

GL Communications Inc.

Packet / Ethernet Series Products Price List

Revised: Oct 24, 2018

| Part Number | Description | Notes |
|-------------|---|---|
| | <i>Ethernet, IP & VoIP Analysis Tools</i> | |
| PKV100 | PacketScan™ (Online and Offline) Supported Codecs include G.711, G.726, G.729 A/B, GSM, iLBC, Speex, G.722.2, G.711 / G.726 Appendix 2, | VoIP Analysis Software (w/ dongle) Includes decodes for transport (TCP,UDP, IP), signaling (SIP, Megaco, MGCP, Diameter), and media (RTP, RTCP, Fax, Video), ROT; Additional Protocol Decode Support for – SIGTRAN, GSM over IP, UMTS over IP, and LTE available with purchase of licenses |
| PKV110 | IMS Protocol Decodes (Optional with PacketScan™) | IMS (IP Multimedia Subsystem) protocol decodes |
| PKV120 | PacketScan HD™ w/4 x 1GigE | High Density IP Traffic Analyzer w/ 4x1GigE Network Monitoring Appliance;2 Processor Xeon, 32 GB, 500 GB SSD – minimum configuration; includes 4 SM Optical SFPs, 4 MM Optical SFPs, 4 Electrical SFPs, 4 MM Optical Cables,4 SM Optical Cables, 4 RJ-45 Ethernet Cables |
| PKV120p | PacketScan HD™ w/4 x 1GigE - Portable | High Density IP Traffic Analyzer w/ 4x1GigE Network Monitoring Portable Version; includes 4 SM Optical SFPs, 4 MM Optical SFPs, 4 Electrical SFPs, 4 MM Optical Cables,4 SM Optical Cables, 4 RJ-45 Ethernet Cables, and Pelican Case |
| PKV122 | PacketScan HD™ w/2 x 10GigE | High Density IP Traffic Analyzer w/ 2x10GigE Network Monitoring Appliance; 2 Processor Xeon, 32 GB, 500 GB SSD – minimum configuration; includes 2 SM Optical SFP+s, 2 MM Optical SFP+s, 2 MM Optical Cables, 2 SM Optical Cables |
| PKV122p | PacketScan HD™ w/2 x 10 GigE - Portable | High Density IP Traffic Analyzer w/ 2x10GigE Network Monitoring Portable Version; includes 2 SM Optical SFP+s, 2 MM Optical SFP+s, 2 MM Optical Cables, 2 SM Optical Cables, and Pelican Case |
| PKV124 | PacketScan HD™ w/2 x 40GigE | High Density IP Traffic Analyzer w/ 2x40GigE Network Monitoring Appliance; available in portable platform – call, SFPs optional |
| PKV125 | PacketScan HD™ w/1 x 100GigE | High Density IP Traffic Analyzer w/ 1x100GigE Network Monitoring Appliance; available in portable platform – call, SFPs optional |
| PKV121 | PacketScan FB™ | File Based IP Traffic Analyzer Server for near real-time processing of traces |
| PKV123 | PacketRecorder HD™ & PacketRePlay HD™ | High Density IP Traffic Recorder & RePlay Appliance with 4x1 Gbps or 2x10 Gbps Ethernet Interfaces - optional applications for PKV120 and PKV122 |
| PKV301 | LAN Switch w/ Mirror Port | NetGear GS105E - 5 Port 10/100/1000 LAN Switch with Mirror Port |
| PKV101 | Offline PacketScan™ (Optional with PKV170 NetSurveyorWeb™) | VoIP Analysis Software without Real-time Capture Capability (w/dongle to enable Offline Version), ROT; Optional with PKV170 Network Surveillance Base Software for SIP, Megaco, MGCP, H323, RTP Decode / Analysis; Additional Offline Protocol Decode Support for – SIGTRAN, GSMoIP, UMTSoIP, and LTE available with purchase of licenses |
| PKV105 | SIGTRAN Analyzer (Optional with PacketScan™) | IP decode of SS7 and ISDN signaling (w/dongle to enable SIGTRAN, requires PKV100) |

