With varying interface standards in a network, invariably there is a need to adapt one standard to another. Space is always a premium and as such an adaptation unit also needs to be more than just an interface converter - it needs to provide additional functionality while providing easy operation and configuration.

The TT6120 provides an extensive range of well-proven interfaces to cover every transmission need. With a modular design concept, it is ideal for converting one interface standard to another through an easy to operate GUI. Apart from functioning as a standards converter, the TT6120 provides functionality for PID, component and service filtering, as well as PSI/SI/PSIP table manipulation. For IP input and output interfaces, ProMPEG FEC is also available. The TT6120 is a highly flexible interface adaptation unit.

PRODUCT OVERVIEW

Extensive Range of Options
The TT6120 is ideal for delivering transport streams across a wide variety of transport mediums. An extensive range of input and output option cards can be combined to provide a product that is suitable for most interfacing needs.

Filtering Capabilities
With the capability to add data-piping and service filtering, the TT6120 provides real efficiency within any video link. Transmitter links, IP and telecom based content exchange and TV distribution, are just some of the many applications for which the TT6120 is perfect.

BASE UNIT FEATURES

**TT6120 Format Converter (TT6120/BAS/V3)**
- Basic format and rate conversion
- PSI/SI/PSIP table insertion
- SNMP remote control
- Easy-to-use web interface

**TT6120 Format Converter with PID filtering (TT6120/BAS/V1)**
- As above plus...
- PID filtering and re-mapping

**TT6120 Extended (TT6120/BAS/V2)**
- As above plus...
- Service and/or component filtering
- Dynamic regeneration of PSI/SI/PSIP tables
**HARDWARE OPTIONS**

**Input Options**

- **QPSK demodulator (TT6120/HWO/IM3)**
  - 2 - 30.6 MSym/sec

- **Cable demodulator (TT6120/HWO/IM5)**
  - 16, 32, 64, 128 and 256 QAM (ITU-T J.83 Annex A)

- **C-OFDM demodulator (TT6120/HWO/IM8)**
  - For channel bandwidth of 8 MHz

- **IP-Ethernet input (TT6120/HWO/IT20)**
  - 100BaseT MPEG-2 over IP with FEC

- **IP-Ethernet with FEC input (TT6120/HWO/IT22)**
  - 100BaseT MPEG-2 over IP with DVB-IPI FEC

- **IP-Ethernet with ProMPEG FEC input (TT6120/HWO/IP1)**
  - 100BaseT MPEG-2 over IP with ProMPEG FEC

- **Ethernet Data IPED (TT6120/HWO/IT21)**
  - Encapsulates and de-encapsulates IP data to/from MPEG-2 transport streams

- **G.703 E3 input (TT6120/HWO/IT5)**
  - PDH 34.368 Mbps, unframed or G.832 framing

- **G.703 T2 input (TT6120/HWO/IT3)**
  - PDH 6 Mbps

- **G.703 DS3 input (TT6120/HWO/IT6)**
  - PDH 44.736 Mbps, unframed, M13 or C-bit framing

- **ATM AAL1 E3 input (TT6120/HWO/IT7)**
  - PDH 34.368 Mbps, AAL1 with FEC

- **ATM AAL1 DS3 input (TT6120/HWO/IT8)**
  - PDH 44.736 Mbps, AAL1 with FEC

- **ATM AAL1 OC3c Multi-mode input (TT6120/HWO/IT14)**
  - AAL1 OC3c 155 Mbps (SDH/SONET) multi-mode fiber

- **ATM AAL1 OC3c Single-mode input (TT6120/HWO/IT15)**
  - AAL1 OC3c 155 Mbps (SDH/SONET) single-mode fiber

- **ATM AAL1 STM1 Electrical input (TT6120/HWO/IT16)**
  - AAL1 STM1 155 Mbps Electrical interface

- **ATM AAL5 OC3c Multi-mode input (TT6120/HWO/IT9)**
  - AAL5 OC3c 155 Mbps (SDH/SONET) multi-mode fiber

- **SMpte310M input (TT6120/HWO/IT12)**
  - SMpte310M 19.39 Mbps transport stream input

**Other input options:**
- ATM AAL5 OC3c single-mode fiber, ATM AAL5 STM1 Electrical, M2S

**Output Options**

- **QAM modulator (TT6120/HWO/OM1)** (This product requires an external up-converter)
  - 16, 32, 64, 128 and 256 QAM (ITU-T J.83 Annex A and B)

- **QAM modulator with up-converter (TT6120/HWO/OM33)**
  - 64 and 256 QAM (ITU-T J.83 Annex A, B and C)

- **IP-Ethernet output (TT6120/HWO/OT20)**
  - 100BaseT MPEG-2 over IP without FEC

- **IP-Ethernet with FEC output (TT6120/HWO/OT22)**
  - 100BaseT MPEG-2 over IP with DVB-IPI FEC

- **IP-Ethernet with ProMPEG FEC Output (TT6120/HWO/OP1)**
  - 100BaseT MPEG-2 over IP with ProMPEG FEC

