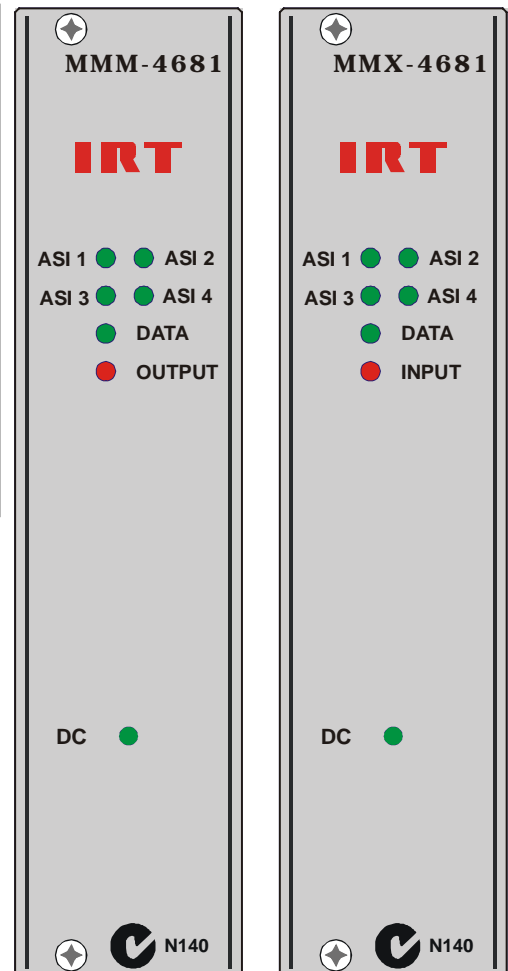
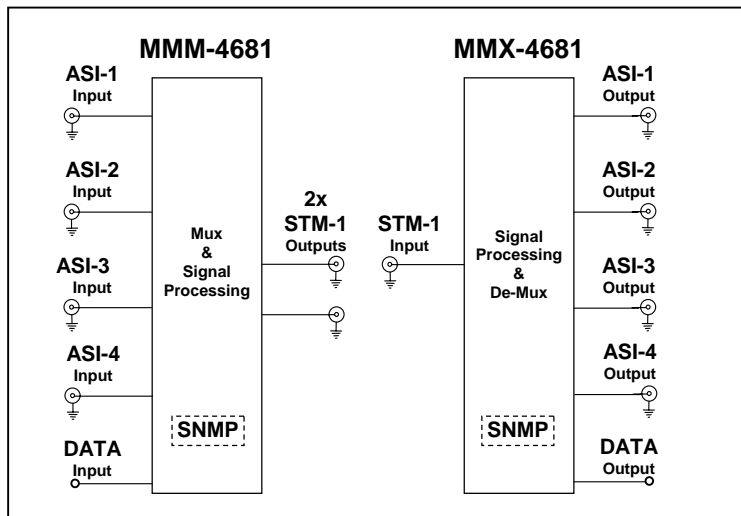


## 4 ASI to G.703 (STM-1) Combiner / DeCombiner Types MMM-4681 & MMX-4681



### Features:

- Up to 4 ASI and 1 Data stream on one 155 Mb/s (STM-1) G.703 electrical or optical<sup>1</sup> link
- Automatic Input equalisation up to 250m
- Suitable for Single Frequency Network (SFN) use
- Maintains original ASI rate, packet size & coding

### General:

The MMM-4681 and MMX-4681 are part of a family of data transcoders for converting between the commonly used MPEG2 Transport Stream formats for video distribution in the broadcast industry.

With the MMM-4681 up to four ASI and one RS232 data signal can be combined together and converted into a 155Mb/s G.703 (STM-1) electrical CMI signal, or NRZ standard (NRZ for optically interfacing to an STM-1 optical fibre network using IRT's DDT-4210/DDR-4211 fibre link set to match corresponding rate for transmission).

The sum of the ASI input payload rates can be anything up to 148 Mb/s. Inputs may be 188 or 204 byte packet length, burst or continuous, and may have energy dispersal scrambling, interleaving and/or Reed Solomon bytes included.

The MMX-4681 separates the 155 Mb/s G.703 signal back into the original four ASI signals (at their original rates) and the RS232 data signal. The ASI outputs are suitable for Single Frequency Network use, in that there is no data rate conversion or PCR restamping of the ASI streams.

Inputs are automatically equalised for lengths of up to 250m of Belden 8281 or equivalent cable.

