Tiviar

Alpha Plus

User Guide

Contents

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.   See Watching Pay Channels on page 34.
- 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 39.
- Users can pause and resume a live programme. See Time-Shifting on page 40.
- 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 33.
- This receiver can play many kinds of media files, including photos, music, and videos. See Playing Media Files on page 43.
- 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 47.
- This receiver provides a variety of apps, including YouTube. See The Apps Screen on page 12.

1.2 Accessories

The following accessories are included with the digital TV receiver.

Remote control   Batteries   Power cord
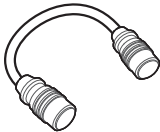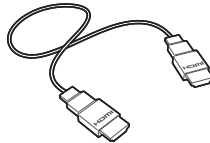
Loop-through cable   HDMI cable   Wi-Fi dongle

Use the Wi-Fi dongle to connect the receiver to a wireless network. See Network Connection on page 19.

1.3   The Remote Control

Use the remote control to control the digital TV receiver. Before using, make sure that batteries are installed correctly.
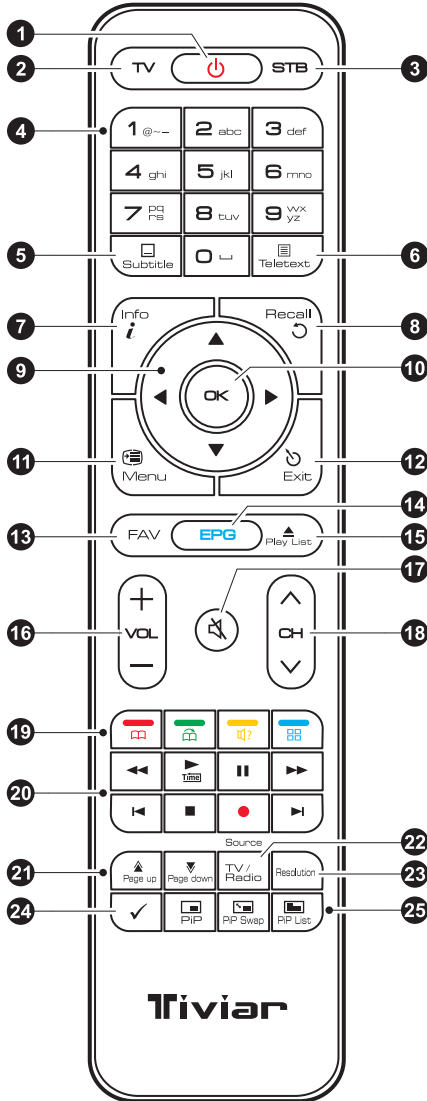
① ⏻ : Turn the digital TV receiver on or off.

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.

⑤ **Subtitle**: Display subtitles. See Displaying Subtitles on page 33.

⑥ **Teletext**: Display teletext pages. See Viewing Teletext on page 34.

⑦ **Info**: Display information about the current programme.

⑧ **Recall**: Display the list of recently-viewed channels.

⑨ Use these navigation buttons to navigate the menus and interactive screens.

⑩ **OK**: Select an item. In addition, use this button to display the channel list. See Channel List on page 30.

⑪ **Menu**: Display apps. See The Apps Screen on page 12. In addition, use this button to return to the higher menu level.

⑫ **Exit**: Return to the previous screen or close the current list or dialog box.

⑬ **FAV**: Display the list of favourite channels.

⑭ **EPG**: Display the programme guide. See TV Programme Guide on page 31.

⑮ **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 43.

⑯ Use these volume buttons to adjust the volume.

⑰ 🔇 : Mute the sound.

⑱ Use these channel buttons to change channels.

⑲ These colour buttons perform different functions, depending on what the receiver is currently doing.

⑳ Use these buttons to control recording and playback. See Recording TV on page 39 and Playing Media Files on page 43.

㉑ Use these buttons to scroll lists.

㉒ **TV/Radio**: Switch between TV channels and radio stations.

㉓ **Resolution**: Change the picture resolution.

㉔ ✓ : This button performs different functions, depending on what the receiver is currently doing.

㉕ Use these buttons to watch two different channels at the same time. See

1.4   Getting Started

Install the digital TV receiver properly, referring to Installation on page 14.

Plug the power adapter into a power outlet, and insert the connector into the power socket on the rear of the receiver. Then press the power button ⏻ 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 Connection on page 19 and Network Settings on page 57.
3. Install add-ons to internet-based 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 58.
5. Scan for TV channels. See Scanning for Channels on page 21.

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.

To access the customary menus, select **Settings**. Some apps allow users to quickly access frequently-used setting menus and functions.

- **Back-Up**: See Maintaining the Digital TV Receiver on page 60.
- **CH Edit**: See Managing Channels on page 36.
- **Download**: See Updating the Digital TV Receiver on page 61.
- **TV Schedule**: See TV Programme Guide on page 31.
- **T Air**: See Accessing Other Devices on page 47.
- **T Server**: See Allowing Other Devices to Access the Receiver on page 48.
- **Movie**: See Playing Media Files on page 43.
- **Music**: See Playing Media Files on page 43.
- **Network**: See Network Settings on page 57.
- **Photos**: See Playing Media Files on page 43.
- **Recordings**: See Playing Media Files on page 43.
- **Reservation**: See Manually Scheduling TV Recordings on page 40.
- **Storage**: See Managing Storage Devices on page 43.

- **YouTube:** See YouTube on page 51.

For other apps, see Apps on page 49.

