XCELLON-MULTIS® QSFP 40/10GE LOAD MODULES

DATA SHEET

INTRODUCING THE EVOLUTION OF XCELLON HSE TESTING

Evolve Your Higher Speed Ethernet Testing

As bandwidth requirements press the limits of networking devices, equipment manufacturers must keep pace by introducing even higher density 40/10GE gear. Xcellon-Multis is Ixia's next-generation architecture and test solution to satisfy a wide range of testing needs. As service providers and large enterprises implement this same equipment in their own networks, they must also test and verify performance and functionality prior to deployment.

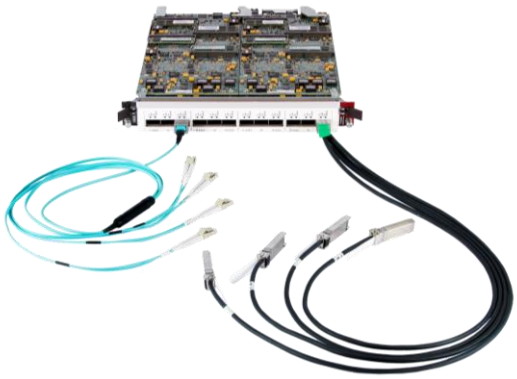
Ixia's Xcellon-Multis QSFP load module family comprises the industry's highest-density 10GE and 40GE higher speed Ethernet (HSE) test equipment, providing more flexible test coverage at 12x40GE ports per load module, with a dual-rate 40GE/10GE capability, all in a single-slot load module. Xcellon-Multis employs innovative 10GE fan-out technology, a new paradigm in Ethernet testing, to allow a higher-speed port to fan-out to several ports of a lower speed. This ultra-dense load module brings a higher return on investment by reducing overall costs associated with product licensing, space, power, and cooling.

KEY FEATURES

- Highest-density QSFP test module in the industry
  - Xcellon-Multis QSFP offers up to 12-ports of native QSFP 40GE interfaces in a single chassis slot
  - Up to 120 native QSFP 40GE interfaces are supported in Ixia's XGS12 rackmount chassis
  - With 10GE fan-out enabled, Xcellon-Multis QSFP can support up to 320-ports of 10GE in the XGS12 rackmount chassis

HIGHLIGHTS

- **Do more with less:**
  - *less* cabling, power, cooling, total cost of ownership, rack space, licensing
  - *more* ports, bandwidth, flexibility, capability, horsepower
- **Cost effective:** reduces total cost of ownership with more ports in a single chassis; 120x40GE and/or 120x10GE or 320x10GE ports with fan-out enabled technology
- **Usability:** a common and broad feature-set across multiple speeds; 40GE and fan-out of 10GE
- **Future-proof:** Grows with your needs by enabling testing of 40GE and 10GE from a single load module on both multimode and single mode fiber plus passive copper media



Xcellon-Multis 40/10 load module with 4x10GE fiber and copper fan-out cables

- QSFP load module models
  - XM10/40GE12QSFP+FAN: A 12-port module (12x40GE) for 40GE operation
  - XM10/40GE6QSFP+FAN: A 6-port (6x40GE) for 40GE operation
  - 10GE fan-out enablement options:
    - XM10GE-FAN-OUT 10GE fan-out option for a new module purchase (1x10GE and 4x10G)
    - UPG-XM10GE-FAN-OUT 10GE fan-out field upgrade option for existing load modules
- Fan-out technology
  - Provides high-density interfaces over multiple speeds; 40GE and 10GE
  - Increases interface flexibility by allowing 40GE and 10GE in mixed speed tests
  - Facilitates a wide range of interoperability testing
- Multi-personality
  - Multi-speed 40/10GE support, all-in-one high density load module
  - Support for multiple interface types: QSFP, QSFP+, SFP+ (LC), and MT fiber cable interfaces
    - 40GBASE-SR4 (multimode) and 40GBASE-LR4 (single mode) optical transceivers
    - Support for QSFP-to-1x10GE or 4x10GE LC connector interfaces for fiber fan-out up to 5 meters in length
    - Support for 40GBASE-CR4 QSFP+ Direct Attached Cable (DAC) passive copper up to 3 meters in length over point-to-point and 4x10GE fan-out
    - Support for 10GBASE-CR SFP+ Direct Attach Cable (DAC) 1x10GE or 4x10GE fan-out over passive copper up to 3 meters in length
  - Facilitates a wide range of 40GE and 10GE interoperability testing
- Layers 2-7 protocol coverage
  - Supports mid-range protocol testing for L2-3 routing/switching and data center test cases using the IxNetwork application
  - Supports a low-range scalable solution for stateful testing with protocol support for: HTTP, SSL, FTP/TFTP, email (SMTP, POP3, IMAP), IPv4, IPv6, VLAN, ER
- Same feature set across all speeds
  - Exact same data plane features are provided for 40GE /10GE testing
  - Exact same L2/3 protocol coverage for 40GE/10GE testing
- The highest ROI of any test and measurement load module
  - Density
  - Versatility – multiple speeds, multiple interfaces
  - Balanced performance and scale
  - Greater test case coverage
  - Industry-standard fan-out technology