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| PKV106 | Offline SIGTRAN Analyzer (Optional with PKV101 Offline PacketScan™ and PKV170 NetSurveyorWeb™) | Decode/Analyze pre-captured SIGTRAN files (w/dongle to enable Offline Analyzer), optional with PKV170 Network Surveillance Base Software for SS7 SIGTRAN Decode / Analysis; |
| PKV103 | IP Based GSM and UMTS Analyzer (Optional with PacketScan™) | Decodes of GSM & UMTS protocols over IP transport (w/dongle to enable GSM & UMTS Analysis, requires PKV100) |
| PKV109 | Offline IP Based GSM and UMTS Analyzer (Optional with PKV101 Offline PacketScan™ and PKV170 NetSurveyorWeb™) | Decodes of GSM & UMTS protocols over IP transport, (w/dongle to enable Offline Analyzer, optional with PKV170 Network Surveillance Base Software for GSM and UMTS Decode / Analysis;) |
| PKV104 | Optional - FaxDDT38 | Decodes Fax Images from PCAP files; Works with PacketScan™ or independently of PacketScan™ (on DOS Command Line); Also works with PacketScan™ Offline, ROC |
| PKV107 | LTE (Long Term Evolution) Analyzer (Optional with PKV101 Offline PacketScan™ and PKV170 NetSurveyorWeb™) | Analysis/Decode of broadband wireless 4G protocols – (w/ dongle to enable LTE, requires PKV100) |
| PKV108 | Offline LTE (Long Term Evolution) Analyzer (Optional with PKV101 Offline PacketScan™ and PKV170 NetSurveyorWeb™) | Decode / Analyze pre-captured LTE files – w/dongle to enable Offline Analyzer, optional with PKV170 Network Surveillance Base Software for LTE Decode / Analysis;) |
| PCD102 | Optional Codec – iSAC | iSAC Codec (discontinued) |
| PCD103 | Optional Codec – AMR – Narrowband | AMR Codec - narrowband, large annual fee |
| PCD107 | Optional Codec – AMR - Wideband | AMR Codec – wideband, large annual fee |
| PCD104 | Optional Codec - EVRC | EVRC Codec, annual fee |
| PCD105 | Optional Codec – EVRC-B | EVRC–B Codec, annual fee |
| PCD106 | Optional Codec – EVRC-C | EVRC-C Codec, annual fee |
| PCD108 | Optional Codec - EVS | EVS Codec, annual fee |
| PCD109 | Optional Codec – Opus | Opus Codec |
| <i>Network Monitoring Software Options</i> | | |
| PKV169 | Network Surveillance Lite Software | Probe Level WebServer for all Protocol analyzers (T1 E1, OC-3/STM-1, OC12/ STM-4, T3 E3, and PacketScan™), can be used only with Probe PC itself; includes Oracle 11g Express Edition; requires respective real-time protocol analyzer licenses on the Probe PC based on the protocol selection; up to 9 GB of CDR storage. |
| PKV170 | Network Surveillance Base Software (Perpetual License, Unlimited Users/Nodes) – Includes Standard Server-Grade Computing Platform | Centralized Database Engine and Client – works with Protocol Analyzers, includes Oracle 11g Standard Edition One and Standard Server-Grade Computing Platform; requires the following respective modules and offline protocol analyzer licenses based on the protocol selection (all on the NetsurveyorWeb™ System) |
| PKV175 | T1 E1 Physical Line Monitoring Option for Network Surveillance | Provides T1 E1 Physical Layer Status with Network Surveillance Solution |
| PKV172 | ISDN/SIGTRAN Call Detail Record (CDR) Option for Network Surveillance | Provides ISDN/SIGTRAN CDR option for Network Surveillance Base Software - requires OLV100 at the central site |
| OLV100 | Offline / Remote ISDN Analyzer | Decode / Analyze ISDN option for Network Surveillance Base Software - requires PKV170 and PKV172 |
| PKV173 | SS7/SIGTRAN Call Detail Record (CDR) Option for | Provides SS7 (ISUP and MAP) /SIGTRAN CDR option for Network |

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| | Network Surveillance | Surveillance Base Software - requires OLV120 for SS7 and PKV106 for SIGTRAN at the central site |
| OLV120 | Offline / Remote SS7 Analyzer | Decode / Analyze SS7 option for Network Surveillance Base Software - requires PKV170 and PKV173 |
| PKV106 | Offline / Remote SIGTRAN Analyzer | Decode / Analyze SIGTRAN option for Network Surveillance Base Software - requires PKV170 and PKV173 |
| PKV092 | CAS Call Detail Records (CDR) Option for Network Surveillance | Provides CAS CDR option for Network Surveillance Base Software – requires OLV092 at the central site |
| OLV092 | Offline/Remote CAS Analyzer | Decode/Analyze CAS Option for Network Surveillance Base Software – requires PKV170 and PKV092 |
| PKV174 | GSM (TDM or IP) & TRAU Call Detail Record (CDR) Option for Network Surveillance | Provides GSM (TDM and IP) & TRAU (TDM) CDR option for Network Surveillance Base Software - requires PKV170 and OLV150 for GSM; requires OLV153 for TRAU at the central site |
| OLV150 | Offline / Remote GSM Analyzer | Decode / Analyze GSM option for Network Surveillance Base Software - requires PKV170 and PKV174 |
| OLV153 | Offline / Remote TRAU Analyzer | Decode / Analyze TRAU option for Network Surveillance Base Software - requires PKV170 and PKV174 |
| PKV176 | Provides VoIP Protocol (SIP, MGCP, Megaco etc.) CDR option for Network Surveillance Base Software | Requires SIP, Megaco, MGCP, H323, RTP Specific Software at Probe Level; requires PKV101 at the central site |
| PKV101 | Offline / Remote PacketScan Analyzer | Requires SIP, Megaco, MGCP, H323, RTP Protocol Decodes at Central Site (w/ dongle) - requires PKV170 and PKV176 |
| PKV177 | Provides UMTS Protocol (luCS and luPS) CDR option for Network Surveillance Base Software | Requires UMTS luCS, UMTS luPS Specific Software at Probe Level; requires PKV109 at the central site |
| PKV109 | Offline IP Based GSM and UMTS Analyzer (Optional with PacketScan™) | Decode / Analyze UMTS option for Network Surveillance Base Software - requires PKV170 and PKV177 |
| PKV178 | Provides LTE Protocol CDR option for Network Surveillance Base Software | Requires LTE Specific Software at Probe Level; requires PKV108 at the central site |
| PKV108 | Offline LTE (Long Term Evolution) Analyzer (Optional with PacketScan™) | Decode / Analyze LTE option for Network Surveillance Base Software - requires PKV170 and PKV178 |
| PKV171 | Network Surveillance Agent Toolkit | Documentation, sample code (C++), and technical support for real-time connection to probes |
| PKV201 | PacketShark | Handheld Wirespeed packet capture, filter, and aggregator |
| PKV202 | Remote Option | Remote Option |
| VBA032 | Voice Band Analyzer | Analyze voice band parameters e.g. speech level, echo, noise, etc. – requires PC and dongle |
| | <i>Ethernet, IP, VoIP Simulation Tools</i> | |
| ETH100 | PacketCheck™ | 10 / 100 / 1000 Ethernet Interface Testing – BERT testing at MAC, IP, and UDP layers; uses PC NIC (requires dongle) |
| ETH200 | Dual PacketCheck™ | Two PacketChecks™ |

