

# EtherScope™ Series II

## Network Assistant

**Network professionals rely on the EtherScope Network Assistant to complete their daily tasks fast. The purpose-built EtherScope speeds and simplifies network installation, validation and troubleshooting by integrating essential tests, automated diagnostics and guided troubleshooting.**

- Install and integrate wired and wireless network infrastructure easily by testing, verifying and fixing configuration issues during deployment. EtherScope helps you get the job done right the first time.
- Validate network performance and service delivery by measuring key performance attributes and the availability and responsiveness of essential resources. Use EtherScope to document the delivery of services and applications as an element of your network acceptance practice.
- Troubleshoot problems fast in real-time when they occur, and proactively before they become costly. EtherScope guides you to the root cause so you can close trouble tickets fast without escalation. Audit the performance of the network on a regular, periodic basis to identify and correct emerging issues.

### Overview

The handheld EtherScope Network Assistant simplifies network testing to make network installation, validation and troubleshooting easy and fast.

- Analyze twisted pair, and fiber optic and wireless LANs
- Diagnosis LAN health automatically with one click
- Identify root cause with guided troubleshooting
- Observe connectivity processes
- Monitor local traffic, switch interfaces and protocols
- Discover and map devices, networks and VLANs
- Measure and assess Ethernet LAN/WAN link performance and SLA compliance
- Validate the availability and responsiveness of LAN services
- Secure the network from internal threats



### Features

#### Wired and wireless network assistant

The EtherScope is ready for your wired and wireless network. It provides a comprehensive view of your network from both sides of the access point, so you can get the information you need to get your job done fast. The EtherScope is equally at home on twisted pair, fiber optic or wireless networks and features a comprehensive set of tools appropriate for each environment.

#### Turns anyone into an instant problem solver

The Health Audit test provides visual diagnostics of LAN health with one click. Touch one button to initiate automated measurement and assessment of critical network resources, including the physical layer, infrastructure devices, key services, and protocols. Identify root cause with guided troubleshooting.

#### Characterizes complex circuits fast

The ProVision™ test measures the critical performance parameters of throughput, frame loss, delay, and jitter, but goes beyond the basics to offer asymmetric testing, multiple

streams, easy operation, easy-to-read results and a 4X minimum improvement in testing speed. More relevant than RFC 2544 testing for Metro Ethernet circuit turn-up and SLA validation, both Carriers and private network operators find ProVision valuable.

#### Verifies delivery of services and applications

The Service Performance Tool verifies that essential network services and applications are available and responsive. Visual pass/fail indicators facilitate quick and easy results analysis at a glance. Incorporate service delivery reports into your LAN validation practice as proof of acceptable network operation.

#### Ready for demanding field use

Easy to use and carry, the EtherScope is compact and rugged for harsh environments. Featuring a bright, color touch screen, an intuitive user interface and on-board help, the EtherScope is ready to assist you when it is time for action.

**Your fast assistant for network installation, validation and troubleshooting.**



## Gigabit LAN Analysis

**Test Results**

**Connection**

IP: 010.248.001.171  
 Mask: 255.255.255.000  
 IP Source: DHCP  
 802.1X: Unconfigured  
 MAC: Fluke-c000e1

**Speed**  
 Actual: 1Gb

**Duplex**  
 Actual: Full

**Frames**  
 Received: 2633  
 Sent: 1715

Health Audit  
 Cable Test  
 Link Test  
 Traffic Monitor

Devices  
 Networks  
 Problems  
 Other Tests

1000Mb | WLAN Tests | Settings | Restart all

- **Verify** twisted pair and fiber optic cabling
- **Measure** Ethernet signaling and negotiation
- **Monitor** utilization by device and interface

- **Discover** what is on the network and where
- **Learn** how the network is designed and configured
- **Identify** problems automatically

