MX8400 Multiplexer

A wide choice of cost-effective designs together with integration of any new technology is strived for by all broadcasters and operators. The introduction of IP interconnectivity offers a means to reduce infrastructure costs, increase flexibility and offer a choice of system architectures.

The MX8400, when part of an iSIS 8000® system, revolutionizes IP multiplexing technology. Providing up to eight independent multiplexed transport streams from a single enclosure and with built-in support for DVB Common Scrambling Algorithm for content protection and BISS, MX8400 facilitates numerous system architectures.

Base Unit Features

**BASE UNIT FEATURES**

**MX8400/BAS (FAZ 101 0114/1) and MX8400/BAS/DPS (FAZ 101 0114/31)**

- MX8400 model – 2RU, eight option slots
- Up to eight independent multiplexed outputs enabled through s/w licenses
- Up to 250 Mbps for an output transport stream
- Maximum utilization of output gigabit bandwidth
- Simultaneous availability of output transport streams via IP and ASI
- Highly efficient multiplexing algorithms
- Advanced remultiplexing
- Reflex statistical multiplexing
- Onboard ASI input and output as standard
- Port redundancy for Data, CA, Control and HSYNC
- Redundant HSYNC Input and output clock
- Control via nCompass Control system management V5.1 onwards
- SNMP remote monitoring
- IGMP v3 support

**PRODUCT OVERVIEW**

**Ideal for Primary Multiplexing in Central Headend**

The MX8400 is a new generation of multiplexer that is suitable for a wide range of multiplexing and re-multiplexing applications - including primary multiplexing in headends for DTH satellite, cable and terrestrial, contribution systems and re-multiplexing applications in central and regional headends.

**Multiple Multiplexed Transport Stream Outputs**

MX8400 offers a unique design concept that offers up to eight independent multiplexed transport streams to reduce costs and simplify designs, enabling systems to grow as the need demands.

**Statistical Multiplexing**

Ericsson’s Reflex Statistical Multiplexing is implemented to work over IP networks to provide the maximum utilization of available bit-rate. Supports both MPEG-2 SD and HD and MPEG-4 AVC SD and HD.

**Enabling Cost-Effective Redundant and Resilient System Architectures**

MX8400 offers a fully redundant architecture in combination with nCompass Control that enables implementation of cost-effective and resilient system architectures; MX8400 supports redundant external clocks, Data, CA and Control ports. Support of IGMPv3 allows MX8400 to perform multicast joins and leaves to further simplify system design.

**Advanced Control and Monitoring Features**

With nCompass Control, the MX8400 offers advanced control and monitoring features that allow for ease of use and maintenance - leading to savings through operational costs, time and labor.

**Increased Reliability**

The highly integrated unit facilitates the need for fewer units and thus increases the overall system reliability.

Suitable for a wide range of multiplexing and re-multiplexing applications, its designed to offer system level redundancy and ease of operations. MX8400 is a feature rich product that also supports ASI input and output, SFN Adaptation, SMPTE 2022 Pro-MPEG FEC and Reflex™ Statistical Multiplexing. Fully integrated with nCompass Control by Ericsson, the MX8400 takes full advantage of the IP technology to provide a cost-effective, highly reliable and flexible solution. Dual hot swap PSUs option available for additional resilience.
**SOFTWARE OPTIONS**

Additional Multiplexed Output (MX8400/SWO/MUX, FAZ 101 0114/8)
- Software license to enable each additional independent multiplexed output transport stream

DVB CA Simulcrypt Base and Additional TS Options (MX8400/SWO/DVBCA (FAZ 101 0114/6), MX8400/SWO/DVBCA/EXT (FAZ 101 0114/7))
- Software licenses to enable the DVBCA Simulcrypt support

BISS Base and Additional TS Scrambling Options (MX8400/SWO/BISS (FAZ 101 0114/16), MX8400/SWO/BISS/EXT (FAZ 101 0114/33))
- Software licenses to enable BISS Scrambling

SFN Adaptation (MX8400/SWO/SFN, FAZ 101 0114/10)
- Software license to allow each output transport streams configured as ETSI TS 101 191 v1.4.1 compliant SFN adapter

**HARDWARE OPTIONS**

ASI Option Cards (MX8400/HWO/4ASI (FAZ 101 0114/2) or MX8400/HWO/8ASI (FAZ 101 0114/3))
- Provides four or eight ASI option ports respectively. Each option card can be configured as either input or output

SMPT 2022 Pro-MPEG FEC Option Card (MX8400/HWO/PROFEC, FAZ 101 0114/5)
- Provides SMPT 2022-1 and SMPT 2022-2 Pro-MPEG FEC compliant receiver for error correction on up to 32 input transport streams

GPS Option Card (MX8400/HWO/GPS, FAZ 101 0114/4)
- For multiplexer clock synchronization with an external GPS reference and providing of 1 PPS reference to SFN adapter

Additional Power Supply (MX8400/HWO/DPS, FAZ 101 0114/34)
- Additional power supply for MX8400/BAS/DPS

**SAMPLE CONFIGURATION**

![Sample Configuration Diagram](image)

**SPECIFICATIONS**

**Inputs**
- Transport Stream Inputs (Standard)
  - Dual port Gigabit Ethernet input with two Electrical Ethernet ports (RJ45)
  - ASI transport stream, two input ports
- Reference Inputs
  - HSYNC: two redundant input ports

**Outputs**
- Transport Stream Outputs (Standard)
  - Gigabit Ethernet: two Electrical Ethernet ports
  - ASI transport stream, four output ports
- Reference Outputs
  - HSYNC, two redundant output ports

**Control**
- Two 10/100 BaseT Ethernet ports for Control and additional two 10/100 BaseT ports for CA interfacing
- Control and set-up via nCompass Control

**Multiplexing**
- From one to eight independent multiplexed outputs from a single unit
- Multiple input and output data ports
- Transport stream rates up to 250 Mbps
- Up to 8192 PIDs supported per output TS
- Full PID remapping
- Input component tracking
- PID monitoring
- MPTS and SPTS support
- Removal of ±60 mS of IP network jitter for each incoming TS
- Support for IGMP v3 protocol
- Reflex Statistical Multiplexing of MPEG-2 SD and HD
- Reflex statistical multiplexing of MPEG-4 AVC SD and HD
- Supports up to 24 different Simulcrypt DVBCA

**Diagnostics**
- Monitoring and redundancy via nCompass Control by Ericsson
- Remote monitoring and diagnostics via SNMP

**Physical and Power**
- Dimensions (W x D x H): 440 x 543 x 89 mm (17.5” x 21.5” x 2RU)
- Approximate Weight: 9 kg (20 lbs)
- Power Input: AC wide ranging 100 VAC to 120 VAC or 220 to 240 VAC
- 50 Hz to 60 Hz nominal
- Power Consumption: 80 Watt nominal (without any options fitted)

**Environmental Conditions**
- Operating Temperature: 0°C to 45°C (32°F to 113°F)
- Relative Humidity: 5% to 90%

Specifications Subject To Change Without Notice

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