# IXIA A Keysight Business

### NOVUS<sup>™</sup> 10/1 5-SPEED ETHERNET LOAD MODULES

DATA SHEET

## EVOLVE YOUR MULTI-RATE ETHERNET TESTING

#### HIGH-DENSITY 10G/5G/2.5G/1G/100M MULTI-RATE ETHERNET TEST IN ONE LOAD MODULE

Ixia's Novus 10/1 5-speed family of load modules offers complete Layer 2-7 and Layer 2/3 network and application testing.

Support for Dual-PHY SFP+ and 10GBASE-T RJ45 copper that provides line-rate L2/3 traffic generation and analysis, high-performance routing/bridging, and host and access protocol emulation. True L4-7 application traffic generation and subscriber emulation is available, with the full feature load modules. With up to 16 Dual-PHY ports per module, you can create ultra-high-density test environments for 10/5/2.5/1/100M Ethernet over copper and for 10/1/100M over fiber. Up to 192 5-speed test ports are supported in a single 12-slot rackmount chassis.

Novus 5-speed load modules are available in four different models to match your L2/3 and/or L2-7 requirements and budget:

- NOVUS10/5/2.5/1/100M16DP: A full-featured 16-port, Dual-PHY SFP+ and RJ45 10/5/2.5/1/100M L2-7 load module
- NOVUS10/5/2.5/1/100M8DP: A full-featured 8-port, Dual-PHY SFP+ and RJ45 10/5/2.5/1/100M L2-7 load module
- NOVUS10/5/2.5/1/100M16DP-R: A reduced-feature 16-port, Dual-PHY SFP+ and RJ45 10/5/2.5/1/100M L2/3 load module
- NOVUS10/5/2.5/1/100M8DP-R: A reduced-feature 8-port, Dual-PHY SFP+ and RJ45 10/5/2.5/1/100M L2/3 load module

#### **HIGHLIGHTS**

- Industry's only and highest-density Dual-PHY SFP+/10GBASE-T RJ45 solution
- 5-speed 10G/5G/2.5G/1GE/100M ports provide low total cost of ownership and high ROI
- Feature, scale, and performance parity with Ixia's existing10GE and 1GE load modules
- Broad coverage of L4-7 protocols including video, voice, storage, and access
- Purpose built to test high-performance, low-latency devices



NOVUS10/5/2.5/1/100M16DP 16-port Dual-PHY 5-speed load module

To support evolving test needs, users can add a field-upgrade option that converts an 8-port, 5-speed, full- or reduced-feature load module to a 16-port 5-speed load module of the same type.

26601 Agoura Road | Calabasas, CA 91302 USA | Tel + 1-818-871-1800 | www.ixiacom.com 915-3732-01-9071 Rev C Page 1

#### **KEY FEATURES**

- 10G, 5G, 2.5G, 1G, and 100M line-rate hardware packet capture and decode tools to detect and debug data transmission errors
- Full feature L2-7, and reduced L2/3 feature versions, allowing flexibility to choose the desired level of performance
- All models and their speeds support full line-rate traffic generation to evaluate ASIC designs, FPGAs, and networking equipment switch fabrics
- Ultra-high scale and performance for emulating L2/3 protocols to validate performance and scalability of routing/switching and data center test cases using Ixia's IxNetwork application
- Support for testing SFP+ and 10GBASE-T RJ-45 copper ports at different speeds simultaneously using the same load module
- Industry-standard RFC tests and protocol emulation in large test bed with hundreds of 10G, 5G, 2.5G, 1G, and/or 100M ports in a single test—to benchmark data plane, performance, and scale of ultra-high-density network equipment
- Application support for IxExplorer, IxNetwork, IxLoadi, and their related Tcl and automation APIs
- IxLoad<sup>i</sup> application for L4-7 testing, including data, video, voice, storage, and access protocols
- Flexible 4:1 CPU and memory aggregation, for ultra-high-scale protocol emulation and performance
- Flexible custom packet generation for all supported frame sizes and speeds
- Real-time latency measurement and statistics with a latency resolution of 2.5ns
- Extensive port and traffic flow statistics
- Advanced sequence checking with duplicate packet detection

Novus 10/1 5-speed brings a new level of performance with a broad range of coverage of the most popular features of IxNetwork and IxLoad<sup>i</sup> applications.

