

# User's Manual

## HDR-7500T

The default password is 0000.

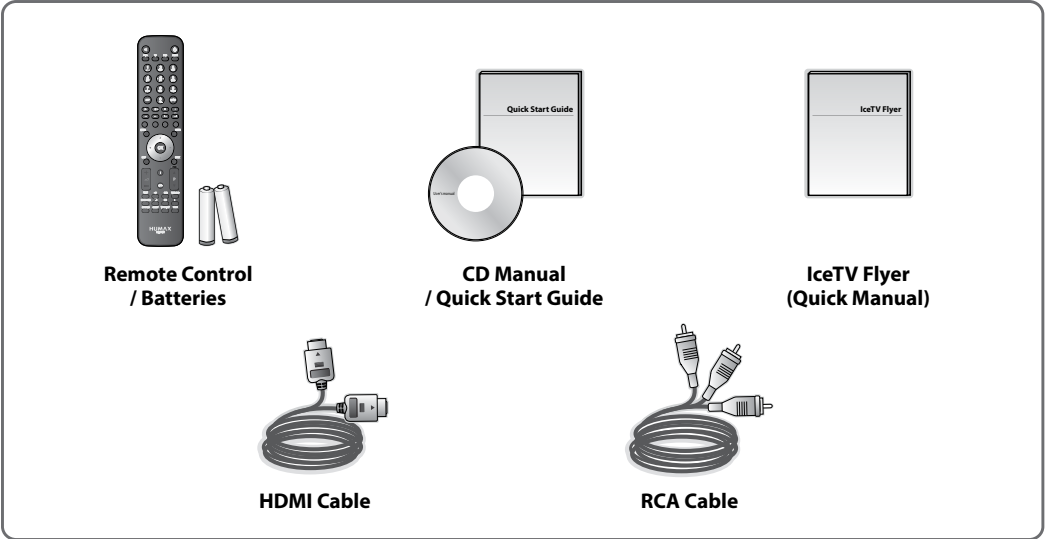


**HUMAX**

|                                     |           |                            |           |
|-------------------------------------|-----------|----------------------------|-----------|
| <b>Quick Start Guide</b>            | <b>2</b>  | <b>Media List</b>          | <b>36</b> |
| 1. Checking Accessories             | 2         | Using Video List           | 39        |
| 2. Product Overview                 | 2         | Using Music List           | 42        |
| 3. Connections                      | 6         | Using Photo List           | 44        |
| 4. Powering On                      | 10        |                            |           |
| 5. First Installation Wizard        | 11        | <b>HUMAX TV Portal</b>     | <b>46</b> |
| 6. Menu Overview                    | 13        |                            |           |
| <b>Basic Operation</b>              | <b>14</b> | <b>Preferences</b>         | <b>47</b> |
| Changing Channels                   | 14        | Parental Control           | 47        |
| Volume / Mute / Audio               | 14        | Language Setting           | 48        |
| Display Format / Resolution         | 15        | Setting Power On/Off Timer | 48        |
| Programme Information (i-plate)     | 16        | Video Setting              | 49        |
| Sleep Timer                         | 17        | Audio Setting              | 50        |
| Subtitle                            | 17        | Screen Display             | 51        |
| Option                              | 18        | EPG Type Setting           | 51        |
| Teletext                            | 18        |                            |           |
| <b>Channel List</b>                 | <b>19</b> | <b>Installation</b>        | <b>52</b> |
| Changing Channels                   | 19        | Automatic Search           | 52        |
| Editing Channels in Channel List    | 20        | Manual Search              | 53        |
| Editing Favourite Channels          | 21        | Software Update            | 54        |
| Editing Channels                    | 23        | Dynamic Update             | 56        |
|                                     |           | Antenna Power              | 56        |
|                                     |           | Factory Default            | 57        |
| <b>TV Guide</b>                     | <b>25</b> | <b>System</b>              | <b>58</b> |
| Watching Programmes                 | 25        | System Information         | 58        |
| Setting Reminders or Recordings     | 26        | Signal Detection           | 58        |
| Finding Programmes                  | 27        | Power Management           | 59        |
| Schedule                            | 28        | Data Storage               | 59        |
|                                     |           | Internet Setting           | 60        |
| <b>Recording and Playback</b>       | <b>29</b> | <b>Appendix</b>            | <b>62</b> |
| Recording                           | 29        | Specification              | 62        |
| Playback                            | 33        | Service and Support        | 63        |
| Playback Controls                   | 34        | Safety Warning             | 64        |
| Pausing and Rewinding Live TV (TSR) | 35        | Trouble Shooting           | 66        |
|                                     |           | Remote Control Code List   | 68        |

# Quick Start Guide

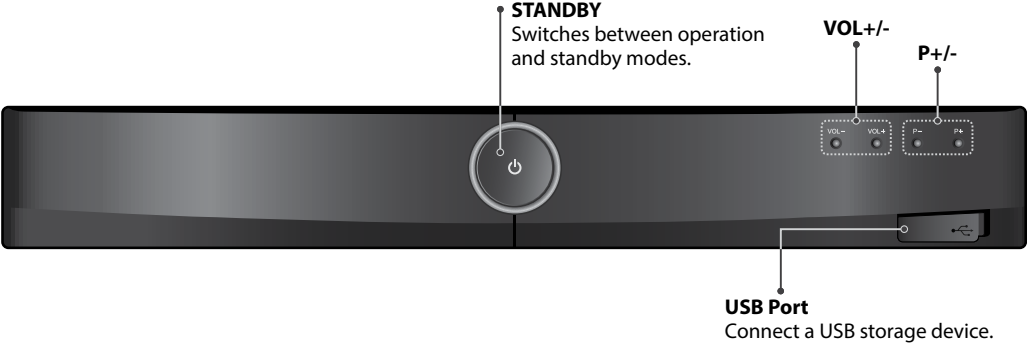
## 1. Checking Accessories



**Note:** The accessories may vary according to area.

## 2. Product Overview

### Front Panel

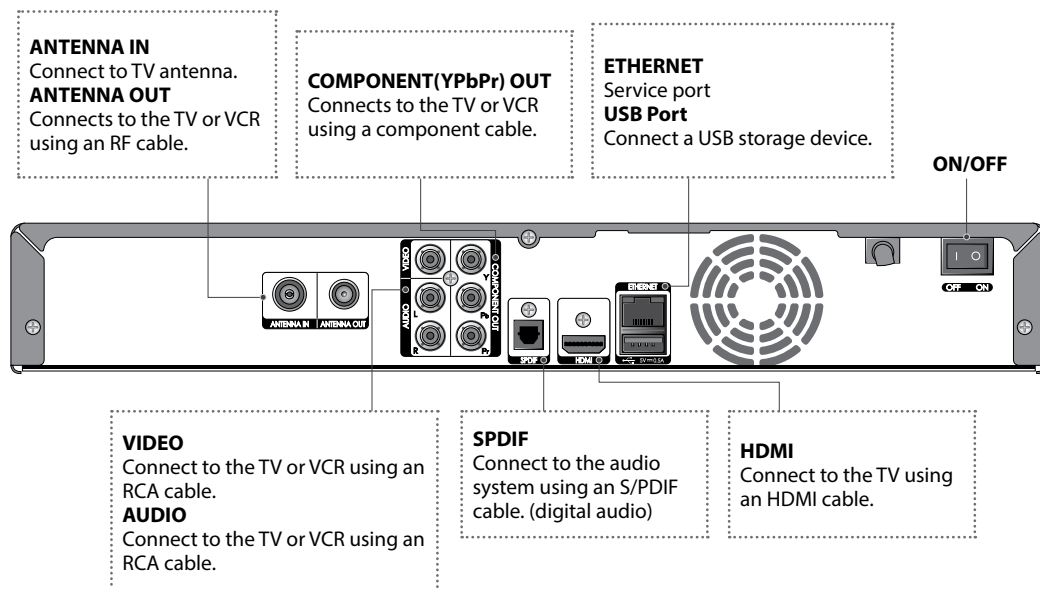


**Note:** The image shown may differ from the actual product.

# Quick Start Guide

English

## Rear Panel

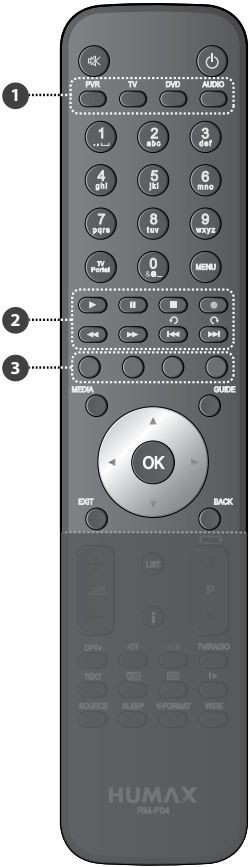


**Note:** The image shown may differ from the actual product.



# Quick Start Guide

## Remote Control



|                                                                                   |                                 |                                                                                                                |
|-----------------------------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------|
|  | <b>MUTE</b>                     | Mutes audio.                                                                                                   |
|  | <b>STANDBY</b>                  | Switches between operation and standby modes.                                                                  |
| <b>1</b>                                                                          | <b>MODE</b>                     | Changes the mode of remote.                                                                                    |
|                                                                                   | <b>NUMERIC</b>                  | (0-9)                                                                                                          |
|                                                                                   | <b>TV Portal</b>                | Enters HUMAX TV Portal.                                                                                        |
|                                                                                   | <b>MENU</b>                     | Displays the main menu.                                                                                        |
| <b>2</b>                                                                          | <b>Playback Control Buttons</b> | ► Play, II Pause, ■ Stop, ● Record, ◀◀ Rewind, ▶▶ Fast Forward, ◀◀ Previous, ▶▶ Next, ↺ Instant Replay, ↻ Skip |
| <b>3</b>                                                                          | <b>COLOUR Buttons</b>           | Colour keys for interactive applications.                                                                      |
|                                                                                   | <b>MEDIA</b>                    | Displays the media list.                                                                                       |
|                                                                                   | <b>GUIDE</b>                    | Displays the programme guide.                                                                                  |
|                                                                                   | <b>ARROW Buttons</b>            | Moves the cursor up, down, left or right.                                                                      |
|                                                                                   | <b>OK</b>                       | Selects (Enters) a menu or confirms a selection.                                                               |
|                                                                                   | <b>EXIT</b>                     | Exits all On-Screen Display (OSD) screens.                                                                     |
|                                                                                   | <b>BACK</b>                     | Returns to the previous channel.<br>Goes back to the previous screen.                                          |

**Note:**

- The image shown may differ from the actual product.
- Some playback control buttons may not function depending on the contents.

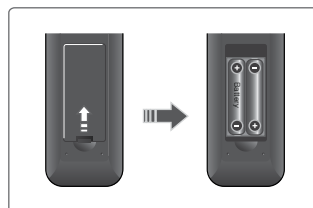


|                        |                                                 |
|------------------------|-------------------------------------------------|
| <b>▲+/-</b>            | Adjusts the audio volume.                       |
| <b>P▲/▼</b>            | Changes the channel or page.                    |
| <b>LIST</b>            | Displays the channel list.                      |
| <b>i (Information)</b> | Displays the channel and programme information. |
| <b>OPT+</b>            | Displays the channels attributes.               |
| <b>🔊 AUDIO</b>         | Displays the audio list.                        |
| <b>SUBTITLE</b>        | Displays the subtitle language list.            |
| <b>TV/RADIO</b>        | Switches between TV and radio modes.            |
| <b>TEXT</b>            | Enters the digital text service.                |
| <b>SOURCE</b>          | Switches between the input sources.             |
| <b>SLEEP</b>           | Sets the sleep timer.                           |
| <b>V-FORMAT</b>        | Sets the resolution of video.                   |
| <b>WIDE</b>            | Sets the display format.                        |

**4 Playback Control Buttons**    📌 Add Bookmark, 📖 Bookmark List, ▶ Slow

## Inserting Batteries

1. Press the hook upward and lift the battery cover off.
2. Insert the batteries (supplied) matching the plus(+) and minus(-) at each end.
3. Close the cover.

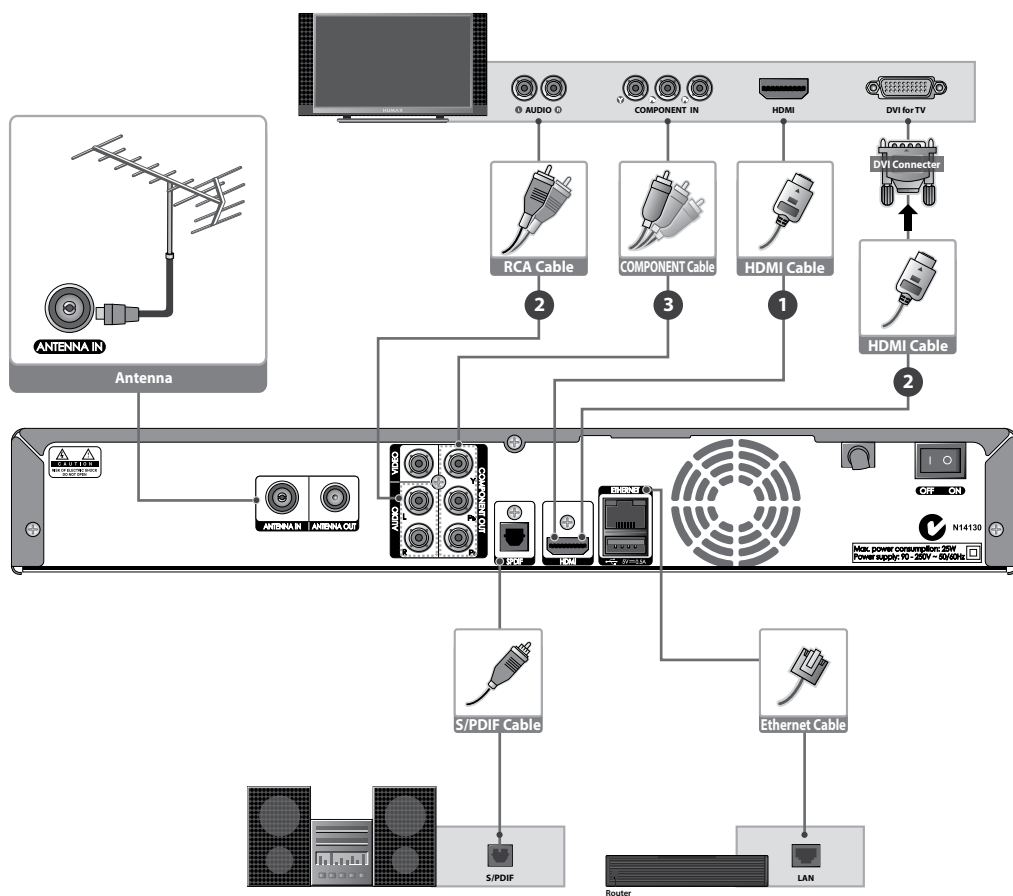


# Quick Start Guide

## 3. Connections

This section describes how to connect your product to match your particular devices setup and to gain optimum signal quality. The product provides various interfaces to connect to the TV, VCR or other devices. Select the most appropriate procedure depending on the device you have.

**Note:** If you encounter any problems setting up your product, please contact HUMAX Customer Helpline.



## Connecting the Antenna

Connect the aerial to the **ANTENNA IN**.

## Connecting the TV

You can select one of the following connections depending on the device you have.

### ❶ TV with the HDMI connector;

For the best picture quality, connect the product and TV using a HDMI cable.

### ❷ TV with the DVI connector;

For very good picture quality, connect the product and TV using a HDMI cable and a HDMI-to-DVI converter for video.

You will also require a RCA cable (Audio L/R) connected to the necessary connection(s) on your TV/Display for Audio.

### ❸ TV with the Component(YPbPr) connector;

For good picture quality, connect the product and TV using a component cable.

#### **For additional audio connections you can either**

1. Connect the product and TV using an RCA cable (Audio L/R).
2. When using the digital audio system, connect the product and the digital audio system using an S/PDIF cable.

**Note:** Connecting your TV directly to the audio/video output of the product will assure a more vivid picture and enhance your viewing enjoyment.

# Quick Start Guide

## Connecting the Network

### ❶ Connecting to the LAN;

Connect one end of the Ethernet cable to the product and the other end to the LAN router.

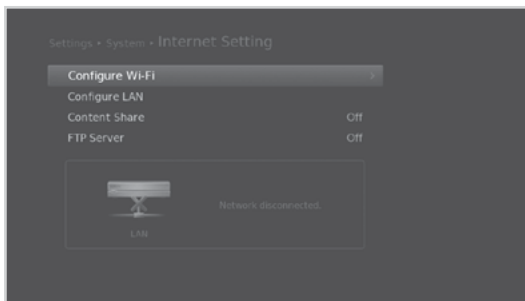
### ❷ Connecting to the Wi-Fi (Wireless LAN);

1. Power off the receiver and disconnect the Ethernet cable.
2. Insert the HUMAX Wi-Fi dongle into an USB port and power on the receiver.



3. Go to **MENU > Settings > System > Internet Setting > Configure Wi-Fi.**

**Note:** If **Configure Wi-Fi** is disabled, make sure that the Ethernet cable is disconnected and check if the HUMAX Wi-Fi dongle is inserted correctly into an USB port on the receiver.



4. Select **Network Name** and press the **OK** button. The list of all available Wi-Fi Networks detected will appear. Select the Network you want to connect to and press the **OK** button.
5. Select the **Security Type** of your Wi-Fi router. If you do not know the security type, do not change this option. (Default: WPA-PSK(TKIP))



# Quick Start Guide

English

6. Select **Password** and press the **OK** button.  
Enter the WEP key/Password of your router.  
(This information is normally written on your router.)
7. Press the **YELLOW** button to complete.
8. Select **APPLY** and press the **OK** button.

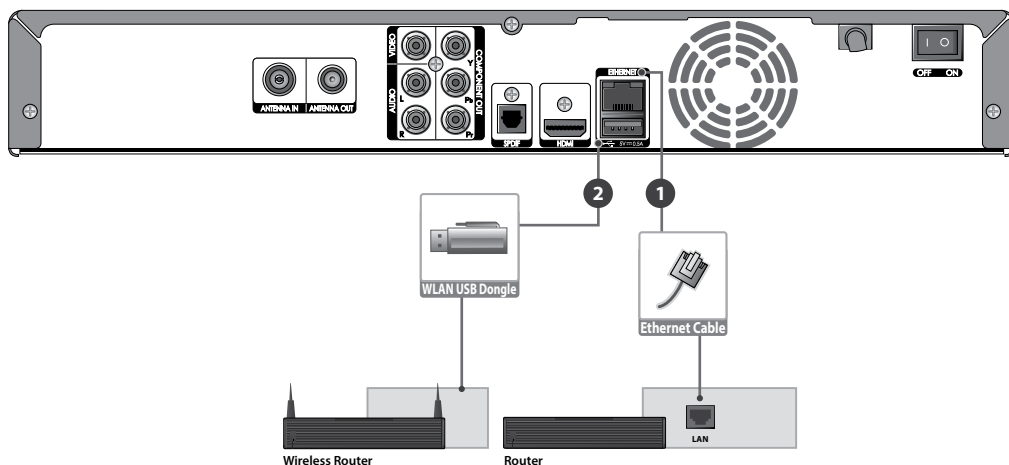


9. When the connection is complete, press the **OK** button and press the **EXIT** button to return to the menu.



## Note:

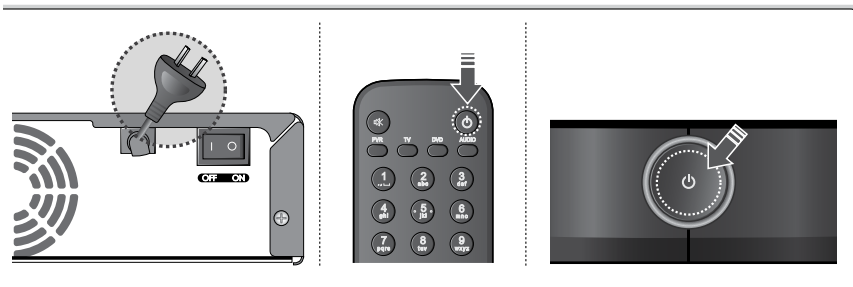
- Make sure the distance between the Wi-Fi access point and the product is not too far away. This may lower the quality of service.
- It is recommended to purchase a wireless USB dongle distributed by HUMAX. Other products may not function or respond. Go to [www.humaxdigital.com/au](http://www.humaxdigital.com/au) to purchase a HUMAX Wi-Fi dongle.



# Quick Start Guide

## 4. Powering On

1. Connect the power cord of the product to a wall outlet.
2. Ensure the **ON/OFF** switch at the rear of the product is switched to **ON**.
3. Power on by pressing the **STANDBY** button on the remote control or the **STANDBY** button at the front of the product.



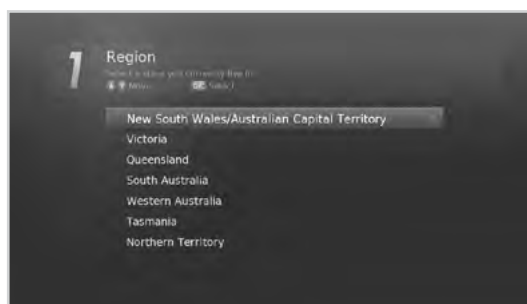
## 5. First Installation Wizard

When powering on your product for the first time after purchase or performing the factory default in menu, the installation wizard will operate automatically.

**Note:** If you exit the installation wizard without fully completing the channel searching procedure, you may not have all of the channels available. In this case, you can use the **Settings > Installation** menu to search for more channels.

### 1. Region

Select the state you currently live in.



### 2. Display

Set the video output to your TV.



### 3. Automatic Search

Channel search will begin automatically.  
Save the found channels when the search is complete.





# Quick Start Guide

## 4. EPG Type

Select the **EPG Type** you want.

If you already have an IceTV account or wish to take advantage of the additional features of IceTV, select **IceTV**.

**Note:** To use the IceTV EPG, connect the receiver to the internet via Ethernet or USB wireless dongle. Refer to **Connecting the Network**.



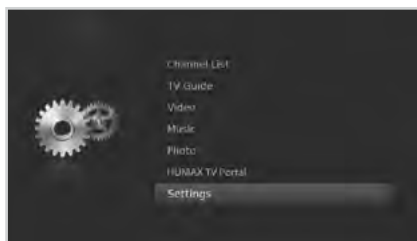
## 5. Result

The result of the Installation Wizard is shown.

Select **Finish** to exit the wizard.



## 6. Menu Overview



|                                                                                    |                 |
|------------------------------------------------------------------------------------|-----------------|
|   | Channel List    |
|   | TV Guide        |
|   | Video           |
|   | Music           |
|   | Photo           |
|   | HUMAN TV Portal |
|  | <b>Settings</b> |

### Preference

- Parental Control
- Language
- Time
- Video
- Audio
- Recording
- Screen Display
- EPG Type

### Edit Channels

- Edit Favourite List
- Edit Channel List

### Installation

- Automatic Search
- Manual Search
- Software Update
- Dynamic Update
- Antenna Power
- Factory Default

### System

- System Information
- Signal Detection
- Power Management
- Data Storage
- Internet Setting

## How to Navigate



Displays the main menu



or



Selects (Enters) a menu or confirms a selection



Goes back to the previous screen



Exits all On-Screen Display (OSD) screens



Moves among menus or options



Changes or adjusts the option



Enters the number (0~9)

# Basic Operation

## Changing Channels

You can change the channels in several ways.

- ❖ Press the **P▲/▼** button.
- ❖ Enter the channel number directly. **(0-9)**
- ❖ Go to the channel list and select a channel.

**Note:** Press the **TV/RADIO** button to switch between TV and radio channels.

## Volume / Mute / Audio

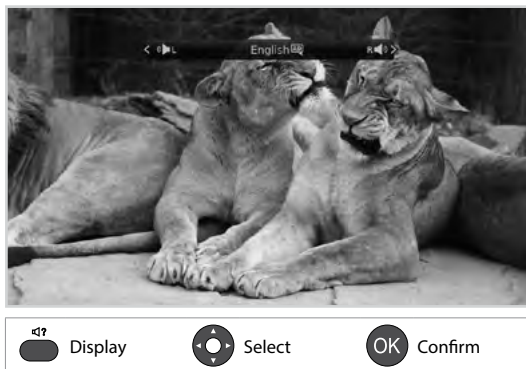
- ❖ To adjust the audio volume, press the **▲+/-** button.
- ❖ To mute the audio temporarily, press the **MUTE** button.

## Setting Audio Options

Audio options are available only when the programme supports multiple audio languages. Press the **AUDIO** button to change the audio language and direction. Each time you press this button, the value changes.

**Note:**

- The mute function remains set while you change channels.
- You cannot set the audio direction when the programme is broadcast in Dolby Digital.



## Display Format / Resolution

### Setting Display Format

Press the **WIDE** button to set the display format according to the screen ratio.  
Each time you press this button, the value changes.

- Screen ratio 4:3: **Auto** – **Letterbox 16:9** – **Letterbox 14:9** – **Centre**
- Screen ratio 16:9: **Auto** – **Pillarbox** – **Zoom**



**WIDE**  
Display

### Setting Resolution

Press the **V-FORMAT** button to set the resolution of the screen.  
Each time you press this button, the value changes.

- **576i - 576p - 720p - 1080i - Original**

**Note:** When connected with an HDMI cable, you can only change to resolutions the TV supports.

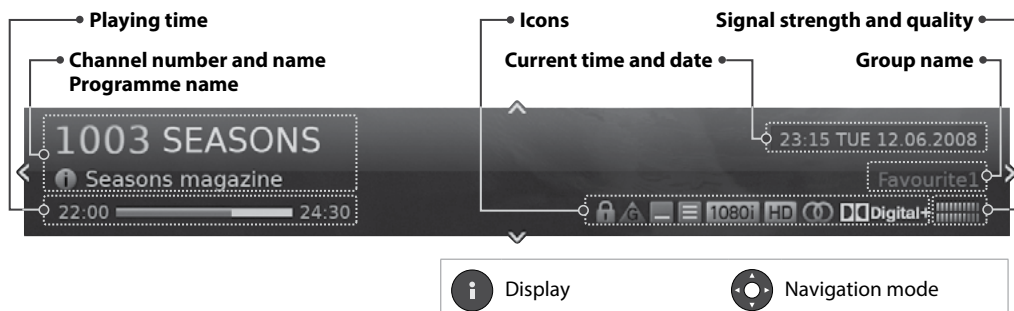


**V-FORMAT**  
Display

# Basic Operation

## Programme Information (i-plate)

The i-plate is an information banner that is displayed for a certain period of time whenever you change channels. Press the **i** button while watching a programme to display the i-plate. Press the **EXIT** button to hide.



- **Viewing detailed programme information**  
Press the **i** button again while the i-plate is displayed.
- **Viewing previous/next programme information**  
Press the **◀/▶** button while the i-plate is displayed.
- **Viewing programme information of other channels**  
Press the **▲/▼** button while the i-plate is displayed. Press the **OK** button to change to the selected channel.
- **Searching related contents**  
Press the **OPT+** button while the i-plate is displayed. This option is supported only when the network is connected.

## Icons

The icons represent the information and services provided.

|  |                                           |  |              |
|--|-------------------------------------------|--|--------------|
|  | Locked programme                          |  | Teletext     |
|  | Pay TV / encrypted programmes (CAS icons) |  | Resolution   |
|  | Parental guidance programme               |  | HD programme |
|  | Subtitle                                  |  | Multiaudio   |
|  | Dolby Digital audio                       |  |              |
|  | Dolby Digital Plus audio                  |  |              |

**Note:** Programme information is not displayed when there is no programme information.

## Sleep Timer

Press the **SLEEP** button to set the automatic turn off time.

Each time you press this button, the value changes.

➤ 10 - 20 - 30 - 60 - 90 - 120 minutes



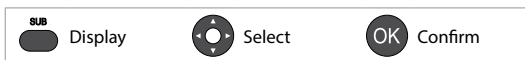
## Subtitle

You can select the subtitle language when subtitle information is provided.

Press the **SUBTITLE** button to change the subtitle language.

Each time you press this button, the value changes.

**Note:** You can choose to always display the subtitle when available.



# Basic Operation

## Option

You can set the options for the watching channel.

1. Press the **OPT+** button.
2. Select an option.
  - **Favourite:** Select the favourite group to add the channel.
  - **Lock:** Select **On** or **Off**.
  - **Delete:** Press the **OK** button.
  - **Rename:** Press the **OK** button and enter the name in the keyboard.
3. Select **OK** to save and exit.



Display



Select



Confirm

## Teletext

Teletext is a free service broadcast which gives the latest information on news, weather and many other topics. You can use interactive services in teletext mode.

All teletext supporting channels have the teletext icon on the i-plate.

1. Press the **TEXT** button.
2. To display the teletext menu, press the **MENU** button in teletext mode.
3. Select the teletext function you want and press the **OK** button.



Display



Select



Confirm

# Channel List

The channel list will help you find the channel you want to watch quickly and easily.

You can access the channel list in several ways.

- ❖ Press the **LIST** button.
- ❖ Press the **MENU** button and select **Channel List**.

## Changing Channels

Select the channel you want to watch and press the **OK** button. The displayed channel will change.

### Note:

-  : Locked channel,  : Scrambled channel (CAS icons)
- Press the **i** button to view the detailed channel information.
- Press the **LIST** or **EXIT** button to exit.

