

# <u>-Technology, Inc.</u> VIA Echo<sup>™</sup> Analyzer

US Patent 7,030,627 B1

The Echo is a handheld Vector Impedance Analyzer, Spectrum Analyzer, Frequency Domain Reflectometer (FDR) and Power Meter for measuring antennas, networks, and cables. Echo has the capability of providing digital measurements and graphical sweep displays of impedance, RF power gain, or cable quality. The Echo's testing functionality combined with it's 4MHz to 1.0GHz or 2.5GHz frequency ranges makes it a versatile tool for numerous service applications.

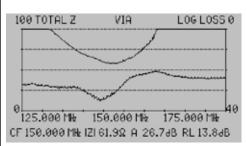
The Echo PC Vision™ software application, included with the VIA Echo, provides the user with the capability of remotely operating the VIA Echo through a USB port and view near real-time results or Echo's stored tests on a PC. PC Vision provides color Cartesian and Smith Charts of vector plot data. The PC Vision software makes the capture, storage, and printing of documentation and reports easy.



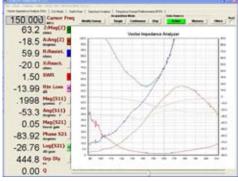
## 4 Instruments in one hand-held package

## **Vector Impepedance Analyzer**

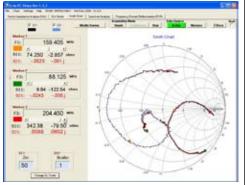
3 Measurement Displays - 2 graphical and 1 digital





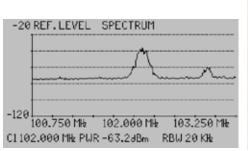


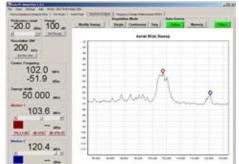
### PC Vision Smith Chart



## Spectrum Analyzer

**Broad or Narrow Spectrum Selection** 





## **Power Meter**

CW OR FM PWR

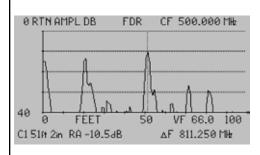
0.000022 WATTS RMS

-16.5 dBm

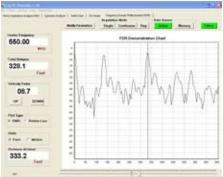
# VIA Echo

## **Frequency Domain Reflector**

View cable performance at frequency in RL or SWR



#### PC Vision's FDR Screen



#### Plus

- CW mode
- Cable Null
- Custom instrument settings
- Automatic internal calibration
- Fast frequency or width entry via keypad
- Date/Time stamped testing
- PPT training included

## **Specifications**

• Frequency range

• Tuning/display resolution

Input power range

- FDR cable length
- Measurement speed
- Frequency display width
- Impedance range
- Impedance plotting scales
- Phase angle plotting scales
- Impedance formats
- Gain formats
- Power meter
- Harmonic and spurious
- · Output power
- Power requirements
- Antenna connectors
- SizeWeight

4MHz to 1.0 GHz (1000, 1000SF & MRI) 4MHz to 2.5GHz (2500)

1KHz up to 1.1GHz 10KHz for ~1.1GHz-2.5GHz 10KHz for Spectrum Analyzer

+20/-60dBm

35 to >10Kft (10 to>3300m)

~2 sweeps / second

250 points x N x resolution (N=integer)

2 to 2000 Ohms

0 to 50 Ohms min, 0 to 2000 Ohms max

+/- 15 to +/- 180 degrees

Resistance, reactance, Z, Z angle, SWR, return loss, S11 vector

Log, linear, phase and group delay

20dBm to -30dBm.

47dBm to 0dBm with optional attenuator

>15dB below Fundamental

~ +3dBm @ 50 Ohms

13.8-20 VDC @ 500 mA. minimum or 8 AA(Alkaline or NiMH or Nicd)

"N" Type standard with

SMA-to-N Adaptor Kit (optional)

8.5"x4.3"x2.25" (216x109x57 mm)

2 lbs 3 oz (1Kg) with case and batteries

### **Features**

- Simultaneously view two separate plots with different scales
- Automatic calibration and self-test
- Large numeric display in CW mode
- S11 and S21 test ports
- Cable/fixture nulling
- 250 memory slots for both plot storage and setup data
- Echo PC Vision software included

Real time display of plots on PC

Smith chart display

EASY uploads into PC

- Quarter VGA backlit LCD
- Auditory cues for non-visual tuning
- Spectrum Analyzer and FDR (1000SF & 2500)
- Lightweight and portable
- Internal NiMH or NiCd recharger
- USB communication to PC

#### Models



#### Includes

PC Vision software	6025-1220
USB cable	0070-1206
AC adaptor, 100-240 VAC	5001-0202
Soft equipment case	6015-1002
Belt case	5001-1002
Calibration load set	6015-1301
8 AA NiMH batteries	0010-0218



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