AV-200T

Twin Digital Modulator AV to COFDM

User Manual

RF-Tuote Oy, Joensuunkatu 13, 24100 Salo, tel. +358-2736 6360, fax. +358-2-736 6360, info@rf-tuote.fi, www.rf-tuote.fi

1. Purpose of use

AV-200T is a digital modulator designed for a processing two audio and two video signals into one COFDM (DVB-T) multiplex.

2. Installation

The connections and indications are shown in Fig 1.

1. Cable-TV S channel indicator led
2. Channel number (CCIR)
3.Control switch to program channel in ON position. The switch must be set to OFF (DOWN) position when programming is ready1.
4. IR detector
5. VIDEO/AUDIO outputs for monitoring
6. Audio IN (right)
7. Audio IN (left)
8. RGB IN (blue) or YPbPr (Pb)
9. RGB IN (green) or YPbPr (Y)
10. RGB IN (red) or YPbPr (Pr)
11. Video IN and SCART SYNCHORIZING IN
12. USB port for software update
13. S-Video IN
14. When signal led is orange, the unit is initialized. When signal led is green, the outgoing stream is ready. Red led means overfull stream.

AV-200T is installed to 19” rack. Do not cover the air passage holes.

Signals from AUDIO/VIDEO source are fed to Audio/Video connectors (RCA female) or S VIDEO IN.

VIDEO/AUDIO connectors (5.) are for monitoring the unit while programming.

NOTE! If video input is not connect, there are white stripes in video output due to the missing sync pulse.

3. Programming

The modulator is simple to program with the remote control unit (RCU-800). The main functions of RCU are shown in Fig 2.

1.	**MENU**	Main OSD menu (exit without saving changes)
2.	**OK**	Confirm selection
3.	**EXIT**	Exit from menu (exit with saving changes)
4.	**^^**	Select a letter in service name
5.	**vv**	Select a letter in service name
6.	**CH ^**	Change a letter in service name
7.	**CH v**	Change a letter in service name

Fig 2.

3.1 Power-up

At power-up this welcome screen is displayed. Main SW and user interface SW version numbers plus unit serial number are shown.

When the unit is powered the display lights up showing selected output channel. The factory set channel is E21.

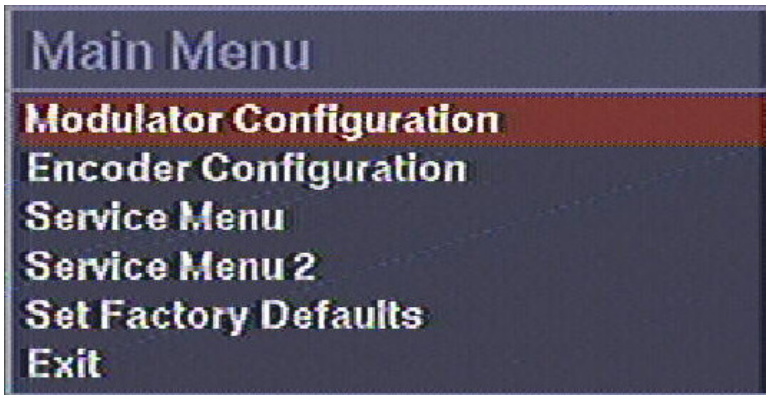
The display is switched off after 3 minutes. Two signal led indicate that the unit is powered. The display lights up again by pressing any button of remote controller unit.

The selected program info displayed and the channel opened.

3.2 First time set-up

When using the unit for the first time, you must first connect video and audio source to audio/video inputs and then connect video output to monitor. After this you can continue set-up using on-screen menus.

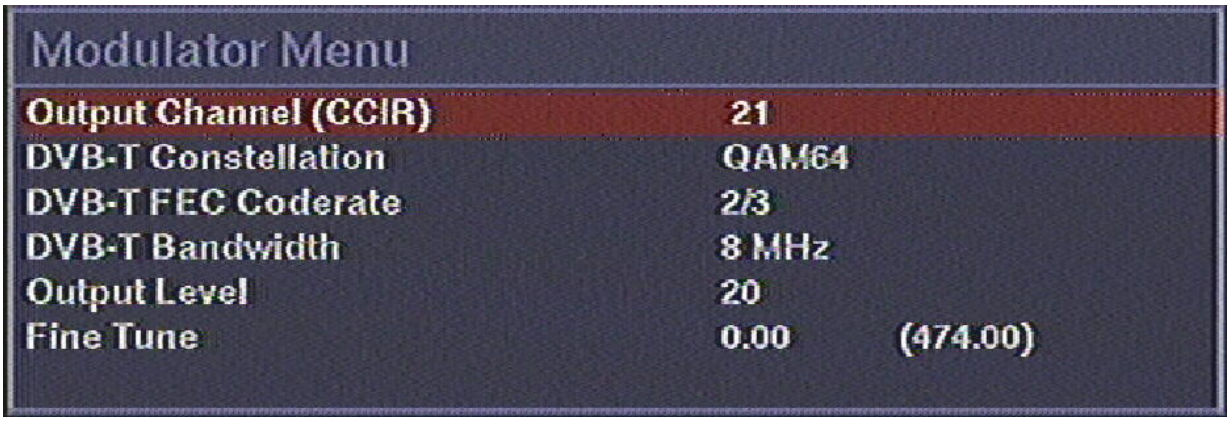
To control the unit first slide front panel switch to ON position. When programming is ready, the front panel switch must be slide to OFF position. This will prevent accidental changes to be made while controlling other units.