## Advanced Options

### Changing Group

You can display the list of the selected channel group.

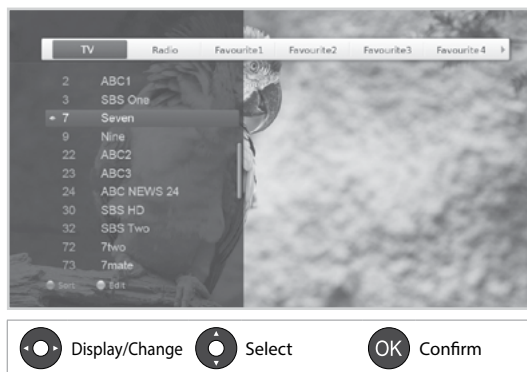
#### ► TV, Radio, Favourite 1~5, Recent

1. Press the **►** button.
2. Select a channel group.
3. Press the **OK** button.

**Note:** Press the **TV/RADIO** button to switch between TV and Radio groups.

### Sorting Channels

Press the **RED** button to sort the list in numerical or alphabetical order.





# Channel List

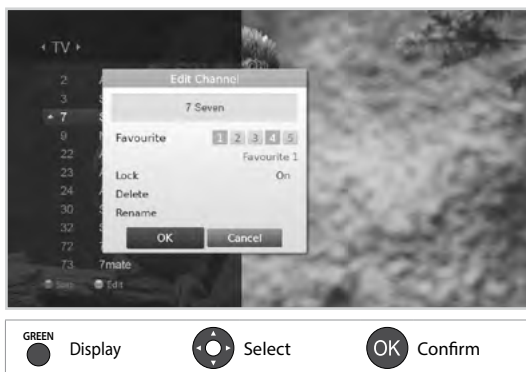
## Editing Channels in Channel List

You can edit each channel in the channel list, as well as in menu. To edit the multiple channels, go to the **MENU > Settings > Edit Channels**.

### Locking / Deleting / Renaming Channels

1. Select a channel you want to edit and press the **GREEN** button.
2. Select an option.
  - **Lock:** Select **On** or **Off**.
  - **Delete:** Press the **OK** button.
  - **Rename:** Press the **OK** button and enter the name in the keyboard.
3. Select **OK** to save and exit.

**Note:** The default password is 0000. If you have forgotten your password, please contact HUMAX Customer Service.



### Setting Favourite Channels

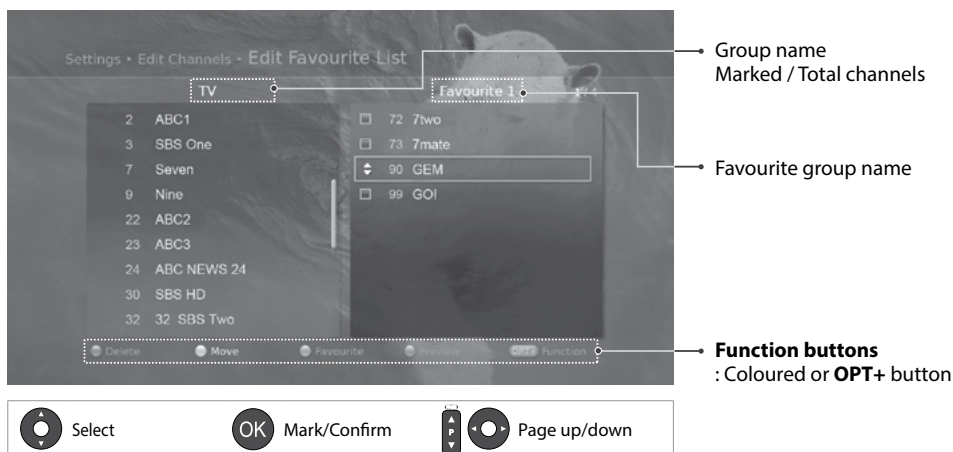
You can select your favourite channels and include them in the favourite group.

1. Select a channel and press the **GREEN** button.
2. Select **Favourite** and press the **OK** button.
3. Select a favourite group you want to include the channel in and press the **OK** button.  
To remove a channel from a favourite group, select the group and press the **OK** button again.
4. Select **OK** to save and exit.

## Editing Favourite Channels

The **Edit Favourite List** menu will help you add or remove channels from the favourite groups.

**MENU → Settings → Edit Channels → Edit Favourite List**



### Note:

- Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.
- The channels that are automatically numbered by broadcaster cannot be deleted or moved.

## Adding / Removing Favourite Channels

1. Press the **YELLOW** button and select the favourite group you want to edit.
2. To add channels to the favourite list, select the channels you want to add using the **▲/▼** and **OK** button in the left column and then press the **RED** button. The added channels will appear in the right column.
3. To remove channels from the favourite list, select the channels you want to remove in the right column and then press the **RED** button.

## Moving Channels

1. Select the channels using the **▲/▼** and **OK** button.
2. Press the **GREEN** button.
3. Move the selected channels to the location you want using the **▲/▼** and **OK** button.

**Note:** You can move the channels in the right column only.

# Managing Channels

---

## Renaming Favourite Groups

1. Press the **YELLOW** button and select the favourite group you want to edit.
2. Press the **OPT+** button.
3. Select **Rename Favourite**.
4. Enter the name in the keyboard.

## Advanced Options

### Changing Group

To list the channels of other groups in the left column, press the **GREEN** button and select a group you want.

**Note:** Press the **TV/RADIO** button to switch between TV and Radio groups.

### Changing Background

You can change the channel displayed in the background while editing.

1. Select the channel you want to watch.
2. Press the **BLUE** button. The displayed channel will change.

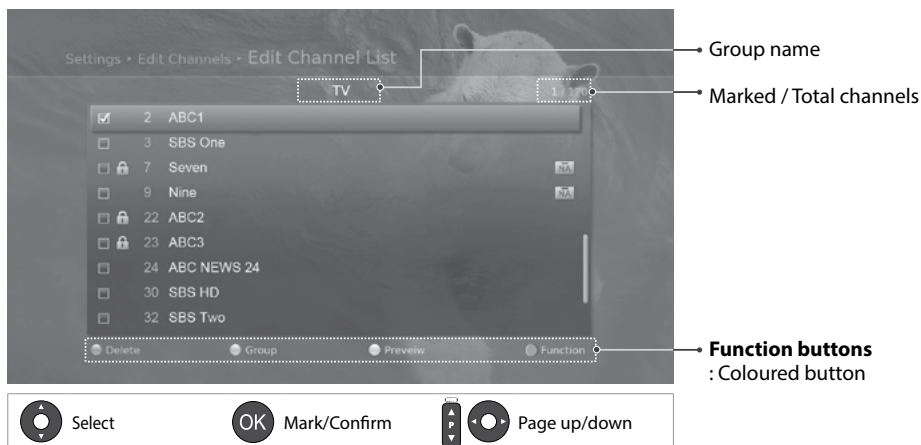
### Selecting / Releasing All Channels

1. Press the **OPT+** button.
2. Select **Select All**.
3. To release all, select **Release All**.

## Editing Channels

The **Edit Channel List** menu will help you delete, move lock or rename multiple channels.

**MENU → Settings → Edit Channels → Edit Channel List**



### Note:

- : Locked channel, : Scrambled channel (CAS icons)
- Press the **MENU** or **EXIT** button to exit.
- The channels that are automatically numbered by broadcaster cannot be deleted or moved.

## Deleting Channels

1. Select the channels using the **▲/▼** and **OK** button.
2. Press the **RED** button.

# Managing Channels

---

## Locking / Unlocking Channels

1. Select the channels using the ▲/▼ and **OK** button.
2. Press the **BLUE** button.
3. Select **Lock**. To unlock, select **Unlock**.

## Advanced Options

### Changing Group

To list the channels of other groups, press the **GREEN** button and select a group you want.

**Note:** Press the **TV/RADIO** button to switch between TV and Radio groups.

### Changing Background

You can change the channel displayed in the background while editing.

1. Select the channel you want to watch.
2. Press the **YELLOW** button. The displayed channel will change.

### Selecting / Releasing All Channels

1. Press the **BLUE** button.
2. Select **Select All**.
3. To release all, select **Release All**.

# TV Guide

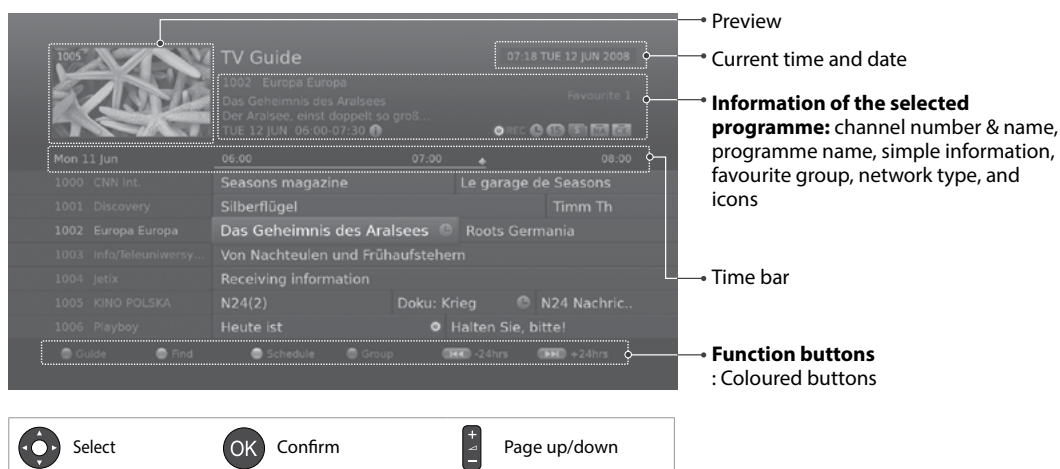
English

The TV guide is an on-screen guide of grid type which displays the programme information of channels in time and date order.

You can access the TV guide in several ways.

- ❖ Press the **GUIDE** button.
- ❖ Press the **MENU** button and select **TV Guide**.

**Note:** Press the **GUIDE** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.



## Note:

- Press the **i** button to view the detailed programme information.
- : Scheduled programme (Red: Recording, Blue: Reminder), : Recording programme, : Present time

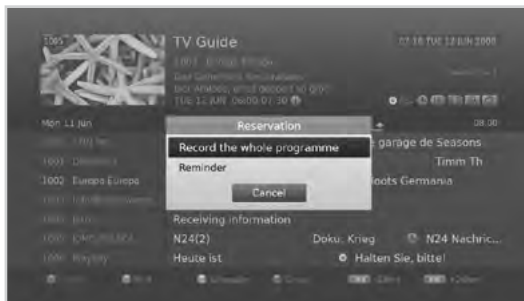
## Watching Programmes

1. Select a programme and press the **OK** button. The programme will be displayed in the preview.
2. Press the **OK** button again to exit the TV guide and watch the programme.

# TV Guide

## Setting Reminders or Recordings

1. Select a future programme and press the **OK** button.
2. Select **Record the whole programme** or **Reminder** and press the **OK** button.
3. Press the **OK** button again to cancel the reservation.  
The reserved programmes will be added automatically in **Schedule**.



### Note:

- By selecting **Reminder** an on-screen notification will appear prior to the selected programme starts. Select **OK** to automatically change to the channel the programme commences. Select **Cancel** to continue watching the current programme and not change channels.
- If the programme is conflicted with another programme, adjust the reservation appropriately.
- If the channel is locked, you will be prompted to enter your password to complete the reservation. The default password is 0000. If you have forgotten your password, please contact HUMAX Customer Service.
- You can reschedule reminders or recordings. (Refer to **Scheduling Reminders and Recordings**.)
- If the programme you want to record is a series, you can select to record the whole series. However, this function may not be available depending on the broadcasting environment.

## Advanced Options

### Quick Navigation

Press the ◀/▶ button to move to the previous/next programme.

Press the ◀◀/▶▶ button to jump back/ahead two hours.

Press the ◀◀◀/▶▶▶ button to move to the previous/next day.

### Changing Group

To list the channels of other groups, press the **BLUE** button and select a group you want.

### Note:

- Press the **TV/RADIO** button to switch between TV and Radio groups.
- To search specific programmes, go to **Find Programmes** by pressing the **GREEN** button. (Refer to **Finding Programmes**.)

## Finding Programmes

**Find** will help you find the programmes more specifically using the keyword or genre.

### By Keyword

1. Press the **GREEN** button.
2. Select **Keyword** and press the ► button.
3. Select a keyword and press the **OK** button.
4. Press the **YELLOW** button to add the selected programme to schedule.

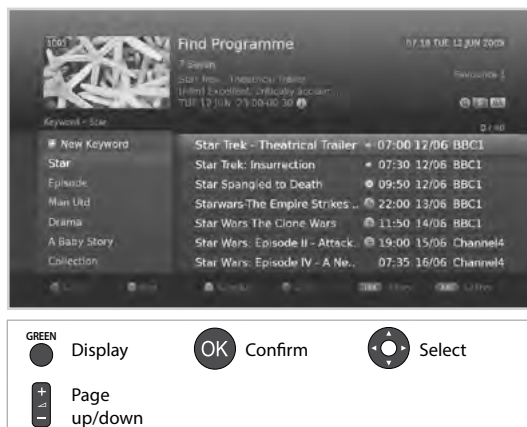
**Note:** To enter a new keyword, select **New Keyword**. Type the new keyword and press the **YELLOW** button to confirm.

### By Genre

1. Press the **GREEN** button.
2. Select **Genre** and press the ► button.
3. Select a genre and press the **OK** button.
4. Select the specific genre and press the **OK** or ► button.
5. Scroll through the list and press the **YELLOW** button to add to schedule.

### Note:

- Press the **i** button to view the detailed programme information.
- Press the **OK** button to watch a found programme. (Refer to **Changing Channels**.)
- You can set reminders or recordings for future programmes. (Refer to **Setting Reminders or Recordings**.)





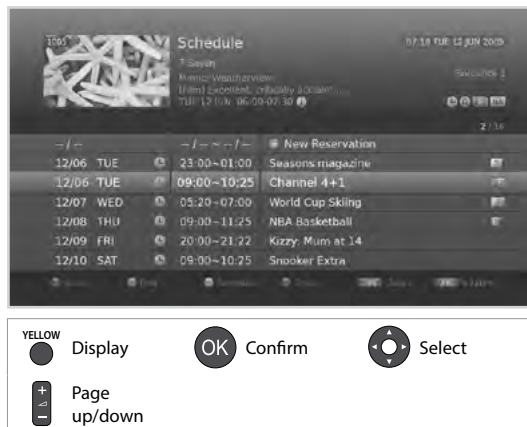
# TV Guide

## Schedule

**Schedule** lists all programmes that you have set for recordings or reminders and will help you manage these reservations in more detail.

### Adding or editing schedule

1. Press the **YELLOW** button.
2. To add, select **New Reservation** and press the **OK** button.  
To edit, select a reminder or recording and press the **OK** button.
3. **Reservation** will pop up. You can change the options you want using the **▲/▼/◀/▶**, **NUMERIC(0~9)** and **OK** buttons.
4. Select **OK** to save and exit.



### Deleting schedule

1. Press the **YELLOW** button.
2. To delete, select a reminder or recording and press the **BLUE** button.
3. Select **Yes** and press the **OK** button.

### Note:

- Press the **i** button to view the detailed programme information.
- You can easily set reminders or recordings in TV guide, Find Programmes or i-plate navigation mode. (Refer to **Setting Reminders or Recordings**, **Find Programmes** or **Programme Information**)



# Recording and Playback

English

You can record programmes in the built-in hard disk drive and playback the recorded programmes whenever you want.

**Note:** Recording or copying is for private and domestic use only.

## Recording

You can watch another channel while recording a channel or record programmes from two different channels at the same time.

### Instant Recording

You can record the currently watching programme instantly and change the recording duration.

To instantly record the current programme you are watching, press the **RECORD** button.

The recording will start from the current broadcast point and the record banner will be displayed for a few seconds.

Press the **STOP** button to stop recording the programme.

The recording will continue till the end of the current programme. However, if the programme ends in less than ten minutes, it will continue till the end of the next programme. When no programme information is provided, the recording will continue for two hours.

**Note:** You can also press the **Record** button while in the Guide to start recording a current programme on a different channel.



### Delayed Recording

You can record the scenes of a live broadcast you have been watching until now by rewinding with the time shifted recording function.

Find the starting point you want to record by using the ◀◀ REWIND, ◀ or ▶ buttons, then press the **RECORD** button.

The recording will start from the point you select.

### Changing Recording Duration

1. Press the **RECORD** button on the currently recording channel.
2. Set the duration manually or select till the end of the current programme or the next programme.



 Record

 Select

 Confirm

 Enter 0~9

# Recording and Playback

## Scheduled Recording

You can easily set the recording reservations in **TV Guide**, **Schedule** or i-plate navigation mode.

- ❖ While in the **TV Guide** highlight a future programme and press the **OK** button.
- ❖ Select from:
  - Record Whole Series
  - Record the Whole Programme
- ❖ Press the **OK** button on a future programme in i-plate and select either **Record the whole series** or **Record the Whole Programme**. (Refer to **Programme Information**.)



The recording will start at the scheduled time and the record banner will be displayed for a few seconds.

Press the **STOP** button to stop recording the programme.

### Note:

- Press the **GUIDE** button to go to **TV Guide**.
- Press the **GUIDE** button and press **YELLOW** button to go to **Schedule**.
- Press the **i** button while watching a programme to display the i-plate.

## Editing Recording Schedule

You can edit or delete your reservations in **Schedule**.

- To edit, select a reservation and press the **OK** button. You can change the options such as channel, date, time, repeat mode, etc.
- To delete, select a reservation and press the **BLUE** button.

**Note:** Refer to page 30 for instructions on how to Add, Edit or Delete your reservations.



## Recording Conflict

You can watch another channel while recording a channel or record programmes from two different channels at the same time.

### Recording Duration Conflict

When an instant recording conflicts with one of the scheduled recordings (or reminders), you can either;

- Record for the automatically modified duration.
- Cancel either of the scheduled recordings (or reminders).
- Cancel the previous recording.



### Watching Conflict

When a scheduled recording starts on a different channel while you are watching a channel and recording another channel, a record notice will pop-up 30 seconds before the scheduled recording starts.

- **OK:** The channel will change at the start time and the scheduled recording will start automatically.
- **Cancel:** The scheduled recording will be canceled.



### Scheduling Conflict

When a new scheduled recording conflicts with one of the previously set recordings (or reminders), you will be prompted to select up to two programmes you want to keep. Select the programme using the ▲/▼ and OK button.



# Recording and Playback

## Setting Padding / Jump Time

**MENU → Settings → Preferences → Recording**

### Setting Padding Time

You can set the recording padding time in case the recording starts earlier or ends later than scheduled.

- **Start Padding Time:** Additional recording time before the recording starts.
- **End Padding Time:** Additional recording time after the recording ends.



### Setting Jump Time

You can set the jump time to replay or skip scenes during playback or time shifted recording.

- **Instant Replay Time:** 7 sec, 15 sec, 30 sec
- **Skip Forward Time:** 30 sec, 60 sec, 120 sec, 240 sec
- **Auto Delete:** Old recordings will be deleted automatically when the HDD becomes full.

### Note:

- You can record radio programmes also.
- The record banner will be displayed with the i-plate whenever pressing the **i** button.
- You can change the recording duration by using the **RECORD** button for instant recording or by going to **MENU > TV Guide > Schedule** for scheduled recording.
- When a new scheduled recording starts while a recording is already in progress, the record banner will be displayed for a few seconds to inform you that the recording has been started. If you are not watching the channel being recorded, a record notice will pop-up 30 seconds before the scheduled recording starts, and the channel will switch to the scheduled programme automatically at the start time.
- Pressing the **STANDBY** button while recording will not stop the recording. New recordings will start even in standby mode.
- While watching a recording programme, you can trick-play using the playback control buttons such as pause, fast rewind, instant replay, slow, etc.
- You can record the digital TV or radio programmes only. The external AV inputs cannot be recorded.
- Make sure that there is enough free space before recording. If the free space on the hard disk drive is insufficient, recording will stop. Recording HD programme requires more space than SD programme. The space for recording one hour programme may differ depending on the programme. Recording one hour of HD and SD programmes may require 8 GB and 2~3 GB of hard disk space, respectively.
- To view the recorded programme list, press the **MEDIA** or **MENU** button and select **Video**. (Refer to **Using Video List**.)

## Playback

You can playback the recorded programmes that are stored in the built-in hard disk drive.

### Playing Recordings (Video)

You can access the recorded file list easily and play the recorded programmes.

- ❖ Press the **MEDIA** button.
- ❖ Press the **MENU** button and select **Video**.

Select a file and press the **OK** button. Playback will start.

You can perform fast rewind, fast forward, slow motion and pause while playing back a recorded file. The green playbar is displayed when pressing the **PLAY**, **FAST FORWARD**, **REWIND**, **SLOW** or **PAUSE** button while playing.

**Note:** Press **BACK** or **EXIT** to hide the playbar.



# Recording and Playback

## Playback Controls

|                                                                                  |                                                                                                       |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|  | Play                                                                                                  |
|  | Pause the scene. Press the <b>PAUSE</b> button again to go back to play mode.                         |
|  | Stop the playback of the current file and go to live TV.                                              |
|  | Fast Rewind                                                                                           |
|  | Fast Forward                                                                                          |
|  | Move to the previous chapter and replay the scenes.                                                   |
|  | Move to the next chapter and skip scenes.                                                             |
|  | Jump to the previous or next scene.                                                                   |
|  | Add or delete a bookmark in your desired scene.<br>The bookmarked scene is shown as a yellow pointer. |
|  | Jump to bookmarked scenes directly.<br>The play pointer will first move to the nearest bookmark.      |
|  | Watch the recording in slow video.                                                                    |

**Note:**

- When you press the **BACK** button during playback, the playback stops.
- Chapters are made by dividing the recorded programme into eight portions.
- Bookmarks are available only when playing back the recorded programmes.
- Up to four bookmarks can be used, and the bookmarks will remain even if you stop playback.
- Refer to **Media List > Using Video List** for more details about the recorded files.

## Pausing and Rewinding Live TV (TSR)

Time Shifted Recording (TSR) allows you to pause a live broadcast and return to it later and continue where you left off.

The TSR function automatically saves the programmes you watch to the built-in hard disk drive temporarily.

TSR lasts for 120 minutes.



### To pause the programme you are watching,

Press the **PAUSE** button. Press the **PLAY** button to return. Pause makes a time gap between the live broadcasting point and watching point. The time gap is equivalent to the period the programme has been paused.

Press the **STOP** button to close the time gap and go to live programme.

### To rewind and watch missed scenes,

Press the **REWIND** button. Press the **PLAY** button at the point where you want to start watching. You can pause, rewind or fast forward within the programme.

You can fast rewind to the start point. If you reach the start point while rewinding, the programme is automatically played at the normal speed.

### To fast forward and skip scenes,

Press the **FAST FORWARD** button. You can fast forward only when there is a time gap between the current watching point and the live broadcasting point caused by pause, slow motion or fast rewind. You can fast forward up to the current broadcasting point. If you reach the live broadcasting point while fast forwarding, the programme is automatically played at normal speed.

**Note:** Press the **PREVIOUS/NEXT** button to instantly replay or skip scenes at regular intervals you set in the menu. (Refer to Setting Jump Time.)

### To record the Time Shift Recording buffer

Rewind to the point you wish to record by pressing the **◀◀ REWIND** or **◀** button and press the **Record** button on the remote control.

**Note:** The recording will not appear immediately in the Media list as time is required to transfer the buffer into a recording.



# Media List

You can retrieve video, music or photo files from the built-in hard disk drive, the USB storage devices, or the home network devices.

You can access Media List in several ways.

- ❖ Press the **MEDIA** button.
- ❖ Press the **MENU** button and select **Video**, **Music** or **Photo**.
- ❖ Connect a USB storage device for media and select your desired media type.

|              |                                           |
|--------------|-------------------------------------------|
| <b>Video</b> | Lists TV/Radio recordings or video files. |
| <b>Music</b> | Lists music files.                        |
| <b>Photo</b> | Lists photo files.                        |

**Note:**

- Press the **MEDIA** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.
- Select **Copy** to copy the media files to the different devices. (Refer to *Using the Video List > Editing Files*.)

## Switching Storage

1. Press the **BLUE** button to switch the storage.
2. Select the storage and press the **OK** button.
  - **HDD**: Displays the internal HDD.
  - **USB**: Displays each partition of the connected USB storage devices. Select a USB.
  - **Network**: Displays the connected home network devices. Select the server.



## Switching Media

1. Press the **YELLOW** button to switch the media type.
2. Select the media type and press the **OK** button.
  - **Video**, **Music**, **Photo**



**Note:**

- USB ports on your product supply 800mA in total. This 800mA is shared among all devices connected to product.
- Please connect power to a USB storage device which requires an external power supply. If not, the device may not be recognized.
- Please connect a USB storage device with the cable offered by the device maker. If you use a cable which is not offered by the device maker or an excessively long cable (max 5m), the device may not be recognized.
- If the USB storage device is connected in standby mode, it will automatically be recognized when the product is turned on.
- A USB storage device using an automatic recognition programme may not be recognized.
- A USB storage device which uses its own driver may not be recognized.
- The recognition speed of a USB storage device may depend on each device.
- Please do not disconnect or turn off the USB storage device while playing back. When the USB storage device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- Be sure to back up important files since data stored in a USB storage device may be damaged.
- If your USB storage device has multiple partitions, or if you use a USB multi-card reader, you can use up to 4 partitions or USB memory devices.
- If the USB memory stick does not work properly, disconnect and reconnect it.
- Some USB storage devices may not be supported or operated smoothly.
- How fast a USB storage device is detected differs from device to device.
- USB storage devices below USB 2.0 are supported as well. But they may not work properly.
- The system may require a longer time to read large amounts of data stored in a USB device.
- Only one USB icon will appear even when there are more than one USB.
- The network icon is displayed only when the network has been connected.
- HUMAX cannot guarantee compatibility (operation and/or bus power) with all USB mass storage devices and assumes no responsibility for any loss of data that may occur when connected to this unit.



# Media List

## Using the Home Network Server

You can have access to home network servers such as the PC or NAS (Network attached storage) and play the video, music or photo files. To connect to a home network server, the receiver must be connected to the local network.

You can play the video, music or photo files that are stored in your PC on your receiver when the PC is connected to the same home network. You can also play the media files stored in your receiver on your PC.

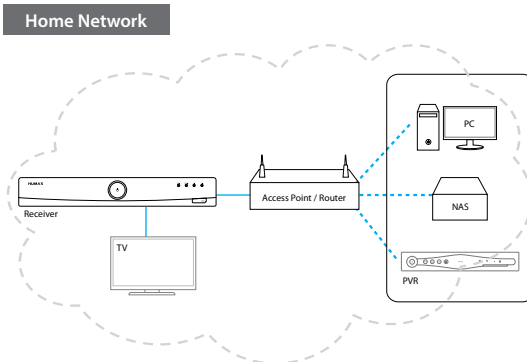
### Connecting to Home Network

1. Connect the receiver to your home network by connecting the router or the Wi-Fi access point.
2. Press the **MENU** button and go to **Settings>System>Internet Setting**.
3. Set the options for the LAN or Wi-Fi. (Refer to **System>Internet Setting** for details.)
4. Set **Content Share** to **On** to allow sharing of the media files.

### Playing Files On Your Receiver

: Files stored in the PC, NAS or another HUMAX PVR

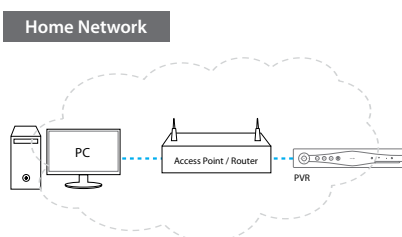
1. Press the **MEDIA** button.
2. Press the **BLUE** button and select **Network**.
3. Select a server from the list.
4. Press the **YELLOW** button and select the media type.
5. Select the files you want to play.



### Playing Files On Your PC

: Files stored in your receiver

1. Install and run the home network media server software on your PC.
2. Select the name of the receiver in the library list of your PC.
3. Select the files you want to play.



#### Note:

- The list of supported home network media servers will appear automatically.
- home network media server software such as Window Media Player 12 must be installed and executed on the PC to share media files stored in the PC. The media files must be stored in the library folder of the PC.

## Using Video List

You can play TV/Radio recordings or video files from the internal hard disk drive, USB storage device or the home network devices.

**MENU → Video**

### Note:

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.
- Press the **i** button to view the detailed programme information.



### Note:

- : Recording icon, : Playing icon, : HD icon, : CAS icon, : Lock icon
- When you record the whole series of the programme, the programmes will be recorded in the same series folder.

## Playing Files

Select a file and press the **PLAY** button. Playback will start from the recently viewed point. To play multiple files successively, select the files using the **RED** button and press the **PLAY** button.

### Using Play Options

1. Select a file and press the **OK** button.
2. Select a play option.
  - **Resume Play:** Plays from the recently viewed point.
  - **Play from the Start:** Plays from the start.
  - **Delete:** Deletes the selected files.
  - **Rename:** Renames the selected file.
  - **Lock/Unlock:** Locks or unlocks the selected files.
3. Press the **OK** button.

You can perform fast rewind, fast forward, slow motion and pause while playing back a recorded file. Refer to **Recording and Playback > Playback** for details on playback control and playbar.

