

# TTS-7/TTS-7X

## User Manual



## 1. Purpose of use

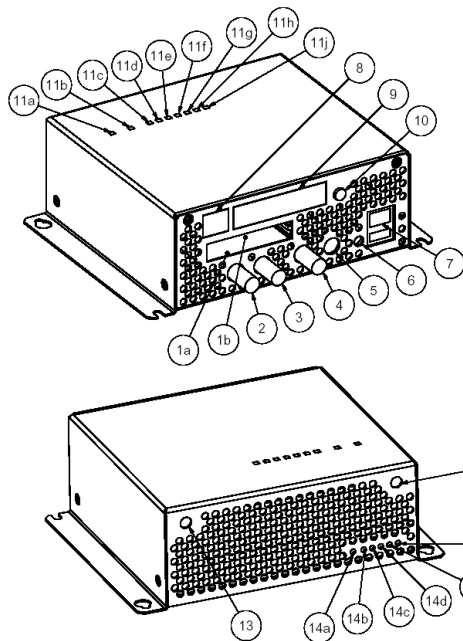
TTS-7/TTS-7X is HD compatible IP streamer designed for a processing four 8PSK/QPSK (TTS-7) and COFDM (TTS-7X) modulated satellite signals (TTS-7) to data broadcast (IP) connected to Ethernet.

With one TTS-7CI unit can be transmitted up to 8 programs (max. average bit rate 5Mbit/s/program) when there are 8 or more simultaneous users (Multicast). When there are 7 or less simultaneous users, 40-50 SD programs (total bit rate 40 Mbit/s) can be transmitted (Unicast). The programs can be received with Videolan's VLC Media Player ([www.videolan.com](http://www.videolan.com)), Vbox Live TV (Apple store for Ipad and Iphone, Google Play for Android), IP STB or Smart TV.

The units are available with CI and WLAN options.

## 2. Installation

The connections are shown in Fig 1.



- 1a. CAM Tuner 4 (option)
- 1b. CAM Tuner 3 (option)
- 2. Tuner 1 (DVB-S/S2)
- 3. Tuners 2 (DVB-S only), FTA
- 4. DVB-T tuners 3 and 4
- 5. DC IN, 5V/4A
- 6. Power ON/OFF
- 7. RJ 45 output connector to Ethernet
- 8. Internet input (must be connected, if iPad or iPhone are used)
- 9. Ethernet input 1-4
- 10. Modem reset
- 11a. WPS
- 11b. Power ON
- 11c. SYS.
- 11d. WLAN connected
- 11e. Internet connected
- 11f...i Ethernet in connected
- 12. and 13. WLAN Ant 1 and 2
- 14a. System. Green =OK, Orange = wait, Red = fail
- 14b. Tuner 3 locked
- 14c. Tuner 4 locked
- 14e. Tuner 2 locked
- 14d. Tuner 1 locked

TTS-7CI is mounted directly on the wall. Do not cover the air passage holes.

Connector 2 is for DVB-S/S2 and connector 3. is for DVB-S only.

Connector 4. is for DVB-T tuners 3 and 4.

CI slot (1b.) is option for DVB-S/S2.

Maximum total current of LNB connector is 250 mA.

Power supply unit is connected to the DC connector 5.

If WLAN is used, connect cable from connector 7. (Ethernet output) to Ethernet input 9/1. Ethernet cable from other TTS-7 units can be connected to Ethernet input 9/2...4.

Connect Internet cable to connector 8. WAN must be connected to Internet, if iPad or iPhone are used.

### 3. Setting up the system

This manual is only for main functions of TTS-7/TTS-7X unit. The other functions are purposed only for advanced users.

The system is programmed with PC via Web browser. There are two options.

#### Option 1. Setting IP address with DHCP and accessing by using UpnP protocol

1. Connect Ethernet cable from RFT-847CI to the existing LAN with a router
2. RFT-847CI is recognised automatically by router. In some routers power must be switched OFF and again ON
3. Go to Network Task and double click “Show icons for networked UpnP devices”. Then you see that RFT-847CI is connected network.



4. Double click RFT-847CI to get the web access.
5. When prompted for the login and password, then write “webadmin” for both. Then you see the main menu (see below).

#### Option 2. Setting RFT-847CI via default IP address

1. Connect Ethernet cable from RJ 45 connector to computer.
2. The factory set IP address of each RFT-847CI is 172.16.1.1 and subnet mask is 255.255.255.0.
3. Set the IP of PC to e.g 172.16.1.2 and sub net mask to 255.255.255.0.
4. Open the web browser like IE, Firefox, Opera etc...
5. Write to address field 172.16.1.1 and then enter.
6. Set log in and password “webadmin” for both. Then following screen displays.