SPECIFICATIONS

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
Part number	944-1105	944-1109
Hardware Load Module Specifications		

Slot / number of ports	1-slot:
	• 12x40GE QSFP native ports
	• 10GE fan-out:
	  ○ 12x10GE ports (1x10GE/port)
	  ○ 32x10GE ports (4x10GE/port)
		1-slot:
		• 6x40GE QSFP native ports
		• 10GE fan-out:
		  ○ 6x10GE ports (1x10GE/port)
		  ○ 16x10GE ports (4x10GE/port)

Physical interfaces	• QSFP 12x40GE (native) • 10GE: LC connector (fiber), or SFP+ connector (copper)	• QSFP 6x40GE (native) • 10GE: LC connector (fiber), or SFP+ connector (copper)
Number of Users	• Up to 4-users per load module	• Up to 2-users per load module
Chassis Capacity: Maximum Number of Cards and Ports per Chassis Model		
XGS12-SD Chassis[i] (940-0011)	10 load modules: • 120-ports of 40GE • 120-ports of 10GE (1x10GE mode) • 320-ports of 10GE (4x10GE mode)	10 load modules: • 60-ports of 40GE • 60-ports of 10GE (1x10GE mode) • 160-ports of 10GE (4x10GE mode)

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
XGS12-HS Chassis[i] **(940-0006)**	10 load modules: • 120-ports of 40GE • 120-ports of 10GE (1x10GE mode) • 320-ports of 10GE (4x10GE mode)	10 load modules: • 60-ports of 40GE • 60-ports of 10GE (1x10GE mode) • 160-ports of 10GE (4x10GE mode)
XGS12-HSL Chassis[i] (940-0016)	10 load modules: • 120-ports of 40GE • 120-ports of 10GE (1x10GE mode) • 320-ports of 10GE (4x10GE mode)	10 load modules: • 60-ports of 40GE • 60-ports of 10GE (1x10GE mode) • 160-ports of 10GE (4x10GE mode)
XGS2-SD Chassis (940-0010)	2 load modules: • 24-ports of 40GE • 24-ports of 10GE (1x10GE mode) • 64-ports of 10GE (4x10GE mode)	2 load modules: • 12-ports of 40GE • 12-ports of 10GE (1x10GE mode) • 32-ports of 10GE (4x10GE mode)
XGS2-HS Chassis (940-0012)	2 load modules: • 24-ports of 40GE • 24-ports of 10GE (1x10GE mode) • 64-ports of 10GE (4x10GE mode)	2 load modules: • 12-ports of 40GE • 12-ports of 10GE (1x10GE mode) • 32-ports of 10GE (4x10GE mode)

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
XGS2-HSL Chassis (940-0014)	2 load modules: • 24-ports of 40GE • 24-ports of 10GE (1x10GE mode) • 64-ports of 10GE (4x10GE mode)	2 load modules: • 12-ports of 40GE • 12-ports of 10GE (1x10GE mode) • 32-ports of 10GE (4x10GE mode)
CPU and memory	Multicore processors with 4GB of memory per processor	
IEEE interface protocols	• 40GBASE-SR4, 40GBASE-LR4 (802.3ba-2010) • 40GBASE-CR4 (up to 3 meters passive copper cable length) • 10GBASE-SR (802.3ae-2002) • 10GBASE-CR (up to 3 meters passive copper cable length)	

Transceiver support	QSFP:
	• 40GBASE-SR4 (multimode 850nm)
	• 40GBASE-LR4 (single mode 1310nm please review end note)[ii]
	  ○ Maximum of 3 each 40GBASE-LR4 optical transceivers may installed in these load modules at one time.
	• 40GBASE-PLR4 (single mode 1310nm please review end note)[ii & iii]
	  ○ Maximum of 3 each 40GBASE-PLR4 optical transceivers may installed in these load modules at one time.	

