# Tiviar

# **Alpha Plus**

**User Guide** 

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# 1 Introduction

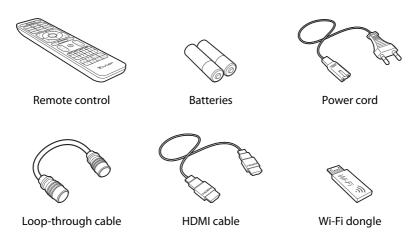
## 1.1 Features

Beyond simply receiving satellite signals, this digital TV receiver has many convenient and advanced features:

- Users can watch cable and terrestrial channels as well as satellite stations.
- This receiver has four slots for CA modules and pay-TV cards. Users can use CI+ modules as well as conventional CA modules. See Watching Pay Channels on page 29.
- Users can use the built-in hard drive or removable storage devices to record TV programmes. It is possible to schedule this receiver to record not only a single TV programme but also every episode of a series using the programme guide. See Recording TV on page 34.
- Users can pause and resume a live programme. See Time-Shifting on page 35.
- Under ideal conditions, users can watch 2 different channels at the same time while recording 3 other channels. It is also possible to watch a live channel while playing a recorded programme. See Watching Two Channels Simultaneously on page 29.
- This receiver can play many kinds of media files, including photos, music, and videos. See Playing Media Files on page 39.
- This receiver can play media files from other devices, such as computers and network-attached storages. See Playing Media files from Other Devices on page 43.
- This receiver provides a variety of apps, including YouTube. See The Apps Screen on page 6.

# 1.2 Accessories

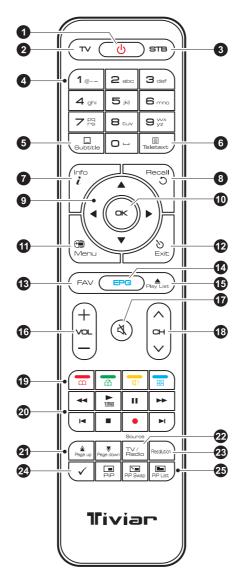
The following accessories are included with the digital TV receiver.



Use the Wi-Fi dongle to connect the receiver to a wireless network. See Network Connections on page 13.

# 1.3 The Remote Control

Use the remote control to control the digital TV receiver. Make sure that batteries are installed correctly in the remote control.



- : Turn the digital TV receiver on or off.
- **2** TV: Switch the remote control to TV control mode.
- **3 STB**: Switch the remote control to receiver control mode.
- **4** Use the numeric buttons to enter numbers.
- **Subtitle:** Display subtitles. See Displaying Subtitles on page 28.
- 6 Teletext: Display teletext pages. See Viewing Teletext on page 29.
- **7** Info: Display information about the current programme.
- 8 Recall: Display the list of recently-viewed channels.
- Ouse these navigation buttons to navigate the menus and interactive screens.
- OK: Select an item. In addition, use this button to display the channel list. See Channel List on page 24.
- Menu: Display apps. See The Apps Screen on page 6. In addition, use this button to return to the higher menu level.
- Exit: Return to the previous screen or close the current list or dialogue box.
- **FAV**: Display the list of favourite channels.
- EPG: Display the programme guide. See TV Programme Guide on page 26.
- Play List: Display the list of files stored in the built-in hard drive or in a removable storage device. See Playing Media Files on page 39.
- **16** Use these volume buttons to adjust the volume.
- ⑦ ऄ: Mute the sound.
- **1** Use these channel buttons to change channels.
- These colour buttons perform different functions, depending on what the digital TV receiver is currently doing.
- Use these buttons to control recording and playback. See Recording TV on page 34 and Playing Media Files on page 39.

- 2 Use these buttons to scroll lists.
- 10 TV/Radio: Switch between TV channels and radio stations.
- **23 Resolution**: Change the picture resolution.
- $23 \checkmark$ : This button performs different functions, depending on the function the receiver is currently doing.

2 Use these buttons to watch two different channels at the same time. See Watching Two Channels Simultaneously on page 29.

#### **Getting Started** 1.4

Install the digital TV receiver properly, referring to Installation on page 8.

Turn on the main power switch on the rear of the receiver, and press the power button 0 on the remote control to turn on the receiver.

When turning on the receiver for the first time, the initial setup process automatically starts. Follow the on-screen instructions to finish the process. At each step, either make a choice or skip the step:

- 1. Choose a language for the user interface.
- 2. Configure the network settings. See Network Connections on page 13 and Network Settings on page 54.
- 3. Install add-ons to internet-related apps, such as Free TV+ and iRadio+, when an internet connection is available. Additionally, determine whether to restore the receiver using the stored settings and channels, if there is any backup data.
- 4. Set the clock. See Clock Settings on page 55.
- 5. Choose a broadcast media type and scan for channels. See Scanning Channels on page 14.

# 1.5 The Apps Screen

Pressing the Menu button displays app icons at the bottom of the screen. To view more apps, press the up navigation button.

			02 STAR UTS Information			Jan+2013 46	•) Refresh
<	ITV+	Network Back-Up	Storage	Schedule Novie	CH Edit Nusic	EPG H Client	>
	Settings	Weather.	Photos	Free TV+	IRadio+	Recordings	

To access the customary menus, select Settings.

Some apps allow users to quickly access frequently-used setting menus and functions.

- Back-Up: Open the Settings > System Tools > Data Transfer menu. See Maintaining the Digital TV Receiver on page 58.
- CH Edit: Open the Settings > System Tools > Service List Manager menu. See Managing Channels on page 31.
- Download: See Online Update on page 59.
- EPG: Open the programme guide. See TV Programme Guide on page 26.
- M Client: See Accessing Other Devices on page 44.
- M Server: See Allowing Other Devices to Access the Receiver on page 44.
- Movie: Display the list of videos stored on the storage device most recently accessed. See Playing Media Files on page 39.
- Music: Display the list of songs stored on the storage device most re-

cently accessed. See Playing Media Files on page 39.

- Network: Select this to open the Settings > Installation > Network Setting menu. See Network Settings on page 54.
- Photos: Display the list of photos stored on the storage device most recently accessed. See Playing Media Files on page 39.
- **Recordings**: Display the list of TV recordings stored on the storage device most recently accessed. See Playing Media Files on page 39.
- Schedule: Open the Settings > System Tools > Schedule menu. See Manually Scheduling TV Recordings on page 35.
- Storage: Open the Settings > System Tools > Storage Manager menu. See Managing Storage Devices on page 39.
- YouTube: See Free TV+ on page 47.

For other apps, see Apps on page 45.

#### **Customizing the Apps Screen**

Users can rearrange app icons. Place the focus on an icon and press the red button. Move the icon to a new location using the navigation buttons, and then press the OK button to fix it in place.

Put frequently-used apps in the bottom line for faster access.

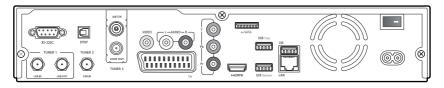
# 2 Installation

Install the digital TV receiver, limited by the specifications shown in the table below.

Input voltage	AC 100–250 V, 50/60 Hz
Maximum power consumption	55 W when in operation
	1 W when in standby mode
Size	340 mm $\times$ 60 mm $\times$ 2450 mm
Weight	2 kg with no hard drive
Operating temperature	32–113 °F, 0–45 °C
Storage temperature	14–158 °F, -10–70 °C

This digital TV receiver has a variety of connectors:

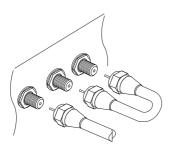
- Aerial connectors
- AV connectors for a TV and an AV receiver
- USB ports for removable storage devices and the Wi-Fi dongle
- An e-SATA port for a removable hard drive



The RS-232C port may be used only by an engineer for installation or service.

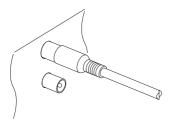
# 2.1 Aerial Connections

### **Satellite Dish Connection**



Connect the cable from the satellite dish to LNB IN of TUNER 1. In most situations, connect LNB OUT of TUNER 1 to LNB IN of TUNER 2 using the loop-through cable. Only when two satellite dishes are available without any multi-dish switch, users should connect the cable from the other dish to LNB IN of TUNER 2.

#### **Aerial Connection**



Connect the cable from the aerial or cable TV outlet to ANT IN.

# 2.2 TV Connections

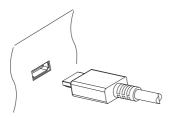
This digital TV receiver has a wide range of connectors available for use by a TV. The list below shows video connectors in the order of picture quality,

from the highest to the lowest.

- HDMI
- Component
- SCART
- Composite

Use an HDMI connector to connect the receiver to a TV for the best available picture quality. If the TV has no available HDMI connector, try the next best connection type.

### **HDMI Connection**

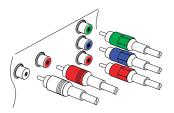


Connect the receiver's HDMI output connectors to the TV's HDMI input connector using an HDMI cable. An extra audio connection is not needed because HDMI also carries audio.

#### Note

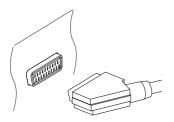
Some HDMI cables and TVs may not be compatible with the receiver due to differing HDMI specifications.

#### **Component Connection**



The receiver's component video connectors are labelled Y, Pb, and Pr, and their companion audio connectors are labelled L and R. Each of them is coloured differently. A typical component cable has five connectors. Connect the receiver's component video and audio output connectors to the TV's component video and audio input connectors using a component cable, so that the connectors of the same colour connect to each other.

#### **SCART Connection**

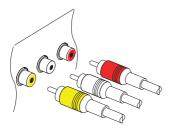


Connect the receiver's SCART output connector to the TV's SCART input connector using a SCART cable. An extra audio connection is not needed because SCART also carries audio.