## VBox TV Gateway

TV Gateway IP:  
192.168.0.176

Manage

Quick Setup

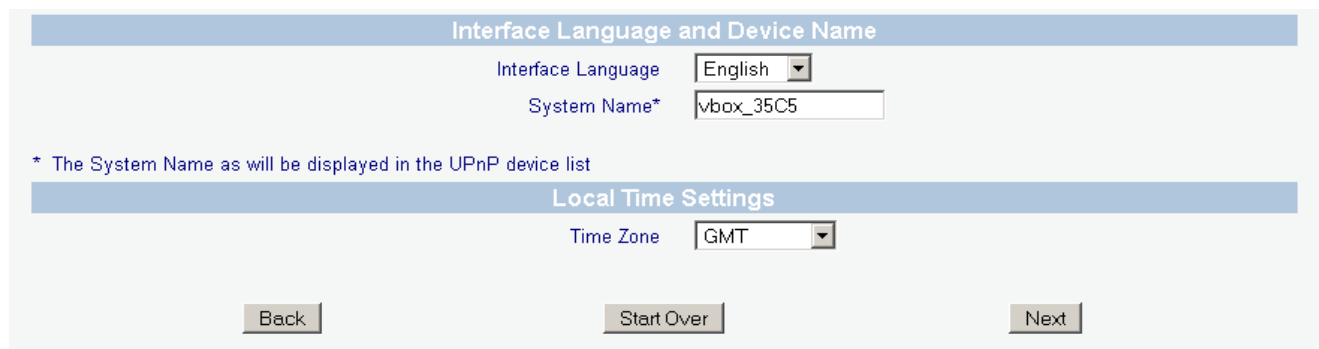


## 4. DVB configuration

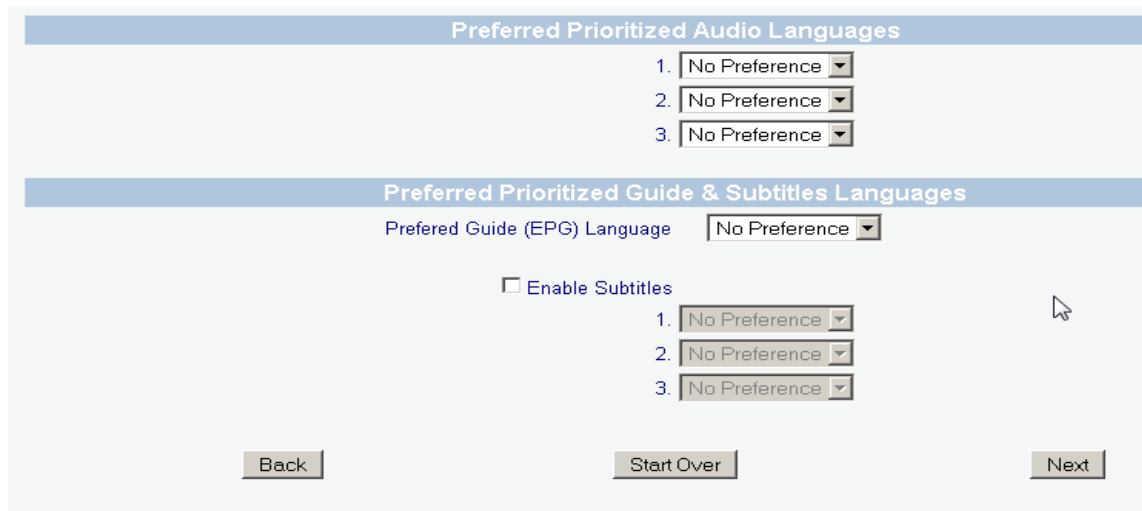
### 4.1 Select Quick Setup and the System Setup



### 4.2. Select “Next” and select interface language



### 4.3 Select “Next” and select Audio, EPG and Subtitle languages



## 5. Select Tuner Setup

Tick “Disable tuner” if tuner is not used.

