

# House Detective

Installation Kits  

- Signal Level Meter
- Leakage Detector
- Cable Fault Locator
- One Easy-to-use Affordable Package

## Overview

The House Detective is a selection of instruments specifically designed to provide you with everything you need for basic installation, validation and service of modern cable television services. This group of instruments was selected based on years of experience supplying test equipment into the cable industry accompanied with a clear understanding of the tasks needed to certify a modern drop. Giving you everything you need for efficient cable installations at a very affordable price.

There are currently three different kits available. Each House Detective installation kit comes with three primary test instruments; a frequency agile signal level meter, a frequency agile radio frequency leakage detector, and a zero foot dead zone time-domain reflectometer; all three housed together in a durable hard case.

House Detective - P/N 2011042000  
House Detective II - P/N 2011042011  
House Detective III - P/N 2011042019



### HOUSE DETECTIVE

P/N 2011042000

This original installation kit includes the TR-2, a Seeker Lite and a TDR-2040.

### TR-2 SIGNAL LEVEL METER

The TR-2™ is an economical solution ideal for your basic HFC installation needs. This simple to use meter provides fast and efficient measurements including: signal level measurement, Tilt measurement to balance your system, carrier-to-noise measurements, and a voltmeter function and features an extended battery life.

Weighing in at less than one pound, this simple to use and rugged little meter has a durable plastic shell surrounded by a rubber bumper (not shown) and is convenient for one hand operation. The TR-2 comes ready to use with the standard NCTA channel plan.



XFTP by TRILITHIC  
9710 Park Davis Drive  
Indianapolis, IN 46235

P: 800-344-2412  
317-895-3600  
F: 317-895-3613  
E: xftp@trilithic.com

[www.fieldtechproducts.com](http://www.fieldtechproducts.com)

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## INSTALLATION KITS

### SEEKER LITE<sup>2</sup> LEAKAGE DETECTOR

The Seeker Lite<sup>2</sup>™ is a tough, convenient and flexible leakage test tool. It assists in subscriber installs by verifying that leakage in the house is not great enough to contribute to the cable system's Cumulative Leakage Index (CLI). Leaks can also be important sources of ingress that can hinder communication on the return band. The Seeker Lite<sup>2</sup> can also be used to find leaks during troubleshooting. Seeker Lite<sup>2</sup> works by measuring ambient RF leakage in and around a subscriber's premises and can be used to identify and locate all RF leaks greater than 10 uV/m. (Includes Seeker Setup Software)



### TDR 2040 CABLE FAULT LOCATOR

The TDR 2040™ provides installation technicians with the capability to find faults at measurement ranges from 0 to 2500 feet. The evaluation is performed by simply selecting the appropriate cable type from a pre-stored library, attaching the cable connector ( or attach test leads to the two conductors of the cable), and pressing a single button to directly display measurement distances to the open or short. Voltage on the conductors is continuously measured and displayed to warn the operator of a potentially dangerous condition. The TDR 2040 will also inject one of multiple tones into the cable for tracing cables in walls or ceilings, with any standard probe. The universal banana jack test lead connectors allow for a wide range of adaptors for any connector type. The TDR 2040 is an essential tool for anyone in the cable installation industry.



### HOUSE DETECTIVE II

P/N 2011042011

The House Detective II installation kit also comes with three primary test instruments; In this case, the signal level meter is the Model Two.

### MODEL TWO SIGNAL LEVEL METER

The Model Two Signal Level Meter is ideal for HFC installations. It is durable, has many features, and is simple to use in a wide range of conditions.

Amplitude measurements are fast and efficient. Carrier amplitudes are displayed individually, as a group (up to 12 "favorites"), or as a full-span display. This product also features a single-channel Spectrum Mode, which displays the presence of interfering beats in addition to the carrier amplitudes. The unit lets you take the direct power measurement of QAM signals, carrier-to-noise measurements, data logging, and also supports a voltmeter function.



5 user-defined channel plans may be stored, and the Model Two can perform a complete test of all channels in the selected User Channel Plan to specified limits at the press of a single key. It can also be set to automatically perform Level, Spectrum, Tilt (Favorite), and Limit tests at programmed intervals unattended.

The Model Two can save files for Level, Tilt, Spectrum, Scan, Limit Test, and Auto Test measurements. These files can be recalled to display the recorded data, or Scan, Spectrum, and Limit files can be viewed graphically. The Model Two also makes it easy to obtain a hard copy of installation data or documentation of a problem via its printer function.

### HOUSE DETECTIVE III

P/N 2011042019

The House Detective III installation kit also includes three primary test instruments; In this case, the signal level meter is the Model Two Lite.

