

EtherCast™ PL4453A Video IP System

Real-time, high-quality transport of ASI and SD/SDTi video over Ethernet



Pleora's EtherCast PL4453A is a high-performance, four-port transport system that reliably delivers ASI and SD/SDTi video in real-time over low-cost Ethernet networks. The system is ideal for transporting SDTV and HDTV content over managed Layer 2 VLANs, which cost considerably less to lease or own than the facilities traditionally used to transport broadcast-quality video, such as satellite links, ATM networks, or SONET/SDH networks.

The EtherCast PL4453A Video IP System is highly flexible. Each port is an independently addressable IP node, can be configured as either a receiver or transmitter, and works with DVB-ASI, SD-SDI, and/or SDTi (SMPTE 305M).

The ports in the PL4453A auto-sense the format of the incoming ASI/SD/SDTi video signal, convert the video quickly and efficiently to IP, and pump it in real time over managed Ethernet LAN/WAN networks. Ancillary data in the video stream, such

as digital audio and timing information, is also converted. Multicast transmission (i.e. IGMP) is fully supported, enabling the same video stream to be distributed simultaneously to multiple destinations.

Pleora's EtherCast PL4453A system does not compress or decompress the signal, and there are no video quality compromises. Jitter control is exceptional, transfer is lossless, and end-to-end latency is low and predictable. Any packets dropped by the network are automatically recovered.

The system is supported by two classes of management software. The EtherCast Configuration Utility (ECU) is a basic utility for configuring and managing systems deployed in the same LAN. The EtherCast Management Unit (EMU) a more sophisticated web-based application for managing multiple systems deployed at different sites through a WAN or VLAN.

The EMU is offered in its own 1U chassis and can supervise an unlimited number of LAN/WAN-connected PL4453A units from a single location, across routed networks. The EMU also manages any of Pleora's palm-sized, single-port EtherCast PL1453A Video IP Engines.

The PL4453A Video IP System is based on the field-proven IP engine technology offered in Pleora's other EtherCast transport products and its world-leading line of iPORT™ products for vision applications.

APPLICATIONS

- **ASI transport over Layer 2 VLANs**
Low cost Ethernet connectivity
- **Live or stored content distribution**
Simultaneous multicasting
- **Transport of dailies to post facilities**
Instantaneous and efficient
- **Studio-to-studio media exchange**
Nothing lost to compression



EtherCast PL4453A Video IP System

Features

Wide range of DVB-ASI data rates	• From 100 Kb/s - 270 Mb/s
DVB-ASI packet size auto-detect	• Configuration-free 188-byte or 204-byte MPEG packet detection
Complies with SMPTE 259M and 305M	• Supports uncompressed SD-SDI video and compressed SDTi video • Transfers SDI data at full 270 Mb/s rate
Full SD-SDI data integrity	• All SD-SDI data is transported across the link, including ancillary data such as digital audio and timing information
Support for Internet Group Multicasting Protocol	• Simultaneous distribution through a switch of one video stream to PL4453A systems or PL1453A engines at multiple destinations
Configurable as receiver or transmitter on per-port basis	• One unit accommodates any mix of network Rx/Tx requirements
Low, predictable, tunable latency	• Adjustable from 750 microseconds to 192 milliseconds (SDI) • Adjustable from 900 microseconds to 236 milliseconds at maximum rate (213.7 MBit/s) and from 240 milliseconds to 72 seconds at minimum rate (100 Kbit/s) (DVB-ASI)
Superior jitter control	• PCR jitter as low as +/- 100 ns, steady state
Excellent jitter tolerance	• +/- 0.3 UI
Hot pluggable	• Fast, automatic recovery from cable disconnects or system faults
Clock recovery	• Clock frequency on receiver locked over Ethernet link to clock frequency on transmitter
Built-in network traffic shaper	• Steady and consistent packet transmission rate
Automatic lost packet detection	• Intelligent, bandwidth-efficient, sub-millisecond data resend scheme

Interfaces

4 x GigE (1000 Base-T Ethernet) ports	• Individually addressable IP nodes
4 x ASI/SD/SDTi BNC inputs and outputs	• Auto detects and switches between DVB-ASI and SD-SDI/SDTi input streams

Characteristics

Size	• Width: Standard rack (19" / 48.2 cm) • Height: 1U (1.75" / 4.4 cm) • Depth: 8" / 20.3 cm
Weight	• 4.5 lbs / 2 Kg
Power consumption	• 20 W

Management

EtherCast Management Unit (EMU)	• Separate 1U system for managing all EtherCast systems deployed in a LAN/WAN • Out-of-the-box support for two PL4453A systems or up to eight PL1453A engines • Optional licenses are available to expand the EMU management scope to an unlimited number of PL4453As and PL1453As
EtherCast Configuration Utility (ECU)	• Basic utility provided with the unit for configuring and managing systems deployed in the same LAN

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