# Media List

## Note:

- To play multiple files successively, select the files using the **RED** button and press the **OK** button. When multiple files are selected, **Resume Play** and **Rename** are not available in **Play Options**.
- You will be prompted to enter the password when playing the locked files or the files with guidance policy.
- Some playback control buttons may not function depending on the contents.

## Editing Files

### Deleting Files

1. Select the file(s) you want to delete and press the **OPT+** button.
2. Select **Delete** and press the **OK** button.
3. Select **Yes** and press the **OK** button.

### Sorting Files

1. Press the **OPT+** button.
2. Select **Sort** and press the **OK** button. The files will be sorted in alphabetical order.
3. To sort the files in time order, repeat the above procedure.



**Note:** Sorting files is available for video files only.

### Locking Files

1. Select the file(s) you want to lock and press the **OPT+** button.
2. Select **Lock** and press the **OK** button.
3. To unlock, press the **OPT+** button again and select **Unlock**.
4. Enter the password.

### Renaming Files

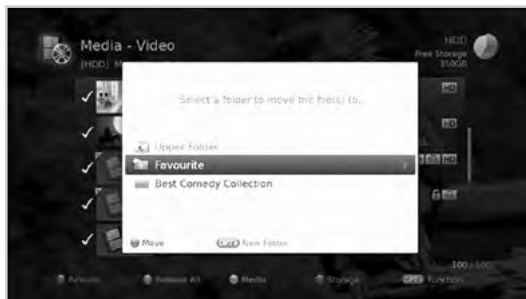
1. Select the file you want to rename and press the **OPT+** button.
2. Select **Rename** and press the **OK** button.
3. Enter the name of the file in the keyboard and press the **YELLOW** button.

### Creating Folder

1. Press the **OPT+** button.
2. Select **New Folder** and press the **OK** button.
3. Enter the name of the folder in the keyboard and press the **YELLOW** button.

## Moving / Copying Files

1. Select the file(s) you want to move and press the **OPT+** button.
2. Select **Move/Copy** and press the **OK** button.
3. Select the folder or storage you want to move the file(s) to and press the **RED** button.
  - **Moving the file(s) within the same storage**
    - Select or Create the folder you want to move the file(s) to and press the **RED** button.
    - If you want to create a new folder, press the **OPT+** button and enter the folder name and press the **OK** button.
  - **Copying the file(s) to another storage**
    - Press the BLUE button to select the storage – Highlight the storage and press the **OK** button.
    - Highlight the folder and then press the **RED** button to copy
    - If you want to create a new folder, press the **OPT+** button and enter the folder name and press the **OK** button.
    - The Copyright Act 1968 only permits to copy broadcasts for Private and Domestic purposes in limited circumstances. HUMAX does not authorise any use of this feature in any way which may amount to a breach of any law or the rights of the owner of copyright in film or broadcast.



**Note:** When moving a locked file, you will be prompted to enter the password.

4. If you want to move or copy a recorded file, a copyright message will appear. Select **Yes** to proceed or **No** to cancel.

# Media List

## Using Music List

You can play music files audio files from the internal hard disk drive, USB storage device or the home network devices.

**MENU → Music**

**Note:**

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.

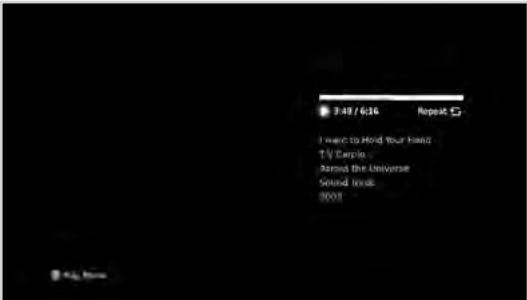


## Playing Files

Select a file and press the **OK** or **PLAY** button. All files in the folder will be played successively. To play the selected files only, select the files using the **RED** button and press the **OK** or **PLAY** button.

## Music Player

The music player is displayed while playing the music file(s).



|  |                         |  |                                                           |
|--|-------------------------|--|-----------------------------------------------------------|
|  | Plays or pauses         |  | Plays                                                     |
|  | Plays the previous file |  | Pauses                                                    |
|  | Plays the next file     |  | Changes the play mode (once, repeat, repeat all, shuffle) |
|  | Plays the first file    |  | Stops the music player and displays the list              |
|  | Plays the last file     |  | Exits the music player and goes to live TV                |

## Editing Files

Deleting, moving, renaming the music files or creating new folders are the same as in the video list. Refer to **Using Video List > Editing Files**.



# Media List

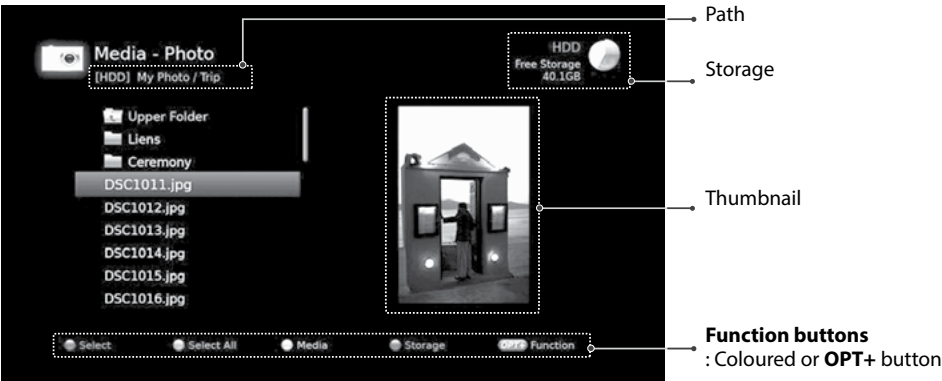
## Using Photo List

You can play photo files from the internal hard disk drive, USB storage device or the home network devices.

**MENU → Photo**

**Note:**

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.



## Photo Slideshow

Select a file and press the **OK** or **PLAY** button. All files in the folder will be shown successively. To slideshow the selected files only, select the files using the **RED** button and press the **OK** or **PLAY** button.

The info banner is displayed while slideshow is paused.



|  |                          |  |                                         |
|--|--------------------------|--|-----------------------------------------|
|  | Pauses or plays          |  | Plays                                   |
|  | Shows the previous photo |  | Pauses                                  |
|  | Shows the next photo     |  | Stops slideshow and displays photo list |
|  | Shows the first photo    |  | Exits slideshow and goes to live TV     |
|  | Shows the last photo     |  |                                         |

## Slide Mode

You can play music files during slideshow.

1. Press the **OPT+** button.
2. Select **Slide Mode** and press the **OK** button.
  - **Display Time:** The duration a photo is displayed
  - **Music Play:** Select **On** to play music files during slideshow.
  - **Folder:** Select the folder the music files in located in using the **RED** button.
3. Select **OK** to save and exit.



## Editing Files

Deleting, moving, renaming the photo files or creating new folders are the same as in the video list. Refer to **Using Video List > Editing Files**.



# HUMAX TV Portal

**HUMAX TV Portal** provides Catch-up TV services and various web applications.

You can access **HUMAX TV Portal** in several ways.

- Press the **TV Portal** button.
- Press the **MENU** button and select **HUMAX TV Portal**.

**Note:**

- Press the **TV Portal** button to return to TV Portal home while using the portal service.
- Press the **EXIT** button to exit. Press the **BACK** button to return to the previous screen.
- Press the **RED** button to enter the simple mode.
- Press the **BLUE** button to display the HUMAX Privacy Policy.
- HUMAX TV Portal is powered by independent service providers and the services are subject to change without notice.



**Disclaimer:** You agree that your use of the HUMAX TV Portal Service ("Service") is at your sole risk and acknowledge that the Service and anything contained therein, including, but not limited to, content, services, goods or advertisements (the "Items") are provided "AS IS" and that HUMAX makes no warranty of any kind, express or implied, as to the Items, including, but not limited to, merchantability, no infringement, title or fitness for a particular purpose or use. HUMAX is not responsible for the quality of the broadband, and any disruptions or discontinuation of the Services as a result of broadband provided by your Internet Service Provider ("ISP"). HUMAX does not warrant that the Service is compatible with your equipment or that the Service is free of errors or viruses and is not liable for any damage you may suffer as a result of such destructive features. You agree that HUMAX, its Suppliers and its third-party agents shall have no responsibility or liability for any injury or damages, whether caused by the negligence of HUMAX, its employees, subcontractors, agents, Suppliers or otherwise arising in connection with the Service and shall not be liable for any lost profits, losses, punitive, incidental or consequential damages or any claim against HUMAX by any other party or any fault, inaccuracy, omission, delay or any other failure in the Service caused by your equipment or arising from your use of the Service on such equipment. For any issues or questions about the compatibility with your broadband, please contact your ISP.

**Note:** More applications are to be updated.

In this chapter you can set options for parental control, language, time, video, audio and others.

**Note:** Press the **MENU** or **EXIT** button to exit.

## Parental Control

**MENU** → **Settings** → **Preferences** → **Parental Control**

You will be prompted to enter the password to access this menu.

**Note:** The default password is 0000. If you have forgotten your password, please contact HUMAX Customer Service.

### Restriction of Access

1. Select **Restriction of Access**.
2. Select an option.
  - **No Block**
  - **Block G(General) and above**
  - **Block PG(Parental Guidance Recommended) and above**
  - **Block M(Mature Audience 15+) and above**
  - **Block MA(Mature Adult Audience 15+) and above**
  - **Block AV(Adult Audience, Strong Violence 15+) and above**
  - **Block R(Restricted 18+) and above**
  - **Block All**
3. Press the **OK** button.



**Note:** The password is required to view the blocked programmes.

### Changing STB Password

1. Select **Change STB Password**.
2. Enter the new password.
3. Enter the new password again for verification.



# Preferences

## Language Setting

MENU → Settings → Preferences → Language

1. Select **System Language**.
2. Select the language.

**Note:** You can change the audio or subtitle language by pressing the **AUDIO** or **SUBTITLE** button while watching a programme.



## Setting Power On/Off Timer

MENU → Settings → Preferences → Time

1. To turn on the product automatically, select **Power On Timer** and select **Set Timer**.
2. Enter the time.
3. Set the options for the power on timer.
  - **Channel:** Select the channel to be displayed when powering on.
  - **Volume:** Adjust the volume of the audio when powering on.
  - **Repeat:** Select the repeat mode of the power on timer.
4. To turn off the product automatically, select **Power Off Timer** and select **Set Timer**.
5. Enter the time.



**Note:** The power on time and power off time should be set different from each other.

## Video Setting

MENU → Settings → Preferences → Video

### Setting TV Screen Ratio

You can select the screen ratio of your TV.

- 1. Select **Screen Ratio**.
- 2. Select an option.
  - **16:9 – 4:3**

### Setting Display Format

You can select the display format according to the screen ratio of your TV.

- 1. Select **Display Format**.
- 2. Select an option.
  - Screen ratio 4:3: **Auto – 16:9 Letterbox – 14:9 Letterbox – Centre**
  - Screen ratio 16:9: **Auto – Pillar Box – Zoom**



**Note:** You can set the display format by pressing the **WIDE** button while watching a programme. Refer to *Display Format / Resolution*.

| Screen Ratio | Display Format                                                                                     |                                                                                                         |                                                                                                    |
|--------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 4:3          | <br><b>Auto</b>   | <br><b>Letterbox</b>   | <br><b>Centre</b> |
|              | <br><b>Auto</b> | <br><b>Pillarbox</b> | <br><b>Zoom</b> |

# Preferences

## Audio Setting

**MENU → Settings → Preferences → Audio**

### Setting Digital Audio Output

You can select the digital audio signal output of your product.

1. Select **Digital Audio Output**.
2. Select an option.
  - **Multi-channel – Stereo**

### Setting Lip-Sync

You can adjust the sound difference of audio and video.

1. Select **Lip-Sync**.
2. Adjust the lip-sync using the ◀/▶ button.  
Pressing the right button increases the audio speed and pressing the left button decreases it.



## Screen Display

**MENU → Settings → Preferences → Screen Display**

### Setting Info Display Time

You can set the duration the information box is displayed every time the channel is switched.

1. Select **Info Display Time**.
2. Select an option.
  - **Off – 1~20 sec**

### Setting Transparency

You can the transparency of the On-Screen Display.

1. Select **Transparency**.
2. Select an option.
  - **Off – 25% – 50% – 75%**



### Setting Subtitle Display

You can set to display the subtitle automatically or not.

1. Select **Subtitle Display**.
2. Select an option.
  - **On – Off**

### Setting Subtitle Font

You can adjust the subtitle font.

1. Select **Subtitle Font**.
2. Select an option.
  - **Variable – Fixed**

## EPG Type Setting

**MENU → Settings → Preferences → EPG Type**

### Setting EPG Type

You can set the EPG type to **HUMAX** mode or **IceTV** mode.

1. Select **EPG Type**.
2. Select an option.
  - **HUMAX**: The HUMAX TV guide and i-plate is displayed.
  - **IceTV**: If you have an IceTV account, select IceTV. Enter the member ID, password, region and device label to proceed.



# Installation

Installation menu allows you to search the available TV and radio channels. Software update, dynamic update, antenna power and factory default settings are also available in this section.

**MENU → Settings → Installation**

You will be prompted to enter the password to access this menu.

**Note:**

- The default password is 0000. If you have forgotten your password, please contact HUMAX Customer Service.
- Press the **MENU** or **EXIT** button to exit.

## Automatic Search

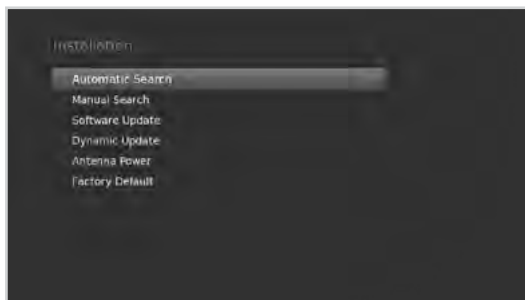
**MENU → Settings → Installation → Automatic Search**

You can search channels automatically without entering any other information.

1. Select **Automatic Search**. Channel search starts.
2. Select **Save** and press the **OK** button to save the results.

**Note:**

- Select **Stop** and press the **OK** button to stop the channel search.
- The channels searched from the previous channel search will remain.



## Manual Search

**MENU → Settings → Installation → Manual Search**

You can search channels manually by searching parameters.

1. Select **Manual Search**.
2. Configure the search options.
  - **Channel:** Select the channel.
  - **Frequency:** Enter the frequency. The corresponding frequency value will be automatically displayed.
  - **Bandwidth:** Select the bandwidth.
  - **Network Search:** Select **On** or **Off**.
3. Select **Search** and press the **OK** button.
4. Select **Save** and press the **OK** button to save the results.



### Note:

- Select **Stop** and press the **OK** button to stop the channel search.
- The channels searched from the previous channel search will remain.

# Installation

## Software Update

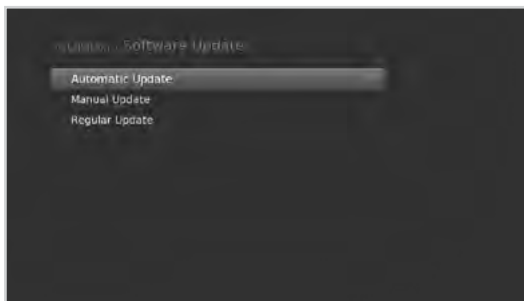
The software will be updated automatically through the Regular Update feature as a default. You can also check for newly released software versions by selecting SW Update in HUMAX TV Portal. It is recommended that you periodically check for the availability of software update.

Make sure the internet is connected. You can connect the internet using a wireless USB dongle or a LAN cable. When using a wireless USB dongle, it is recommended to use a USB dongle distributed by HUMAX. Other products may not function or respond. Go to [www.humaxdigital.com/au](http://www.humaxdigital.com/au) for details of where to buy. If there is no internet connection, visit the HUMAX website for the latest software versions (<http://www.humaxdigital.com/au>) or contact Humax Customer Support on 1300 737 937.

**MENU → Settings → Installation → Software Update**

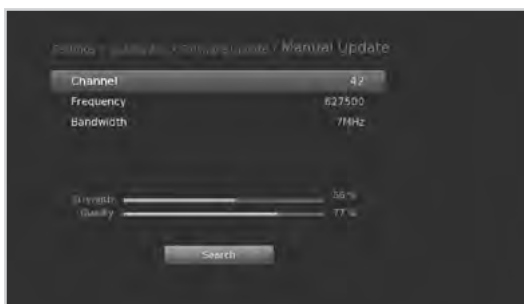
### Automatic Update

1. Select **Automatic Update** and press the **OK** button to search for new software.
2. When new software is detected, select **Yes** to start the update process now.



### Manual Update

1. Select **Manual Update** and press the **OK** button.
2. Enter the options manually.
  - **Channel:** Select the channel.
  - **Frequency:** Enter the frequency. The corresponding frequency value will be automatically displayed.
  - **Bandwidth:** Select the bandwidth.
3. Select **Search** and press the **OK** button to search for new software.
4. When new software is detected, select **Yes** to start the update process now.



Please wait until the update is complete. When completing the software update, the product is automatically powered off and on again automatically powered off and on again.



## Regular Update

You can set the software update to take place automatically at 4a.m. on a daily basis.

1. Select **Regular Update**.
2. Select an option.
  - **On**: Software is updated automatically at 4a.m.
  - **Off**: No automatic software update

### Note:

- It may take approximately 40 minutes to update software.
- Other functions such as scheduling programmes will not activate while software update takes place.
- If new software is detected, you can choose either to download immediately or later. If you select **Later**, the message will be displayed again when you switch into standby mode.
- You can also update the software by connecting a USB device which has the new software file. The file can be downloaded from the HUMAX website.



### Caution:

- Please be careful to keep the power on and the power cord plugged in during software update. If the power is off during software update, fatal damage may be caused to the product.
- Software update through the network is also possible if you access HUMAX TV Portal.

## Software Upgrade via USB Memory Stick

1. Visit HUMAX Australia website ([www.humaxdigital.com/au](http://www.humaxdigital.com/au)) and go to **Support>Software Download**.
2. Check the latest software version and click the title to commence download and save it to an EMPTY USB memory stick (Make sure you have no other files).
3. Power off the receiver by switching off the switch located on the rear.
4. Insert the USB memory stick into the USB port (located at the rear) of the receiver.
5. Power on the receiver by switching on the switch located on the rear and immediately start tapping the front **Standby** touch button until the letter **R** appears on the front display.
6. The front display will change to **P** and numbers will show indicating the progress. (You can also monitor the progress on the TV screen connected to the receiver.)
7. When the front display changes to **END**, pull out the USB memory stick.
8. To confirm successful update, please go to **Menu>System>System Information** and check **Software Version**.

**Note:** If the download progress stops around 89%, it may take up to 5 minutes for it to restart. DO NOT TURN OFF the receiver at this point.

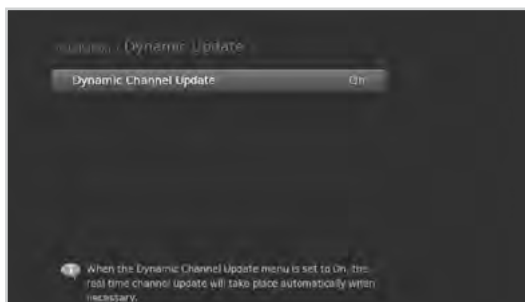
# Installation

## Dynamic Update

**MENU → Settings → Installation → Dynamic Update**

You can have the real time channel update take place automatically when necessary.

1. Select **Dynamic Channel Update**.
2. Select an option.
  - **On**: Channels are updated automatically when necessary.
  - **Off**: No automatic channel update

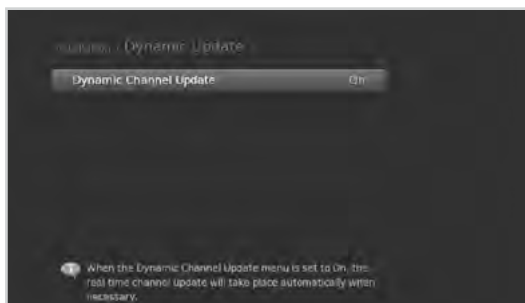


## Antenna Power

**MENU → Settings → Installation → Antenna Power**

Active antenna is a portable or indoor antenna which needs power supply from the product because it does not have power cord for itself. Connect an active antenna to the **ANTENNA IN** on the rear of the product. The antenna power should be turned on if your TV is connected to an active antenna that requires external power.

1. Select **5V Antenna Power**.
2. Select an option.
  - **On**: 5V power is supplied from the active antenna cable.
  - **Off**: No power supplied.



## Factory Default

**MENU → Settings → Installation → Factory Default**

1. Select **Factory Default**.
2. A popup will appear. Select **Yes**.
3. You will be prompted to enter the password.  
Enter the password.

**Note:** The default password is 0000. If you have forgotten your password, please contact HUMAX Customer Service.

### Warning:

- To format the HDD, mark **Format HDD**.
- Please note that once you perform Factory Default, all data such as channel list, and all user configured data will be deleted. After completing the default setting, the installation wizard will appear automatically in a few seconds.



# System

In **System**, system information, signal detection, power management, conditional access and data storage options are available.

**Note:** Press the **MENU** or **EXIT** button to exit.

## System Information

**MENU → Settings → System → System Information**

The system information is displayed.



## Signal Detection

**MENU → Settings → System → Signal Detection**

You can check the signal strength and quality of the searched channels.

**Note:** This menu will not be activated while recording.



## Power Management

**MENU → Settings → System → Power Management**

### Power Saving in Standby

You can minimise the standby power consumption to below 1W.

### Setting Automatic Power Down

The receiver automatically enters standby mode for power saving if no user interaction occurs for 3 hours.

1. Select **Automatic Power Down**.
2. Select **On** to enter standby mode automatically if no user interaction occurs for 3 hours.



**Note:** The message will be displayed before entering standby mode. If no selection is made for 30 seconds, the receiver enters standby mode automatically.

## Data Storage

**MENU → Settings → System → Data Storage**

You can check the size of the internal hard disk drive or external USB storage device.

1. Select a storage to display the details for each storage.
2. To format the selected storage, select **Format Storage**. If you select **Yes**, you will be prompted to enter the password.

### Note:

- The default password is 0000. If you have forgotten your password, please contact HUMAX Customer Service.





# System

## Internet Setting

MENU → Settings → System → Internet Setting

### Configuring Wi-Fi (wireless)

1. Select **Configure Wi-Fi**.
2. The wireless LAN network list will appear. Select your Wi-Fi network and press the **OK** button.
3. If your Wi-Fi network is not listed, select **Input network name** and enter the name in the keyboard.
4. Configure the Wi-Fi setting options.
  - **Network Name:** The Wi-Fi network name
  - **Security Type:** The Wi-Fi security type
  - **Password:** The Wi-Fi password.



**Note:** Refer to **Connecting the Network** for details.

### Configuring LAN

1. You can configure the Ethernet setting options.
  - **DHCP:** Apply the options according to the DHCP.
  - **Manual:** Enter the options manually,

Select **Apply** and press the **OK** button.

#### Note:

- When entering the IP address manually, enter 3 digits in a row.
- The network is connected by LAN when both Wi-Fi and LAN are activated.
- HUMAX recommends the network connection over a direct LAN.



### Content Sharing

You can find video, music and photo files in the HDD and play them on your TV or send those files to other devices. (Make sure the network is connected to both devices.)

1. Select **Content Sharing**.
2. Select **On** to connect to the HDD from other devices.

## **FTP (File Transfer Protocol) Server**

Using the Home Networking function, you can copy the recorded files from the hard disk drive to your PC with no external USB devices.

1. Select **FTP Server**.
2. Select **On** to use the receiver as an FTP server.
3. Go to **Internet Setting>Configure Lan (Wi-Fi)** to find out the IP address which is needed to connect to the FTP server.
4. Enter your IP address (FTP://xxx.xxx.x.xxx) on your internet browser address field.
5. Enter the user name and password.
  - **User name:** HumaxFTP
  - **Password:** (Your PIN code. Default: 0000)

# Appendix

## Specification

| Tuner & Channel        |                                                                             |
|------------------------|-----------------------------------------------------------------------------|
| No. of Tuners          | 2                                                                           |
| Input Connector        | IEC 169-2 female                                                            |
| Frequency Range        | 174-230MHz(VHF), 520-820MHz(UHF)                                            |
| Audio/Video Decoding   |                                                                             |
| Audio Mode             | Single channel/Dual channel/Joint stereo/Stereo                             |
| Video Format           | 4:3, 16:9                                                                   |
| Video Resolution       | 1080p, 1080i, 720p, 576p, 576i                                              |
| Memory                 |                                                                             |
| Flash Memory           | 32MB                                                                        |
| RAM                    | 256MB                                                                       |
| EEPROM                 | 8KB                                                                         |
| Audio/Video In/Out     |                                                                             |
| Video                  | RCA, YPbPr, HDMI/HDCP                                                       |
| Audio                  | Audio L/R, S/PDIF (Digital Audio Output)                                    |
| Data In/Out            |                                                                             |
| USB                    | USB 2.0 Host (5 V $\pm$ 500, 500mA Max.)                                    |
| Hard Disk              |                                                                             |
| HDD                    | 500GB/1TB                                                                   |
| Power Supply           |                                                                             |
| Input Voltage          | 90-250V a.c., 50/60Hz                                                       |
| Type                   | SMPS                                                                        |
| Power Consumption      | Max. 25W (Standby: Max. 1W)                                                 |
| Protection             | Separate internal fuse.<br>The input should be protected against lightning. |
| Physical Specification |                                                                             |
| Size (w/h/d)           | 380mm×246mm×55mm                                                            |
| Weight                 | 2.75kg                                                                      |
| Operating Temperature  | 0 °C to +45 °C                                                              |

**Note:** The specifications are subject to change without notice.

## Service and Support

Information concerning troubleshooting, software upgrade and product support is provided in the following websites and customer service centre. Should your product require warranty service, please contact HUMAX to obtain the appropriate authorization.

### HUMAX Customer Service

|           |                       |                                                |
|-----------|-----------------------|------------------------------------------------|
| Australia | <b>Tel:</b>           | 1300 737 937                                   |
|           | <b>Opening Hours:</b> | Mon-Fri 9:00-17:00 (excluding Public Holidays) |
|           | <b>Address:</b>       | 7 / 602 Whitehorse Road, Mitcham, Vic, 3132    |
|           | <b>E-mail:</b>        | ausupport@humaxdigital.com                     |
|           | <b>Website:</b>       | www.humaxdigital.com/au                        |
|           | <b>Language:</b>      | English                                        |

**Note:** For hardware repair, please visit our website.

# Appendix

---

## Safety Warning

This product has been manufactured to comply with international safety standards. Please read the following safety precautions carefully.

### Safety Instructions and Precautions

#### 1. MAINS SUPPLY

- Operate this product only from the type of power supply indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your local power company.
- Disconnect the product from the mains before you start any maintenance or installation procedures.

#### 2. OVERLOADING

- Do not overload a wall outlet, extension cord or adapter as this may result in electric fire or shock.

#### 3. LIQUID

- The product should not be exposed to liquid of any kind. In addition, no objects filled with liquid should be placed on the apparatus.

#### 4. CLEANING

- Disconnect the product from the wall outlet before you clean it.
- Use a moist cloth to clean the product. Do not use solvents. Wipe the surface gently with a soft cloth as it may get scratched.

#### 5. VENTILATION

- Make sure that the top of the product is not blocked. It is necessary to have a sufficient airflow into the unit.
- Do not put the product on soft surfaces.
- Do not put objects on the product. This will block the ventilation or cause damage to the surface.

#### 6. ATTACHMENTS

- Do not use any unsupported attachments as these may be hazardous or cause damage to the product.

#### 7. LIGHTNING, STORM OR NOT IN USE

- Unplug the product from the wall outlet and disconnect the antenna during a thunderstorm or when left unattended and unused for long periods of time. This will prevent damage to the unit due to lightning and power-surges.

#### 8. EXTRANEIOUS OBJECTS

- Do not insert anything through the openings in the unit, where they can touch dangerous voltage points or damage parts.

#### 9. REPLACEMENT OF PARTS

- When replacement of parts is required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part. Unauthorized substitution may result in additional damage to the unit.

#### 10. CONNECTION

##### [Satellite] CONNECTION TO THE SATELLITE DISH LNB

- Disconnect the product from the mains before connecting or disconnecting the cable from the satellite dish. Failure to do so can damage the LNB.

##### [Cable] CONNECTION TO THE CABLE TV SIGNAL

- Connect all components before plugging any power cords into the wall outlet. Always turn off the product, TV and other components before you connect or disconnect any cables.

##### [Terrestrial] CONNECTION TO THE AERIAL

- Disconnect the product from the mains before connecting or disconnecting the cable from the aerial. Failure to do so can damage the aerial.

## 11. CONNECTION TO THE TV

- Disconnect the product from the mains before connecting or disconnecting the cable from the TV. Failure to do so can damage the TV.

## 12. EARTHING

[Satellite] The LNB cable must be earthed to the system earth for the satellite dish.

## 13. LOCATION

- Place the product indoors to avoid exposing it to lightning, rain or sun. Do not place it near a radiator or heat register.
- We recommend that the product has 10 cm clearance from any other appliances susceptible to electromagnetic influences, such as a TV or a VCR.
- Do not block the openings with any object, and do not place the product on a bed, sofa, rug, or other similar surface.
- If you place the product on a rack or a bookcase, ensure that there is adequate ventilation and that you have followed the manufacturer's instructions for mounting.
- Do not place the product on an unstable cart, stand, tripod, bracket, or table where it can fall. A falling product can cause serious injury to a child or adult, and serious damage to the appliance.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.