#### **SPECIFICATIONS**

PRODUCT DESCRIPTION	NOVUS 10/5/2.5/1/100M16DP	NOVUS 10/5/2.5/1/100M8DP <sup>ii</sup>	NOVUS 10/5/2.5/1/100M16DP-R <sup>iii</sup>	NOVUS 10/5/2.5/1/100M8DP-R <sup>II,</sup> III	
Part Number	944-1148	944-1149	944-1154	944-1155	
Hardware Load Module Specifications					
Slot / Number of Ports	1-slot with 16x10/1GE	1-slot with 8x10/1GE	1-slot with 16x10/1GE	1-slot with 8x10/1GE	

26601 Agoura Road | Calabasas, CA 91302 USA | Tel + 1-818-871-1800 | www.ixiacom.com 915-3732-01-9071 Rev C Page 2

PRODUCT DESCRIPTION	NOVUS 10/5/2.5/1/100M16DP	NOVUS 10/5/2.5/1/100M8DP <sup>II</sup>	NOVUS 10/5/2.5/1/100M16DP-R <sup>iii</sup>	NOVUS 10/5/2.5/1/100M8DP-R <sup>II,</sup> III			
Physical Interfaces	SFP+ and 10GBASE-T RJ-45						
Supported Port Speeds	<ul> <li>10G, 1G, and 100Mbps speed support on the fiber and copper RJ45 ports</li> <li>5G, 2.5G speed support on the copper RJ45 ports</li> </ul>						
Number of users	<ul> <li>Normal mode: Up load module (i.e. mode)</li> <li>Aggregation mode per load module</li> <li>8-port model:</li> <li>Normal mode: Up load module (i.e. mode)</li> <li>Aggregation mode per load module</li> </ul>	non-aggregation e: Up to 4 users to to 8-users per non-aggregation	<ul> <li>16-port model:</li> <li>Up to 16-users per load module</li> <li>8-port model:</li> <li>Up to 8-users per load module</li> </ul>				
CPU and Memory	Multicore processor w	rith 2GB of CPU me	mory per port pair				
Port Aggregation	<ul> <li>Aggregation mode entire load module</li> <li>Ixia aggregation no CPU and memory ports to be assign provides for ultra- L2/3 protocol emu- 16Gbps of L4-7 st</li> </ul>	node allows the resources of 4 red to 1 port. This high scalability for lation and up to	Not supported				
IEEE Interface Protocols	<ul> <li>IEEE P802.3an for 10GBASE-T</li> <li>IEEE P802.3bz for 2.5/5GE</li> </ul>						
Cable Media	<ul> <li>CAT5e twisted pair</li> <li>CAT6 twisted pair</li> <li>CAT6A twisted pair</li> </ul>						

PRODUCT DESCRIPTION	NOVUS 10/5/2.5/1/100M16DP	NOVUS 10/5/2.5/1/100M8DP <sup>II</sup>	NOVUS 10/5/2.5/1/100M16DP-R <sup>iii</sup>	NOVUS 10/5/2.5/1/100M8DP-R <sup>II,</sup> III			
Load Module Dimensions	<ul> <li>17.3" (L) x 1.3" (W) x 12.0" (H)</li> <li>440mm (L) x 33mm (W) x 305mm (H)</li> </ul>						
Load Module Weights	<ul><li>Module only: 12.9</li><li>Shipping: 19.7 lbs</li></ul>	,					
Temperature	<ul><li>Operating: 41°F t</li><li>Storage: 41°F to</li></ul>	`	,				
Humidity	<ul><li>Operating: 0% to</li><li>Storage: 0% to 85</li></ul>						
Chassis Capacity:	Maximum Number of	Cards and Ports	per Chassis Model				
XGS12-SD Rackmount Chassis (940-0011) <sup>iv</sup>	12 load modules:       16 ports with       17 load modules:       16 ports with       16 ports with						
XGS12-HSL Rackmount Chassis (940- 0016) <sup>iv</sup>	12 load modules: 192-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support	12 load modules: 96-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support					
XGS2-SD Rackmount Chassis (940-0010)	2 load modules: 32-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support  2 load modules: 32-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support  2 load modules: 32-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support  2 load modules: 32-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support  2 load modules: 32-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support						
XGS2-HSL Rackmount Chassis (940-0014)	2 load modules: 32-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support	2 load modules: 16-ports with 10/5/2.5/1/100M Dual-PHY, 5- speed support	2 load modules: 32-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support	2 load modules: 16-ports with 10/5/2.5/1/100M Dual-PHY, 5-speed support			