#### Note

SCART connectors cannot carry HD video.

#### **Composite Connection**

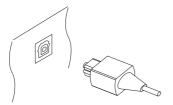


The composite video connector shares the audio connectors with the component video connectors. A typical composite cable has three connectors. The yellow connector is for the video connection. Connect the receiver's composite video and audio output connectors to the TV's composite video and audio input connectors using a composite cable, so that the connectors of the same colour connect to each other.

#### Note

Composite video connectors cannot carry HD video.

## 2.3 AV Receiver Connection



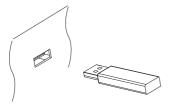
It is good to use an AV receiver for better audio quality. Connect the receiver's SPDIF connector to the AV receiver's digital audio input connector using an optical audio cable.

# 2.4 Network Connections

Connect the receiver to the wired or wireless network.

If a network cable is available, connect the receiver's LAN port to the router using a network cable.

If no network cable is available, use the Wi-Fi dongle for wireless network connections. When the receiver is off, plug the Wi-Fi dongle into one of the USB ports on the rear of the receiver.



For details on how to configure the network settings, see Network Settings on page 54.

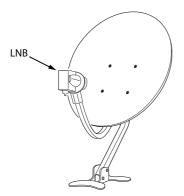
# 3 Scanning Channels

# 3.1 Understanding Satellite TV

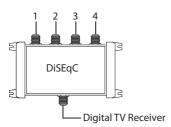
A broadcast satellite's channels are called transponders. A transponder gathers signals over a range of uplink frequencies and retransmits them on a different set of downlink frequencies to receivers on Earth. Multiple TV channels are broadcast through a transponder. A transponder has three main components: frequency, symbol rate, and polarization.

To get the latest information about satellite TV transponders, visit <a href="http://www.lyngsat.com">http://www.lyngsat.com</a>.

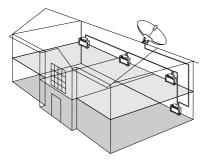
An LNB is the receiving device on a satellite dish. It downconverts a block of frequencies to a lower block of intermediate frequencies, ranging from 950 MHz to 2150 MHz, so that the signal can be carried to a satellite TV receiver. An LNB produces a particular frequency to do this. For example, an LNB producing 5150 MHz is supposed to receive a frequency band that ranges from 3000 to 4200 MHz, so that the absolute difference between the LNB frequency and any frequency within the band falls within the range of the intermediate frequencies.



A DiSEqC is a switching device that selectively connects one of several satellite dishes to a satellite TV receiver. A 4-way switch is the most commonly used type of DiSEqC switch.



Single cable distribution, also called unicable, is a satellite TV technology that enables the delivery of broadcast signals to multiple receivers over a single coaxial cable.



# 3.2 Satellite Dish Settings

### **LNB Settings**

A set of satellite dish settings must be properly configured for each desired satellite before performing a channel scan.

Open the Settings > Installation > Dish Setting menu.

There are two signal bars on the lower part of the screen. The signal level bar indicates how strong the signal is, and the signal quality bar indicates how easy it is to pick up. To view an enlarged signal bar display, press the blue

#### button.

Configure the following settings properly using the signal bars.

- Satellite: Either choose a target satellite from the list of satellites or add a new one.
- Tuner Connection: Specify whether the receiver's satellite dish connectors are connected to two different dishes separately or to the one same dish via the loop-through cable. This option is available only when both connectors are connected by any means.
- Tuner: Determine which of the dish connectors to use. This option is not available when Tuner Connection is set to Loop-Through.
- Frequency: Choose a target transponder from the list of transponders.
- LNB Power: An LNB must be supplied with power to operate. Turn this on to supply the LNB with power if it doesn't have its own power supply.
- LNB Type: Specify what type of LNB is used.
- LNB Frequency: Specify what frequency the LNB generates. A dualband LNB, also called universal LNB, generates two alternative frequencies to receive a wider band of satellite frequencies.
- LNB 22 kHz: Either turn this on or off to pick up a higher or lower frequency band.
- DiSEqC Switch: If one or more typical DiSEqC switches are used, this option must be set properly. Specify which of the DiSEqC ports is connected to the intended dish.

On this screen, users can add or change satellite and transponder data.

**Rename a satellite**: Choose **Satellite** and select a satellite. Press the red button and then enter a new name using the on-screen keyboard.

**Edit a satellite's longitude**: Choose **Satellite** and select a satellite. Press the green button and then Modify the longitude.

**Clear all transponders of a satellite**: Choose **Satellite** and select a satellite. Press the yellow button and then confirm to clear them. Add a transponder: Place the focus on Frequency and press the green button. Specify the frequency, symbol rate, and polarization.

**Edit a transponder**: Choose **Frequency** and select a transponder. Press the yellow button and then modify the transponder's details.

**Delete a transponder**: Choose **Frequency** and select a transponder. Press the red button and then confirm to delete it.

### **Unicable Settings**

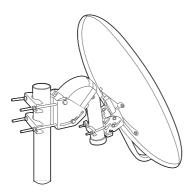
If the user's house is equipped with a single cable router, configure unicable settings properly.

Open the Settings > Installation > Dish Setting menu. Set LNB Type to Unicable and then choose Unicable Setting. Choose Config Mode and determine whether to scan for all available channels or a specific channel. Specify the details, such as port and predetermined intermediate frequency.

# 3.3 Using a Motorized Dish

While a fixed dish usually only picks up one satellite, a motorized dish can pick up multiple satellites.

There are two control methods for motorized dishes: DiSEqC 1.2 and USALS. With DiSEqC 1.2, the user must manually operate the dish to locate satellites one by one. The digital TV receiver stores each satellite position for later use. With USALS, the receiver can pinpoint all visible satellites through calculations using the dish coordinates and the built-in database of satellite positions.



### Using DiSEqC 1.2

Open the Settings > Installation > Dish Setting > Positioner Setting menu, and then set Positioner to DiSEqC 1.2.

Repeat these steps for every desired satellite.

- Choose Go to Reference from Positioner Command for the dish to return to the reference point at the highest point in its arc. The dish's movement accuracy may decrease over long-time use. To correct movement errors, choose (Re-) Calculate from Positioner Command.
- 2. Choose Satellite and choose a target satellite.
- Choose Tuner and determine which of the dish connectors to use. This option is not available when Tuner Connection is set to Loop-Through under Settings > Installation > Dish Setting.
- 4. Choose Frequency and select any available transponder.
- 5. Choose Go to Stored Position from Positioner Command to rotate the dish, so that it faces the target satellite.
- 6. Place the focus on Move and press the left or right navigation button to finely drive the dish east or west for the best signal. The dish rotates continuously as long as either of these buttons is held down.
- 7. Choose Store Satellite Position from Positioner Command to save the dish's current position for the target satellite.

It may be useful to set limits to the movement scope of the dish for easier manipulation. Repeat these steps two times to set a limit position for the east and the west.

- 1. Choose Go to Reference from Positioner Command for the dish to return to the reference point.
- 2. Place the focus on Move and press the left or right navigation button to drive the dish.
- 3. Choose Set East (soft) Limit or Set West (soft) Limit from Positioner Command to save the dish's current position to use it as a limit position.

Choosing Disable (soft) Limits from Positioner Command clears these limit positions.

### Using USALS

Open the Settings > Installation > Dish Setting > Positioner Setting menu, and then set Positioner to USALS. Specify these items correctly:

- Dish Longitude: Enter the longitude where the dish is located.
- Dish Latitude: Enter the latitude where the dish is located.

Give the dish a test run to see if it works properly. Repeat these steps for every desired satellite.

- 1. Choose Go to Reference from Positioner Command for the dish to return to the reference point.
- 2. Choose Satellite and choose a target satellite.
- Choose Tuner and determine which of the dish connectors to use. This option is not available when Tuner Connection is set to Loop-Through under Settings > Installation > Dish Setting.
- 4. Choose Frequency and select any available transponder.
- 5. Choose Go to to rotate the dish so that it faces the target satellite.

# 3.4 Scanning Satellite TV Channels

Open the Settings > Installation > Satellite Search menu.

Three methods are available for scanning for satellite TV channels.

- Scanning all available transponders for every channel
- Scanning for multiple channels that a specific transponder carries.
- Scanning for a specific one of multiple channels that a specific transponder carries.

Some option items, including Satellite and Tuner, are used in common in two or more scanning methods, as follows:

- Satellite: Choose a target satellite from the list of satellites.
- Tuner: Determine which of the dish connectors to use.
- Search Type: Determine which types of channels to scan for.
  - All Service: Scan for all available TV and radio channels.
  - FTA Only: Scan only for free TV and radio channels.
  - TV Only: Scan only for free and pay TV channels.
- Network Search: A transponder usually has information about other transponders provided by the same satellite TV service provider. It is better to turn on this option so that the receiver uses broadcast network information for faster and more precise scanning.

When any dish settings need to be reconfigured, select Dish Setting or Positioner Setting to jump to the relevant menu. To return to this menu, select Service Search.

Particular LNBs have a indicator light to show if the signal strength is good enough for the receiver to perform a channel scan. This may be useful when installing a new satellite dish. To activate this function, press the green button and then confirm to use it.

### **Scanning for Every Channel**

Three methods are available for scanning for every channel.

- Set Search Mode to Auto. With this method, the receiver uses its numerous database of transponders when scanning for channels. Choose Time Calibration and determine how long the receiver should wait to get time information from each transponder.
- Set Search Mode to Blind. Transponders occasionally change, so the receiver may happen to miss some channels when scanning for channels using the transponder database. With this method, the receiver scans all potential transponders using every possible combination of transponder elements not to miss any channel in a scan. However, it takes much longer time.
- Set Search Mode to Fast Scan. Particular satellite TV service providers manage dedicated transponders to provide up-to-date transponder information. With this method, the receiver uses that sort of transponder for faster and more precise scanning. Choose Select Operator and select a satellite TV service provider.