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| PXE100 | PacketExpert™ | Quad Port 10/ 100/ 1000 Wirespeed Packet Analyzer and Emulator, two with 10/100/1000 electrical, two electrical or optical 1 G, w/ RFC 2544, MPLS, Q-in-Q, and VLAN testing. Also MAC, IP, and UDP BERT Testing with Smart Loopback; SFPs extra and available (see below) |
| CXE100 | CLI Server for PXE100 | CLI Server for PXE100 basic and optional software (PXE104, PXE105, PXE106, PXE107, PXE108) |
| PXG100 | PacketExpert 10G / 1G™ | Quad Port – Two with 10/100/1000 Electrical or Two Optical 1G, and Two Optical 10G, with BERT, RFC 2544, and Smart Loopback, SFPs extra and available (see below) |
| CXG100 | CLI Server for PXG100 | CLI Server for PXG100 basic and optional software (PXG104, PXG105, PXG106, PXG107, PXG108) |
| PXN100 | PacketExpert™ 10GX | Quad Port – Two with 10/100/1000 Electrical and Two Optical 1G, or Electrical 1G, All Port BERT – 4 1G Ports, RFC 2544 – 2 1G Ports, All Port Smart Loopback – 4 1G Ports ; USB 3.0 for greater capture speeds, 10G option, trigger board / TTL options (up to 12), Rack options, Two Electrical SFPs included - IPN801, Optical SFPs optional. |
| PXN101 | 10G option for PXN100 | 10G Option for PXN100; operates in 1G mode or 10G mode, 1/2 10G Ports for all applications. All Port Bert – 2 10G Ports, BERT/Loopback – 1 10G BERT + 1 1G Loopback, All Port Loopback – 2 10G Ports, RFC2544 – 2 10G Ports |
| CXN100 | CLI Server for PXN100 | CLI Server for PXN100 basic and optional software (PXN104, PXN105, PXN106, PXN107, PXN108) |
| PXX100 | PacketExpert 40G / 100G | Quad Port – Two 40G / 100G QSFP28 Optical Interfaces, Two 10G SFP+ Optical Interfaces; BERT, RFC 2544, and Smart Loopback; QSFP28 and SFP+ are extra and available (see below) |
| PXG101 | PacketExpert 10G™ Tablet (* Coming Soon) | Touchscreen handheld PacketExpert 10G™, w/ Rechargeable Battery, includes PXG100, SFPs extra and available (see below) |
| PXE104 | PacketExpert™ - SA (4-Port) | Quad (4) Port PacketExpert™ w/ Embedded Single Board Computer (SBC). SBC Specs: Intel Atom CPU, 4GB RAM, Windows 7/32, MSATA SSD, 4 USB Ports If options, then x 1. Rackmount enclosure. |
| PXG104 | PacketExpert™ 10G - Rackmount | Rackmount enclosure of PXG100 w/ Embedded Single Board Computer (SBC), Power Supply, SBC Specs: Intel Atom CPU, 4GB RAM, Windows 7/32, MSATA SSD, 4 USB Ports. SFPs extra and available. |
| PXE112 | PacketExpert™ - SA (12-Port) (* Legacy Product) | 12-Port PacketExpert™ w/ Embedded Single Board Computer (SBC). SBC Specs: Intel Atom CPU, 4GB RAM, Windows 7, MSATA SSD, 4 USB Ports. 19" 1U Rackmount Enclosure. (If options, then x 3) |
| PXE124 | PacketExpert™ - SA (24-Port) (* Legacy Product) | 24-Port PacketExpert™ w/ Embedded Single Board Computer (SBC). SBC Specs: Intel Atom CPU, 4GB RAM, Windows 7, MSATA SSD, 4 USB Ports. 19" 2U Rackmount Enclosure. (If options, then x 6) |
| PXN112 | PacketExpert™ 10GX – SA (12-Port) | 12-Port PacketExpert™ 10GX w/ MT001 and 3 nos of PXN100 units enclosed (If options, then x 3) |
| PXN124 | PacketExpert™ 10GX – SA (24-Port) | 24-Port PacketExpert™ 10GX w/ MT001, MT002 and 6 nos of PXN100 |

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| | | units enclosed (If options, then x 3) |
| PXE105 | Wirespeed Record / Playback 1G | Wirespeed Ethernet frame capture & playback with timestamp & filter – up to 4 ports simultaneously |
| PXG105 | Wirespeed Record / Playback – 10G / 1G | 10G or 1G - Wirespeed Ethernet frame capture & playback with timestamp & filter – up to 2 ports |
| PXN105 | Wirespeed Record / Playback | 10G or 1G - Wirespeed Ethernet frame capture & playback with timestamp & filter – up to 2 ports |
| PXX105a | Wirespeed Record / Playback – 40G | 40G - Wirespeed Ethernet frame capture & playback with timestamp & filter – up to 2 ports simultaneously |
| PXX105b | Record / Playback – 100G | 100G – up to 90% Ethernet frame capture & playback with timestamp & filter – up to 2 ports simultaneously |
| PXE106 | ExpertSAM – 1G | Single Port test to validate service-level agreements (SLAs) as per ITU-T Y.1564 |
| PXG106 | ExpertSAM – 10G / 1G | 10G or 1G - Single Port test to validate service-level agreements (SLAs) as per ITU-T Y.1564 |
| PXN106 | ExpertSAM | 10G or 1G - Single Port test to validate service-level agreements (SLAs) as per ITU-T Y.1564 |
| PXX106 | ExpertSAM – 40G / 100G | 40G / 100 G - Single Port test to validate service-level agreements (SLAs) as per ITU-T Y.1564 |
| PXE107 | PacketBroker – 1G | Non-intrusive Wirespeed Ethernet Tap w/ advanced filtering for deep packet analysis |
| PXG107 | PacketBroker – 10G / 1G | 10G or 1G Non-intrusive Wirespeed Ethernet Tap w/ advanced filtering for deep packet analysis |
| PXN107 | PacketBroker | 10G or 1G Non-intrusive Wirespeed Ethernet Tap w/ advanced filtering for deep packet analysis |
| PXX107 | PacketBroker – 40G / 100G | 40G and 100G Non-intrusive Wirespeed Ethernet Tap w/ advanced filtering for deep packet analysis |
| PXE108 | Multi-Stream UDP/TCP Traffic Generator and Analyzer | ExpertTCP test methodology, based on the RFC 6349 to measure TCP throughput, RTT and optimal window size. Also includes capability to Generate and Analyze up to 12 UDP streams of traffic of various packet lengths |
| PXG108 | Multi-Stream UDP/TCP Traffic Generator and Analyzer 10G / 1G | ExpertTCP test methodology, based on the RFC 6349 to measure TCP throughput, RTT and optimal window size (1G Only). For 1G & 10G capability to Generate and Analyze up to 16 UDP streams of traffic of various packet lengths |
| PXN108 | Multi-Stream UDP/TCP Traffic Generator and Analyzer | ExpertTCP test methodology, based on the RFC 6349 to measure TCP throughput, RTT and optimal window size (1G Only). For 1G & 10G capability to Generate and Analyze up to 16 UDP streams of traffic of various packet lengths |
| PXX108 | Multi-Stream UDP/TCP Traffic Generator and Analyzer 40G / 100G | ExpertTCP test methodology, based on the RFC 6349 to measure TCP throughput, RTT and optimal window size. For 40G & 100G capability to Generate and Analyze up to 16 UDP streams of traffic of various |

