

MTI

ClassA.
Transmodulation Equipment
DVB-S/S2 to COFDM

The solution to receive free-to-air channels (HD or SD) via satellite and watch them in DTT format.



Solutions for communal use and hospitality



Fixed signaling
 (to edit ONID, NID, SID, TSID)



DVB-S/S2 Signal input



Remote Management



Prepared to receive pay TV channels



LCN (Logical Channel Number) Support



SD & HD channels support

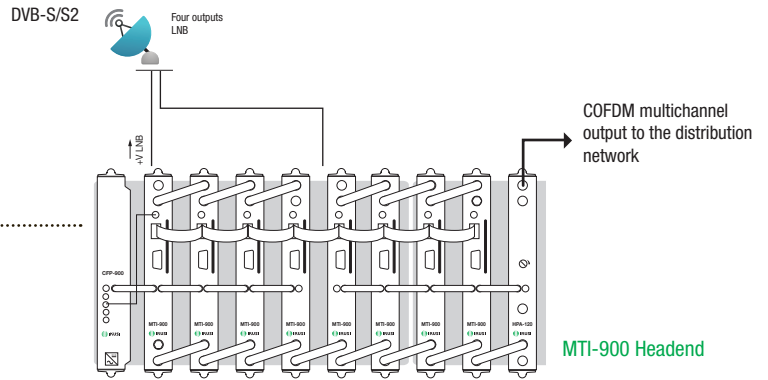
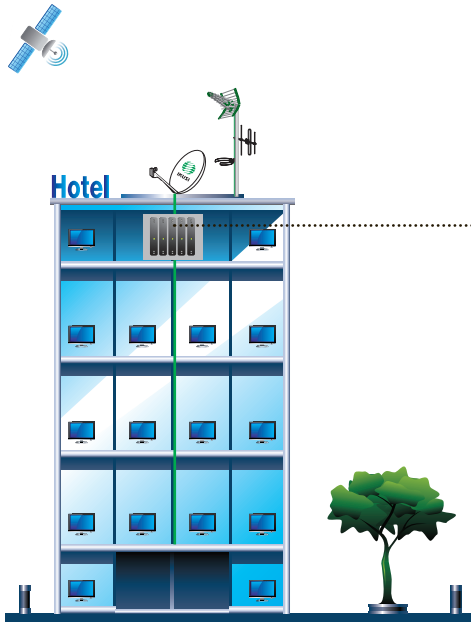


DVB-T Signal output



DVB-S/S2

Application example



8 transmodulators MTI-900, one power amplifier HPA and one power supply CFP-900. The DVB-S/S2 channels located in the Sat-IF frequency band (950-2150 MHz) are transformed to COFDM channels located in the 47-862 MHz band.

The MTIs have fixed signaling, which allows ONID, NID, SID and TSID to be edited. A function that provides great flexibility to the user by making it possible to change the TV schedule grid from the headend, without the need to make changes in each room in which there is a television installed, and without the need to re-tune each and every one of the televisions.

Model	MTI-900	MTI-800
Ref.	4098	4099
Reception	DVB-S (QPSK) ; DVB-S2 (QPSK/8PSK)	
Transport Stream (TS) processing	Yes	
Common Interface (EN 50221)	Yes	No
Number of encrypted programmes being supported	Variable (depends on the CAM)	—

Input Section (QPSK/8PSK)

Input frequency	MHz	950 – 2150
Input level	dBm	-65 ... -25 (DVB-S), -70 ... -25 (DVB-S2)
Input loop-through gain	dB	0 (±1)
AFC pull-in range	MHz	±5
Input Symbol rate	MS/s	2 ... 45 (DVB-S) ; 10 ... 30 (DVB-S2)

COFDM Re-modulation Section

Constellation	QPSK, 16QAM, 64QAM	
Code rate	1/2, 2/3, 3/4, 5/6, 7/8	
Guard interval	1/4, 1/8, 1/16, 1/32	
MER (Modulation Error Ratio)	dB	> 38 (typ.)

