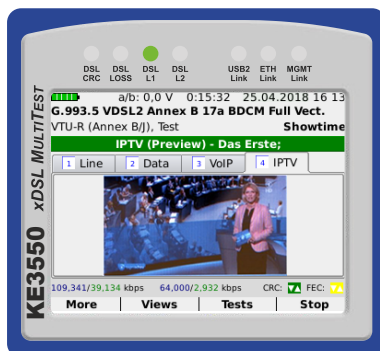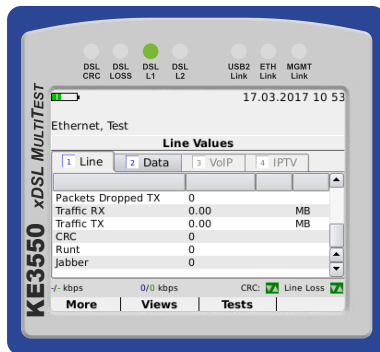# Next-Generation-xDSL Multitester

Ready for **All-IP!**
The entrance for measurements in the broadband network

◾ **KE3550**

At a glance

- ■ ADSL-ADSL2+, VDSL2, VDSL2 (Vectoring / Super Vectoring), xDSL-Bonding and G.fast with Auto Services Detection
- ■ High throughput rates for performance measurements up to 800 MBit/s
- ■ VoIP tests incl. SIP trunk and Multi-Calling with extensive statistics
- ■ IPTV tests with IPTV scan and preview image as well as statistics
- ■ Wi-Fi connectivity, triple play tests (data, VoIP, IPTV)
- ■ ISDN U_{K0} / S_0 and analogue test handset function
- ■ Copper test (KECT), DC measurements, RF measurements up to 31 MHz, TDR measurements, RFL, remote controllable line change-over switch KE905

The **KE3550 xDSL MULTITEST** offers high performance and a wide range of functions at an affordable price. The new version 2 contains several improvements compared to its predecessor, including more powerful hardware and optimized edge protection.

The KE3550, specially designed for use in copper-bound broadband networks, offers ICT specialists and service technicians the interfaces for DSL and Ethernet even in its basic configuration and supports ADSL-ADSL2+ Annex B / J, VDSL2 and VDSL2 Vectoring / Super Vectoring (Vplus) with automatic detection of the xDSL service. Compatibility with the DSL high-speed module for Super Vectoring and G.fast makes the KE3550 an expandable and future-proof investment.

The KE3550's modular platform supports additional functions such as ISDN and analogue test phone, Triple Play tests for IPTV and VoIP suitability as well as the possibility to perform extensive copper tests up to 31 MHz. The integrated high-performance battery ensures a long service life in the field.

Thanks to the intuitive operation and the ability to perform several tests in parallel, fault diagnosis in the network is carried out as quickly as possible. Service malfunctions caused by faults in the external cabling, the internal cabling or, for example, defective customer equipment, can be reliably pinpointed.

Measured values are displayed clearly and can be stored for documentation and managed with the supplied KE-Manager software. The transfer of the measurement results is also possible through the QR code display. Stored measurements can be retrieved and viewed in detail directly in the KE3550 for verification.

Equipped with the copper test module, automatic measuring sequences can be created in the KE3550, which considerably simplifies the measuring processes of the technicians in the field. In combination with the KE905 Remote, the necessary switches at the remote end are carried out automatically, there is no need for an additional person and the measuring insert is noticeably shortened.

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Optionen

xDSL
- ADSL–ADSL2+ Annex B / J
- VDSL2 incl. VDSL2 Vectoring, Super Vectoring (Vplus) Profile 8a/b/c/d, 12a/b, 17a, 30a, 35b

DSL Highspeed
- Supports Super Vectoring (Vplus), ITU-T G 993.2 Annex Q up to 35 MHz
- Supports G.fast ITU-T G 9700/9701 uo to 106 MHz
- ADSL2+ and VDSL2 Bonding (ITU-T G.998.1/2/3)

VoIP tests
- VoIP connections via xDSL and Ethernet
- VoIP, incl. Quality of Service (QoS)
- SIP-Trunk support
- Multi Calling - up to 10 VoIP calls simultaneously
- Extensive VoIP statistics

IPTV tests
- IPTV connections via xDSL and Ethernet
- Extensive IPTV statistics
- Preview function and multistreaming

Wi-Fi tests
- 2.4 / 5 GHz incl. SMA antenna
- WPA / WPA2, WEP, WPS
- Wi-Fi scan (SSID), transmission channel, signal strength
- Triple-Play tests (Data / VoIP / IPTV) directly via the device