RS232 uni-directional data may also be sent on the same link. It can pass rates up to 19.2 kb/s with any combination of start/stop & parity bits. The data rate does not affect the payload available for the ASI streams.

Front panel indication and relay alarm on the MMM-4681 transmitter shows if there is an input data rate violation. Corresponding alarm on the MMX-4681 receiver shows a loss of STM-1 input.

Optional SNMP (Simple Network Management Protocol) version is available for monitoring and control when used in an IRT frame fitted with SNMP capability.

The MMM-4681 and MMX-4681 are designed to fit IRT's standard Eurocard frames and may be used alongside any other of IRT's analogue or digital Eurocards.<sup>1</sup>

<sup>1</sup> When used in conjunction with IRT's DDT-4210/DDR-4211 fibre link set to match corresponding rate.

# Technical Specifications

## MMM-4681:

### Inputs:

Type 1

4 x ASI-C 75Ω, 800 mVp-p, BNC connector.

Maximum Data Rate per channel

Up to a combined maximum rate of 148 Mb/s

Type 2

RS232 Uni directional data input.

### Output:

Type

2 x 800mVp-p, G.703, 75Ω BNC connector.

Electrical Characteristics

CMI (STM-1e) or NRZ (STM-1o) encoded, selectable.

Data Rate

155.52 Mb/s.

### Alarm Output:

MAJOR

Open circuit on sum of ASI input payload rates in excess of maximum allowable 148Mb/s, or loss of power.

MINOR

Open circuit on no valid input ASI streams present, or loss of power.

## MMX-4681:

### Input:

Type

1 x G.703, 75Ω BNC connector.

Electrical Characteristics

CMI (STM-1e) or NRZ (STM-1o) encoded, selectable.

Data Rate

155.52 Mb/s.

### Outputs:

Type 1

4 x ASI-C 75Ω, 800 mVp-p, BNC connector.

Data Rate

same as MMM-4681 input rate.

Type 2

RS232 Uni directional data output.

### Alarm Output:

MAJOR

Open circuit on no valid STM-1 input present, or loss of power.

MINOR

Open circuit on no valid output ASI streams present, or loss of power.

### Power Requirements

Power consumption

28 Vac CT (14-0-14) or ±16 Vdc.

6 VA.

### Other

Temperature range

0 - 50° C ambient.

Mechanical

Suitable for mounting in IRT 19" rack chassis with input, output and power connections on the rear panel.

Finish

Front panel

Grey, silk-screened black lettering & red IRT logo.

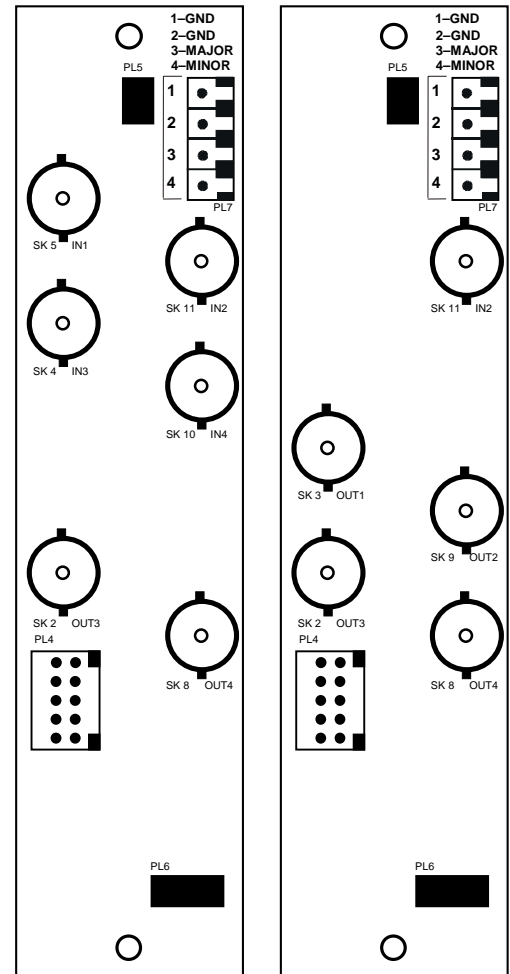
Rear assembly

Detachable silk-screened PCB with direct mount connectors to Eurocard and external signals.

Dimensions

6 HP x 3 U x 220 mm IRT Eurocard.

**Due to our policy of continuing development, these specifications are subject to change without notice.**



### Detailed specifications available from:

Manufacturer:

**IRT Electronics Pty Ltd**

26 Hotham Parade

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