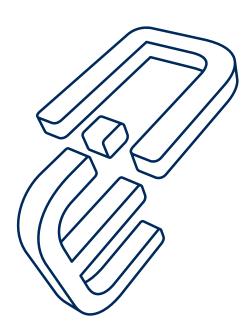


network





New era in small and medium sized routing

network-electronics.com

VikinX Sublime Routers – a new era





The VikinX Sublime range of routers marks a new era in small and medium sized routing, raising the standard for reliability, affordability and comfort in this sector.

The VikinX Sublime offers flexible routing solutions for general purpose facility and on-air routing as well as mobile outside broadcast applications and sophisticated A/V applications with the next generation technologies including Ethernet control, 3 Gbps Single Link support for 1080p HD TV, and ultra low power consumption.

THE MOST EXTENSIVE RANGE

VikinX Sublime offers the broadcast industry the most extensive range of matrix sizes available and covers signal formats from analogue video/audio to HDTV. The SMTP-292 HD products provide support for 3Gbps dual link standard.

POWERFUL CONTROL FEATURES

Flexible control solutions accommodate local and remote panels equipped with professional Broadcast type buttons alongside software control. VikinX Sublime provides many of the powerful control features that made the VikinX Modular range a success story. Control options such as serial control RS-232, Ethernet and Network Control Bus make the VikinX Sublime range fit into any application from small production facilities to large networks with centralized management through ETH-CON. Third party interface options allow the integration of VikinX Sublime into numerous existing routing installations.

SIMPLICITY RULES

Network Electronics' slogan applies also to the company's software tools developed to eliminate the obstacles installers and operators face when setting-up and configuring complex routing solutions. One of the latest examples for easy-touse software is the VikinX system Configurator that accommodates wizards and convenient drag & drop menus comfortably guiding the operator through the installation process.





Key Features



- Multiformat HD-SDI with support for 3 Gbps Dual Link HD
- Analogue video/audio, AES, Telecom and RS-422
- DVB-ASI, E4 and STM-1 compatibility
- Ethernet, RS-232/NCB control
- Choose between re-clocking or non re-clocking SDI and HD-SDI
- Local or remote control panels
- Non square matrix sizes
- Space saving 5 cm frame depth allowing front and rear rack mount.
- Flexible matrix partitioning
- Professional broadcast type buttons and programmable button configurations on panels
- External IP control panels providing multipurpose GPI/GPO
- Redundant, rugged design and heat dispersing power supplies with front indicators
- Ultra low power, high reliability design
- Dual DC power inlet
- Seamless interoperability with VikinX Modular range of routers
- Sync with loop-through, tri-level on HD routers
- Front or rear mounting trays for brick power supplies.
- All Sublime products have an internal by-pass switch to prevent a break in the NCB loop if one unit fails/powers off.

Analogue Video Analogue Audio SD Digital Video HD Digital Video Digital Audio Telecom RS-422 Data

Mayer

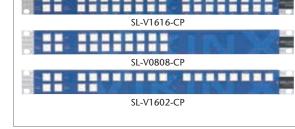
All VikinX Sublime routers and panels are delivered with a single SL-PWR-40 (power supply)

