archiving.

14 Display Mode Next / Last
Cycle through various display modes, including a unique INTERMITTENT FAULT mode.

Product 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. NOTE: The battery charger jack is also used to connect chassis to earth when using the FP-240 Fused Lead/Blocking filter.

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.

Altitude:
Operating: Sea level to 15,000 ft (4,500 m)
Non-operating: 50,000 ft (15,000 m)

Vertical Sensitivity: Greater than 65 dB.

Vertical Resolution: 14 bits with 93 dots.

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

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

Horizontal Resolution:
<2000 ft (610 m): < .05 ft (.02 m) at .990 VOP
< .02 ft (< .01 m) at .300 VOP
>2000 ft (610 m): 1 ft (.10 m) at any VOP

Waveform Storage: *All with 14 bit vertical resolution.*

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

Distance Accuracy:
+/- .05 ft (.02 m) plus +/- .01% of reading.
Accuracy will vary with VOP and cable type.

Output Pulse: Selectable output pulse widths.

Maximum Range:
63,700 feet (19,400 meters) at .990 VOP
38,600 feet (11,700 meters) at .600 VOP
Maximum testable cable lengths varies with pulse width and cable type.

Output Impedance:
Front panel selection of 50, 75, 93, and 125 ohm, +/- 5%.

Output Connector: Front Panel Female BNC.

Automatic/Manual Noise Filter:
Standard: Two averaging filters.
Optional: Multifunction/level filter routines.

Velocity of Propagation:
Keypad selection from .300 to .990.

Input Protection:
400 volts (AC+DC) from DC to 400 Hz and decreases to 10 volts at 1 MHz. ***Caution:*** Specification for transient input protection only. Do not connect to powered cable of any kind without the Fused Lead/Blocking filter accessory (FP-240, P/N 163-0024-00) available for this type of connection. See Fused Lead / Blocking filter operator's manual for safety precautions.

Serial I/O Port: RS-232

Accessories:
Standard: Battery pack, Battery charger, Connectors, Manual, WAVE-VIEW software diskettes, Shoulder strap, Clip-on accessory bag.
Optional: Custom soft-side carrying case, Strand hooks kit, Additional waveform storage, Additional filtering, Extended warranty, Fused Lead / Blocking filter.

Safety:
EN61010-1:1993 inc AMD A2:1995
This equipment has been designed in accordance with EN61010-1, safety requirements for electrical equipment for measurement, control and laboratory use, installation Category III and Pollution Degree 2, and has been supplied in a safe condition.

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