**Quick Setup Wizard**

- ◇ Step 1 - System Setup
- ◆ Step 2 - Tuners Setup
  - ◇ Tuner 1
  - ◇ Tuner 2
  - ◆ Tuner 3+4
- ◇ Step 3 - Scan
- ◇ Step 4 - Channels Setup

**Tuner 3 Activation (DVBT)**

Disable tuner

**Channels Table**

**Please Select Channels for Scanning** Number of selected transponders

### 5.1 Select Satellite

**Tuner 1 Activation (DVBS/S2)**

Disable tuner

**LNB Settings**

<b>Type</b>	Ku-Band Universal ▾	
<b>Low</b>	<input type="text" value="9.750"/>	GHz
<b>High</b>	<input type="text" value="10.600"/>	GHz

**Satellite Selection**

Select satellite:

--- Select ---

Eutelsat 3A/3C/Rascom QAF 1R (3.0E)

Eutelsat 3A/3D/Rascom QAF 1R (3.1E)

Eutelsat 3A (3.3E)

Astra 4A/SES 5 (4.9E)

SES 5 (5.0E)

Eutelsat 7A (7.0E)

Eutelsat 9A/Ka-Sat 9A (9.0E)

Eutelsat 10A (10.0E)

Eutelsat Hot Bird 13A/13B/13C (13.0E)

Eutelsat 16A (16.0E)

### 5.1 Select "Next" and select tuner Setup

Disable tuner

**LNB Settings**

<b>Type</b>	Ku-Band Universal
<b>Low</b>	9.750 GHz
<b>High</b>	10.600 GHz

**Satellite Selection**

Select satellite:

Apply the same satellite settings to additional tuners

Select tuners to apply the same satellite settings\* :  Tuner 2

\* Please confirm that the selected tuners are connected to the same satellite dish.

**Transponders List**

Select transponders for scanning Number of selected transponders

	Frequency (GHz)	Polarization	Symbol Rate (KSym/s)	DVBS Mode	Modulation
<input type="checkbox"/>	10.7580	Vertical / Right	27500	DVBS2	8PSK
<input type="checkbox"/>	10.7750	Horizontal / Left	29900	DVBS	8PSK
<input type="checkbox"/>	10.7960	Vertical / Right	27500	DVBS	QPSK