Operating temperature range	41°F to 95°F (5°C to 35°C), ambient air 0% to 85%, non-condensing	
Load module dimensions	16.8” (L) x 1.3” (W) x 12.0” (H) 427mm (L) x 33mm (W) x 305mm (H)	

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
Load module weights	12-port model: • Module only: 12.5 lbs. (5.67 kg) • Shipping: 16.2 lbs. (7.35 kg) 6 port model: • Module only: 9.3 lbs. (4.22 kg) • Shipping: 13.1 lbs. (5.94 kg)	
Transmit Feature Specifications		
Transmit engine	Wire-speed packet generation with timestamps, sequence numbers, data integrity signature, and packet group signatures	
Max. streams per port	• 40GE: 32 • 10GE 12x10 mode: 32 (1x10GE fan-out/port) • 10GE 32x10 mode: 16 (4x10GE fan-out/port)	
Max. streams per port in data center Ethernet	• 40GE: 32 • 10GE 12x10 mode: 32 (1x10GE fan-out/port) • 10GE 32x10 mode: 16 (4x10GE fan-out/port)	
Stream controls	Rate and frame size change on the fly, sequential and advanced stream scheduler	
Minimum frame size	40GE: • 64 bytes (line rate) • 49 bytes (< line rate) 10GE: • 64 bytes (line rate) • 49 bytes (< line rate)	40GE: • 64 bytes (line rate) • 49 bytes (< line rate) 10GE: • 64 bytes (line rate) • 49 bytes (< line rate)

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
Maximum frame size	14,000 bytes	
Maximum fame size in data center Ethernet	9,216 bytes	
Priority flow control	8 line-rate-capable queues with each supporting up to 2,500 byte frame lengths 1 queue supporting up to 9,216 byte frame length	
Frame length controls	Fixed, increment by user-defined step, weighted pairs, uniform, repeatable random, IMIX, and Quad Gaussian	
User defined fields (UDF):	Fixed, increment or decrement by user-defined step, sequence, value list, and random configurations; up to ten, 32-bit wide UDFs are available	
Value lists (max.)	40GE: 1 million / UDF 10GE: • 1million / UDF (1x10GE mode) • 512K / UDF (4x10GE mode)	
Sequence (max.)	40GE: 128K / UDF 10GE: • 128K / UDF (1x10GE mode) • 64K / UDF (4x10GE mode)	
Error generation	Generate good CRC or force bad CRC, undersize and oversize standard Ethernet frame lengths, and bad checksum	
Hardware checksum generation	Checksum generation and verification for IPv4, IP over IP, IGMP/GRE/TCP/UDP, L2TP, GTP	
Link fault signaling	Reports, no fault, remote fault, and local fault port statistics	

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
Latency measurement resolution	40GE and 10GE: 2.5 nanoseconds	
Intrinsic latency compensation	Removes inherent latency error from 40GE or 10GE port electronics	
Transmit line clock adjustment	Ability to adjust the parts per million line frequency over a range of -100 ppm to +100 ppm per resource group	
Receive Feature Specifications		
Receive engine	Wire-speed packet filtering, capturing, real-time latency and inter-arrival time for each packet group, with data integrity, sequence, and advanced sequence checking capability	
Trackable receive flows per port	40GE: 128K 10GE: • 128K (1x10GE mode) • 64K (4x10GE mode)	
Minimum frame size	64 bytes at line rate ≥ 49 bytes not a line rate	
Filters (user-defined statistics, UDS)	2 SA/DA pattern matchers, 2x16-byte user-definable patterns with offsets capability for start of: frame, IP, or protocol; Up to 6 UDS counters are available	
Hardware capture buffer per port or resource group	40GE: 2GB per 1, user-selected port/resource group 10GE: • 1x10GE mode: 2GB per 1 user-selected link of the 1x10GE fan-out link resource group • 4x10GE: 256MB/port for all ports in the fan-out of the resource group	