Gigabit Ethernet port
- Copper RJ45

ISDN / Analogue test telephone
- ISDN S0 / UK0 / analogue
- S2M for PMX connections
- Extensive measurement functions
- BER test (Bit error rate test)
- D-channel monitoring

Coppertest with KECT
- Telco Multimeter measurements for fault location: Voltage, insulation, resistance and capacitance, symmetry
- Prequalification of the twisted pair up to 31 MHz: Impedance measurement, reflection and unbalance loss, LLC, NEXT measurement, receive level and spectrum, broadband noise and pulse noise
- Line analysis and automated measuring process
- Remote: KE905 Remote unit for (remote) switching directly via control commands
- TDR measurements for precise cable fault location up to 6 km
- RFL measurement: Resistance error localization via 2- and 3-wire method

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	Type	Description
Packages		
TIP 0.49815-90	**KE3550 All-IP / Wi-Fi package**	**KE3550 All-IP / Wi-Fi package contains:** 0.49815 **KE3550 Base unit** ADSL-ADSL2+ Annex B / J; **VDSL2 Vectoring / Super Vectoring**, profiles 8a/b/c/d, 12a/b, 17a, 30a, 35b; 0.49830-5 **VoIP tests** / 0.49830-5-10 **VoIP MultiCalling** 0.49840-17 **Wi-Fi Connect**, 2.4 / 5 GHz incl. SMA antenna 0.49840-17-10 **Wi-Fi tests**, terminal mode
0.49815-91	**KE3550 All-IP package**	**KE3550 All-IP package contains:** 0.49815 **KE3550 Base unit** ADSL-ADSL2+ Annex B / J; **VDSL2 Vectoring / Super Vectoring**, profiles 8a/b/c/d, 12a/b, 17a, 30a, 35b; 0.49830-5 **VoIP tests** / 0.49830-5-10 **VoIP MultiCalling**
0.49815-93	**KE3550 xDSL / LAN tester package**	**KE3550 xDSL / LAN tester package contains:** 0.49815 **KE3550 Base unit** ADSL-ADSL2+ Annex B / J; **VDSL2 Vectoring / Super Vectoring**, profiles 8a/b/c/d, 12a/b, 17a, 30a, 35b; 0.49830-5 **VoIP tests** / 0.49830-5-10 **VoIP MultiCalling** 0.49420 **KE7200 Ethernet FlexiTest** Network tester with 2 remote units KE7010, PC software, test cable set and protective bag
xDSL Test device		
0.49815	**KE3550**	xDSL Multitester, 1 GbE Interface, ADSL 1/2/2+ Annex B / J **and VDSL 2 Vectoring / Super Vectoring** (profiles 8a/b/c/d, 12a/b, 17a, 30a, 35b)
xDSL / High speed options		
0.49830-30	**G.fast**	G.fast 106 MHz (ITU-T G.9700 / G.9701)
0.49830-40	**Bonding**	xDSL Bonding (ADSL / 2 / 2+, VDSL2 profile 17a, 30a)
Digital multimeter		
0.49840-12	**DMM**	Digital multimeter: Voltage, resistance, capacitance, length
Copeprtest upgrades		
0.49830-13	**KECT**	Telco multimeter with high interference resistance, Control functions for measuring aids such as KE905
0.49830-13-10	**HF / LQ**	High frequency (HF) measurements for qualification of copper lines up to 31 MHz (0.49830-13 KECT required)
0.49830-11	**TDR**	TDR up to 6 km line length at Ø 0.5 mm (0.49830-13 KECT required)
0.49830-13-20	**RFL**	Resistance error localization according to Murray and Küpfmüller, multisection support (0.49830-13 KECT required)
IP service tests		
0.49830-5	**VoIP**	VoIP test (terminal simulation) with display of the quality parameters required for evaluation xDSL / Ethernet
0.49830-5-10	**VoIP MultiCalling**	VoIP MultiCalling: Up to 10 parallel VoIP calls incl. statistics for xDSL / Ethernet (0.49830-5 VoIP required)
0.49830-6	**IPTV**	IPTV test (Set Top Box emulation) with display of the quality parameters required for evaluation xDSL / Ethernet
0.49830-6-10	**IPTV Scan**	IPTV channel scan with display of the switching time (0.49830-6 IPTV required)
0.49840-17	**Wi-Fi Connect**	Connectivity 2,4 / 5 GHz incl. SMA antenna, Wi-Fi scan (SSID), transmission channel, WPA,WPA2, WEP, WPS, Management
0.49840-17-10	**Wi-Fi Test**	Wi-Fi terminal device mode 2.4 / 5 GHz, performance tests, Triple Play tests (option dependent, 0.49840-17 Wi-Fi required)
Telephony upgrade		
0.49830-25	**ISDN**	ISDN S_0-TE, U_{K0} (4B3T o. 2B1Q) and analogue interface with additional SFP-Port (must be activated with 0.49830-3-Soft)
KE Manager option		
0.49830-15	**Real time analysis**	Detailed viewing of a running measurement on a PC and evaluation of long-term measurements

