RFT-806D

Twin Digital Modulator AV to QAM

User Manual

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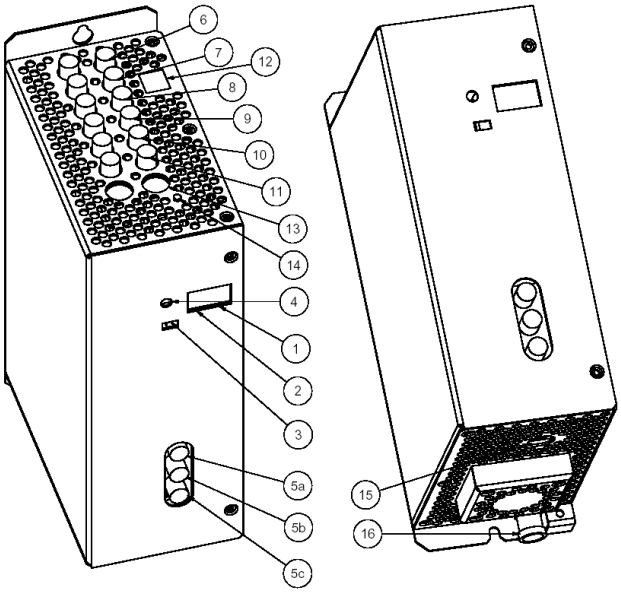
1. Purpose of use

RFT-806D is a digital modulator designed for a processing two audio and two video signals into one QAM (DVB-C) 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.
15. DC IN (only in stand-alone installation)
16. RF OUT + DC IN in RFT-800 system installation

RFT-806D can be mounted either to RFT-800 system (RFT-800 User Manual) or stand-alone. Do not cover the air passage holes.

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

When RFT-806D is mounted for RFT-800 system, the power voltage is supplied through active output combiner (RFC-808 or RFC-816). When RFT-806D is mounted stand-alone, power supply unit (RFP-804 or RFP-808) must be mounted to the left side of RFT-805D due to the ventilation. DC connector is connected to left side of DC connector at the bottom of unit. You can loop-through DC from the right side DC connector to next unit with the DC cable. Maximum four RFT-806D units in chain can be supplied with one power supply (RFP-804) in stand-alone installation (max. two units with RFP-802).

When RFT-806D is mounted for RFT-800 system, cable to network is connected to active output combiner (RFC-808 or RFC-816). When RFT-805D is mounted stand-alone, RF OUT is connected to cable network.

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.

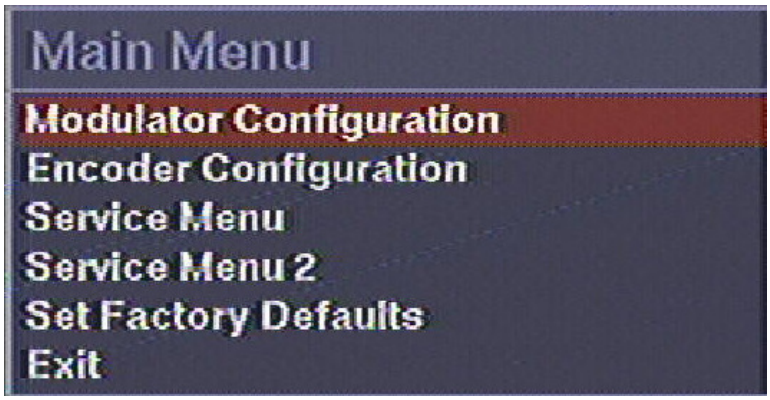
The display is switched off after 3 minutes. Two signal led indicate that the unit is powered. The display lights up again by pressing any button of remote controller unit.

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.

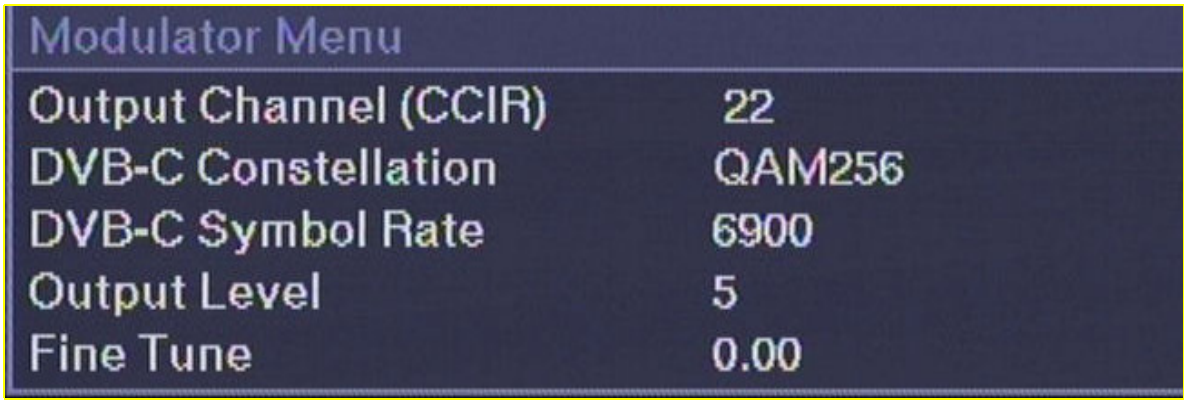
To control the unit first slide front panel switch to ON position. When programming is ready, the front panel switch must be slide to OFF position. This will prevent accidental changes to be made while controlling other units.