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| | | packet lengths Requires PXG100 basic hardware & software; Imparts packet delay, errors, loss, duplication, reordering, throttling on two electrical 10/100/1000 copper or two optical 1 GigE, or two 10 GigE optical; up to 16 unique bidirectional streams for 1G; up to 4 unique bidirectional streams for 10G; available with rack option – see MT001 Requires PXN100 basic hardware & software; Imparts packet delay, errors, loss, duplication, reordering, throttling on two electrical 10/100/1000 copper or two optical 1 GigE, or two 10 GigE optical; up to 16 unique bidirectional streams for 1G; up to 4 unique bidirectional streams for 10G; available with rack option – see MT001 |
| IPN506 | IPNetSim Option for PXG100 (1G and 10G) | |
| IPN507 | IPNetSim Option for PXN100 | |
| IPN1310 | SFP Transceiver for 1 Gbps Optical, Duplex LC, Single-Mode, 1310nm | Generic SFP for 1 Gbps Optical, Duplex LC Connector, Single-Mode, 1310nm, 15km typical maximum range |
| IPN850 | SFP Transceiver for 1 Gbps Optical, Duplex LC, Multi-Mode, 850nm | Generic SFP for 1 Gbps Optical, Duplex LC Connector, Multi-Mode, 850nm, 550m typical maximum range |
| IPN1310p | SFP+ Transceiver for 10 Gbps Optical, Duplex LC, Single-Mode, 1310nm | Generic SFP+ for 10 Gbps Optical, Duplex LC Connector, Single-Mode, 1310nm, 10km typical maximum range |
| IPN850p | SFP+ Transceiver for 10 Gbps Optical, Duplex LC, Multi-Mode, 850nm | Generic SFP+ for 10 Gbps Optical, Duplex LC Connector, Multi-Mode, 850nm, 300m typical maximum range |
| IPN801 | SFP Transceiver for 1 Gbps, Electrical , RJ45 | Generic SFP for 1 Gbps, Electrical w/ RJ45 Connector |
| IPN100m | QSFP28 Transceiver Multi-Mode 100G | QSFP28 Transceiver, Multi-Mode, 850nm, 100m, for 100G, FTLC9551REPM or equivalent |
| IPN100s | QSFP28 Transceiver Single-Mode 100G | QSFP28 Transceiver, Single-Mode, for 100G, FTLC1151RDPL or equivalent |
| IPN040m | QSFP+ Transceiver Multi-Mode 40G | QSFP+ Transceiver for 40G, Multi-Mode, 850nm, 100m, FTL4C2QE1C or equivalent |
| IPN040s | QSFP+ Transceiver Single-Mode 40G | QSFP+ Transceiver for 40G, Single-Mode, FTL4C1QM1C or equivalent |
| SA019a | 1 Gbps / 10 Gbps Fiber Optic Cable, Single-Mode, Duplex LC to Duplex LC | 2m FO Jumper for 1 Gbps or 10 Gbps , 9/125 Single-Mode, Ø2mm |
| SA019b | 1 Gbps / 10 Gbps Fiber Optic Cable, Single-Mode, Duplex LC to Duplex SC | 2m FO Jumper for 1 Gbps or 10 Gbps , 9/125 Single-Mode, Ø2mm |
| SA019c | 1 Gbps / 10 Gbps Fiber Optic Cable, Multi-Mode, Duplex LC to Duplex LC | 2m FO Jumper for 1 Gbps or 10 Gbps , 50/125 Multi-Mode, OM3, Ø2mm |
| SA019d | 1 Gbps / 10 Gbps Fiber Optic Cable, Multi-Mode, Duplex LC to Duplex SC | 2m FO Jumper for 1 Gbps or 10 Gbps , 50/125 Multi-Mode, OM3, Ø2mm |
| SA019e | 40G / 100G Fiber Optic Cable, Multi-Mode | 20 feet MPO (Female) Fiber Cable, 12 Fibers, QSFP, Multimode, for connection between 2 QSFP+ or 2 QSFP28 transceivers |
| SA019f | 40G / 100G Fiber Optic Cable, Single-Mode | 20 feet MPO (Female) Fiber Cable, 12 Fibers, QSFP, Singlemode, for connection between 2 QSFP+ or 2 QSFP28 transceivers |