Analogue Video



	SL-V3232	SL-V1616	/ SL-V0808 / SL-V1602
	32x32	16x1	6 / 8x8 / 16x2
		Program - 4x4 RC - 5x5 RC - 8x8 YC SL-V0808	BS B/YUV ●●●●●●●●● mable as BS
 Analogue Video Rou Partitioning 	iter	SL-V1602	000000
 Ultra-low power hig Redundant power si indicators 	oth allowing front and rear rack mount	SL-V1616 / SL-V0808 / • Ethernet	ble up to 64x2 SL-V1602: ;/RS-232/NCB control ration with IP based system configurate
SPECIFICATIONS		SPECIFICATIONS	
Frequency response	0–125MHz –3dB	Frequency response	0–125MHz –3dB
Differential gain	0.1% (3.58/4.43MHz)	Differential gain	0.1% (3.58/4.43MHz)
Differential phase	0.1° (3.58/4.43MHz)	Differential phase	0.1° (3.58/4.43MHz)
Crosstalk	< -60dB (3.58/4.43MHz)	Crosstalk	< -60dB (3.58/4.43MHz)
Video S/N Ratio	typ. 70dB, unweighted	Video S/N Ratio	typ. 70dB, unweighted
Bar tilt	< 0.1%	Bar tilt	< 0.1%
Lum. non-linearity	< 0.1%	Lum. non-linearity	< 0.1%
Number of inputs	32 termination with jumpers	Impedance	75 ohm
Number of outputs	32	Return loss	typ. 40dB @ 10MHz
Impedance	75 ohm	Max signal	2Vp-p
Return loss	typ. 40dB @ 10MHz	Coupling	DC
Max signal	2Vp-p	DC offset	< 15mV
Coupling	DC	Connector	BNC
DC offset	< 15mV	AC power	External power supply
Connector	BNC		100–260 VAC
AC power	External power supply	DC power	±15V, connector DB9 male
	100–260 VAC	Dimensions	483x44x50 mm (19", 1RU)
DC power Dimensions	±15V, connector DB9 male 483x44x50 mm (19", 1RU)		
		All sizes are available with	n X-Y Control Panel integrated in the fr

Also available with X-Y Control Panel integrated in the front (SL-V3232-CP)



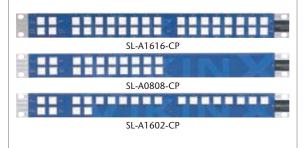
Analogue Audio



	SL-A3232	SL-A1616	/ SL-A0808 / SL-A1602
	32x32	16x1	6 / 8x8 / 16x2
 Ultra-low power hig Redundant power suindicators 	alogue Audio Router necode routing net, RS-232, NCB poth allowing front and rear rack mount	 Can be u SL-A0808 Balanceo Can be u Balanceo Can be u SL-A1602 Balanceo Balanceo Expanda SL-A1616 / SL-A0808 / Ethernet 	d stereo audio router used for Time-Code
SPECIFICATIONS		SPECIFICATIONS	
Frequency response	20Hz-20kHz ± 0.1dB	Frequency response	20Hz–20kHz ± 0.1dB
Crosstalk	< -100dB	Crosstalk	< -100dB
THD+N	< 0.01% @ +6dBu	THD+N	< 0.01% @ +6dBu
	< 0.01% @ +22dBu		< 0.01% @ +22dBu
Number of inputs	32 (Stereo) electronically	Input impedance	> 10 kohm
	balanced	CMRR	> 60dB
Input impedance	> 10 kohm	Output impedance	< 660hm
CMRR	> 60dB	Audio connector	DB25 female
Number of outputs	32 (Stereo) electronically	AC power	External power supply 100–260 VAC
	balanced	DC power	±15V, connector DB9 male
Output impedance	< 660hm	Dimensions	483x44x50 mm (19", 1RU)
Audio connector	DB25 female		
AC power	External power supply 100–260 VAC		
DC power	±15V, connector DB9 male		
Dimensions	483x44x50 mm (19", 1RU)		
		All sizes are available with	h X-Y Control Panel integrated in the front.



Also available with X-Y Control Panel integrated in the front (SL-A3232-CP)



