TALAN™

TELEPHONE AND LINE ANALYZER

DPA 7000 PATENTS PENDING

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The TALAN represents state-of-the-art capability to rapidly and reliably detect and locate illicit tampering and security vulnerabilities on both digital and analog telephone systems.

End View

MOD8/
RJ45 Jacks

Banana
Jacks

Expansion
Port

RF Antenna
Input

Rotary Dial

Headphone
Jack

Touchscreen
8.4 inch
(21.3cm)

Test
Dashboard
View

Keypad

Power
Button

Ethernet

Function
Keys

USB

DC Power
Input

USB Port for
Memory/Keyboard/
Mouse

Compact Flash
Memory Port

The TALAN provides a suite of tools in a single piece of equipment to accurately analyze phones and lines for faults and security breaches.

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Analyze digital, analog, and VoIP phone systems and wiring for faults, anomalies, and security risks.

## Suite of Telephone Tests Including an Automatic Switching Matrix

The TALAN provides the capability to perform multiple tests to analyze communication lines for eavesdropping devices.

The TALAN includes a built-in automatic switching matrix for testing all pair combinations. For example, if a cable has 8 conductors, there are 28 combinations of pairs to test; the TALAN can automatically switch through all combinations, performing test functions and storing test results for comparison.

Digital Demodulation

Includes digital decoding capabilities for approximately 80% of the world's digital phone systems.

The Digital Demodulation function provides the ability to determine if a digital phone line is passing audio when it should not.
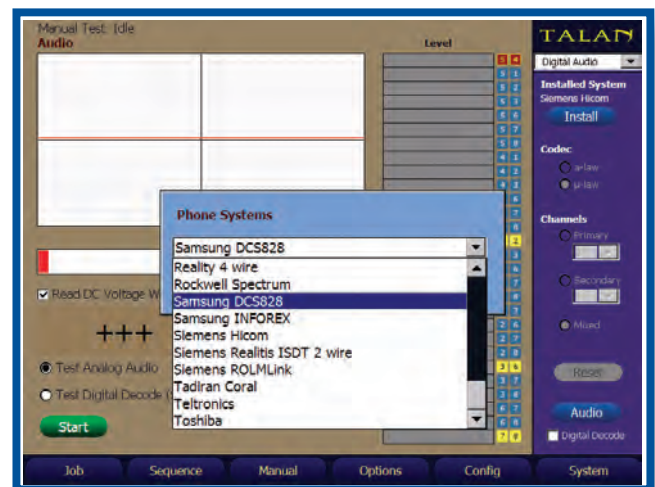
Frequency Domain Reflectometer (FDR)

Similar to a TDR (Time Domain Reflectometer) but based on a different technical approach, the TALAN's FDR can "shoot" a line for impedance anomalies indicating a potential security threat.

The FDR also has the ability to plot multiple FDR traces on the same display for comparison of multiple pairs for historical comparison.
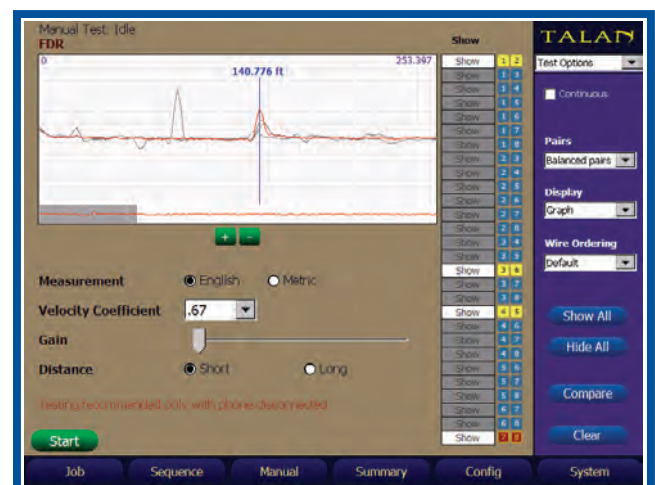
Non-Linear Junction Detection (NLJD) on a Line

The TALAN includes a NLJD test to detect electronics connected to an isolated line. This is one of the most powerful tests for quickly determining whether or not there are additional electronics attached to a wire.

