



## TT1222

### MPEG-2 Standard Definition Integrated Receiver Decoder

Digital television's rapid expansion into a multi-channel environment creates new opportunities and challenges. To succeed in this new environment, cable, satellite and telco service providers and distributors need to move video and audio over a variety of networks with lower cost, more fully-featured and flexible equipment. To meet that demand, TANDBERG Television has delivered the TT1222 professional receiver; designed to decode, monitor and distribute high volumes of video channels at very low cost while maintaining excellence in video quality.

The TT1222 offers bit-perfect decoding of MPEG-2 SD 4:2:0 profile video, handling all major CA standards, all major video formats and resolutions, including Russian SECAM and all major network architectures - including video over IP. The TT1222 is ideal for high-volume digital video turn-around from satellite for re-distribution from a cable headend or any last-mile network.

### PRODUCT OVERVIEW

#### Affordable Digital TV Distribution

The TT1222 receiver provides a level of features, quality and sophistication that is unmatched in its affordability.

#### Comprehensive Transmission Security

The TT1222 offers tremendous breadth in decryption choice, supporting all major encryption systems including BISS 1 & E, Common Interface and TANDBERG Director CA.

#### Sophisticated Functionality

Sophisticated technologies including MPE de-encapsulation and extensive VBI handling are just two of the advanced features that allow operators to carry and signal high rate data streams thereby increasing operational efficiency and revenue potential.

#### Low-cost, Efficient Management

The TT1222 can be efficiently managed and maintained through integration into TANDBERG Television's Director control system.

This scalable system enables reliable, remote management and channel-tuning of large populations of receivers and reduces the need for costly, on-site operation.

### BASE UNIT FEATURES

#### TT1222 – Common Interface Receiver (TT1222/CIBAS)

The TT1222's flexibility allows it to fit into most systems.

- Compatible with PAL, NTSC and SECAM video
- Common Interface for descrambling of most common CA systems
- Dual audio with XLR or screw terminal break-out cables

#### TT1222 – Russian SECAM Receiver (TT1222/RSBAS)

The TT1222/RSBAS featuring the same functions as the Common Interface receiver with the addition of broadcast quality Russian SECAM output.

Standard features for all units include:

- MPEG-2 SD 4:2:0 decoding for all common resolutions
- Automatic selecting of PAL/NTSC video formats
- Support for SECAM
- Extensive VBI handling
- Support for Aspect Ratio Conversion
- Subtitling capability that can be 'burnt' into the video
- Service Cycling through all decryptable services
- MPEG-1 Layer II (Musicam) audio outputs
- Dolby® Digital 5.1 down-mix to stereo
- Easy-to-use front panel display
- Web browser interface for remote control and monitoring
- Integrated with nCompass Control and Monitoring

## TT1222 MPEG-2 Standard Definition Integrated Receiver Decoders

**HARDWARE OPTIONS****Transport Stream Input Options****QPSK Input (TT1222/HWO/QPSK)**

- DVB-S QPSK Satellite demodulator
- 1 x L-band input
- 1-45 Msym/s

**ASI Input (TT1222/HWO/ASI/IN)**

- ASI Transport Stream input
- 1 x BNC connector

**Transport Stream Output Options****Single ASI Output (TT1222/HWO/ASI/OUT)**

- ASI Transport stream output
- 1 x BNC connector
- Output data rates up to 50 Mbps

**Dual ASI/SDI Output (TT1222/HWO/ASI/SDI)**

- 2 x BNC connectors
- Output any permutation of ASI/SDI on output connectors
- TT1222/CIBAS model only

**MPEG Transport Stream over IP (TT1222/HWO/IP/OUT)**

- Dual 100BaseT IP output
- ProMPEG FEC capability
- MPTS or SPTS output stream

**XLR Terminal Audio Break-Out Cable (TT12XX/CABLE/XLR)**

- Provides XLR terminal connections for audio output
- 1 x stereo pair per breakout cable via 2 x XLR connectors

**SOFTWARE OPTIONS****High Speed Data over Ethernet (TT1222/SWO/IP/DATA)**

- MPE de-encapsulation
- Data rates up to 20 Mbps
- Check availability

**Decoding of Dolby® Digital AC-3 audio (TT1222/SWO/AC-3)**

- Decoding of Dolby® Digital 2.0 audio
- Downmixing to stereo of Dolby® Digital 5.1 audio