SD Digital Video



SL-SD3232-R			SL-SD1616-R / SL-SD0808-R / SL-SD1602-R				
	32x32		16	5x16 / 8>	k8 / 16x	2	
VIKINIX			SL-SD1616-R				
		SL-SD1	602-R				
				00			
 Serieal Digital Video Router Available versions with or without reclocking Partitioning Control via IP/Ethernet, RS-232, NCB Scm (2in) frame depth allowing front and rear rack mount Ultra-low power high-reliability design Redundant power supplies (brick or frame) with front indicators Interoperability with VikinX Modular range of routers 			 Expandable up to 64x2 SL-SD1616-R / SL-SD0808-R / SL-SD1602-R: Serial digital video router Ethernet/RS-232/NCB control 				
SPECIFICATIONS		SPECIF	Cor	nfiguration with	n IP based syste	em configurator	
Data rate NRZ	143Mbps-540Mbps	Data rate NRZ 143Mbps–540Mbps					
Reference input	Comp. Video 1Vpp, 300mV sync, 75 ohm	Refer	ence input	300m\	Video 1Vpp, / sync, 75 ohm		
Number of inputs	32 terminated	Equal	isation		atic up to 300	m	
Equalisation	Automatic up to 300m (Belden 8281)		ocking	,	n 8281) ersions only		
Number of outputs	32		dance	75 ohr			
Re-clocking	On R-versions only	<u>.</u>	n-loss in/out	> 15dB	6 (5MHz-540N	1Hz)	
Impedance	75 ohm		l level	nom. 8	800mVp–p ±10)%	
Return-loss in/out	> 15dB (5MHz–540MHz)	Rise/fall time typ. 700ps					
Signal level	nom. 800mVp–p ±10%	Conn		BNC		400.045	
Rise/fall time	typ. 700ps	AC power External power supply 100–260 VAC					
Connector	BNC	DC power ±15V, connector DB9 male Dimensions 483x44x50 mm (19", 1RU)					
AC power	External power supply 100–260 VAC ±15V, connector DB9 male	Dime	IISIONS	483x44	4x50 mm (19"	, IKU)	
DC power Dimensions	483x44x50 mm (19", 1RU)						
			Without contr	ol panel	Integrated contr	ol panel	
		Size	Re-clocking	Non re-clocking	Re-clocking	Non re-clocking	
	والالالمحجج المحجا	32x32	SL-SD3232-R	SL-SD3232-N	SL-SD3232-R-CP	SL-SD3232-N-CP	
		16x16	SL-SD1616-R	SL-SD1616-N	SL-SD1616-R-CP	SL-SD1616-N-CP	
		08x08	SL-SD0808-R	SL-SD0808-N	SL-SD0808-R-CP	SL-SD0808-N-CP	
Also available as	SL-SD3232-N without re-clocking	08x08	3L-3D0808-K	3L-3D0008-IN	31-31/00/0-к-СР	3L-3D0000-IN-CP	

16x02

SL-SD1602-R

N/A

SL-SD1602-R-CP

N/A

Also available as SL-SD3232-N without re-clocking



Also available with X-Y Control Panel integrated in the front (SL-SD3232-N-CP and SL-SD3232-R-CP (with re-clocking))

HD Digital Video

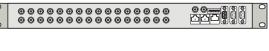


S	L-HD3232-R	SL-H	D1616-R	/ SL-HD0	808-R / SL	HD1602-R	
	32x32		16	5x16 / 8>	(8 / 16x2	2	
		SL-HDO	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000		
		SL-HD					
 High Definition Video Router Multiformat SD-SDI and HD-SDI Re-clocking on all standard video rates Partitioning Dual Link 3Gps, 1080P Control via IP/Ethernet, RS-232, NCB Scm (2in) frame depth allowing front and rear rack mount Ultra-low power high-reliability design Redundant power supplies (brick or frame) with front indicators Interoperability with VikinX Modular range of routers 		SL-HD1616-R / SL-HD0808-R / SL-HD1602-R: • Dual link 3G, 1080P • High definition video router • Ethernet/RS-232/NCB control • Configuration with IP based system configurator					
SPECIFICATIONS		SPECIE	ICATIONS				
Data rate NRZ	143Mbps-1.485Gbps	Data	rate NRZ		143Mbps-1.485Gbps		
Reference input	NTSC or PAL Black Burst or HD Tri-Level according to SMPTE 274M, SMPTE 276M	Reference input NTSC or PAL Black Burst or HD Tri-Level according to SMPTE 274 SMPTE 276M					
Number of inputs	32 terminated	Equal	isation	Autom	natic up to 100m		
Equalisation	Automatic up to 100m			(Belder	(Belden 8281)		
	(Belden 8281)		ocking		ersions only		
Number of outputs	32		dance	75 ohn			
Re-clocking	On R-versions only		n-loss in/out		(5MHz-1.4850		
Impedance	75 ohm	Signal level nom. 800mVp-p ±10%				%	
Return-loss in/out	> 15dB (5MHz-1.485GHz)	Rise/fall time < 270ps					
Signal level	nom. 800mVp-p ±10%	Conn		BNC		100 200 140	
Rise/fall time	< 270ps	AC power External power supply 100–260 VAC					
Connector	BNC External newer supply 100, 260 VAC	DC p			connector DB9		
AC power	External power supply 100–260 VAC ±15V, connector DB9 male	Dime	nsions	483X44	4x50 mm (19",	iku)	
DC power	483x44x50 mm (19", 1RU)						
Dimensions	+03744X3U IIIII (17, IKU)						
			Without contr	ol panel	Integrated contro	l panel	
		Size	Re-clocking	Non re-clocking	Re-clocking	Non re-clocking	
		32x32	SL-HD3232-R	SL-HD3232-N	SL-HD3232-R-CP	SL-HD3232-N-CP	

