

# **PVR Remote Control Manual**

Version 1.4 (Dec 2005)

e&oe

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## 1 .Welcome

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Congratulations on acquiring the new DStv multi-function PVR Remote Control.

We are proud to bring you another product at the cutting edge of technology. The PVR Remote Control is essentially a mini hand-held PC and offers significantly more functionality than a normal remote control. It not only controls the decoder, it also offers :

- Basic control of the television and home entertainment systems in your home
- Quick access to favourite channels
- Macros (it can record a string of commands on a single button)
- Volume redirect (change the volume of the hi-fi or TV instead of the decoder)

Enjoy!

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## 2. Taking Care of the Remote Control

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### 2.1 Cleaning

Clean the remote control using a damp cloth. Please do NOT use cleaning liquids, as the remote control has a special coating to prevent the printing from fading or rubbing off and certain cleaning liquids may dissolve this coating.

### 2.2 Batteries

The PVR Remote Control has been optimised for heavy duty or alkaline batteries and comes with 2 new "AA/LR6" heavy duty batteries. Rechargeable batteries may also be used, however for optimal performance, we do not recommend that you use normal batteries.

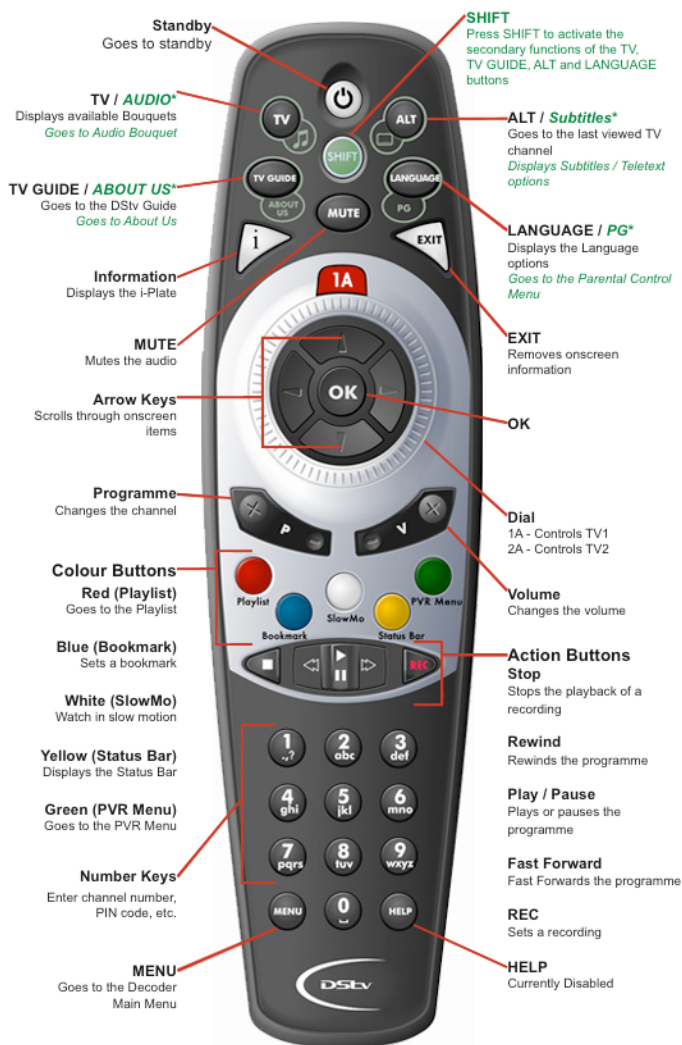
The i-Plate on the PVR has an indicator that will be displayed when the batteries in the remote control are running low. (The Battery Low indicator will appear on the right hand side of the i-Plate.) Once this icon appears, we recommend that you replace the batteries as soon as possible.



### Note

- ▶ The Battery Low indicator will not disappear immediately after you replace the batteries, as the decoder requires a few button presses from the remote control to confirm that the batteries have been replaced.

### 3. Basic Navigation



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## 4. What's New?

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### 4.1 The SHIFT button

#### Quick Summary

To access secondary functionality of the keys at the top of the remote control, press **SHIFT** followed by the required button.

The four buttons at the top of the remote control each have a secondary function. Only **TV**, **ALT**, **TV GUIDE** and **LANGUAGE** buttons are active during normal use.



To access the secondary functionality, press **SHIFT** followed by the required button. After pressing **SHIFT**, it will flash / blink, confirming the mode of the remote control (ie. the **SHIFT** function, also known as "shifted functionality" has been activated). *It is not necessary to hold both buttons down at the same time.*

The **SHIFT** function is then automatically cancelled and further button presses will not be affected. If not used, the **SHIFT** function will cancel itself after 20 seconds. The **SHIFT** function can also be cancelled by pressing **SHIFT** again.

- To go to the Audio Bouquet, press **SHIFT** followed by the **TV** button.
- To go to the About Us section of the DStv Guide, press **SHIFT** followed by the **TV GUIDE** button.
- To display the Subtitles / Teletext options, press **SHIFT** followed by the **ALT** button (only available on selected channels).
- To go to the Parental Control menu, press **SHIFT** followed by the **LANGUAGE** button.

## 4.2 The Dial

### Quick Summary

**RED** settings are for TV1.

**BLUE** settings are for TV2.

X, Y and Z are for controlling Hi-Fi's and TVs.

The dial is used for different TV environments and can be customised for use with the TV and other audio visual equipment in your home. The position of the dial can be seen through the mode window. In the example below, the remote control is in mode 2B.



Whenever a button is pressed, the mode window will blink confirming that the command was sent in that mode.

### Tip

① Just check the colours, you don't need to read the setting.

#### 4.2.1 What is a Mode?

The different sections of the dial are called modes. The basic functions are the same in each mode, however each mode also allows control of additional devices.