Note
While some apps, such as Calendar, are easy to use, other internet-based apps may be unavailable or restricted, depending on the country, so this guide does not cover every app provided by this receiver.

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.

Maximum power consumption	55 W when in operation
	1 W when in standby mode
Size	340 mm × 60 mm × 245 mm
Weight	2 kg (without hard drive)
Operating temperature	0–45°C, 32–113°F
Storage temperature	−10–70°C, 14–158°F

On the rear, this digital TV receiver has several connectors:

- Satellite dish connectors
- Aerial connectors
- AV connectors for a TV and an AV receiver
- USB ports for removable storage devices
- An Ethernet port for internet connection
- An eSATA port for a removable hard drive
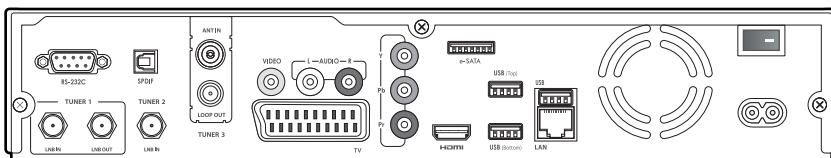
The **RS-232C** port may be used only by an engineer for installation or service.

2.1 Safety Precautions

To avoid hazards and to keep the performance of the digital TV receiver at its best, obey the following instructions:

- Do not block ventilation openings on the receiver.
- When installing the receiver in a cabinet, make sure to leave a space of at least 10 centimetres around the receiver for cooling.
- Do not place the receiver in direct sunlight and close to heat-emitting devices that can interfere with cooling.
- Do not expose the receiver to water and moisture to prevent fire and electric shock.
- Use only accessories provided or specified by the manufacturer.
- Use dry cloth to clean the receiver.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING : SHOCK HAZARD-DO NOT OPEN.
AVIS : RISQUE DE CHOC ÉLECTRIQUE-NE PAS OUVRIR

Never open the receiver casing under any circumstances, or the warranty will be void.

Repair tasks must be done only by qualified persons with expertise.

2.2 Satellite Dish Connection
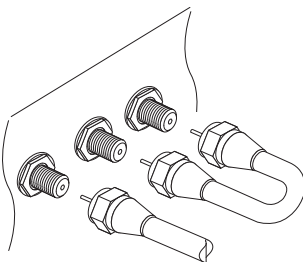
Connect the cable from the satellite dish to **LNB IN** of **TUNER 1**. In most situations, connect **LNB OUT** of **TUNER 1** to **LNB IN** of **TUNER 2** using the loop-through cable. Only when two satellite dishes are available without any multi-

dish switch, users should connect the cable from the other dish to **LNB IN** of **TUNER 2**.

2.3   Aerial Connection
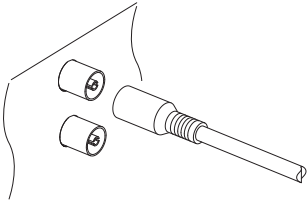
Connect the cable from the aerial or cable TV outlet to **ANT IN**.

2.4   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.

- HDMI
- Component video
- SCART
- Composite video

Use the 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
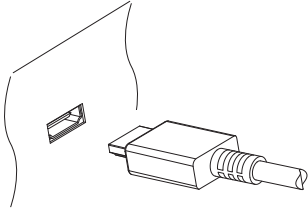
Connect the receiver's HDMI output connectors to the TV's HDMI input connector using an HDMI cable.

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

Component Video Connection
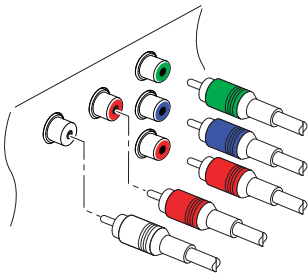
The receiver's component video connectors are labelled **Y**, **Pb**, and **Pr**, and their companion audio connectors are labelled **L** and **R**. Each of them is coloured differently. A typical component cable has five connectors. Connect the receiver's component video and audio output connectors 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
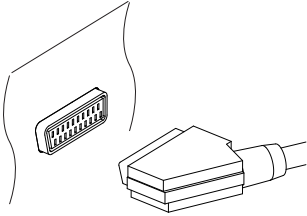
Connect the receiver's SCART output connector to the TV's SCART input connector using a SCART cable. An extra audio connection is not needed because SCART also carries audio.

Note
SCART connectors cannot carry HD video.

Composite Video Connection
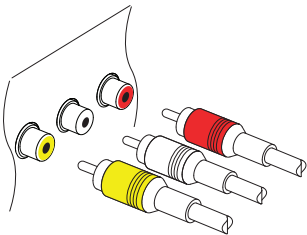
The composite video connector shares the audio connectors with the component video connectors. A typical composite cable has three connectors. The yellow connector is for the video connection. Connect the receiver's composite video and audio output connectors to the TV's composite video and audio input 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.

2.5   AV Receiver Connection
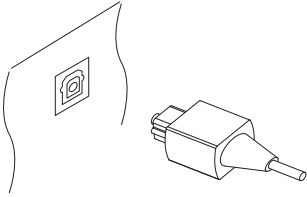
Use an AV receiver for better audio quality. Connect the receiver's SPDIF connector to the AV receiver's digital audio input connector using an optical audio cable.

