

EP900 Handheld IPTV Tester

Key Benefits

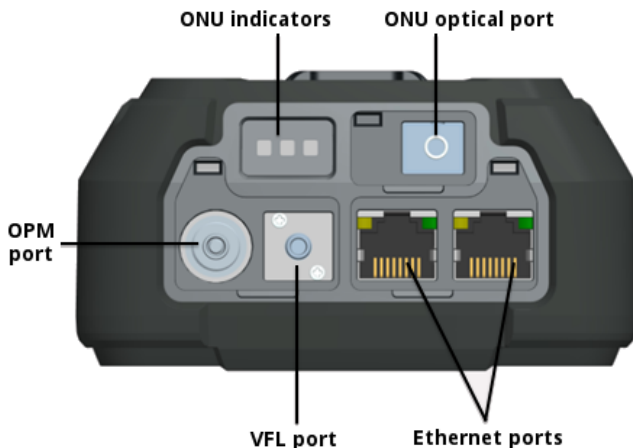
- IPTV quality analyzer with MOS value measurement
- IPTV Video Decoder
- Performs optical fiber tests with power meter and VFL
- ONU simulation and measurement (*by option*)
- 5.5" Capacitive Touchscreen: with excellent touch response and 7 hours of operating time

Key Features

The advent of triple-play networks has introduced new challenges for field engineers seeking to ensure video and audio transmission quality. How can data be reliably monitored to provide users with optimal service? What additional steps must operators take in order to protect customer QoS and QoE, reduce service complaints, and improve user satisfaction and loyalty?

New from Deviser Instruments, the EP900 IPTV analyzer is a handheld tester developed on an open smartphone platform. This powerful, easy-to-use equipment supports users in all network operation and maintenance tasks, including LAN testing, IPTV analysis, optical power measurement, fault location (VFL), and alignment.

In order to confirm and diagnose service quality, the EP900 can simulate the user's PC; test broadband IP lines or PPPOE dial-up service; verify connectivity of broadband IP networks; and identify user equipment problems. The EP900 can analyze detailed IPTV service data at the network, stream, and coding layers, and is equipped with numerous test ports (including Ethernet and optical) for a multipronged troubleshooting approach.



Mobile Phone Functionality

The EP900 is based on the Android operating system, and offers a wide variety of customizable features. The built-in measurement software supports TDD / FDD / TD-SCDMA / WCDMA / CDMA / GSM and other communication standards, and is WLAN-capable. IEEE 802.11 b/g/n Wifi access keeps you connected in the field, while the Bluetooth and GPS positioning tools grant individual control over the GPS module switch. Submit, track, and manage secure electronic work orders with added APK installation support.

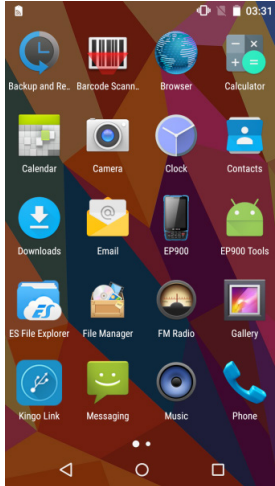


Figure 1: EP900 menu screen. Based on the Android OS, the tester is highly customizable.

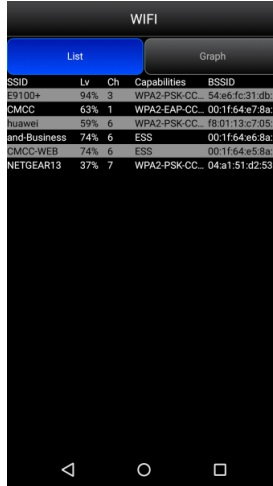


Figure 2: Wifi connection status (list display).

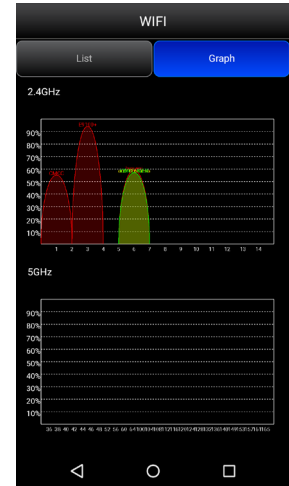


Figure 3: Wifi connection status (graph display).

ONU Simulation & Measurement

The optional ONU simulation tool displays system statistical info, reducing the need for a dedicated ONU device. This tool supports GPON/EPON and is compatible with most commercial devices. Use it to view link, network, and remote connection details once a synchronous link is established. ONU simulation can be password-protected for enhanced security.



Figure 4: ONU registration info for a GPON/EPON system.

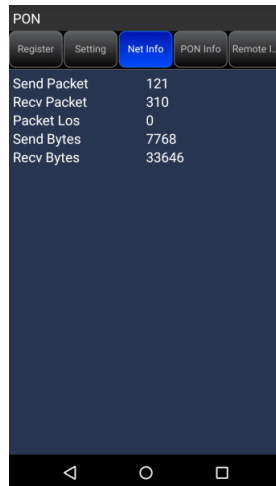


Figure 5: ONU network info for a GPON/EPON system.

OPM and VFL

The EP900 houses two built-in optical support tools to help with network installation and maintenance. The power meter (OPM) has six wavelength calibration points (850 through 1610nm), while the visual fault locator (VFL) can project continuously or on a 2Hz cycle in order to illuminate bends, splices, and other faults in an optical fiber.