- The TV1 environment of the PVR is controlled with 1A, 1B, 1C or 1D (the red modes).
- The TV2 environment of the PVR is controlled with 2A, 2B, 2C or 2D (the blue modes).
- The TV(s) and Hi-Fi / home theatre systems are controlled with X, Y and Z (the programmable modes).

Currently, the PVR does not recognise the difference between 1A, 1B, 1C, and 1D - they are all interpreted as 'red mode' and they all control TV1. Likewise 2A, 2B, 2C and 2D are all interpreted as 'blue mode' and they all control TV2. In future, the A/B/C/D modes may be used for multi-player interaction or personalisation options.

#### 4.2.2 Turning the Dial

Place a thumb on each side of the ring (next to the left and right arrow buttons) and push upwards with one thumb. The dial can turn both clockwise and anti-clockwise.



#### 4.3 Blinking Lights

##### **Quick Summary**

*Quick blink* = OK

*Slow blink(s)* = error

*SHIFT button blink* = advanced mode

*No blink* = invalid button

The remote control has various ways of indicating specific conditions. Examples :

- The SHIFT button will blink continuously when SHIFT is active
- The mode window will blink whenever a button is pressed to confirm that the command has been sent in that mode

If there is no blink, the button being pressed is invalid. For example, pressing OK in a mode that you have set up to control the Hi-Fi.

With certain functions, the SHIFT button blinks when a command is sent, instead of the mode window. (See "Advanced Functionality" from page 9). This indicates that a special mode is active and that the mode displayed in the mode window is inactive (not being used). These special modes are all subject to a 20 second timeout.

## 4.4 Timeouts

### Quick Summary

*Don't worry, if you make an error, it will fix itself.*

If any button on the remote control is held down continuously for longer than 30 seconds, the remote control will automatically switch off. This is done to conserve batteries if (for example) you sit on the remote control, a book is placed on top of it, etc.

### Note

- ▶ If left alone for more than 20 seconds, the remote control will always return to normal operation for the selected mode.

## 4.5 The Multi-Function Button

### Quick Summary

*It's intuitive. Just play with it.*

The **PLAY / PAUSE** button on the PVR Remote Control is used to control a variety of functions on the PVR - Play, Pause, Rewind and Fast Forward.

- |                  |  |
|------------------|--|
| To Play or Pause | - press <b>PLAY / PAUSE</b>                              |
| To Rewind        | - slide the <b>PLAY / PAUSE</b> button towards the left  |
| To Fast Forward  | - slide the <b>PLAY / PAUSE</b> button towards the right |



For more information on how to rewind / fast forward on the PVR, please refer to the PVR Viewer's Guide. (Go to [www.dstv.com/go/pvr](http://www.dstv.com/go/pvr))



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## 5. Advanced Functionality

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Please take note of the following important points which are applicable to this section.

- Any programming instruction will be abandoned if 20 seconds passes without a button being pressed.
- Pressing **EXIT** will abandon any programming changes and return the remote control to its normal operational mode. Programming a macro is the only exception to this point.
- Pressing **HELP** concludes programming and stores all changes. (The **HELP** button was assigned to this function, as it is the only button unlikely to form part of a macro.)
- Two slow blinks at any time indicate that an error has occurred and that the remote control has returned to its normal operational mode. Check the procedure carefully and start again.
- Success is indicated by three quick blinks.

### 5.1 Controlling TV and Audio Systems

#### **Quick Programming Summary**

*Find the code for your TV.*

*Select mode X, Y or Z.*

*Press and hold **SHIFT** until the mode window blinks 3 times.*

*Enter the code.*

#### **5.1.1 What is this used for?**

The PVR Remote Control has the ability to control up to three other devices apart from the PVR. The X, Y and Z modes can each be programmed to control a TV or amplifier / home theatre system.

Follow the instructions below and you should be able to control your entire DStv viewing environment with just one remote control.

#### **Note**

- ▶ Only the X, Y and Z modes can be used to control other devices.

#### **Tip**

- ① Once you have completed programming the remote control, write the product codes on the sticker inside the battery compartment for future reference.

#### **5.1.2 Programming the remote to control TV / Hi-Fi devices**

There are two ways to programme the remote to control other devices.

- Direct set-up : for this you need the code of your device (see the list supplied)
- Step-and-set method : the code is not required, however this method of programming the remote control will take much longer

### **Direct set-up**

1. Find the 5-digit code for the device from the list provided in this manual (see "Code Tables" from page 22). If there is more than one code listed for the device, start with the first one (they are listed in order of probability).
2. Select the mode (X, Y or Z) that you would like to programme to control the other device.
3. Press and hold the **SHIFT** button until the mode window blinks 3 times.
4. Enter the 5-digit code using the number buttons on the remote control. (The mode window will blink once after you enter the first 4 numbers and three times after you enter the last number – confirming that a valid code has been received).
5. This mode can now be used to control the selected device.

### **Note**

- ▶ The remote control will indicate an error (two slow blinks in the mode window) and exit the programming mode if you press anything other than a number button when entering the device code.

### **Step-and-set**

1. Select the mode (X, Y or Z) that you would like to programme to control the other device.
2. Press and hold the **SHIFT** button until the mode window blinks 3 times.
3. Enter **991** using the number buttons on the remote control. (The mode window will blink three times to indicate acceptance).
4. If you are programming the remote to control a TV, press the **TV** button. If you are programming the remote to control an amplifier / home theatre system, press the **ALT** button.
5. Press **P+** until the device you are trying to control switches on or off.
6. Press **HELP** to store this programme and exit the process. (The mode window will blink 3 times to indicate successful completion).
7. This mode can now be used to control the selected device.