3.3 Set-up

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

Select " Modulator Configuration".



You can select output channel using left and right arrow keys. The channel number will be displayed simultaneously on front panel display. The selectable channels are S02 - S10, 5 - 12, S11 - S41 and 21 – 69 (CCIR).

Select DVB-C Constellation. QAM 32, QAM 64, QAM 128 and QAM 256 are selectable. The most common is QAM 64. If QAM 256 is used, the S/N of network must be very good (60 dB).

Select appropriate DVB-C Symbol Rate (1000 … 8000). The common symbol rate in most cable networks is 6900. The used symbol rate effects for the bandwidth. 6900 ksymb/s corresponds 8 MHz bandwidth.

To adjust modulator output attenuation use left and right arrow keys. You can fine tune output frequency when using different channel grid than CCIR. Adjustment is done using left and right arrow keys in steps of

0,5 MHz. Adjustment range is ± 4 MHz. You can monitor the adjusted frequency in parenthesis on the same line.

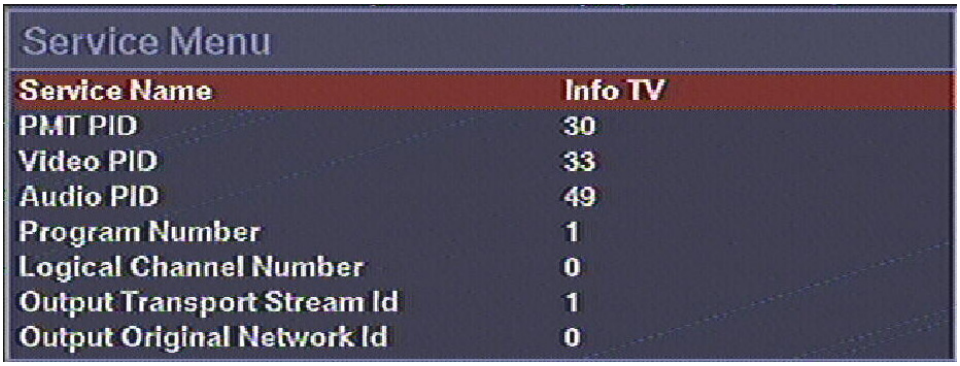
Select "Encoder Configuration"

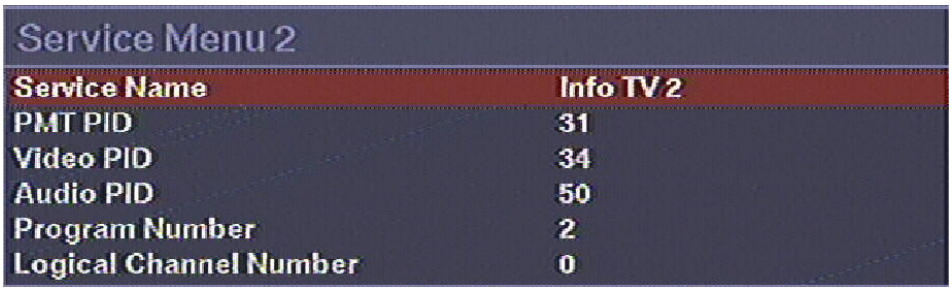
Following options can be selected for both channels:

- 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
QAM OUTPUT		
Modulation		QAM 32, 64, 128, 256
Output frequency range		114 MHz - 858 MHz
Symbol rate		1-8 Msymb/s
Output level		85 - 105 dBuV
Data interface		2* USB 1
Output connector		F-male 75 ohm
Output level		85 - 105 dBuV
Data interface		USB 1
Input connector		12*RCA female, 2*mini DIN
Output connector		F-male 75 ohm
Power consumption		16VDC/0,8A
Dimensions	W*H*D	72mm*218mm*129mm
Mounting		RFT-800 system or stand alone

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.