PRODUCT DESCRIPTION	NOVUS 10/5/2.5/1/100M16DP	NOVUS 10/5/2.5/1/100M8DP <sup>#</sup>	NOVUS 10/5/2.5/1/100M16DP-R <sup>iii</sup>	NOVUS 10/5/2.5/1/100M8DP-R <sup>II,</sup> III		
Transmit Feature S	Specifications					
Transmit Engine	Wire-speed packet ge signature, and packet		tamps, sequence numb	ers, data integrity		
Max. Streams per Port	512					
Max. Streams per Port in Data Center Ethernet	256					
Stream Controls	Rate and frame size of	change on the fly, se	equential and advanced	stream scheduler		
Minimum Frame Size	<ul> <li>10G, 5G, and 2.5G:</li> <li>49 bytes at full line rate without UDF</li> <li>60 bytes at full line rate with UDF</li> <li>1G and 100Mbps:</li> <li>49 bytes at full line rate</li> </ul>					
Maximum Frame Size	16,384 bytes	16,384 bytes				
Maximum Fame Size in Data Center Ethernet	9,216 bytes					
Priority Flow Control	<ul> <li>8 line-rate-capable queues, each supporting up to 2,500-byte frame lengths</li> <li>1 queue supporting up to 9,216-byte frame lengths</li> </ul>					
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 five, 32-bit-wide UDFs are available					
Value Lists (Max.)	2M total entries across 5 User Defined Fields					

PRODUCT DESCRIPTION	NOVUS 10/5/2.5/1/100M16DP	NOVUS 10/5/2.5/1/100M8DP <sup>#</sup>	NOVUS 10/5/2.5/1/100M16DP-R <sup>iii</sup>	NOVUS 10/5/2.5/1/100M8DP-R <sup>II,</sup> III			
Sequence Checking (Max.)	512K maximum PGIDs per port						
Error Generation	Generate good CRC of frame lengths, and ba		indersize and oversize	standard Ethernet			
Hardware Checksum Generation	Checksum generation L2TP, GTP	and verification for	IPv4, IP over IP, ICMP	/GRE/TCP/UDP,			
Link Fault Signaling			d local fault port statistic k faults from a remote li				
Latency Measurement Resolution	2.5 nanoseconds						
Transmit Line Clock Adjustment		Ability to adjust the parts-per-million line frequency over a range of -100 ppm to +100 ppm across all ports on the load module.					
Receive Feature Sp	pecifications						
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	512k with sequence checking						
Minimum Frame Size	64 bytes at full lin	64 bytes at full line rate into the capture buffer					
3126	49 bytes at less than full 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	512MB per port						