2.6   Network Connection

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.
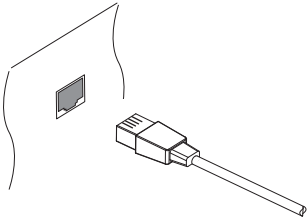
If no network cable is available, use the Wi-Fi dongle for wireless network connections. When the receiver is off, plug the Wi-Fi dongle into one of the USB ports on the rear of the receiver.
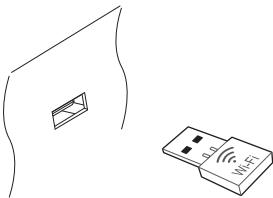
For details on how to configure the network settings, see Network Settings on page 57.

3 Scanning for Channels

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.

3.1 Satellite Dish Settings

LNB Settings

A group 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**: Choose a target satellite from the list of satellites.
- **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 dual-band 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.
- **Positioner Setting**: See Using a Motorized Dish on page 23.

On this screen, users can 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.

3.2   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 US-ALS, the receiver can pinpoint all visible satellites through calculations using the dish coordinates and the built-in database of satellite positions.
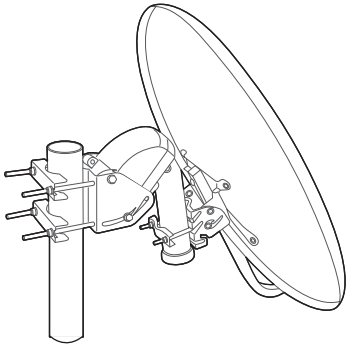
Using DiSEqC 1.2

Open the **Settings** > **Installation** > **Dish Setting** menu and choose **Positioner Setting**. Set **Positioner** to **DiSEqC 1.2** and then repeat these steps for every desired satellite.

1. 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-term use. To correct movement errors, choose **(Re-) Calculate** from **Positioner Command**.

2. Choose **Satellite** and choose a target satellite.

3. 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** menu and choose **Positioner Setting**. Set **Positioner** to **USALS** and then 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.

3. Choose **Frequency** and select any available transponder.

4. Choose **Go to** to rotate the dish so that it faces the target satellite.

3.3   Scanning for Satellite TV Channels

Open the **Settings** > **Installation** > **Satellite Search** menu.

Three methods are available to scan 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 are used in common in more than one scanning method, as follows:

- **Satellite**: Choose a target satellite from the list of satellites.
- **Search Type**: Determine which types of channels to scan for.
    - **All Service**: Scan for all available radio and TV channels.
    - **FTA Only**: Scan only for free radio and TV 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 an 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

Several 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.
- 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.
- Set **Search Mode** to **Canal Digital Nordic**. With this method, the receiver scans only for Canal Digital channels.

Make sure that the common options are properly configured before selecting **Start Search** to start a 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.

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

3.4   Scanning for 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 type 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 **Start Search** to start channel scan.

3.5 Scanning for 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 type 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 **Start Search** to start channel scan.

4 Watching TV

Use the channel buttons or the numeric buttons to change channels. When changing channels, a dialog 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 dialog box.

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

- € : This is a pay channel. See Watching Pay Channels on page 34.
- ▤ : Teletext pages are available. See Viewing Teletext on page 34.
- ⬚ : Subtitles are available. See Displaying Subtitles on page 33.
- ◫ : Dolby audio is available. See Audio and Video Settings on page 58.
- *HD* : This is an HD channel. See Audio and Video Settings on page 58.
- ⬓ : Subchannels are available. See Watching Subchannels on page 35.
- ⯐ : The receiver is currently connected to the network.
- ⊞ : The first tuner is currently being used.
- ⊞ : The second tuner is currently being used.
- ⊞ : The third tuner is currently being used.

Use the up and down navigation buttons to view information about the previous and following programmes, and use the left and right navigation buttons to view information about programmes on other channels. To view more information about the current programme, press the **INFO** button again. When a channel number other than the current channel is displayed, pressing the **OK** button switches to the channel.

Pressing the **FAV** button displays the list of channel groups, including favourites groups. After 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. 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 in 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
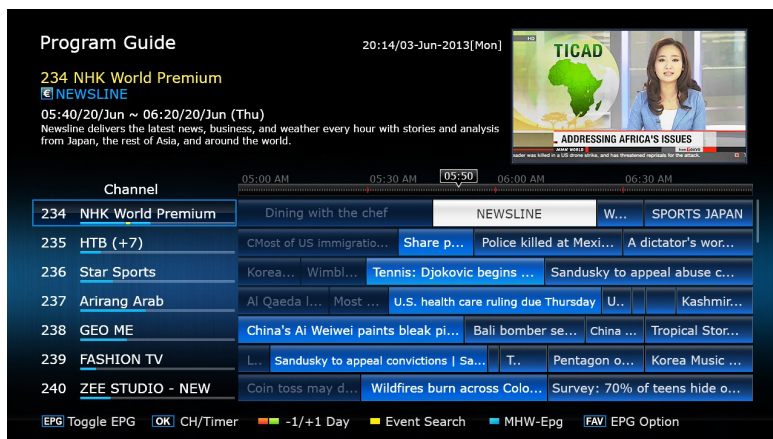
The TV programme guide (EPG) provides schedule information for current and upcoming TV programmes. Before using the programme guide, make sure that the clock is set correctly under **Settings** > **Configuration** > **Time Setting**.

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 39.

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 **On**.

Note
The MediaHighway programme guide may be not available, depending on the country.

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 ⊟ is highlighted on the programme information dialog 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 again.

Change channels for the foreground picture: Press the **PiP S. 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 ▤ highlighted on the programme information dialog 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 the correct pay-TV card, and CA module if necessary, to watch pay channels that are available.