The example to the right indicates a parallel tap on pair 4:5. Because of multiple pair combinations any combination with either a 4 or 5 indicates some response, but the electronics are clearly detected on pair 4:5 with the strongest response.
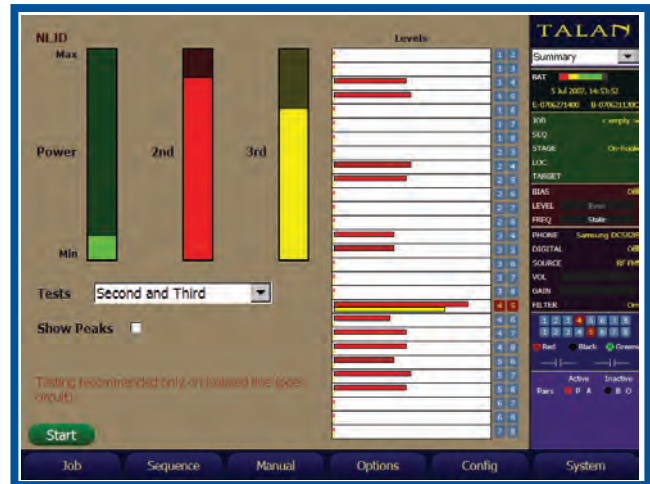
Digital Multimeter Tests

The TALAN includes basic multimeter tests such as Voltage, Current, Capacitance, and Resistance.

The automatic switching matrix allows the user to quickly measure and display results for all pair combinations, easily identifying any anomalies.

High Gain Audio Amplifier and Built-in Audio Oscilloscope

The TALAN includes a High Gain Audio Amplifier (20Hz to 20KHz) with up to 80dB of total system gain (voice band).

A DC Bias Voltage Generator (±80VDC) is also provided to power attached electronics.
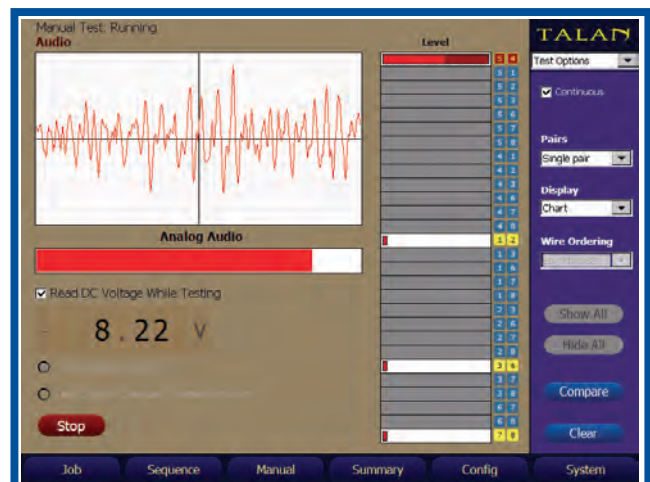
RF Analysis and Detection

The TALAN includes a Spectrum Analyzer that provides a detailed frequency spectrum display up to 85 MHz. This function also includes a time domain display to show the modulation for AM and FM signals.

The TALAN also includes a Broadband RF Probe to check free space RF energy up to 8GHz, graphing the RF level over time to identify the location of a transmitter.


Spectrum Analyzer function on the TALAN
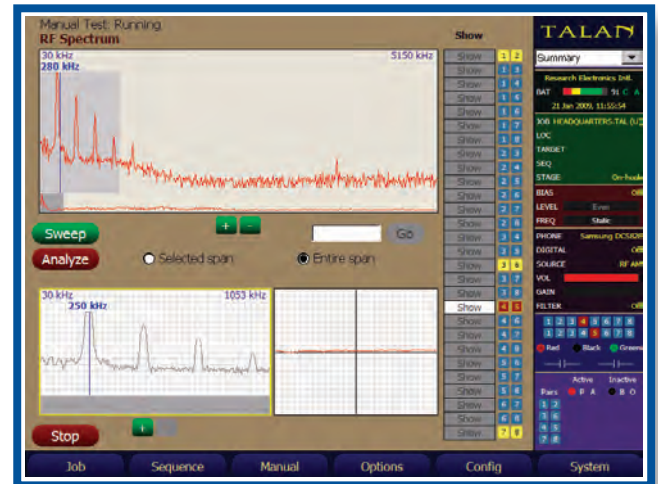
VoIP Test Features