Make sure that the common options are properly configured before selecting Service Search to start channel scan.

#### Scanning a Specific Transponder

Generally, one transponder carries multiple TV channels. To scan a specific transponder for the channels it carries, set Search Mode to Manual. Users need to get several details about a target transponder.

- Frequency: Choose a target transponder from the list of transponders.
- Symbol rate: Specify the transponder's symbol rate.
- Polarity: Specify the transponder's polarization.

• Transmission: Specify the modulation method used for the transponder. DVB-S2 is usually used for HD channels.

Make sure that the common options are properly configured before selecting Service Search to start channel scan.

#### **Scanning for One Channel**

To scan for only one specific channel, set Search Mode to Advanced. Each satellite TV channel has unique packet IDs used to distinguish between channels. In addition to the information about a target transponder, users need to know what packet IDs a target channel uses.

- Video PID: Specify the channel's video packet ID.
- Audio PID: Specify the channel's audio packet ID.
- PCR PID: Specify the channel's PCR (programme clock reference) packet ID. This is usually identical to video PID. If the video PID setting doesn't work, try 8191.

Make sure that the common options are properly configured before selecting Service Search to start channel scan.

# 3.5 Scanning Terrestrial TV Channels

Open the Settings > Installation > Terrestrial Search menu.

There are two signal bars on the lower part of the screen. The signal level bar indicates how strong the signal is, and the signal quality bar indicates how easy it is to pick up.

To scan for all available channels, set Search Mode to Auto. Choose Search Type and determine which types of channels to scan for.

- All Service: Scan for all available TV and radio channels.
- FTA Only: Scan only for free TV and radio channels.

• TV Only: Scan only for free and pay TV channels.

To scan for a specific channel, set it to Manual, and then choose Channel and specify the channel's number.

If the aerial needs power supply, turn on Antenna 5V.

Select Service Search to start channel scan.

## 3.6 Scanning Cable TV Channels

Open the Settings > Installation > Cable Search menu.

There are two signal bars on the lower part of the screen. The signal level bar indicates how strong the signal is, and the signal quality bar indicates how easy it is to pick up.

To scan for all available channels, set Search Mode to Auto. Choose Search Type and determine which types of channels to scan for.

- All Service: Scan for all available TV and radio channels.
- FTA Only: Scan only for free TV and radio channels.
- TV Only: Scan only for free and pay TV channels.

To scan for a specific channel, set **Search Mode** to **Manual**. Set these options for the channel.

- Frequency: Specify the channel's frequency.
- Symbol rate: Specify the channels' symbol rate.
- QAM Mode: Specify the modulation method used for the channel.

Select Service Search to start channel scan.

# 4 Watching TV

Use the channel buttons or the numeric buttons to change channels. When changing channels, a dialogue box appears showing information about the current programme on the current channel, such as programme title and running time. Pressing the **Info** button also displays the programme information dialogue box.

The following symbols may appear on the dialogue box to indicate what the current channel and programme features.

- € : This is a pay channel. See Watching Pay Channels on page 29.
- : Teletext pages are available. See Viewing Teletext on page 29.
- : Subtitles are available. See Displaying Subtitles on page 28.
- **II**: Dolby audio is available. See Audio and Video Settings on page 55.
- HD: This is an HD channel. See Audio and Video Settings on page 55.
- 🗇 : Subchannels are available. See Watching Subchannels on page 30.

Use the left and right navigation buttons to view information about the previous and following programmes. To view more information about the current programme, press the **Info** button again.

Pressing the FAV button displays the list of channel groups, including favourites groups. Once a group is chosen, users can change only between the channels that belong to the group.

## 4.1 Channel List

Use the channel list to change channels more easily.

Pressing the up or down navigation button displays the group's simplified

channel list. These buttons can be configured to perform differently. See On-Screen Display Settings on page 56.

Press the OK button to open the channel list.

**Switch to a specific channel**: Place the focus on a channel entry using the navigation or numeric buttons, and then press the OK button.

**Skip through a channel list**: Use the up and down navigation buttons or, alternatively, the **Page up** and **Page down** buttons.

**Display specific channels**: Press the red button to sort or filter the channel list. A list of channel categories is displayed on the middle of the screen. Repeatedly pressing the red button displays different channel categories. Choose a channel category and then a subcategory.

Add a channel to favourites groups: Place the focus on a channel entry and press the green button. A list appears showing multiple favourites groups. Select one or more groups, and then press the Exit button to finish.

**View a favourites group's channels**: Press the **FAV** button and choose a favourites group.

**Search for channels**: Press the yellow button and enter search criteria using the on-screen keyboard.

#### **Channel List Preferences**

Press the blue button and set these options properly.

- Service preview: With this enabled, selecting a channel entry displays the channel's picture in the inset window on the upper right of the screen. Select it once more to switch to the channel. With this option disabled, selecting a channel entry immediately switches to the channel.
- Keep viewing service when exit: With this disabled, pressing the Exit button switches to the channel that was focused on. With this option enabled, pressing the Exit button closes the channel list without changing channels.

- View only filtered list: With this enabled, choosing a channel category filters out channels that are not in the chosen category.
- Logical channel number: Some channels have their own channel numbers, and others don't. With this option enabled, the receiver uses the proper numbers. Channels that don't have proper numbers are numbered from 1000. With this option disabled, channels are numbered in the order in which they are found.
- HD service grouping: With this option enabled, HD channels are grouped at the top of the channel list.
- Copy Service: Channels are associated with the dish connector that was used when scanning for them. If the first dish connector is linked with the second one, it's usually best to associate all channels with both dish connectors. Use this function to duplicate the channels associated with the first dish connector so that the second one is also associated with them, or vice versa.

## 4.2 TV Programme Guide

The TV programme guide (EPG) provides schedule information for current and upcoming TV programmes.

	Channel		16:30 16:48	17:00	17:30
			1	Schedule	
1	Das Erste HD		nmagazin	Once Record	1 (1397)
2	arte HD	Kichster Halt	X:enius	Series Record	360° - Geo.)
3	SWR BW HD		A	RC Play	🕨 🛛 Landesschau Rh
4	SWR RP HD		A	RD-Buffet	SWR Landesschau Rh

Before using the programme guide, make sure that the clock is set correctly under Settings > Configuration > Time Setting.

Press the EPG button to open the programme guide. Use the navigation buttons to browse the channel timeline.

Skip backward or forward by a day: Press the red button or the green button.

**Change the timeline view**: Pressing the **EPG** button alternates the timeline view between channel-based view and time-based view.

**Change the time unit**: Press the FAV button and set EPG Time scale shorter or longer.

**View a programme's information**: Press the **Info** button on a programme entry.

Schedule a programme to watch: Select a programme entry and choose Play.

**Schedule a programme to record**: Select a programme entry and choose either **Once Record or Series Record**. For details, see Scheduling TV Recordings Using the Programme Guide on page 34.

**Cancel a scheduled event**: Select a programme entry that is scheduled to watch or record.

**Search for programmes:** Press the yellow button. Choose **Search event name** and enter search criteria. It is also possible to search by programme genre. Choose **Content code** and choose a genre.

#### **Programme Guide Preferences**

While most TV stations provide programme information for only a couple of days in each transponder, some TV stations, such as Canal+ and Sky, use a dedicated transponder to provide programme information for 7 or more days.

Press the blue button and determine which type of programme guide to use. It takes a rather longer time for the receiver to get programme information from the MediaHighway programme guide due to the large amount of information. Users can set the receiver to access the MediaHighway programme guide when the receiver turns on, to save time. Press the FAV button and set Start MHW-Epg Automatically to Auto.

# 4.3 Controlling Audio

When watching a channel, press the yellow button to control audio using these options.

- Audio Track: A TV programme may provide audio in two or more languages. Choose a different audio language if available.
- Sound Mode: Generally, an audio track has two sound channels. Determine which sound channel to use.
- Sound Level: The volume may vary depending on channel. Use this to make the volume even at every channel. With this set to High, for example, the volume is automatically adjusted to the level that is higher 30% than the current channel's.

# 4.4 Displaying Subtitles

When the subtitle symbol  $\Box$  is highlighted on the programme information dialogue box, it indicates that subtitles are available in one or more languages for the current programme. Press the **Subtitle** button and choose a subtitle language to display subtitles.

# 4.5 Watching Two Channels Simultaneously

Users can simultaneously watch two different channels with one channel shown in an inset window. It is also possible to watch a channel while playing a recording.

Press the PiP button, and a window appears at a corner of the screen, displaying another channel. Pressing the PiP button again displays the two pictures side by side at the same size. To close the window, press the PiP button once more.

**Change channels for the foreground picture**: Press the PiP List button and select a channel from the channel list that appears.

Swap the background picture with the foreground picture: Press the PiP Swap button.

Change the location of the foreground picture: Press the Page up or Page down button.

## 4.6 Viewing Teletext

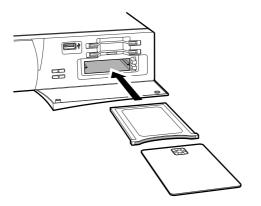
The teletext symbol  $\square$  highlighted on the programme information dialogue box indicates that teletext pages are available with the current channel. Press the Teletext button to display the teletext page.

Each teletext page has a page number. Enter a page number to view a different teletext page.

# 4.7 Watching Pay Channels

Pay channels are encrypted to prevent non-subscribers from watching them. Make sure to buy a correct pay-TV card, and additionally a CA module in many cases, to watch certain pay channels. This receiver has four slots on the right front side. Open the flap by pulling the right edge. The upper two slots accommodate Conax pay-TV cards, and the lower two slots accommodate CA modules.