Also available as SL-HD3232-N without re-clocking



Also available with X-Y Control Panel integrated in the front (SL-HD3232-N-CP and SL-HD3232-R-CP (with re-clocking))



Data rate NRZ	143Mbps-1.485Gbps		
Reference input	NTSC or PAL Black Burst or HD		
	Tri-Level according to SMPTE 274M,		
	SMPTE 276M		
Equalisation	Automatic up to 100m		
	(Belden 8281)		
Re-clocking	On R-versions only		
Impedance	75 ohm		
Return-loss in/out	> 15dB (5MHz-1.485GHz)		
Signal level	nom. 800mVp-p ±10%		
Rise/fall time	< 270ps		
Connector	BNC		
AC power	External power supply 100–260 VAC		
DC power	±15V, connector DB9 male		
Dimensions	483x44x50 mm (19", 1RU)		

	Without control panel		Integrated control panel		
Size	Re-clocking	Non re-clocking	Re-clocking	Non re-clocking	
32x32	SL-HD3232-R	SL-HD3232-N	SL-HD3232-R-CP	SL-HD3232-N-CP	
16x16	SL-HD1616-R	SL-HD1616-N	SL-HD1616-R-CP	SL-HD1616-N-CP	
08x08	SL-HD0808-R	SL-HD0808-N	SL-HD0808-R-CP	SL-HD0808-N-CP	
16x02	SL-HD1602-R	N/A	SL-HD1602-R-CP	N/A	

Digital Audio



SL-AD1616-110 / SL-AD0808-110 / SL-AD1602-110 SL-AD3232-110 16x16 / 8x8 / 16x2 32x32 SL-AD1616-110 o**mmo** o**mmo** o**mmo** o**mmo** • Programmable as - 4 ch AES/EBU 4x4 - 3 ch AES/EBU 5x5 - 2 ch AES/EBU 8x8 SL-AD0808-110 0 30 OC • Programmable as - 4 ch AES/EBU 2x2 - 2 ch AES/EBU 4x4 SL-AD1602-110 Digital Audio Router – 110 Ohm • Available in ubalanced 75 Ohm version 00 Set-up over IP based System Configurator • Partitioning • Expandable up to 64x2 ٠ Control via IP/Ethernet, RS-232, NCB • 5cm (2in) frame depth allowing front and rear rack mount • SL-AD1616 / SL-AD0808 / SL-AD1602: Ultra-low power high-reliability design • Digital audio router Redundant power supplies (brick or frame) with front ٠ Ethernet/RS-232/NCB control indicators • Configuration with IP based system configurator • Interoperability with VikinX Modular range of routers **SPECIFICATIONS SPECIFICATIONS** Signal type AES/EBU digital audio (Stereo) Signal type AES/EBU digital audio (Stereo) Number of inputs 32 transformer balanced Input impedance 110 ohm / 75 ohm Output impedance 110 ohm / 75 ohm 110 ohm Input impedance Number of outputs 32 transformer balanced Jitter < 0.025UI 0.2 – 7Vp-p 110 ohm Output impedance Signal level < 0.025UI Sampling rates 32 – 96kHz litter 0.2 – 7Vp-p Switching mode Signal level Asynchronous Sampling rates 32 – 96kHz Audio connector DB25 female Switching mode External power supply 100-260VAC Asynchronous AC power +15V, connector DB9 male Audio connector DB25 female DC power External power supply 100-260VAC 483x44x50 mm (19", 1RU) AC power Dimensions +15V, connector DB9 male DC power 483x44x50 mm (19", 1RU) Dimensions Without control panel Integrated control panel Size 110 ohm 110 ohm 75 ohm 75 ohm SL-AD3232-110 SL-AD3232-110-CP SL-AD3232-75-CP 32x32 SL-AD3232-75 16x16 SL-AD1616-110 SL-AD1616-75 SL-AD1616-110-CP SL-AD161675-CP 08x08 SL-AD0808-110 SL-AD0808-75 SL-AD0808-110-CP SL-AD0808-75-CP Also available as unbalanced 75 ohm (SL-AD3232-75)