Built-in VoIP testing capability for internet protocol (IP) packet traffic on VoIP phones and systems. VoIP data collected by the TALAN software includes Source and Destination MAC/IP Addresses; header type; statistics - total packets; packet rate; peak rate and run time. Users can also define advanced filtering options. Data can be stored and exported to USB or Compact Flash as data files for further analysis, sharing and reporting. Advanced filtering allows user-defined IP traffic detection tracing.

VoIP Test Adapter - A VoIP Test Adapter is included with new units allowing the TALAN to passively connect to non-POE (Power Over Ethernet), 10/100 Mbps network lines.
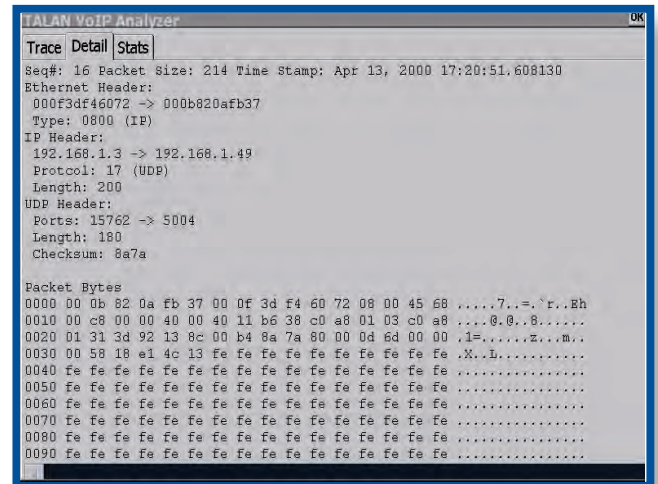
Test Data Storage and Analysis

The TALAN provides the ability to store test data for all testing functions in a database structure for future review or comparison.

TALAN Data Viewer Software - A PC application that provides the ability to organize, analyze, and export TALAN test sequence data and charts for report writing. Moreover, the software provides the ability to compare numerous phones/targets on the same chart allowing the user to quickly identify any anomalies compared to other phones tested. The TALAN Data Viewer Software is available free on REI's website.
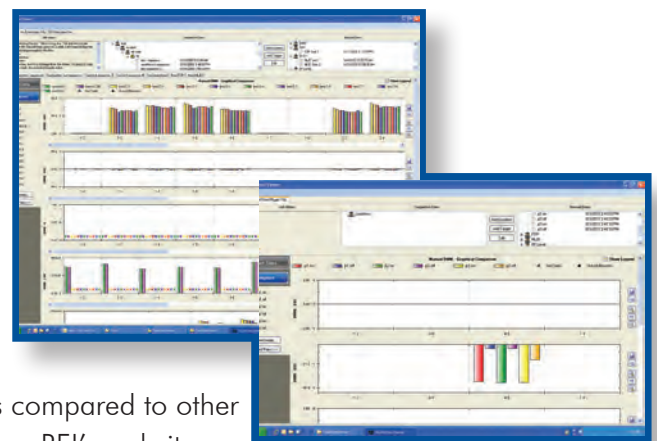
Harmonic Locator Probe (HLP)

The TALAN includes a Harmonic Locator Probe (HLP) used for tracing wires and determining the location of any electronics connected to the wire such as an eavesdropping device.