### MODEL TWO LITE SIGNAL LEVEL METER.

Built on the strengths of the Model Two Signal Level Meter the Model Two Lite has been fine tuned to the needs of the installer and small system operator. Performing the basic signal level, return ingress and system flatness tests needed for insuring signal integrity, the Model Two Lite is the ideal basic service instrument for maintaining small community distribution systems, and systems serving resorts, hotels and other large facilities. See the chart on the following page for feature list.



## Model Two vs. Model Two Lite

	Model Two	Model Two Lite
Single Channel Level	<b>x</b>	<b>x</b>
Tilt & Favorite Group Levels	<b>x</b>	<b>x</b>
Digital Channel Level Measurement	<b>x</b>	<b>x</b>
Full Scan display	<b>x</b>	<b>x</b>
Voltmeter Function	<b>x</b>	<b>x</b>
Spectrum Analyzer Frequency Range (MHz)	<b>5-870</b>	<b>5-65</b>
Single Channel Spectrum	<b>x</b>	
Carrier-to-noise (C/N)	<b>x</b>	
Data Logging	<b>x</b>	
Testing to Limits	<b>x</b>	
Auto Test (Macros)	<b>x</b>	
File Saving, Viewing	<b>x</b>	
File Printing	<b>x</b>	

## Model Two & Model Two Lite Specifications

See the chart above for the difference in features.

<b>FREQUENCY:</b>	Range: 5 - 870 MHz Accuracy: $\pm 50$ ppm ( $20 \pm 5$ °C) Resolution: 10 kHz
<b>CHANNEL TYPE:</b>	Analog TV: TV Digital TV: QAM, QPSK FM channel: Single Frequency Dual Audio Channels
<b>LEVEL MEASUREMENT:</b>	RANGE: 30 to 120 dB $\mu$ V (-30 to 60 dBmV) ACCURACY: LEVEL (> 35 dB $\mu$ V or -25 dBmV) $\pm 1.5$ dB (10 to 30 °C) $\pm 3$ dB (-10 to 40 °C) SCAN $\pm 2$ dB (10 to 30 °C) Resolution: 0.1 dB Input Impedance: 75 $\Omega$ (unbalanced, BNC or F type connector)
<b>CHANNEL SCAN:</b>	Number of Channels: 150 channels max. Scanning speed: 2.75 channels / sec Scale: 1,2,5,10 dB/div Zoom: 1X, 2X, 3X, 4X, 5X five levels of magnification or full Channel Plan scan.
<b>FREQUENCY SPECTRUM:</b>	Bandwidth: 2.5 MHz, 6.25 MHz, 12.5 MHz, 25MHz, 62.5 MHz, and full span Scale 1,2,5,10 dB/div

<b>CARRIER-NOISE RATIO (C/N):</b>	Input range: Over 85 dBmV (25 dBmV) Range: 20 - 50 dB max. (depending on input level) Accuracy: $\pm 2$ dB Resolution: 0.1 dB
<b>DIGITAL CHANNEL (AVERAGE) POWER:</b>	Bandwidth: 0.28~9.99 MHz Center Frequency: 5 MHz (plus $\frac{1}{2}$ Channel bandwidth) to 870 MHz (minus $\frac{1}{2}$ Channel bandwidth) Digital modulation: QAM, QPSK
<b>TILT MEASUREMENT:</b>	Number of channels: 4-12 Resolution: 0.1 dB
<b>LIMIT TEST PARAMETERS:</b>	Any of the following may be enabled: Min video: 40 to 119 dB $\mu$ V (-20 to 59 dBmV) Max video: 41 to 120 dB $\mu$ V (-19 to 60 dBmV) Max $\Delta$ video: 2 - 30 dB Min $\Delta$ V/A: 0 - 15 dB Max $\Delta$ V/A: 5 - 30 dB Max $\Delta$ ADJ: 0 - 20 dB 24HR Video Dev.: 0 - 20 dB
<b>AUTO TEST:</b>	Number Of Programs: 7 (Max) Tests: Level, Tilt, Spectrum, Limit, and 24HR Video Dev. (any or all tests may be used in an Auto Test program) Time Intervals: 1 to 23 Hours Test Times: 1 to 10 times
<b>TRUNK VOLTAGE MEASUREMENT:</b>	Input range: 1.2 - 100 VAC, 1.0 - 100 VDC Accuracy: $\pm 1$ V Resolution 0.1 V
<b>OTHERS:</b>	Storage: 32K bytes memory Up to 35 complete Scan files (150 Channels max.) or 25 complete Limit Test files (150 Channels max.). Less if other files (Level, Tilt, Spectrum) are saved. Communication Port: RS 232C Printer: Canon, Epson, and HP Audio Output: Built-in speaker Dimensions: 218 mm X 95 mm X 49 mm (excluding belt clip and RF connector) Weight: 1.45 lbs (658gm) Display: 128 X 128 LCD with backlight
<b>POWER SUPPLY:</b>	Battery: 3.6V 3.5Ah Ni-MH battery, Charger: * AC 100-240V, 50/60 Hz, 1.8A 7VDC(max) Work Time: Average 6-8 hours (full charged battery). Charge Time: Less than 3 hrs.