This receiver has four slots on the right side of the front. Open the flap by pulling the right edge. The upper two slots accommodate Conax pay-TV cards, and the lower slots accommodate CA modules.
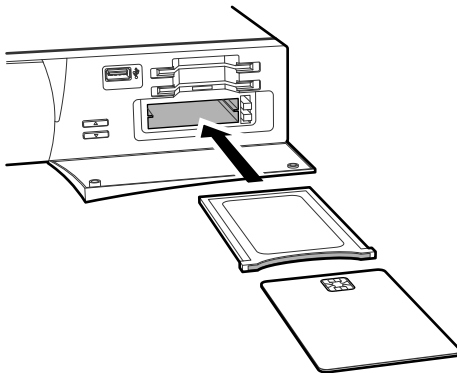
To watch Conax-scrambled pay channels, insert a Conax pay-TV card into the card slot. To watch non-Conax channels, insert a pay-TV card into a CA module, and then insert the CA module into the CAM slot.

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 dialog 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.

Saving Energy

Two standby modes are available. Open the **Settings** > **Configuration** > **A/V Output Setting** menu. Enable the **Eco Power Mode** option to reduce power consumption significantly.

With this option enabled, the receiver consumes the least amount of power only for the remote control operation while in standby mode.

With this option disabled, the receiver only shuts off the audio and video outputs when going into standby mode. Even with this option disabled, pressing the power button on the remote control twice in quick succession puts the receiver into the aforementioned standby mode.

4.10   Managing Channels

Open the apps screen and select **CH Edit**.

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. Whenever 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. If the **Logical channel number** option is active, however, channels are impossible to move. For information of this option, see Channel List Preferences on page 30.

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. Whenever 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.

Add channels to a favourites group: Press the blue button, select **Set Favorites**, and then press the green button to display the list of favourites groups. Choose a favourites group, then select one or more channels. Whenever 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 press the green button to display the list of favourites groups. Choose a favourites group, then select one or more channels from the favourites group.

Add a favourites group: Press the blue button, select **Set Favorites**, and then press the green button to display the list of favourites groups. Press the yellow button and enter a group name using the on-screen keyboard.

Rename a favourites group: Press the blue button, select **Set Favorites**, and then press the green button to display the list of favourites groups. 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, select **Set Favorites**, and then press the green button to display the list of favourites groups. 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, select **Set Favorites**, and then press the green button to display the list of favourites groups. 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 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 41.

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 40.

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 apps screen and select **Reservation**.

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 5 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 clear 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 41.

Pause the live programme: Press the pause button ❙❙. 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 ⏮.

Return to the live programme: Press the stop button ■.

5.3 Playing Recordings

Press the playlist button ⏏ to access the recordings stored on removable storage devices. For details, see Playing Recordings and Videos on page 45.

> **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 5 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 may be 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 may be 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 ⏸ 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. Connect a removable hard drive or flash drive to one of the receiver's USB ports.
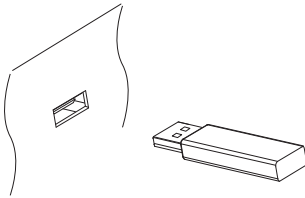
6.1 Managing Storage Devices

To manage removable storage devices connected to the receiver, open the apps screen and select **Storage**.

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 start formatting.

> **Note**
>
> Only a 32 gigabyte or smaller flash drive can be formatted in FAT32.

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 Setting**, 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 playlist button ⏏ to access the removable storage devices connected to the receiver.

Display only files of a specific type: The chosen file type is displayed on the top left of the screen. Press the left or right navigation buttons to see files of a different type. To display all files, regardless of file type, choose **Play List**. **Imported Files** stands for videos except TV recordings.

View files on another storage devices: Press the playlist 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 ▶ displays the progress bar. Use the progress bar to navigate through the video. To hide the progress bar, press the play button ▶ again.

Pause and resume playback: Press the pause button ❚❚, 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.

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

Skip to the previous or next recording or video: Press the previous button ◀❙ or the next button ❙▶.

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 56.

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

6.4   Viewing Photos

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

Start slideshow: Press the red button. To pause and resume the slideshow, use the pause button ❚❚.

Slideshow Preferences

On the photo list screen, press the green button.

- **Slide Time**: Adjust the slideshow speed.
- **Repetition**: Determine whether or not to repeat slideshows.
- **Title**: Determine whether or not to display file names.
- **Downscale**: Determine whether or not to display a reduced size.

Set **Save and Exit** to **Yes** to finish.

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 ◄ or the next button ►.

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

- ⌈R⌉: Songs are randomly played.
- A̲ : 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

Open the apps screen and select **T Air**. 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 45, for music, see Playing Music on page 46, and for viewing photos, see Viewing Photos on page 46.

Allowing Other Devices to Access the Receiver

Open the apps screen, select **T 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 require an internet connection for proper operation.

7.1 Webzeal

Use the Webzeal app to surf the Internet.

Note
The 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 ⇔.

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 ↻.

Halt a webpage from downloading: Press the **MENU** button and select the stop icon ✖.

Move between the series of webpages that have already been viewed: Press the **MENU** button and select the back icon ← or the forward icon →.

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 ★. 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 🏠.

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 the 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   YouTube

Use the YouTube app to watch videos from the YouTube website.

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.

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 back button ◀◀ or the forward button ▶▶

7.3 Free TV+

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

7.4 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, and then select **Add** to finish.