### **Optional Steps**

Between steps 5 and 6, you can test other functions of the device you are trying to control (instead of the power button function). These other functions can be number buttons (0, 1, 2...) volume up, volume down, mute, and AV. You cannot test programme up (P+) and programme down (P-).

To do this while searching, press the desired function you wish to test (eg. **MUTE**), and then press **P+** to continue searching. Now each time you press **P+**, the mute command (instead of the power on / off command) is sent. This means you continue pressing **P+** until the device goes mute (indicating it recognises the mute command just sent).

### **Tip**

- ① Once you have completed the steps above, write the programmed codes on the sticker in the battery compartment for future reference. See "Code Verification" on page 20 if you used the Step-and-set method to programme your device.

### **Note**

- ▶ The **P-** button can be used to search backwards through the codes if the correct code was bypassed.
- ▶ Scanning of the code database is circular. The mode window will blink 5 times on reaching the end of the database, but it will stay in the Step-and-set programming mode and start from the beginning of the database if P+ is pressed again.

## 5.2 Volume Redirect

### Quick Programming Summary

Press and hold **SHIFT** until the mode window blinks 3 times.

Press **MUTE** or **V+** or **V-**.

Turn the dial to the mode (X, Y or Z) that you want the volume to be directed to and press **HELP** to confirm your selection.

To toggle between normal and redirected volume, press **SHIFT** followed by the **MUTE** or **V+** or **V-** button.

The **SHIFT** button will blink instead of the mode window when volume commands are being redirected.

### 5.2.1 What is this used for?

This feature allows you to change the volume on the TV or Hi-Fi while controlling the PVR (TV1 or TV2) without having to change the mode on the remote control. So, although the remote is being used to control the PVR, all volume related commands are sent to the device you have selected (eg. the TV), instead of the PVR.

This means that the volume on the PVR stays the same while the volume changes only occur on the selected device. This feature is particularly useful if there is more than one room that can view the same content at the same time. It also avoids the need for a high volume setting on the Hi-Fi to compensate for low PVR volumes.

### 5.2.2 Enabling and Disabling Volume Redirect

Once programmed, the volume redirect feature can be enabled and disabled by using **SHIFT** in conjunction with the volume buttons (**MUTE**, **V+**, **V-**). This allows you to easily switch between normal and redirected volume control without having to repeat the programming sequence.

#### Note

- ▶ This function can only be assigned to the TV1 (red) and TV2 (blue) modes of the remote. It will not work with the X, Y or Z modes.
- ▶ The TV1 and TV2 environments are independent, so changing volume in the red mode (1A, 1B, 1C or 1D) will not affect volume settings in the blue mode (2A, 2B, 2C or 2D).
- ▶ This allows you to use the same remote in separate TV1 and TV2 environments and it will automatically redirect the volume to the correct target device for each environment as you switch between TV1 and TV2 mode.

### 5.2.3 Programming Volume Redirect

To programme and use the volume redirect feature, you must first programme a device to receive commands from the PVR Remote Control (see "Controlling TV and Audio Systems" on page 9).

1. Note the mode of the device that you would like to programme to receive the volume commands (eg. home theatre system on X mode, TV on Y mode, etc)
2. Use the dial to select the mode (red for TV1 or blue for TV2) that is used to control the PVR where you are now.
3. Press and hold the **SHIFT** button until the mode window blinks 3 times.
4. Turn the dial to the mode that you noted in step 1.
5. Press **HELP** to confirm your selection. (The mode window will blink three times to indicate successful completion).
6. Return to the mode for controlling the PVR (from step 2). Volume commands will now result in the **SHIFT** button blinking once and the volume changing on the selected device.

#### 5.2.4 Activating and De-activating Volume Redirect

TV1 and TV2 modes will independently stay in the selected volume redirect or normal state until changed.

To toggle between volume redirect and normal volume functioning, press the **SHIFT** button before pressing a volume button.

While volume redirect is active, the SHIFT button will blink when a volume command is sent, indicating that the volume command has NOT been sent in the currently selected mode.

When normal volume functioning is active, the mode window will blink when a volume command is sent, indicating that the volume command has been sent in the currently selected mode.

#### Note

- ▶ Volume redirect is active by default after it has been programmed.
- ▶ Volume redirect will be deactivated if the remote control batteries are replaced.
- ▶ If SHIFT and then a volume button is pressed without a defined device for volume redirect, the SHIFT button press will be ignored and normal volume control will be active.

#### Example

You have programmed volume redirect for the Hi-Fi.

After programming volume redirect, all volume buttons (MUTE, V+ and V-) will be sent to the Hi-Fi. You will not need to press the SHIFT button first, just the required volume button. The SHIFT button will blink every time a volume button is being used to confirm that volume redirect is active.

If you need to change the volume on the PVR, press **SHIFT** and then a volume button. This will change the volume on the PVR as well as revert the remote control to normal volume functionality. Now, each time you press a volume button, the mode window will blink.

To re-activate volume redirect, press **SHIFT** followed by a volume button.

## 5.3 Favourite Channels

### **Quick Programming Summary**

*Press and hold **SHIFT** until the mode window blinks 3 times.*

*Press **P+** or **P-**.*

*Press the number to which you want to assign the favourite channel shortcut.*

*Enter the channel number.*

*Press **OK** to add another shortcut or **HELP** to complete the process.*

#### **5.3.1 What is this used for?**

This feature allows you to create a shortcut for 10 of your favourite channels. Each of the number buttons on the PVR Remote Control can be configured as a shortcut to your favourite channels. You can then auto-scan what is showing on your favourite channels, or browse through them using the **P+** / **P-** buttons. Your favourite channels can be entered in any order and can be added and changed one-at-a time.

