

IP Encapsulator (IPE) 4000

MPEG-2 DVB/ATSC Encapsulator

Features

- Fully DVB compliant
- Linux-based O/S
- Remote monitor/configuration using Web browser interface
- TCP to UDP tunnel support
- IRD firmware update carousel support
- Reliable operation; fully solid state (no hard drive)
- Automatic redundancy and failover support
- Support for ULE (uni-directional lightweight encapsulation)

Providing the necessary link between IP networks and broadband DVB or ATSC networks, the IP Encapsulator (IPE) 4000 enables cost effective point-to-multipoint content delivery.

The IPE-4000 is a solid state, fully embedded, Linux-based IP Encapsulator. The IPE 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 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.

License Based Performance

- Field upgradeable performance via software license

Flexible Configuration and Management

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

Guaranteed Interoperability

- Internet standard Quality of Service (QoS) — Type of Service (TOS) bits located in IP packet headers
- Conforms to DVB and ATSC data broadcast standards
- Compatible with IDC's Datacast XD™ Server for guaranteed file delivery and the SuperFlex® Pro Series™ Receivers.

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 Transport stream
- Interfaces directly to IDC's Transport Stream Multiplexer (TSM) 2800

DVB-S2 Support

- High performance, scalable and future proof
- Enhances bandwidth efficiency

Dependable Redundancy Support

- Support for 1:1 redundancy with minimal switching strategy
- Redundant pair share a virtual IP address
- Standby unit automatically assumes active role in the event of a failure
- Support for chain redundancy schemes
- Contact closure on fault for external switch (component redundancy)



TECHNICAL SPECIFICATIONS—IP Encapsulator (IPE)

| MODEL | DESCRIPTION |
|----------|---|
| 5 Mb/s | Maximum Output Rate, 1 RU DVB/ATSC Encapsulator |
| 20 Mb/s | Maximum Output Rate, 1 RU DVB/ATSC Encapsulator |
| 40 Mb/s | Maximum Output Rate, 1 RU DVB/ATSC Encapsulator |
| 80 Mb/s | Maximum Output Rate, 1 RU DVB/ATSC Encapsulator |
| 130 Mb/s | Maximum Output Rate, 1 RU DVB/ATSC Encapsulator |
| 200 Mb/s | Maximum Output Rate, 1 RU DVB/ATSC Encapsulator |



| DATA THROUGHPUT CONFIGURATIONS | |
|--------------------------------|---|
| IP Packet Throughput | 40,000 PPS |
| Number of PIDs | 8192 |
| Output Data Format | MPE DSM-CC Datagram sections and data piping (EN 301 192 and ATSC 1/90 compliant) |
| Section Packing | Yes, selectable per PID |
| Firmware Carousel | Selectable bit rate; MP2TS file |
| Input Interface | 10/100/1000 Base-TX |
| SNMP | MIB-II |
| IGMP | Version 2 |
| PSI Tables | PAT, PMT, NIT, TDT |
| NETWORK SPECIFICATIONS | |
| Interfaces | Dual 10/100/1000 Base-TX Ethernet ports (RJ-45) |
| OUTPUT INTERFACE | |
| DVB-ASI | <ul style="list-style-type: none"> Max Data Rates: 213 Mb/s Connectors: BNC (2) |
| SMPTTE 325M (bi-directional) | <ul style="list-style-type: none"> Max Data Rates: 200 Mb/s Connectors: BNC (2) |
| POWER REQUIREMENTS | |
| Supply Voltage | 85 to 250 VAC, 50 or 60 Hz autosensing |
| Power Consumption | <100 Watts |
| PHYSICAL PARAMETERS | |
| Chassis | 1RU rackmount |
| Dimensions (H, W, D) | 4.5 cm x 43.2 cm x 40.6 cm (1.75" x 17" x 16") |
| Weight | 9.53 kg (21 lbs.) |
| ENVIRONMENTAL CONDITIONS | |
| Operating Temperature | 0° to 45° C (32° to 113° F) |
| Humidity | 5% - 95% non-condensing |
| Shock | 3.5 g @ 10 ms duration |
| Vibration | 0.5 g @ 22-10 Hz |
| Air flow | Front to back |
| COMPLIANCE | |
| CB, CE, FCC, RoHS, UL/cUL | |



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