RF Output Section (COFDM)

Selectable output channel located between:	MHz	47 – 862
Bandwidth	MHz	5 (DVB-H), 6, 7, 8
Adjustable output level	dBμV	65 ... 80

General

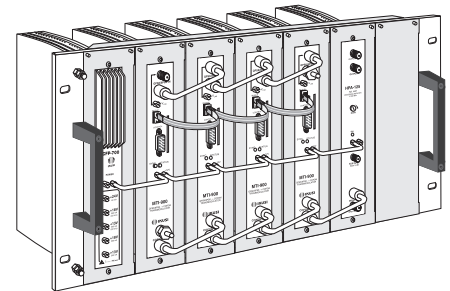
Supply voltage	V _{DC}	+12
Input CAM	1 slot (EN 50221)	
Consumption	mA	730 (w/o CAM), 870 (with CAM)
Operating temperature	°C	0 ... +45
IKUSUP bus connector	(2x) 4-pin socket	
Dimensions	mm	230 x 195 x 32

Each module is packed with:

- 2 F plug bridges, 64 mm length, for input tap line and output coupling line.
- 1 DC plug bridge, 53 mm length, for connection of +12 V_{DC} voltage.

Digital transmutation (xPSK → COFDM) with Transport Stream Processing.

The channels located in the Sat-IF frequency band (950-2150 MHz) are transformed into COFDM channels located in the 47-862 MHz band.



Four transmodulators MTI-900, one power supply CFP and one amplifier HPA, installed in rack SMR-601

MTI HEADENDS

- Digital transmodulation (xPSK → COFDM) with Transport Stream Processing. The QPSK or 8PSK channels located in the Sat-IF frequency band (950-2150 MHz) are transformed to COFDM channels located in the 47-862 MHz band.
- Range includes two transmodulators: MTI-900 and MTI-800.

The MTI-900 has Common Interface (EN 50221) for discretionary de-encrypting of TV programmes.

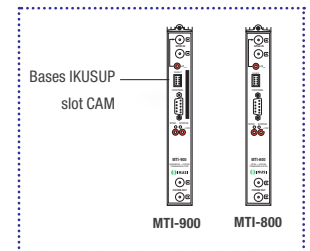
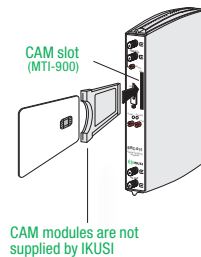
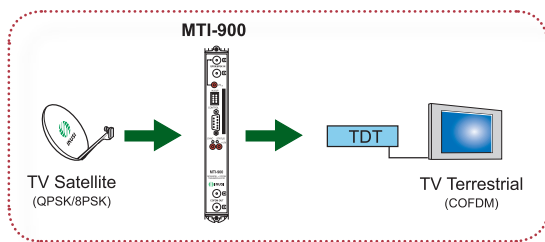
FUNCTIONAL DESCRIPTION OF THE MTI TRANSMODULATORS

An MTI transmodulator carries out the complete channel processing from the input to the output:

- tunes a xPSK digital channel of the 950-2150 MHz band, demodulates the signal being received,
- processes the transport stream (with programme de-encrypting in the MTI-900, if this one has a “CAM + Operator Card” couple is installed), and
- re-modulates it in COFDM format on an RF channel that is selectable within the 47-862 MHz frequency range.

Module programming involves the following selections and settings:

- Central xPSK Input Frequency (1 MHz steps)
- Input Symbol Rate (0.001 MS/s steps)
- Central COFDM Output Frequency (1 kHz steps)
- Output Channel Bandwidth (6, 7 or 8 MHz; also 5 MHz on DVB-H)
- Output Operation Mode (2K or 8K; also 4K on DVB-H)
- RF Output Level
- FFT Window (Fast Fourier Transform), to reduce interference on adjacent channel
- In-depth interleaving (only on DVB-H; with 2K and 4K modes)
- Discretionary de-encrypting of one or more Services (only for MTI-900)
- Optional Blockade of Services, PIDs and Conditional Accesses, with Regeneration of Tables
- NIT Adaptation



SEDE CENTRAL

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