- **Ethernet Data IPED Datacast (TT6120/HWO/OT21)**
  - Encapsulates and de-encapsulates IP data to/from MPEG-2 transport streams

- **G.703 E1 output (TT6120/HWO/OT2)**
  - PDH 2.048 Mbps

- **G.703 E3 output (TT6120/HWO/OT5)**
  - PDH 34.368 Mbps, unframed or G.832

- **G.703 DS3 output (TT6120/HWO/OT6)**
  - PDH 44.736 Mbps, unframed, M13 or C-bit framing

- **ATM AAL1 E3 output (TT6120/HWO/OT7)**
  - PDH 34.368 Mbps, AAL1 with FEC

- **ATM AAL1 DS3 output (TT6120/HWO/OT8)**
  - PDH 44.736 Mbps, AAL1 with FEC

- **ATM AAL1 OC3c Multi-mode output (TT6120/HWO/OT14)**
  - AAL1 OC3c Multi-mode output (SDH/SONET) multi-mode fiber

- **ATM AAL1 OC3c Single-mode output (TT6120/HWO/OT15)**
  - AAL1 OC3c Single-mode output (SDH/SONET) single-mode fiber

- **ATM AAL1 STM1 Electrical output (TT6120/HWO/OT16)**
  - AAL1 STM1 155 Mbps electrical interface

- **ATM AAL5 OC3c Multi-mode output (TT6120/HWO/OT9)**
  - AAL5 OC3c Multi-mode output (SDH/SONET) multi-mode fiber

- **SMpte310M output (TT6120/HWO/OT12)**
  - SMpte310M 19.39 Mbps transport stream output

- **Dual DVB ASI output (TT6120/HWO/OL0)**
  - Additional ASI outputs

- **Quad DVB ASI output (TT6120/HWO/OL1)**
  - Additional ASI outputs

**Other output options**
- ATM AAL5 OC3c single-mode fiber, ATM AAL5 STM1 electrical
- DVB ASI-optical, M2S
TT6120 Transport Stream Processor

SAMPLE CONFIGURATION

SPECIFICATIONS

Inputs
- Default input interface is DVB ASI. A selection between DVB ASI and one of the available interface options can be made.
- Available interface options:
  - Satellite
  - QPSK demodulator
  - Carrier frequency range: 950 - 2150 MHz
  - Symbol rate: 2-30.6 Mbaud
  - Cable
  - QAM demodulator
  - 16, 32, 64, 128 and 256 QAM (ITU-T J.083, Annex A and B)
  - Tuner frequency range: 47 - 859 MHz
  - Channel Bandwidth: 8 MHz
  - Terrestrial
  - COFDM demodulator
  - Carrier frequency range: 47 - 862 MHz channel bandwidth: 8 MHz
  - IP – Ethernet
  - 100BaseT Ethernet (MPEG over IP) with either DVB or ProMPEG FEC option
  - 100BaseT IP data encapsulation (maximum 50 Mbps data rate)

Outputs
- Default output interface is dual DVB ASI/M2S (always active). In addition, one of the available interface options can be chosen.
- Available interface options:
  - Cable
  - QAM modulator (without RF up-converter)
  - 16, 32, 64, 128 and 256 QAM (ITU-T J.083, Annex A and B)
  - QAM modulator (with RF up-converter)
  - 64 and 256 QAM (ITU-T J.083 Annex A, B and C)
  - Frequency range: 91 – 873 MHz
  - IP – Ethernet
  - 100BaseT Ethernet (MPEG over IP) with either DVB or ProMPEG FEC option
  - 100BaseT IP data de-encapsulation (maximum 50 Mbps data rate)

Features
- Format conversion between all major industry standards
- Rate conversion by null packet insertion and removal. PCR re-stamping
- Automatic detection of input packet length and bit-rate
- User control of output rate and packet length
- Configurable alarm handling
- Automatic start up after power break
- MPEG rate up to 100 Mbps
- DVB ASI input and dual output available on all models. SCTE 35 controlled by DV525 or GPI contact closure

Control
- Front panel and keypad for direct configuration
- On-board web server for remote control, using an ordinary web browser
- SNMP remote control for integration in centralized management applications (TDC)

Physical and Power
- Dimensions (W x D x H): 483 x 370 x 44mm (19” x 13.5” x 1RU)
- Power Input: 110/240 VAC, -48 VDC (option)
- Power Consumption: Max. 50W depending on configuration, typically 25W

Environmental Conditions
- Operating Temperature: 0°C to +45°C (32°F to 113°F)
- Relative Humidity: 5–95%

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  - Symbol rate: 2-30.6 Mbaud
  - Cable
  - QAM demodulator
  - 16, 32, 64, 128 and 256 QAM (ITU-T J.083, Annex A)
  - Tuner frequency range: 47 - 859 MHz
  - Channel Bandwidth: 8 MHz

Outputs
- Default output interface is dual DVB ASI/M2S (always active). In addition, one of the available interface options can be chosen.
- Available interface options:
  - Cable
  - QAM modulator (without RF up-converter)
  - 16, 32, 64, 128 and 256 QAM (ITU-T J.083, Annex A and B)
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