PRODUCT DESCRIPTION	NOVUS 10/5/2.5/1/100M16DP	NOVUS 10/5/2.5/1/100M8DP <sup>ii</sup>	NOVUS 10/5/2.5/1/100M16DP-R <sup>iii</sup>	NOVUS 10/5/2.5/1/100M8DP-R <sup>II,</sup> III		
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					
Latency/Jitter Measurement	Cut-through, store & f jitter, and inter-arrival		delay, up to 16 time bin	s latency/jitter, MEF		
Layer 2-3 Protocol	Support					
Routing and Switching	BGP4/BGP4+, OSPFv2/v3, ISISv4/v6, EIGRP/EIGRPv6, RIP/RIPng, BFD, IGMP/MLD, PIM-SM/SSM, STP/RSTP/MSTP, PVST+/RPVST+, Link Aggregation (LACP), LISP					
Software Defined Network	OpenFlow, Segment Routing, BGP Link State (BGP-LS), PCEP, VXLAN, EVPN VXLAN, OVSDB, GENEVE					
MPLS	RSVP-TE P2P/P2MP, LDP/LDPv6/mLDP, LDP L2VPN (PWE/VPLS), BGP VPLS, L3VPN/6VPE, 6PE, BGP RFC3107, MPLS-TP, MPLS OAM, EVPN/PBB-EVPN, Multicast VPN Rosen Draft, NG Multicast VPN					
Broadband and Authentication	PPPoX/L2TPv2, DHCPv4/DHCPv6, ANCP, IPv6 Autoconfiguration (SLAAC), IGMP/MLD, IPTV, 802.1x, WebAuth, EAPoUDP, Cisco NAC					
Industrial Ethernet	Link OAM (IEEE 802.3ah), CFM/Y.1731, PBB/PBB-TE, ELMI, TWAMP, Sync-E ESMC, IEEE 1588v2 (PTP), gPTP (IEEE 802.1AS), MSRP (IEEE 802.1 Qat), IEEE 1722					
Data Center Ethernet	DCBX/LLDP, FCoE/FIP, PFC (IEEE 802.1Qbb), TRILL, Cisco FabricPath, SPBM, VEPA					

NOVUS 10/5/2.5/1/100M16DP FULL FEATURE		NOVUS 10/5/2.5/1/100M8DP FULL FEATURE <sup>II</sup>				
Layer 4-7 Application	Layer 4-7 Application Traffic Testing Support					
Data	HTTP, HTTPS, TCP Session, FTP, DNS, Mail (SMTP, POP3, and IMAP), TFTP, AppReplay, AppLibrary					
Video	RTSP, IPTV, VoD, Adobe Flash Client, Apple HLS Client, Microsoft Silverlight Client, Adobe HDS Client, DASH Client; includes Video Quality VQMON and TCP Video Quality					
Voice	Advanced VoIP SIP & RTP, Audio & Video Codecs, VoLTE, MSRP, Telepresence, SMS, T.38; includes: Voice Quality and Video Quality for conversational video traffic					
Storage	iSCSI, CIFSv1, CIFSv2 (SMB2), SMB3, NFSv3 Client, NFSv4 Client, NFS4.1 Client, Cloud Storage Client					
Access	IPv4, IPv6, VLAN, Emulated Routers, DNS, DHCP					

#### **APPLICATION SUPPORT**

NOVUS10/1GE16DP, NOVUS10/1GE8DP	NOVUS10/5/2.5/1/100M16DP-R, NOVUS10/5/2.5/1/100M8DP-R
<ul> <li>IxExplorer: A full-featured L2-3 wire-speed Ethernet traffic generation and analysis test application.</li> <li>IxNetwork: 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.</li> <li>IxLoadi: A scalable L4-7 solution for testing converged multiplay services, application delivery platforms, and security devices and systems. IxLoad emulates data, access, storage, voice, and video subscribers and associated protocols to ensure quality of experience (QoE).</li> <li>Tcl API: Custom user script development for L2-7 testing</li> </ul>	<ul> <li>IxExplorer: A full-featured layer 2-3 wire-speed Ethernet traffic generation and analysis test application.</li> <li>IxNetwork: 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.</li> <li>Tcl API: Custom user script development for layer 2/3 testing</li> </ul>

#### ORDERING INFORMATION

#### LOAD MODULES

#### 944-1148

NOVUS10/5/2.5/1/100M16DP, 5-speed, 16-port, SFP+/10GBASE-T Dual-PHY 10G/5G/2.5G/1G/100M full scale and performance, load module load module, 1-slot Dual-PHY with 16-ports each of the SFP+ and 10GBASE-T RJ45 physical interfaces, L2-7 support with complete protocol coverage, and full scale and performance protocol emulation for routing, switching and access protocols. Compatible with the XGS12-SD rack mount chassis (940-0011), XGS12-HSL rack mount chassis (940-0016), XGS2-SD 2-slot standard performance chassis (940-0010), and 2-slot high performance XGS2-HSL Chassis (940-0014).