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| SA019st | 1 Gbps / 10 Gbps Fiber Optic Non-Intrusive T-tap, Duplex LC, Single-Mode | 1 Gbps / 10 Gbps Fiber Optic T-tap for Non-Intrusive Monitoring, Duplex LC Connectors, 9/125 Single-Mode, 70/30 split – Should also order SA019sc or SA019sk2 |
| SA019sc | Fiber Optic Analyzer Cable, (Special 'Y' Cable), Single-Mode , Duplex LC to Dual Duplex LC, 3m | 3m FO Jumper, 9/125 SM, Duplex LC-Dual Duplex LC, Ø3mm, Special Analyzer Cable for use with SA019st |
| SA019mt | 1 Gbps / 10 Gbps Fiber Optic Non-Intrusive T-tap, Duplex LC, Multi-Mode | 1 Gbps / 10 Gbps Fiber Optic T-tap for Non-Intrusive Monitoring, Duplex LC Connectors, 50/125 Multi-Mode, 70/30 split – Should also order SA019mc or SA019mk2 |
| SA019mc | Fiber Optic Analyzer Cable (Special 'Y' Cable), Multi-Mode , Duplex LC to Dual Duplex LC, 3m | 3m FO Jumper, 50/125 MM, Duplex LC-Dual Duplex LC, Ø3mm, Special Analyzer Cable for use with SA019mt |
| SA019rt | Electrical Regeneration Tap for 10/100/1000Base-T (non-aggregation) | Wirespeed Non-aggregation replication and monitoring, passive access without packet tampering, traffic from all OSI layers available for analysis, no IP address, fail-safe bypass, redundant power option extra |
| SA019rta | Electrical Regeneration Tap for 10/100/1000Base-T (aggregation) | Wirespeed aggregation replication and monitoring, passive access without packet tampering, traffic from all OSI layers available for analysis, no IP address, fail-safe bypass, redundant power option extra |
| SA019sk2 | 1 Gbps Fiber Optic Single-Mode T-tap Kit with Required Cables and SFP Transceivers | Kit Includes: (1) SA019st, (1) SA019sc, (2) IPN1310, (2) SA019a, (2) SA019b |
| SA019mk2 | 1 Gbps Fiber Optic Multi-Mode T-tap Kit with Required Cables and SFP Transceivers | Kit Includes: (1) SA019mt, (1) SA019mc, (2) IPN850, (2) SA019c, (2) SA019d |
| SA019skp2 | 10 Gbps Fiber Optic Single-Mode T-tap Kit with Required Cables and SFP+ Transceivers | Kit Includes: (1) SA019st, (1) SA019sc, (2) IPN1310p, (2) SA019a, (2) SA019b |
| SA019mkp2 | 10 Gbps Fiber Optic Multi-Mode T-tap Kit with Required Cables and SFP+ Transceivers | Kit Includes: (1) SA019mt, (1) SA019mc, (2) IPN850p, (2) SA019c, (2) SA019d |
| <i>IP Network Simulators</i> | | |
| IPN506 | IPNetSim Option for PXG100 (1G and 10G) | Requires PXG100 basic hardware & software; Imparts packet delay, errors, loss, duplication, reordering, throttling on two electrical 10/100/1000 copper or two optical 1 GigE, or two 10 GigE optical; up to 16 unique bidirectional multistreams for 1G, up to 4 unique bidirectional streams for 10G; available with rack option – see MT001, only one per rack |
| IPN507 | IPNetSim Option for PXN100 (1G and 10G) | Requires PXN100 basic hardware & software; Imparts packet delay, errors, loss, duplication, reordering, throttling on two electrical 10/100/1000 copper or two optical 1 GigE, or two 10 GigE optical; up to 16 unique bidirectional streams for 1G; up to 4 unique bidirectional streams for 10G; available with rack option – see MT001, up to three per rack |
| IPN505 | IPNetSim 1G Tablet (* Coming Soon) | Touchscreen handheld, w/ Rechargeable Battery, includes IPNetSim 1G-MultiStream, uses PXG100 platform; optional SFPs or SFP+s |

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| IPN701 IPN702 | IPNetSim Handheld (* Coming Soon) Remote Option (* Coming Soon) | Portable Handheld IP Impairment with multi stream Remote Option |
| IPN900 | Extended Hardware Warranty | Extended hardware warranty beyond 1 yr |
| PKS100 | PacketGen™ (includes PacketScan™) | VoIP Simulation Software includes PKV100 PacketScan™ Software, Base PacketGen, SIP Core, and RTP SoftCore (w/ 1 or 2 dongles), ROT |
| PKG100 | PacketGen™ | VoIP Simulation Software, Base PacketGen, SIP Core, and RTP SoftCore (w/ dongle) |
| PKS101 | SIP Core (additional) | 2 nd and Additional Instances (w/ dongle) |
| | RTP Traffic Options (Requires MAPS Signaling Software) | |
| PKS102 | RTP Soft Core (additional) | 2 nd and Additional Instances (w/dongle), ROT |
| PKS103 | RTP luUP Softcore | RTP Voice Traffic Generation over luUP; requires PKS102 and PCD103 – Used in UMTS Network at luCS Interface |
| PKS200 | RTP Pass Through Fax Emulation | RTP T.30 Pass-Through Fax Emulation, requires one of the licenses below, (w/dongle): |
| PKS202 | Fax Port Licences | 2 Fax Ports, RO |
| PKS203 | Fax Port Licences | 8 Fax Ports, RO |
| PKS204 | Fax Port Licences | 30 Fax Ports, RO |
| PKS205 | Fax Port Licences | 60 Fax Ports, RO |
| PKS206 | Fax Port Licences | 120 Fax Ports, RO |
| PKS211 | T.38 Fax Simulation | T.38 Fax Simulation over UDPTL (up to 120 channels) |
| PKS107 | RTP EUROCAE ED-137B | RTP Traffic Generation as per ED-137B – Interoperability Standards for VoIP ATM (Air Traffic Management) Components - PKS102 required |
| PKS108 | RTP Voice Quality Measurements | RTP Based Voice Quality (MOS and R-Factor) measurement for the received stream – PKS102 required, ROT |
| PKS106 | RTP Video Traffic Generation | RTP Video Traffic Generation – up to 500 simultaneous video streams using H.264 codecs. Requires PKS102 RTP Softcore |
| PCDxxx | See descriptions of Codecs under PacketScan | Two Codec licenses required – one for PacketGen + PacketScan |
| | RTP Toolbox | |
| PKB100 | RTP ToolBox™ | VoIP / RTP Simulation and Analysis with SIP signaling (w/dongle), ROT |
| PCDxxx | See descriptions of Codecs under PacketScan | See descriptions of Codecs under PacketScan |
| PKB105 | G.168 Echo Canceller Test Compliance Suite | Manual G.168 Echo Canceller Test Compliance Procedures and Codec Files (w/dongle to enable GLCView); includes PKB070 |
| PKB110 | Client / Server for RTP Toolbox w/ C++ Client w/ TCL Client | Remote Control of RTP Traffic over IP Networks, uses TCP/IP (w/dongle), requires PKB100 |