To watch Conax-scrambled pay channels, insert a Conax pay-TV card into one of the upper two slots. To watch pay channels scrambled with non-Conax, insert a pay-TV card into a CA module, and then insert the CA module into one of the lower two slots.



To view the information about the pay-TV card, open the Settings > Utilities > CAS menu. Select the slot in which the pay-TV card or CA module is installed.

# 4.8 Watching Subchannels

Particular channels, such as sports channels or film channels, may have subchannels (multi-feed). For example, a film channel may use subchannels to air a single film with regular minutes-long intervals at the same time.

The subchannel symbol 🗇 highlighted on the programme information dialogue box indicates that the current channel has multiple subchannels. Press the blue button, and a list appears showing available independent programmes. Select a programme to watch it.

## 4.9 Setting Up Timers

#### Wake-Up Timer

This receiver can be set to turn on at a specific time and tune in to a specific channel.

Open the Settings > Configuration > Time Setting menu. Determine how frequently to run the wake-up timer by setting Wake Up Mode to anything other than Off. According to this setting, specify the date, days of the week, time, and channel.

### **Sleep Timer**

This receiver can be set to turn off at a specific time.

Open the Settings > Configuration > Time Setting menu. Determine how frequently to run the sleep timer by setting Sleep Mode to anything other than Off. According to this setting, specify the date, days of the week, and time.

## 4.10 Managing Channels

### **Organizing the Channel List**

Open the Settings > System Tools > Service List Manager menu.

**Sort channels**: Repeatedly pressing the red button sorts channels by a different category.

**Search for channels**: Press the yellow button and enter search criteria using the on-screen keyboard.

Lock or unlock channels: Press the blue button and select Lock/Unlock Services. Select one or more channels. Once a channel is selected, it appears

in the list of locked channels on the middle of the screen. Selecting a channel from the list of locked channels unlocks it.

**Rearrange channels**: Press the blue button and select **Move Services**. Select one or more channels. Place the focus on a channel entry to move the selected channels above it, and then press the green button.

**Delete channels from the channel list**: Press the blue button and select **Delete Services**. Select one or more channels. Press the green button and then confirm to delete them.

**Hide channels from the channel list**: Press the blue button and select **Skip Services**. Select one or more channels. Once a channel is selected, it appears in the list of hidden channels on the middle of the screen. Selecting a channel from the list of hidden channels makes it visible.

Add a new channel: Press the blue button, select Edit Services, and then press the green button. Specify the channel details, including frequency and channel name. Select Yes when finished.

**Modify a channel's attributes**: Press the blue button and select **Edit Services**. Select a channel and modify its attributes, such as channel name, for example.

#### **Organizing the Favourites List**

Open the Settings > System Tools > Service List Manager menu.

Add channel to a favourites group: Press the blue button, select Set Favorites, and then choose a favourites group. Select one or more channels. Once a channel is selected, it appears in the favourites group on the middle of the screen. To select a different favourites group, press the green button and select a favourites group.

**Remove channels from a favourites group**: Press the blue button, select **Set Favorites**, and then choose a favourites group. Select one or more channels from the favourites group.

Add a favourites group: Press the blue button and select Set Favorites. Press the yellow button and enter a group name using the on-screen keyboard.

**Rename a favourites group**: Press the blue button and select **Set Favorites**. Place the focus on a favourites group and press the green button. Enter a new name using the on-screen keyboard.

**Rearrange favourites groups:** Press the blue button and select **Set Fa-vorites**. Place the focus on a favourites group, press the **FAV** button, and then move it to a new location.

**Delete a favourites group**: Press the blue button and select **Set Favorites**. Place the focus on a favourites group, press the blue button, and then confirm to delete it.

## 4.11 HbbTV

HbbTV combines TV services delivered via broadcast with services delivered via broadband. HbbTV services include video on demand, interactive advertising, voting, games, social networking, programme-related services, and more.

When watching a channel, a rounding circle may appear in the upper-right corner of the screen to indicate that HbbTV services are available. Press the red button to access the channel's HbbTV services via the Internet.

#### Note

The receiver must be connected to the Internet to use HbbTV services.

HbbTV services may not be available, depending on the TV station.

## 5 Recording TV

This digital TV receiver can record TV programmes onto the built-in hard drive as well as a removable hard drive or flash drive. However, flash drives are not recommended for recording.

The receiver is set to use the built-in hard drive for recording by default. To use a removable hard drive, see Recording Preferences on page 36.

#### Note

The receiver may not be equipped with a built-in hard drive, depending on the product options.

### 5.1 Recording TV Programmes

Under ideal conditions, users can watch 2 different channels at the same time while recording 3 other channels. When using time-shifting, at most 2 different channels can be recorded simultaneously. For details on time-shifting, see Time-Shifting on page 35.

Press the record button • to instantly begin recording the current programme.

#### Scheduling TV Recordings Using the Programme Guide

Use the programme guide to schedule TV recordings. Open the programme guide, and press the OK button on a programme entry scheduled to air later. Either choose **Once Record** to record the programme only once, or choose **Series Record** to record its every episode.

At the scheduled time, the receiver turns on if it is off, and begins recording the programme. Even if the receiver is set to turn off before the time that the recording is supposed to finish, the receiver does not turn off until recording is done.

## Manually Scheduling TV Recordings

Manual scheduling of programmes is sometimes needed because the programme guide is not always consistent with the actual broadcasting time. There may be changes in broadcast schedules or delays due to other programming.

Open the Settings > System Tools > Schedule menu.

Add a recording event: Press the green button. Specify the program details, including channel and start time. To display the programme at the scheduled time without recording, set Type to Play. With Alarm Confirm Message enabled, a message appears to notify that the event will start in 3 minutes. Select Yes when finished.

**View recording events by date**: Press the yellow button to open the calendar. Select a date to view its recording events.

**Edit a recording event**: Place the focus on an event entry, press the OK button.

**Delete a recording event:** Place the focus on an event entry, press the red button, and then confirm to delete it. To delete all events at once, press the blue button.

## 5.2 Time-Shifting

Time-shifting temporarily records the current programme. Using this feature, users can pause and resume a live programme and even scan through it backward or forward. For example, simply pause or skip backward in the current live programme to replay missed crucial scenes when answering a phone call, when having gone to the bathroom, or when wondering what a character in a drama just mumbled.

Before using this feature, make sure that TimeShift Start is set to Auto or Manual under Settings > Configuration > Recording Option. For details, see Recording Preferences on page 36.

**Pause the live programme**: Press the pause button **II**. Press it again to resume.

**Skip backward or forward**: Press the play button ► to display the progress bar. Press the left or right navigation button. Repeatedly pressing the yellow button changes the skip interval from 10 seconds to 10 minutes.

Jump to the beginning of the time-shift recording: Press the previous button I◀.

Return to the live programme: Press the stop button

## 5.3 Playing Recordings

Press the Play List button to access the recordings stored on the built-in hard drive or removable storage devices. For details, see Playing Recordings and Videos on page 41.

#### Note

TV recordings cannot be played by any receiver other than the receiver that made them.

## 5.4 Recording Preferences

Open the Settings > Configuration > Recording Option menu.

- Alarm Confirm Message: With this enabled, a message appears to notify users that a scheduled recording event will begin in 3 minutes.
- Recording Stop Message: With this disabled, pressing the stop button
   stops the current recording immediately without asking for confirmation.
- Extra Recording Time Before Start: It is good to begin recording a few minutes earlier than the scheduled start time to avoid missing the beginning of a programme. Specify how much earlier the receiver should begin recording.
- Extra Recording Time After Finish: It is good to finish recording a few minutes later than the scheduled end time to avoid missing the end of a programme. Specify how much later the receiver should finish recording.
- TimeShift Start: With this set to Auto, the receiver begins time-shift recording whenever changing channels. With this set to Manual, pressing the pause button **II** begins time-shift recording. With this set to Off, time-shifting is disabled.
- TimeShift Duration: Specify the maximum duration for time-shift recording. For example, if this is set to 30 minutes, only the last 30 minutes of the programme are temporarily preserved for playback.
- Playback Position Jump: When playing a recording, users can use the left and right navigation buttons to skip backward and forward. Specify the amount of time to skip at a time. With this set to Auto, it varies from 10 seconds to 4 minutes, depending on running time.
- Playback Numeric Function: When playing a recording, users can use the numeric buttons to skip to a specific point. With this set to Percentage Move, the unit for user-entered numbers is percentage. For example, to skip to the 35-percent point of the recording, enter "35". With this set to Commercial skip, users can enter 0 to 9, and the unit is minute. For example, to skip forward 5 minutes, enter "5". To skip backward 1 minute, enter "0".

- **TimeShift Device**: Determine which storage device to use for time-shift recording by default.
- **Record Device:** Determine which storage device to use for recording by default.

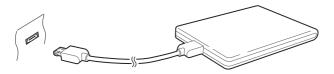
# 6 Playing Media Files

This digital TV receiver can play not only TV recordings but also many kinds of media files, including photos, music, and videos.

## 6.1 Managing Storage Devices

Connect a removable hard drive or flash drive to one of the USB ports on the front or rear of the receiver.

It is better to use the eSATA connector than USB ports when connecting a removable hard drive to the receiver, because eSATA transfers data five times faster than USB 2.0.



To manage the built-in hard drive and removable storage devices connected to the receiver, open Settings > System Tools > Storage Manager menu.

View a storage device's state: Choose Current Device and select a storage device.

**Format a storage device**: Storage devices must be formatted in FAT32 or NTFS for use with this receiver. Choose **Current Device** and select a storage device. Choose **Format**, choose **File System**, and then choose a file system. Select **Format** and then confirm to format it.

**Test the speed of a storage device**: Choose **Current Device**, select a storage device, and then press the green button.