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
Statistics and rates	Link state, line speed, frames sent, valid frames received, bytes sent/received, fragments, undersize, oversize, CRC errors, VLAN tagged frames, 6 user-defined stats, capture trigger (UDS 3), capture filter (UDS 4), 8 QoS counters, data integrity frames, data integrity errors, sequence and advanced sequence checking frames, sequence checking errors, ARP, and PING requests and replies	
PCS lanes port statistics	PCS Sync Errors, Illegal Codes, Remote Faults, Local Faults, Illegal Ordered Set, Illegal Idle, Illegal SOF, Out Of Order SOF, Out Of Order EOF, Out Of Order Data, Out Of Order Ordered Set	
Latency / jitter measurements	Cut-through, store & forward, forwarding delay, up to 16 time bins latency/jitter, MEF jitter, and inter-arrival time	
Layer 2-7 Protocol Support		
L2/3 routing, bridging, and timing	**Routing:** RIP, RIPng, OSPFv2/v3, ISISv4/v6, EIGRP, EIGRPv6, BGP/BGP+ **MPLS:** RSVP-TE, RSVP-TE P2MP, LDP, mLDP, BGP RFC 3107, MPLS-TP, MPLS OAM **MPLS VPN:** L2VPN PW, L3VPN/6VPE, 6PE, VPLS-LDP, VPLS-BGP, VPLS-BGP AD and LDP FEC 129, Inter-AS VPN Option A, B, and C, Seamless MPLS, Carrier Supporting Carrier (CsC), GRE mVPN, NG mVPN (mLDP and RSVP-TE P2MP), EVPN/PBB-EVPN **High-Availability:** BFD, Graceful Restart, MPLS Ping/TraceRoute, LSP BFD, VCCV BFD, Real-time dynamic label swap for convergence time measurement up to millisecond accuracy **IP Multicast:** IGMPv1/v2/v3, MLDv1/v2, PIM-SM/SSM, PIM-BSR, multicast VPN **Switching:** STP/RSTP, MSTP, PVST+/RPVST+, LACP, LLDP, Protocols over LACP Bundle **Carrier Ethernet:** Link OAM, CFM, Service OAM, PBT/PBB-TE, SyncE, PTP (1588v2), E-LMI	
Data center Ethernet	Priority Class-Based Flow Control (IEEE802.1Qbb), FCoE/ FIP, LLDP/DCBX, VNTAG/VIC, OpenFlow, FabricPath, TRILL, SPBM, VEPA, VXLAN	

MODEL NAME	XM10/40GE12QSFP+FAN	XM10/40GE6QSFP+FAN
Broadband access	**Broadband:** ANCP, PPPoX, DHCPv4 client/server, DHCPv6 client/server, L2TPv2, Radius Attributes for L2TP, Dual-Stack PPPoX, AMT **Authentication:** 802.1x, WebAuth, Cisco NAC	
32x10GE fan out protocol support: **4x10GE for QSFP load modules**	**L2/3 routing, bridging and Timing:** **Routing:** RIP, RIPng, OSPFv2/v3, ISISv4/v6, EIGRP, EIGRPv6, BGP/BGP+ **MPLS:** RSVP-TE, RSVP-TE P2MP, LDP, mLDP **MPLS VPN:** L3VPN/6VPE, 6PE, VPLS-LDP, VPLS-BGP, VPLS-BGP AD and LDP FEC 129, NG mVPN (mLDP and RSVP-TE P2MP), PWE3 **High-Availability:** BFD **IP Multicast:** IGMPv1/v2/v3, MLDv1/v2, PIM-SM/SSM, multicast VPN **Switching:** STP/RSTP, MSTP, PVST/PVST+/RPVST+ **Carrier Ethernet:** Link OAM, CFM/ Y.1731, PBB-TE, SyncE, PTP (1588v2), E-LMI, **Data Center Ethernet** FCoE, DCBX, VNTAG/VIC, OpenFlow, FabricPath, TRILL, SPBM, VEPA, VXLAN, DHCPv4 over VXLAN over IPv4, DHCPv6 over VXLAN over IPv4, IPv4 over VXLAN over IPv4, IPv6 over VXLAN over IPv4, IGMP over VXLAN over IPv4, MLD over VXLAN over IPv4 **Broadband** DHCPv4 client/server, DHCPv6 client/server	
Layer 4-7 application traffic testing support **(IxLoad)**	HTTP, SSL, FTP/TFTP, email (SMTP, POP3, IMAP), IPv4, IPv6, VLAN, ER	