3.3 Set-up

To start set-up, press Menu key. Main Menu will be displayed.

Select " Modulator Configuration".



In Modulator menu can be selected:

- Output channel from S2 to E69
- DVB-T Constellation (QAM 64 is recommended)
- DVB-T FEC 1/2, 2/3, 3/4, 5/6 or 7/8 (3/4 is recommended)
- DVB-T Bandwidth 7 MHz or 8 MHz
- Output Level attenuator 0...20 dB (20 is maximum output level)
- Fine Tune of output frequency with 0,5 MHz steps

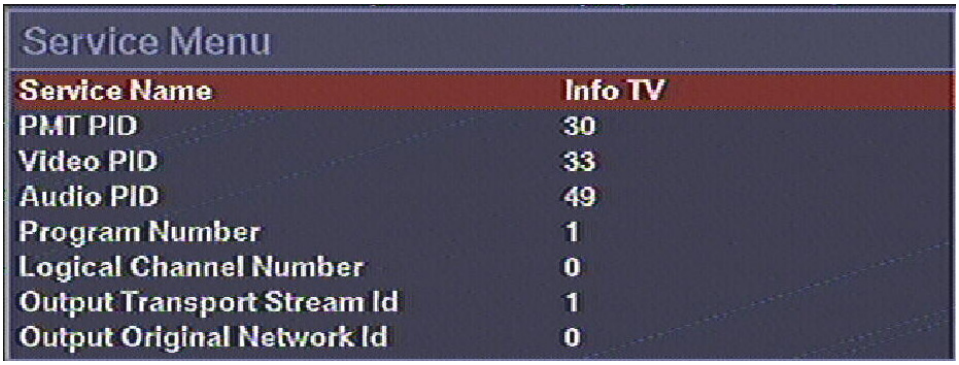
Select “Encoder Configuration”

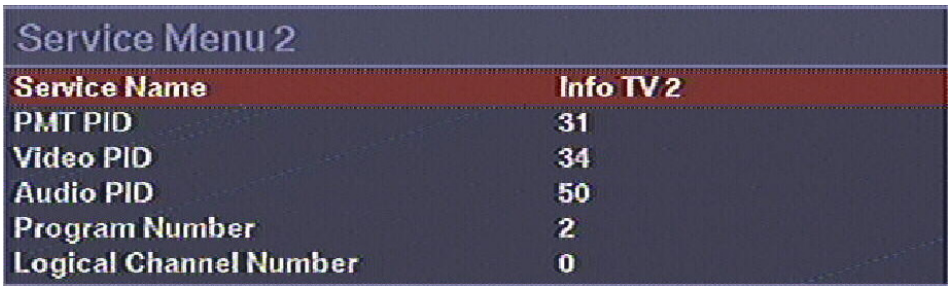
Following options can be selected for both channels:

- Input video signal Composite, S-video, RGB (synchorizing on GREEN), SCART RGB (synchorizing on VIDEO), YPbPr (synchorizing on GREEN), SCART YpbPr (Synchorizing on VIDEO)
- Hor. Resolution DI (full resolution 720*576), HD1 (half resolution 360*576) CIF (quarter resolution 360*288)
- GOP Size 6,12,15,24 or 30 (maximum frames per GOP: 18 (NTSC) / 15 (PAL)
- GOP Structure I (each GOP consist only of I-frames), IP (the encoder uses one I-frame and then only P-frames inside a GOP), IBP (the encoder uses an I-frame at the beginning of the GOP and encodes the rest in B- and P-frames) or IBBP (the encoder uses an I-frame at the beginning of each GOP and encodes the rest in B- and P-frames)
- Const. Bitrate 1,5 Mbit/s, 2 Mbit/s, 4,5 Mbit/s or 6 Mbit/s
- Audio Sample Freq. 32,0 kHz, 44,1 kHz or 48 kHz
- Audio Bitrate 64 kbit/s, 128 kbit/s or 256 kbit/s
- Audio ES Mode Mono, Dual, Stereo

NOTE! The change of parameters are saved with “EXIT”. If “MENU” is selected, the change of parameters is not saved.

Select “Service Menu”





Following options can be selected:

- Service Name (Info is factory default). The name can be changed by selecting firstly a letter with double arrow UP/DOWN and then select a correct letter with single UP/DOWN arrow. Save the name with EXIT push button of RCU.
- PMT PID
- Video PID
- Audio PID
- Program Number (Logical Channel Number)
- Output Transport ID
- Output Original Network ID (used only in big cable operator networks)
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NOTE! When programming is ready, check the status of bit rate. “Fill” beam shows how many percentage of the maximum stream is used.

3.4 Other functions

In main menu you can select “Set Factory Defaults” .

4. Technical specification

VIDEO ENCODER	MPEG-2 COMPLIANT TO ISO/IEC13818-2
Max. bitrate	14 Mbit/s
AUDIO ENCODER	MPEG audio layer ½
	Compliant to ISO/IEC11172-3
Max. bitrate	256 kbps
COFDM OUTPUT	
Modulation	IFFT 2k mode, QPSK, QAM16, QAM64
Output frequency range	114 MHz - 858 MHz
Quard Interval	1/32
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Output level	85 - 105 dBuV
Data interface	USB 1
Input connector	12*RCA female, 2*mini DIN
Output connector	F-male 75 ohm

This symbol on the product or on its packing means that within the European Union the product must be taken to separate collection at the product-end-of life.

Do not dispose of these products as unsorted municipal waste.

Fore more information about where you can drop off your waste equipment for recycling, please contact your local city office, your house disposal service or the shop where you purchased the product.