**Open the file list of a storage device for playback**: Choose **Current Device**, select a storage device, and then select **Play List**.

**Remove a removable storage device from the receiver**: Choose Current **Device** and select a removable storage device. Press the red button and then confirm to remove it.

**Check a storage device**: Choose **Current Device**, select a storage device, and then choose **Storage Check**. If any faults are found, they are automatically repaired.

Access a shared folder on a computer: Choose Current Device and select Network Drive. Choose Network settings, choose Folder, and then specify the path to the folder. A good example of shared folder paths is "192.168.1.25/media".

View the state of the user-available memory: Choose Current Device and select User.

## 6.2 Managing Files

Press the Play List button to access the built-in hard drive or removable storage devices.

**Display only files of a specific type**: Press the left navigation button and choose a file type from the left pane that extends out. To display all files, regardless of file type, select **Play List. Imported Files** stands for videos except TV recordings.

**View files on another storage devices**: Press the **Play List** button and choose a different storage device.

Sort files: Press the yellow button and choose a category.

Create a folder: Press the blue button and select New Folder.

**Rename a file or folder**: Place the focus on a file or folder, press the blue button, and then select **Rename**. Enter a new name using the on-screen

keyboard.

**Move files or folders into another folder**: Select one or more files or folders using the red button, and press the blue button. Select **Move to Folder** and choose a subfolder or the upper folder.

**Copy files or folders onto another storage device**: Select one or more files or folders using the red button, and press the blue button. Select **Copy to Device** and choose a different storage device.

**Delete files or folders**: Select one or more files or folders using the red button, and press the blue button. Select **Delete** and confirm to delete them.

## 6.3 Playing Recordings and Videos

Select one or more recordings or videos using the red button, and then press the OK button to play them.

#### Note

Some videos may not play properly, depending on how they are encoded.

Pressing the play button  $\blacktriangleright$  displays the progress bar. Use the progress bar to navigate through the video. To hide the progress bar, press the play button  $\blacktriangleright$  again.

**Pause and resume playback**: Press the pause button **II**, and press it again to resume.

**Skip backward or forward**: Press the left or right navigation button. To continuously skip, press and hold these buttons. Repeatedly pressing the yellow button changes the skip interval from 10 seconds to 10 minutes.

Skip to a specific point: Press the play button ► to display the progress bar, and then enter a number. This action can be configured to perform differently. See Recording Preferences on page 36.

**Play fast forward or backward**: Press the forward button **▶** or the backward button **◀**. Repeatedly pressing theses buttons changes the playback speed.

Skip to the previous or next recording or video: Press the previous button I or the next button ►I.

Add a bookmark to a recording: When playing a recording, users can add bookmarks to the recording for easier navigation. Press the red button to place a vertical marking bar at the current point on the progress bar. Bookmarks are preserved with the recording for later use.

Note

Only TV recordings can be bookmarked.

Jump to a bookmark: Press the green button.

**Remove a bookmark**: Jump to a bookmark using the green button, and then press the red button to remove the bookmark.

**Change subtitle display**: When a video is playing, press the **Menu** button and change subtitle display options, such as letter size and colour. For details on how to add font files, see Using Different Fonts on page 53.

#### Note

SMI and SRT subtitle formats are only supported by the receiver.

## 6.4 Viewing Photos

Select one or more photos using the red button, and then press the OK button to view them.

View the previous or next photo: Press the left or right navigation button.

**Start slideshow**: Press the green button. To pause and resume the slideshow, use the pause button **II**.

**Set a photo as wallpaper for radio channels**: Press the red button when a photo is displayed. The photo is displayed while users listen to a radio channel.

## 6.5 Playing Music

Select one or more songs using the red button, and then press the OK button to play them.

Skip to the previous or next song: Press the previous button I or the next button ►I.

**Shuffle or repeat playback**: Press the red button. Repeatedly pressing the red button changes the play mode.

- $(R^{-})$ : Songs are randomly played.
- <u>A</u> : Songs are played only once.
- [A]: All songs are repeated.
- [1]: The current song is only repeated.

Add songs to the current playlist: Press the green button. Select more songs using the red or green button, and then press the yellow button.

**Remove a song from the current playlist**: Place the focus on a song entry and press the yellow button.

## 6.6 Playing Media files from Other Devices

This receiver can play media files from computers or other DLNA-enabled devices, such as TVs and tablets, connected to the receiver via a network. For example, when a computer and the receiver is connected to the same

network, the receiver accesses the computer to play the computer's media files, or vice versa.

#### **Accessing Other Devices**

Press the Menu button to open the apps screen. Select M Client, and the file list screen appears with the list of detected devices. Select a device and then select a file to play it.

For details on how to play videos, see Playing Recordings and Videos on page 41, for music, see Playing Music on page 43, and for viewing photos, see Viewing Photos on page 42.

#### **Allowing Other Devices to Access the Receiver**

Use one of the following methods:

- Press the Menu button to open the apps screen. Select M Server and then select Start.
- Open the Settings > Installation > Network Setting menu. Choose Media Server and then select Start.

When **Start Type** is set to **Auto**, other devices can access the receiver at any time when the receiver is on.

## 7 Apps

Press the Menu button to open the apps screen. Most apps requires an internet connection for proper operation.

## 7.1 Webzeal

Webzeal is a web browser. Use it to surf the Internet.

#### Note

Webzeal cannot play flash video, which is heavily used on the web.

Pressing the Menu button displays a toolbar, including a web address field and several icons, at the bottom of the screen.

#### Viewing a Webpage

Webzeal takes up the lower part of the screen so that users can watch live TV on the upper part.

Adjust the vertical view size: Press the red button or, alternatively, press the Menu button and select the vertical view icon 🗟 . Repeatedly pressing the red button changes the view size from full screen to half and then to quarter.

Adjust the horizontal view size: Press the green button or, alternatively, press the Menu button and select the horizontal view icon  $\Phi$ .

Zooming in a webpage: Press the yellow button.

Zooming out a webpage: Press the blue button.

#### **Navigating Webpages**

A pointer is available to help users navigate webpages. Use the navigation buttons to move the pointer. To see another webpage, move the pointer over a link and press the OK button.

**Enter a web address**: Press the Menu button, select the web address field, and then enter a web address using the on-screen keyboard.

**Refresh a webpage**: Press the Menu button and select the refresh icon **2**.

Halt a webpage from downloading: Press the Menu button and select the stop icon **×**.

Move between the series of webpages that have already been veiwed: Press the Menu button and select the back icon  $\leq$  or the forward icon  $\geq$ .

**View the web browsing history**: Press the **Recall** button to display the list of recently-visited webpage. Select a webpage to open it.

#### **Bookmarks**

**Bookmark the current webpage**: Press the FAV button and press the red button.

**Open a bookmarked webpage**: Press the FAV button to display the list of bookmarked webpages. Alternatively, press the Menu button and select the bookmark icon **X**. Select a bookmark to open it.

**Delete a bookmark**: Press the FAV button and place the focus on a bookmark. Press the yellow button and confirm to delete it.

**Edit a bookmark**: Press the FAV button and place the focus on a bookmark. Press the blue button and edit the web address using the on-screen keyboard.

**Set the current webpage as home page**: Press the **FAV** button and press the green button.

**Open the home page**: Press the **Menu** button and select the home page icon **1**.

#### **Entering Text**

Switch to a different language keyboard: Press the Menu button and select the keyboard icon . A list appears, showing available keyboard layouts. Choose a keyboard layout, and then choose a keyboard language. Restart Webzeal to put the chosen keyboard into use.

Switch between the numeric keypad and the normal keyboard: Press the Menu and press the green button.

**Enter text into a field**: When the pointer is over a text field, pressing the OK button displays available typing actions. Choose **Input Text** and enter text using the on-screen keyboard.

## 7.2 Free TV+

Free TV+ allows users to view videos from a variety of video-sharing web services, such as YouTube and Dailymotion. Users can either view videos online or download them for later enjoyment.

Choose a video-sharing web service to access it.

**View videos in a specific category**: Press the green button and choose a category.

**Search for videos:** Press the yellow button and enter search criteria using the on-screen keyboard.

**Download a video**: Place the focus on a video entry and press the record button **•**.

**View the list of downloaded videos**: Press the red button. Alternatively, select **Download List** from the list of video-sharing web services.

#### **Playing Videos**

Select a video from the list of videos to play it.

#### Note

Some videos may not play properly, depending on how they are encoded.

View in full screen: Press the OK button. To exit full screen, press it again.

**Pause and resume playback**: Press the pause button **■**, and press the play button **▶** to resume.

**Skip backward or forward**: Press the backward button ◀ or the forward button ►

#### Free TV+ Preferences

Press the blue button, and set these options properly.

- Seek Time: Specify the amount of time to skip at a time.
- YouTube Picture Quality: Determine what quality level to use to view YouTube videos.
- YouTube Location: To view only videos from a specific country, choose a country.
- Parental Control: Lock specific video-sharing web services to prevent children from watching them.

## 7.3 iTV+

Use iTV+ to watch internet TVs.

Tune in to a TV station: Select a TV station.

View in full screen: Press the green button. To exit full screen, press it again.

Add a TV station: Press the red button. Specify the TV station's details, including name and web address. Select Add when finished.

#### Note

The web address must include "http://" and indicate the media itself, not the webpage that contains it.

**Edit a TV station**: Place the focus on a TV station entry and press the blue button. Change the details, and select **OK** to finish.

**Delete a TV station**: Place the focus on a TV station entry and press the blue button. Select **Delete** and confirm to delete it.

**Search for TV stations:** Press the yellow button and enter search criteria using the on-screen keyboard.

**View information about a TV station**: Place the focus on a TV station entry and press the **Info** button.

## 7.4 iRadio+

Use iRadio+ to listen to internet radios.

Tune in to a radio station: Select a radio station.