APPLICATION SUPPORT

XCELLON-MULTIS LOAD MODULES

- **IxNetwork:** Provides wire-rate traffic generation with service modeling that builds realistic, dynamically-controllable data-plane traffic. IxNetwork offers the industry's best test solution for functional and performance testing by using comprehensive emulation for routing, switching, MPLS, IP multicast, broadband, authentication, Carrier Ethernet, and data center Ethernet protocols.
- **IxLoad:** A scalable Layer 4-7 solution for testing converged multiplay services, application delivery platforms, and security devices and systems. IxLoad emulates data, voice, and video subscribers and associated protocols to ensure quality of experience (QoE).
- **IxExplorer:** Layer 2-3 wire-speed traffic generation and analysis.
- **Tcl API:** Custom user script development for layer 1-7 testing.

ORDERING INFORMATION

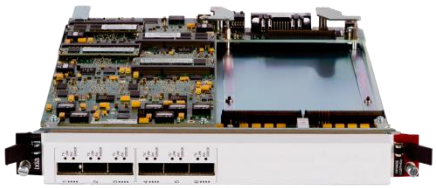
LOAD MODULES

944-1105

Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP+ load module, 1-slot with 12-ports of 40GE QSFP+ with L2-7 support. The load module is compatible with the XGS12-SD 12-slot, standard performance rack mount chassis bundle (940-0011), XGS12-HS 12-slot, high-speed performance rackmount chassis bundle (940-0006), XG12 12-slot, rackmount chassis (940-0005), XGS2-SD 2-slot, 3RU standard performance chassis bundle (940-0010), XGS2-HS 2-slot, 3RU high-speed performance chassis bundle (940-0012), XGS2-HSL 2-slot, 3RU high-speed performance chassis bundle (940-0014), XGS12-HSL 12-slot, high-speed performance rackmount chassis bundle (940-0016), and XM2-02 desktop chassis (941-0023). REQUIRES purchase of one or more QSFP 40GBASE-SR4 optical transceivers (948-0031) and MT 12-fiber MMF cable, 3-meter length (942-0041) or QSFP-to-QSFP 40GE 40GBASE-CR4 Direct Attach Cable (DAC), passive copper, point-to-point cable, 3-meter length (942-0071). All media listed are available from Ixia. NOTE: For 10GE fan-out capability, the module requires either XM10GE-FAN-OUT 10GE fan-out option for a new module purchase (905-1000), or UPG-XM10GE-FAN-OUT 10GE fan-out UPGRADE option to UPGRADE an existing load module (905-1001).

944-1109

Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP+ load module, 1-slot with 6-ports of 40GE QSFP+ with L2-7 support. The load module is compatible with the XGS12-SD 12-slot, standard performance rack mount chassis bundle (940-0011), XGS12-HS 12-slot, high-speed performance rackmount chassis bundle (940-0006), XG12 12-slot, rackmount chassis (940-0005), XGS2-SD 2-slot, 3RU standard performance chassis bundle (940-0010), XGS2-HS 2-slot, 3RU high-speed performance chassis bundle (940-0012), XGS2-HSL 2-slot, 3RU high-speed performance chassis bundle (940-0014), XGS12-HSL 12-slot, high-speed performance rackmount chassis bundle (940-0016), and XM2-02 desktop chassis (941-0023). REQUIRES purchase of one or more QSFP 40GBASE-SR4 optical transceivers (948-0031) and MT 12-fiber MMF cable, 3-meter length (942-0041) or QSFP-to-QSFP 40GE 40GBASE-CR4 Direct Attach Cable (DAC), passive copper, point-to-point cable, 3-meter length (942-0071). All media listed are available from Ixia. NOTE: For 10GE fan-out capability, the module requires either XM10GE-FAN-OUT 10GE fan-out option for a new module purchase (905-1000), or UPG-XM10GE-FAN-OUT 10GE fan-out UPGRADE option to UPGRADE an existing load module (905-1001).