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.

7.5 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.

7.6 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   Torrent Player

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

Before using Torrent Player, make sure that μTorrent is installed on a computer on the same network as the receiver.

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

Selecting a media category displays a list of files of the same type that are currently managed by μTorrent. 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   Weather

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

Add a city: Press the green button and enter search criteria using the on-screen keyboard. Select a city from search results.

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.

7.9   T Apps

Users can download and install various apps provided by this receiver's manufacturer.

Download new apps: Open the apps screen and select **T Apps**. 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: Open the apps screen and select **T Apps**. Place the focus on an app and press the green button.

Delete an app: Open the apps screen and select **T Apps**. Place the focus on an app and press the yellow button.

T Apps Server Settings

The T Apps server's web address may need to be reconfigured properly. For information about the T Apps server, contact the local distributor.

Open the apps screen, select **T Apps**, and then press the blue button. Use the other color buttons to enter the server address, ID and password respectively.

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 Language 2**: 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 Language 2**: 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 on the receiver to use them with subtitles and displays.

Create a folder named "plugin\font" on a flash drive, and copy font files into it. Insert the flash drive into one of the receiver's USB ports. A dialog box appears with the list of files that are recognized can be installed. If no dialog box appears, use the **Back-Up** app's **Data download from USB storage**.

Open the **Settings** > **Configuration** > **Language Setting** menu.

- **User Font File**: Choose a font to use it for text display.
- **User Font Language**: Choose a language to use the font for it.

- **User Font Size Correction:** Adjust the font size.

To clear all user-installed fonts, press the red button.

8.2   Network Settings

A wired 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 may be more convenient 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

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.

    - **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.

- **Audio Sync Delay**: If the sound and picture don't match up, adjust this until they match.

- **Eco Power Mode**: See Saving Energy on page 36.

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 dialog box.

- **Info Box Display Time**: Specify how long to display the programme information dialog 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.

- **HbbTV On/Off**: Enable this option to make HbbTV services available.

- **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 apps so that children or others can't access them. Users must enter the passcode to watch a blocked programme or access a locked app.

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 set to **Lock**, the passcode is required when turning on the receiver.
- **Installation**: With this set to **Lock**, the passcode is required when accessing the **Installation** menu.
- **Configuration**: With this set to **Lock**, the passcode is required when accessing the **Configuration** menu.
- **Edit Services**: With this selected, the passcode is required when accessing the **CH Edit** app.
- **T Apps**: With this set to **Lock**, the passcode is required when accessing the **T Apps** app.
- **Play List**: With this set to **Lock**, the passcode is required when pressing the playlist button ⏏ to access a removable storage device.

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.

Sharing Channel Data

It is 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 apps screen and select **Back-Up**.

- **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.

Online software updates may be available, depending on the country. Open the apps screen, select **Download**, and then select **Software Upgrade**. Selecting 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 a TV connected to the receiver.

A user can transform the remote control into a universal remote control by entering a 4-digit code for the TV.

1. Find the TV's brand name from the list of TV codes.

2. Press and hold the **TV** button for 3 seconds, and it keeps blinking until any button is pressed.

3. Enter one of the available TV codes. If the TV code matches one that the remote control has, the **TV** button blinks three times, which indicates that the TV code is set to be used. Otherwise, the **TV** button becomes off.

4. Press the **TV** button to see if the TV code works. If the TV gives no response, repeat these steps to try another TV code.

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

1. Press and hold the **TV** button for 3 seconds.

2. To find a right TV code, repeat pressing the up or down navigation button until the TV responds. Pressing and holding either of theses buttons allows up to eight consecutive attempts.

3. When the TV turns on or off, press the **OK** button to set the found code to

be used. The **TV** button blinks three times.

It is possible to identify what TV code is currently set for the TV. Press and hold the **TV** button for 3 seconds. Press the **OK** button, and the **TV** button blinks as much as the number of each digit of the TV code with a pause between the digits. To indicate "0", it blinks four times with a faster pace than for the other numbers.

A

A.R. Systems	8644, 7213, 6896, 5090, 7014
Accent	7647, 8644, 6896, 3637
Acer	3857
Action	4523, 5510, 3637, 4648
Adcom	4884
ADL	7855
Admiral	3193, 2438, 5553, 5605, 3488, 3637, 4648,
Adventura	5874
Adventuri	5874
Adyson	4469, 4523, 4648
AEA	8644, 6896
AEG	5952, 6305, 5319
Agashi	4469, 3488
AGB	8568
Aiko	7647, 8644, 6896, 4469, 4530, 6482, 5739, 3350, 3518, 3488, 3637
Aim	8644, 6764, 6896, 3036, 7910, 8435, 8484,
Aiwa	5448, 7733, 6736
Akai	3350, 7910, 4530, 3011, 8644, 5739, 6669, 3518, 6482, 7647, 3036, 4016, 2429, 8060, 5605, 8568,

	6381, 2810, 6896, 4783, 8020, 8394, 4469, 3488, 5393, 2796, 6305, 3840, 7733, 4659, 3451, 5905, 4925, 4523, 3802, 3637, 5874, 4648
Akashi	7314, 7647
Akiba	4016, 5896, 7014, 8644, 6896
Akira	5553
Akito	8644, 6896
Akura	8644, 6896, 5355, 6764, 7647, 4016, 5896, 3488, 8060, 7066, 3637, 4648
Alaron	4469
Alba	8644, 3840, 6896, 8060, 7647, 5553, 7287, 4530, 5355, 7384, 4016, 4469, 5531, 5605, 6230, 6812, 7733, 5119, 4925, 3637, 4648
Alfa	4648
Alkos	6482
Allstar	8644, 6896, 4648
All-Tel	4677
American High	5510
Americana	5510
Amplivision	7287
Amstrad	7647, 8568, 3488, 4530, 4016, 8644, 6896, 5739,