## Warning

### 1. To avoid damage of the power cord or plug;

- Do not modify or process the power cord or plug arbitrarily.
- Do not bend or twist the power cord.
- Make sure to disconnect the power cord holding the plug.
- Keep heating appliances as far as possible from the power cord in order to prevent the cover vinyl from melting.
- The mains plug, as a disconnection device, shall remain readily accessible by the user.

### 2. To avoid electrical shock;

- Do not open the main body.
- Do not insert metal or inflammable objects inside the product.
- Do not touch the power plug with wet hands.
- Disconnect the power cord in case of lightning.

### 3. To avoid damage of product;

- Do not use the product when it is out of order. If you continue to use the product when defective, serious damage can be caused. Make sure to contact HUMAX Customer Service if the product is out of order.
- Do not insert metal or alien substance into the slots for the modules or Smartcards. (where applicable) It may cause damage to the product and reduce its life span.

### 4. To avoid damage of the hard disk drive (PVR only)

- Do not move the product or turn the power off suddenly while the hard disk drive is running.
- The company shall not be liable for any corruption of data on the hard disk drive caused by carelessness or misuse.

# Appendix

## Trouble Shooting

Before contacting the customer service centre, please read the tips below carefully. If the problem persists after completing the following procedure, please contact HUMAX Customer Service for further instructions.

### 1. No message displayed on the front display. (The product will not switch on.)

- Check the main power cable and make sure it is plugged into a suitable power outlet.
- Check that the mains supply is switched on.
- Connect the power cable to a different power outlet.
- Check that the power switch is on at the rear of the product. (where applicable)

### 2. No picture

- Make sure that the product is powered on and in operation mode. (Press the **STANDBY** button)
- Make sure that the AV cable is firmly connected to the TV.
- Make sure that the antenna cable is properly connected to the product.
- Be sure to activate channel search.
- Check the brightness level of the TV.
- Check if the channel is currently on air. Contact the broadcaster to ensure that the channel is running.
- Press the **SOURCE** button if the product is in external input mode. (where applicable)
- **Satellite:** Make sure that the antenna setting in the menu is correct.

### 3. Poor picture/sound quality

- Make sure there is no mobile phone or microwave oven near the product.
- Keep the power and the RF cables apart from each other.

**Note:** If the antenna is covered with snow or the RF is weakened by heavy rain, the condition of the sound and picture may temporarily be poor. However, the poor sound and picture quality due to weather conditions cannot be accepted as a malfunction of product.

- **[Satellite]** Check that your dish alignment is correct.
- **[Satellite]** Change the satellite dish for a larger one as this will increase the signal levels received.
- **[Satellite]** Replace the LNB with a lower noise factor in cases where the noise factor is too high.
- **[Satellite]** Replace the LNB with a new one in case it is damaged or out of order.
- **[Satellite]** Install the antenna in an obstacle-free place.
- **[Satellite]** Check the signal levels and adjust your antenna if the level is too low. The signal level may be affected by weather conditions.
- **[Terrestrial]** Adjust the antenna direction to get a better picture.
- **[Terrestrial]** Set the antenna power in menu to On, if you use the active antenna to improve the reception. (where applicable)

### 4. No or poor sound

- Check that your AV cable is connected correctly.
- Check the volume levels of your TV set and the product.
- Check if the product or TV is on mute.
- Check audio type or soundtrack option. (where applicable)

### 5. Remote control does not operate.

- To control the product, the top end of the remote control should point directly towards the receiving part of the product.
- Remove and reinsert the batteries in the remote control.
- Replace the batteries in the remote control for a new set.
- Set the remote control to STB or PVR mode, if you are using the universal remote control. (where applicable)

### 6. Cannot make reservations.

- Check that no previous reservations are conflicting with the new reservation.

**7. No password information is given.**

- The default password is always **0000**.

**8. Channel search does not work.**

- **[Satellite]** Make sure that the antenna setting in the menu is correct.
- **[Cable]** Make sure that your cable is connected correctly.
- **[Terrestrial]** Use the appropriate antenna capable of receiving VHF or UHF channels for your area.

**9. Cannot update new software.**

- You can get an update. If the product does not show a message requesting update, this means no software is available.

**10. Cannot watch scrambled channels.**

- Check that you have the appropriate Smartcard or CI-Module. Reinsert the Smartcard or CI-Module and make sure it initialises correctly.
- Check in the menu that the product is detecting the Smartcard or CI-Module.
- Check in the menu that you have a valid and working subscription to the channels you wish to view.
- Ensure that the Smartcard or CI-Module is not damaged.

**11. Cannot watch pay channels.**

- Check in the menu that you have a valid and working subscription to the channels you wish to view.
- Contact your network operator for more information.

**12. The product makes a humming noise.**

- The noise is from the fan; the hard disk is operating normally. This kind of noise is inevitable but seldom noticeable.

**13. Cannot record programmes. (PVR only)**

- The hard disk is full. Delete unnecessary programmes and make space for new recording.
- Check if recording is conflicted with another channel. Stop the current recording or wait until the recording is finished.
- Check that the product is switched on when recording starts.

**14. Cannot operate TSR (Time Shifted Recording). (PVR only)**

- TSR may not be available during recording. Wait until recording is finished.
- Delete unnecessary programmes and make space for new recording.

**15. Cannot playback. (PVR only)**

- To playback the recorded file of a scrambled channel, use the Smartcard. In case it has been a long time since you last recorded, this may not work. Contact Humax Customer Service.
- The signal during recording may be weak or the hard disk too full.

**16. Cannot change channels while recording. (PVR only)**

- Certain channels may not be changed due to restriction of the tuner or connection type.



# Appendix

## Remote Control Code List

### 1. Using the Universal Remote Control

1. Select the mode(PVR, TV, DVD, AUDIO) you want to set by pressing the corresponding button on the remote control. The button will blink once.
2. Keep pressing the button for 3 seconds until the button lights on.
3. Enter the 3-digit code. Every time a number is entered, the button will blink. When the third digit is entered, the button will blink twice.
4. If a valid 3-digit code is entered, the product will power off.
5. Press the **OK** button and the mode button will blink three times. The setup is complete.
6. If the product does not power off, repeat the instruction from 3 to 5.

#### Note:

- When no code is entered for one minute the universal setting mode will switch to normal mode.
- Try several setting codes and select the code that has the most functions.

#### Remote Control Function List

The keys on the remote control function as in the list below.

**Note:** Some keys may not function depending on the product.

| Button                                                                            | TV          | DVD   | AUDIO     |
|-----------------------------------------------------------------------------------|-------------|-------|-----------|
| <b>STANDBY</b>                                                                    | POWER       | POWER | POWER     |
|  | MUTE        | MUTE  | MUTE      |
| <b>PVR</b>                                                                        |             |       |           |
| <b>TV</b>                                                                         |             |       |           |
| <b>DVD</b>                                                                        |             |       |           |
| <b>AUDIO</b>                                                                      |             |       |           |
| <b>1</b>                                                                          | DIGIT 1     | 1     | INPUT 1   |
| <b>2</b>                                                                          | DIGIT 2     | 2     | INPUT 2   |
| <b>3</b>                                                                          | DIGIT 3     | 3     | INPUT 3   |
| <b>4</b>                                                                          | DIGIT 4     | 4     | INPUT 4   |
| <b>5</b>                                                                          | DIGIT 5     | 5     | INPUT 5   |
| <b>6</b>                                                                          | DIGIT 6     | 6     | INPUT 6   |
| <b>7</b>                                                                          | DIGIT 7     | 7     | INPUT 7   |
| <b>8</b>                                                                          | DIGIT 8     | 8     | INPUT 8   |
| <b>9</b>                                                                          | DIGIT 9     | 9     | INPUT 9   |
| <b>0</b>                                                                          | DIGIT 0, 11 | 0     | INPUT 0   |
| <b>TV Portal</b>                                                                  |             |       |           |
| <b>MENU</b>                                                                       | MENU        | MENU  | MENU/MODE |

# Appendix

English

| Button | TV                                | DVD                                   | AUDIO                                                  |
|--------|-----------------------------------|---------------------------------------|--------------------------------------------------------|
| ▶      | TEXT EXPAND                       | PLAY                                  | PLAY                                                   |
| II     | TEXT HOLD                         | PAUSE                                 | PAUSE                                                  |
| ■      | PIP INPUT                         | STOP                                  | STOP                                                   |
| ●      | PIP MOVE                          | RECORD, OPEN CLOSE                    | RECORD                                                 |
| ◀◀     | PIP OFF                           | REWIND, SEARCH REVERSE;<br>SCAN       | DVD SEARCH REW, CD<br>SEARCH REW, REW                  |
| ▶▶     | PIP                               | FAST FORWARD, SEARCH<br>FORWARD; SCAN | FAST FORWARD, DVD<br>SEARCH REW, CD SEARCH<br>REW, REW |
| ◀◀     | TEXT MIX                          | SKIP -, TRACK -, CHAPTER -            | DVD SKIP -, CD SKIP -, SKIP -                          |
| ▶▶     | TEXT OFF, TV                      | SKIP, TRACK +, CHAPTER +              | DVD SKIP+, CD SKIP +,<br>SKIP +                        |
| RED    | RED                               | RED                                   | RED                                                    |
| GREEN  | GREEN                             | GREEN                                 | GREEN                                                  |
| YELLOW | YELLOW                            | YELLOW                                | YELLOW                                                 |
| BLUE   | BLUE                              | PROGRAMME                             | BLUE                                                   |
| MEDIA  |                                   |                                       |                                                        |
| GUIDE  | GUIDE                             | GUIDE                                 | DSP MODE                                               |
| OK     | OK                                | OK                                    | OK                                                     |
| UP     | UP                                | UP                                    | UP                                                     |
| LEFT   | LEFT                              | LEFT                                  | LEFT                                                   |
| RIGHT  | RIGHT                             | RIGHT                                 | RIGHT                                                  |
| DOWN   | DOWN                              | DOWN                                  | DOWN                                                   |
| EXIT   | EXIT                              | EXIT, RETIRN                          | EXIT                                                   |
| BACK   | LAST, RECALL;<br>PP; LAST CHANNEL | CLEAR                                 | REPEAT                                                 |
| VOL+   | VOL+                              | VOL+                                  | VOL+                                                   |
| VOL-   | VOL-                              | VOL-                                  | VOL-                                                   |
| i      | INFO, OSD; DISPLAY                | INFO, OSD; DISPLAY                    | INFO                                                   |
| LIST   |                                   | LIST                                  |                                                        |
| P+     | P+                                | P+                                    | P+                                                     |
| P-     | P-                                | P-                                    | P-                                                     |
| TEXT   | TEXT                              | PVR MENU                              |                                                        |
| ◀?     |                                   | AUDIO, LANGUAGE                       | SURROUND                                               |
| SUB    | SUBTITLE, LANGUAGE; CC            | SUBTITLE                              |                                                        |

# Appendix

| Button                                                                            | TV                                           | DVD                     | AUDIO            |
|-----------------------------------------------------------------------------------|----------------------------------------------|-------------------------|------------------|
| <b>TV/RADIO</b>                                                                   | TV/DTV ATV/DTV; D/A; DTV/TV; DTV; DIGITAL    | HDD, DVD/HDD            | BAND             |
| <b>OPT+</b>                                                                       |                                              |                         | RANDOM           |
|  | TEXT SUBPAGE<br>TEXT TIME                    |                         | RANDOM           |
|  | TEXT INDEX                                   | TITLE                   |                  |
|  | TEXT POSITION<br>TEXT CANCEL;<br>TEXT UPDATE | SLOW;<br>STEP           |                  |
| <b>SOURCE</b>                                                                     | SOURCE, AV, 55INPUT; TV/<br>AV               | SOURCE, TV/DVD, TV/DISK | SOURCE, FUNCTION |
| <b>SLEEP</b>                                                                      | SLEEP                                        | SLEEP                   | SLEEP            |
| <b>V-FORMAT</b>                                                                   | TEXT SIZE; TEXT EXPAND;<br>FTB               |                         |                  |
| <b>WIDE</b>                                                                       | WIDE, FORMAT, 16:9,<br>ASPECT; ZOOM          | ZOOM                    |                  |

**Note:** Some products may not respond depending on the manufacturer.

## 2. TV Code List

| Brand                     | Code                                                                                                                                                           |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A.R. Systems</b>       | 102, 006, 080, 066                                                                                                                                             |
| <b>Accent</b>             | 006                                                                                                                                                            |
| <b>Acer</b>               | 261, 278, 305                                                                                                                                                  |
| <b>Acoustic Solutions</b> | 210, 312, 324, 370, 386, 428, 477                                                                                                                              |
| <b>Acura</b>              | 002                                                                                                                                                            |
| <b>ADL</b>                | 224                                                                                                                                                            |
| <b>Admiral</b>            | 043, 014, 015, 023                                                                                                                                             |
| <b>Advent</b>             | 192, 342                                                                                                                                                       |
| <b>Adyson</b>             | 034, 035                                                                                                                                                       |
| <b>AEG</b>                | 211, 256, 327, 489                                                                                                                                             |
| <b>Agashi</b>             | 043, 034, 035                                                                                                                                                  |
| <b>AGB</b>                | 094                                                                                                                                                            |
| <b>Agef</b>               | 014                                                                                                                                                            |
| <b>Aiko</b>               | 006, 061, 043, 074, 002, 004, 011, 028, 034, 035, 065                                                                                                          |
| <b>Aim</b>                | 006, 171                                                                                                                                                       |
| <b>Airis</b>              | 316, 413, 473                                                                                                                                                  |
| <b>Aiwa</b>               | 139, 141, 445                                                                                                                                                  |
| <b>Akai</b>               | 102, 006, 098, 144, 145, 111, 061, 043, 074, 148, 232, 280, 128, 122, 461, 109, 462, 489, 094, 084, 083, 065, 035, 034, 033, 028, 023, 011, 004, 002, 154, 321 |
| <b>Akiba</b>              | 006, 036, 080, 045                                                                                                                                             |
| <b>Akito</b>              | 006, 044                                                                                                                                                       |
| <b>Akura</b>              | 006, 144, 134, 204, 043, 036, 002, 026, 045, 071, 298, 327, 376, 451                                                                                           |
| <b>Alaron</b>             | 034                                                                                                                                                            |
| <b>Alba</b>               | 006, 144, 134, 204, 087, 064, 036, 005, 108, 473, 455, 447, 388, 099, 084, 077, 072, 065, 059, 034, 023, 002                                                   |
| <b>AlfaView</b>           | 220                                                                                                                                                            |
| <b>All-Tel</b>            | 190, 238                                                                                                                                                       |
| <b>Allorgan</b>           | 032, 035                                                                                                                                                       |
| <b>Allstar</b>            | 006                                                                                                                                                            |
| <b>Amitech</b>            | 131, 241                                                                                                                                                       |
| <b>Amoi</b>               | 315                                                                                                                                                            |
| <b>Amplivision</b>        | 064, 035, 049                                                                                                                                                  |

# Appendix

English

|                      |                                                                                |
|----------------------|--------------------------------------------------------------------------------|
| <b>Amstrad</b>       | 006, 204, 043, 036, 074, 002, 023, 026, 062, 065, 071, 094, 128, 410, 436, 451 |
| <b>Anam</b>          | 006, 002                                                                       |
| <b>Anam National</b> | 006, 129                                                                       |
| <b>Andersson</b>     | 210, 211                                                                       |
| <b>Anglo</b>         | 043, 002                                                                       |
| <b>Anitech</b>       | 006, 043, 002, 045                                                             |
| <b>Ansonic</b>       | 006, 134, 064, 002, 017, 023, 042, 048, 066, 070, 285                          |
| <b>AOC</b>           | 120, 266, 335                                                                  |
| <b>Apollo</b>        | 083                                                                            |
| <b>Apro</b>          | 420                                                                            |
| <b>Arc En Ciel</b>   | 020                                                                            |
| <b>Arcam</b>         | 034, 035                                                                       |
| <b>Ardem</b>         | 006, 144                                                                       |
| <b>Arena</b>         | 006                                                                            |
| <b>Aristona</b>      | 102, 006                                                                       |
| <b>ART</b>           | 204                                                                            |
| <b>Arthur Martin</b> | 023                                                                            |
| <b>ASA</b>           | 010, 014, 017, 018, 055                                                        |
| <b>Asberg</b>        | 006                                                                            |
| <b>Asora</b>         | 002                                                                            |
| <b>Asuka</b>         | 043, 036, 034, 035, 045                                                        |
| <b>Atec</b>          | 340, 387                                                                       |
| <b>Atlantic</b>      | 006, 032, 034, 042, 049                                                        |
| <b>Atori</b>         | 002                                                                            |
| <b>Auchan</b>        | 023                                                                            |
| <b>Audiosonic</b>    | 006, 144, 086, 145, 043, 064, 036, 002, 020, 035, 066, 190, 250, 405, 473      |
| <b>Audioton</b>      | 086, 043, 064, 035                                                             |
| <b>Audiovox</b>      | 079                                                                            |
| <b>Aumark</b>        | 009                                                                            |
| <b>Autovox</b>       | 014, 032, 035, 056, 097                                                        |
| <b>AVC</b>           | 472                                                                            |
| <b>Avious</b>        | 352                                                                            |
| <b>Awa</b>           | 111, 005, 019, 002, 003, 035, 079, 271                                         |
| <b>Axxent</b>        | 002                                                                            |
| <b>Baier</b>         | 192                                                                            |

|                           |                                                                                                    |
|---------------------------|----------------------------------------------------------------------------------------------------|
| <b>Baird</b>              | 011, 012, 020, 033, 035, 054, 218                                                                  |
| <b>Bang &amp; Olufsen</b> | 014                                                                                                |
| <b>Barco</b>              | 023                                                                                                |
| <b>Basic Line</b>         | 102, 006, 134, 204, 036, 080, 002, 023, 035, 045, 053, 066, 211                                    |
| <b>Bastide</b>            | 035                                                                                                |
| <b>Bauer</b>              | 171, 344                                                                                           |
| <b>Baur</b>               | 006, 030, 061, 028, 056, 093, 096, 097, 101                                                        |
| <b>Bazin</b>              | 035                                                                                                |
| <b>Beaumark</b>           | 027                                                                                                |
| <b>Beko</b>               | 006, 144, 086, 145, 111, 064, 072, 172, 361, 405                                                   |
| <b>Belson</b>             | 138, 201, 215                                                                                      |
| <b>Belstar</b>            | 204                                                                                                |
| <b>BenQ</b>               | 223, 328, 329                                                                                      |
| <b>Bensten</b>            | 258, 436, 437                                                                                      |
| <b>Beon</b>               | 006, 072                                                                                           |
| <b>Berthen</b>            | 134                                                                                                |
| <b>Best</b>               | 064                                                                                                |
| <b>Bestar</b>             | 006, 064, 066                                                                                      |
| <b>Bestar-Daewoo</b>      | 066                                                                                                |
| <b>Binatone</b>           | 035                                                                                                |
| <b>Black Diamond</b>      | 444, 204, 211                                                                                      |
| <b>Blackway</b>           | 036, 045                                                                                           |
| <b>Blaupunkt</b>          | 030, 005, 080, 025, 028, 096, 101                                                                  |
| <b>Blue Media</b>         | 340, 387                                                                                           |
| <b>Blue Sky</b>           | 102, 006, 144, 134, 204, 145, 087, 036, 080, 091, 119, 045, 215, 229, 254, 265, 310, 361, 380, 445 |
| <b>Blue Star</b>          | 045                                                                                                |
| <b>BlueH</b>              | 391                                                                                                |
| <b>Boca</b>               | 361                                                                                                |
| <b>Boman</b>              | 256                                                                                                |
| <b>Boots</b>              | 002, 035, 044                                                                                      |
| <b>Bork</b>               | 265                                                                                                |
| <b>Bosch</b>              | 049                                                                                                |
| <b>BPL</b>                | 006, 033, 045, 202                                                                                 |
| <b>Brandt</b>             | 120, 144, 103, 020, 046, 052                                                                       |
| <b>Brimax</b>             | 380                                                                                                |
| <b>Brinkmann</b>          | 006, 134, 086, 072, 095                                                                            |

# Appendix

|                  |                                                                                                                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Brionvega</b> | 006, 014, 062                                                                                                                                                                                                                             |
| <b>Britannia</b> | 034, 035                                                                                                                                                                                                                                  |
| <b>Brother</b>   | 043                                                                                                                                                                                                                                       |
| <b>Bruns</b>     | 014                                                                                                                                                                                                                                       |
| <b>BSR</b>       | 023                                                                                                                                                                                                                                       |
| <b>BTC</b>       | 036                                                                                                                                                                                                                                       |
| <b>Bush</b>      | 102, 006, 144, 134, 204, 138, 087, 061, 043, 036, 005, 108, 376, 373, 370, 361, 355, 352, 327, 388, 430, 431, 432, 440, 448, 451, 473, 476, 477, 478, 002, 033, 035, 044, 045, 056, 059, 065, 066, 095, 133, 164, 210, 213, 229, 232, 250 |
| <b>Canton</b>    | 036                                                                                                                                                                                                                                       |
| <b>Capsonic</b>  | 043                                                                                                                                                                                                                                       |
| <b>Carad</b>     | 134, 204, 113                                                                                                                                                                                                                             |
| <b>Carena</b>    | 006, 080                                                                                                                                                                                                                                  |
| <b>Carrefour</b> | 006, 005, 010                                                                                                                                                                                                                             |
| <b>Carver</b>    | 025                                                                                                                                                                                                                                       |
| <b>Cascade</b>   | 006, 002                                                                                                                                                                                                                                  |
| <b>Casio</b>     | 006                                                                                                                                                                                                                                       |
| <b>Cat</b>       | 373, 504                                                                                                                                                                                                                                  |
| <b>Cathay</b>    | 006, 386                                                                                                                                                                                                                                  |
| <b>CCE</b>       | 006                                                                                                                                                                                                                                       |
| <b>cello</b>     | 397, 410, 418, 419, 420                                                                                                                                                                                                                   |
| <b>Centrum</b>   | 204                                                                                                                                                                                                                                       |
| <b>Centurion</b> | 006                                                                                                                                                                                                                                       |
| <b>Century</b>   | 014                                                                                                                                                                                                                                       |
| <b>CGE</b>       | 064, 023, 072                                                                                                                                                                                                                             |
| <b>Changhong</b> | 180                                                                                                                                                                                                                                       |
| <b>Chimei</b>    | 475, 415                                                                                                                                                                                                                                  |
| <b>Cimline</b>   | 036, 002                                                                                                                                                                                                                                  |
| <b>Cineral</b>   | 079                                                                                                                                                                                                                                       |
| <b>Cinex</b>     | 128, 213, 327                                                                                                                                                                                                                             |
| <b>Citizen</b>   | 009                                                                                                                                                                                                                                       |
| <b>City</b>      | 002                                                                                                                                                                                                                                       |
| <b>Clarivox</b>  | 006, 010, 072                                                                                                                                                                                                                             |
| <b>Classic</b>   | 091                                                                                                                                                                                                                                       |
| <b>Clatronic</b> | 006, 144, 043, 064, 036, 002, 035, 049, 065, 256                                                                                                                                                                                          |
| <b>Clayton</b>   | 204                                                                                                                                                                                                                                       |
| <b>CMS</b>       | 034                                                                                                                                                                                                                                       |

|                           |                                                                                                                   |
|---------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>CMS Hightec</b>        | 035                                                                                                               |
| <b>Concorde</b>           | 002                                                                                                               |
| <b>Condor</b>             | 006, 043, 064, 002, 034, 045, 049, 070, 072                                                                       |
| <b>Conia</b>              | 179, 201, 298, 376                                                                                                |
| <b>Conrac</b>             | 172                                                                                                               |
| <b>Contec</b>             | 006, 005, 002, 034                                                                                                |
| <b>Continental Edison</b> | 087, 020, 046                                                                                                     |
| <b>Cosmel</b>             | 006, 002                                                                                                          |
| <b>Crosley</b>            | 014, 023                                                                                                          |
| <b>Crown</b>              | 006, 144, 134, 204, 086, 145, 087, 111, 143, 064, 361, 135, 072, 071, 053, 033, 002                               |
| <b>Crown Mustang</b>      | 135                                                                                                               |
| <b>CS Electronics</b>     | 036, 034                                                                                                          |
| <b>CTX</b>                | 395                                                                                                               |
| <b>Curtis Mathes</b>      | 009, 015, 021, 024, 079                                                                                           |
| <b>Cybertron</b>          | 036                                                                                                               |
| <b>Cytronix</b>           | 246                                                                                                               |
| <b>D-Vision</b>           | 102, 006, 451                                                                                                     |
| <b>Daewoo</b>             | 102, 006, 124, 444, 036, 441, 406, 341, 338, 271, 249, 195, 192, 190, 164, 133, 119, 091, 079, 066, 035, 034, 002 |
| <b>Dainichi</b>           | 036, 034                                                                                                          |
| <b>Daitsu</b>             | 237                                                                                                               |
| <b>Dansai</b>             | 006, 005, 002, 004, 033, 034, 035                                                                                 |
| <b>Dansette</b>           | 071                                                                                                               |
| <b>Dantax</b>             | 144, 204, 086, 145, 064, 361, 445, 450                                                                            |
| <b>Datsura</b>            | 033                                                                                                               |
| <b>Dawa</b>               | 006                                                                                                               |
| <b>Daytek</b>             | 221, 269, 271                                                                                                     |
| <b>Dayton</b>             | 002, 221, 269                                                                                                     |
| <b>Daytron</b>            | 006, 002, 066                                                                                                     |
| <b>De Graaf</b>           | 098, 007, 023, 033                                                                                                |
| <b>DEC</b>                | 258                                                                                                               |
| <b>Decca</b>              | 006, 011, 035, 044, 094, 118                                                                                      |
| <b>Dell</b>               | 235, 278                                                                                                          |
| <b>Denko</b>              | 043                                                                                                               |
| <b>Denon</b>              | 021                                                                                                               |

|                       |                                                                      |
|-----------------------|----------------------------------------------------------------------|
| <b>Denver</b>         | 006, 108, 214, 256, 352, 410, 453, 473, 489                          |
| <b>Desmet</b>         | 006, 002, 014, 049                                                   |
| <b>DGM</b>            | 436                                                                  |
| <b>Diamant</b>        | 006                                                                  |
| <b>Diamond</b>        | 181                                                                  |
| <b>DiBoss</b>         | 293                                                                  |
| <b>Digatron</b>       | 006                                                                  |
| <b>Digihome</b>       | 210, 370                                                             |
| <b>Digiline</b>       | 006, 134, 018                                                        |
| <b>Digimate</b>       | 198                                                                  |
| <b>Digital Device</b> | 340                                                                  |
| <b>Digitek</b>        | 310, 380                                                             |
| <b>Digitrex</b>       | 478                                                                  |
| <b>Digix Media</b>    | 195                                                                  |
| <b>Dixi</b>           | 006, 002, 014, 035                                                   |
| <b>DL</b>             | 199, 258                                                             |
| <b>DMTech</b>         | 260, 438, 449, 454, 456                                              |
| <b>Domeos</b>         | 134                                                                  |
| <b>Dream Vision</b>   | 379                                                                  |
| <b>DTS</b>            | 002                                                                  |
| <b>Dual</b>           | 006, 204, 208, 035, 042, 054, 056, 095, 097, 164, 210, 219, 237, 468 |
| <b>Dual Tec</b>       | 035                                                                  |
| <b>Dumont</b>         | 010, 011, 014, 017, 035                                              |
| <b>Durabrand</b>      | 285, 361, 453                                                        |
| <b>Dux</b>            | 006                                                                  |
| <b>Dynatech</b>       | 035                                                                  |
| <b>Dynatron</b>       | 006                                                                  |
| <b>e-motion</b>       | 380                                                                  |
| <b>E:max</b>          | 256, 316                                                             |
| <b>Easy Living</b>    | 230, 326, 402                                                        |
| <b>Ecco</b>           | 162                                                                  |
| <b>ECE</b>            | 006                                                                  |
| <b>Edison-Minerva</b> | 087                                                                  |
| <b>Eiki</b>           | 150                                                                  |
| <b>Elba-Sharp</b>     | 094                                                                  |
| <b>Elbe</b>           | 102, 006, 113, 036, 028, 035, 042, 048, 062, 070, 075, 094, 099, 121 |
| <b>Elcit</b>          | 014, 023, 094                                                        |

|                           |                                                                                                                   |
|---------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Elekta</b>             | 043, 045                                                                                                          |
| <b>Element</b>            | 376                                                                                                               |
| <b>Elfunk</b>             | 204, 222                                                                                                          |
| <b>ELG</b>                | 006                                                                                                               |
| <b>Elin</b>               | 006, 098, 061, 002, 017, 056                                                                                      |
| <b>Elite</b>              | 006, 036, 049                                                                                                     |
| <b>Elta</b>               | 043, 002                                                                                                          |
| <b>Emerson</b>            | 006, 144, 134, 444, 086, 061, 064, 010, 014, 027, 045, 049, 065, 119                                              |
| <b>Emperor</b>            | 045                                                                                                               |
| <b>Envision</b>           | 266                                                                                                               |
| <b>Epson</b>              | 243, 184, 186                                                                                                     |
| <b>Erae</b>               | 267                                                                                                               |
| <b>Erres</b>              | 006                                                                                                               |
| <b>ESC</b>                | 006, 035                                                                                                          |
| <b>Etron</b>              | 002, 023                                                                                                          |
| <b>Eurofeel</b>           | 043, 035                                                                                                          |
| <b>Euroman</b>            | 006, 043, 064, 034, 035                                                                                           |
| <b>Europa</b>             | 006                                                                                                               |
| <b>Europhon</b>           | 006, 035, 094                                                                                                     |
| <b>Evesham</b>            | 230, 340, 370, 382, 387                                                                                           |
| <b>Evesham Technology</b> | 387                                                                                                               |
| <b>Evolution</b>          | 395                                                                                                               |
| <b>Excors</b>             | 467                                                                                                               |
| <b>Expert</b>             | 023, 032, 042                                                                                                     |
| <b>Exquisit</b>           | 006                                                                                                               |
| <b>FairTec</b>            | 268                                                                                                               |
| <b>Fenner</b>             | 002, 066                                                                                                          |
| <b>Ferguson</b>           | 006, 120, 098, 103, 030, 204, 012, 020, 029, 046, 052, 054, 077, 292, 447, 476                                    |
| <b>Fidelity</b>           | 006, 061, 043, 023, 026, 029, 034, 065, 071, 093, 097                                                             |
| <b>Filsai</b>             | 035                                                                                                               |
| <b>Finlandia</b>          | 098, 061, 011, 023, 033, 055                                                                                      |
| <b>Finlux</b>             | 102, 006, 144, 145, 333, 327, 172, 122, 118, 094, 089, 084, 083, 070, 055, 035, 023, 018, 017, 014, 011, 010      |
| <b>Firstline</b>          | 102, 006, 144, 134, 204, 061, 341, 267, 265, 250, 215, 172, 119, 097, 070, 066, 056, 050, 035, 034, 033, 011, 002 |

