Luminex
NETWORK INTELLIGENCE

PRODUCT SPECIFICATIONS

GigaCore 16i

Description: Technical specifications GigaCore 16i - v1.0.1

MADE IN BELGIUM

1. APPLICATIONS

10 Gigabit Ethernet switch

The GigaCore 16i is a **10 Gigabit** Ethernet switch in a ½ 19" package, dedicated to AV integration and installations where there are specific requirements to available space and mounting, and - like all GigaCore switches - designed to provide out of the box support to the most advanced AV protocols.

In combination with the **Araneo** software platform, GigaCore 16i is the ideal solution to deploy an AV network with one click in any installation.
Each GigaCore can be intuitively configured in a system-wide, consistent way with the Araneo network monitoring, planning, and management software. Araneo will boost your productivity and confidence in the network and will reduce commissioning times significantly. Next to this, each GigaCore has its own **Web UI** that can be used to configure each switch individually in an intuitive manner.

GigaCore 16i is an indispensable part of any AV network where reliability and a quick and easy setup are needed. As a user, you don't need to make choices nor tradeoffs as GigaCore handles most AV protocols for you: Pre-defined QoS/DiffServ (Quality of Service) settings, optimized IGMP (Internet Group Management Protocol) per group (VLAN) and pre-defined yet editable groups (VLANs) to easily separate your network in different applications making converged networking obvious, easy, and reliable.

Also included is Luminex's advanced, automated redundancy protocol RLinkX that ensures redundant links and ring topology within your GigaCore network. Bandwidth, connectivity, and port availability are ensured with **4 x independent SFP+ ports** capable of data transfer speeds of up to **10 Gbps** and **12 x 1Gbps RJ45** copper ports.

Time synchronization is crucial in many applications and with GigaCore 16i you have a hassle-free PTPV2 enabled switch which will work for most major audio protocols (e.g. AES67, AVB/Milan ST2110, Dante, Q-sys/Q-lan, …) without the need for making any complicated device settings, even in a combined setup of AVB/Milan and Dante/AES67/ST2110.

AV installations constantly push the limits, and the need to deploy PoE powered devices is continuously increasing. GigaCore 16i provides a solution by offering PoE++ on all ports (90W per port with a total PoE budget of up to 450W) as an option. PoE redundancy and/or a higher power budget up to 900W can be obtained by connecting an optional second power supply unit.

GigaCore 16i has been designed to ensure low noise operation and has intelligent fan control, giving you more installation options with peace of mind that no live audience or recording session will be disturbed.
For those installations where a clean front panel is required, an optional 19" flush mount LED panel can be connected to a rear-mounted GigaCore 16i.

The GigaCore 16i has very flexible mounting options and can be mounted with a 100mm x 100mm vesa-spaced mount points or can be combined side by side with a second ½ 19" unit (e.g. GigaCore 16i, GigaCore 10i) in a single 19" rack space to provide redundancy, often needed for audio networking, and/or to provide a higher amount of ports.

#ConvergedNetworkingMadeEasy

1. APPLICATIONS

Applications:

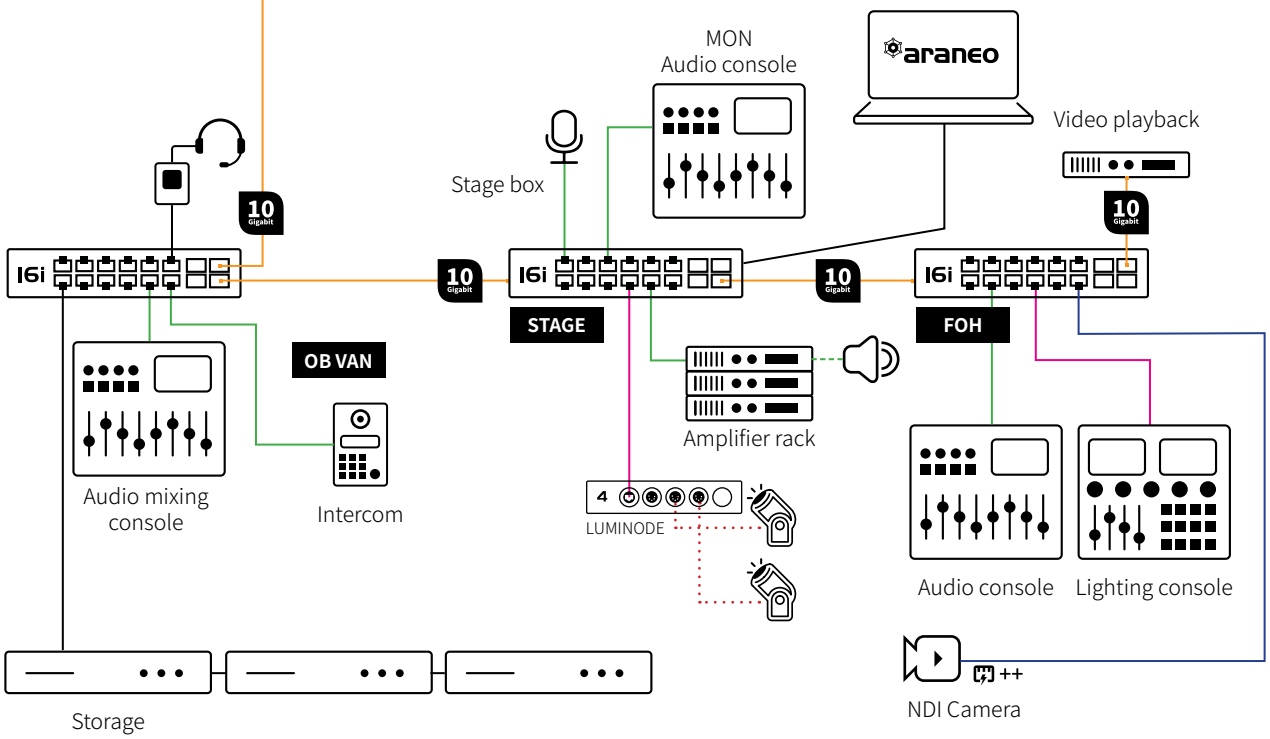
- System integrations
- Theaters
- Concert halls
- Convention centers
- Sports arenas
- Broadcast and recording studios, OB vans
- Cruise ships
- Theme parks
- Hospitality installs (Hotels etc)
- Houses of worship
- And other fixed installations
- ...

ORDERING INFORMATION	
Product name:	Part numbers:
GigaCore 16i-12x1G-4x10G(SFP+)	LU 01 00090-10G
GigaCore 16i-12x1G-4x10G(SFP+)-PoE++	LU 01 00090-10G-POE

2. APPLICATION DIAGRAM

CONVERGED

BROADCAST NETWORK INFRASTRUCTURE



VLAN ID

10 Gigabit fiber	**Light** | sACN
Audio | Dante, AES67	DMX
Video | NDI	++ PoE++

3. TECHNICAL SPECIFICATIONS

MECHANICAL	GigaCore 16i
Enclosure	Robust all metal housing
Dimensions (WxDxH)	220x296,4x43,2 mm | 8,66x11,67x1,7 inch
Material thickness	1 mm
Mounting type	Rack mount, 100mmx100mm Vesa-spaced mount
Weight	2,4kg
Packaging dimensions	550 mm x 335mm x 68 mm
Packaged weight	3,2kg
CONNECTIVITY	
Network	4x 10 Gbps / 1 Gbps SFP+ cages on front panel, independent from other ports 12x Gigabit (10/100/1000 BASE-T) copper RJ45 on front panel
Serial	1x USB C
Extension	1x LED extension port
Power	IEC (C14)
Backup power	Through proprietary connector and optional RPSU
Backup PoE	Through proprietary connector and optional RPSU
TEMPERATURE MANAGEMENT	
Intelligent control	Yes
Number of fans	2x (PoE version) or 1x (non POE version)
Position of fans	Rear panel
Airflow direction	Front to rear
USER INTERFACE	
Device status	RGB LEDs • Device • Power • RLinkX • PoE
Fiber port status	2x RGB LED Port Speed/Activity Port Status • Group indication
RJ45 port status	2x RGB LED Port Speed/Activity Port Status • Group indication • PoE
FIBER PORT SPECIFICATIONS	
Port speed	10G BASE-X or 1000 BASE-X
Port sensing	Fixed speed
COPPER PORT SPECIFICATIONS	
Port speed	10/100/1000 BASE-T
Port sensing	Auto Negotiation
Auto crossover	MDI/MDIX (allows use of straight or cross wired cable)
Auto sensing	Full or Half Duplex (Gigabit is Full Duplex)