Figure 6: Optical power meter

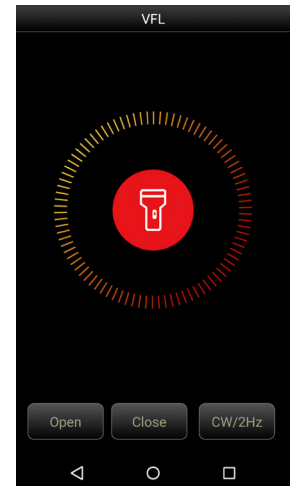


Figure 7: Visual fault locator

IPTV/OTT Signal Quality Test

The IPTV QoS measurement auto-analyzes the IPTV stream of the current network. This rapid, efficient testing mode offers real-time monitoring, decodes video, and delivers statistics on signal quality; three-level TR 101 290 monitoring; PSI/SI data (in tree structure), PCR jitter; and interval information in an easy-to-navigate display. It also calculates audio/video MOS user experience values.

The Decoder tab allows real-time playback and analysis of live and on-demand video streams, and supports formats like MPEG-2, MPEG-4, and H.264 in HD and SD resolution while identifying faults in user devices.

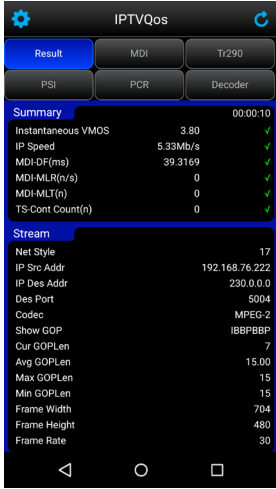


Figure 8: IPTV measurement summary screen



Figure 9: Delay factor; packet loss; IP jitter; and other network layer indicators



Figure 10: TR 101 290 status with color-coded test key.

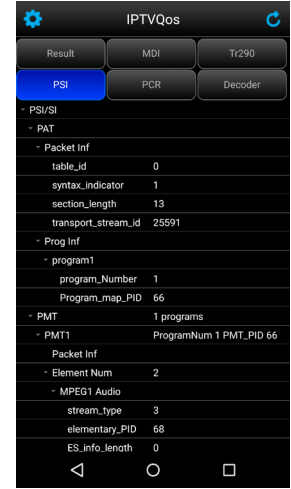


Figure 11: PSI table diagnoses fault origin by comparing to video/audio/empty packets..

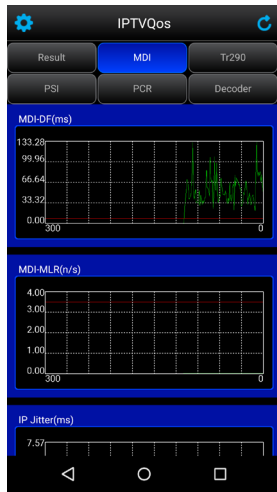


Figure 12: PCR accuracy and interval timing.

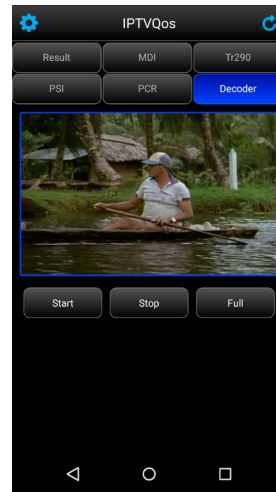


Figure 13: Decoding video streams in real time.

Troubleshoot Video Streams

Capture and diagnose video stream problems in real-time. The EP900's internal flash storage can hold up to 16GB of saved data for instant retrieval.

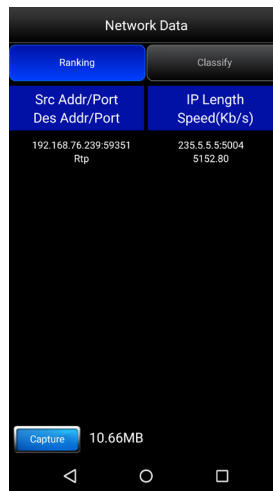


Figure 14: Capturing video for analysis

Specifications

EP900		
Operating system	Android 5.1	
CPU	8-core, 1.3GHz	
Memory	2GB	
Storage	16GB; expandable with microSD card	
Display	5.5", 1080p high-sensitivity LCD touchscreen. Backlight adjusts to suit various field lighting conditions.	
Input	Digital keyboard; system setting keys; shortcut function keys for efficient use	
Camera	5 megapixels (front); 13 megapixels (rear). Includes autofocus, fill light, and flashlight functions.	
Reminders	Programmable alerts for calls and SMS	
Bluetooth	>10m transmission distance; wireless headset support	
Accessory ports	MicroUSB charging & data transfer MicroSD card slot for up to 128GB additional data storage Audio jack for clear, high-quality calls in noisy test environments	
Data & test ports	2+ RJ-45 Gigabit Ethernet LAN ports; optical test & VFL ports; ONU interface	
Optical power meter (OPM)	Wavelength	850, 1300, 1310, 1490, 1550, 1610nm
	Input power	-70 ~ +3 dBm
Visual fault locator (VFL)	Wavelength	< ±1.0dB @ +25 ±5°C (typical)
	Effective range	≥ 5km
ONU simulation (by option only)	Test support	Supports EPON/GPON switch; E8-C; Tianyi gateway; TR069 connection/report/service status
	Data output	Displays ONU registration & authentication status; optical signal; transmitted/received power; bias current; battery voltage; internal temperature
IPTV/OTT test	Test support	TCP / HLS, UDP / RTP; TR101290 three-level monitoring, GOP frame analysis
	Data output	IP packet count; transmission rate; jitter; packet loss; MLR-15; sync loss; sync error; PAT error; PTS error
Network test	Gigabit speed measurement; supports Ping, IPconfig, Tracert, Route testing	
Weight	~1.4 lbs (650g)	

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