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TALAN ADVANTAGES

COMPLETE SUITE OF TESTS
COMBINES MULTIPLE TESTS INTO ONE PIECE OF EQUIPMENT

AUTOMATIC SWITCHING MATRIX

DIGITAL MULTIMETER TESTS

FDR FREQUENCY DOMAIN REFLECTOMETER
DETECTS IMPEDANCE ANOMALIES SUCH AS AN EAVESDROPPING TAP ON A WIRE

LINE NLJD
DETECTS ELECTRONICS ATTACHED TO A WIRE

DIGITAL DEMODULATION
CONFIRMS WHETHER A LINE IS PASSING AUDIO

VOIP PHONE & LINE ANALYSIS SOFTWARE
TESTS VOIP PHONE AND LINE PACKET ACTIVITY

TRAINING BY REI FACTORY INSTRUCTORS

Contact REI for equipment training information.
Course Dates and Registration online at
www.reiusa.net or email sales@reiusa.net

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Marketing Characteristics

CONTROL SYSTEM
Primary Computer: 32bit RISC processor, 520MHz
Internal Memory: 64MB SDRAM (OS), 64MB Flash
External Memory: Compact Flash Type III,
USB mass storage

DIGITAL I/O
Network: 10/100 Ethernet Controller for IP packet detection
USB: USB Device (A Type) supports external keyboard, mouse, and USB mass storage device; USB Host (B type) for future use.

ANALOG I/O
Headphone Output: 3.5mm connector
Microphone Input: 3.5mm input

USER INTERFACE
Hard Keys: 6 Soft Menu Keys, 5 Button Quadrant Navigation & other dedicated keys
Encoder: High-Resolution Optical Encoder
Integrated Touch Screen with Stylus
Test Inputs:

Dual MOD8:	Supports 2, 4, 6, & 8 wire Modular Phone Jacks
Banana Type:	Standard sleeved sockets: Ring, Tip, and Earth
SMB RF Input:	RF/Antenna Connection to 8 GHz Broadband Detector
Expansion Port:	Supports communication and measurement for use with future accessories

All Inputs Electrically Isolated

RF SYSTEM
Spectrum Analyzer:
Dual Conversion, Super-Heterodyne Receiver
Frequency Range: 30kHz to 85MHz
Sweep Time: 2 Seconds
Step Size: 1kHz
Bandwidth: 18kHz
Sensitivity: -100dBm

Broadband Detector:
RF SMB Input: To 8GHz
Line Level Test: 100kHz to 600MHz
Sensitivity: -65dBm

DIGITAL MULTIMETER
Quick Response Auto-Ranging: 500msec Sample Rate
AC/DC Volts: 0 to 250V Maximum
Resistance: 0 to 42 MΩ
Capacitance: 0pF to 42μF

BIAS GENERATOR
Optically Isolated, Direct Digital Control: High voltage DAC
Output Ceiling: ±80V
Modulation: Fixed voltage, or variable rate Sinewave (10Hz - 300Hz).

AUDIO
Audio Bandwidth: 20Hz - 20KHz
Gain: Up to 80dB total system gain
AGC: Digitally Controlled Automatic Gain
Filter: Analog Voice band filter (300Hz to 3kHz)

POWER SYSTEM
External Input: 15VDC @3A
Universal Power Supply: 100-240VAC, 50-60Hz
Removable Battery: Rechargeable Lithium ion, 4-6 hours of run time

MECHANICAL
Dimensions: 10.0in x 12.9in x 2.7in
(25.4cm x 32.8cm x 6.9cm)
Weight with Battery: 6 lbs (2.7 kg)
Case Dimensions: 5.4in x 14.9in x 19.5in
(13.7cm x 37.8cm x 49.5cm)
Loaded Case Weight: 19.0 lbs (7.1kg)
Operating Temperature: 0°C to +50°C

HARMONIC LOCATOR PROBE
Operational Frequency: 225kHz & 450kHz
Antenna Type: Balanced Loopstick
Headphone Audio Output: 16ohm, 105dB SPL limited
Battery: 9V Alkaline
Run-Time: 10 hours average, 22 hours (headphones)
Size: 17.5in x 1.5in (44.45cm x 3.8cm) stored
63.75in x 1.5in (162cm x 3.8cm) fully extended
Weight: 1lbs (.5kg)