You can then access your favourite channels by pressing **SHIFT** followed by the assigned number button. The PVR can also automatically scan through your favourite channels.

### 5.3.2 Programming Favourite Channels

You can set up favourite channels for each of the viewing environments. The settings for TV1 (red mode) will not impact TV2 (blue mode) and vice versa, thus allowing you to set up separate favourite channels for each environment.

- Next to each number, write down the name and number of the channel for which you wish to create a shortcut.

Remote control button	Favourites – TV1 (red mode) Channel number & name	Favourites – TV2 (blue mode) Channel number & name
<i>Example</i>		
1	36 M-Net Series	21 SuperSport 1
1		
2		
3		
4		
5		
6		
7		
8		
9		
0		

- Use the dial to select the mode (red for TV1 or blue for TV2) that is used to control the PVR where you are now.
- Press and hold the **SHIFT** button until the mode window blinks 3 times.
- Press either the **P+** or **P-** button. (The mode window will blink three times to indicate acceptance).
- Press the number button that you would like to create the shortcut on. (The mode window will blink once to indicate acceptance). Note : enter one digit only, ie. for 1, enter 1 and not 01.
- Now enter the channel number you want to link to the shortcut, eg. 36. The mode window will blink once for each digit. Then press **OK** to confirm the channel number. The mode window will blink twice in quick succession to indicate acceptance.
- You can now either :
  - press **HELP** to terminate the programming mode and save your changes (the mode window will blink 3 times to indicate successful completion), OR
  - repeat steps 5 and 6 to create additional shortcuts for your favourite channels.

## Note

- ▶ Changing one favourite channel will not impact the others you have created. For example, you could change the shortcut on 1 from 36 (M-Net Series) to 35 (kykNET) without impacting any of the other settings.
- ▶ You do not need to set favourite channels in a sequence, ie. you could have favourite channels linked to 1, 3 and 8 only.

## Tip

- ① If you would like to have the same set of favourite channels in the other TV environment, see the "Copy Environment" section on page 20.

### 5.3.3 Using Favourite Channels : Accessing your Favourite Channels directly

To access the favourite channels that you have set up (as above) press **SHIFT** followed by the assigned number button (In the example used above, **SHIFT 1** would go to the M-Net Series channel). If no favourite channel shortcut is assigned to that number, the mode window will give two long blinks and the remote will then return to its normal mode.

### 5.3.4 Using Favourite Channels : Auto-scanning your Favourite Channels

The PVR is capable of auto-scanning through the favourite channels you have set up. Press **SHIFT** and then **P+** or **P-** to initiate a scan of your favourite channels (from 1 – 0). Each "favourite" channel will display for 9 seconds. To stop on the channel being displayed, press **OK** or an **arrow** button or a **Volume** button. If you do not stop on any channel, the scanning process will stop after the 3<sup>rd</sup> cycle.

### 5.3.4 Using Favourite Channels : Manual scan of your Favourite Channels

You can also manually control the scanning of your favourite channels.

After initiating the auto-scan as described above, press **P+** to go to the next favourite channel or **P-** to go to the previous favourite channel. This will stop the display of channels for 9 seconds and allow you to manually scan through your favourite channels. The remote control will exit the manual scanning mode if you stay on any channel longer than 20 seconds or if you press any button other than **P+** or **P-**.

## Note

- ▶ While the remote control is in "favourite channels" mode, channel change commands are acknowledged by the **SHIFT** button blinking once.

## 5.4 Macros

### Quick Programming Summary

Press and hold **SHIFT** until the mode window blinks 3 times.

Press the **WHITE** button.

Press the colour button to which you want to assign the macro.

Enter the command sequence.

Press **HELP** to complete the process.

#### 5.4.1 What is this used for?

A macro is used to store a series of commands that you use regularly, for example : you check the 5-day weather forecast for Cape Town every day.

You can store the commands and then recall them using a macro. Macros are activated by pressing **SHIFT** and then the assigned colour button.

Examples are provided for programming macros to navigate the DStv Audio channels as well as switching on all the equipment used to watch DStv.

#### 5.4.2 Programming Macros

You can set macros for each of the viewing environments. The settings for TV1 (red mode) will not impact TV2 (blue mode) and vice versa, thus allowing you to set up separate macros for each environment.

#### Note

- ▶ Macros are stored on colour buttons and accessed by pressing **SHIFT** followed by the assigned colour button. As there are 5 colour buttons on the PVR Remote Control, you can set 5 macros on TV1 (red mode) and another 5 macros on TV2 (blue mode).
- ▶ You are only able to use macros in the red and blue modes, ie. macros cannot be activated on X, Y or Z modes. However, macros may contain commands from these modes, eg. a command that switches the Hi-Fi on mode Z to digital input.
- ▶ Macros are recorded and replayed in real time, ie. if it took 25 seconds to record the commands in a macro, that macro will take 25 seconds to complete.
- ▶ The maximum allowed pause between commands is 20 seconds.
- ▶ A macro can include up to 8 commands, ie. you cannot set a macro for something which takes 9 or more commands to complete.
- ▶ Changing the mode on the remote control by turning the dial, is allowed during a macro, but is counted as 1 command.
- ▶ Each button press is counted as 1 command, so **SHIFT P+** is counted as 2 commands.



### Setting a Macro

1. We recommend that you first test the button sequence you want to record and make a note of the total number of commands (keeping in mind that a macro can only be recorded for 8 or fewer commands).

