

## Huntron Tracker 2800 and 2800S



**The Next Time You Troubleshoot  
Printed Circuit Boards, Turn The  
Power Off!**

## Product Highlights

- Fast Signature Refresh
- Enhanced Range Selections
- Full Screen Signature Zoom
- Color Touch Screen controls
- Huntron SigAssist® built-in
- Built-in DC Voltage Source for testing gated devices (i.e. SCRs, relays, etc.)
- Scan up to 40 pins with the Tracker 2800S

## Multi-pin scanning with the Tracker 2800S

The Huntron® Tracker® 2800S extends the capabilities of the popular Tracker 2800 to scan and compare up to 40 pins per channel using standard IC clips and cables.



Comparisons between Channel A (green signature) and Channel B (red signature) can take place manually or automatically allowing you to identify signature differences quickly. The Tracker 2800S can save you time when compared to testing with hand probes. You can step through the pins one at a time using the touch screen controls or have the Tracker step through the pins at a preset rate.

## Test with the Power Off

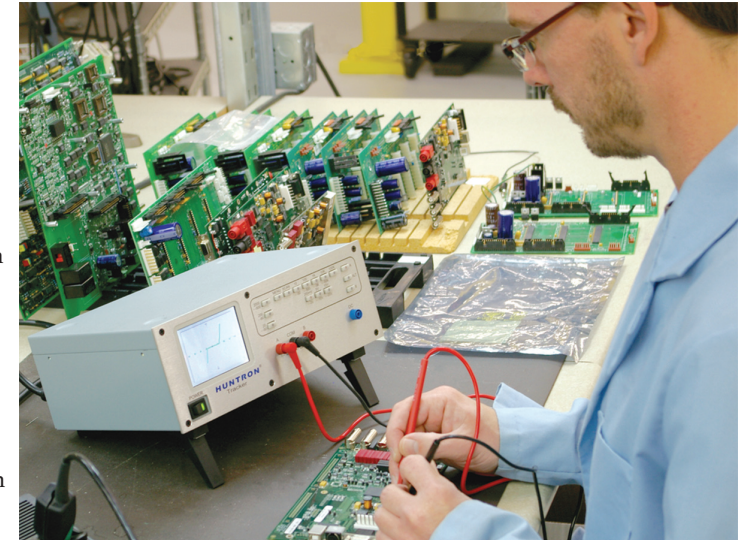
Signature Analysis is a power-off test method that is used to troubleshoot circuit boards. A current-limited sine wave is applied across two points of an electronic component or circuit. The resulting waveform or “signature” is displayed using vertical deflection for current and horizontal deflection for voltage. This unique signature represents the overall health of the part being analyzed. By comparing the signatures of known good circuit boards to those of suspect boards, faulty nets and components can be quickly identified.

### Huntron is the Best at the Worst

When catastrophic failures make ordinary testing impossible technicians turn to Huntron Trackers. Trackers are extremely effective when troubleshooting electronic systems that cannot be turned on because of serious component failures. Since you do not apply power to the system, there is no risk of further damage to the printed circuit assembly (PCA) while troubleshooting. Trackers can also tell you far more about a circuit than many power-on test instruments such as spotting intermittent and marginal component failures.

### Spend Your Time Testing, Not Programming

Unlike functional or specialized test systems that require a tremendous investment in software programming and hardware fixtures, a Tracker starts paying for itself the day it arrives. When you cannot justify custom test equipment because PCA volume is too low, the Tracker is an excellent addition to the test department. In the service depot, where a wide variety of boards for repair make dedicated testers and fixtures impractical, the Huntron Tracker is both an economical and effective solution.



### You will Find Trackers on All of the Best Benches

Power Off	Power On
Ohmmeters	Oscilloscopes
<b>Huntron Trackers</b>	Voltmeters
Custom In-house Test Systems	TDRs
	Signal Analyzers
	Function Generators
	ATE

Some of the best managed test and service departments in the world have discovered the power of a Huntron Tracker. Many Fortune 500 companies, Military Prime Contractors and the U.S. Military are using Huntron Trackers as an integral part of their testing strategy.

Most technicians use the Huntron Tracker for their toughest troubleshooting jobs. It is the diagnostic instrument they reach for more than any other test method. The Tracker is a first line service tool that goes well with their arsenal of scopes, multimeters and logic analyzers.

