

4 ASI to ASI Combiner / DeCombiner

FEATURES

- Up to 4 ASI streams on one ASI link.
- Units may be cascaded to increase the number of ASI inputs.
- Recovers transmitted ASI signal without any added PCR jitter and with minimal user setup.
- Maintains original ASI rate, packet size & coding (energy dispersal scrambling, interleaving or Reed Solomon bytes).
- Suitable for Single Frequency Networks (SFN).

GENERAL

The MMM-4711 and MMX-4711 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-4711 up to four ASI signals can be combined together and converted into a single ASI signal with a settable output payload rate.

The sum of the ASI input payload rates can be anything up to approximately 0.9^* x the set ASI output payload rate. Inputs may be 188 or 204 byte packet lengths, burst or continuous, and may have energy dispersal scrambling, interleaving and/or Reed Solomon bytes included. An individual input may be up to 0.9^* x the full set ASI output payload rate if the other inputs are unused.

The output ASI stream is a valid stream, which complies with all facets of ETR290.

Provided the total sum of the ASI inputs does not exceed approximately 0.9^* x the set output rate, units can be cascaded to increase the number of ASI inputs into a single ASI output.

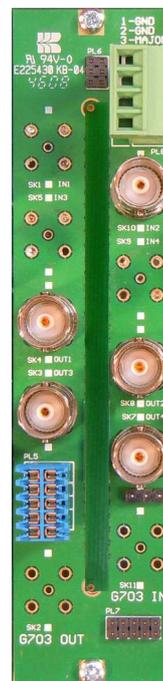
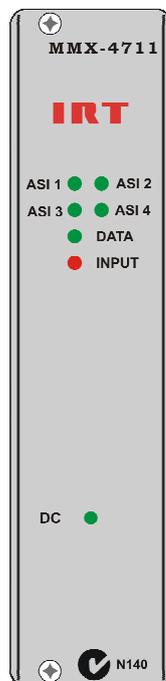
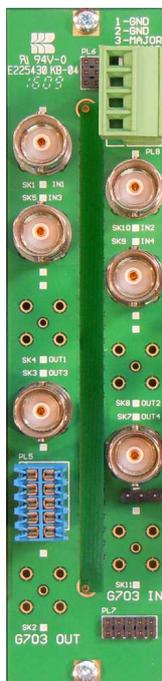
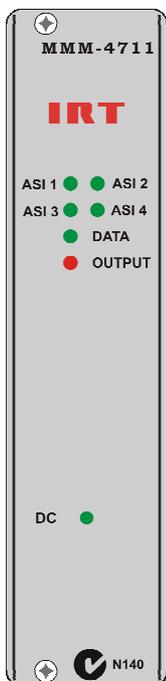
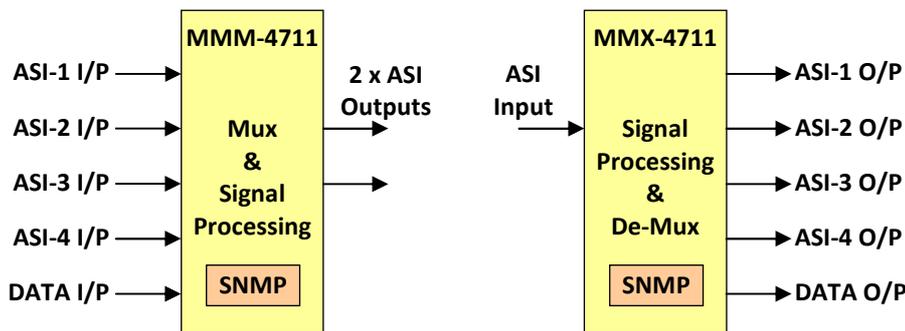
The MMX-4711 separates the combined ASI signal back into the original four ASI signals (at their original rates and without any modification of the stream, or stream timing). If more than one MMM-4711 has been cascaded then the MMX-4711's cascade in the reverse order.

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

Front panel indication and relay alarm on the MMM-4711 transmitter shows if there is an input data rate violation. Corresponding alarm on the MMX-4711 receiver shows a loss of ASI input.

The MMM-4711 and MMX-4711 are designed to fit IRT's standard Eurocard frames and may be used alongside any other of IRT's analogue or digital Eurocards.

BLOCK DIAGRAM MMM-4711 & MMX-4711 SIGNAL PATH



* $0.95 \times$ with 188 byte inputs, $0.88 \times$ with 204 byte inputs.

TECHNICAL SPECIFICATIONS

MMM-4711:

Inputs:

Type 1 4 x ASI-C 75 Ω , 800 mVp-p, BNC connector.
Maximum Data Rate per channel Sum total less than 0.95 x selected output rate with 188 byte signals, or less than 0.88 x selected output rate with 204 byte signals.
Equalisation Automatic, better than 200 metres at 270 Mb/s for Belden 8281 or equivalent cable.

Type 2 RS232 Uni directional data input (maximum 38k4 baud).

Output:

Type 2 x ASI-C 75 Ω , 800 mVp-p, BNC connector, Continuous or Burst (settable).
Payload Rate **Switch Settable** 10 Mb/s;
31.672 Mb/s;
34.368 Mb/s (equivalent to E3 rate);
41.227 Mb/s;
44.736 Mb/s (equivalent to Unframed DS3 rate);
44.210Mb/s (equivalent to Framed DS3 rate);
80 Mb/s;
90 Mb/s;
110 Mb/s;
148 Mb/s (suited for STM-1); and
213 Mb/s.

Alarm Output:

MAJOR Open circuit on sum of ASI input payload rates in excess of set ASI output payload rate, or loss of power.
MINOR Open circuit on no valid input ASI streams present, or loss of power.

MMX-4711:

Input:

Type ASI-C 75 Ω , 800 mVp-p, BNC connector.
(Equivalent to MMM-4711 output rate).
Equalisation Automatic, better than 250 metres at 270 Mb/s for Belden 8281 or equivalent cable.

Outputs:

Type 1 4 x ASI-C 75 Ω , 800 mVp-p, BNC connector.
Data Rate Same as MMM-4711 input rate.

Type 2 RS232 Uni directional data output.

Alarm Output:

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

Power Requirements:

Voltage 28 Vac CT (14-0-14) or ± 16 Vdc.
Power consumption MMM-4711 < 5VA, MMX-4711 < 4VA.

Other:

Temperature range 0 - 50° C ambient.
Mechanical For mounting in IRT 19" rack chassis with input, output and power connections on the rear panel.
Finish **Front panel** Grey background, 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.