The ISMUX-004 Multiplexer delivers a BTS signal (Broadcast Transport Stream) generated from up to 8 TSs (Transport Stream). Developed with cutting edge technology and under strict quality standards, in addition to Hitachi Kokusai Linear’s vast experience in broadcasting.

Its system is able to filter and remap PIDs as well as to enable transmission of interactivity', closed caption' and EPG'. Controls transmission parameters such as configuration of hierarchical layers, number of segments, modulation type, time interleaving, as well as guard interval and operating mode (TMCC).

In contrast to PC based platforms, Hitachi Kokusai Linear’s ISMUX-004 has a dedicated hardware (FPGA) featuring a user-friendly interface via Web browser access. It also features a SI/PSI table generator fully capable of generating the essential system tables: PAT, PMT, SDT, NIT, CAT and BIT. In some cases it may operate without a data generator.

Innovations and Features:

- **Exclusive Integrated BTS Compressor and Decompressor:** Configurable BTS Compression and Decompression System enable distribution without any payload loss, occupying less bandwidth, and using 188 byte packages. The settings feature allows the operation with different brands.

- **Integrated Satellite Receiver:** This option allows the reception of L-band signals, DVB-S/S2 standards, enabling satellite reception of either TS or Compressed BTS formats. The received signal can be multiplexed with other streams or directly forwarded to the output.

- **SFN:** Enables SFN (Single Frequency Network) operation and management. Generates and transmits control information for up to 29 transmitters within a network.

**Note:** Hitachi Kokusai Linear has actively taken part in defining the Brazilian digital transmission system ISDB-T.
GENERAL SPECIFICATIONS

- Developed for H.264 and MPEG-2
- Allows interactivity transmission GINGA, Closed Caption and EPG
- Complies with Brazilian standard (ABNT)
- Configuration via embedded WEB server / SNMP
- Configurable BTS compressor and decompressor
- 8 DVB-ASI inputs
- Two configurable independent ASI output with four format options: BTS, compressed BTS, compressed BTS from external source or decompressed BTS.
- One TSoIP output
- PID filtering and remapping up to 40 PIDs for each ASI port
- Allows hierarchical transmission (up to 3 layers)
- PGM correction
- SFN network configuration up to 29 transmitters
- Stores system required tables (PAT, PMT, NIT, SDT, BIT and CAT) in case of data generator shutdown
- Ethernet® (10/100 Base T) for equipment configuration
- Sends information EWBS

OPTIONAL
- Satellite Receiver, DVB-S/S2 standard
- GPS

Obs.: English manual included.

IMPORTANT

The BTS Compression method developed by Hitachi Kokusai Linear, allows DVB S/S2 devices from other suppliers to normally decode the Transport Stream, including SFN operation. BTS Compression algorithms are not defined by ARIB nor ABNT and therefore have distinct implementations for each supplier.

APPLICATION

Single Frequency Network (SFN) via satellite.

### INPUTS BNC - TS CONNECTOR

<table>
<thead>
<tr>
<th>Format</th>
<th>DVB-ASI 188/204 bytes continuous or burst mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input rate</td>
<td>23.234 Mbps - 6MHz BW 30.979 Mbps - 8MHz BW</td>
</tr>
<tr>
<td>Impedance</td>
<td>75 Ω</td>
</tr>
</tbody>
</table>

### INPUTS F - RF CONNECTOR

<table>
<thead>
<tr>
<th>Frequency</th>
<th>L-Band - 950 to 2250 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>DVB-S / DVB-S2</td>
</tr>
<tr>
<td>Modulation</td>
<td>QPSK (DVB-S) QPSK-8PSK (DVB-S2)</td>
</tr>
<tr>
<td>LNB power</td>
<td>+13 / +18 V</td>
</tr>
</tbody>
</table>

### BTS OUTPUT

<table>
<thead>
<tr>
<th>Signal type</th>
<th>DVB-ASI / TS/IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTS specifications</td>
<td>Data structure based on standard ARIB STD-B31 and ABNT NBR 15601:2007</td>
</tr>
<tr>
<td>Bit rate</td>
<td>~32.508Mbps - 6MHz BW ~43.344Mbps - 8MHz BW</td>
</tr>
<tr>
<td>Impedance</td>
<td>75 Ω</td>
</tr>
<tr>
<td>Connector</td>
<td>BNC</td>
</tr>
<tr>
<td>Numbers of outputs</td>
<td>02 ASI / 01 IP</td>
</tr>
</tbody>
</table>

### GENERAL

- AC mains (43-63Hz) 90-240 Vac
- Consumption: 20 W
- Dimensions (mm): 44(H) x 483(W) x 422(D)
- Net weight: 5.8 kg

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**Notes:**
1. EPG, Closed Caption and GINGA only possible with use of data generator (optional).
2. Ethernet is a trademark Xerox Corporation.
3. Rate depends of the configuration of TMCC
4. The input rate must comply with the hierarchical layers configuration (ARIB STD-B31).

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