- **Find** help on-board
- **Manage** infrastructure devices

• **Analyze** twisted pair and fiber optic 10/100/Gigabit networks

**Health Audit**

**Poor**

Elapsed time: 15:16  
 Results available: 100%

Test	Information
Cable	✓ 42 ft to active device
Link	✗ Link 100Mb half duplex
Connection	✓ IP address 010.248.001.178 DHCP
IP Problems	✗ Problem: Duplicate IP
Traffic	✓ BW: <1%, peak: 0.8%, avg: 0.0%
Nearest Switch	✗ Violation: Port 4, errors 19.44%
Protocols	✗ Netbeui 0.08% of packets
Key Devices	✓ All devices responding
Networks	✗ Problem: Router not responding

100Mb | Details | Report | Restart all

**ProVision (tm) - LAN Validation script 1**

Link Status

IP: 129.156.243.111  
 Speed: 10Mb  
 Duplex: Half  
 Last Run Completed: Fri Aug 13 2010 9:11:39AM  
 Elapsed time: 000:00:58

Include Test/Device	Status
ProVision	✓ Results available
Test suite Alpha	✓ Results available
MetroScope-01	✓ Results available
Throughput	✓ Results available
Latency	✓ Results available
Jitter	✓ Results available
Loss/BERT	✓ Results available
Test suite Beta	✓ Results available
linkrunnerdemo1.studio2...	✓ Results available
Throughput	✓ Results available
Latency	✓ Results available
Jitter	✓ Results available
Loss/BERT	✓ Results available

Add Suite | Remove Item | Save Script | Load Script

10Mb | Configure | Results | Start | Report

**Diagnose** LAN health instantly with one click. Clear visual indicators guide you to root cause.

**Document** health with built-in reports

**Measure** key performance attributes at rates up to 1 Gigabit.

**Assess** successful circuit turn-up and SLA compliance.



**802.11 WLAN analysis**

- Understand who uses the network the most
- Identify potential security threats
- Monitor utilization by channel

- Discover APs and clients by SSID and channel
- Find networks and AP associations
- Identify problems automatically
- View the Authentication and Association processes

• Scan all 802.11 channels to identify a/b/g devices and .11n access points

- View critical WLAN health metrics by channel
- Verify signal coverage and performance

- Locate devices by monitoring signal strength
- Secure the WLAN from rogue access points



## EtherScope Series II Network Assistant Specifications

General specifications	
Weight, with battery	0.86 kg (1.9 lb)
Dimensions	19.1 x 15.2 x 4.4 cm (7.5 x 6.0 x 1.75 in)
Display	LCD touch screen, 640 x 480 pixels, TFT (active) color panel, touch pad
LED indicators	6 (including power LED)
Power	
Battery	Lithium Ion 7.2V DC (nominal), 4.2Ah, removable/rechargeable
Battery life	4 hour typical, 10 hour in standby mode
External AC adapter/battery charger	AC input: 90 to 264 V ac, 48 to 62 Hz; 1.5 A, DC output: 15 V dc, 1.2 A (isolated output)
Auto Charger	12V "cigarette lighter" charger with 6 foot (1.8 m) fully extended coiled cord and LED power indication
Ports	
Communication and accessory ports	1 USB, 1 PCMCIA/Cardbus (PC Card type II), 1 SFP cage, 1 CompactFlash (Card Type I/II), 1 DB-9 serial, headphone jack, microphone jack, Kensington lock receptacle
RJ-45 / Copper Port	RJ-45 10/100/1000BASE-T Ethernet
Fiber Port	Small Form-factor Pluggable (SFP) in accordance with MSA
Supported SFP Modules	1000BASE- LX, SX, ZX, BX, 100BASE-FX
SFP Connector	Duplex LC
Environmental and safety	
Operating temperature	0° to +50°C (32° to 122°F) with up to 95% relative humidity
Battery charging temperature	10° to +40°C (50° to 104°F) with up to 95% relative humidity
Storage temperature	-20° to +60°C (-4° to 140°F)
Shock and vibration	Meets requirements of MIL-PRF-28800F for Class 3 equipment
Safety	CSA Canada and United States, CE, FCC Part 15 Class A, C-TICK N10140; UL and CSA approvals for universal AC adapter, EMC Complies with EN61326, Class A, Criteria C
Wireless LAN Adapter Card	
Specification compliance	IEEE 802.11a, 11b, 11g
Certifications	FCC part 15, Telec, CTICK, ETSI, EN301893, EN60950
Interoperability	WECA Compliant
Interface	32-bit Cardbus
Outdoor operating range	Up to 515 m (1690 ft)
Indoor operating range	Up to 85 m (279 ft)
Data rate	802.11a: up to 54 Mbps, 802.11b: up to 11 Mbps, 802.11g: up to 54 Mbps
Output power	18 dBm peak power
Infrastructure mode	BSS
External antenna connector jack	Hirose MS-147
Wireless LAN Directional Antenna	
Frequency range	2.4 – 2.5 and 4.9 - 5.9 GHz
Minimum gain	5.0 dBi in the 2.4 GHz band and 7.0 dBi in the 5 GHz band
External antenna connector plug	Hirose MS-147