## 5.2 Select “Next” and then Scan

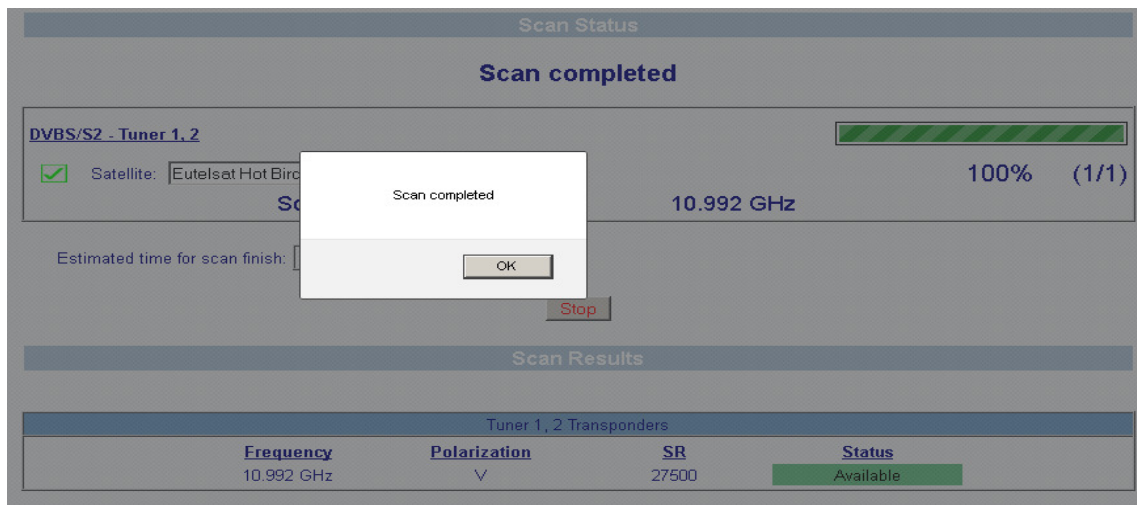
**Scan Settings Review**

**DVBS/S2 - Tuner 1, 2**

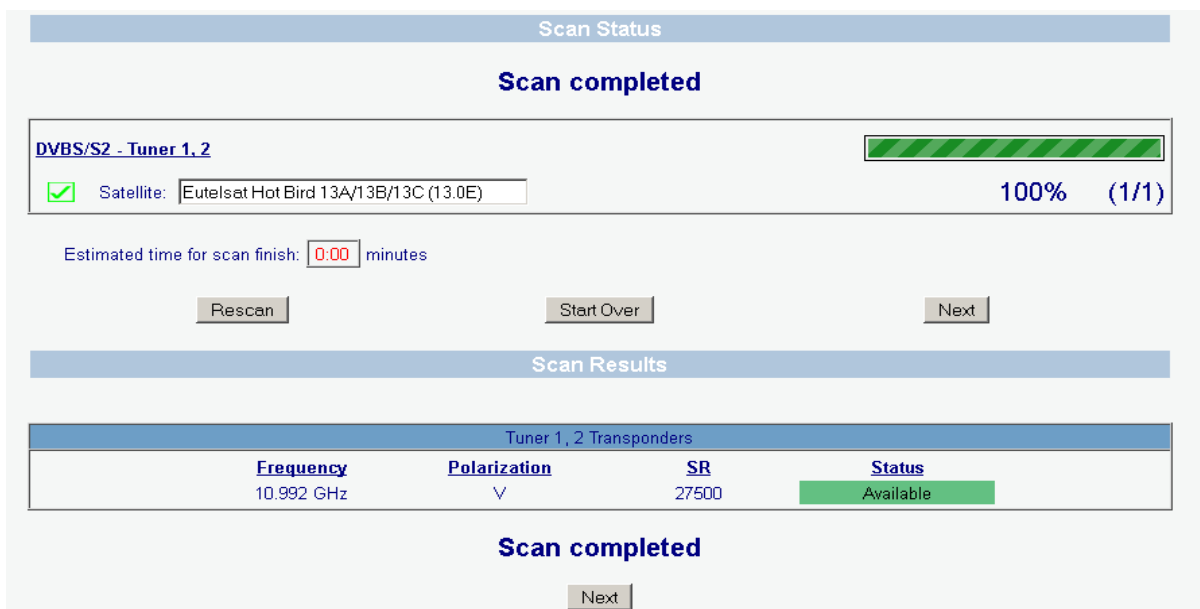
Satellite:

Estimated time for scan finish:  minutes

When scan is completed you get following picture.



Select OK.



### 5.3 DVB-T tuners 3 and 4

Select frequencies you want to scan.

When scanning is ready, you can select the program.

The options are: FTA, Scrambled (marked with a red lock) or All.

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**Channel Settings**

Display only selected channels

Multiple Selection:                 Select All

Order		#		Channel	Language A-Audio, S-Subtitles
	<input type="checkbox"/>	1		Rai Movie	A: Italian
	<input type="checkbox"/>	2		Rai 1	A: Italian
	<input type="checkbox"/>	3		Rai 2	A: Italian
	<input type="checkbox"/>	4		Rai 3	A: Italian
	<input type="checkbox"/>	5		Rai 4	A: Unknown
	<input type="checkbox"/>	6		Rai News	A: Italian
	<input type="checkbox"/>	7		Rai radiofd4	A: Unknown

5.4 Select “Finish” and then programming is ready

5.5 LCN (Logical Channel Number) can be selected with the arrows up and down

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**Channel Settings**

Display only selected channels

Multiple Selection:                 Select All

Order		#		Channel	Language A-Audio, S-Subtitles
↑  ↓	<input checked="" type="checkbox"/>	1		Rai Movie	A: Italian
↑  ↓	<input checked="" type="checkbox"/>	2		Rai 1	A: Italian
↑  ↓	<input checked="" type="checkbox"/>	3		Rai 2	A: Italian
↑  ↓	<input checked="" type="checkbox"/>	4		Rai 3	A: Italian
↑  ↓	<input checked="" type="checkbox"/>	5		Rai 4	A: Unknown



#### 4. Technical specification

##### 8PSK/QPSK INPUT

Number of tuners	1* DVB-S, 3* DVB-S/S2
Input frequency range	950 - 2150 MHz
Input level	-70 ... -25 dBm
Waveform	8PSK, QPSK (SCPC, MCPC)
Symbol rate	4-40 MS/s
FEC decoder	Automatic
CI slot	1

##### DATAHANDLING AND DE-MULTIPLEXING

Multi-protocol Encapsulation	MPE
Encapsulation	SPTS
Datagram and selection packing	
Unicast/multicast filtering	
Multicast address filters	128
Max output bit rate	40 Mbit/s

UDP/TCP/IP protocols

PSI/TCP private tables

LLC SNAP/ null encapsulation

##### LAN INTERFACE

Connector	RJ45
Speed	10/100/1000 autosensing

##### GENERAL

Power consumption	5VDC/4A
Dimensions	185mm*170mm*60mm



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.**