



TT1221A / TT1222

MPEG-2 Standard Definition Integrated Receiver Decoders

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 TT1221A and TT1222 professional receiver technology; designed to decode, monitor and distribute high volumes of video channels at very low cost while maintaining excellence in video quality.

The TT1221A and TT1222 offer 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 TT1221A and TT1222 are ideal for high-volume digital video turnaround from satellite for re-distribution from a cable head-end or any last-mile network.

PRODUCT OVERVIEW

Affordable Digital TV Distribution

The TT1221A/TT1222 receiver provides a level of features, quality and sophistication that is unmatched in its affordability.

Region Specific Design for US, European and Asian Markets

The TT1221A features US specific interfaces designed for the American service provider market.

The TT1222 offers common European and Asian interfaces that fit into most network and CA systems.

Comprehensive Transmission Security

The TT1221A/TT1222 offers tremendous breadth in decryption choice, supporting all major encryption systems including BISS 1 & E, Common Interface and TANDBERG DirectorV5 CA.

Sophisticated Functionality

Sophisticated technologies including MPE data 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 TT1221A/TT1222 can be efficiently managed and maintained through integration into TANDBERG Television's DirectorV5 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

TT1221A – American Cable Receiver (TT1221A/CIBAS)

The TT1221A is designed specifically for the American cable market.

- Broadcast quality NTSC video output
- Dual audio with screw terminal connectors
- Integrated TANDBERG Director CA and over-air control system

TT1222 – Common Interface Receiver (TT1222/CIBAS)

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

- Common Interface for descrambling of most common CA systems
- Dual audio with XLR break-out cable

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.

Other 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
- 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

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

- DVB-S QPSK Satellite demodulator
- 1 x L-band input
- 1-45 MSymbols/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
- 1x BNC connector
- Output data rates up to 60 Mbit/s

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

- 2 x BNC connectors
- Output any permutation of ASI/SDI on output connectors

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

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

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

- MPE De-encapsulation
- Data rates up to 20 Mbit/s

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 DirectorV5 (TT1222/SWO/DirV5)

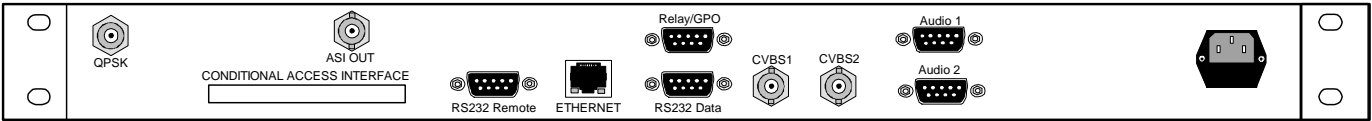
- TANDBERG Television DirectorV5 over-air control
- TANDBERG Television DirectorV5 CA
- TANDBERG Television DirectorV5 over-air software downloads

Multi-Service Decryption (TT1222/SWO/MSD)

- Decrypt multiple services via professional CAMS
- Simultaneously decrypt 10 services or 24 PIDs max

TT1221A / 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 Msymbols/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: 60 Mbit/s

Outputs

Analog Video Output

2 x BNC (F) 75 Ohm

PAL

NTSC

SECAM

Russian SECAM (Option)

SDI Digital Video Output (Optional)

2 x BNC (F) 75 Ohm (Option)

EDH and VBI support

2 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) downmixing

Digital Audio Output

9-way D-type, unbalanced (M)

Dolby Digital® AC-3 downmixing (option)

Serial Digital Audio (S/PDIF)

Data Output

9-way D-type, (M)

Asynchronous RS232

DVB ASI Output (Optional)

1 x BNC (F) 75 Ohm

2 x BNC (F) 75 Ohm (option)

Sustained transport stream data rate: 60 Mbit/s

Enable/disable descrambling of one selected service

MPEG Transport Stream over IP (Optional)

Dual 100BaseT RJ-45 outputs

ProMPEG FEC output mode

Sustained transport stream data rate: 55 Mbit/s

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

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

TANDBERG DirectorV5 (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

In Band remote control with TANDBERG DirectorV5 (option)

Web page control

Over-Air software download with TANDBERG DirectorV5 (option)

Physical and Power

Dimensions (W x D x H)

435 x 275 x 44mm (19" x 10.75" x 1RU)

Input Voltage

110/240VAC

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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