#### 944-1149

NOVUS10/5/2.5/1/100M8DP, 8-port enablement on the 16-port SFP+/10GBASE-T Dual-PHY 10G/5G/2.5G/1G/100M full scale and performance, load module load module (944-1148), 1-slot Dual-PHY with 8-ports each of the SFP+ and 10GBASE-T RJ45 physical interfaces, L2-7 support with complete protocol coverage, and full scale and performance protocol emulation for routing, switching and access protocols. Compatible with the XGS12-SD rack mount standard performance chassis (940-0011), XGS12-HSL rack mount high performance chassis (940-0016), and XGS2-SD 2-slot standard performance chassis (940-0010), and XGS2-HSL 2-slot high performance chassis (940-0014).



#### 944-1154

NOVUS10/5/2.5/1/100M16DP-R, 5-speed, 16-port, SFP+/10GBASE-T Dual-PHY 10G/5G/2.5G/1G/100M reduced scale and performance load module load module, 1-slot Dual-PHY with 16-ports each of the SFP+ and 10GBASE-T RJ45 physical interfaces, L2-3 support with complete protocol coverage, and reduced scale and performance protocol emulation for routing, switching and access protocols. Compatible with the XGS12-SD rack mount chassis (940-0011), XGS12-HSL rack mount chassis (940-0016), XGS2-SD 2-slot standard performance chassis (940-0010), and 2-slot high performance XGS2-HSL Chassis (940-0014).



#### 944-1155

NOVUS10/5/2.5/1/100M8DP-R, 5-speed, 8-port, SFP+/10GBASE-T Dual-PHY 10G/5G/2.5G/1G/100M reduced scale and performance load module load module, 1-slot Dual-PHY with 8-ports each of the SFP+ and 10GBASE-T RJ45 physical interfaces, L2-3 support with complete protocol coverage, and reduced scale and performance protocol emulation for routing, switching and access protocols. Compatible with the XGS12-SD rack mount chassis (940-0011), XGS12-HSL rack mount chassis (940-0016), XGS2-SD 2-slot standard performance chassis (940-0010), and 2-slot high performance XGS2-HSL Chassis (940-0014).



#### PORT UPGRADE OPTION

#### 905-1006

NOVUS10/1GE/100M-UPGRADE, additional 8-port enablement for a FIELD UPGRADE to the following products: NOVUS10/1GE16DP, 8-port enabled load module (944-1143), the 8-port enabled Novus One appliance (941-0061), the Novus 10/5/2.5/1/100M8DP (944-1149) and the Novus 10/5/2.5/1/100M8DP-R (944-1155) products. Note1. This creates a total of 16-ports enabled on the load module or appliance. Note2: For the additional 8-port upgrade purchase please provide the serial number of the desired load module or appliance to install the option on at the time of order placement.

#### CABLES & TRANSCEIVERS

#### 988-0011

SFP+10GBASE-SR/SW and 1000BASE-SX Dual-Rate pluggable optical transceiver for 10/1 Gigabit Ethernet LAN/WAN load modules with pluggable SFP+ interface, 850nm. Compatible with all 10/1 Gigabit Ethernet Novus, PerfectStorm and Firestorm load modules and appliances. Note: Multi-mode fiber LC-LC, 3 meter cable included.

#### 988-0012

SFP+10GBASE-LR/LW and 1000BASE-LX Dual-Rate pluggable optical transceiver for 10/1 Gigabit Ethernet LAN/WAN load modules with pluggable SFP+ interface, 1310nm, 10km reach. Compatible with all 10/1 Gigabit Ethernet Novus, PerfectStorm and Firestorm load modules and appliances. Note: Single-mode fiber LC-LC, 10 ft cable included.