# Appendix

|                         |                                                                                                                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fisher</b>           | 061, 064, 005, 008, 011, 014, 017, 033, 035, 056, 097                                                                                                                                                                                     |
| <b>Flint</b>            | 006, 113, 043, 036, 080, 011                                                                                                                                                                                                              |
| <b>Force</b>            | 210                                                                                                                                                                                                                                       |
| <b>Forgestone</b>       | 029                                                                                                                                                                                                                                       |
| <b>Formenti</b>         | 006, 014, 023, 034, 049                                                                                                                                                                                                                   |
| <b>Formenti-Phoenix</b> | 034, 049                                                                                                                                                                                                                                  |
| <b>Fortress</b>         | 014, 015                                                                                                                                                                                                                                  |
| <b>Fraba</b>            | 006, 064                                                                                                                                                                                                                                  |
| <b>Friac</b>            | 006, 113, 064, 002, 091                                                                                                                                                                                                                   |
| <b>Frontech</b>         | 043, 002, 023, 035                                                                                                                                                                                                                        |
| <b>Fujimaro</b>         | 190                                                                                                                                                                                                                                       |
| <b>Fujitsu</b>          | 002, 011, 032, 035, 042, 137, 173, 187                                                                                                                                                                                                    |
| <b>Fujitsu General</b>  | 002, 032, 035, 137                                                                                                                                                                                                                        |
| <b>Fujitsu Siemens</b>  | 172, 211, 230, 246, 268, 369                                                                                                                                                                                                              |
| <b>Funai</b>            | 144, 134, 043, 275, 336, 369, 407                                                                                                                                                                                                         |
| <b>Galaxi</b>           | 006                                                                                                                                                                                                                                       |
| <b>Galaxis</b>          | 006, 064                                                                                                                                                                                                                                  |
| <b>Gateway</b>          | 394                                                                                                                                                                                                                                       |
| <b>GBC</b>              | 036, 002, 023, 066                                                                                                                                                                                                                        |
| <b>GE</b>               | 015, 027, 045, 052, 079, 150, 442                                                                                                                                                                                                         |
| <b>GEC</b>              | 006, 061, 011, 023, 035, 056, 094                                                                                                                                                                                                         |
| <b>Geloso</b>           | 002, 023, 066                                                                                                                                                                                                                             |
| <b>General</b>          | 020, 046, 082                                                                                                                                                                                                                             |
| <b>General Technic</b>  | 002                                                                                                                                                                                                                                       |
| <b>Genexxa</b>          | 006, 036, 002, 023, 071                                                                                                                                                                                                                   |
| <b>Gericom</b>          | 172, 190, 195, 220, 224, 246, 340, 388                                                                                                                                                                                                    |
| <b>Go Video</b>         | 009                                                                                                                                                                                                                                       |
| <b>Gold</b>             | 397, 413, 484, 485                                                                                                                                                                                                                        |
| <b>Goldfunk</b>         | 134                                                                                                                                                                                                                                       |
| <b>GoldHand</b>         | 034                                                                                                                                                                                                                                       |
| <b>GoldStar</b>         | 006, 144, 145, 111, 061, 001, 007, 020, 023, 027, 034, 035, 047, 067                                                                                                                                                                      |
| <b>Gooding</b>          | 087                                                                                                                                                                                                                                       |
| <b>Goodmans</b>         | 102, 006, 120, 144, 103, 134, 124, 444, 204, 087, 043, 036, 005, 478, 211, 232, 477, 250, 476, 271, 445, 355, 370, 373, 440, 376, 382, 383, 386, 002, 004, 011, 035, 047, 052, 054, 065, 066, 084, 091, 094, 119, 121, 133, 172, 195, 210 |

|                   |                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Gorenje</b>    | 064                                                                                                                              |
| <b>GPM</b>        | 036                                                                                                                              |
| <b>Gradiente</b>  | 006, 025, 207                                                                                                                    |
| <b>Graetz</b>     | 144, 087, 061, 023, 053, 065, 211                                                                                                |
| <b>Gran Prix</b>  | 128                                                                                                                              |
| <b>Granada</b>    | 006, 098, 103, 005, 019, 038, 011, 023, 033, 035, 053, 054, 060, 081, 083, 094, 008                                              |
| <b>Grandin</b>    | 102, 006, 144, 134, 204, 145, 113, 036, 080, 272, 270, 269, 246, 220, 215, 195, 190, 119, 066, 049, 045, 023, 002                |
| <b>Gronic</b>     | 035                                                                                                                              |
| <b>Grundig</b>    | 102, 006, 030, 087, 142, 005, 108, 498, 476, 448, 447, 445, 430, 405, 370, 271, 267, 250, 225, 135, 121, 010, 101, 096, 028, 077 |
| <b>Grunkel</b>    | 211                                                                                                                              |
| <b>H &amp; B</b>  | 172, 456                                                                                                                         |
| <b>Haier</b>      | 138, 344, 392, 339                                                                                                               |
| <b>Halifax</b>    | 043, 034, 035                                                                                                                    |
| <b>Hallmark</b>   | 027                                                                                                                              |
| <b>Hampton</b>    | 034, 035                                                                                                                         |
| <b>Hanimex</b>    | 036, 443                                                                                                                         |
| <b>Hanns.G</b>    | 402                                                                                                                              |
| <b>Hannspree</b>  | 262, 263, 264, 342, 401, 402, 463                                                                                                |
| <b>Hanseatic</b>  | 102, 006, 120, 144, 124, 061, 064, 172, 133, 097, 095, 091, 067, 056, 049, 048, 045, 035, 014, 002                               |
| <b>Hantarex</b>   | 006, 002, 094, 190, 260, 289                                                                                                     |
| <b>Hantor</b>     | 006                                                                                                                              |
| <b>Harsper</b>    | 190                                                                                                                              |
| <b>Harwa</b>      | 162, 218, 238                                                                                                                    |
| <b>Harwood</b>    | 006, 087, 002, 071                                                                                                               |
| <b>Hauppauge</b>  | 006                                                                                                                              |
| <b>Havermy</b>    | 015                                                                                                                              |
| <b>HCM</b>        | 006, 043, 036, 002, 035, 045, 071, 072                                                                                           |
| <b>Hema</b>       | 002, 035                                                                                                                         |
| <b>Hemmermann</b> | 056, 097                                                                                                                         |
| <b>Hifivox</b>    | 020                                                                                                                              |
| <b>Higashi</b>    | 034                                                                                                                              |
| <b>Highline</b>   | 006, 043                                                                                                                         |

|                         |                                                                                                                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hikona</b>           | 036, 452                                                                                                                                                                                                                                  |
| <b>Hinari</b>           | 006, 043, 036, 005, 002, 033, 059, 077, 443                                                                                                                                                                                               |
| <b>Hisawa</b>           | 144, 113, 036, 080, 045                                                                                                                                                                                                                   |
| <b>Hisense</b>          | 102, 092, 165, 254, 265, 366, 491                                                                                                                                                                                                         |
| <b>Hit</b>              | 014                                                                                                                                                                                                                                       |
| <b>Hitachi</b>          | 006, 098, 124, 204, 208, 005, 019, 037, 146, 152, 153, 163, 169, 193, 197, 007, 206, 210, 217, 227, 295, 296, 330, 377, 399, 424, 483, 020, 021, 023, 027, 035, 054, 056, 060, 076, 081, 083, 084, 085, 089, 091, 094, 018, 106, 107, 011 |
| <b>Hitachi Fujian</b>   | 019                                                                                                                                                                                                                                       |
| <b>Hitsu</b>            | 113, 036, 080, 002                                                                                                                                                                                                                        |
| <b>HMV</b>              | 014                                                                                                                                                                                                                                       |
| <b>Hoehner</b>          | 144, 190, 211, 327                                                                                                                                                                                                                        |
| <b>Home Electronics</b> | 111                                                                                                                                                                                                                                       |
| <b>Hornophon</b>        | 006                                                                                                                                                                                                                                       |
| <b>Hoshai</b>           | 036, 080, 045                                                                                                                                                                                                                             |
| <b>Huanyu</b>           | 034, 066                                                                                                                                                                                                                                  |
| <b>Hugoson</b>          | 198, 224                                                                                                                                                                                                                                  |
| <b>Humax</b>            | 505, 299, 506, 507, 245, 319, 322, 411, 433, 479                                                                                                                                                                                          |
| <b>HYD</b>              | 271                                                                                                                                                                                                                                       |
| <b>Hygashi</b>          | 034, 035                                                                                                                                                                                                                                  |
| <b>Hyper</b>            | 002, 034, 035                                                                                                                                                                                                                             |
| <b>Hypersonic</b>       | 061                                                                                                                                                                                                                                       |
| <b>Hypson</b>           | 102, 006, 144, 134, 204, 086, 145, 043, 080, 035, 045, 118                                                                                                                                                                                |
| <b>Hyundai</b>          | 164, 190, 192, 241, 244, 271, 291, 317, 338, 340, 341, 439                                                                                                                                                                                |
| <b>Iberia</b>           | 006                                                                                                                                                                                                                                       |
| <b>ICE</b>              | 006, 043, 036, 034, 035, 065                                                                                                                                                                                                              |
| <b>ICeS</b>             | 036, 034                                                                                                                                                                                                                                  |
| <b>iDEAL</b>            | 327                                                                                                                                                                                                                                       |
| <b>Igo</b>              | 226                                                                                                                                                                                                                                       |
| <b>IIsonic</b>          | 271, 308, 342                                                                                                                                                                                                                             |
| <b>Iiyama</b>           | 193, 198, 224                                                                                                                                                                                                                             |
| <b>Imperial</b>         | 006, 064, 056, 072, 121, 487                                                                                                                                                                                                              |
| <b>Indiana</b>          | 006                                                                                                                                                                                                                                       |
| <b>InFocus</b>          | 212, 220, 283                                                                                                                                                                                                                             |
| <b>Ingelen</b>          | 144, 113, 087, 023                                                                                                                                                                                                                        |

|                      |                                                                                |
|----------------------|--------------------------------------------------------------------------------|
| <b>Ingersol</b>      | 002                                                                            |
| <b>Inno Hit</b>      | 036, 002, 011, 035, 045, 047, 094, 211                                         |
| <b>Innovation</b>    | 095                                                                            |
| <b>Innowert</b>      | 190, 246                                                                       |
| <b>Interbuy</b>      | 006, 043, 002                                                                  |
| <b>Interfunk</b>     | 006, 061, 014, 020, 023, 056, 093                                              |
| <b>Internal</b>      | 102, 444, 119                                                                  |
| <b>Intervision</b>   | 006, 086, 087, 043, 036, 080, 002, 035, 045, 067, 095                          |
| <b>Irradio</b>       | 006, 036, 002, 047, 065, 147                                                   |
| <b>Isukai</b>        | 006, 036, 080, 045                                                             |
| <b>ITC</b>           | 035, 049                                                                       |
| <b>ITS</b>           | 006, 043, 036, 034, 045, 065                                                   |
| <b>ITT</b>           | 098, 113, 061, 023, 029, 033, 053, 055, 056, 083, 084, 097                     |
| <b>ITT Nokia</b>     | 098, 113, 111, 061, 023, 033, 053, 055, 056, 083, 084                          |
| <b>ITV</b>           | 006, 043, 066                                                                  |
| <b>JDV</b>           | 451                                                                            |
| <b>Jean</b>          | 005, 307, 308                                                                  |
| <b>JEC</b>           | 004                                                                            |
| <b>JMB</b>           | 102, 124, 077, 091                                                             |
| <b>JNC</b>           | 378                                                                            |
| <b>Jocel</b>         | 143                                                                            |
| <b>Jouge</b>         | 284                                                                            |
| <b>Jubilee</b>       | 102                                                                            |
| <b>JVC</b>           | 111, 036, 005, 129, 130, 015, 029, 065, 072, 137, 149, 207, 264, 362, 408, 496 |
| <b>Kaisui</b>        | 006, 036, 080, 002, 034, 035, 045                                              |
| <b>Kamp</b>          | 034                                                                            |
| <b>Kapsch</b>        | 061, 017, 023, 032, 042                                                        |
| <b>Karcher</b>       | 144, 113, 111, 043, 064, 045, 164, 327, 451                                    |
| <b>Kathrein</b>      | 102, 195                                                                       |
| <b>Kawa</b>          | 065                                                                            |
| <b>Kawasho</b>       | 034                                                                            |
| <b>KB Aristocrat</b> | 023                                                                            |
| <b>Kendo</b>         | 006, 204, 113, 064, 062, 067, 070, 095, 099, 128, 210, 285, 333                |
| <b>Kennedy</b>       | 023, 032, 075                                                                  |



# Appendix

|                           |                                                                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Kennex</b>             | 204                                                                                                                                                  |
| <b>Keymat</b>             | 258, 300, 398, 436, 437                                                                                                                              |
| <b>Kingsley</b>           | 034                                                                                                                                                  |
| <b>Kioto</b>              | 142                                                                                                                                                  |
| <b>Kiss</b>               | 170                                                                                                                                                  |
| <b>Kiton</b>              | 006, 134                                                                                                                                             |
| <b>Kneissel</b>           | 102, 006, 113, 064, 042, 048, 062, 066, 070, 075, 091                                                                                                |
| <b>Kobra</b>              | 290                                                                                                                                                  |
| <b>Kolster</b>            | 006, 036, 056                                                                                                                                        |
| <b>Konig</b>              | 006, 016                                                                                                                                             |
| <b>Konka</b>              | 006, 144, 036, 065, 072, 126, 158, 201                                                                                                               |
| <b>Kontakt</b>            | 087                                                                                                                                                  |
| <b>Korpel</b>             | 006                                                                                                                                                  |
| <b>Korting</b>            | 064, 014, 049                                                                                                                                        |
| <b>Kosmos</b>             | 006                                                                                                                                                  |
| <b>Kotron</b>             | 071, 440                                                                                                                                             |
| <b>Koyoda</b>             | 002                                                                                                                                                  |
| <b>Kreisen</b>            | 192, 293                                                                                                                                             |
| <b>KTV</b>                | 035                                                                                                                                                  |
| <b>Kuba</b>               | 056                                                                                                                                                  |
| <b>Kyoshu</b>             | 071, 072                                                                                                                                             |
| <b>Kyoto</b>              | 023, 034, 035                                                                                                                                        |
| <b>L&amp;S Electronic</b> | 144, 172, 190                                                                                                                                        |
| <b>LaSAT</b>              | 086                                                                                                                                                  |
| <b>Lava</b>               | 293                                                                                                                                                  |
| <b>Lavis</b>              | 204                                                                                                                                                  |
| <b>Leader</b>             | 002                                                                                                                                                  |
| <b>Lecson</b>             | 006                                                                                                                                                  |
| <b>Lemair</b>             | 070                                                                                                                                                  |
| <b>Lenco</b>              | 006, 108, 017, 066, 352, 452                                                                                                                         |
| <b>Lenoir</b>             | 002, 214                                                                                                                                             |
| <b>Lentec</b>             | 316                                                                                                                                                  |
| <b>Lexsor</b>             | 218, 303                                                                                                                                             |
| <b>Leyco</b>              | 006, 043, 011                                                                                                                                        |
| <b>LG</b>                 | 102, 006, 144, 145, 138, 061, 064, 248, 281, 354, 367, 368, 384, 396, 416, 417, 425, 426, 215, 209, 067, 047, 035, 034, 027, 023, 002, 001, 236, 257 |

|                          |                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Liesen &amp; Tter</b> | 006                                                                                                               |
| <b>Liesenkotter</b>      | 006                                                                                                               |
| <b>Lifetec</b>           | 006, 144, 134, 204, 208, 036, 002, 066, 095, 137                                                                  |
| <b>Lloyd's</b>           | 002                                                                                                               |
| <b>Local India TV</b>    | 002, 033, 109, 280                                                                                                |
| <b>Lodos</b>             | 204, 210                                                                                                          |
| <b>Loewe</b>             | 006, 064, 014, 048, 093, 094, 123, 131, 167, 414, 434                                                             |
| <b>Logic</b>             | 494                                                                                                               |
| <b>Logik</b>             | 204, 001, 003, 029, 162, 195, 224, 292, 376, 464, 465, 466                                                        |
| <b>Logix</b>             | 134, 095                                                                                                          |
| <b>Luker</b>             | 451                                                                                                               |
| <b>Luma</b>              | 204, 002, 023, 032, 042, 062, 066, 070                                                                            |
| <b>Lumatron</b>          | 006, 043, 012, 023, 032, 035, 042                                                                                 |
| <b>Lux May</b>           | 006, 002                                                                                                          |
| <b>Luxor</b>             | 098, 204, 061, 023, 033, 035, 047, 055, 056, 060, 083, 084, 122, 211                                              |
| <b>LXI</b>               | 022                                                                                                               |
| <b>M Electronic</b>      | 006, 144, 124, 030, 061, 361, 133, 093, 089, 084, 070, 066, 056, 055, 054, 046, 035, 034, 023, 020, 018, 017, 002 |
| <b>Madison</b>           | 006                                                                                                               |
| <b>MAG</b>               | 298, 376                                                                                                          |
| <b>Magnadyne</b>         | 014, 023, 094, 097                                                                                                |
| <b>Magnafon</b>          | 012, 034, 094                                                                                                     |
| <b>Magnavox</b>          | 005, 003                                                                                                          |
| <b>Magnin</b>            | 442                                                                                                               |
| <b>Magnum</b>            | 006, 144, 145, 128, 242                                                                                           |
| <b>Mandor</b>            | 043                                                                                                               |
| <b>Manesth</b>           | 006, 043, 004, 035, 049                                                                                           |
| <b>Manhattan</b>         | 006, 134, 204, 164, 192, 237, 293                                                                                 |
| <b>Maqma</b>             | 290, 340, 378, 404                                                                                                |
| <b>Marantz</b>           | 102, 006, 071, 140, 277, 317                                                                                      |
| <b>Marelli</b>           | 014                                                                                                               |
| <b>Mark</b>              | 006, 144, 145, 002, 034, 035, 066                                                                                 |
| <b>Marks and Spencer</b> | 420                                                                                                               |
| <b>Marquant</b>          | 478                                                                                                               |
| <b>Mascom</b>            | 327, 432                                                                                                          |

|                            |                                                                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Master's</b>            | 091                                                                                                                                                  |
| <b>Masuda</b>              | 036                                                                                                                                                  |
| <b>Matsui</b>              | 102, 006, 144, 030, 204, 087, 005, 080, 074, 153, 195, 097, 094, 369, 445, 077, 447, 065, 059, 056, 052, 044, 035, 033, 028, 011, 008, 004, 003, 002 |
| <b>Matsushita</b>          | 129                                                                                                                                                  |
| <b>Maxent</b>              | 394, 160                                                                                                                                             |
| <b>Maxim</b>               | 213, 327, 451                                                                                                                                        |
| <b>Medialine</b>           | 220, 449                                                                                                                                             |
| <b>Mediator</b>            | 102, 006                                                                                                                                             |
| <b>Medion</b>              | 102, 006, 144, 134, 204, 138, 208, 172, 195, 093, 040, 210, 213, 219, 230, 285, 327, 370, 440, 456                                                   |
| <b>Megas</b>               | 113                                                                                                                                                  |
| <b>Megatron</b>            | 021, 027                                                                                                                                             |
| <b>MEI</b>                 | 204                                                                                                                                                  |
| <b>Memorex</b>             | 204, 002, 009, 027                                                                                                                                   |
| <b>Memphis</b>             | 002, 011                                                                                                                                             |
| <b>Mercury</b>             | 006, 002                                                                                                                                             |
| <b>Metronic</b>            | 120                                                                                                                                                  |
| <b>Metz</b>                | 006, 134, 030, 108, 014, 028, 063, 096, 101, 211, 318                                                                                                |
| <b>MGA</b>                 | 027, 442                                                                                                                                             |
| <b>Micromaxx</b>           | 006, 134, 204, 121, 172, 256, 456                                                                                                                    |
| <b>Microspot</b>           | 343                                                                                                                                                  |
| <b>Microstar</b>           | 172                                                                                                                                                  |
| <b>Mikomi</b>              | 204, 153, 210                                                                                                                                        |
| <b>Minato</b>              | 006                                                                                                                                                  |
| <b>Minerva</b>             | 030, 087, 019, 010, 028, 094, 096, 101                                                                                                               |
| <b>Minoka</b>              | 006, 071                                                                                                                                             |
| <b>Mirai</b>               | 369, 423, 482                                                                                                                                        |
| <b>Mirror</b>              | 440                                                                                                                                                  |
| <b>Mistral Electronics</b> | 029                                                                                                                                                  |
| <b>Mitsai</b>              | 327                                                                                                                                                  |
| <b>Mitsubishi</b>          | 102, 006, 204, 005, 019, 014, 015, 027, 093, 096, 191, 311                                                                                           |
| <b>Mivar</b>               | 034, 035, 047, 048, 094, 112                                                                                                                         |
| <b>Mogen</b>               | 374, 410                                                                                                                                             |
| <b>Monaco</b>              | 002                                                                                                                                                  |

|                       |                                                       |
|-----------------------|-------------------------------------------------------|
| <b>Morgan's</b>       | 006                                                   |
| <b>Motorola</b>       | 015                                                   |
| <b>MTC</b>            | 064, 009, 034, 056, 093                               |
| <b>MTEC</b>           | 044                                                   |
| <b>MTlogic</b>        | 144, 473                                              |
| <b>Multibroadcast</b> | 029                                                   |
| <b>Multitec</b>       | 006, 134, 204, 086, 327                               |
| <b>Multitech</b>      | 006, 086, 043, 064, 002, 034, 035                     |
| <b>Murphy</b>         | 017, 023, 034                                         |
| <b>Musikland</b>      | 036                                                   |
| <b>Mx Onda</b>        | 298, 376                                              |
| <b>MyCom</b>          | 271                                                   |
| <b>Myrica</b>         | 369                                                   |
| <b>Myryad</b>         | 102                                                   |
| <b>NAD</b>            | 006, 061, 190                                         |
| <b>Naiko</b>          | 006, 111, 157, 451                                    |
| <b>Nakimura</b>       | 006, 066                                              |
| <b>Narita</b>         | 451                                                   |
| <b>NAT</b>            | 038                                                   |
| <b>National</b>       | 038                                                   |
| <b>NEC</b>            | 005, 002, 003, 025, 035, 040, 049, 066, 140, 239, 379 |
| <b>Neckermann</b>     | 102, 006, 064, 014, 028, 049, 056, 070, 072, 101      |
| <b>NEI</b>            | 006, 204, 065                                         |
| <b>Neon</b>           | 237, 389                                              |
| <b>Neovia</b>         | 190, 192, 220, 260, 267, 268, 271, 273, 449, 454      |
| <b>Nesx</b>           | 389                                                   |
| <b>Netsat</b>         | 006                                                   |
| <b>NetTV</b>          | 160                                                   |
| <b>Neufunk</b>        | 102, 006, 144, 113, 036, 002                          |
| <b>New Tech</b>       | 102, 006, 002, 035, 054                               |
| <b>New World</b>      | 036                                                   |
| <b>Nextier</b>        | 338                                                   |
| <b>NFREN</b>          | 170                                                   |
| <b>Nicam</b>          | 097                                                   |
| <b>Nicamagic</b>      | 034                                                   |
| <b>Nikkai</b>         | 006, 043, 036, 005, 002, 004, 011, 034, 035           |
| <b>Nikkei</b>         | 144                                                   |

# Appendix

|                      |                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Nikko</b>         | 027                                                                                                               |
| <b>Nobliko</b>       | 010, 034                                                                                                          |
| <b>Nogamatic</b>     | 020                                                                                                               |
| <b>Nokia</b>         | 098, 113, 111, 061, 023, 033, 049, 053, 055, 056, 066, 083, 084, 089, 122                                         |
| <b>Norcent</b>       | 266, 335                                                                                                          |
| <b>Nordic</b>        | 035                                                                                                               |
| <b>Nordmende</b>     | 006, 144, 103, 030, 020, 046, 054, 242, 280, 499                                                                  |
| <b>Normerel</b>      | 006                                                                                                               |
| <b>Northern Star</b> | 220                                                                                                               |
| <b>Novatron</b>      | 006, 018, 066                                                                                                     |
| <b>Novita</b>        | 273                                                                                                               |
| <b>Oceanic</b>       | 098, 061, 023, 033, 083                                                                                           |
| <b>Odeon</b>         | 043                                                                                                               |
| <b>Okano</b>         | 006, 043, 064, 002, 011                                                                                           |
| <b>Olidata</b>       | 271                                                                                                               |
| <b>Omega</b>         | 043                                                                                                               |
| <b>Onida</b>         | 207, 226                                                                                                          |
| <b>Onimax</b>        | 144                                                                                                               |
| <b>Onn</b>           | 380, 465, 477, 495, 497, 500, 501                                                                                 |
| <b>Onwa</b>          | 036, 074, 065, 109                                                                                                |
| <b>Onyx</b>          | 380, 397                                                                                                          |
| <b>Opera</b>         | 006                                                                                                               |
| <b>Optimus</b>       | 129, 024                                                                                                          |
| <b>Optoma</b>        | 234, 346, 371                                                                                                     |
| <b>Orbit</b>         | 006                                                                                                               |
| <b>Orcom</b>         | 300                                                                                                               |
| <b>Orion</b>         | 102, 006, 144, 204, 467, 458, 457, 456, 448, 445, 443, 385, 218, 195, 131, 097, 094, 077, 071, 059, 050, 049, 003 |
| <b>Orline</b>        | 006, 036                                                                                                          |
| <b>Ormond</b>        | 134, 204                                                                                                          |
| <b>Orsowe</b>        | 094                                                                                                               |
| <b>Osaki</b>         | 102, 006, 043, 036, 011, 035, 044, 059, 066, 071                                                                  |
| <b>Osio</b>          | 006, 047                                                                                                          |
| <b>Oso</b>           | 036                                                                                                               |
| <b>Osume</b>         | 006, 036, 005, 011                                                                                                |
| <b>Otic</b>          | 298, 376                                                                                                          |

|                      |                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------|
| <b>Otto Versand</b>  | 102, 006, 030, 061, 005, 038, 028, 020, 035, 049, 054, 056, 015, 093, 096, 097, 101                |
| <b>Pacific</b>       | 102, 144, 204, 208, 077, 256                                                                       |
| <b>Packard Bell</b>  | 254, 293                                                                                           |
| <b>Pael</b>          | 034                                                                                                |
| <b>Palladium</b>     | 102, 006, 144, 064, 208, 035, 056, 028, 070, 072, 095, 101, 023, 121, 131, 014                     |
| <b>Palsonic</b>      | 006, 138, 043, 001, 035, 072, 218, 238, 303                                                        |
| <b>Panama</b>        | 006, 043, 002, 034, 035                                                                            |
| <b>Panasonic</b>     | 006, 098, 061, 129, 038, 023, 063, 094, 187, 251, 294, 353, 359, 279, 306                          |
| <b>Panavision</b>    | 006, 070                                                                                           |
| <b>Pathe Cinema</b>  | 023, 034, 048, 049                                                                                 |
| <b>Pathe Marconi</b> | 020                                                                                                |
| <b>Pausa</b>         | 002                                                                                                |
| <b>Penney</b>        | 009, 022, 027, 442                                                                                 |
| <b>Perdio</b>        | 006, 011, 023, 034, 045, 049                                                                       |
| <b>Perfekt</b>       | 006                                                                                                |
| <b>Petters</b>       | 006                                                                                                |
| <b>Philco</b>        | 006, 064, 014, 021, 072                                                                            |
| <b>Philex</b>        | 029                                                                                                |
| <b>Philharmonic</b>  | 035                                                                                                |
| <b>Philips</b>       | 102, 006, 061, 459, 435, 429, 395, 310, 302, 297, 247, 125, 110, 101, 073, 066, 054, 029, 014, 002 |
| <b>Phocus</b>        | 144, 242, 250, 361, 405                                                                            |
| <b>Phoenix</b>       | 006, 086, 064, 011, 014, 023, 034, 049                                                             |
| <b>Phonola</b>       | 102, 006, 014, 029, 034                                                                            |
| <b>Pilot</b>         | 142                                                                                                |
| <b>Pioneer</b>       | 006, 086, 061, 064, 020, 023, 024, 046, 073, 093, 136, 159, 233, 277, 286, 381                     |
| <b>Pionier</b>       | 086, 064, 327                                                                                      |
| <b>Plantron</b>      | 006, 043, 002                                                                                      |
| <b>Playsonic</b>     | 006, 144, 145, 035, 053, 361, 405                                                                  |
| <b>Polaroid</b>      | 298, 312, 355, 376, 383, 390, 240                                                                  |
| <b>Poppy</b>         | 002                                                                                                |
| <b>Portland</b>      | 066, 119                                                                                           |