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### TDR 2040 Specifications

<b>LENGTH:</b>	Accuracy: $\pm 2\%$ plus $\pm 2$ feet (with correct NVP) Resolution: 1 foot or 0.33 meters Maximum: 2500 feet or 750 meters Minimum: 0 feet or meters
<b>VOLTAGE: (TRUE RMS RESPONDING)</b>	Range: 0-250V (AC or DC) Accuracy: $\pm 3\%$ plus 1V
<b>TRACING TONE:</b>	Frequencies: 575 Hz, 977 Hz, 1.0 KHz, 7.82 KHz Patterns: Four
<b>MISCELLANEOUS:</b>	Dimensions: 7.0"H x 3.2"W x 1.4"D 17.8 cm x 8.1 cm x 3.6 cm Weight: 8.7 ounces (247g) (w/ batteries). Display: graphical 122 x 32 pixels Working Temperature: 0 to 50 °C Storage Temperature: -10 to 55 °C
<b>BATTERY:</b>	Four AA Alkaline batteries
<b>ADAPTOR TYPE:</b>	Banana Jack to Alligator Test Leads Banana Jack to BNC Adapter BNC to "F" Adapter

### TR-2 Specifications

<b>FREQUENCY:</b>	Range: 46 - 864 MHz Frequency Steps: 50 kHz, 100 kHz, 1 MHz, 10 MHz, 100 MHz
<b>LEVEL MEASUREMENT:</b>	Range: -30 to 60 dBmV Accuracy: $\pm 2$ dB (20 $\pm 5$ °C) Resolution: 0.5 dB
<b>CARRIER- NOISE RATIO (C/N):</b>	Range: 20 to 50 dB Input Signal Range: $\geq 25$ dBmV Measure Accuracy: $\pm 2.5$ dB (20 $\pm 5$ °C) (shut off the carrier) Resolution: 0.5 dB
<b>VOLTAGE:</b>	Input range: 1 to 100 V (AC/DC) Accuracy: $\pm 2V$ Resolution: 1V

<b>MISCELLANEOUS:</b>	Dimensions: 169 mm X 71 mm X 41 mm (excluding RF connector) Weight: 0.85 lbs (386g) Display: LCD with backlight Working Temperature: -10 to 40 °C Audio: Built-in speaker (auto on in SINGLE FREQUENCY mode)
<b>BATTERY:</b>	Built-in Battery: 3.6 V / 2.1 Ah Ni-MH battery Work Time: More than 6 hours (full charged battery without audio and LCD backlight). Charge Time: 10 - 12 hours (power off the meter)

### Seeker Lite<sup>2</sup> Specifications

<b>FREQUENCY:</b>	Range: 118.5 - 147.25 MHz Settable using Seeker Setup PC configuration software
<b>FREQUENCY PRESETS:</b>	Up to ten selectable operating frequencies. Selections are loaded into detector using Seeker Setup PC configuration software.
<b>LEVEL RANGE:</b>	10 to 2000 $\mu$ V/m. Can freeze current numeric reading or hold peak readings.
<b>NUMERICAL DISPLAY:</b>	LCD Readout of any detected leakage within sensitivity range.
<b>AUDIBLE TONE:</b>	Tone is present if leakage amplitude exceeds squelch setting. Pitch is proportional to strength of leak.
<b>CHANNEL TAG RANGE:</b>	10 to 23 Hz
<b>POWER SUPPLY:</b>	Battery: Built-in Lithium Ion Battery
<b>OPERATION TIME:</b>	Measurement Mode: 8 Hours Typical Cruise Mode: 100 Hours Typical Charge Time: Less than 3 Hours (for full-Charge)
<b>OTHER:</b>	Dimensions: 162 mm x 75 mm x 40 mm Weight: 0.60 lbs (272g)



P: 800-344-2412  
317-895-3600  
F: 317-895-3613  
E: xftp@trilithic.com

[www.fieldtechproducts.com](http://www.fieldtechproducts.com)