### Huntron Trackers Test:

**Passive devices:** Resistors, capacitors, inductors

**Diodes:** General purpose, Zener, varactor, high voltage

**Transistors:** NPN and PNP, Bipolar, Darlington, JFET, MOSFET, Unijunction

**Gated devices:** SCRs TRIACs, relays

**Optoelectronic Devices:** LED's LED displays. Photo Transistors, Optocouplers

**Integrated Circuits:** Digital, analog

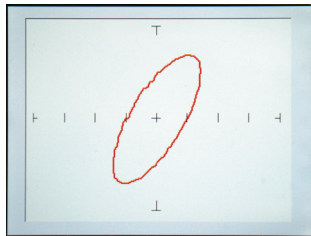
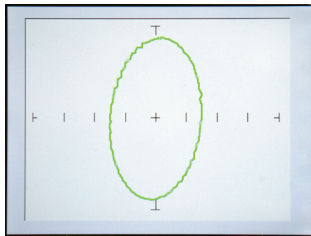


## Analog Signature Analysis and the Huntron Tracker

Huntron Instruments introduced the first Huntron Tracker in 1976. Since then, technicians, engineers and hobbyists around the world have found Analog Signature Analysis to be an effective and efficient method for troubleshooting printed circuit boards. The signature comparison method is easy to use and allows for immediate feedback that will assist you in locating a faulty component. As you gain experience with Analog Signature Analysis you will realize that the Huntron Tracker is an indispensable troubleshooting tool. The signatures shown below are typical of those observed when using Analog Signature Analysis. Good signatures are shown in green and bad signatures in red.

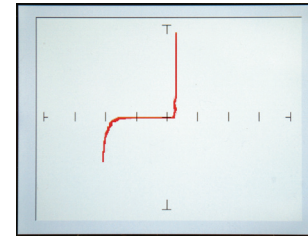
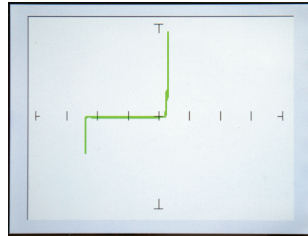
### Capacitor Signatures

Capacitors typically have an elliptical signature. Electrolytic capacitors will sometimes fail because of internal leakage.



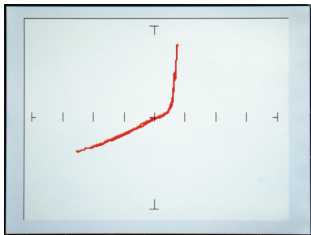
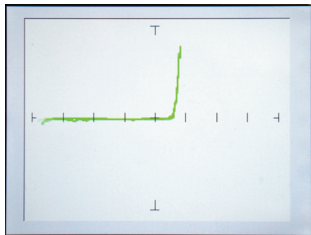
### Diode Signatures

In some cases, diodes can degrade internally causing the junction to conduct improperly.



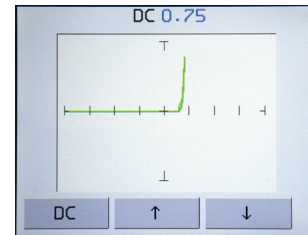
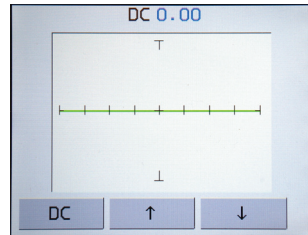
### IC Signatures

Digital components have many similar pins that allow for identifying signature patterns.



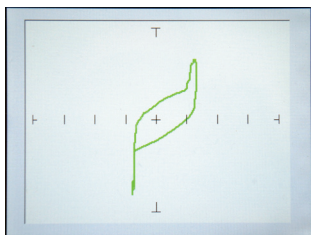
### SCR Signatures

Use the Tracker's built-in DC Voltage Source to dynamically test SCRs, TRIACs and relays.

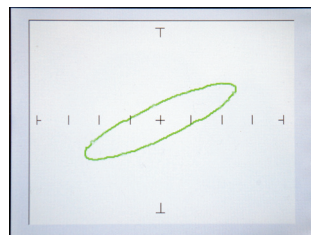


### Composite Signatures

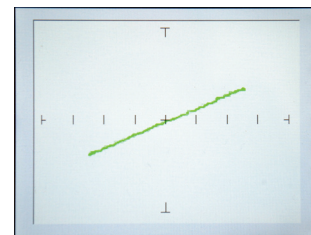
Composite signatures are derived from the interconnection between multiple components. The composite signatures shown below are from an in-circuit voltage regulator. Note how the range values are adjusted to isolate different aspects of the signature.