# Appendix

English

|                        |                                                                           |
|------------------------|---------------------------------------------------------------------------|
| <b>Powerpoint</b>      | 006, 138, 087, 201                                                        |
| <b>Prandoni-Prince</b> | 061, 094                                                                  |
| <b>Precision</b>       | 035                                                                       |
| <b>Premier</b>         | 199                                                                       |
| <b>Prima</b>           | 043, 002, 071, 218, 238, 303                                              |
| <b>PrimeView</b>       | 340                                                                       |
| <b>Prinston</b>        | 204, 145                                                                  |
| <b>Prinz</b>           | 061, 011, 056, 097                                                        |
| <b>Profex</b>          | 061, 002, 023                                                             |
| <b>Profi</b>           | 002                                                                       |
| <b>Profilo</b>         | 327                                                                       |
| <b>Profitronic</b>     | 006                                                                       |
| <b>Proline</b>         | 006, 120, 124, 204, 011, 050, 070, 118, 121, 271, 324, 386, 450           |
| <b>Proscio</b>         | 002                                                                       |
| <b>Prosonic</b>        | 006, 144, 134, 064, 034, 035, 065, 066, 389, 403, 428, 437, 467, 486      |
| <b>Protech</b>         | 006, 134, 204, 086, 043, 002, 035, 045, 056, 072                          |
| <b>Proton</b>          | 027                                                                       |
| <b>ProVision</b>       | 102, 006, 144, 256                                                        |
| <b>Proxima</b>         | 150, 152                                                                  |
| <b>Pvision</b>         | 192, 310, 456                                                             |
| <b>Pye</b>             | 102, 006, 014, 056, 066, 101                                              |
| <b>Pymi</b>            | 002                                                                       |
| <b>QONIX</b>           | 352                                                                       |
| <b>Quadral</b>         | 036                                                                       |
| <b>Quasar</b>          | 002, 190                                                                  |
| <b>Quelle</b>          | 006, 134, 030, 204, 061, 101, 097, 096, 093, 056, 028, 020, 017, 010, 003 |
| <b>Questa</b>          | 005                                                                       |
| <b>R-Line</b>          | 006                                                                       |
| <b>Radialva</b>        | 036, 023                                                                  |
| <b>Radiola</b>         | 102, 006, 035                                                             |
| <b>Radiomarelli</b>    | 006, 014, 094                                                             |
| <b>RadioShack</b>      | 006, 027                                                                  |
| <b>Radiotone</b>       | 006, 134, 204, 043, 064, 002, 071, 072, 128                               |
| <b>Rank</b>            | 010                                                                       |
| <b>Rank Arena</b>      | 005                                                                       |

|                    |                                                                                                                                                                          |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RBM</b>         | 010                                                                                                                                                                      |
| <b>RCA</b>         | 120, 015, 442                                                                                                                                                            |
| <b>RealTV</b>      | 237                                                                                                                                                                      |
| <b>Reality</b>     | 237                                                                                                                                                                      |
| <b>Recor</b>       | 006                                                                                                                                                                      |
| <b>Rectiligne</b>  | 006                                                                                                                                                                      |
| <b>Rediffusion</b> | 098, 061, 005, 055                                                                                                                                                       |
| <b>Redstar</b>     | 006                                                                                                                                                                      |
| <b>Reflex</b>      | 006, 134, 204                                                                                                                                                            |
| <b>Relisys</b>     | 190, 192, 193, 194, 220, 221, 271, 310, 333, 338, 341, 355, 390                                                                                                          |
| <b>Remotec</b>     | 006, 015, 021, 026                                                                                                                                                       |
| <b>Reoc</b>        | 144                                                                                                                                                                      |
| <b>Revox</b>       | 006                                                                                                                                                                      |
| <b>Rex</b>         | 043, 023, 032, 042, 070, 099                                                                                                                                             |
| <b>RFT</b>         | 006, 043, 011, 014                                                                                                                                                       |
| <b>Roadstar</b>    | 006, 144, 134, 204, 145, 043, 036, 002, 045, 072, 214, 440                                                                                                               |
| <b>Robotron</b>    | 014                                                                                                                                                                      |
| <b>Rolson</b>      | 178, 267                                                                                                                                                                 |
| <b>Rover</b>       | 193                                                                                                                                                                      |
| <b>Royal Lux</b>   | 064, 052, 071                                                                                                                                                            |
| <b>Saba</b>        | 120, 098, 144, 103, 061, 014, 020, 023, 046, 052, 054, 090, 094, 335                                                                                                     |
| <b>Sagem</b>       | 113, 080, 182, 253, 337                                                                                                                                                  |
| <b>Saisho</b>      | 043, 002, 003, 023, 035, 094, 097                                                                                                                                        |
| <b>Saivod</b>      | 006, 134, 204, 143, 211, 327, 451                                                                                                                                        |
| <b>Sakai</b>       | 023                                                                                                                                                                      |
| <b>Salora</b>      | 098, 061, 023, 033, 047, 056, 060, 084, 094, 118, 122, 213, 219, 327                                                                                                     |
| <b>Salsa</b>       | 052                                                                                                                                                                      |
| <b>Sambers</b>     | 094                                                                                                                                                                      |
| <b>Sampo</b>       | 394, 160                                                                                                                                                                 |
| <b>Samsung</b>     | 102, 006, 043, 064, 108, 115, 231, 252, 276, 287, 332, 345, 350, 351, 372, 442, 474, 488, 490, 492, 228, 176, 175, 127, 095, 047, 035, 034, 033, 027, 023, 011, 009, 002 |
| <b>Sandra</b>      | 034, 035                                                                                                                                                                 |
| <b>Sansui</b>      | 006, 142, 131, 148, 189, 267, 326                                                                                                                                        |
| <b>Santon</b>      | 002                                                                                                                                                                      |

# Appendix

|                        |                                                                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sanyo</b>           | 204, 064, 005, 019, 442, 370, 363, 358, 357, 356, 222, 200, 150, 140, 097, 053, 048, 035, 034, 033, 025, 023, 017, 011, 008, 003, 002, 240 |
| <b>SBR</b>             | 102, 006, 029                                                                                                                              |
| <b>Schaub Lorenz</b>   | 098, 144, 086, 111, 061, 056, 066, 215, 256, 267                                                                                           |
| <b>Schneider</b>       | 102, 006, 144, 134, 204, 061, 208, 036, 451, 450, 293, 128, 097, 095, 065, 056, 054, 042, 035, 023, 010                                    |
| <b>Scotch</b>          | 027                                                                                                                                        |
| <b>Scotland</b>        | 023                                                                                                                                        |
| <b>Scott</b>           | 214                                                                                                                                        |
| <b>Sears</b>           | 022, 026, 027                                                                                                                              |
| <b>Seaway</b>          | 124                                                                                                                                        |
| <b>Seelver</b>         | 204                                                                                                                                        |
| <b>SEG</b>             | 006, 134, 204, 087, 043, 036, 005, 285, 211, 210, 119, 062, 056, 035, 034, 002                                                             |
| <b>SEI</b>             | 006, 014, 023, 032, 056, 094, 097                                                                                                          |
| <b>Sei-Sinudyne</b>    | 006, 014, 032, 094, 097                                                                                                                    |
| <b>Seleco</b>          | 023, 032, 042, 055, 062, 065, 070, 075, 099                                                                                                |
| <b>Semp</b>            | 022                                                                                                                                        |
| <b>Sencora</b>         | 002                                                                                                                                        |
| <b>Sentra</b>          | 004                                                                                                                                        |
| <b>Serino</b>          | 113, 080, 015, 034                                                                                                                         |
| <b>Sharp</b>           | 005, 130, 216, 015, 029, 088, 094, 177, 274, 334, 365, 409, 166, 288                                                                       |
| <b>Shintoshi</b>       | 006                                                                                                                                        |
| <b>Shivaki</b>         | 006, 077                                                                                                                                   |
| <b>Siarem</b>          | 014, 023, 094                                                                                                                              |
| <b>Siemens</b>         | 006, 030, 028, 096, 101                                                                                                                    |
| <b>Siera</b>           | 102, 006                                                                                                                                   |
| <b>Siesta</b>          | 064                                                                                                                                        |
| <b>Silva</b>           | 006, 061, 034, 128                                                                                                                         |
| <b>Silva Schneider</b> | 006, 213, 327, 451                                                                                                                         |
| <b>Silvano</b>         | 108                                                                                                                                        |
| <b>Silver</b>          | 145, 061, 005                                                                                                                              |
| <b>SilverCrest</b>     | 204                                                                                                                                        |
| <b>Singer</b>          | 006, 074, 002, 014, 052, 075                                                                                                               |
| <b>Sinotec</b>         | 162                                                                                                                                        |

|                           |                                                                           |
|---------------------------|---------------------------------------------------------------------------|
| <b>Sinudyne</b>           | 006, 061, 014, 023, 032, 056, 094, 097                                    |
| <b>Skantic</b>            | 060                                                                       |
| <b>SKY</b>                | 006, 195, 271, 300, 307, 308, 340, 341, 342, 343, 344, 391, 400, 421      |
| <b>SKY Brazil</b>         | 195                                                                       |
| <b>Sliding</b>            | 170, 190, 195, 256, 269, 270, 272                                         |
| <b>SLX</b>                | 134                                                                       |
| <b>Smaragd</b>            | 087                                                                       |
| <b>Soemtron</b>           | 190, 246                                                                  |
| <b>Sogera</b>             | 049                                                                       |
| <b>Sogo</b>               | 271, 473                                                                  |
| <b>Solavox</b>            | 006, 098, 061, 011, 023                                                   |
| <b>Sonawa</b>             | 036                                                                       |
| <b>Soniko</b>             | 006                                                                       |
| <b>Sonitron</b>           | 064, 033, 035, 053                                                        |
| <b>Sonix</b>              | 271, 389                                                                  |
| <b>Sonneclair</b>         | 006                                                                       |
| <b>Sonoko</b>             | 006, 043, 002, 035, 045                                                   |
| <b>Sonolor</b>            | 098, 061, 023, 033, 045                                                   |
| <b>Sontec</b>             | 006, 064, 002                                                             |
| <b>Sony</b>               | 006, 301, 005, 446, 412, 393, 375, 360, 325, 255, 203, 185, 174, 058, 003 |
| <b>Sound &amp; Vision</b> | 036, 066                                                                  |
| <b>Soundesign</b>         | 027                                                                       |
| <b>Soundwave</b>          | 006, 204, 145, 049, 072, 420                                              |
| <b>Spectra</b>            | 002                                                                       |
| <b>Squareview</b>         | 026                                                                       |
| <b>Ssangyong</b>          | 002                                                                       |
| <b>Standard</b>           | 006, 204, 036, 002, 035, 049, 066, 380                                    |
| <b>Starlite</b>           | 006, 043, 002, 023                                                        |
| <b>Stenway</b>            | 036, 045                                                                  |
| <b>Stern</b>              | 043, 023, 032, 042, 070, 099                                              |
| <b>Strato</b>             | 006, 043, 002, 403                                                        |
| <b>Strong</b>             | 210, 211                                                                  |
| <b>Stylandia</b>          | 035                                                                       |
| <b>SunBrite</b>           | 284                                                                       |
| <b>Sungoo</b>             | 470                                                                       |
| <b>Sunkai</b>             | 113, 087, 036, 080, 050, 059, 190                                         |

# Appendix

English

|                    |                                                                                          |
|--------------------|------------------------------------------------------------------------------------------|
| <b>Sunstar</b>     | 006, 043, 002, 065                                                                       |
| <b>Sunstech</b>    | 456                                                                                      |
| <b>Sunwood</b>     | 006                                                                                      |
| <b>Superla</b>     | 034, 035, 094                                                                            |
| <b>SuperTech</b>   | 102, 006, 036, 002, 034                                                                  |
| <b>Supra</b>       | 002, 066                                                                                 |
| <b>Susumu</b>      | 036, 046, 052                                                                            |
| <b>Sutron</b>      | 002                                                                                      |
| <b>SVA</b>         | 108, 190                                                                                 |
| <b>Swedx</b>       | 340                                                                                      |
| <b>Swissflex</b>   | 481                                                                                      |
| <b>Swisstec</b>    | 481, 480, 422, 421, 401, 400, 391, 344, 343, 342, 341, 340, 308, 307, 300, 271, 195, 190 |
| <b>Sydney</b>      | 034, 035                                                                                 |
| <b>Sylvania</b>    | 026, 275, 427                                                                            |
| <b>Sysline</b>     | 006                                                                                      |
| <b>Sytong</b>      | 034                                                                                      |
| <b>Tactus</b>      | 044                                                                                      |
| <b>Tandberg</b>    | 061, 020, 063                                                                            |
| <b>Tandy</b>       | 036, 011, 015, 023, 035                                                                  |
| <b>Targa</b>       | 237, 267                                                                                 |
| <b>Tashiko</b>     | 005, 023, 025, 034, 035                                                                  |
| <b>Tatung</b>      | 006, 003, 011, 035, 044, 094, 118, 215, 230, 256, 267, 326, 327, 382, 383, 395           |
| <b>TCL</b>         | 142, 321                                                                                 |
| <b>TCM</b>         | 144, 172, 242, 456                                                                       |
| <b>Teac</b>        | 006, 144, 134, 138, 143, 043, 080, 002, 025, 026, 027, 056, 093                          |
| <b>Tec</b>         | 006, 002, 035, 042, 052, 082                                                             |
| <b>Tech Line</b>   | 006, 134, 211, 285                                                                       |
| <b>Tech Lux</b>    | 214                                                                                      |
| <b>Techica</b>     | 036                                                                                      |
| <b>Technema</b>    | 049                                                                                      |
| <b>Technica</b>    | 118, 451                                                                                 |
| <b>Technics</b>    | 102, 129                                                                                 |
| <b>Technika</b>    | 422, 428, 465, 468, 480, 493                                                             |
| <b>TechniSat</b>   | 102, 131, 237                                                                            |
| <b>Technisson</b>  | 144, 242, 361                                                                            |
| <b>Technosonic</b> | 102, 120, 091, 195, 256, 258, 436, 437, 451, 468                                         |

|                       |                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------|
| <b>Technotrend</b>    | 316, 378                                                                                      |
| <b>Techwood</b>       | 204, 211                                                                                      |
| <b>Teckton</b>        | 271                                                                                           |
| <b>Tecnimagen</b>     | 102                                                                                           |
| <b>Teco</b>           | 205                                                                                           |
| <b>Tedalex</b>        | 002, 035, 380                                                                                 |
| <b>Teiron</b>         | 002                                                                                           |
| <b>Tek</b>            | 168                                                                                           |
| <b>Teknika</b>        | 009                                                                                           |
| <b>TELE System</b>    | 192                                                                                           |
| <b>Teleavia</b>       | 046, 054                                                                                      |
| <b>Telecor</b>        | 006, 036, 023, 035, 042                                                                       |
| <b>Telefunken</b>     | 006, 120, 144, 103, 086, 320, 202, 105, 090, 082, 055, 054, 052, 046, 020, 016, 012, 348      |
| <b>Telefusion</b>     | 006                                                                                           |
| <b>Telegazi</b>       | 006, 043, 036, 023, 042                                                                       |
| <b>Telemagic</b>      | 150                                                                                           |
| <b>Telemeister</b>    | 006, 049                                                                                      |
| <b>Telesonic</b>      | 006                                                                                           |
| <b>Telestar</b>       | 102, 006                                                                                      |
| <b>Teletech</b>       | 006, 134, 204, 002                                                                            |
| <b>Teleton</b>        | 005, 032, 035, 042, 056                                                                       |
| <b>Televideon</b>     | 023, 034, 049                                                                                 |
| <b>Televiow</b>       | 006                                                                                           |
| <b>Tempest</b>        | 002                                                                                           |
| <b>Tennessee</b>      | 006                                                                                           |
| <b>Tensai</b>         | 006, 204, 145, 036, 002, 017, 018, 035, 049, 065, 066, 067                                    |
| <b>Tenson</b>         | 002, 049                                                                                      |
| <b>Tevion</b>         | 102, 006, 144, 134, 204, 208, 468, 405, 403, 376, 355, 327, 298, 246, 242, 232, 230, 172, 128 |
| <b>Texet</b>          | 036, 002, 034, 035, 066                                                                       |
| <b>Texla</b>          | 165                                                                                           |
| <b>Thes</b>           | 467, 469, 471                                                                                 |
| <b>Thomson</b>        | 006, 120, 103, 020, 046, 052, 054, 056, 082, 335                                              |
| <b>Thorn</b>          | 006, 061, 005, 100, 096, 093, 091, 054, 052, 044, 029, 020, 017, 012, 011, 004                |
| <b>Thorn-Ferguson</b> | 012, 029, 052, 054, 091                                                                       |

# Appendix

|                         |                                                                                                                                                                          |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Time</b>             | 378, 454, 455                                                                                                                                                            |
| <b>Tiny</b>             | 238                                                                                                                                                                      |
| <b>TMK</b>              | 027                                                                                                                                                                      |
| <b>Tobishi</b>          | 310                                                                                                                                                                      |
| <b>Tokai</b>            | 006, 134, 204, 002, 011, 023, 035, 066                                                                                                                                   |
| <b>Tokaido</b>          | 204                                                                                                                                                                      |
| <b>Tokyo</b>            | 004, 034                                                                                                                                                                 |
| <b>Tomashi</b>          | 036, 045                                                                                                                                                                 |
| <b>Topline</b>          | 134, 204                                                                                                                                                                 |
| <b>Toshiba</b>          | 030, 204, 005, 115, 129, 092, 447, 364, 313, 304, 242, 212, 211, 183, 100, 039, 022, 020, 010, 009, 004, 236, 257                                                        |
| <b>Tosumi</b>           | 451                                                                                                                                                                      |
| <b>Towada</b>           | 035, 056                                                                                                                                                                 |
| <b>Toyoda</b>           | 002                                                                                                                                                                      |
| <b>Trakton</b>          | 043                                                                                                                                                                      |
| <b>TRANS-continents</b> | 102, 006, 134, 204, 035, 118, 190, 269, 272                                                                                                                              |
| <b>Transonic</b>        | 006, 108, 002                                                                                                                                                            |
| <b>Transtec</b>         | 034                                                                                                                                                                      |
| <b>Trident</b>          | 035, 094                                                                                                                                                                 |
| <b>Trio</b>             | 298, 376                                                                                                                                                                 |
| <b>Tristar</b>          | 043, 036, 029                                                                                                                                                            |
| <b>Triumph</b>          | 102, 006, 055, 094                                                                                                                                                       |
| <b>Tsoschi</b>          | 045                                                                                                                                                                      |
| <b>TVTEXT 95</b>        | 102                                                                                                                                                                      |
| <b>TWF</b>              | 432                                                                                                                                                                      |
| <b>Uher</b>             | 006, 086, 064, 032, 042, 049, 066, 072, 084                                                                                                                              |
| <b>Ultravox</b>         | 006, 014, 023 034, 066                                                                                                                                                   |
| <b>UMC</b>              | 308, 340, 343, 391, 400, 422, 480, 481, 493                                                                                                                              |
| <b>Unic Line</b>        | 006, 080, 083                                                                                                                                                            |
| <b>United</b>           | 006, 144, 204, 145, 108, 397, 445, 451                                                                                                                                   |
| <b>Universal</b>        | 006                                                                                                                                                                      |
| <b>Universum</b>        | 006, 134, 030, 204, 061, 043, 064, 005, 115, 070, 072, 083, 084, 089, 093, 096, 097, 101, 122, 172, 211, 285, 062, 056, 055, 047, 035, 025, 020, 018, 017, 010, 003, 002 |

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| <b>Univox</b>        | 006, 014, 023                                         |
| <b>V2max</b>         | 190                                                   |
| <b>V7 Videoseven</b> | 195, 224, 237, 271, 369, 394                          |
| <b>Venturer</b>      | 324, 386, 428                                         |
| <b>Vestel</b>        | 006, 134, 204, 035, 211, 333, 370                     |
| <b>Vexa</b>          | 006, 002                                              |
| <b>Vibrant</b>       | 044                                                   |
| <b>Victor</b>        | 005                                                   |
| <b>Videocon</b>      | 092                                                   |
| <b>Videologic</b>    | 036, 034                                              |
| <b>Videologique</b>  | 036, 034, 035                                         |
| <b>VideoSystem</b>   | 006                                                   |
| <b>Videotechnic</b>  | 034, 035, 049, 066                                    |
| <b>Videoton</b>      | 023, 060                                              |
| <b>Vidikron</b>      | 150, 277                                              |
| <b>Vidtech</b>       | 027                                                   |
| <b>Viewpia</b>       | 192                                                   |
| <b>Viewsonic</b>     | 307, 308, 323, 335, 349, 391, 394, 259, 331           |
| <b>Visiola</b>       | 034                                                   |
| <b>Vision</b>        | 006, 035, 049                                         |
| <b>Vistar</b>        | 032                                                   |
| <b>Vistron</b>       | 265, 460                                              |
| <b>Vivax</b>         | 250, 258                                              |
| <b>Vivid</b>         | 250                                                   |
| <b>Vortec</b>        | 006                                                   |
| <b>Voxson</b>        | 006, 014, 023, 072                                    |
| <b>Waltham</b>       | 006, 134, 204, 020, 035, 060, 072, 077                |
| <b>Wards</b>         | 009, 022, 024, 027                                    |
| <b>Watson</b>        | 006, 144, 134, 204, 036, 002, 023, 049, 095, 271, 285 |
| <b>Watt Radio</b>    | 023, 034, 056, 097                                    |
| <b>Wega</b>          | 006, 005, 014                                         |
| <b>Wegavox</b>       | 002                                                   |
| <b>Welltech</b>      | 014                                                   |
| <b>Weltblick</b>     | 035, 049                                              |
| <b>Weltstar</b>      | 204                                                   |
| <b>Westinghouse</b>  | 189                                                   |
| <b>Wharfedale</b>    | 102, 006, 095, 189, 256, 327, 370, 452, 453, 477, 502 |

|                           |                                             |
|---------------------------|---------------------------------------------|
| <b>White Westinghouse</b> | 006, 034, 049, 119                          |
| <b>Wilson</b>             | 102                                         |
| <b>Windsor</b>            | 134, 204                                    |
| <b>Windstar</b>           | 045                                         |
| <b>Windy Sam</b>          | 102                                         |
| <b>World-of-Vision</b>    | 190, 193, 195, 198, 224, 242, 246, 340, 389 |
| <b>X-View</b>             | 215                                         |
| <b>Xenius</b>             | 124, 133                                    |
| <b>XLogic</b>             | 188                                         |
| <b>Xomax</b>              | 397                                         |
| <b>Xoro</b>               | 218, 224, 229, 303, 404, 503                |
| <b>Xrypton</b>            | 006                                         |
| <b>Yakumo</b>             | 342                                         |
| <b>Yalos</b>              | 398                                         |
| <b>Yamaha</b>             | 169, 314, 330, 184                          |
| <b>Yamishi</b>            | 006, 036, 080, 035, 045                     |
| <b>Yokan</b>              | 006                                         |
| <b>Yoko</b>               | 006, 043, 064, 036, 002, 034, 035, 053      |
| <b>Yorx</b>               | 036                                         |
| <b>Ytawai</b>             | 316                                         |
| <b>Zanussi</b>            | 032, 035                                    |
| <b>Zenith</b>             | 119, 236                                    |
| <b>Zenor</b>              | 053                                         |
| <b>TV/VCR Combo</b>       |                                             |
| <b>Aiwa</b>               | 445                                         |
| <b>Amstrad</b>            | 026                                         |
| <b>Beko</b>               | 086                                         |
| <b>Black Diamond</b>      | 444                                         |
| <b>Blue Sky</b>           | 119, 445                                    |
| <b>Daewoo</b>             | 444, 119                                    |
| <b>Dantax</b>             | 445                                         |
| <b>Emerson</b>            | 444, 119                                    |
| <b>Ferguson</b>           | 120, 012                                    |
| <b>Fidelity</b>           | 026                                         |
| <b>Finlux</b>             | 017                                         |
| <b>Firstline</b>          | 119                                         |
| <b>GE</b>                 | 015, 442                                    |
| <b>GoldStar</b>           | 006                                         |

|                           |                         |
|---------------------------|-------------------------|
| <b>Goodmans</b>           | 444, 066, 119, 445      |
| <b>Grandin</b>            | 119                     |
| <b>Grundig</b>            | 102, 006, 030, 101, 445 |
| <b>Hanimex</b>            | 443                     |
| <b>Hinari</b>             | 005, 443                |
| <b>Internal</b>           | 444, 119                |
| <b>Irradio</b>            | 147                     |
| <b>LG</b>                 | 027                     |
| <b>Magnin</b>             | 442                     |
| <b>Matsui</b>             | 445                     |
| <b>MGA</b>                | 442                     |
| <b>Mitsubishi</b>         | 102, 015                |
| <b>Orion</b>              | 443, 445                |
| <b>Penney</b>             | 442                     |
| <b>Philips</b>            | 102, 006                |
| <b>Portland</b>           | 119                     |
| <b>Radiola</b>            | 102                     |
| <b>RCA</b>                | 015, 442                |
| <b>Saba</b>               | 120                     |
| <b>Samsung</b>            | 442                     |
| <b>Sanyo</b>              | 442                     |
| <b>Schneider</b>          | 102, 006                |
| <b>SEG</b>                | 119                     |
| <b>Sharp</b>              | 015                     |
| <b>Siemens</b>            | 006                     |
| <b>Sony</b>               | 301, 446                |
| <b>Teac</b>               | 026                     |
| <b>Technics</b>           | 102                     |
| <b>Thomson</b>            | 120                     |
| <b>United</b>             | 445                     |
| <b>Universum</b>          | 018                     |
| <b>White Westinghouse</b> | 119                     |
| <b>TV/VCR/DVD Combo</b>   |                         |
| <b>Bush</b>               | 448                     |
| <b>Ferguson</b>           | 447                     |
| <b>Grundig</b>            | 448                     |
| <b>Matsui</b>             | 447                     |
| <b>Orion</b>              | 448                     |