## Ordering Information

Model*	LAN 10/100/Gig	802.11 Wireless	Fiber optic interface	ProVision interface	LinkRunner RFC2544	AirCheck Duo Reflector	AirCheck Wi-Fi Tester	Extended accessories	Contents
ES2-LAN-SX	✓	✓							<b>LAN analyzer with Fiber option:</b> Series II mainframe, 1000BASE-SX transceiver, protective boot, carrying strap, rechargeable Li-Ion battery pack, AC adapter/battery charger, CompactFlash® card, remote wiremap adapter (ID #1), patch cable, RJ-45 adapter, Getting Started Guide, resource CD, carrying case
ES2-LAN-SX/I-LRD	✓	✓	✓	✓	✓				<b>LAN analyzer with Fiber and ProVision/RFC2544 options, plus a LinkRunner Duo Reflector kit:</b> Above with additional ProVision/RFC2544-related features: ProVision, RFC 2544, Service Performance Tool, Server Response Tool, and Traffic Generator, plus a LinkRunner Duo with Reflector option, rechargeable Li-Ion battery pack, and carrying case
ES2-PRO-SX/I-ACK**	✓	✓	✓	✓	✓				<b>LAN and WLAN analyzer with Fiber and ProVision/RFC2544 options, plus an AirCheck Wi-Fi Tester:</b> Series II mainframe, 1000BASE-SX transceiver, 802.11a/b/g CardBus adapter, directional antenna, protective boot, carrying strap, rechargeable Li-Ion battery pack, AC adapter/battery charger, CompactFlash® card, remote wiremap adapter (ID #1), patch cable, RJ-45 adapter, Getting Started Guide, resource CD, carrying case, additional ProVision/RFC2544-related features, plus an AirCheck Wi-Fi Tester
ES2-PRO-SXI-LRDACK**	✓	✓	✓	✓	✓	✓	✓	✓	<b>LAN and WLAN analyzer with Fiber and ProVision/RFC2544 options, plus a LinkRunner Duo Reflector kit, an AirCheck Wi-Fi Tester, and an extended accessories kit:</b> Above plus a LinkRunner Duo with Reflector option, rechargeable Li-Ion battery pack, and carrying case, plus AirCheck rechargeable Li-Ion battery, AirCheck directional antenna, and AirCheck hard case, plus spare EtherScope Li-Ion battery, external battery charger and AC adapter, remote wiremap IDs #2-#6, mini-USB keyboard, and large carrying case

\* Additional country-specific models and promotional models are available. Contact your local sales office for a complete list of models.

\*\* For sale only in countries where the AirCheck Wi-Fi Tester is certified



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**Fluke Networks** operates in more than 50 countries worldwide. To find your local office contact details, go to [www.flukenetworks.com/contact](http://www.flukenetworks.com/contact).

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