Remote control button	Macro– TV1 (red mode) <i>What does macro do?</i>	Macro– TV2 (blue mode) <i>What does macro do?</i>
<i>Example</i> WHITE	Go to BBC World Radio1 in the DStv Audio Bouquet	
Red		
Blue		
White		
Yellow		
Green		

2. Use the dial to select the mode (red for TV1 or blue for TV2) that is used to control the PVR where you are now.
3. Press and hold the **SHIFT** button until the mode window blinks 3 times.
4. Press the **WHITE** button to indicate that you want to programme a macro. (The mode window will blink 3 times to indicate acceptance).
5. Press the colour button on which you would like to store the macro. (The mode window will blink once to indicate acceptance).
6. Record the macro by using the remote control to do the actions you want the macro to perform. (Tip: check that the steps you are taking are working correctly, ie. if your first step is to press the **MENU** button, check that the decoder menu is displayed onscreen).
7. Press **HELP** to terminate the programming mode and save your macro (the mode window will blink 3 times to indicate successful completion).
8. Optional step – from normal TV viewing, test that the macro you have just programmed works correctly by pressing **SHIFT** and then the relevant colour button.

### Note

- ▶ If the mode window lights up for 5 seconds, the maximum number of commands (8) has been exceeded. You can either store what you have recorded by pressing **HELP**, or abandon the macro programming by pressing any other button. If no command is received within 20 seconds, the macro programming will automatically be terminated.
- ▶ If you attempt to set a macro in X, Y or Z mode, the mode window will blink twice and the macro programming will be terminated.
- ▶ Macros cannot be nested, ie. a macro cannot contain / "call" another macro (or call itself again).
- ▶ To delete a macro, repeat steps 2, 3, 4, 5 and 7 – leaving out step 6. This effectively records nothing for the macro.
- ▶ Once a macro has started, it cannot be exited and the remote control must be left to complete the macro before it can be used to issue another command.

### Example 1

Programme a macro on the GREEN button that goes to BBC World Radio 1 in the DStv Audio Bouquet.

1. Use the dial to select the mode (red for TV1 or blue for TV2) that is used to control the PVR where you are now.
2. Press and hold the **SHIFT** button until the mode window blinks 3 times.
3. Press the **WHITE** button to indicate that you want to programme a macro. (The mode window will blink 3 times to indicate acceptance).
4. Press the **GREEN** button. (The mode window will blink once to indicate acceptance).
5. Record the macro by using the remote control to do the actions you want the macro to perform.
6. Press the **TV** button (command 1 of a possible 8) and then look at the screen to confirm that the bouquet menu is displayed.
7. Press the down arrow once (command 2), then press **OK** (command 3) to select the DStv Audio Bouquet.
8. Press **SHIFT** (command 4) and then **TV** (command 5).
9. Enter **50** – this is the channel number of BBC World Radio 1 (command 6 and 7).
10. Press **HELP** to terminate the programming mode and save your macro (the mode window will blink 3 times to indicate successful completion).
11. Optional step – from normal TV viewing, test that the macro you have just programmed works correctly by pressing **SHIFT** and then the **GREEN** button. You can now put the remote control down (ensure that it has a clear "view" of the PVR so that it can run the macro).

## Example 2

Programme a macro on the RED button to switch on all the equipment and set the environment for watching DStv.

Assumptions for this example :

- The TV has been programmed on the Y mode and uses AV connections.
- The home theatre is on X mode.
- The PVR uses input "3" on the home theatre system.
- You are in the TV1 viewing environment.
- The PVR is always on.
- Your favourite channel is 36 (M-Net Series).

1. Check that the dial is on the red mode for TV1 (1A, 1B, 1C or 1D)
2. Press and hold the **SHIFT** button until the mode window blinks 3 times.
3. Press the **WHITE** button to indicate that you want to programme a macro. (The mode window will blink 3 times to indicate acceptance).
4. Press the **RED** button. (The mode window will blink once to indicate acceptance).
5. Record the macro by using the remote control to do the actions you would like the macro to perform.
6. Press the number of your favourite DStv channel, in this example, 36 (command 1 and 2 of a possible 8)
7. Turn the dial to Y for TV mode (command 3)
8. Press the **Standby** button to switch on the TV (command 4)
9. Wait for the TV to come on then press **ALT** (in TV mode, ALT = AV) to switch the TV to AV mode (command 5)
10. Turn the dial to Z for Home Theatre Amp mode (command 6)
11. Press the **Standby** button to switch on the Amp (command 7)
12. Press **3** to switch the Amp to SAT (the assumed DStv input) – (command 8)
13. Press **HELP** to terminate the programming mode and save your macro (the mode window will blink 3 times to indicate successful completion).
14. Optional step – from normal TV viewing, test that the macro you have just programmed works correctly by pressing **SHIFT** and then the **RED** button. You can now put the remote control down (ensure that it has a clear "view" of the PVR so that it can run the macro).

## Note

- ▶ It is not necessary to turn the dial back to the PVR mode at the end of the macro, because the start position for the macro is where the remote control will resume when the macro terminates.

## 5.5 Copy Environment

### **Quick Programming Summary**

Press and hold **SHIFT** until the mode window blinks 3 times.

Press the **RED** button to copy TV1 to TV2.

Press **HELP** to complete the process.

or

Press the **GREEN** button to copy TV2 to TV1.

Press **HELP** to complete the process.

### **5.5.1 What is this used for?**

Both the favourite channels and macros features are only applicable to the TV environment from which they were set. The "copy environment" features allows you to copy favourite channels and macros from TV1 (red mode) to TV2 (blue mode) environment and vice versa.

It is possible to copy the programming to other remote controls, however for this, the remote controls need to be brought to a service centre.

### **5.5.2 How to copy TV1 to TV2**

1. Check that the dial is on the red or blue mode.
2. Press and hold the **SHIFT** button until the mode window blinks 3 times.
3. Press the **RED** button to copy TV1 settings to TV2. (The mode window will blink 3 times to indicate successful completion).
4. Press **HELP** to complete the copying process (the mode window will blink 3 times to indicate successful completion).