# Appendix

## 3. DVD Code List

| Brand                     | Code                                                  |
|---------------------------|-------------------------------------------------------|
| <b>3D LAB</b>             | 038                                                   |
| <b>4Kus</b>               | 106                                                   |
| <b>A-Trend</b>            | 063                                                   |
| <b>Acoustic Solutions</b> | 066, 062, 114, 193, 208                               |
| <b>AEG</b>                | 073, 077, 058, 075, 113, 181                          |
| <b>AFK</b>                | 105, 181                                              |
| <b>Airis</b>              | 057, 081, 109, 117, 216                               |
| <b>Aiwa</b>               | 036, 115                                              |
| <b>Akai</b>               | 077, 075, 093, 100, 113, 162, 212                     |
| <b>Akira</b>              | 149                                                   |
| <b>Akura</b>              | 093, 103, 113, 136                                    |
| <b>Alba</b>               | 038, 059, 066, 057, 062, 064, 103, 140, 162, 185, 216 |
| <b>Alize</b>              | 104                                                   |
| <b>Altacom</b>            | 109                                                   |
| <b>Amitech</b>            | 073, 013, 087                                         |
| <b>Amstrad</b>            | 073, 077, 062, 104, 136                               |
| <b>Amuseer</b>            | 120                                                   |
| <b>AMW</b>                | 091                                                   |
| <b>Ansonic</b>            | 082, 071, 120, 136                                    |
| <b>Apex Digital</b>       | 057, 094, 116, 134                                    |
| <b>Arena</b>              | 100                                                   |
| <b>Aristona</b>           | 038, 052, 214                                         |
| <b>ASCOMTEC</b>           | 181                                                   |
| <b>Asono</b>              | 109                                                   |
| <b>Atacom</b>             | 109                                                   |
| <b>Audiola</b>            | 149, 224                                              |
| <b>Audiosonic</b>         | 181, 216                                              |
| <b>Audix</b>              | 062                                                   |
| <b>Autovox</b>            | 062                                                   |
| <b>Auvio</b>              | 086                                                   |
| <b>Axion</b>              | 066                                                   |
| <b>Basic Line</b>         | 062, 185                                              |
| <b>Baze</b>               | 093                                                   |
| <b>BBK</b>                | 109                                                   |
| <b>Bellagio</b>           | 094                                                   |
| <b>Bellwood</b>           | 081                                                   |

|                                |                                                                           |
|--------------------------------|---------------------------------------------------------------------------|
| <b>Belson</b>                  | 136, 181                                                                  |
| <b>Belsonic</b>                | 136                                                                       |
| <b>Berthen</b>                 | 156                                                                       |
| <b>Binatone</b>                | 181                                                                       |
| <b>Biostek</b>                 | 148                                                                       |
| <b>Black Diamond</b>           | 062                                                                       |
| <b>Blu:sens</b>                | 113, 117                                                                  |
| <b>Blue Nova International</b> | 117                                                                       |
| <b>Blue Sky</b>                | 059, 077, 057, 062, 086                                                   |
| <b>BlueTinum</b>               | 136                                                                       |
| <b>Boghe</b>                   | 094                                                                       |
| <b>Boman</b>                   | 093                                                                       |
| <b>Bose</b>                    | 189                                                                       |
| <b>Brainwave</b>               | 073, 100                                                                  |
| <b>Brandt</b>                  | 033, 039                                                                  |
| <b>Broksonic</b>               | 059                                                                       |
| <b>Bush</b>                    | 066, 082, 057, 062, 064, 065, 103, 120, 127, 129, 140, 162, 172, 216, 217 |
| <b>Cambridge Audio</b>         | 070                                                                       |
| <b>Cat</b>                     | 076, 181                                                                  |
| <b>CCE</b>                     | 066                                                                       |
| <b>cello</b>                   | 164, 198, 205                                                             |
| <b>Centrum</b>                 | 058, 062, 076, 110, 181, 185                                              |
| <b>CGV</b>                     | 070, 100                                                                  |
| <b>Chili</b>                   | 135, 136                                                                  |
| <b>Cinea</b>                   | 085                                                                       |
| <b>Cinetec</b>                 | 062, 091                                                                  |
| <b>CJ Digital</b>              | 156, 204                                                                  |
| <b>Classic</b>                 | 066, 164                                                                  |
| <b>Clatronic</b>               | 057, 058, 075, 113, 181                                                   |
| <b>Clayton</b>                 | 062                                                                       |
| <b>CMX</b>                     | 156                                                                       |
| <b>Coby</b>                    | 066, 120                                                                  |
| <b>Codex</b>                   | 113                                                                       |
| <b>Commax</b>                  | 117, 135                                                                  |
| <b>Compacks</b>                | 081, 211                                                                  |
| <b>Contel</b>                  | 075                                                                       |
| <b>Continental Edison</b>      | 082, 091                                                                  |

|                    |                                             |
|--------------------|---------------------------------------------|
| <b>Crown</b>       | 073, 062, 100                               |
| <b>Cybercom</b>    | 082                                         |
| <b>CyberHome</b>   | 063                                         |
| <b>Cytron</b>      | 061, 119                                    |
| <b>D-Vision</b>    | 100                                         |
| <b>Daenyx</b>      | 091                                         |
| <b>Daewoo</b>      | 073, 018, 061, 063, 083, 091, 129, 130, 159 |
| <b>Dalton</b>      | 097                                         |
| <b>Dansai</b>      | 073, 100, 162                               |
| <b>Dantax</b>      | 038, 077, 062, 065, 122                     |
| <b>Daytek</b>      | 091                                         |
| <b>Dayton</b>      | 091, 106                                    |
| <b>DCE</b>         | 082                                         |
| <b>Decca</b>       | 073, 100                                    |
| <b>Denon</b>       | 032, 049, 151                               |
| <b>Denver</b>      | 057, 075, 093, 117, 128, 136, 148, 181, 216 |
| <b>Denzel</b>      | 055                                         |
| <b>Desay</b>       | 086                                         |
| <b>Dgtec</b>       | 057                                         |
| <b>Difrnce</b>     | 211                                         |
| <b>Digihome</b>    | 062                                         |
| <b>DigiLogic</b>   | 062, 159                                    |
| <b>Digitech</b>    | 172                                         |
| <b>Digitek</b>     | 013                                         |
| <b>Digitrex</b>    | 217                                         |
| <b>Digix Media</b> | 081                                         |
| <b>DiK</b>         | 082                                         |
| <b>Dinamic</b>     | 075                                         |
| <b>Disney</b>      | 082                                         |
| <b>DiViDo</b>      | 061                                         |
| <b>DK Digital</b>  | 082, 116                                    |
| <b>Dragon</b>      | 082                                         |
| <b>DreamX</b>      | 104                                         |
| <b>DSE</b>         | 164                                         |
| <b>Dual</b>        | 066, 082, 077, 055, 062, 129, 140           |
| <b>Durabrand</b>   | 082, 058, 062, 128, 140, 159                |
| <b>E:max</b>       | 026, 113, 117, 156, 161                     |
| <b>eBench</b>      | 105                                         |

|                         |                                                                      |
|-------------------------|----------------------------------------------------------------------|
| <b>ECC</b>              | 066                                                                  |
| <b>Eclipse</b>          | 065, 070                                                             |
| <b>Elfunk</b>           | 062, 087                                                             |
| <b>Elin</b>             | 073                                                                  |
| <b>Ellion</b>           | 013, 087                                                             |
| <b>Elta</b>             | 073, 057, 075, 087, 100, 104, 113, 161, 204                          |
| <b>Eltax</b>            | 113, 117, 149                                                        |
| <b>Emerson</b>          | 043, 061                                                             |
| <b>Enterprise</b>       | 043                                                                  |
| <b>EuroLine</b>         | 058, 075, 100, 113, 120, 131, 156                                    |
| <b>F&amp;U</b>          | 203                                                                  |
| <b>Ferguson</b>         | 059, 062, 093, 162, 164                                              |
| <b>Finlux</b>           | 067, 043, 073, 057, 070                                              |
| <b>Fintec</b>           | 140                                                                  |
| <b>Firstline</b>        | 062, 086, 090, 140                                                   |
| <b>Fisher</b>           | 056                                                                  |
| <b>Funai</b>            | 059, 058                                                             |
| <b>Gateway</b>          | 106                                                                  |
| <b>GE</b>               | 064                                                                  |
| <b>Global Link</b>      | 109                                                                  |
| <b>Global Solutions</b> | 072                                                                  |
| <b>Global Sphere</b>    | 105                                                                  |
| <b>Go Video</b>         | 090                                                                  |
| <b>Gold</b>             | 198                                                                  |
| <b>GoldStar</b>         | 067, 043                                                             |
| <b>Goodmans</b>         | 066, 077, 062, 065, 094, 103, 105, 116, 140, 164, 181, 217           |
| <b>GoWell</b>           | 156                                                                  |
| <b>GPX</b>              | 067                                                                  |
| <b>Graetz</b>           | 055                                                                  |
| <b>Gran Prix</b>        | 082, 093                                                             |
| <b>Grandin</b>          | 062, 113, 116, 204                                                   |
| <b>Greenhill</b>        | 064                                                                  |
| <b>Grundig</b>          | 038, 039, 059, 077, 056, 061, 062, 094, 097, 129, 156, 162, 164, 172 |
| <b>Grunkel</b>          | 073, 082, 077, 136                                                   |
| <b>GVG</b>              | 073                                                                  |
| <b>H &amp; B</b>        | 013, 062, 085, 087, 113, 204                                         |

# Appendix

|                             |                              |
|-----------------------------|------------------------------|
| <b>Hanseatic</b>            | 067, 077                     |
| <b>Harman/Kardon</b>        | 060, 111, 135                |
| <b>Harwa</b>                | 211                          |
| <b>HCM</b>                  | 075                          |
| <b>HDT</b>                  | 061                          |
| <b>HE</b>                   | 066, 181                     |
| <b>Henss</b>                | 062                          |
| <b>Hikona</b>               | 124                          |
| <b>HiMAX</b>                | 086                          |
| <b>Hitachi</b>              | 042, 054, 062, 185           |
| <b>Hiteker</b>              | 057, 181                     |
| <b>Hoeher</b>               | 082, 062, 081, 094, 109, 140 |
| <b>Home Electronics</b>     | 073, 066                     |
| <b>Home Tech Industries</b> | 109, 156, 181                |
| <b>HotMedia</b>             | 105                          |
| <b>Humax</b>                | 052, 225                     |
| <b>HYD</b>                  | 113                          |
| <b>Hyundai</b>              | 087                          |
| <b>Ingelen</b>              | 075                          |
| <b>Inno Hit</b>             | 062                          |
| <b>International</b>        | 159                          |
| <b>Irradio</b>              | 090, 100, 109, 113           |
| <b>ISP</b>                  | 059                          |
| <b>it's</b>                 | 064                          |
| <b>Jamo</b>                 | 097                          |
| <b>Jaton</b>                | 055                          |
| <b>JDB</b>                  | 066                          |
| <b>JGC</b>                  | 140                          |
| <b>JMB</b>                  | 059                          |
| <b>JVC</b>                  | 045, 038, 033, 107, 147, 176 |
| <b>Kansas Technologies</b>  | 113, 140                     |
| <b>Kazuki</b>               | 136                          |
| <b>Kendo</b>                | 082, 057, 062                |
| <b>Kennex</b>               | 073, 062, 093                |
| <b>Kenwood</b>              | 032, 037                     |
| <b>KeyPlug</b>              | 156                          |
| <b>Kiirō</b>                | 073                          |
| <b>King Vision</b>          | 136, 156                     |
| <b>Kiss</b>                 | 055, 085                     |

|                  |                                        |
|------------------|----------------------------------------|
| <b>KXD</b>       | 088, 117, 135, 181                     |
| <b>Lawson</b>    | 072                                    |
| <b>Leiker</b>    | 091                                    |
| <b>Lenco</b>     | 073, 062, 124                          |
| <b>Lexia</b>     | 072                                    |
| <b>LG</b>        | 067, 043, 077, 090, 143, 179, 186      |
| <b>Lifetec</b>   | 082, 119                               |
| <b>Limit</b>     | 072                                    |
| <b>LiteOn</b>    | 106, 126, 157, 165                     |
| <b>LM</b>        | 156                                    |
| <b>Lodos</b>     | 062                                    |
| <b>Loewe</b>     | 038, 067                               |
| <b>Logic</b>     | 222                                    |
| <b>Logik</b>     | 062                                    |
| <b>Logix</b>     | 061                                    |
| <b>Lumatron</b>  | 067, 059, 061, 062, 100, 117, 172, 215 |
| <b>Lunatron</b>  | 067                                    |
| <b>Luxman</b>    | 042                                    |
| <b>Luxor</b>     | 062, 064, 094, 162, 164                |
| <b>Magnat</b>    | 181                                    |
| <b>Magnavox</b>  | 038, 033, 052, 058, 062, 103           |
| <b>Magnex</b>    | 065                                    |
| <b>Magnum</b>    | 129                                    |
| <b>Majestic</b>  | 149, 224                               |
| <b>Manhattan</b> | 061, 062                               |
| <b>Manta</b>     | 136                                    |
| <b>Marantz</b>   | 038                                    |
| <b>Mark</b>      | 062                                    |
| <b>Marquant</b>  | 073, 217                               |
| <b>Matsui</b>    | 059, 057, 062, 094, 162, 164           |
| <b>Maxim</b>     | 062, 091, 114                          |
| <b>MBO</b>       | 066, 164                               |
| <b>MDS</b>       | 062                                    |
| <b>Mecotek</b>   | 073                                    |
| <b>Mediencom</b> | 070                                    |
| <b>Medion</b>    | 067, 082, 119, 157                     |
| <b>MEI</b>       | 077                                    |
| <b>Memorex</b>   | 082                                    |

# Appendix

English

|                    |                    |                     |                                                                                |
|--------------------|--------------------|---------------------|--------------------------------------------------------------------------------|
| <b>Metz</b>        | 041, 035, 062, 185 | <b>Oopla</b>        | 106                                                                            |
| <b>MiCO</b>        | 065, 070, 116      | <b>Opera</b>        | 215                                                                            |
| <b>Micromaxx</b>   | 059, 162           | <b>Optim</b>        | 086                                                                            |
| <b>Micromedia</b>  | 038, 033           | <b>Optimus</b>      | 035                                                                            |
| <b>Micromega</b>   | 038                | <b>Orbit</b>        | 091, 156                                                                       |
| <b>Microsoft</b>   | 163, 194           | <b>Orion</b>        | 059, 062, 113, 127, 162                                                        |
| <b>Microstar</b>   | 082                | <b>Ormond</b>       | 062                                                                            |
| <b>Minax</b>       | 062                | <b>Pacific</b>      | 082, 072, 077, 062, 071                                                        |
| <b>Minoka</b>      | 073, 100           | <b>Packard Bell</b> | 082, 117, 158                                                                  |
| <b>Mitsubishi</b>  | 062                | <b>Palladium</b>    | 059, 062, 179                                                                  |
| <b>MixSonic</b>    | 101                | <b>Panasonic</b>    | 032, 146, 155, 173, 178, 180                                                   |
| <b>Mizuda</b>      | 073                | <b>Panda</b>        | 076, 135                                                                       |
| <b>Monyka</b>      | 055                | <b>peeKTon</b>      | 093, 109                                                                       |
| <b>MPX</b>         | 086                | <b>Philips</b>      | 038, 033, 052, 058, 106, 118, 121, 137, 167, 170, 191, 192, 195, 196, 210, 209 |
| <b>MTlogic</b>     | 216                | <b>Pioneer</b>      | 041, 035, 016, 048, 133, 141, 145, 175, 183, 220                               |
| <b>Mustek</b>      | 066, 148, 164      | <b>PJ</b>           | 181                                                                            |
| <b>Muvid</b>       | 136, 156, 204      | <b>Play It</b>      | 156                                                                            |
| <b>Mx Onda</b>     | 070, 116           | <b>Plu2</b>         | 087                                                                            |
| <b>Myryad</b>      | 116                | <b>Polaroid</b>     | 134                                                                            |
| <b>Mystral</b>     | 082                | <b>Powerpoint</b>   | 091                                                                            |
| <b>NAD</b>         | 067                | <b>Prinz</b>        | 082                                                                            |
| <b>Naiko</b>       | 073, 094           | <b>Prism</b>        | 082, 061                                                                       |
| <b>Neom</b>        | 136, 156           | <b>ProCaster</b>    | 094, 200                                                                       |
| <b>Neon</b>        | 013                | <b>Proline</b>      | 057, 094, 122, 165, 193                                                        |
| <b>Neufunk</b>     | 055                | <b>Proson</b>       | 062                                                                            |
| <b>Nevir</b>       | 073, 082, 057      | <b>Prosonic</b>     | 130, 208                                                                       |
| <b>Nexius</b>      | 077                | <b>ProVision</b>    | 066, 117, 136, 181                                                             |
| <b>Next Base</b>   | 160                | <b>Pye</b>          | 038, 052                                                                       |
| <b>NFREN</b>       | 081                | <b>QONIX</b>        | 077                                                                            |
| <b>Nikkai</b>      | 181                | <b>Quartek</b>      | 158                                                                            |
| <b>Nikkei</b>      | 116                | <b>Radionette</b>   | 067, 090, 179                                                                  |
| <b>Norcent</b>     | 181                | <b>Radiotone</b>    | 062                                                                            |
| <b>Nordmende</b>   | 082                | <b>Raite</b>        | 055                                                                            |
| <b>Nortek</b>      | 204                | <b>RCA</b>          | 168                                                                            |
| <b>Oasis-Media</b> | 148                | <b>REC</b>          | 032                                                                            |
| <b>Olidata</b>     | 057                | <b>Redstar</b>      | 073, 071, 075, 093, 125, 181                                                   |
| <b>Onkyo</b>       | 033, 046, 169      | <b>Relisys</b>      | 119                                                                            |
| <b>Onn</b>         | 223                |                     |                                                                                |
| <b>Onyx</b>        | 198                |                     |                                                                                |

# Appendix

|                        |                                                                 |
|------------------------|-----------------------------------------------------------------|
| <b>Reoc</b>            | 072, 092                                                        |
| <b>Revoy</b>           | 085                                                             |
| <b>Richmond</b>        | 113                                                             |
| <b>Roadstar</b>        | 066, 057, 062, 093, 110, 172                                    |
| <b>Ronin</b>           | 091                                                             |
| <b>Rotel</b>           | 045                                                             |
| <b>Rowa</b>            | 064                                                             |
| <b>Rownsonic</b>       | 076                                                             |
| <b>Saba</b>            | 039, 204                                                        |
| <b>Saivod</b>          | 082, 071                                                        |
| <b>Salora</b>          | 067                                                             |
| <b>Sampo</b>           | 117                                                             |
| <b>Samsung</b>         | 032, 042, 017, 022, 069, 099, 152, 166, 182, 197, 199, 219, 080 |
| <b>Sansui</b>          | 059, 013, 070                                                   |
| <b>Sanyo</b>           | 056, 062                                                        |
| <b>Scan</b>            | 061, 087                                                        |
| <b>ScanMagic</b>       | 066, 164                                                        |
| <b>ScanSonic</b>       | 162                                                             |
| <b>Schaub Lorenz</b>   | 073, 075, 100, 104, 156                                         |
| <b>Schneider</b>       | 038, 082, 052, 077, 061, 062, 075, 090, 110, 122, 214           |
| <b>Schoentech</b>      | 062                                                             |
| <b>Scientific Labs</b> | 072                                                             |
| <b>Scott</b>           | 057, 097, 113, 125, 181                                         |
| <b>Seeltech</b>        | 109, 156                                                        |
| <b>SEG</b>             | 055, 062, 091, 140, 185, 215                                    |
| <b>Shanghai</b>        | 057                                                             |
| <b>Sharp</b>           | 058, 062, 090, 127                                              |
| <b>Sherwood</b>        | 067, 064                                                        |
| <b>Shinco</b>          | 064                                                             |
| <b>Siemssen</b>        | 123                                                             |
| <b>Sigmatek</b>        | 109, 200                                                        |
| <b>Siltex</b>          | 109                                                             |
| <b>Silva</b>           | 075, 093                                                        |
| <b>Silva Schneider</b> | 067, 082, 090, 093                                              |
| <b>SilverCrest</b>     | 014, 015, 105                                                   |
| <b>Sinudyne</b>        | 116                                                             |
| <b>Sistemas</b>        | 057                                                             |
| <b>Skantic</b>         | 038, 062                                                        |

|                      |                                                                      |
|----------------------|----------------------------------------------------------------------|
| <b>SKY</b>           | 013                                                                  |
| <b>Skymaster</b>     | 066, 072                                                             |
| <b>Skyworth</b>      | 093                                                                  |
| <b>Sliding</b>       | 100                                                                  |
| <b>SM Electronic</b> | 066, 072, 105                                                        |
| <b>Smart</b>         | 061, 062                                                             |
| <b>Sogo</b>          | 136, 203, 216                                                        |
| <b>Sontech</b>       | 131                                                                  |
| <b>Sony</b>          | 036, 089, 096, 098, 139, 142, 150, 171, 177, 184, 188, 190, 201, 202 |
| <b>Sound Color</b>   | 113                                                                  |
| <b>Soundmaster</b>   | 072                                                                  |
| <b>Soundwave</b>     | 062, 140                                                             |
| <b>Standard</b>      | 082, 072, 075, 093                                                   |
| <b>Star Clusters</b> | 105, 110                                                             |
| <b>Starmedia</b>     | 109                                                                  |
| <b>Stein</b>         | 148                                                                  |
| <b>Strato</b>        | 105, 123                                                             |
| <b>Strong</b>        | 062                                                                  |
| <b>Sunkai</b>        | 073, 087                                                             |
| <b>Sunstar</b>       | 001                                                                  |
| <b>Sunstech</b>      | 082, 148, 149                                                        |
| <b>Suntronic</b>     | 001                                                                  |
| <b>Sunwood</b>       | 075, 093                                                             |
| <b>Supervision</b>   | 072, 105                                                             |
| <b>Supratech</b>     | 203, 213                                                             |
| <b>SVA</b>           | 057                                                                  |
| <b>Swisstec</b>      | 206, 218                                                             |
| <b>Sylvania</b>      | 058, 207                                                             |
| <b>Symphonic</b>     | 058                                                                  |
| <b>Synn</b>          | 072                                                                  |
| <b>Syscom</b>        | 081                                                                  |
| <b>Sytech</b>        | 148, 200                                                             |
| <b>Tamashi</b>       | 125                                                                  |
| <b>Tandberg</b>      | 062, 162, 185                                                        |
| <b>Tangent</b>       | 117                                                                  |
| <b>Targa</b>         | 110, 157, 179                                                        |
| <b>Tatung</b>        | 073, 162                                                             |
| <b>Tchibo</b>        | 067                                                                  |

|                          |                                                                      |                           |                                   |
|--------------------------|----------------------------------------------------------------------|---------------------------|-----------------------------------|
| <b>TCM</b>               | 067, 077                                                             | <b>Walkvision</b>         | 064                               |
| <b>Teac</b>              | 067, 072, 061, 064, 071, 110                                         | <b>Waltham</b>            | 062, 140                          |
| <b>Tec</b>               | 093                                                                  | <b>Welkin</b>             | 082                               |
| <b>Technica</b>          | 162                                                                  | <b>Wellington</b>         | 062                               |
| <b>Technics</b>          | 032, 178                                                             | <b>Weltstar</b>           | 062                               |
| <b>Technika</b>          | 073, 082, 100, 140, 162, 206, 208, 218, 221                          | <b>Wharfedale</b>         | 077, 062, 070, 100, 124, 172      |
| <b>Technisson</b>        | 100                                                                  | <b>Wilson</b>             | 082, 113                          |
| <b>Technosonic</b>       | 100                                                                  | <b>Windsor</b>            | 062                               |
| <b>Techwood</b>          | 062, 140, 185                                                        | <b>Windy Sam</b>          | 042                               |
| <b>Telefunken</b>        | 039                                                                  | <b>Wintel</b>             | 101                               |
| <b>Teletech</b>          | 072, 062                                                             | <b>Woxter</b>             | 104, 109                          |
| <b>Tensai</b>            | 073                                                                  | <b>Xbox</b>               | 163, 194                          |
| <b>Tevion</b>            | 093, 097, 110, 123, 131, 164, 181, 215                               | <b>Xenius</b>             | 077                               |
| <b>Textorm</b>           | 136                                                                  | <b>Xomax</b>              | 198                               |
| <b>Theta Digital</b>     | 041                                                                  | <b>Xoro</b>               | 108, 226                          |
| <b>Thomson</b>           | 039, 116, 160, 168                                                   | <b>Yakumo</b>             | 094                               |
| <b>Time</b>              | 013                                                                  | <b>Yamada</b>             | 091, 094, 104, 106, 126, 135, 136 |
| <b>Tokai</b>             | 077, 055, 075, 093, 113                                              | <b>Yamaha</b>             | 032, 038, 052, 079                |
| <b>Tom-Tec</b>           | 076, 148                                                             | <b>Yamakawa</b>           | 055, 091, 215                     |
| <b>Top Suxess</b>        | 109                                                                  | <b>Yukai</b>              | 066, 164                          |
| <b>Toshiba</b>           | 033, 059, 132, 138, 153, 154, 169, 187                               | <b>Zenith</b>             | 033, 043                          |
| <b>TRANS-continentes</b> | 082, 081, 091, 113, 117                                              | <b>TV/DVD Combo</b>       |                                   |
| <b>Tredex</b>            | 086                                                                  | <b>Acoustic Solutions</b> | 193, 208                          |
| <b>Trevi</b>             | 082                                                                  | <b>Airis</b>              | 216                               |
| <b>TSM</b>               | 109                                                                  | <b>Akai</b>               | 212                               |
| <b>TVE</b>               | 062                                                                  | <b>Alba</b>               | 216                               |
| <b>Umax</b>              | 104                                                                  | <b>Audiosonic</b>         | 216                               |
| <b>UMC</b>               | 206, 218, 221                                                        | <b>Bush</b>               | 062, 216, 217                     |
| <b>United</b>            | 059, 066, 058, 062, 075, 081, 100, 105, 113, 120, 131, 156, 172, 198 | <b>cello</b>              | 198, 205                          |
| <b>Universum</b>         | 067, 043, 077, 062, 090, 110, 140                                    | <b>Dantax</b>             | 122                               |
| <b>Vecatech</b>          | 136                                                                  | <b>Denver</b>             | 128, 216                          |
| <b>Venturer</b>          | 077, 169, 193, 208                                                   | <b>Digitrex</b>           | 217                               |
| <b>Vestel</b>            | 062, 140, 185                                                        | <b>Gold</b>               | 198                               |
| <b>Vieta</b>             | 061                                                                  | <b>Hikona</b>             | 124                               |
| <b>Voxson</b>            | 066, 082                                                             | <b>Logic</b>              | 222                               |
| <b>Waitec</b>            | 066, 104, 109, 113                                                   | <b>Marquant</b>           | 217                               |
|                          |                                                                      | <b>MTlogic</b>            | 216                               |
|                          |                                                                      | <b>Onn</b>                | 223                               |
|                          |                                                                      | <b>Onyx</b>               | 198                               |

# Appendix

|                 |     |
|-----------------|-----|
| <b>Philips</b>  | 210 |
| <b>Proline</b>  | 193 |
| <b>Prosonic</b> | 208 |
| <b>Sliding</b>  | 100 |
| <b>Sogo</b>     | 216 |
| <b>Swisstec</b> | 218 |

|                         |          |
|-------------------------|----------|
| <b>Technika</b>         | 208, 221 |
| <b>UMC</b>              | 221      |
| <b>Venturer</b>         | 193, 208 |
| <b>TV/VCR/DVD Combo</b> |          |
| <b>Ferguson</b>         | 059      |
| <b>Matsui</b>           | 059      |

## 4. VCR Code List

| Brand                 | Code                              |
|-----------------------|-----------------------------------|
| <b>Accent</b>         | 009                               |
| <b>Adventura</b>      | 001                               |
| <b>Adyson</b>         | 009                               |
| <b>Aiwa</b>           | 003, 028, 001, 029, 002, 068, 102 |
| <b>Akai</b>           | 028, 029, 023, 012, 020           |
| <b>Akiba</b>          | 009                               |
| <b>Akura</b>          | 009                               |
| <b>Alba</b>           | 010, 021, 028, 001, 009, 029, 023 |
| <b>Allorgan</b>       | 020                               |
| <b>Allstar</b>        | 010                               |
| <b>America Action</b> | 021                               |
| <b>Amstrad</b>        | 021, 001, 009                     |
| <b>Anam</b>           | 021, 003, 019, 020                |
| <b>Anam National</b>  | 019                               |
| <b>Anitech</b>        | 009                               |
| <b>Ansonic</b>        | 001                               |
| <b>Aristona</b>       | 010                               |
| <b>ASA</b>            | 010, 003                          |
| <b>Asha</b>           | 020                               |
| <b>Asuka</b>          | 010, 003, 001, 009                |
| <b>Audiolab</b>       | 010                               |
| <b>Audiosonic</b>     | 021                               |
| <b>Audiovox</b>       | 003                               |
| <b>AVP</b>            | 001, 029                          |
| <b>Awa</b>            | 003, 024, 005                     |
| <b>Baird</b>          | 021, 001, 011, 012                |
| <b>Basic Line</b>     | 021, 009, 011                     |
| <b>Beaumark</b>       | 020                               |
| <b>Beko</b>           | 011                               |

|                          |                                             |
|--------------------------|---------------------------------------------|
| <b>Bell &amp; Howell</b> | 011                                         |
| <b>Bestar</b>            | 021                                         |
| <b>Black Diamond</b>     | 051                                         |
| <b>Black Panther</b>     | 021                                         |
| <b>Blaupunkt</b>         | 010, 019                                    |
| <b>Blue Sky</b>          | 021, 003, 028, 051, 009, 029, 031, 068, 102 |
| <b>Bondstec</b>          | 009                                         |
| <b>Brandt</b>            | 024, 025                                    |
| <b>Brinkmann</b>         | 028                                         |
| <b>Bush</b>              | 010, 021, 028, 001, 051, 009, 029, 023, 068 |
| <b>Calix</b>             | 003                                         |
| <b>Carena</b>            | 010                                         |
| <b>Carrefour</b>         | 006                                         |
| <b>Carver</b>            | 010                                         |
| <b>Casio</b>             | 001                                         |
| <b>Cathay</b>            | 021                                         |
| <b>CCE</b>               | 021, 009                                    |
| <b>Centrum</b>           | 044                                         |
| <b>CGE</b>               | 001                                         |
| <b>Cimline</b>           | 009                                         |
| <b>Cineral</b>           | 021                                         |
| <b>Citizen</b>           | 021, 003                                    |
| <b>Clatronic</b>         | 001, 009                                    |
| <b>Colt</b>              | 009                                         |
| <b>Combitech</b>         | 029                                         |
| <b>Condor</b>            | 021                                         |
| <b>Craig</b>             | 003, 009, 020                               |
| <b>Crown</b>             | 021, 003, 009, 031                          |