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| PKB067 | Automated Echo Canceller Testing – All IP Version | Fully Automated EC testing per G.168 from the VoIP side – includes PKB110 – call for details and limitations (w/dongle version); includes PKB070 and AEC001 |
| PKB080 | Automated Echo Canceller Testing – TDM-VoIP | Fully Automated LEC Compliance Testing per G.168 for combined TDM-VoIP Interfaces, requires dongle (includes PKB100, PKB110, xx600, xx610, xx630 and requires additional PKV100, T1 E1 Card with xx062 and xx105); includes PKB070 and AEC001 |
| PKB081 | Automated Acoustic Echo Canceller Compliance Testing (Partial Tests) | Fully Automated AEC Compliance Testing per G.167 and P.340 for combined TDM –TDM and TDM-VoIP Interfaces, includes xx600, xx610, xx630, xx631; may require PKB100, PKB110, and Level Adjustment Unit ; xx062 and xx020 recommended; includes PKB070 |
| AEC001 | AutoECTest Viewer | Offline Viewing of AutoECTest Files / Results; included with PKB067 and PKB080 |
| PKB070 | Audio Processing Utility | Adds noise, creates line or acoustic echo, analyzes speech level and other useful functions; included with EMU037, PKB105, PKB081, PKB067, PKB080, and VBA032 |
| | <i>MAPS (Message Automation and Protocol Simulation)</i> | <i>Protocol Simulation & Conformance Tools for IP (all Products in this Section are Dongle Licensed)</i> |
| PKS109 | MAPS High Density RTP Generator | High Density RTP Call Generator w/ 4x1GigE Network Appliance, emulates greater than 20,000 endpoints; requires companion MAPS PKSXXX signalling product; includes PKS102; for other traffic options e.g. fax, codecs, video, refer “RTP Traffic Options” section; SFPs optional; Also 8x1GigE variant available at an additional \$ 8K |
| PKS111 | MAPS Remote Controller | MAPS GUI client to control single or multiple MAPS instances |
| PKS112 | Message Session Relay Protocol for MAPS-SIP | MSRP protocol emulation for supporting session based instant messaging capability over SIP sessions. Requires PKS120 |
| PKS113 | MAPS Multi User License | MAPS Server with multi user capability |
| PKS170 | CLI Support for MAPS | CLI Support for MAPS Products, includes TCL, Java, Python, and C# |
| PKS116 | MAPS Administrator for ATM (Air Traffic Management) Test Beds | Includes pre-developed scripts to remote control of different components (PacketAnalyzer, AudioAnalyzer, Packetizer, Event Data Logger, Discrete Signal Logger and others) of the TM-ATM solution. |
| PKS117 | MAPS for ED137 Recorder | MAPS for ED137 Recorder Emulation. Emulates Recorder interface as per ED-137B volume 4 defined by EUROCAE Working Group 67 (includes PKS102). Permits emulation of Recorder Interface at CWP/VCS, GRS, and Recorder elements. |
| PKS118 | MAPS SIP for ED137 Radio | MAPS SIP for ED137 Radio Emulation. Emulates Air-to-Ground calls in Air Traffic Management defined by EUROCAE Working Group 67, volume discounts available for 2,3,4,5 units (includes PKS102 and PKS107); Not included, but required platform - Win 7/64, i7,8 GB, Gigabit NIC, with Administrative Level Privilege to Install and Run Application, USB Port Dongle |