	6764, 8377, 3840, 3451, 7066, 3637
Anam	8644, 6896, 7647, 4526
Anam National	8644, 6896, 4526
Andersson	5319, 7660
Anglo	7647, 3488, 3637
Anitech	7647, 3488, 8644, 6896, 5896, 4523, 3637, 4648
Ansonic	7287, 8644, 6896, 7647, 5355, 5090, 5090, 2620, 5531, 4917, 3637
AOC	4523, 4648
Apollo	4659
Arcam	4469
Arc en Ciel	7430
Ardem	2590, 8060, 8644, 5613, 6896
Aristona	6896, 8644, 4648
ART Tech	4648
Arthur Martin	5605
ASA	4819, 6092, 4265
Asberg	8644, 6896, 4648
Asora	7647, 3637
Astra	8644, 6896, 3637
Asuka	4016, 4469, 3488, 5896
ATD	2924
Atlantic	8644, 6896, 4469, 4648
Atori	7647, 3637
Atoro	3637
Auchan	5605
Audiosonic	7647, 8644, 5090, 8033, 6896, 7430, 8060, 6381, 7287, 3488, 4016, 2590, 3637, 4648

Audioton	2590, 7287, 3488, 3637
Audiovox	4648
Audioworld	2924
Autovox	5531
AVP	7733
AWA	7507, 6812, 7647, 5090, 6764, 8644, 6896, 4469, 6305, 5620, 3488, 4698, 3637
Axxent	7647
Axxon	8060

B

B&D	7855
Baird	7430, 6127, 6982, 5301, 7910, 3453
Barco	5605
Basic Line	3637, 4648, 5090, 8644, 5605, 5355, 6896, 7647, 4016, 5896, 7014, 6559, 3840
Bauer	8484, 7647
Baur	7647, 6640, 5265, 3835, 8644, 6896, 3518, 3350, 6736, 3637, 5874, 4648
Beaumark	5393
BEC	4648
Becrese	4523, 3802, 5874, 4648
Beko	8060, 6482, 2590, 7287, 8644, 5553, 3840, 6896, 6305, 6381, 7361, 4648
Bell & Howell	4648
Belson	4156, 4706
Benchmark-Beaumark	4523, 5510, 3637, 4648

Bennett	6896, 8644
BenQ	8016
Beon	8644, 6896, 5553, 4648
Berthen	5355
Best	7287
Bestar	8644, 6896, 7287, 5090, 4648
Bestar-Daewoo	5090
Bigston	3637
Black Diamond	5319, 8033, 3840, 6896, 7837, 3036
Black Star	5531
Black Strip	6482, 3802, 5510
Black Way	5896, 4016
Blaupunkt	3518, 6640, 5265, 6538, 7839, 5186, 7014, 4849, 6812
Blue Sky	8644, 8060, 3840, 6230, 5355, 6381, 2499, 6896, 4016, 5896, 7014, 7733, 4156, 7361, 6685, 4648
Blue Star	5896
Bondstec	5531
Boots	7647
Bosch	7839
BPL	8644, 6896, 5896
Brandt	4884, 7430, 4422, 3270, 6982, 3847
Brandt Electronique	4422, 3270
Brend Star	3637
Brinkmann	8644, 6896, 5355, 7350, 5553, 2590
Brionvega	8644, 6896, 8377, 4648
Briorryega	4648

Britannia	4469
Brockwood	4523, 3802, 5874
Broksonic	4523, 3802, 5874
Brother	3488
Bruns	2590
BSR	5605, 3350
BTC	4016
Bush	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, 3802, 4648

C

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
Circuit City	4523, 3802, 5874
Citizen	4523, 5510, 4648
City	7647, 3637
Clarivox	5553, 8644, 6896, 4265
Clatronic	8644, 7287, 4530, 8060, 4016, 3488, 6896, 5531, 7647, 3451, 6305, 5319, 3637
Clayton	3840
CMS	4469
Cobolt	5397
Colortyme	5510, 4648
Combitech	7733
Computron	3637
Concorde	7647, 3637
Condor	8644, 6896, 7287, 4469, 7647, 5896, 5531, 5553, 2620, 5605, 3488, 3637, 4648
Conia	3491, 7837, 4706, 8033
Conic	4523, 3802, 4648
Conrac	7361
Conrad	8644, 6896

Contec	4469, 7647, 7507, 6812, 3488, 8644, 6896, 3802, 3637
Continental Edison	7430, 4422, 6230
Coronado	4523
Cosmel	7647, 8644, 6896, 3637
Craig	4648
Crosley	5531, 4752, 6634, 5605, 3802, 5874, 4648,
Crown	7647, 5716, 7287, 2590, 8644, 6896, 6230, 8060, 6305, 6381, 5553, 7910, 4638, 6559, 3840, 4523, 3637, 4648
Crystal	4648
CS Electronics	4469, 4016, 5531
CTC	5531
CTX	8016
Curtis Mathes	4523, 3802, 5510, 4648, 3193
Cybertron	4016, 3802
Cytronix	3191

