



Delivering Content Efficiently and Affordably



IP Encapsulator (IPE-4000)



Overview

Logic Innovations' IPE-4000 is a solid-state, fully embedded, Linux-based IP Encapsulator. The IPE-4000 provides the necessary link between IP networks and broadband networks, enabling cost-effective point to multipoint content delivery.

The IPE-4000 receives IP packets from an Ethernet connection and encapsulates selected packets into an MPEG-2 transport stream per DVB or ATSC specifications. Once the IPE-4000 has encapsulated the data, it forwards the data packets based on the user configurations. The output transport stream can then be forwarded to a multiplexer or directly to a modulator for the high-performance and cost-saving transmission of IP data over cable, satellite, or terrestrial networks.

Key Features

Latest Network Standards Support

- IPv6
- DVB-S2
- ULE (Unidirectional Lightweight Encapsulation)

Reliable Operation

- Linux-based
- Solid State
- Redundancy Support

License Based Performance Options

- Available in various performance models
- Field upgradeable via software license

Flexible Configuration and Management Options

- Web-based graphical user interface for ease of use
- SNMP remote configuration and management support
- Front panel LCD with navigation keys

Incorporated Quality of Service (QoS)

Flexible discipline models, including:

- Internet standard model - TOS (type of service) bits located in IP packet headers
- Backbone router model - TCP-friendly RED (random early detection) algorithm
- Advanced model - User-defined QoS rules

Guaranteed Interoperability

- DVB and ATSC standards
- Integrated with Logic Innovations Content Delivery Network
- Works in concert with industry standard multicast applications

SMPTE 325M Support

- Provides a feedback path to support opportunistic data insertion
- Allows data to be output at varied bit rates filling available space in an existing MPEG-2 stream
- Interfaces directly to Logic Innovations Transport Stream Multiplexers (TSM-2800)

IPv6 and DVB-S2 Support

- Enables high-performance, high scalability, and future proof
- Enhances bandwidth efficiency

Dependable Redundancy Support

- Provides one-for-one redundancy with minimal switching strategy
- Standby unit automatically mirrors the configuration of the active unit
- Supports VRRP (Virtual Router Redundancy Protocol)
- Supports chain redundancy
- Contact closure on fault for external switch (component redundancy)

IPE-4000 Technical Specifications

Data Throughput Configurations:

(Field upgradeable)	5 Mbps
	10 Mbps
	20 Mbps
	32 Mbps
	73 Mbps
	100 Mbps
	200 Mbps
IP Packet Throughput	50,000 PPS
Number of PIDs	8192
Output Data Format	MPE DSM-CC datagram sections and data piping (EN 301 192 and ATSC A/90 compliant)
Input Interface	10/100/1000 Base-TX

SNMP

IGMP

PSI Tables

IPCopy

MIB-II

Version 2

PAT/PMT

MAC address is derived from IP address

Output Interface Specifications

<i>Output Interface</i>	<i>Max Data Rates</i>	<i>Connectors</i>
DVB-ASI	213 Mbps	BNC (2)
SMPTE 325M (bi-directional)	200 Mbps	BNC (2)

Contact Logic Innovations for information on upgrades from IPE-2500 or IPE-3000

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All specifications are subject to change without notice.

Network Specifications

Interfaces: Dual 10/100/1000 Base-TX Ethernet ports (RJ-45)

Physical Characteristics

Enclosure: 19" Rack-mount, 1RU high
Size: 1.75" (4.5 cm) high x 17" (43.2 cm) wide x 16" (40.6 cm) deep
Weight: 20 lbs (9.53 Kg)

Environmental Specifications

Compliance: CB, CE, FCC, RoHS, and UL/cUL
Temperature: 32 °F - 113 °F (0 °C - 45 °C)
Humidity: 5 % - 95 % non-condensing
Shock: 3.5 g @ 10ms duration
Vibration: 0.5g @ 22 - 100 Hz
Power: 85 - 250 VAC, 50 - 60 Hz auto-sensing, <100 watts
Air flow: Front to back



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About Logic Innovations

Logic Innovations products enable delivery of IP-based, rich media services over broadband networks. Areas of expertise include digital audio/video and data communications technologies such as MPEG, DVB, and ATSC.

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