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| PKS119 | MAPS SIP for ED137 Telephone | MAPS SIP for ED137 Telephone Emulation. Emulates Ground-to-Ground calls in Air Traffic Management defined by EUROCAE Working Group 67, volume discounts available for 2,3,4,5 units (includes PKS102); Not included, but required platform - Win 7/64, i7,8 GB, Gigabit NIC, with Administrative Level Privilege to Install and Run Application, USB Port Dongle |
| PKS120 | MAPS - SIP | SIP Protocol Emulation; For traffic options refer "RTP Traffic Options" section; |
| PKS126 | MAPS SIP - I | SIP - I Protocol Emulation, Similar to MAPS SIP but can carry ISUP content as MIME body; For traffic options refer "RTP Traffic Options" section; |
| PKS127 | MAPS SIP - IMS | Additional SIP Features for IMS Support |
| PKS121 | SIP Conformance Test Suite | SIP Conformance Test Scripts, includes PKS120 |
| PKS128 | MAPS – H.323 | H.323 Protocol Emulation |
| PKS122 | MAPS - Megaco | Megaco Protocol Emulation, For traffic options refer "RTP Traffic Options" section; |
| PKS123 | Megaco Conformance Test Suite | Megaco Conformance Test Scripts, requires PKS122 |
| PKS124 | MAPS – MGCP Protocol Emulation with Conformance Test Suite | MGCP Protocol Emulation (Bulk Calling) with MGCP Conformance Test Scripts, For traffic options refer "RTP Traffic Options" section; |
| PKS149 | MAPS – Skinny Emulation | Emulation of Skinny Signaling for Cisco VoIP Phones and Routers - SCCP – Skinny Call Control Protocol; For traffic options refer "RTP Traffic Options" section; |
| PKS130 | MAPS – SIGTRAN SS7 over IP | SIGTRAN Protocol Emulation – SS7(ISUP) over M3UA, M2UA and M2PA IP transport layers; optional xx610 and xx620 for TDM traffic generation (refer T1 E1 price list); TDM Fax emulation supported (Optional - Refer XXXFT0) (refer T1 E1 price list) |
| PKS135 | MAPS – SIGTRAN ISDN over IP | SIGTRAN Protocol Emulation – ISDN over IUA IP transport layer; optional xx610 and xx620 for TDM traffic generation (refer T1 E1 price list); TDM Fax emulation supported (Optional - Refer XXXFT0) (refer T1 E1 price list) |
| PKS136 | MAPS – SIGTRAN SS7 INAP | SIGTRAN Protocol Emulation – SS7 INAP (CS1 and CS2) over M3UA, and M2PA IP transport layers |
| PKS152 | MAPS – SIGTRAN ANSI MAP | SIGTRAN Protocol Emulation - IS-41 over IP on B, C, E, F, H, Q, and N interfaces |
| PKS300 | MAPS Multi-Interface MGC | Media Gateway Controller Emulation with SIGTRAN, MGCP, and Megaco interfaces; includes MAPS licenses for ISUP SIGTRAN (PKS130) for SG and MGCP (PKS124) or Megaco (PKS122) licenses for MG simulation; Does not include RTP Licenses*; *GL recommends purchasing additional MG simulation using PKS124 or PKS122 with appropriate RTP licenses for traffic simulation. For traffic options refer "RTP Traffic Options" section |

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| PKS132 | MAPS - MAP | Mobile Application Part (MAP) Protocol Emulation over M3UA, and M2PA IP transport layers; interfaces supported -- B, C, D, E, F, G, H, Gc, Gr, Gf and Gd |
| PKS147 | MAPS Lb Interface Emulator | Emulates BSC & SMLC over Lb Interface |
| PKS148 | MAPS SLs Interface Emulator | Emulates MME & E-SMLC over SLs Interface |
| PKS153 | MAPS IuPC Interface Emulator | Emulates SRNC & SMLC over IuPC Interface |
| PKS151 | MAPS – CAP Emulation over IP | Customized Application for Mobile Network Enhanced Logic – CAMEL Application Part (CAP) over M3UA, and M2PA IP transport layers |
| PKS155 | MAPS – BICC Emulator | BICC Protocol Emulation, optional PKS102 for traffic emulation over M3UA and M2PA IP transport layer; For traffic options refer “RTP Traffic Options” section |
| PKS134 | MAPS – Abis Emulator over IP | BSC to BTS Abis Emulation over TCP transport layer; For traffic options refer “RTP Traffic Options” section |
| PKS137 | MAPS – GSM A Emulation over IP | BSC to MSC A interface emulation over M3UA IP transport layer; For traffic options refer “RTP Traffic Options” section |
| PKS131 | MAPS – Gb Emulator over IP for BSC & SGSN | Gb interface emulation between BSC & SGSN; For traffic options refer “GTP Traffic Options” section |
| PKS139 | MAPS – Diameter Emulation | Emulates Diameter protocol (Supports S6a, Cx, Rx, Gx, Sh, S13 etc interfaces over TCP and SCTP transport layer) |
| PKS140 | MAPS LTE – S1 Interface Emulation | MAPS LTE – S1 Interface Emulation, between eNodeB and MME; For traffic options refer “GTP Traffic Options” section |
| PKS142 | MAPS LTE – eGTP Emulation (S5 / S8 & S11 Interfaces) | MAPS LTE – eGTP Emulation (S5 / S8 and S11 Interfaces), between SGW and PGW or between MME and SGW; For traffic options refer “GTP Traffic Options” section |
| PKS141 | MAPS LTE – X2AP Emulation | X2AP Interface Emulation between eNodeBs |
| PKS146 | MAPS SGs Interface Emulation | SGs Interface Emulation support for CS fallback features |
| PKS143 | MMS Server | MMS Server – 10 simultaneous messages / min |
| PKS144 | Central Control Center for GSM | Central Control Center for GSM Networks |
| PKS145 | MSC / BSC Media Gateway | Media Gateway (within BSC or MSC) for conversion between E1 and IP |
| PKS160 | MAPS UMTS – IuCs and Iuh Interface Emulation | MAPS UMTS – IuCs and Iuh Interface Emulation, between RNC and MSC or between HNB-GW and HNB; For CS (Circuit Switch) traffic options refer “RTP Traffic Options” section; For PS (Packet Switch) traffic options refer “GTP Traffic Options” section |
| PKS164 | MAPS UMTS – IuPs Interface Emulation | MAPS UMTS – IuPs Interface Emulation, between RNC and SGSN; For traffic options refer “GTP Traffic Options” section |
| PKS166 | MAPS UMTS – Gn Interface Emulation | MAPS UMTS – Gn Interface Emulation; For traffic options refer “GTP Traffic Options” section |

