PCI-3140R Handheld Time Domain Reflectometer

Specifications

The PCI-3140R consists of CM Technologies' PCI-3125 high-performance metallic TDR card packaged in a rugged handheld computer form factor.

TEST SIGNAL

- Step pulse; variable amplitude (1 to 5 volts into 50 ohms)
- Variable pulse width, automatically selected with range
- 50 ohm output impedance; BNC

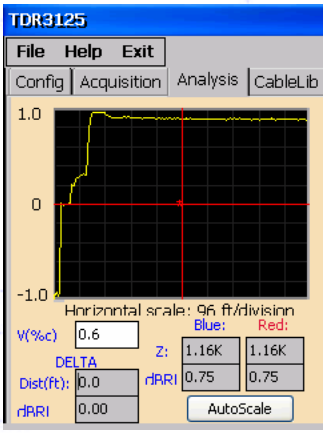
HORIZONTAL

- 8 selectable ranges (0 to 60,000 feet)
- Resolution depends on selected range; best case is 1.4 inches for circuits up to 480 feet long
- 4,096 data point record

VERTICAL

- 10 bit A/D; 1,024 values

SOFTWARE



- Two versions included: PDA and PC companion program
- PDA software
  - Acquires data; saves signatures (autonaming or user selectable)
  - Superimpose up to four stored signatures
  - Built-in cable library stores velocity and characteristic impedance
  - Single cursor to read distance, point impedance, and return loss (dBRL)
  - Stored signatures transferred to another PC using Bluetooth or wireless 802.11B LAN
- Companion program
  - Superimpose up to eight stored waveforms
  - Two cursors to read distance, impedance, and return loss (dBRL)
  - Zoom and pan functions
  - Built-in cable library stores velocity and characteristic impedance
  - Print hardcopies of waveforms

BATTERY OPERATION

- Internal rechargeable battery pack provides over 6 hours of continuous operation

PHYSICAL AND ENVIRONMENTAL

- Weighs approximately 2 lbs and is about the same size as a handheld multimeter
- Operating temperature -4°F to +140°F
- Storage temperature -60°F to +160°F
- IP67 – 6 foot drop on concrete

Contact
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PCI-3140R Handheld Time Domain Reflectometer

Specifications

Characteristic	PCI-3140R Handheld TDR System
Test Signal	♦ Step pulse; 50 ohm output impedance ♦ Variable amplitude; 1 V to 5 V ♦ Variable pulse width; automatically selected with range
Range and Horizontal Resolution*	8 selectable ranges; 0 to 61,440 feet (0 to 18.74 km) 4,096 point data record ♦ 0 to 61,440 feet (0 to 18.74 km) – Resolution 15 feet/point (4.6 m/point) ♦ 0 to 30,720 feet (0 to 9.36 km) – Resolution 7.5 feet/point (2.3 m/point) ♦ 0 to 15,360 feet (0 to 4.68 km) – Resolution 3.75 feet/point (1.15 m/point) ♦ 0 to 7,680 feet (0 to 2.34 km) – Resolution 1.8 feet/point (0.55 m/point) ♦ 0 to 3,840 feet (0 to 1.17 km) – Resolution 0.93 feet/point (0.28 m/point) ♦ 0 to 1,920 feet (0 to 585 m) – Resolution 5.5 inches/point (14 cm/point) ♦ 0 to 960 feet (0 to 292 m) – Resolution 2.8 inches/point (7 cm/point) ♦ 0 to 480 feet (0 to 146 m) – Resolution 1.4 inches/point (3.55 cm/point)
Vertical Resolution	10 bit A/D converter; 1,024 values
Software Features	♦ Kit includes two programs: PDA and companion software ▪ The PDA program is used for acquisition, temporary storage of signatures and limited analysis ▪ The companion program is loaded on a notebook or desktop PC. It provides advanced analysis features. ♦ User can define and save up to 10 test configurations (number of averages, range, amplitude) to simplify testing ♦ Cursors are available to automatically calculate distance, impedance, and return loss (dBRL) ♦ Cable Library ▪ Used in PDA and companion software ▪ Contains characteristic impedance and velocity data for military and commercial cables ▪ Users can define additional entries ♦ TDR signatures are saved using in a pseudo-XML format and are self-documenting. Information such as test date, test time, and user comments are stored to capture all test critical parameters.
Controller Features	♦ 400 MHz processor ♦ 128 MB RAM; 64 MB Compact Flash for operating system ♦ 18 bit (262,144 colors) touch sensitive TFT liquid crystal display ♦ 52-key backlit keyboard ♦ Internal Bluetooth/Compact Flash slot for non-volatile storage ♦ Battery pack provides over 6 hours of continuous operation
Environmental Features	♦ Operating temperature -4°F to +140°F ♦ Storage temperature -60°F to +160°F ♦ IP-67 ♦ MIL-STD-810F ♦ 2-meter drop
Physical	♦ Weighs less than 2 pounds (800 g) ♦ Approximately the same size as a handheld multimeter

*** Assuming a velocity of propagation (Vp) of 60% of the speed of light**

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