### **5.5.3 How to copy TV2 to TV1**

1. Check that the dial is on the red or blue mode.
2. Press and hold the **SHIFT** button until the mode window blinks 3 times.
3. Press the **GREEN** button to copy TV2 settings to TV1. (The mode window will blink 3 times to indicate successful completion).
4. Press **HELP** to complete the copying process (the mode window will blink 3 times to indicate successful completion).

### **Note**

- ▶ All existing settings on the environment to which values are being copied, will be overwritten.
- ▶ Only the favourite channels and macros will be copied, ie. yolume redirect is not affected.

## 5.6 Code Verification

### Quick Programming Summary

Press and hold **SHIFT** until the mode window blinks 3 times.

Press the **YELLOW** button.

Press 1 to 5, counting the blinks for each.

### 5.6.1 What is this used for?

The feature allows you to determine the code for a device that you programmed using the "Step-and-Set" method (see page 10). This code can then be used in future.

### 5.6.2 How to verify a code

The device codes for X, Y or Z modes can be verified as follows :

1. Check that the dial is on the mode for which you wish to verify a code (X, Y or Z)
2. Press and hold the **SHIFT** button until the mode window blinks 3 times.
3. Press the **YELLOW** button to indicate that you want to verify a code. (The mode window will blink 3 times to indicate acceptance).
4. Press 1 and count the times the mode window blinks.
5. Press 2 and count the times the mode window blinks.
6. Press 3 and count the times the mode window blinks.
7. Press 4 and count the times the mode window blinks.
8. Press 5 and count the times the mode window blinks.

### Note

- ▶ The 5 numbers "blinked" are the code.
- ▶ No blink indicates a 0 (zero).
- ▶ You can only verify codes in modes X, Y or Z. Attempting to verify a code in the TV1 (red mode) or TV2 (blue mode) will result in the mode window blinking twice and the remote returning to normal operation.
- ▶ If you press digits other than 1 – 5, or press buttons out of sequence, these will be ignored.

## 5.7 Reset

To reset macros and favourite channels to factory defaults :

1. Press and hold the **SHIFT** button until the mode window blinks 3 times.
2. Press the **YELLOW** button. (The mode window will blink 3 times to indicate successful completion).

### Note

- ▶ This will effectively delete macros and favourite channels for both TV1 (red mode) and TV2 (blue mode).

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## 6 . Code Tables

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This section lists the codes that can be used as explained in "Direct Set-up" (see page 10).

Codes are listed in order of probability for each make. If you are unable to find a code for your make of equipment, we recommend the "Step-and-Set" method (see page 10).

### 6.1 Codes for Televisions

888	000294 000442
A.R. Systems	00586 00404
Abex	00062
Accent	00039 00067 00586
Accuphase	00586 01939
Acec	00042
Acura	00039
Adcom	00655 00314
Addison	00683 00122
Admiral	00123 00193 00448 00117 00294
Advent	00847
Adyson	00062 00247 00246
AEA	00067 00586
Agashi	00246 00247
AGB	00546
Agef	00117
Aiko	00122 00039 00067 00099 00586 00246 00401 00065 00463 00102 00391 00294 00247
Aim	00067 00102 00442 00586 00783 00238 00736 00835
Aiwa	00735 01940 00731 01934 00877 01946 01938
Akai	00039 00060 00391 00238 00586 00067 00401 01567 00833 00128 00463 00775 00732 00065 00248 00314 00324 00702 00359 00726 00102 00783 00193 00836 00442 00759 00478 00744 00546 00518 00745 00632 00578 00611 00510 00247 00661 00246 00294 00208 00407 00636 00738 01938 00503
Akiba	00248 00312 00485 00067 00586 00324
Akira	00220
Akito	00302 00067 00586
Akura	00067 00248 00294 00586 00698 01698 00442 00039 00312 00744
Alaron	00209 00246
Alba	00039 00067 00448 00400 00586 00066 00265 00248 00401 00698 01698 00385 00246 00277 00461 00193 00517 00611 00609 00504 01934 01938 00744 00473
Alfide	00702
Alkos	00065
Allegro	00804

Allorgan	00236 00324 00247
Allstar	00067 00586
Ambassador	00207
America Action	00210
Amplivision	00247
Amstrad	00039 00207 00067 00546 00294 00392 00401 00248 00442 00463 00586 00611 01934
Anam	00067 00586 00039 00210 00191 00891
Anam National	00067 00191 00586 00680 00085
Anglo	00039 00294
Anhua	00081
Anitech	00039 00294 00067 00586 00504 00312 00132
Ansonic	00400 00067 00586 00039 00698 00404 00193 00322 00132 00441 00289 00277 01467 00042 00314 01934 00134 01698
AOC	00049 00060 00039 00090 00122 00123 00208 00209 00210 00481 00504
Aolingpike	00294 00442
Aolingpu	00888
Apex Digital	00778
Apollo	00503
Arcam	00246 00247
Ardem	00516 00067 00586
Aristona	00586 00067 00042
ASA	00134 00135 00376 00117
Asberg	00067 00586 00132
Asora	00039
Astra	00067 00586
Asuka	00248
ATD	00728
Atlantic	00067 00586 00246 00236 00289
Atori	00039
Audinac	00210 00421
Audiosonic	00067 00139 00586 00744 00745 00247 00400 00367 00294 00248 00516
Audioton	00247 00516 00400 00294
Audiovox	00122 00481 00210
Aumark	00090
Autovox	00117 00574 00236 00247 00277
AVP	01934 01938
AWA	00039 00041 00066 00187 00404 00481 00442 00067 00586 00246 00636 00247 00294 00815
Axxent	00039
Axxon	00744
Baihe	00039 00294 00442
Baile	00031 00039 00404 00421
Baird	00139 00220 00102 00247 00238 01934