SL-AD1602-75

SL-AD1602-110-CP

SL-AD1602-75-CP

16x02

SL-AD1602-110

H

Also available with X-Y Control Panel integrated in the front (SL-AD3232-110-CP and SL-AD3232-75-CP)

H

Telecom and RS-422 Data



SL-T1616 / SL-T0808 SL-D32P <u>16x16 / 8x8</u> 32 ports SL-T1616 SL-T0808 000000000000000000 •-----ÕÕ • Ported RS-422 data router For flexible VTR/Device control • Ethernet/RS-232/NCB control · Configuration with IP based system configurator Can be partitioned SL-T1616 / SL-T0808: • Signal formats supported is within hte SMPTE • 34Mbps or 45Mbps Data rate 207M, RS422 Output-Reclocking
Meets ITU-T G.703 for HDB3 signals **SPECIFICATIONS SPECIFICATIONS** Data rate 140Mbps/155Mbps G.703 CMI Data rate 115.2 kbs Equalisation Automatic up to 250m Connector DB9 female (Belden 8281) AC Power External power supply 100-260VAC Impedance 75 ohm DC Power +5V, connector DB9 male > 15dB (7-240MHz) 483x88x50 mm (19", 2RU) Return-loss Dimensions Signal level 1000mV fixed on 75 ohm load Connector BNC AC power External power supply 100-260 VAC ±15V, connector DB9 male DC power Ported Data Routers Dimensions 483x44x50mm (19", 1RU) In conjunction with VikinX Sublime, Network introduces the SL-D32P, a 32 port configurable data router providing a flexible solution for machine control routing in Broadcast facilities. SL-D32P ports can be configured as controller or tributary either via software or a GPI that is available on each port. 32-port RS-422 data router according to SMPTE 207M Configurable data port direction, software and GPI controlled Control via IP/Ethernet, RS-232/422, NCB Real estate saving 5cm (2in) frame depth allowing front and rear rack mount All sizes are available with X-Y Control Panel integrated in the front. (SL-T1616CP) HF SL-T0808-CP

3Gbps 1080p Single Link HD Video





Network Electronics' Sublime SL-3GHD range of products is the world's first routing switcher for 3Gbps Single Link HD.

- 3Gbps Single Link HD Digital Video router from 8x8 to 16x16
- Multiformat SD-SDI and HD-SDI
- Optional re-clocking on all video rates

The next generation of cameras, servers and other signal sources will, in addition to today's HDTV standards, support 1080P qualities and beyond. These qualities require more bandwidth than the 1.5 Gbps (SMPTE292M) as we know today.

Dual Link

The 1080p bit rates can be solved in a nontechnical way by combining 2 channels of HD 1.5 Gbps.

This solution occupies two channels of HD and requires double cable connectors and interfaces to the equipment. I.e. it's an expensive solution and not very flexible.

DUAL LINK FOR 1080p

- Maintain Uncompressed Signals
- Requires 2 x cable/connector
- Requires 2 x equipment interfaces
- Expensive solution



Single Link

The new "hype" in the broadcast industry is the 3 Gbps Single Link standard (SMPTE 424M). Still in its early days, the 3 Gbps interface is required in the market.

Single Link ...