POWER OVER ETHERNET	GigaCore 16i
Standards	802.3af 802.3at 802.3bt
PoE Ports	802.3af, 802.3at, 802.3bt
Total PoE power budget	450 W (900W with optional second power supply unit)
LLDP Support	Yes
Power allocation	User configurable: • Priority per port • Consumption vs Class/LLDP based
Power limit	• Total power budget firmware limit – port shutdown at overload based on port priority • Per port hardware and firmware power limits based on classification – port shutdown at overload
SWITCH FEATURES	
Boot time	45 s
Redundant links	Yes
Group function	Yes
Ethernet compliance	IEEE 802.2 IEEE 802.3 IEEE 802.3u IEEE 802.3x Flow Control IEEE 802.3ab Gigabit Ethernet IEEE 802.3af PoE(optional) IEEE 802.3at PoE+(optional) IEEE 802.3bt PoE++ 90W(optional) IEEE 802.3ae IEEE 802.1p CoS IEEE 802.1d Spanning Tree IEEE 802.1w Rapid Spanning Tree IEEE 802.1s Multiple Spanning Tree IEEE 802.1Q VLAN IEEE 802.1Qav MVRP IEEE 802.1 BA-2011 -> AVB (Audio Video Bridging) IEEE 802.1ab LLDP IEEE 1588-2008 PTPv2
Jumbo frames	Yes, supported up to 12000 MTU (with restrictions when using AVB)
Supported protocols	Avnu AVB/Milan (free of license) Dante RAVENNA/AES67 Ethersound Q-SYS/Q-LAN IPMX sACN ArtNet MANet HogNet RTTrPL (BlackTrax) …

Audio protocol compliance	Yes, low jitter and hardware timestamping (IEEE 1588-2008)
Ethernet switch type	Full non- blocking wire-speed switching performance
Memory	Flash 1 Gb RAM – 8 Mb NOR flash 4 Gb EMMC storage
MAC Address table	16384 entries
Address learning / aging	Self learning, Auto aging
Switching throughput	104 Gbps
IGMP Querrier	Yes (V1|V2) (V3 compatible)
IGMP Snooping	Yes, enabled by default (V1|V2|V3)
MANAGEMENT	
Configuration	Built-in WebUI
Network wide configuration	Yes, with Araneo software
Firmware upgrades	Via WebUI or network wide with Araneo - Contingency option with second FW file stored
POWER	
Power input	100-240 VAC, 50-60Hz
Backup power	Yes with optional RPSU (PoE model only)
Backup PoE	Yes with optional RPSU
Power consumption	Max 60W - Max 700W (Depending on configuration)
Environmental	
Operating temperature	0 to +50 °C
Storage temperature	-10 to +70 °C
Humidity (non condensing)	5 to 95% RH
Noise level @ 1m	TBC
BTU	TBC
APPROVALS	
Electromagnetic emissions and immunity	FCC Part 15 CFR 47 class A CAN/ICES-003 EN 61000 EN 55032 EN 55024
Safety	IEC 62368-1 EN 62368-1 UL 62368-1 CAN/CSA-C22.2 No. 62368-1
Certificates and approvals	cSGSus Mark (UL) CE Mark UKCA Mark CB Certificate
Green	RoHS REACH

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