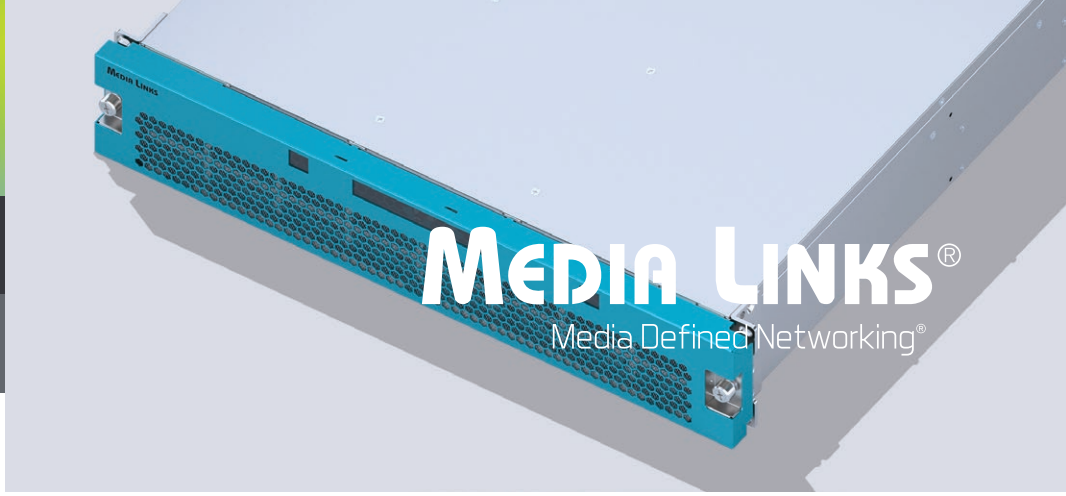
PART OF THE
**Media Links 100G Solution Ecosystem™**

Core Gateways

Gateway Encoder/Decoders

DATASHEET | Version 2.1




### Description

Multi-functional, high-capacity, high density IP Media Platform

Flexible configurations and enhancements through software-definable plug-in units

Pure IP-based edge gateway w/ ST 2110 & NMOS

### Features & Benefits

- Flexible: Various interfaces and video codecs
- Versatile: Supports multiple IP standards (ST2022 and ST2110), network protocols and various signal workflows
- High capacity and high density: Up to 400 Gbps of network bandwidth and 128 media services in a single 2RU chassis
- High availablility: Redundant and hot-swappable hardware, remote update support
- Scalable: Plug-in units, software-defined common hardware, license upgrades

### Example use Cases

- Robust, reliable Ground to Cloud transport
- Large channel count, UHD/HD video transport
- Live event transmission
- Remote/At-Home/Distributed/OB Van production
- In-studio high capacity IP gateway

### Technical overview

- Media IP transmission: SMPTE ST2022-2/6, SMPTE ST2110-20/22/30/40, VSF TR-01/07/08
- Video codecs: JPEG 2000 (ISO/IEC 15444), JPEG-XS (ISO/IEC 21122)
- Network Interface : 100G/25G/10G/1G Ethernet
- Network protocols: ARP, IGMP, RTP/UDP/IP, LLDP
- Control API: AMWA NMOS IS-04, IS-05, IS-08, IS-09