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| BTS001_S | Real BTS GSM Cell for 2G and 2.5 G | Real BTS hardware with Abis over IP; up to 8 Tx/Rx channels (approx) |
| BTS001_B | Real Node B for 3G Systems | Real Node B hardware for 3G systems (approx.) |
| BTS001_e | Real eNodeB for 4G (LTE) Systems | Real eNodeB hardware for 4G (LTE) systems (approx.) |
| GTP Traffic Options | | |
| ETH101 | MobileTrafficCore - GTP | Generates and Verifies User Mobile Data Traffic over GTPv1 and GTPv2 (Used with UMTS and LTE) (for simulated HTTP traffic generation over GTP) |
| ETH102 | MobileTrafficCore - Gateway | Emulate SGSN / SGW (GTP to GTP) and GGSN / PDN-GW (GTP to IP) (acts as a real gateway) |
| ETH103 | MobileTrafficCore for Gb Interface | Generates and verifies hundreds to thousands of sessions of http, ftp, etc. user mobile data traffic over GPRS Gb interface (for simulated HTTP traffic generation over IP) |
| Data Traffic Generators | | |
| PKS172 | PacketLoad™ 4 x 1Gig, Data Traffic Generator | Data Traffic Generator - 1U Rack Appliance, 4 x 1Gbps, Wirespeed TCP/HTTP Statefull Traffic Generator with 445 K Transactions / Sec, 20M+ Concurrent TCP Flows, HTTP Payload Control using Custom Payload Files, PCAP Replay. Emulates Mobile Infrastructure Test Traffic with GTP-U Encapsulation while 10K+ Subscribers Add/Delete per Second along with MAPS System. |
| PKS174 | PacketLoad™ 4 x 10Gig, Data Traffic Generator | Data Traffic Generator - 2U Rack Appliance, 4 x 10Gbps, Wirespeed TCP/HTTP Statefull Traffic Generator with 2M+ Transactions/Sec, Up to 100M Concurrent TCP Flows, HTTP Payload Control using Custom Payload Files, PCAP Replay. Emulates Mobile Infrastructure Test Traffic with GTP-U Encapsulation while 10K+ Subscribers Add/Delete per Second along with MAPS System. |
| Miscellaneous Tools | | |
| FXT001 FXT002 | GL Insight - Single Fax Analysis – TDM GL Insight - Single Fax Analysis – IP | Offline fax protocol and image analysis of captured PCM files from TDM and IP networks w/dongle – requires T1 E1 cards or PacketScan™ |
| MDT001 MDT002 | GL Insight - Single Modem Analysis – TDM GL Insight - Single Modem Analysis - IP | Offline modem protocol and data analysis of captured PCM files from TDM and IP networks w/dongle requires T1 E1 cards or PacketScan™ |
| VQT035 | Voice Recorder (FXO RJ11 Hardware Tap / 2-Wire Capture Software) | Used for capturing Audio files from RJ11 connections for GL Insight Fax / Modem Analysis, requires Dual UTA or USB T1E1 unit; includes FXO RJ11 Hardware Tap |
| MT001 | mTOP 1U Rack Mount Enclosure w/SBC | 1U 19" Rack Mount Enclosure w/Rails, Multiple Interface TDM/Optical/Packet w/Single Board Computer (SBC) (Specs: 240 GB |

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| MT002 | mTOP 1U Rack Mount Enclosure w/o SBC | SSD, 8GB RAM, i3 Equivalent, Win 10/64), USB 3.0 Hub, ATX Power Supply, Can house any combination of three (3) USB based units - PacketExperts, tProbes, Dual UTAs, and LightSpeeds; Optional VGA to mini DP interface cable w/o SBC, but for use with MT001 for Daisy Chain or other Rack PCs |
| MT003 | mTOP 2U Rack Mount Enclosure w/SBC | 2U 19" Rack Mount Enclosure w/Rails, Multiple Interface TDM/Optical/Packet w/Single Board Computer (SBC) (Specs: 240 GB SSD, 8GB RAM, i3 Equivalent, Win 10/64), USB 3.0 Hub, ATX Power Supply, Can house any combination of three (3) USB based units - PacketExperts, tProbes, Dual UTAs, T3/E3 units and LightSpeeds; Optional VGA to mini DP interface cable |
| MT004 | mTOP 2U Rack Mount Enclosure w/o SBC | w/o SBC, but for use with MT003 for Daisy Chain or other Rack PCs |
| Others | | |
| PKA001 | 600 ohm to Sound Card Transformer/Adapter | Adapts Sound Card Interface to 600 Ohms |
| PKA006 | VoIP Hub for testing and configuration purposes | Useful for connecting multiple PacketGens™ and PacketScan's™ |
| SA051 | 2U 19" Rackmount Kit for PXE104 | One Hardware Kit for Rackmounting One PXE104. 19" Rackmount Kit occupying 2U |
| PKS150a PKS150b PKS150c | TDM / VoIP Gateway w/ Single T1 E1 TDM / VoIP Gateway w/ Dual T1 E1 TDM / VoIP Gateway w/ Quad T1 E1 | Gateways with TDM and VoIP Interfaces – supports T1 E1 PRI ISDN, Megaco, SIP, H.323, T.38 Fax, and Modem |
| PKX002 | Packet Series Configuration, Setup, Testing (per day) | Exclusive of travel |
| PKX003 | Software, Hardware Warranty and Support | Warranty and Comprehensive Support for Hardware and Software = 10% of PO – All Packet Ethernet Products |
| PKX104 | Interrupted One Year Software Upgrade Extensions | Warranty and Comprehensive Support for Hardware and Software = 12% of PO – All Packet Ethernet Products |
| PKX100 | VoIP Training (per day, exclusive of travel) | VoIP Training (PacketGen™, PacketScan™, RTP Toolbox™, PacketCheck™, IPNetSim™, MAPS™) |
| PKX101 | Professional Services (per day, exclusive of travel) | Development or Testing Services (per day) |

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