**View radio stations in a specific category**: Press the red button and choose a category.

Add a radio station: Press the green button. Specify the TV radio's details, including name and web address. Select Add when finished.

#### Note

The web address must include "http://" and indicate the media itself, not the webpage that contains it.

**Edit a radio station**: Place the focus on a radio station entry and press the yellow button. Change the details, and select OK to finish.

**Delete a radio station**: Place the focus on a radio station entry, press the blue button, and then confirm to delete it.

## 7.5 Weather

Use Weather to get weather forecasts for thousands of places around the world.

Add a city: Press the yellow button to display a list showing countries. Select a country and then select one of its cities.

Alternatively, press the green button and enter search criteria using the onscreen keyboard. Select a city from search results.

**Delete cities:** Press the blue button and select **Delete history list**. Select one or more cities using the red button, press the **OK** button, and then confirm to delete them.

**Set a city as start point**: Place the focus on a city entry and press the FAV button.

## 7.6 TV Portal+

TV Portal+ is a web portal, run by this receiver's manufacturer, that brings together web content dedicated for consumer electronics from diverse websites.

There are multiple web categories, including news and multimedia.

Use the navigation buttons to navigate the web categories and the OK button to select an item. Press the Recall or Exit button to return to the previous screen.

#### Note

Web categories and items in each category may change.

## 7.7 Sync Player

Many people use  $\mu$ Torrent, a peer-to-peer file sharing program, to share media files. Sync Player can communicate with  $\mu$ Torrent on a computer to play media files downloaded by  $\mu$ Torrent.

Before using Sync Player, make sure that  $\mu$ Torrent is installed on a computer on the same network as the receiver.

Start Sync Player, and a list appears showing computers on which  $\mu$ Torrent is running and computers that have been connected to Sync Player. Select a computer to connect it to Sync Player. If this is the first connection, enter the number displayed on the receiver's screen into  $\mu$ Torrent's dialogue box.

Selecting a media category displays a list of files of the same type that are currently managed by  $\mu$ Torrent. Select a media category, and then select a file to play it.

The **Torrent** category displays the torrents list. Selecting a torrent shows all the files contained in it. Select a file to play it.

#### Note

It is not possible to play files that are not completely downloaded.

## **7.8 T** Apps

Use T Apps to get various apps provided by this receiver's manufacturer.

**Download new apps**: Press the blue button, then press the OK button. A list appears showing new available apps. Select one or more apps using the

OK button, and press the red button to start downloading.

**Play an app:** Place the focus on an app and press the green button.

**Delete an app**: Place the focus on an app, press the yellow button, and then confirm to delete it.

## 8 Preference Settings

## 8.1 Language Settings

Open the Settings > Configuration > Language Setting menu.

- Menu Language: Determine what language to use for the interface.
- Audio Language: A TV programme may provide audio in two or more languages. Determine what audio language to use by default.
- Audio Language2: Determine what audio language to use as an alternative when the default language is not available.
- Subtitle Language: A TV programme may provide subtitles in one or more languages. Determine what subtitle language to use by default.
- Subtitle Language2: Determine what subtitle language to use as an alternative when the default language is not available.
- Teletext Language: A TV channel may provide teletext pages in one or more languages. Determine what teletext language to use by default.

### **Using Different Fonts**

Users can install truetype font files in the receiver to use them with subtitles and displays.

On the computer, open Windows Explorer to access the receiver. Enter the receiver's IP address into the Address Bar. Once it's connected, move to the "root/var/font" directory. If the "font" directory is not found, create it under the "var" directory. Copy font files into the "font" directory.

Open the Settings > Configuration > Language Setting menu. Choose User Font File and choose a font to use it for text display.

## 8.2 Network Settings

A wired or wireless network connection is required to perform internet tasks.

- Using media apps, such as Weather and Free TV+
- · Accessing a computer to play media files stored on it
- Acquiring software updates

Open the Settings > Installation > Network Setting menu.

It is better to set the router for dynamic IP addresses so that the receiver can automatically connect to the network. Turn on DHCP if DHCP is enabled on the router.

If DHCP is not available, specify the network details, including IP address and gateway.

### **Proxy Server Settings**

If a proxy server is used for internet connections, the settings for the proxy server must be configured properly. Open the Settings > Installation > Network Setting menu, and choose Proxy Server. Specify the proxy server's details, including port number and user account.

### **DDNS Settings**

A DDNS account allows the receiver to create a web address that points to the user's local network, so anyone can access the receiver from anywhere in the world.

If a DDNS account is available, configure the DDNS settings properly. Open the Settings > Installation > Network Setting menu, and press the red button. Specify the DDNS account's details, including web address and user account.

## 8.3 Clock Settings

Open the Settings > Configuration > Time Setting menu.

- Local Offset: Specify the time zone where the receiver is located.
- Daylight Saving: To apply daylight saving time, specify the country where the receiver is located.
- Clock Mode: Determine which to use between 12-hour and 24-hour clock formats.

For Wake Up Mode and Sleep Mode, see Setting Up Timers on page 31.

## 8.4 Audio and Video Settings

Open the Settings > Configuration > A/V Output Setting menu.

- TV Type: Determine which TV standard to use.
- TV Aspect Ratio: Determine which aspect ratio to use by default.
- Display Resolution: Determine which resolution to use by default. Technically, 1080p is better than 1080i, but the difference is only slight to most people.
- **Display Format**: Determine how to display 4:3 pictures on the 16:9 screen, or vice versa.
  - Pillar Box: 4:3 pictures fit the height of the 16:9 screen with black bars on the sides.
  - Full: 4:3 pictures blow up to fit the width of the 16:9 screen with the top and bottom edges cut off.
  - Letter Box: 16:9 pictures fit the width of the 4:3 screen with black bars on the top and bottom.
  - Pan Scan: 16:9 pictures blow up to fit the height of the 4:3 screen with the sides cut off.

- Video Output Mode: Determine which colour space to use for the SCART output. RGB is much higher quality than CVBS.
- HDMI Dolby Digital: Determine whether or not to pass through Dolby audio via HDMI when available.
- Dolby Digital Default: Determine whether or not to use Dolby audio when available.
- **Sound Mode**: Generally, an audio track has two sound channels. Determine which sound channel to use by default.
- Power Saving in Standby Mode: With this enabled, the receiver's front display shows nothing when in standby mode. With this disabled, it displays the current time.
- Audio Sync Delay: If the sound and picture don't match up, adjust this until they match.

## 8.5 On-Screen Display Settings

Open the Settings > Configuration > Display Setting menu.

- Info Box Position: Specify how much to raise or lower the position of the programme information dialogue box.
- Info Box Display Time: Specify how long to display the programme information dialogue box when changing channels.
- Volume Bar Display Time: Specify how long to display the volume bar when adjusting the volume.
- Zapping Mode: Determine what to display when changing channels. With this set to Black Screen, the receiver displays nothing. With this set to Freeze, the receiver displays the last still picture of the previous channel.
- Up/Down Key: Determine for what to use the up and down navigation buttons when watching a channel. With this set to Simple Service

List, the simplified channel list is displayed. With this set to HD Service Change, a channel change is made between HD channels. With this set to Service Change, a channel change is made.

- Front Display Scroll: The receiver's front display shows the current programme's title or the current menu item. Determine how the display scrolls to show longer strings. With this set to Continuous, it repeatedly scrolls the string. With this set to Off, it never scrolls the string. With this set to Once, it scrolls the string only once.
- Front LED Brightness: Adjust the brightness of the front light properly.
- Screen Change Effect: Choose one of the screen change effects.

## 8.6 Parental Control

TV programmes are rated according to their level of violence, nudity, and restricted language. It is possible to set the receiver to block programmes rated a certain class or higher to prevent children from watching them. It is also possible to lock specific menu items so that children or others can't access them. Users must enter the passcode to watch a blocked programme or access a locked menu.

Open the Settings > Configuration menu, choose Parental Control menu, and then enter the passcode.

- Censorship: Specify a programme rating.
- Change PIN code: Change the passcode. The default is "0000".
- System: With this selected, the passcode is required when turning on the receiver.
- Installation: With this selected, the Installation menu is locked.
- Configuration: With this selected, the Configuration menu is locked.
- Edit Services: With this selected, the Service List Manager menu is locked under System Tools.

## 8.7 Maintaining the Digital TV Receiver

The internal flash memory is used for maintaining the preference settings and channel data.

Open the Settings > Installation > System Recovery menu.

Use these to reset the digital TV receiver.

- System restore to factory default: Reset all settings to factory defaults and clear all channels.
- Reset configuration data: Reset all settings to factory defaults.
- Reset service data: Clear all channels.

Use these to back up and restore the receiver.

- System restore to stored position: Restore the receiver using the stored settings and channels.
- Store system data: Back up all settings and channels.
- Delete stored position: Clear all stored settings and channels.

It is also possible to share the receiver's settings and channel data with other receivers of the same kind, using a flash drive. Connect a flash drive to one of the receiver's USB ports.

Open the Settings > System Tools > Data Transfer menu.

- Transfer All System data to USB storage: Export all settings and channel data to the flash drive.
- Transfer Service data to USB storage: Export all channel data to the flash drive.
- Data download from USB storage: Import settings and channel data from the flash drive.

## 8.8 Updating the Digital TV Receiver

Software updates for this digital TV receiver become available from time to time. Software updates may improve the receiver's performance or deal with any outstanding issues.

Open the Settings > Installation > System Information menu to check the current version of the receiver. Visit http://www.tiviar.com to download the latest update file. Make sure that the available version is newer than the currently installed version before downloading it.

Decompress the update file and copy it into the root directory of a flash drive. Connect the flash drive to one of the receiver's USB ports. A dialogue box appears showing available update files. Select an update file and press the red button. Never turn off the receiver until the update process is complete.

