ISDB-T/Tb Multiplexer / Re-multiplexer
Model: UNA 7000

Product Features

- Multiplexes streams compatible with MPEG-2 TS
- Compatible with TS (188 bytes) and BTS (204 bytes) inputs
- PSI/SI information generation with data descriptors insertion
- Allows configuration of PSI/SI tables and the respective transmission layer definition
- Stored PSI/SI tables transmission
- Filtering and remapping of input PIDs and PCR correction
- SFN Network configuration
- Compliant with ABNT NBR 15601 recommendations
- ISDB-T and ISDB-Tb compliant
- Allows GINGA interactivity transmission generated by external functions implementer
- Allows Closed Caption transmission generated by external functions implementer
- Allows EPG transmission generated by external functions implementer
- Allows OAD transmission generated by external functions implementer
- Management and updating are performed remotely using an embedded Web server

Optional Features

- GbE (IP) input according to Pro-MPEG CoP #3 / SMPTE 2022
- 4 additional ASI inputs
- Integrated GPS Receiver which provides 10 MHz and 1 PPS reference signals

Description and Application

The UNA 7000 is a Multiplexer and Re-multiplexer developed for ISDB-T and ISDB-Tb digital television standards.

The UNA 7000 supports multi-programming according to the needs of the broadcaster. Additionally, it allows editing of PSI/SI tables, IIP packet generation and Single Frequency Network (SFN) operation.

The multiplexer has 2 input channels (ASI) and 2 copies of the BTS output channel (ASI). Additional ASI inputs (up to a total of 6 input) and 2 IP inputs could be supported as an option.

System management and upgrades are performed remotely over the network via Ethernet.
## Product Specifications

### Signal Input

<table>
<thead>
<tr>
<th>Signal Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVB-ASI</td>
<td>2x Input Connectors: BNC (F) (6x Inputs optional)</td>
</tr>
<tr>
<td></td>
<td>TS Packet Size: 188/204 bytes</td>
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<tr>
<td>GbE Transport Stream (optional)</td>
<td>Protocol: Pro-MPEG CoP #3 / SMPTE 2022</td>
</tr>
<tr>
<td></td>
<td>Connector: RJ45</td>
</tr>
</tbody>
</table>

### Power Supply

- **Voltage**: 100 - 240 VAC
- **Frequency**: 50 - 60 Hz
- **Power Consumption**: max. 45 VA
- **Harmonic Correction**: EN61000-3-2

### Environmental

- **Operating Temperature**: 0°C to +50°C (+32°F to +122°F)
- **Storage Temperature**: -30°C to +70°C (-22°F to +158°F)
- **Relative Humidity**: max. 95%
- **Cooling**: Internal fans to assist natural convection

### Mechanical

- **Size**: 1 U of 19" wide cabinet
- **Dimension (W x H x D)**: 48.3cm x 4.39cm x 42.7cm (19" x 1.73" x 16.8")
- **Weight**: 6.0 kg (13.2 lbs)

### Control Interfaces

- **Front Panel**: LCD display and cursor/execute keys
- **Ethernet Interface**: 2x Connector: RJ45, Speed: 10/100/1000 Base-T
- **USB Interface**: Connector: USB Type B
- **RS232 Interface**: Connector: 9-pin SUB-D Male
- **RS485 Interface**: Connector: 9-pin SUB-D Female
- **CLI (Command Line Interface)**: Connector: USB (HyperTerminal) or Ethernet (HyperTerminal and Telnet)
- **Web GUI**: Internet Explorer, Firefox, etc. Connector: Ethernet
- **SNMP Control Interface**: Connector: Ethernet Note: MIBs are provided

### GBET Transport Stream

- **Input**: DVB-ASI, BNC (F) Connector: RJ45
- **Packet Size**: 188/204 bytes
- **Impedance**: 75 Ω
- **Protocol**: Pro-MPEG CoP #3 / SMPTE 2022

### BTS Output

- **DVB-ASI**: 2x Output Connectors: BNC (F) Impedance: 75 Ω
- **BTS Specification**: Based on ARIB STD-B31 and ABNT NBR 15601:2007
- **Bit Rate**: 512X4/63 Mbps (~32.508 Mbps)

### ETSI Compliance


### CE Compliance

- This equipment is CE Compliant.

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**Note 1**: The "10MHz” and "1pps" are inputs, except when the UNA 7000 is equipped with an internal GPS receivers, where they become Monitoring Outputs (high impedance).
## Product Specifications

### Optional GPS Receiver

**Input Connector**
- F-type (F), 75 Ω
- 5 Vdc biased

**Recommended Antenna**
- Bullet III GPS antenna - Trimble model no. 57860-10 or equivalent

**Receiver Architecture**
- L1 1575.42 MHz

**12 Parallel Channels**
- C/A code (1.023 MHz chip rate)
  - Code plus carrier tracking (carrier aided tracking)

**Tracking Capability**
- 12 simultaneous satellite vehicles

**Acquisition Time**
- < 15 seconds typical TTFF-hot (with current almanac, position, time and ephemeris)
- < 150 seconds typical TTFF-cold (no stored information)

**Positioning Accuracy**
- < 5 m, 1 - sigma
- < 10 m, 2 - sigma

**Timing Accuracy**
- < 2 ns, 1 - sigma
- < 6 ns, 6 - sigma

**Holdover Time**
- ±1 usec during 2 hours

**10 MHz Output Signal**
- Level: 10 dBm ±2.5 dBm, sine wave
- Harmonic Level: -40 dBc max.
- Phase Noise:
  - 1 Hz: < -75 dBc/Hz
  - 10 Hz: < -110 dBc/Hz
  - 100 Hz: < -125 dBc/Hz
  - 1 kHz: < -135 dBc/Hz
  - 10 kHz: < -155 dBc/Hz
  - 100 kHz: < -155 dBc/Hz

**1PPS Output Signal**
- Level: TTL