Bang & Olufsen	00595 00117
BaoHuaShi	00294 00442
Baosheng	00039 00847
Barco	00193
Basic Line	00039 00404 00067 00248 00193 00698 00586 00312 00247 00485 00369 01698
Bastide	00247
Bauer	00835
Baur	00039 00067 00391 00542 00565 00574
Baysonic	00210
Beaumarck	00208
Beijing	00031 00039 00238 00256 00294 00404 00421 00442 00512 00847 00851
Beko	00400 00516 00065 00744 00745 00448 00067 00586 00636
Belcor	00049
Bell & Howell	00047 00184
Bennett	00586 00067
Beon	00067 00586 00448 00062
Best	00367 00400 00451
Bestar	00067 00586 00400 00404
Binatone	00247
Black Diamond	00586
Black Panther	00132
Black Strip	00065
Blacktron	00312
Blackway	00312 00248
Blaupunkt	00225 00565 00230 00357 00478 00485 00066
Blue Sky	00067 00248 00586 00744 00698 00517 00745 01939 00312 00485 01964 01934 01938 01698
Blue Star	00312
Bondstec	00277
Boots	00247 00302 00039
Bosch	00357
BPL	00067 00312 00586
Bradford	00210
Brandt	00139 00655 00365 00317 00501 00590
Brandt Electronique	00317 00365
Brinkmann	00067 00586 00698 00448 00516 01698
Brionvega	00392
Britannia	00246 00247
Brockwood	00049
Broksonic	00266
Brother	00294
Bruns	00117
BSR	00193 00324 00391
BTC	00248



Bush	00039 00698 00066 00248 00067 00193 00302 00312 00385 00401 00265 00404 00728 00294 00391 00517 00238 00247 00647 00611 00324 00314 00586 00744 01930 01934 01938 01698
Caihong	00039 00847
Cailing	00778
Caishi	00921
Candle	00060 00086 00216
Canton	00248
Capsonic	00294
Carad	00640 00067 00586 00698 01698
Carnivale	00060
Carrefour	00066 00067 00586
Cascade	00039 00067 00586
Casio	00067 00586 00193 01934
Cathay	00067 00586 00504
CCE	00067 00247 00586 00359
Celestial	00849 00850 00851 00797
Centrex	00810 00856
Centurion	00067 00586
Century	00117 00277
CGE	00104 00277 00448 00400 00193 01934
Changcheng	00031 00039 00081 00294 00404 00421 00442 00847
Changfei	00039 00359 00404 00847
Changfeng	00294 00442 00726 00783 00847
Changhai	00039 00359 00847
Changhong	00857 00797 01058 00850 00039 00294 00538 00847 00851 00878 01940
Chengdu	00039 00847
Ching Tai	00039 00122 00209 00504
Chun Yun	00039 00063 00122 00191 00209 00210 00504
Chunfeng	00039 00294
Chung Hsin	00504 00210 00063 00066
ChungFeng	00442 00676
Chunsun	00039 00847
Cimline	00039 00265 00248
Cinema	00702
Cineral	00122 00481
Citizen	00060 00122 00069 00481 00086 00090 00216 00210
City	00039
Clarion	00210
Clarivox	00067 00448 00586 00132
Clatronic	00067 00277 00400 00401 00744 00248 00294 00586 00247 00039 00132 00609 01934
CMS	00246
CMS hightec	00247
Combitech	01938

Concerto	00086
Concorde	00039
Condor	00067 00400 00586 00246 00039 00312 00132 00277 00448 00441 00193 00294
Conia	00784 00851
Conic	00062
Conrad	00067 00586
Conrowa	00039 00294 00442 00726 00728 00783
Contec	00039 00210 00246 00066 00187 00041 00294 00067 00586
Continental Edison	00139 00317 00517
Cosmel	00039 00367 00067 00586
Craig	00191 00210
Crosley	00117 00104 00277 00193
Crown	00039 00210 00742 00067 00400 00069 00516 00586 00448 00517 00609 00744 00636 00702 00745 00451 00238 00369 01964
Crown Mustang	00702
Crystal	00461
CS Electronics	00246 00248 00277
CTC	00277
Curtis Mathes	00060 00069 00090 00123 00086 00184 00481 00196 00732 00777
CXC	00210
CyberHome	00824
Cybertron	00248
Daewoo	00122 00664 00404 00049 01939 00529 00067 00586 00039 00246 00060 00248 00062 00247 00504 00481 00069 00421 00210 00208 01932 01938 00086 00871 00184 00702
Dainichi	00248 00246
Danichi	00248
Dansai	00067 00586 00294 00062 00065 00246 00039 00066 00247 00238
Dansette	00442
Dantax	00400 00516 00744 00636 00745 01938
Datsura	00238
Dawa	00039 00067 00586
Daytek	00728 00736
Dayton	00039
Daytron	00039 00049 00404 00067 00586 00069
Dayu	00404 00421
de Graaf	00238 00074 00257 00578 00193
DEC	00825 00815
Decca	00067 00102 00063 00302 00546 00586 00247 01934 01938
Deitron	00067 00586 00404 00248
Denon	00541
Denver	00067 00586 00636
DER	00220
Desmet	00067 00586 00039 00117
Diamond	00294 00728 00726 00039 00834 00855 00246 00401 00890