### **Online Update**

Online software updates may be available, depending on the country.

Open the Settings > Installation > Network Setting menu, and choose Software Upgrade. Choosing the server name displays a list of available updates. Select one or more items, and press the red button to download and install them.

# Appendix **A**

# **Universal Remote Control**

The remote control can expand its capabilities, allowing users to control the TV connected to the receiver.

A user can transform the remote control into a universal remote control by entering a 4-digit remote control code for the TV. Turn on the TV, and follow these steps:

- 1. Find the TV's brand name from the list of remote control codes.
- 2. Press the TV button and the OK button for 2 seconds simultaneously. The TV button blinks twice.
- 3. Enter one of the available codes. If the code is not correct, the TV button blinks once. Try the others until the TV turns off.
- 4. Press the OK button to finish. The TV button blinks twice.

If all of the codes appear not to work, follow these steps:

- 1. Press the TV button and the OK button for 2 seconds simultaneously. The TV button blinks twice.
- 2. Press the up or down navigation button repeatedly within 10 seconds at each attempt until the TV turns off.
- 3. Press the OK button to finish. The TV button blinks twice.

It is possible to identify what code is set for TV. Press the TV button and the OK button for 2 seconds simultaneously, and then press the Info button within 3 seconds. The TV button blinks as much as the number of each digit of the code. To indicate "0", it blinks 10 times.

#### Α 7733, 4659, 3451, 5905, 4925, 4523, 3802, 3637, A.R. Systems 8644, 7213, 6896, 5090, 7014 5874,4648 Accent 7647, 8644, 6896, 3637 Akashi 7314, 7647 Akiba Acer 3857 4016, 5896, 7014, 8644, 6896 Akira 5553 Action 4523, 5510, 3637, 4648 Akito 8644,6896 Adcom 4884 8644, 6896, 5355, 6764, Akura ADI 7855 7647, 4016, 5896, 3488, 3193, 2438, 5553, 5605, Admiral 8060, 7066, 3637, 4648 3488, 3637, 4648, Alaron 4469 Adventura 5874 Alba 8644, 3840, 6896, 8060, Adventuri 5874 7647, 5553, 7287, 4530, 5355, 7384, 4016, 4469, 4469, 4523, 4648 Adyson 5531, 5605, 6230, 6812, AEA 8644, 6896 7733, 5119, 4925, 3637, 4648 AEG 5952, 6305, 5319 Alfa 4648 Aqashi 4469, 3488 Alkos 6482 AGB 8568 Allstar 8644, 6896, 4648 Aiko 7647, 8644, 6896, 4469, All-Tel 4677 4530, 6482, 5739, 3350, American High 5510 3518, 3488, 3637 Americana 5510 Aim 8644, 6764, 6896, 3036, Amplivision 7287 7910, 8435, 8484, Amstrad 7647, 8568, 3488, 4530, Aiwa 5448, 7733, 6736 4016, 8644, 6896, 5739, Akai 3350, 7910, 4530, 3011, 6764, 8377, 3840, 3451, 8644, 5739, 6669, 3518, 7066, 3637 6482, 7647, 3036, 4016, Anam 8644, 6896, 7647, 4526 2429, 8060, 5605, 8568, Anam National 8644, 6896, 4526 6381, 2810, 6896, 4783, Andersson 5319,7660 8020, 8394, 4469, 3488, 7647, 3488, 3637 5393, 2796, 6305, 3840, Anglo

Anitech	7647, 3488, 8644, 6896,	AWA	7507, 6812, 7647, 5090,
	5896, 4523, 3637, 4648		6764, 8644, 6896, 4469, 6305, 5620, 3488, 4698, 3637
Ansonic	7287, 8644, 6896, 7647, 5355, 5090, 5090, 2620,	Axxent	7647
	5355, 5090, 5090, 2620, 5531, 4917, 3637	Axxon	8060
AOC	4523, 4648	_	
Apollo	4659	В	
Arcam	4469	B&D	7855
Arc en Ciel	7430	Baird	7430, 6127, 6982, 5301, 7910, 3453
Ardem	2590, 8060, 8644, 5613, 6896	Barco	5605
Aristona	6896, 8644, 4648	Basic Line	3637, 4648, 5090, 8644,
ART Tech	4648		5605, 5355, 6896, 7647,
Arthur Martin	5605		4016, 5896, 7014, 6559, 3840
ASA	4819, 6092, 4265	Bauer	8484, 7647
Asberg	8644, 6896, 4648	Baur	7647, 6640, 5265, 3835, 8644, 6896, 3518, 3350,
Asora	7647, 3637		6736, 3637, 5874, 4648
Astra	8644, 6896, 3637	Beaumark	5393
Asuka	4016, 4469, 3488, 5896	BEC	4648
ATD	2924	Becrese	4523, 3802, 5874, 4648
	-	Beko	8060, 6482, 2590, 7287,
Atlantic	8644, 6896, 4469, 4648		8644, 5553, 3840, 6896, 6305, 6381, 7361, 4648
Atori	7647, 3637	Bell & Howell	
Atoro	3637	Belson	4156, 4706
Auchan	5605	Benchmark-B	eaumark 4523, 5510, 3637,
Audiosonic	7647, 8644, 5090, 8033,		4648
	6896, 7430, 8060, 6381, 7287, 3488, 4016, 2590,	Bennett	6896, 8644
	3637, 4648	BenQ	8016
Audioton	2590, 7287, 3488, 3637	Beon	8644, 6896, 5553, 4648
Audiovox	4648	Berthen	5355
		Best	7287
Audioworld	2924	Bestar	8644, 6896, 7287, 5090, 4648
Autovox	5531	Bestar-Daewo	
AVP	7733	Bigston	3637

	Black Diamono	d 5319, 8033, 3840, 6896, 7837, 3036	Bush
	Black Star	5531	
	Black Strip	6482, 3802, 5510	
	Black Way	5896, 4016	
	Blaupunkt	3518, 6640, 5265, 6538, 7839, 5186, 7014, 4849, 6812	С
	Blue Sky	8644, 8060, 3840, 6230,	C
		5355, 6381, 2499, 6896,	Camp
		4016, 5896, 7014, 7733, 4156, 7361, 6685, 4648	Candl
	Blue Star	5896	Canto
			Capeh
	Bondstec	5531	Capso
	Boots	7647	Carad
	Bosch	7839	Caren
BPL 8644, 6896, 5896		8644, 6896, 5896	Carref
	Brandt	4884, 7430, 4422, 3270,	Carve
		6982, 3847	Casca
Brandt Electro		nique 4422, 3270	Casio
	Brend Star	3637	Catha
	Brinkmann	8644, 6896, 5355, 7350,	CCE
		5553, 2590	Celest
	Brionvega	8644, 6896, 8377, 4648	Centre
Briorryega		4648	Centru
	Britannia	4469	Centu
Brockwood		4523, 3802, 5874	Centu
	Broksonic	4523, 3802, 5874	CGE
	Brother	3488	CGM
	Bruns	2590	CIE
	BSR	5605, 3350	Cihan
	BTC	4016	Cimlir
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5355,	4016,	5605,	7647,
6812,	8644,	4530,	5896,
7384,	2438,	5090,	7350,
3488,	3350,	3840,	6230,
7910,	5952,	5905,	2924,
6896,	8060,	5832,	7733,
5453, 3	3802, 46	48	

Cample	4523, 3802, 5874
Candle	4523
Canton	4016
Capehart	4523, 3802, 4648
Capsonic	3488
Carad	2696, 8644, 6896, 5355, 3840
Carena	7014, 8644, 6896
Carrefour	6812, 4265, 8644, 6896, 4648
Carver	4849, 4648
Cascade	7647, 8644, 6896
Casio	8644, 6896, 5605, 4648
Cathay	8644, 6896
CCE	8644, 6896
Celestial	6498, 8033, 7837
Centrex	7046, 5397
Centrum	3840
Centurion	8644, 6896, 4648
Century	5531
CGE	4752, 6634, 5553, 5531, 7287, 5605, 3637
CGM	3637
CIE	3637
Cihan	4648
Cimline	7647, 4016, 3637

Cinex	3451, 5952	Crystal	4648
Circuit City	4523, 3802, 5874	CS Electronics	4469, 4016, 5531
Citizen	4523, 5510, 4648	СТС	5531
City	7647, 3637	СТХ	8016
Clarivox	5553, 8644, 6896, 4265	Curtis Mathes	4523, 3802, 5510, 4648, 3193
Clatronic	8644, 7287, 4530, 8060,	Cybertron	4016, 3802
	4016, 3488, 6896, 5531, 7647, 3451, 6305, 5319, 3637	Cytronix	3191
Clayton	3840		
CMS	4469	D	
Cobolt	5397	Daewoo	5295, 5090, 2499, 4874,
			3876, 8644, 6896, 7647,
Colortyme Combitech	5510, 4648 7733		4469, 4016, 6286, 7733,
Computron	3637		3118, 2016, 3620, 4677, 4523, 3637, 4648
Concorde	7647, 3637	Daichi	3637
Condor	8644, 6896, 7287, 4469,	Dainichi	4016, 4469
Condor	7647, 5896, 5531, 5553,	Daitsu	4201
	2620, 5605, 3488, 3637, 4648	Dansai	8644, 6896, 3488, 6482,
Conia	3491, 7837, 4706, 8033	Dunisar	4469, 7647, 6812, 7910, 4523
Conic	4523, 3802, 4648	Dansette	6764
Conrac	7361	Dantax	7287, 2590, 8060, 6305,
Conrad	8644, 6896		6381, 7733
Contec	4469, 7647, 7507, 6812,	Datsura	7910
	3488, 8644, 6896, 3802, 3637	Dawa	7647, 8644, 6896, 4648
Continental Ec	dison 7430, 4422, 6230	Daytek	2924, 4979, 8435, 4698
Coronado	4523	Dayton	4979
Cosmel	7647, 8644, 6896, 3637	Daytron	7647, 5090, 8644, 6896,
Craig	4648		4523, 3637
Crosley	5531, 4752, 6634, 5605,	DEC	4167, 7314, 5397
	3802, 5874, 4648,	Decca	8568, 8644, 6896, 6286,
Crown	7647, 5716, 7287, 2590, 8644, 6896, 6230, 8060,		7733, 4648
	6305, 6381, 5553, 7910,	de Graaf	7910, 5605, 4783, 2438
	4638, 6559, 3840, 4523,	Deitron	8644, 6896, 5090, 4016
	3637, 4648	Denko	3488