### *Related Products*

*ProMD EMS Software*

*MDP, MD8000 and MDX Product Platforms*

Datasheet

# XSCEND – IP Media Platform

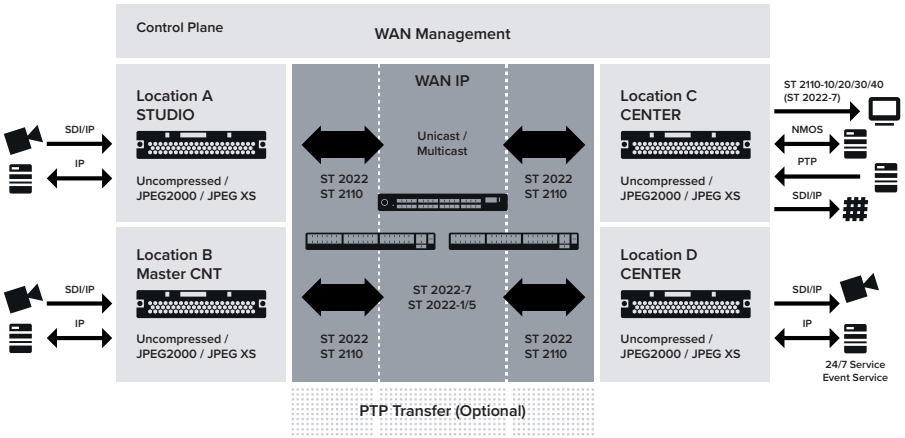
## Go Beyond IP

Xscend is our all new ultra-dense, ultra-versatile media platform, designed for the network edge as a reconfigurable, evolvable, IP migration gateway. Incorporating a hybrid hardware/software architecture, Xscend can flexibly accommodate changing video formats, network communication protocols, compression algorithms and physical interfaces. In its compact 2RU chassis, up to 128 media and data services can be supported across both managed and unmanaged networks up to 400 Gbps. Xscend's network interface can be configured with or without an integral L2/L3 switch.

Application flexibility is the hallmark of Xscend's next generation design. The platform addresses the migration from SDI-to-IP and IP-to-IP environments along with high density, low latency remote/distributed production applications, including Ground to Cloud connectivity. Adding additional services or changing functionality to accommodate evolving industry advances can be easily accomplished through software licensing without service disruption.

Through its hardware modularity, software upgradeability and license configurability, efficient and flexible workflows can be adapted to support a wide variety of diverse use-cases.

### Example use



# Service Specifications & Supported Parameters

Xscend Front and Rear (Card configuration optional)

## Hardware

**Media Processing Units (MPU)**

- MPU-HDBNC16 :
  HDBNC x16 (SDI Input/Output)
- MPU-HDBNC8 :
  HDBNC x8 (SDI Input/Output)
- MPU-SFP4 : SFP28 x4
  (Optical SDI Input/Output, Ethernet Port)

**Network Interface Units (Trunk)**

- STU : QSFP28(100G) x2 and
  SFP28(25G/10G/1G) x4,
  with built-in L2/L3 switch
- TU : SFP28(25G) x8, without switch

**Common Units**

- Power Supply unit (PSU) : 1+1 redundancy available, select from 2 types (AC or DC input)
- Control unit (CNT) : 1+1 redundancy available
- FAN unit (FAN) : 2 units mounted in the chassis, 3 FANs built into the FAN unit (2+1 redundant configuration)

## Video Signal Workflows

**SDI to IP Video Services**

- SDI - ST2022/Uncomp. ❶
- SDI - ST2022/Comp. ❷
- DVB-ASI(TS) - ST2022-2
- SDI - ST2110/Uncomp. ❸
- SDI - ST2110/Comp. ❹

**IP to IP Video Services**

- ST2022/Uncomp. ❶ - ST2110/Uncomp. ❸
- ST2022/Uncomp. ❶ - ST2022/Comp. ❷
- ST2022/Uncomp. ❶ - ST2110/Comp. ❹
- ST2110/Uncomp. ❸ - ST2022/Comp. ❷
- ST2110/Uncomp. ❸ - ST2110/Comp. ❹

**Notes**

❶ : ST2022-6
❷ : ST2022-2 w/ JPEG2000(VSF TR-01) or ST2022-2 w/ JPEG-XS(VSF TR-07)
❸ : ST2110-20/3x/40
❹ : ST2110-22(w/ JPEG-XS, VSF TR-08)/3x/40

## Audio and Data Signal Workflows

**Audio Services**

- MADI to ST 2110-30/31/AES67

**Data Services**

- Tunneling : Transparent, Double-Tag(Q in Q), IP Tunneling(EtherIP), RTP Tunneling