#### 948-0013

SFP+10GBASE-SR/SW, Accessory, SFP+ Transceiver for 10 Gigabit Ethernet LAN/WAN load modules with pluggable SFP+ interface, 850nm; Operates with 944-0050 (LSM10GXM4S-01), 944-0051 (LSM10GXM8S-01), 944-0052 (LSM10GXMR4S-01), 944-0053 (LSM10GXMR8S-01), 944-0054 (LSM10GXM2S-01), 944-0055 (LSM10GXMR2S-01); and 944-0022 (LSM10G1-01) with 948-0012 (SFP+ADAP-01); or 944-0024 (LSM10GL1-01) with 948-0012 (SFP+ADAP-01).

#### 948-0014

SFP+10GBASE-LR/LW, Accessory, SFP+ Transceiver for 10 Gigabit Ethernet LAN/WAN load modules with pluggable SFP+ interface, 1310nm; Operates with 944-0050 (LSM10GXM4S-01), 944-0051 (LSM10GXM8S-01), 944-0052 (LSM10GXMR4S-01), 944-0053 (LSM10GXMR8S-01), 944-0054 (LSM10GXM2S-01), 944-0055 (LSM10GXMR2S-01); and 944-0022 (LSM10G1-01) with 948-0012 (SFP+ADAP-01); or 944-0024 (LSM10GL1-01) with 948-0012 (SFP+ADAP-01).

#### 948-0015

SFP+10GBASE-LRM, Accessory, SFP+ Transceiver for 10 Gigabit Ethernet LAN/WAN load modules with pluggable SFP+ interface, For multimode fiber, 1310nm; Operates with 944-0050 (LSM10GXM4S-01), 944-0051 (LSM10GXM8S-01), 944-0052 (LSM10GXMR4S-01), 944-0053 (LSM10GXMR8S-01), 944-0054 (LSM10GXM2S-01), 944-0055 (LSM10GXMR2S-01); and 944-0022 (LSM10G1-01) with 948-0012 (SFP+ADAP-01); or 944-0024 (LSM10GL1-01) with 948-0012 (SFP+ADAP-01); NOTE: SFP+10GBASE-LRM does not support the 10GE WAN mode in any of the load modules listed above.

#### 948-0016

SFP+10GSFP+Cu, Accessory, passive, copper Direct Attach Cable Assembly for 10 Gigabit Ethernet LAN/WAN load modules with pluggable SFP+ interface, 3 meter length; NGY 10GE SFP+ modules, Xdenisty modules, and Xcellon-Flex 10GE SFP+ FE and AP modules.

#### SFP-LX

SFP 1 Gigabit Ethernet Transceiver - 1310nm LX

#### SFP-SX

SFP 1 Gigabit Transceiver - 850nm SX

#### SFP-FX-100M-XCVR

SFP 100BASE-FX 100M pluggable optical transceiver, MMF (multimode), 1310nm, 2km reach

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

© Keysight Technologies, 2017

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

<sup>&</sup>lt;sup>i</sup> IxLoad is supported on full-feature versions of Novus 5-speed NOVUS10/5/2.5/1/100M16DP and NOVUS10/5/2.5/1/100M8DP load modules only.

<sup>&</sup>lt;sup>ii</sup> 8-port Novus10/5/2.5/1/100M8DP and Novus10/5/2.5/1/100M8DP-R can be upgraded to full 16-port versions via 905-1006 additional 8-port enablement option.

iii NOVUS10/5/2.5/1/100M16DP-R and NOVUS10/5/2.5/1/100M8DP-R reduced feature, L2/3 load modules have lower protocol emulation scale when compared to the NOVUS10/5/2.5/1/100M16DP and NOVUS10/5/2.5/1/100M8DP full feature, L2-7 load modules. The reduced feature load modules are designed for

	\ T	Λ	$\bigcirc$ I	- 11		
1 ) F	$\mathbf{A} \mathbf{L}$	A	1 <i>C</i> .	-11	-1	— І

applications that do not require high levels of L2/3 protocol emulation scale. Protocol emulation scale specifications are available upon request.

 $^{\mathrm{i}\mathrm{v}}$  Ixia recommends the use of XGS12-SD and XGS12-HSL chassis for large-port-count test applications.