Denver	8644, 6896, 6305, 4485,	Dynar
	8299, 3637	Dynat
DER	6127	Dynat
Desmet	8644, 6896, 7647, 3637, 4648	
Diamant	8644, 6896	Ε
Diamond	3488, 2924, 7647, 4777,           4469, 4530, 7314, 8033, 3637	Easy
Digatron	8644, 6896	Eaton
Digihome	7660	Ecco
Digiline	8644, 6896, 4819, 5355	ECR
DigiLogic	8644, 6896	Edisor
Digitek	8033	Elbe
Digitor	8644, 6896, 6641	
Digivision	3350	Elbe-S
DigiX	3118	Elbit
DiK	8644, 6896	Elcit
Dixi	7647, 8644, 6896, 5531,	Elecs
	3637, 4648	Electra
DL	5397, 7046, 8644, 8299, 4677	Electro
Domeos	5355	Electro
Domland	3158	Electro
Dream Vision	8561	Electro
DSE	6641, 5952, 8033	Elekta
DTS	7647, 3637	Lienta
Dual	6982, 7350, 8644, 6896,	Elfunk
	7213, 3158, 5605, 6286,	ELG
Dumant	8394, 7660, 3840, 4648, 3637	Elin
Dumont	4265, 4523, 3802, 5874	
Dunai	5605	
Durabrand	8644, 4917, 6896	Elite
Dux	8644, 6896	-
D-Vision	8644, 7066, 6896	Elta
DVX	5397	Emco

Dynamic	3637
Dynatech	4523, 3802, 5874
Dynatron	8644, 6896

Easy Living	4596, 5905
Eaton	5510
Ecco	2335, 8435
ECR	3802
Edison-Miner	va 6230
Elbe	3444, 8377, 7287, 5605, 8644, 6896, 4016, 3518, 2620, 2696, 8568, 3350
Elbe-Sharp	8568
Elbit	4648
Elcit	5531, 8568, 5605
Elecs	4648
Electratune	4523
Electro Tech	3637
Electrobrand	5874
Electrohome	4523, 3802, 5874
Electronika	4648
Elekta	7647, 8644, 6896, 3488, 5896, 3637
Elfunk	3573, 3840
ELG	8644, 6896
Elin	4469, 8644, 6896, 4819,
	4783, 3350, 5605, 7647, 3637,4648
Elite	4016, 8644, 6896, 4523, 3802, 5510, 4648,
Elta	7647, 3488, 4469, 3637
Emco	5531

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Emerson	8060, 5393, 5531, 8644,	Fidelis	3637
	6896, 4530, 4265, 5896, 3350, 2499, 2590, 7287,	Fidelity	5605, 3835, 2438, 8644,
	5605, 5355, 4523, 3802, 5874		6896, 4530, 6764, 6127,
Emperor	5896	<b>F</b> :1:	4469, 3488, 7733, 3350
Enzer	3036	Filsai	3637
		Finlandia	7910, 6092, 4783, 3350, 5605, 2438, 4422, 6982
EON	3802, 5510	Finlux	
Erres	8644, 6896, 4648	FINIUX	4819, 8644, 6896, 8060, 6092, 5605, 8568, 6381,
Estèle	5605		4265, 2620, 8394, 6753,
Etron	4709, 8644, 6896, 7647,		8020, 5952, 4659, 5553,
	5605, 8033, 3637,		6305, 7361, 3637, 4648
Eurofeel	3488	Firstline	8644, 6896, 5090, 5355,
EuroLine	8644		8060, 5605, 7647, 4469,
Euroman	4469, 3488, 8644, 6896, 7287		5531, 2499, 2620, 7910,
Euromann	4648		3350, 3840, 4156, 7361, 6685, 5319, 3637, 4648
Europa	8644, 6896	Fisher	6812, 7910, 7287, 3350,
Europhon	8644, 8568, 5605, 6896,	i isrici	5605, 3802
Larophon	5531, 4469, 4648,	Flint	8644, 6896, 2696, 4016,
Evesham	4596		7014, 3488, 4648,
Excel	8644, 6896	Force	7660
Expert	5605	Forgestone	6127
		Formenti	5605, 8644, 6896, 2590,
Exquisit	8644, 6896, 5531		4469, 4648
F		Formenti-Pho	enix 4469
		Fortress	3193, 4523, 3802
Fagor	8644, 6896	Fraba	8644, 6896, 7287
Fairtec	4156	Friac	7647, 8644, 6896, 7287,
Family Life	8644, 6896		4874, 2696
Fast	3634	Frontech	5531, 3488, 2438, 7647,
Fenner	5090, 7647, 3637		5605, 3637
Ferguson	5301, 4884, 4422, 3270,	Fujimaro	4677
	6127, 7430, 3847, 8644,	Fujitsu	5605, 7647, 7213, 8644,
	6896, 6482, 6982, 4638,		6896, 3350, 8360, 4523,
	5620, 3350, 4783, 5119,		3802, 5874
	3840, 4648	Fujitsu Gener	al 7647, 5605

Fuiitsu Sieme	ns 3191, 5905, 5319	GoldStar	8644, 7647, 7287, 4709,		
		Condotai	2796, 5393, 5531, 4469,		
Funai	5355, 3488, 6764, 4523, 3802, 5874		6896, 5605, 3350, 7430,		
			2438, 6305, 8060, 6381,		
Furichi	7314		7014, 4523, 5510, 4648		
Futronic	3488, 4167, 7314	Gooding	6230		
Future	8644, 6896	Goodmans	5295, 5905, 3840, 8644,		
			4874, 6896, 8060, 5355,		
G			2499, 5090, 6812, 3488,		
			8568, 7647, 6230, 4530,		
Galaxi	8644, 6896, 3350, 5605		6982, 6482, 8020, 3847, 3270, 4016, 7733, 3876,		
Galaxis	7287, 5553, 8644, 6896		5832, 3118, 6948, 8299,		
Galeria	7647, 3637		4698, 3637, 4648,		
GBC	5605, 7647, 5090, 4016,	Gorenje	7287		
	2438, 3637	GPM	4016, 3637		
GE	6982, 5393, 5896, 3847,	Gradiente	4638, 4849, 8644, 6896		
	4422, 7430, 3270, 4884	Gradin	3637, 4648		
Geant Casino	5605	Graetz	8060, 3350, 4530, 5605,		
GEC	5605, 3350, 8644, 8568, 6896		8644, 6559, 6896, 5319		
Geloso	5531, 7647, 2438, 5605,	Granada	8644, 6896, 3001, 5620,		
Geloso	5090, 3637		4659, 3270, 3847, 5605, 7910, 6812, 6559, 8568,		
Gemsound	3637		2438, 3952, 6982, 4783, 4648		
General	7430, 4422, 3637	Grandin	8644, 6896, 7647, 5605,		
Conoral Elect	ric 6982, 4422		5090, 5896, 4016, 7014,		
			2696, 8060, 6381, 5355,		
General Techi	nic 3637, 7647		3840, 4677, 4156, 3118		
Genesis	7647, 8644, 6896	Granprix	3451		
Genexxa	4016, 8644, 6896, 6764,	Grenadier	3637		
	5605, 7647, 4648,	Gronic	5605		
Gericom	4677, 3191, 7855, 3118	Grundig	5265, 4679, 6640, 3518, 8435, 6896, 8299, 7647,		
Gitem	4648		4265, 6230, 8644, 5119,		
GM	3637		6812, 7287, 4925, 7733,		
GMG	3637		6948, 5393, 4698, 6982		
Goldfunk	5355	Grunkel	5319		
Goldhand	4469, 3637	GTT	3637		

UNIVERSAL REMOTE CONTROL

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Hampton	4469	Hisense	6685, 7910
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	5605, 3350, 5896, 3158,		5620, 4659, 5605, 6982, 6619, 5295, 7040, 5393,
	5295, 7287, 3876, 7647,		8568, 6972, 4874, 8644,
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Hantor	8644, 6896	HMV	6127
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Harwa	2335, 3453, 7789	Hoshai	4016, 7014, 5896
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		Hugoson	3094, 7855 4469
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Indiana	8644, 6896, 4648	ITT	5605, 8020, 3350, 4659,
Infinity	4648		4783, 6127, 6092, 6559, 7910, 2696
InFocus	3251	ITT Nokia	3350, 4783, 5605, 4659, 6305, 2696, 8394, 2438,
Ingelen	6230, 2696, 8060, 5605, 3350		8020, 6092, 7910, 6559
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	6896, 7287, 8377, 8568, 4648	Mark	8644, 6896, 4469, 5090,
Logik	7507, 2924, 2335, 7647,		7647, 8060, 6381, 4648
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Pace	7733		6538, 8016, 3802, 5874, 6982, 5090, 3350, 7647, 4648
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	6286, 3518, 6736, 6538,	Pioneer	4174, 7507, 8644, 4849,
	5605, 7350, 2438, 4648		3350, 7430, 5605, 4422,
Palsonic	3488, 6764, 8644, 2796,		6896, 8209, 7287, 6982,
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