10GE FAN-OUT OPTIONS

905-1000

XM10GE-FAN-OUT 10GE factory installed fan-out option for Xcellon-Multis load modules. This enables 10GE fan-out capability on the following Xcellon-Multis load modules: XM100GE4CXP+FAN 100/40G Ethernet (944-1101) and XM40GE12QSFP+FAN 40GE (944-1102), XM10/40GE12QSFP+FAN (944-1105) and XM10/40GE6QSFP+FAN (944-1109). Note: This option is REQUIRED ON NEW PURCHASES of Xcellon-Multis CXP and/or QSFP load modules.

905-1001

UPG-XM10GE-FAN-OUT 10GE FIELD UPGRADE fan-out option for Xcellon-Multis load modules. This enables 10GE fan-out capability on the following Xcellon-Multis load modules: XM100GE4CXP+FAN 100/40G Ethernet (944-1101) and XM40GE12QSFP+FAN 40GE (944-1102), XM10/40GE12QSFP+FAN (944-1105) and XM10/40GE6QSFP+FAN (944-1109). Note: This option is REQUIRED ON UPGRADE PURCHASES of the 10GE fan-out capability for Xcellon-Multis CXP and/or QSFP load modules.

TRANSCEIVERS AND CABLES

QSFP TRANSCEIVER

948-0031

QSFP+ 40GE, 40GBASE-SR4 optical transceiver, pluggable, MMF, 850nm. This is compatible with the following Ixia load modules: Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP load module (944-1105), and Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP (944-1109).

948-0032

QSFP+ 40GE, 40GBASE-LR4, optical transceiver, pluggable, SMF, 1310nm. This is compatible with the following Ixia load modules: Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP load module (944-1105), and Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP (944-1109). See endnote IV of this document.

QSFP+-PLR4-XCVR

QSFP+ 40GBASE-PLR4 40GE pluggable optical transceiver, SMF (singlemode), 1310nm, 10 km reach. Compatible with the XM10/40GE12QSFP+FAN (944-1105) and XM10/40GE6QSFP+FAN (944-1109) load modules with 10GE fan-out option enabled. Can also be used with XMR10GE32SFP+FAN 10G Ethernet (947-5053) and XMR10GE16SFP+FAN 10GE (947-5054) load module bundles.

FIBER OPTIC CABLES (POINT-TO-POINT AND FAN-OUT)

948-0025

QSFP+ 40GBASE-SR4 40GE active optical parallel fiber cable assembly, OM3 multimode fiber, 850nm, 3-meter length. For use with the following load modules: Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP load module (944-1105), Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP load module, Xcellon-FlexAP1040SQ load module QSFP+ ports (944-1062), Xcellon-FlexFE40G4Q QSFP+ load module (944-1065), HSE40GEQSFP1-01, 40GE QSFP+ load module (944-0092), and CFP adapters; CFP-to-QSFP+ Interface Adapter Module (948-0022), and CFP-to-QSFP+ Dual-Port Interface Adapter Module (948-0023).

942-0067

MT-to-4x10GE LC fan-out, MMF, 3-meter cable. REQUIRES QSFP 40GBASE-SR4, pluggable, transceiver, 850nm, MMF (948-0031). Cables and transceiver are compatible with the following load modules: Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP load module (944-1105), and the Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP load module (944-1109).

942-0068

MT-to-4x10GE LC fan-out, MMF, 5-meter cable. REQUIRES QSFP 40GBASE-SR4, pluggable, transceiver, 850nm, MMF (948-0031). Cables and transceiver are compatible with the following load modules: Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP load module (944-1105), and the Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP load module (944-1109).

942-0069

QSFP-to-4x10GE SFP+ Direct Attach Cable (DAC) passive copper, fan-out, 3-meter length. This cable is compatible with these load modules: Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP (944-1105) and Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP (944-1109). NOTE: The load modules must have the 10GE fan-out option enabled to use this cable. REQUIRES: 905-1000 XM10GE-FAN-OUT 10GE fan-out option for NEW purchases of Xcellon-Multis load modules, or the 905-1001 UPG-XM10GE-FAN-OUT 10GE fan-out option UPGRADE for existing Xcellon-Multis load modules.