D

Daewoo	5295, 5090, 2499, 4874, 3876, 8644, 6896, 7647, 4469, 4016, 6286, 7733, 3118, 2016, 3620, 4677, 4523, 3637, 4648
Daichi	3637
Dainichi	4016, 4469
Daitsu	4201
Dansai	8644, 6896, 3488, 6482, 4469, 7647, 6812, 7910, 4523

Dansette	6764	Dixi	7647, 8644, 6896, 5531, 3637, 4648
Dantax	7287, 2590, 8060, 6305, 6381, 7733	DL	5397, 7046, 8644, 8299, 4677
Datsura	7910	Domeos	5355
Dawa	7647, 8644, 6896, 4648	Domland	3158
Daytek	2924, 4979, 8435, 4698	Dream Vision	8561
Dayton	4979	DSE	6641, 5952, 8033
Daytron	7647, 5090, 8644, 6896, 4523, 3637	DTS	7647, 3637
DEC	4167, 7314, 5397	Dual	6982, 7350, 8644, 6896, 7213, 3158, 5605, 6286, 8394, 7660, 3840, 4648, 3637
Decca	8568, 8644, 6896, 6286, 7733, 4648		
de Graaf	7910, 5605, 4783, 2438	Dumont	4265, 4523, 3802, 5874
Deitron	8644, 6896, 5090, 4016	Dunai	5605
Denko	3488	Durabrand	8644, 4917, 6896
Denver	8644, 6896, 6305, 4485, 8299, 3637	Dux	8644, 6896
		D-Vision	8644, 7066, 6896
DER	6127	DVX	5397
Desmet	8644, 6896, 7647, 3637, 4648	Dynamic	3637
		Dynatech	4523, 3802, 5874
Diamant	8644, 6896	Dynatron	8644, 6896
Diamond	3488, 2924, 7647, 4777, 4469, 4530, 7314, 8033, 3637		

E

Digatron	8644, 6896	Easy Living	4596, 5905
Digihome	7660	Eaton	5510
Digiline	8644, 6896, 4819, 5355	Ecco	2335, 8435
DigiLogic	8644, 6896	ECR	3802
Digitek	8033	Edison-Minerva	6230
Digitor	8644, 6896, 6641	Elbe	3444, 8377, 7287, 5605, 8644, 6896, 4016, 3518, 2620, 2696, 8568, 3350
Digivision	3350		
DigiX	3118	Elbe-Sharp	8568
DiK	8644, 6896	Elbit	4648

Elcit	5531, 8568, 5605		Euromann	4648
Elecs	4648		Europa	8644, 6896
Electratune	4523		Europhon	8644, 8568, 5605, 6896, 5531, 4469, 4648,
Electro Tech	3637			
Electrobrand	5874		Evesham	4596
Electrohome	4523, 3802, 5874		Excel	8644, 6896
Electronika	4648		Expert	5605
Elekta	7647, 8644, 6896, 3488, 5896, 3637		Exquisit	8644, 6896, 5531

F

Elfunk	3573, 3840		Fagor	8644, 6896
ELG	8644, 6896		Fairtec	4156
Elin	4469, 8644, 6896, 4819, 4783, 3350, 5605, 7647, 3637, 4648		Family Life	8644, 6896
			Fast	3634
			Fenner	5090, 7647, 3637
Elite	4016, 8644, 6896, 4523, 3802, 5510, 4648,		Ferguson	5301, 4884, 4422, 3270, 6127, 7430, 3847, 8644, 6896, 6482, 6982, 4638, 5620, 3350, 4783, 5119, 3840, 4648
Elta	7647, 3488, 4469, 3637			
Emco	5531			
Emerson	8060, 5393, 5531, 8644, 6896, 4530, 4265, 5896, 3350, 2499, 2590, 7287, 5605, 5355, 4523, 3802, 5874			
			Fidelis	3637
			Fidelity	5605, 3835, 2438, 8644, 6896, 4530, 6764, 6127, 4469, 3488, 7733, 3350
Emperor	5896		Filsai	3637
Enzer	3036		Finlandia	7910, 6092, 4783, 3350, 5605, 2438, 4422, 6982
EON	3802, 5510			
Erres	8644, 6896, 4648		Finlux	4819, 8644, 6896, 8060, 6092, 5605, 8568, 6381, 4265, 2620, 8394, 6753, 8020, 5952, 4659, 5553, 6305, 7361, 3637, 4648
Estèle	5605			
Etron	4709, 8644, 6896, 7647, 5605, 8033, 3637,			
Eurofeel	3488			
EuroLine	8644			
Euroman	4469, 3488, 8644, 6896, 7287		Firstline	8644, 6896, 5090, 5355, 8060, 5605, 7647, 4469, 5531, 2499, 2620, 7910,

	3350, 3840, 4156, 7361, 6685, 5319, 3637, 4648
Fisher	6812, 7910, 7287, 3350, 5605, 3802
Flint	8644, 6896, 2696, 4016, 7014, 3488, 4648,
Force	7660
Forgestone	6127
Formenti	5605, 8644, 6896, 2590, 4469, 4648
Formenti-Phoenix	4469
Fortress	3193, 4523, 3802
Fraba	8644, 6896, 7287
Friac	7647, 8644, 6896, 7287, 4874, 2696
Frontech	5531, 3488, 2438, 7647, 5605, 3637
Fujimaro	4677
Fujitsu	5605, 7647, 7213, 8644, 6896, 3350, 8360, 4523, 3802, 5874
Fujitsu General	7647, 5605
Fujitsu Siemens	3191, 5905, 5319
Funai	5355, 3488, 6764, 4523, 3802, 5874
Furichi	7314
Futronic	3488, 4167, 7314
Future	8644, 6896