- allows for uncompressed transport of 1080p formats on single cable
- allows for use of existing cable, connectors, patch panels and other passive elements in the signal path or infrastructure
- Low latency

The 3 Gbps interface has limited cable length as the major obstacle. The availability for source and destination products are currently very limited. The industry support for the interface is therefore not proved.

Both SMPTE and the ITU have completed standardization of a

- 3 Gbps SDI interface
- SMPTE 424M (Physical interface)
- SMPTE 425M (format mapping)
- ITU-R BT 1120-3 part 4 2005

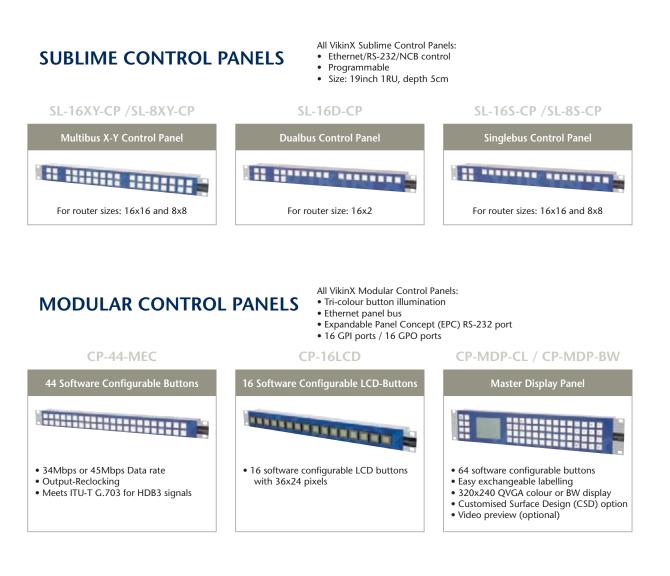
APPLICATIONS

- 1080p 50/60 transport over Single Link Cable
- Replacement for dual link HD-SDI
- 3D HDTV
- Digital Cinema
- Slow motion capture

Control Panels



Sublime panels can be programmed with salvos, groups and alphanumeric. The IP panels can operate with categories, and communicate with Sublime routers through ETH-CON.



WEB PANELS



• Platform independent, router control from PC, MAC or Linux

- Easily changed labels
- No software installation required on client computer

Advanced router control features

Remote access

System application and control possiblities

ETH-CON

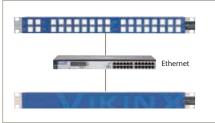


 Control, configure or monitor your infrastructure from anywhere

Features that the ETH-CON provides:

Remote Location

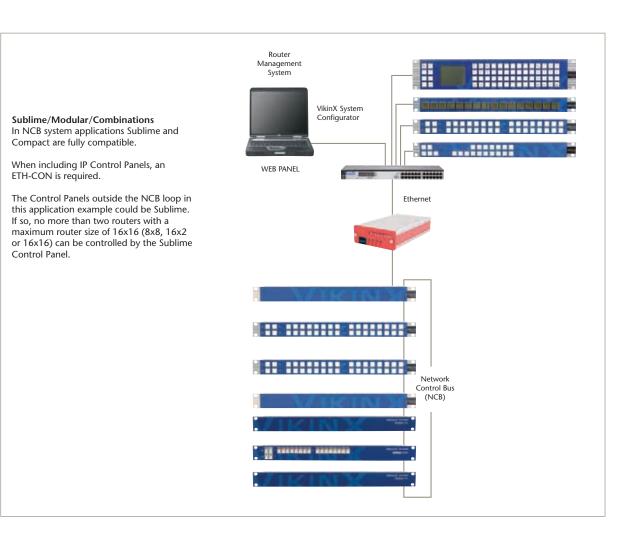
- Panels can control the router system from a remote location
- The routers can be distributed over a large geographic area
- Advanced Sublime Router Control with IP Panels
- Multi-level switching, Break-away
- Categories
- Virtual Routing
- Level Mapping (above 16 level on dip) for larger systems
- Multi & 3rd party control systems
- Up to 32 units on one System Controller over IP
- For 32+, add another System Controller