942-0071

QSFP-to-QSFP 40GE 40GBASE-CR4 Direct Attach Cable (DAC), passive copper, point-to-point cable, 3-meter length. This cable is compatible with these load modules: Xcellon-Multis XM10/40GE12QSFP+FAN 40-Gigabit Ethernet QSFP (944-1105) and Xcellon-Multis XM10/40GE6QSFP+FAN 40-Gigabit Ethernet QSFP (944-1109).

QSFP+-PLR4-CBL

4x10GE passive fiber fan-out cable, MT-to-4xLC, singlemode fiber 1310nm, 3-meter length. REQUIRES 1 each QSFP+ PLR4 40GE pluggable optical transceiver (QSFP+-PLR4-XCVR). This combination is compatible with XM10/40GE12QSFP+FAN (944-1105) and XM10/40GE6QSFP+FAN (944-1109) load modules with 10GE fan-out option enabled. Can also be used with XMR10GE32SFP+FAN 10G Ethernet (947-5053) and XMR10GE16SFP+FAN 10GE (947-5054) bundles.

IXIA WORLDWIDE
26601 W. AGOURA ROAD
CALABASAS, CA 91302

(TOLL FREE NORTH AMERICA)
1.877.367.4942
(OUTSIDE NORTH AMERICA)
+1.818.871.1800
(FAX) 818.871.1805
www.ixiacom.com

IXIA EUROPE
CLARION HOUSE, NORREYS DRIVE
MAIDENHEAD SL6 4FL
UNITED KINGDOM

SALES +44.1628.408750
(FAX) +44.1628.639916

IXIA ASIA PACIFIC
101 THOMSON ROAD,
#29-04/05 UNITED SQUARE,
SINGAPORE 307591

SALES +65.6332.0125
(FAX) +65.6332.0127

i The Xcellon-Multis load modules may not be placed into slots 1 and 12 of the XGS12-HS, XGS12-HSL, XGS12-SD, and XG12 chassis. Please consult your factory sales representative for further information.

ii 40GE Mode: Due to increased power consumption of single-mode fiber QSFP-LR4 (40GBASE-LR4) and QSFP-PLR4 optical transceivers, a maximum of three may be installed in a load module at one time. Active ports for the XM10/40GE12QSFP+FAN (944-1105) are ports 10, 11, and 12. Active ports for the XM10/40GE6QSFP+FAN (944-1109) are ports 4, 5, and 6. For both models, the remaining ports may still have 40GBASE-SR4 transceivers installed while the three each 40GBASE-LR4 transceivers are also installed at the same time.

iii 10GE Fan-out mode: Due to increased power consumption of single mode fiber QSFP-PLR4 optical transceivers, a maximum of two such transceivers may installed in front face-plate ports numbered 10 and 12 on the XM10/40GE12QSFP+FAN (944-1105) or ports numbered 4 and 6 on XM10/40GE6QSFP+FAN (944-1109) at one time. Please contact Ixia sales representatives for additional information.

iii 40GE Mode: Due to increased power consumption of single-mode fiber QSFP-LR4 (40GBASE-LR4) and QSFP-PLR4 optical transceivers, a maximum of three may be installed in a load module at one time. Active ports for the XM10/40GE12QSFP+FAN (944-1105) are ports 10, 11, and 12. Active ports for the XM10/40GE6QSFP+FAN (944-1109) are ports 4, 5, and 6. For both models, the remaining ports may still have 40GBASE-SR4 transceivers installed while the three each 40GBASE-LR4 transceivers are also installed at the same time.

iii 10GE Fan-out mode: Due to increased power consumption of single mode fiber QSFP-PLR4 optical transceivers, a maximum of two such transceivers may installed in front face-plate ports numbered 10 and 12 on the XM10/40GE12QSFP+FAN (944-1105) or ports numbered 4 and 6 on XM10/40GE6QSFP+FAN (944-1109) at one time. Please contact Ixia sales representatives for additional information.