G

Galaxi	8644, 6896, 3350, 5605
Galaxis	7287, 5553, 8644, 6896
Galeria	7647, 3637

GBC	5605, 7647, 5090, 4016, 2438, 3637
GE	6982, 5393, 5896, 3847, 4422, 7430, 3270, 4884
Geant Casino	5605
GEC	5605, 3350, 8644, 8568, 6896
Geloso	5531, 7647, 2438, 5605, 5090, 3637
Gemsound	3637
General	7430, 4422, 3637
General Electric	6982, 4422
General Technic	3637, 7647
Genesis	7647, 8644, 6896
Genexxa	4016, 8644, 6896, 6764, 5605, 7647, 4648,
Gericom	4677, 3191, 7855, 3118
Gitem	4648
GM	3637
GMG	3637
Goldfunk	5355
Goldhand	4469, 3637
GoldStar	8644, 7647, 7287, 4709, 2796, 5393, 5531, 4469, 6896, 5605, 3350, 7430, 2438, 6305, 8060, 6381, 7014, 4523, 5510, 4648
Gooding	6230
Goodmans	5295, 5905, 3840, 8644, 4874, 6896, 8060, 5355, 2499, 5090, 6812, 3488, 8568, 7647, 6230, 4530, 6982, 6482, 8020, 3847, 3270, 4016, 7733, 3876, 5832, 3118, 6948, 8299, 4698, 3637, 4648,

Gorenje	7287
GPM	4016, 3637
Gradiente	4638, 4849, 8644, 6896
Gradin	3637, 4648
Graetz	8060, 3350, 4530, 5605, 8644, 6559, 6896, 5319
Granada	8644, 6896, 3001, 5620, 4659, 3270, 3847, 5605, 7910, 6812, 6559, 8568, 2438, 3952, 6982, 4783, 4648
Grandin	8644, 6896, 7647, 5605, 5090, 5896, 4016, 7014, 2696, 8060, 6381, 5355, 3840, 4677, 4156, 3118
Granprix	3451
Grenadier	3637
Gronic	5605
Grundig	5265, 4679, 6640, 3518, 8435, 6896, 8299, 7647, 4265, 6230, 8644, 5119, 6812, 7287, 4925, 7733, 6948, 5393, 4698, 6982
Grunkel	5319
GTT	3637

H

H&B	7361
Haaz	8435
Haier	2924, 3488
Halifax	3488, 4469
Hallmark	4523, 3802, 5874
Hammerstein	3488
Hampton	4469

Hanimex	4016, 7733
Hanseatic	8644, 6896, 4874, 7350, 5605, 3350, 5896, 3158, 5295, 7287, 3876, 7647, 7361, 2590, 3637, 4648, 2796, 8060
Hantarex	7647, 8644, 6896, 8568, 3637, 4648
Hantor	8644, 6896
Harley Davidson	4523, 3802, 5510, 5874
Harrad	4523, 3802, 5874
Harsper	4677
Harvard	4523, 3802, 5874
Harwa	2335, 3453, 7789
Harwood	7647, 6764, 8644, 6896, 6230
Hauppauge	8644, 6896
HCM	7647, 6764, 8644, 6896, 4016, 5553, 5896, 3488, 3637
Heathkit	5874, 4648
Hedzon	6896, 8644
Hema	7647
Hicon	2519
Hifivox	7430
Higashi	4469
Highline	3488, 8644, 6896
Hikona	4016
Hiline	3637
Hinari	7910, 8644, 6896, 7647, 4016, 6812, 5605, 7384, 5119, 6230, 3488, 7733, 3802, 3637, 4648,
Hisawa	5896, 4016, 7014, 2696, 7733, 8060

Hisense	6685, 7910
Hitachi	3952, 6069, 4889, 6812, 6896, 7430, 2438, 4783, 5620, 4659, 5605, 6982, 6619, 5295, 7040, 5393, 8568, 6972, 4874, 8644, 6286, 4819, 6753, 4737, 4648
Hitachi Fujian	5620, 3952
Hitsu	7647, 2696, 7014, 4016
HMV	6127
Höher	8060, 5952, 4677
Home Electronics	6305
Horizont	4648
Hornyphon	8644, 6896, 4648
Hoshai	4016, 7014, 5896
Huanyu	5090, 4469
Hugoson	3094, 7855
Hygashi	4469
Hyper	7647, 4469, 5531, 3637, 4648
Hypersonic	3350
Hypson	8644, 6896, 8060, 6381, 3488, 5896, 7014, 7733, 3840, 5355, 2590, 3637, 4648
Hyundai	8644, 4677, 6896, 8435, 7314, 3036, 3620, 5952

I

Iberia	8644, 6896
ICE	3488, 8644, 4530, 7647, 6896, 4016, 4469, 3637, 4648

Ices	4016, 4469
Ict	8644, 6286, 6896
IISonic	4698
Iiyama	7855, 3094
IMA	4523, 3802, 5874
Imperial	8644, 5605, 7287, 4752, 6634, 6896, 2620, 3350, 5553, 5531, 4648
Indiana	8644, 6896, 4648
Infinity	4648
InFocus	3251
Ingelen	6230, 2696, 8060, 5605, 3350
Ingersoll	7647, 3637
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