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Conformance ADSL1/2/2+	ITU-T G.992.5 (ADSL2+ incl. Annex A, B, J, M), ITU-T G.992.3 (ADSL2 incl. Annex A, B, J, L), ITU-T G.992.1 (G.DMT incl. Annex A, B, J) ATIS/ANSI T1.413 Issue 2 IEEE 802.3ah (PTM) ITU-T G.998.1/2 (Bonding)	
VDSL2	ITU-T G.993.2 Annex A, B (Vectoring) ITU-T G.998.1/2 (Bonding with Profile 17a) Profiles: 8a/b/c/d, 12a/b, 17a, 30a and 35b (Annex Q) Band Plan: 997, 998, US0 IEEE 802.3ah (PTM)	
G.fast	ITU-T G.9700/ G.9701	
DSL parameters	Maximum achievable bit rates Actual achieved bit rates Actual achieved bit rateson bundled lines Latency mode: Fast, Interleaved Data mode: ATM, PTM Capacitance (%) Signal-to-noise ratio (SNR) Output level Attenuation Bits/bin	Attenuation/Bin (Hlog/bin), QLN/Bin, SNR/Bin Provider code, revision Interleave depth Interleave delay Bit Swapping INP, G.INP Vectoring Operation modes: PTM, ATM LOSS, FEC, CRC, HEC, LOF, LOM, SES, UAS, ES LATN per Band, SATN per Band
Test interfaces	ADSL 1/2/2+/VDSL2/VDSL2-Vectoring/Super Vectoring/G.fast w/ auto detect. Ethernet 10/100/1000 management port	Ethernet 10/100/1000 Web browser for service confirmation
Encapsulation	RFC 2684 with support for Bridged Ethernet (IPoE), IPoA (RFC 1577), PPPoE (RFC 2516), PPPoA/LLC and PPPoA/VC-MUX (RFC 2364)	
Operation modes	DSL terminal, router and modem mode Transit mode with modem substitution (DSL/Ethernet) Ethernet terminal mode	
Login format	Username and password with PAP/CHAP	
Connection options	VoIP autoconfiguration at BNG DHCP 60 autoconfiguration LAN/WAN state DNS, Gateway DHCP Client/Server, DHCP provider class	NAT VLAN ID, VLAN tag VPI/VCI IPv4 and IPv6 Signal strength
Ping test	Ping destination address: Gateway, IP address or URL Number of pings: 1 to 9999, unlimited Packet size: 56 to 2048 Bytes (default value 56) Timeout/Interval: 0 to 2000 seconds Results: Packets sent/recieved, average round-trip delay in ms	
Traceroute test	Traceroute target: Gateway, IP address or URL Timeout: in seconds, devault value 1 s, up to 120 s Number of hops: 1 to 100 (default value 30) Results: Specification of the IP address of the hop and round-trip delay in ms	
FTP/HTTP data rate test*	Address: IP or URL Direction: Upload and/or download up to 800 MBit/s Results: Time, transmitted kB, rate in kBit/s Bookmarks: User-definable	* Perform up to 10 tests simultaneously
Software options	**VoIP test:** Single, Multicall, QoS, SIP trunk, DSL and Ethernet Codecs: iLBC, G.711 A-law, G.711 µ-law, G.722, GSM, L16, Speex Results: MOS, R factor, Latency jitter, Packets (loss, sent)	**IPTV test:** Video standards: MPEG2, MPEG4 part 2 and 10, DSL and Ethernet Programmable channel list, analyses up to zu 10 streams simultaneously Results: MOS, R factor, Latency jitter, Packets, Preview image
Interface options	xDSL Bonding module KECT Copper qualification uo to 31 MHz with telco multimeter TDR error detection/location ISDN U_{K0}/S_0/Analogue interface Wi-Fi interface 2.4/5 GHz, 802.11b,g,n	
Bluetooth	Bluetooth module for data transfer, Class 2	
Display	3,5" TFT display, RGB 240 x 320, sunlight-readable	
Power supply	Extra powerful LiPo battery	
Dimension	230 x 110/90 x 70 mm	
Weight	1100 g	
Housing	Impact resistant ABS with fall protection and highly impact resistant plexiglass display cover	
Menu languages	🇩🇪 🇬🇧 🇫🇷 🇮🇹 🇳🇱 🇪🇸	