## Interface & Formats

**Video Services**

- 12G-SDI, Quad Link 3G-SDI, 3G/HD/SD-SDI, DVB-ASI (HD-BNC or Optical w/ SFP)
- 2160p/59, 2160p/50, 1080p/59, 1080p/50, 1080i/59, 1080i/50, 720p/59, 720p/50, 525i, 625i

**Audio Services**

- MADI (only Optical w/ SFP)
- SMPTE ST 2110-30/31, AES67

**Data Services**

- 25G/10G/1G/100M Ethernet (w/ SFP)

**Network Interfaces (Trunk Interface)**

- 100G Ethernet (w/ QSFP28), 25G/10G/1G Ethernet (w/ SFP28)

## Physical

- Form factor : 2RU, 19inch width
- Size : 481 (W) x 88 (H) x 500 (D) mm
- Power supply input : AC 95V~240V or DC-48V
- Power consumption: 1000W max
- Operating Conditions : Temperature 0 to 40°C, Humidity 20 to 80% (no condensation)

**Number of units in a chassis**

- Media Processing unit (MPU) : up to 8 units
- Network Interface unit (STU/TU) : up to 2 units
- Power Supply unit (PSU) : up to 2 units (1+1 redundancy)
- Control unit (CNT): up to 2 units (1+1 redundancy)
- All units are hot-swappable

## Optional Functions

- Frame Synchronizer
- Built-in Signal Generator
- In-Service Test Packet Generator & Monitor
- ETR-290 Priority 1 & 2 Monitoring
- Forward Error Correction (ST2022-1/5), Hitless Switching (ST2022-7)

**Video Timing**

- PTP : IEEE 1588v2 and SMPTE ST2059-2 compliant, OC/BC
- External Reference : Black Burst or Tri-sync

## Management

**Access Interface**

- Outband : up to 2 ports (RJ-45, 1G/100M Ethernet)
- Inband : up to 8 ports (via Trunk port, 100G/25G/10G/1G Ethernet)
- Addressing : IPv4 only, Static or DHCP

**Support Protocols**

- SNMP v2C/v3(GET, Trap, Inform), Syslog, SNTP, NMOS IS-04/05/08/09

**Configuration File(Backup)**

- Save : Internal memory in CNT(Auto), SD card memory in FCP(Periodic auto or Manual)
- Restore : Automatic restoration from backup file when equipment is rebooted
- File Operation : Export file, Import file

**Access Control (Security)**

- Authentication w/ user ID and password
- Access privileges can be set for each user (3 levels of privileges)

**System updates**

- Can be performed remotely (file transfer) and locally (SD card)

**Control interface (GUI)**

- Web screen built into the device
- ProMD EMS (Management software)

## Regulatory

CE/CSA, UL, NEBS Level 1 & 3


**Media Links (Headquarters)**
Kawasaki Tech Center 18F
580-16 Horikawa-cho,
Saiwai-ku, Kawasaki-shi,
Kanagawa 212-0013 Japan
Phone: +81 44-589-3440
query@medialinks.co.jp

**Media Links Americas**
431-C Hayden Station Road
Windsor, CT 06095
USA
Phone: +1 860-206-9163
Fax: +1 860-206-9165
info@medialinks.com

**Media Links EMEA**
Suite 18242, PO Box 6945,
London W1A 6US
UK
Phone: +44 207 096 9569
emea_info@medialinks.com

**Media Links Australia**
2-12 Rokeby Street,
Collingwood, VIC 3066,
Australia
Phone: +61 3-9017-0175
Fax: +61 3-8456-6339
info@medialinksaustralia.com.au

**www.medialinks.com**


MEDIA LINKS®
Media Defined Networking®


DATASHEET-XSCEND-EN-6-2023



© 2023 Media Links. All rights reserved. Specifications subject to change without notice.
Media Links and Media Defined Networking are trademarks of Media Links.