Range values:  
3V  
10KΩ  
500Hz



Range values:  
200mV  
10KΩ  
500Hz

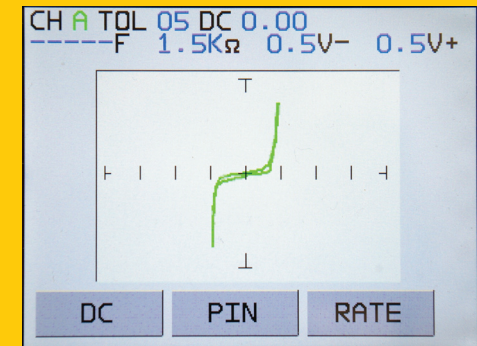


Range values:  
200mV  
10KΩ  
60Hz

## Control at Your Fingertips

The Huntron Tracker 2800 series display provides a very fast signature refresh rate that approaches the speed of an electrostatic CRT display for quick screening of component pins.

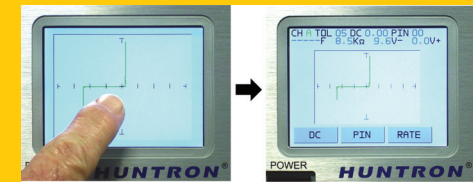
The color touch screen also controls selected features such as DC Voltage Source control, pin selection (2800S) and Channel A/B alternating rate. Huntron SigAssist is displayed at the top of the screen



and is used to calculate and display numeric values based on the range parameters. The values displayed are resistance (in ohms), capacitance (in farads), power (in watts), and forward and reverse breakdown voltage (in volts).

### One-touch Full Screen Display

Touching the center of the signature display will toggle the Tracker display between full screen mode and button display mode.

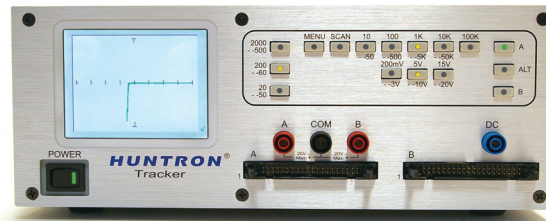


## Product Overview

The Tracker 2800 and 2800S are “benchtop” Trackers that interface to the PCA under test with test probes or DIP clips and cables. PCA troubleshooting is typically accomplished by comparing signatures of a good board to those of the bad board. These units are lower cost and work well as an accompaniment to software controlled systems. The Tracker 2800 and 2800S feature variable range parameters resulting in over 100 combinations of voltage, source resistance and frequency.



Huntron Tracker 2800



Huntron Tracker 2800S

### Specifications - Tracker 2800 and 2800S

Huntron Part numbers:	<b>Tracker 2800</b> (part no. 99-0401); <b>Tracker 2800S</b> (part no. 99-0402)
Waveform:	Sine wave
Test Frequencies ( $F_s$ ):	6 selections of frequency: 20Hz, 50Hz, 60Hz, 200Hz, 500Hz, 2KHz
Test Voltages ( $V_s$ ):	6 selections of peak voltage: 200mV, 3V, 5V, 10V, 15V, 20V
Test Resistance ( $R_s$ ):	9 selections of resistance: 10 $\Omega$ , 50 $\Omega$ , 100 $\Omega$ , 500 $\Omega$ , 1k $\Omega$ , 5k $\Omega$ , 10k $\Omega$ , 50k $\Omega$ , 100k $\Omega$
Number of Channels:	2 (A and B)
Connections:	Banana (for Ch. A, Ch. B, COM and DC Voltage); Rear panel connection for optional Footswitch (part# 98-0315)
Display modes:	A, B and ALT mode to automatically switch between the A and B channels
Pins per channel (2800S):	40 using a single Common connection
Scan modes:	Manual or automatic (steps through each pin at a speed determined by the rate control)
DC Voltage Generator:	Variable from 0 to +10VDC; Max. current: 200mA
Display:	Color TFT LCD with Touch screen; LED backlight
Line Voltage:	100/115VAC; 230VAC @ 50/60Hz, 50Hz
Dimensions:	11.1in W x 4.4in H x 8.5in D (28.2cm W x 11.2cm H x 22.1cm D)
Weight:	6lbs (2.8kg)
Warranty:	1 year, limited
Safety approval:	ETL listed; CE approved

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## Huntron Tracker Model 30

The Huntron Tracker Model 30 is a new compact Tracker designed for use with Huntron Workstation and accessories such as the Scanner II, Scanner 31S or a Huntron Access Prober.



Tracker Model 30

The Tracker Model 30 enables the user to set the applied voltage, frequency and source resistance to best match the circuit characteristics and use the power of Huntron Workstation software for the creation of PC based test routines and signature storage.

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