Stand-alone VikinX Sublime

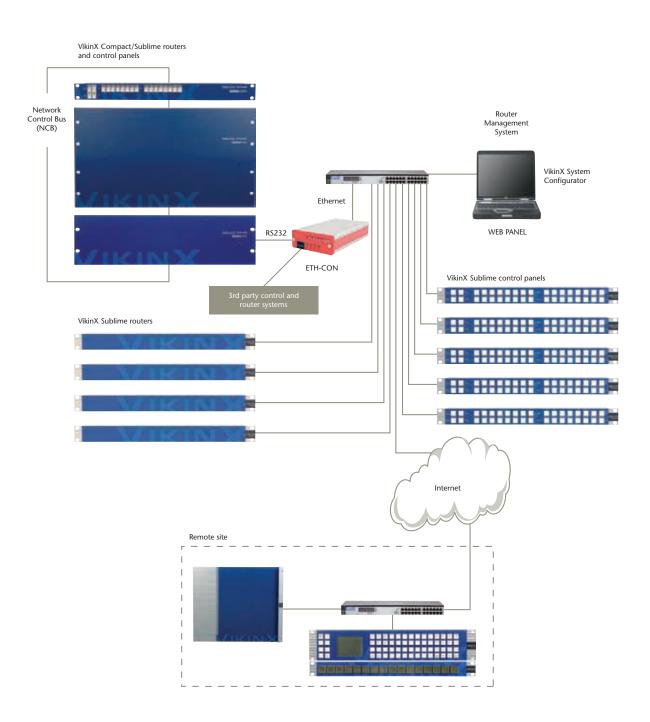
One Sublime unit (Control Panel or Router) can communicate with one Sublime router on Ethernet. THOR can replace one Sublime unit to make a direct connection to one Sublime router on Ethernet.

Since the products are not shipped preconfigured, an Ethernet switch (see graphic) is recommended for easy System Configuration. The switch can be removed after System Configuration and replaced with an Ethernet crossed cable.



VIKINX SUBLIME

System application and control possiblities



Sublime Accessories





SL-PWR-40 40W Power Supply for VikinX Sublime router series



SL-MT-2PSU 1 RU tray for 2x SL-PWR-40, to be placed behind the VikinX Sublime router

Can also be used with other sizes:



SL-MT-6PSU 1 RU mounting tray for 6x SL-PWR-40 SL-MT-BP Blindplate for 2 positions of SL-MT-6PSU



DB25PIN ADAPTOR Small print-card with DB25 to screw-terminal



3MXXLRF-25PIN Audio Breakout Cable DB25pin XLRF, 3 meter cable



3MXXLRM-25PIN Audio Breakout Cable DB25pin XLRM, 3 meter cable

RECENT AWARDS

Network Electronics' high performance and compact 40-channel DWDM (Dense Wavelength Division Multiplexing) was given the nod by Broadcast Engineering



with a Pick Hit at NAB 2007. The manufacturer of the VikinX router and Flashlink optical video transport ranges received the award amidst a complement of new products aimed at increasing flexibility and optimizing investments.

Network Electronics' 3 Gbps optical converter and router solutions were recognized for their superiority at NAB by the editorial staff of TV Technology magazine with a 2007 STAR (Superior Technology Award Recipient) Award.

Network Electronics garnered a first place Engineering Excellence Award from the readers of Broadcast Engineering in the *New studio technology – non-broadcast:*





category for supplying Louisiana State University's 150 000 sq-ft Football Operations Centre with a robust routing system specifically designed to bridge the gap between component and composite gear and an SDI format.

The Company's inventive spirit was acknowledged with a STAR award from TV Technology for the revolutionary VikinX Sublime SL-3GHD – the world's first



routing switcher for 3 Gbps Single Link HD. Part of the new VikinX Sublime range, the router addresses the need for 3Gbps 1080p single link HD video.

Network Electronics' SDI-IP-GTW SDI to IP Gateway which provides an IPTV gateway, solution for the transmission of uncompressed



SDI over IP networks, was given the Broadcast Engineering PICK HIT award. The SDI-IP-GTW allows the real-time contribution and distribution of SDI over Wide Area Networks (WAN) where access to dark fibre or wavelengths is limited.

Simplicity rules

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