**TANDBERG Director (TT1222/SWO/DirV5)**

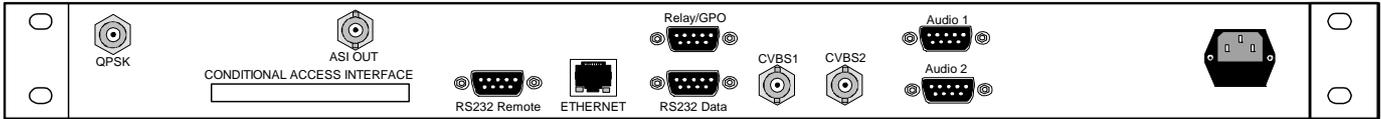
- Director over-air control
- Director CA
- Director over-air software downloads

**Multi-service Decryption (TT1222/SWO/MSD)**

- Decrypt multiple services via professional CAMS
- Simultaneously decrypt up to ten services or twenty-four PIDs max

TT1222 MPEG-2 Standard Definition Integrated Receiver Decoders

SAMPLE CONFIGURATION



SPECIFICATIONS

Inputs

DVB QPSK Input

- Connector: F-type (F) 75 ohm
- Frequency range: 950 - 2150 MHz
- Symbol rates: 1-45 Msym/s
- LNB power: 13V, 18V or off
- 22 kHz tone: On/Off
- Spectral inversion: Normal/inverted

DVB ASI Input

- Connector: BNC (F)
- Impedance: 75 ohm
- Sustained TS rate: 50 Mbps

Outputs

Analog Video Output

- 2 x BNC (F) 75 Ohm
- PAL
- NTSC
- SECAM
- Russian SECAM (Option)

SDI Digital Video Output (option)

- 2 x BNC (F) 75 Ohm (Option)
- EDH and VBI support
- Two embedded uncompressed audio pairs

Analog Audio Output

- 9-way D-type, balanced (M)
- Two balanced audio pairs - MPEG-1 Layer II or Dolby® Digital (AC-3) down-mixing

Digital Audio Output

- 9-way D-type, unbalanced (M)
- Dolby® Digital AC-3 down-mixing (option)
- Serial Digital Audio (S/PDIF)

Serial Data Output

- 9-way D-type, (M)
- Asynchronous RS232

High Speed IP data Output (option)

- Data output on IP control port
- Max data rate: 20Mbps

DVB ASI Output (option)

- 1 x BNC (F) 75 Ohm
- 2 x BNC (F) 75 Ohm (option)
- Sustained transport stream data rate: 50 Mbps
- Enable/disable descrambling of one selected service

MPEG Transport Stream over IP (option)

- Dual 100BaseT RJ-45 outputs
- ProMPEG FEC output mode
- Sustained transport stream data rate: 55 Mbps
- MPTS output—CBR and VBR modes
- SPTS output with service filtering—CBR mode

Features

Automatic Selection of PAL/SECAM/NTSC TS Handling

- Complete DVB PSI/SI processing
- PSI/SI disable for non-DVB streams
- ATSC service selection
- Auto selection of language for audio, subtitling and Teletext
- Service cycling through all decryptable services

Flexible VBI Handling

- DVB Text (WST), reinserted in PAL and SECAM outputs (VBI)
- Inverted Teletext insertion
- Wide Screen Signaling (WSS) and Video Programming System (VPS)
- Test Signal (VITS) generation
- Closed captions
- GCR
- Sin (x)/x

On-Screen Processing

- EBU-Teletext subtitling
- DVB subtitling

Flexible CA Handling

- DVB Common Interface:
  - Conax
  - IrdeTo

Nagravision

- CryptoWorks
- MediaGuard
- BetaCrypt
- Viasat
- Multi-service Decryption via professional CAM
- Decryption of MPEG-4 services via CAM (no MPEG-4 decode)

Director (option)

- BISS (Mode-1 & E)

Format Conversion

- Letterbox handling
- PAN/SCAN
- 14:9 Combination (PAL/SECAM only)

Control

- Front panel keypad and LCD
- nCompass Control & Monitoring
- Over-air remote control with Director (option)
- Web page control
- Over-Air software download with TANDBERG Director (option)

Physical and Power

Dimensions (W x D x H)

- 435 x 275 x 44mm (19" x 10.75" x 1.75" approx.)

Input Voltage

- 110/240 VAC

Power Consumption

- 20W Max. (depending on options fitted)

Cooling

- Integrated fan, units may be stacked on top of each other

Environmental Conditions

Operating Temperature

- 0°C to +50°C (32°F to 122°F) without DVB CI module

Relative Humidity

- 5 to 95%

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