# Appendix

English

|                      |                                             |
|----------------------|---------------------------------------------|
| <b>Cybernex</b>      | 020                                         |
| <b>Cyrus</b>         | 010                                         |
| <b>Daewoo</b>        | 021, 050, 051, 029, 006                     |
| <b>Dansai</b>        | 021, 009                                    |
| <b>Dantax</b>        | 029, 068                                    |
| <b>Daytron</b>       | 021                                         |
| <b>De Graaf</b>      | 010, 011, 007, 004                          |
| <b>Decca</b>         | 010, 001, 029, 008                          |
| <b>Deitron</b>       | 021                                         |
| <b>Denko</b>         | 009                                         |
| <b>Denon</b>         | 004                                         |
| <b>Diamant</b>       | 003                                         |
| <b>Dual</b>          | 010, 021, 028, 001                          |
| <b>Dumont</b>        | 010, 001, 011                               |
| <b>Durabrand</b>     | 051, 044                                    |
| <b>Elbe</b>          | 021                                         |
| <b>Elcatech</b>      | 009                                         |
| <b>Electrophonic</b> | 003                                         |
| <b>Elin</b>          | 020                                         |
| <b>Elsay</b>         | 009                                         |
| <b>Elta</b>          | 021, 009                                    |
| <b>Emerex</b>        | 002                                         |
| <b>Emerson</b>       | 021, 050, 003, 001, 009, 006, 005           |
| <b>ESC</b>           | 021, 020                                    |
| <b>Ferguson</b>      | 021, 028, 001, 024, 025, 068                |
| <b>Fidelity</b>      | 001, 009, 029, 030, 020                     |
| <b>Finlandia</b>     | 010, 003, 001, 011, 007, 005, 004, 012, 019 |
| <b>Finlux</b>        | 010, 001, 011, 004                          |
| <b>Firstline</b>     | 021, 003, 028, 009, 006, 005, 004, 031, 102 |
| <b>Fisher</b>        | 011                                         |
| <b>Flint</b>         | 028                                         |
| <b>Frontech</b>      | 009                                         |
| <b>Fujitsu</b>       | 001                                         |
| <b>Funai</b>         | 001, 044                                    |
| <b>Galaxi</b>        | 001                                         |
| <b>Galaxis</b>       | 021                                         |
| <b>Garrard</b>       | 001                                         |
| <b>GE</b>            | 007, 020                                    |

|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| <b>GEC</b>                    | 010                                                   |
| <b>General Technic</b>        | 028                                                   |
| <b>Genexxa</b>                | 011                                                   |
| <b>Go Video</b>               | 030, 102                                              |
| <b>GoldHand</b>               | 009                                                   |
| <b>GoldStar</b>               | 003, 001, 031, 102                                    |
| <b>Goodmans</b>               | 010, 021, 050, 003, 028, 001, 051, 009, 029, 020, 068 |
| <b>GPX</b>                    | 003                                                   |
| <b>Gradiente</b>              | 001                                                   |
| <b>Graetz</b>                 | 011, 020                                              |
| <b>Granada</b>                | 010, 003, 001, 011, 007, 004, 019, 020                |
| <b>Grandin</b>                | 021, 003, 001, 009, 068                               |
| <b>Grundig</b>                | 010, 028, 009, 024, 029, 019, 068                     |
| <b>Hanimex</b>                | 029                                                   |
| <b>Hanseatic</b>              | 010, 003                                              |
| <b>Harley Davidson</b>        | 001                                                   |
| <b>Harwood</b>                | 009                                                   |
| <b>HCM</b>                    | 009                                                   |
| <b>Hinari</b>                 | 021, 009, 029, 020                                    |
| <b>Hisawa</b>                 | 029                                                   |
| <b>Hischito</b>               | 006                                                   |
| <b>Hitachi</b>                | 010, 001, 004, 020, 044                               |
| <b>Hoeher</b>                 | 021, 051                                              |
| <b>Hornlyphon</b>             | 010                                                   |
| <b>Hughes Network Systems</b> | 004                                                   |
| <b>Hypson</b>                 | 021, 003, 001, 009, 029, 031                          |
| <b>Imperial</b>               | 001                                                   |
| <b>Ingersol</b>               | 020                                                   |
| <b>Inno Hit</b>               | 009                                                   |
| <b>Interbuy</b>               | 003, 009                                              |
| <b>Interfunk</b>              | 010, 011                                              |
| <b>Internal</b>               | 021, 050                                              |
| <b>International</b>          | 021, 003, 051                                         |
| <b>Intervision</b>            | 021, 003, 028, 001                                    |
| <b>Irradio</b>                | 010, 003, 009, 102                                    |
| <b>ITT</b>                    | 011, 012, 020                                         |
| <b>ITV</b>                    | 021, 003                                              |



# Appendix

|                     |                                   |
|---------------------|-----------------------------------|
| <b>JBL</b>          | 021                               |
| <b>JMB</b>          | 028, 029, 068                     |
| <b>Joyce</b>        | 001                               |
| <b>JVC</b>          | 008                               |
| <b>Kaisui</b>       | 009                               |
| <b>Karcher</b>      | 010, 021, 051                     |
| <b>KEC</b>          | 021, 003                          |
| <b>Kendo</b>        | 021, 003, 028, 051, 009, 023, 012 |
| <b>Kenwood</b>      | 008                               |
| <b>KLH</b>          | 009                               |
| <b>Kneissel</b>     | 021, 003, 028, 029                |
| <b>Kodak</b>        | 003                               |
| <b>Korpel</b>       | 009                               |
| <b>Kyoto</b>        | 009                               |
| <b>Lenco</b>        | 021                               |
| <b>Leyco</b>        | 009                               |
| <b>LG</b>           | 021, 003, 001, 031, 102           |
| <b>Lifetec</b>      | 028                               |
| <b>Lloyd's</b>      | 001                               |
| <b>Loewe</b>        | 010, 144, 003                     |
| <b>Logik</b>        | 009, 012, 020                     |
| <b>Lumatron</b>     | 044, 102                          |
| <b>Lunatron</b>     | 102                               |
| <b>Lux May</b>      | 009                               |
| <b>Luxor</b>        | 009, 011, 007, 005, 023, 012      |
| <b>LXI</b>          | 003                               |
| <b>M Electronic</b> | 003, 001                          |
| <b>Magnasonic</b>   | 021, 044                          |
| <b>Magnavox</b>     | 010, 001                          |
| <b>Magnin</b>       | 020                               |
| <b>Magnum</b>       | 051                               |
| <b>Manesth</b>      | 010, 009, 006                     |
| <b>Marantz</b>      | 010                               |
| <b>Mark</b>         | 021, 001                          |
| <b>Mascom</b>       | 051                               |
| <b>Mastec</b>       | 051                               |
| <b>Master's</b>     | 021                               |
| <b>Matsui</b>       | 003, 028, 029, 020, 068           |
| <b>Mediator</b>     | 010                               |

|                       |                                        |
|-----------------------|----------------------------------------|
| <b>Medion</b>         | 028, 051, 029                          |
| <b>Memorex</b>        | 003, 028, 001, 011, 007, 020           |
| <b>Memphis</b>        | 009                                    |
| <b>Metronic</b>       | 010                                    |
| <b>Metz</b>           | 010, 144, 003, 019, 084                |
| <b>MGA</b>            | 005, 020                               |
| <b>MGN Technology</b> | 020                                    |
| <b>Micormay</b>       | 028                                    |
| <b>Migros</b>         | 001                                    |
| <b>Minolta</b>        | 004                                    |
| <b>Mitsubishi</b>     | 010, 051, 008, 007, 005, 031           |
| <b>Motorola</b>       | 007                                    |
| <b>MTC</b>            | 001, 020                               |
| <b>Multitec</b>       | 003                                    |
| <b>Multitech</b>      | 001, 009                               |
| <b>Murphy</b>         | 001                                    |
| <b>Myryad</b>         | 010                                    |
| <b>NAD</b>            | 011                                    |
| <b>Naiko</b>          | 028, 051                               |
| <b>National</b>       | 019                                    |
| <b>NEC</b>            | 003, 011, 008                          |
| <b>Neckermann</b>     | 010                                    |
| <b>Nesco</b>          | 001, 009                               |
| <b>Neufunk</b>        | 102                                    |
| <b>Nikkai</b>         | 021, 009                               |
| <b>Nikko</b>          | 003                                    |
| <b>Noblex</b>         | 020                                    |
| <b>Nokia</b>          | 010, 021, 011, 007, 004, 023, 012, 020 |
| <b>Nordmende</b>      | 051, 024, 008, 025                     |
| <b>Oceanic</b>        | 010, 001, 024, 011, 007, 012           |
| <b>Okano</b>          | 021, 028, 009, 023                     |
| <b>Olympus</b>        | 019                                    |
| <b>Onimax</b>         | 051                                    |
| <b>Optimus</b>        | 007, 030, 044                          |
| <b>Orbit</b>          | 009                                    |
| <b>Orion</b>          | 028, 029, 068                          |
| <b>Orson</b>          | 001                                    |
| <b>Osaki</b>          | 003, 001, 009                          |

# Appendix

English

|                     |                              |
|---------------------|------------------------------|
| <b>Osume</b>        | 009                          |
| <b>Otto Versand</b> | 010                          |
| <b>Pace</b>         | 029                          |
| <b>Pacific</b>      | 028, 001, 051, 068           |
| <b>Palladium</b>    | 003, 028, 009                |
| <b>Palsonic</b>     | 001, 009                     |
| <b>Panasonic</b>    | 144, 019, 084                |
| <b>Pathe Cinema</b> | 005                          |
| <b>Penney</b>       | 003, 004, 020                |
| <b>Pentax</b>       | 004                          |
| <b>Perdio</b>       | 001                          |
| <b>Philco</b>       | 009                          |
| <b>Philips</b>      | 010, 044                     |
| <b>Phoenix</b>      | 021                          |
| <b>Phonola</b>      | 010                          |
| <b>Pilot</b>        | 003                          |
| <b>Pioneer</b>      | 010, 008, 004                |
| <b>Portland</b>     | 021, 050                     |
| <b>Prinz</b>        | 001                          |
| <b>Profitronic</b>  | 010, 020                     |
| <b>Proline</b>      | 021, 001, 051, 024, 025      |
| <b>Proscio</b>      | 021                          |
| <b>Prosonic</b>     | 021                          |
| <b>Protech</b>      | 010, 009                     |
| <b>ProVision</b>    | 021                          |
| <b>Pye</b>          | 010                          |
| <b>Quasar</b>       | 021                          |
| <b>Quelle</b>       | 010                          |
| <b>Radialva</b>     | 010, 003, 009, 007           |
| <b>Radiola</b>      | 010                          |
| <b>Radionette</b>   | 003, 102                     |
| <b>RadioShack</b>   | 003, 001                     |
| <b>Radix</b>        | 003                          |
| <b>Randex</b>       | 003                          |
| <b>RCA</b>          | 024, 007, 004, 020           |
| <b>Realistic</b>    | 003, 001, 011, 007           |
| <b>Reoc</b>         | 028                          |
| <b>RFT</b>          | 009                          |
| <b>Roadstar</b>     | 010, 021, 003, 009, 020, 068 |

|                        |                                                       |
|------------------------|-------------------------------------------------------|
| <b>Royal</b>           | 009                                                   |
| <b>Saba</b>            | 021, 024, 025                                         |
| <b>Saisho</b>          | 028                                                   |
| <b>Salora</b>          | 011, 005, 012                                         |
| <b>Samsung</b>         | 006, 030, 020, 068                                    |
| <b>Sanky</b>           | 007                                                   |
| <b>Sansei</b>          | 007                                                   |
| <b>Sansui</b>          | 001, 009, 008, 012                                    |
| <b>Sanyo</b>           | 011, 008, 007, 020                                    |
| <b>Saville</b>         | 021, 029, 020                                         |
| <b>SBR</b>             | 010                                                   |
| <b>ScanSonic</b>       | 020                                                   |
| <b>Schaub Lorenz</b>   | 028, 001, 011, 023, 012                               |
| <b>Schneider</b>       | 010, 021, 003, 028, 001, 051, 009, 029, 004, 020, 102 |
| <b>Scott</b>           | 005, 044                                              |
| <b>Sears</b>           | 003, 001, 011, 004                                    |
| <b>Seaway</b>          | 021                                                   |
| <b>SEG</b>             | 010, 021, 050, 051, 009, 020, 044                     |
| <b>SEI</b>             | 010                                                   |
| <b>Sei-Sinudyne</b>    | 010                                                   |
| <b>Seleco</b>          | 003                                                   |
| <b>Semp</b>            | 006                                                   |
| <b>Sentra</b>          | 009                                                   |
| <b>Setron</b>          | 009                                                   |
| <b>Sharp</b>           | 007, 040, 102                                         |
| <b>Shintom</b>         | 009, 011                                              |
| <b>Shivaki</b>         | 003                                                   |
| <b>Shogun</b>          | 020                                                   |
| <b>Siemens</b>         | 010, 003, 024, 011                                    |
| <b>Siera</b>           | 010                                                   |
| <b>Silva</b>           | 003                                                   |
| <b>Silva Schneider</b> | 102                                                   |
| <b>Silver</b>          | 021                                                   |
| <b>SilverCrest</b>     | 051                                                   |
| <b>Singer</b>          | 009, 006                                              |
| <b>Sinudyne</b>        | 010, 029                                              |
| <b>Smaragd</b>         | 028                                                   |
| <b>Sonneclair</b>      | 009                                                   |

# Appendix

|                    |                              |
|--------------------|------------------------------|
| <b>Sonolor</b>     | 007                          |
| <b>Sontec</b>      | 021, 003                     |
| <b>Sony</b>        | 001, 002, 012, 095, 112      |
| <b>Soundwave</b>   | 003, 028                     |
| <b>Ssangyong</b>   | 009                          |
| <b>Standard</b>    | 021                          |
| <b>Stern</b>       | 021                          |
| <b>Sunkai</b>      | 021, 028                     |
| <b>Sunstar</b>     | 011                          |
| <b>Suntronic</b>   | 011                          |
| <b>Sunwood</b>     | 009                          |
| <b>Supra</b>       | 003                          |
| <b>Sylvania</b>    | 010, 001, 005                |
| <b>Symphonic</b>   | 001, 044                     |
| <b>Tandberg</b>    | 021                          |
| <b>Tandy</b>       | 001, 011                     |
| <b>Tashiko</b>     | 010, 003, 001, 007, 020      |
| <b>Tatung</b>      | 010, 028, 001, 029, 007, 005 |
| <b>Tchibo</b>      | 028                          |
| <b>TCM</b>         | 028                          |
| <b>Teac</b>        | 003, 001, 051                |
| <b>Tec</b>         | 009                          |
| <b>Tech Line</b>   | 009                          |
| <b>Technics</b>    | 010, 019                     |
| <b>TechniSat</b>   | 028                          |
| <b>Technosonic</b> | 029                          |
| <b>Teknika</b>     | 003, 001                     |
| <b>Telefunken</b>  | 021, 024, 025                |
| <b>Telerent</b>    | 019                          |
| <b>Teletech</b>    | 021, 001, 009                |
| <b>Tenosal</b>     | 009                          |
| <b>Tensai</b>      | 021, 003, 001, 009           |
| <b>Tevion</b>      | 028, 051                     |
| <b>Texet</b>       | 021                          |
| <b>Thomas</b>      | 001                          |
| <b>Thomson</b>     | 021, 024, 008, 025           |
| <b>Thorn</b>       | 003, 011                     |
| <b>TMK</b>         | 020                          |
| <b>Tokai</b>       | 003, 009, 011                |

|                           |                                        |
|---------------------------|----------------------------------------|
| <b>Topline</b>            | 028                                    |
| <b>Toshiba</b>            | 010, 029, 006, 005, 030, 068           |
| <b>Totevision</b>         | 003, 020                               |
| <b>Towada</b>             | 009                                    |
| <b>Tradex</b>             | 010                                    |
| <b>Uher</b>               | 020                                    |
| <b>Ultravox</b>           | 021                                    |
| <b>Unitech</b>            | 020                                    |
| <b>United</b>             | 028, 068                               |
| <b>Universum</b>          | 010, 003, 028, 001, 011, 012, 020, 102 |
| <b>Vector</b>             | 006                                    |
| <b>Victor</b>             | 008                                    |
| <b>Video Concepts</b>     | 006                                    |
| <b>Video Technic</b>      | 001                                    |
| <b>Videomagic</b>         | 003                                    |
| <b>Videosonic</b>         | 020                                    |
| <b>Villain</b>            | 001                                    |
| <b>Wards</b>              | 010, 001, 009, 006, 007, 004, 020      |
| <b>Watson</b>             | 010, 051, 029                          |
| <b>Weltblick</b>          | 003                                    |
| <b>Wharfedale</b>         | 044                                    |
| <b>White Westinghouse</b> | 021, 009                               |
| <b>World</b>              | 028                                    |
| <b>XR-1000</b>            | 001, 009                               |
| <b>Yamishi</b>            | 021, 009                               |
| <b>Yokan</b>              | 009                                    |
| <b>Yoko</b>               | 003, 009, 020                          |
| <b>Zenith</b>             | 050, 001                               |
| <b>ZX</b>                 | 028, 029                               |
| <b>TV/VCR Combo</b>       |                                        |
| <b>Aiwa</b>               | 001, 029, 068, 102                     |
| <b>Alba</b>               | 029                                    |
| <b>Amstrad</b>            | 001                                    |
| <b>Beko</b>               | 011                                    |
| <b>Bestar</b>             | 021                                    |
| <b>Blue Sky</b>           | 021, 029, 068                          |
| <b>Bush</b>               | 029, 068                               |

# Appendix

English

|                        |                    |                           |               |
|------------------------|--------------------|---------------------------|---------------|
| <b>Citizen</b>         | 021                | <b>Portland</b>           | 050           |
| <b>Colt</b>            | 009                | <b>Radiola</b>            | 010           |
| <b>Daewoo</b>          | 021, 050           | <b>RCA</b>                | 007, 020      |
| <b>Dantax</b>          | 029, 068           | <b>Saba</b>               | 024           |
| <b>Emerson</b>         | 021, 050           | <b>Samsung</b>            | 030, 020, 068 |
| <b>Ferguson</b>        | 021, 001, 025, 068 | <b>Sansui</b>             | 001           |
| <b>Fidelity</b>        | 001                | <b>Sanyo</b>              | 020           |
| <b>Firstline</b>       | 021                | <b>Saville</b>            | 029           |
| <b>Funai</b>           | 001                | <b>Schneider</b>          | 010, 001      |
| <b>GE</b>              | 007, 020           | <b>Sears</b>              | 003, 001      |
| <b>GoldStar</b>        | 003, 031           | <b>SEG</b>                | 050           |
| <b>Goodmans</b>        | 021, 050, 029, 068 | <b>Sharp</b>              | 007           |
| <b>Grandin</b>         | 021, 068           | <b>Siemens</b>            | 010           |
| <b>Grundig</b>         | 010, 029, 068      | <b>Sinudyne</b>           | 029           |
| <b>Hanimex</b>         | 029                | <b>Sony</b>               | 001, 002, 112 |
| <b>Harley Davidson</b> | 001                | <b>Sylvania</b>           | 010           |
| <b>Hinari</b>          | 029                | <b>Symphonic</b>          | 001           |
| <b>Hitachi</b>         | 001                | <b>Tatung</b>             | 029           |
| <b>Hypson</b>          | 003                | <b>Teac</b>               | 001           |
| <b>Internal</b>        | 021, 050           | <b>Technics</b>           | 010           |
| <b>JBL</b>             | 021                | <b>Technosonic</b>        | 029           |
| <b>JMB</b>             | 029                | <b>Telefunken</b>         | 021           |
| <b>Kneissel</b>        | 021, 029           | <b>Thomas</b>             | 001           |
| <b>LG</b>              | 003, 031           | <b>Thomson</b>            | 021, 025      |
| <b>Lloyd's</b>         | 001                | <b>Toshiba</b>            | 029, 030, 068 |
| <b>Magnasonic</b>      | 021, 044           | <b>United</b>             | 068           |
| <b>Magnavox</b>        | 010, 001           | <b>White Westinghouse</b> | 021           |
| <b>Magnin</b>          | 020                | <b>Zenith</b>             | 011           |
| <b>Matsui</b>          | 029, 068           |                           |               |
| <b>Medion</b>          | 029                |                           |               |
| <b>Memorex</b>         | 003                |                           |               |
| <b>MGA</b>             | 020                |                           |               |
| <b>Mitsubishi</b>      | 010, 007           |                           |               |
| <b>Orion</b>           | 029, 068           |                           |               |
| <b>Pace</b>            | 029                |                           |               |
| <b>Pacific</b>         | 068                |                           |               |
| <b>Penney</b>          | 003, 020           |                           |               |
| <b>Philips</b>         | 010                |                           |               |

# Appendix

## 5. Audio & AUX Code List

| Brand              | Code               |
|--------------------|--------------------|
| Amplifier          |                    |
| Acoustic Solutions | 078, 082, 084, 094 |
| Cambridge Audio    | 106                |
| Curtis Mathes      | 014                |
| Denon              | 012                |
| Durabrand          | 089, 090           |
| Goodmans           | 093                |
| Hitachi            | 089                |
| JBL                | 042                |
| Logitech           | 074                |
| Magnat             | 042                |
| Magnum             | 094                |
| Mustek             | 093                |
| Optimus            | 014, 029           |
| Pacific            | 094                |
| Pioneer            | 014, 029           |
| RCA                | 014                |
| Sven               | 090                |
| Tevion             | 094                |
| Trice              | 090                |
| upXus              | 078                |
| Vieta              | 042                |
| Yamaha             | 016, 030           |
| Accessory          |                    |
| Apple              | 038                |
| Sony               | 008                |
| Yamaha             | 121, 122           |
| Receiver           |                    |
| Acoustic Solutions | 087                |
| AEG                | 071, 072           |
| AFK                | 071                |
| Aiwa               | 005, 073           |
| Akai               | 004, 021, 072, 087 |
| Alba               | 087, 088           |
| All-Tel            | 072                |
| Amstrad            | 024, 072           |
| Anam               | 021                |

|                 |                              |
|-----------------|------------------------------|
| Arcam           | 044                          |
| ASCOMTEC        | 071                          |
| Audiolab        | 043                          |
| Audiosonic      | 071                          |
| Audiotronic     | 043                          |
| Bang & Olufsen  | 028                          |
| Basic Line      | 088                          |
| Belson          | 071                          |
| Binatone        | 071                          |
| Blue Sky        | 072, 087                     |
| Bose            | 046, 099                     |
| Bush            | 027                          |
| Cambridge Audio | 080, 101                     |
| Cat             | 071                          |
| CCE             | 065                          |
| Centrum         | 045, 071                     |
| Clatronic       | 027, 071                     |
| Cosmotron       | 027                          |
| Daewoo          | 076                          |
| Dantax          | 018, 072                     |
| Denon           | 067, 025, 036, 075           |
| Denver          | 071                          |
| DiK             | 027                          |
| Dual            | 045, 072                     |
| eBench          | 024, 027                     |
| Elta            | 024, 027, 072                |
| EuroLine        | 098                          |
| Fine Arts       | 043                          |
| Firstline       | 027                          |
| Garrard         | 013, 018                     |
| Genexxa         | 010                          |
| Global Sphere   | 098                          |
| Goodmans        | 021, 024, 027, 071, 072      |
| Grundig         | 043, 013, 027, 035, 087      |
| Grunkel         | 024, 072                     |
| Hanseatic       | 072                          |
| Harman/Kardon   | 043, 056, 003, 011, 057, 060 |
| Harwood         | 024                          |

|                             |                         |
|-----------------------------|-------------------------|
| <b>HCM</b>                  | 072                     |
| <b>HE</b>                   | 071                     |
| <b>Hitachi</b>              | 088                     |
| <b>Hitech</b>               | 024                     |
| <b>Hiteker</b>              | 071                     |
| <b>Home Tech Industries</b> | 071                     |
| <b>Hyundai</b>              | 087                     |
| <b>Inkel</b>                | 020                     |
| <b>Intersound</b>           | 024                     |
| <b>JBL</b>                  | 056, 057                |
| <b>JVC</b>                  | 001, 019, 068           |
| <b>Kenwood</b>              | 033, 061, 091, 010      |
| <b>Kioto</b>                | 027                     |
| <b>Kompernass</b>           | 027                     |
| <b>KXD</b>                  | 071                     |
| <b>LG</b>                   | 054, 086, 125           |
| <b>Lifetec</b>              | 027                     |
| <b>LXI</b>                  | 024                     |
| <b>Magnat</b>               | 071                     |
| <b>Magnavox</b>             | 043, 035                |
| <b>Marantz</b>              | 043, 049, 031, 035, 053 |
| <b>Matsui</b>               | 024, 027                |
| <b>MBO</b>                  | 065                     |
| <b>Medion</b>               | 027, 087                |
| <b>MEI</b>                  | 072                     |
| <b>Metz</b>                 | 088                     |
| <b>Micromega</b>            | 043                     |
| <b>Microstar</b>            | 027                     |
| <b>MTLogic</b>              | 087                     |
| <b>Musicmagic</b>           | 035                     |
| <b>Mustek</b>               | 065                     |
| <b>Mx Onda</b>              | 024, 027                |
| <b>Myryad</b>               | 043                     |
| <b>NAD</b>                  | 015, 021                |
| <b>Nexius</b>               | 072                     |
| <b>Nikkai</b>               | 071                     |
| <b>Nikkei</b>               | 024                     |
| <b>Norcent</b>              | 071                     |
| <b>NTDE Geniesom</b>        | 024                     |

|                           |                                                                      |
|---------------------------|----------------------------------------------------------------------|
| <b>Onkyo</b>              | 006, 063, 114                                                        |
| <b>Optimus</b>            | 032, 010, 024                                                        |
| <b>Orient Power</b>       | 024                                                                  |
| <b>Orion</b>              | 018                                                                  |
| <b>Palladium</b>          | 027, 045, 054, 072, 086                                              |
| <b>Panasonic</b>          | 109, 085, 058, 059, 062, 110, 111, 113, 128                          |
| <b>Paramount Pictures</b> | 045                                                                  |
| <b>PCCW</b>               | 128                                                                  |
| <b>Philips</b>            | 043, 049, 031, 035, 048, 053, 117                                    |
| <b>Phonotrend</b>         | 020                                                                  |
| <b>Pioneer</b>            | 052, 032, 010, 039, 081, 097                                         |
| <b>PJ</b>                 | 071                                                                  |
| <b>Polk Audio</b>         | 053                                                                  |
| <b>Prima Electronic</b>   | 027                                                                  |
| <b>Proline</b>            | 027, 072                                                             |
| <b>ProVision</b>          | 071                                                                  |
| <b>QONIX</b>              | 072, 087                                                             |
| <b>Radionette</b>         | 054, 100                                                             |
| <b>Recco</b>              | 027                                                                  |
| <b>Redstar</b>            | 071                                                                  |
| <b>Revox</b>              | 007, 010, 035                                                        |
| <b>Roadstar</b>           | 027                                                                  |
| <b>Rotel</b>              | 026                                                                  |
| <b>Samsung</b>            | 013, 055, 119, 123, 083                                              |
| <b>Sansui</b>             | 021, 035, 098                                                        |
| <b>Sanyo</b>              | 024                                                                  |
| <b>Schneider</b>          | 003, 024, 045, 072                                                   |
| <b>Scott</b>              | 071                                                                  |
| <b>SEG</b>                | 088                                                                  |
| <b>Sharp</b>              | 010, 022, 070, 100                                                   |
| <b>Sherwood</b>           | 020, 022                                                             |
| <b>Siemens</b>            | 021                                                                  |
| <b>Silva Schneider</b>    | 027, 072, 086                                                        |
| <b>SilverCrest</b>        | 087                                                                  |
| <b>Sony</b>               | 040, 034, 047, 103, 107, 037, 066, 077, 079, 096, 108, 116, 118, 124 |
| <b>Soundwave</b>          | 021                                                                  |
| <b>Stereophonics</b>      | 032                                                                  |
| <b>Sumida</b>             | 024                                                                  |

# Appendix

|                    |                              |
|--------------------|------------------------------|
| <b>Sunfire</b>     | 061                          |
| <b>T+A</b>         | 050, 105                     |
| <b>TAG McLaren</b> | 043                          |
| <b>Tandberg</b>    | 088                          |
| <b>Targa</b>       | 054                          |
| <b>TCM</b>         | 027                          |
| <b>Teac</b>        | 018, 021                     |
| <b>Technics</b>    | 109, 085, 058, 059, 011, 110 |
| <b>Techwood</b>    | 088                          |
| <b>Tedelex</b>     | 098                          |
| <b>Tevion</b>      | 071                          |
| <b>Thorens</b>     | 043                          |
| <b>Thorn</b>       | 024                          |
| <b>Tokai</b>       | 072                          |
| <b>Toshiba</b>     | 092                          |

|                   |                                                            |
|-------------------|------------------------------------------------------------|
| <b>United</b>     | 072, 098                                                   |
| <b>Universum</b>  | 013, 021, 024, 027, 045, 072, 076, 095                     |
| <b>Venturer</b>   | 027, 072                                                   |
| <b>Vestel</b>     | 088                                                        |
| <b>Victor</b>     | 001                                                        |
| <b>Waitec</b>     | 065                                                        |
| <b>Watson</b>     | 027                                                        |
| <b>Wellfund</b>   | 024                                                        |
| <b>Welltech</b>   | 027                                                        |
| <b>Wharfedale</b> | 072                                                        |
| <b>Xenius</b>     | 072                                                        |
| <b>Yamaha</b>     | 009, 002, 010, 017, 023, 041, 051, 064, 069, 112, 115, 120 |
| <b>Yukai</b>      | 065                                                        |
| <b>Zenith</b>     | 024                                                        |

MDB1.3