Digatron	00067
Digiline	00067 00586 00135 00698 01698
Digitor	00067 00586 00918
Dixi	00039 00067 00586 00277 00247 00117
DL	00878 00921 00902 00810 00067
Dongda	00039
Donghai	00039
DSE	00918
DTS	00039
Dual	00574 00247 00067 00586 00289 00382 00193 01934
Dual Tec	00247
Dumont	00047 00117 00049 00134 00132 00247 00102 01934
Dunai	00574 00193
Durabrand	01467 00208 00210
Dwin	00804
Dynatron	00067 00586 00042
E-Elite	00248
Ecco	00803 00736
ECE	00067 00586
Ectec	00421
Edison-Minerva	00517
Elbe	00289
Elbe-Sharp	00546
Electroband	00439
Electrohome	00411 00439
Elekta	00039 00067 00586 00294 00312
Elektra	00047
Elin	00067 00246 00578 00586 00135 00134 00391 00478 00193 00039
Elite	00248 00067 00586
Elta	00039 00294 00246 00461 00504
Emco	00277
Emerson	00207 00208 00210 00117 00209 00277 00067 00266 00586 00049 00401 00068 00184 00069 00312 00391 01939 00516 00400 00193 00351 01934 01936
Envision	00060
Enzer	00726 00783
Epson	00863 00911
Erres	00042 00067 00586
ESC	00067 00586 00247 00504
EstFle	00193
Ether	00039 00060 00191
Etron	00031 00039 00067 00586 00676 00193
Eurofeel	00294 00247
EuroLine	00067
Euroman	00246 00294 00067 00586 00247 00451 00400

Europa	00067 00586
Europhon	00067 00546 00132 00193 00247 00586 00277 00461 00246
Expert	00236 00289 00193
Fagor	00067 00586
Family Life	00067 00586
Feilang	00039
Feilu	00039 00847
Feiyan	00294 00442
Feiyue	00039 00847 01074
Fenner	00404 00039
Ferguson	00067 00139 00655 00220 00317 00365 00590 00586 00065 00134 00391 00501 01934 00578
Fidelity	00193 00246 00391 00067 00574 00586 00401 00442 00294 00504 01934 01936 01937 01938
Filsai	00247
Finlandia	00238 00376 00578 00391 00193 00102 00317 00075
Finlux	00067 00135 00134 00102 00586 00209 00744 00376 00441 00546 00247 00193 00745 00117 00132 00661 00510 00503 00448 00636
Firstar	00039 00266 00063
Firstline	00039 00067 00246 00586 00247 00404 00277 00698 00351 00744 00193 01698 00324 01939 00132 00441 00574 00102 00265 00238 00391
Fisher	00134 00184 00247 00066 00238 00400 00574 00585 00075 00117 00187 00391 00193 00102
Flint	00485
FNR	00132
Formenti	00067 00193 00586 00516 00246 00117
Formenti-Phoenix	00246
Fortress	00123 00117
Fraba	00067 00586 00400
Friac	00039 00067 00586 00132 00451 00400 00529 00640
Frontech	00193 00277 00294 00478 00461 00247 00039 00504
Fujitsu	00209 00236 00713 00102 00216 00132 00883 00247 00193 00039 00382 00067 00586 00391 00289
Fujitsu General	00039 00216 00247 00236 00193
Funai	00210 00698 00209 00294 00324 00442 01698
Furi	00294 00442 00847
Futronic	00294 00825 00890
Future	00067 00586
Futuretech	00210
Galaxi	00132 00067 00586 00391 00193
Galaxis	00400 00448 00067 00132 00586
Galeria	00039
Ganxin	00847
GBC	00193 00039 00404 00248
GE	00081 00208 00777 00481 00210 00122 00085 00312 00060 00590 00317 00139 00365 00655

GEC	00067 00193 00073 00391 00102 00247 00546 00586
Geloso	00039 00277 00193 00404
General	00216 00620 00139 00317 00501
General Electric	00317
General Technic	00039
Genesis	00039 00067 00586
Genexxa	00193 00248 00067 00586 00442 00039
Giant	00247
Gibraltar	00047 00049 00060
Gintai	00504 00751
Goldfunk	00698 01698
Goldline	00367
GoldStar	00031 00049 00067 00032 00039 00060 00086 00208 00400 00320 00062 00407 00247 00439 00277 00586 00069 00246 00184 00461 00193 00391 00504 00139 00636 00074 01408 01940 01964 00744 00745
Gooding	00517
Goodmans	00664 00066 00404 00067 00102 00209 00529 00247 00586 00265 00698 00401 01939 00294 00546 00039 00320 00517 00065 00510 00590 00062 00365 00248 00481 01938 00609 01930 01698
Gorenje	00400 00451
GPM	00248
Gradiente	00086 00067 00586
Graetz	00193 00391 00401 00067 00369 00586
Granada	00067 00075 00102 00176 00586 00238 00256 00247 00386 00369 00042 00546 00066 00503 00365 00590 00193 00255 00578
Grandin	00312
Grundig	00565 00067 00225 00517 00586 00617 00736 00702 00039 00066 00473 00400 01965 01938
Grunpy	00209 00210
Haaz	00736
Haier	00728 00899 00294 00798 00809
Haihong	00039
Haiyan	00294 00442 00847
Halifax	00294 00246 00247
Hallmark	00208
Hammerstein	00294 00090
Hampton	00246 00247
Hanimex	00248 00324 01938
Hankook	00210 00208 00439 00086 00060 00049
Hanseatic	00067 00391 00574 00586
Hantarex	00039 00546 00067 00586 00132
Hantor	00067 00586
Harley Davidson	00073 00209
Harsper	00895
Harvard	00210

Harwood	00039 00442 00062 00067 00586 00517
Hauppauge	00067 00586
Havermy	00123
HCM	00039 00312 00442 00067 00586 00247 00248 00448 00294
Hedzon	00586 00067
Hello Kitty	00481
Hema	00247 00039
Highline	00294 00067 00586
Hikona	00504 00248
Himitsu	00210 00809
Hinari	00039 00238 00066 00067 00586 00209 00248 00193 00069 00385 00473 00517 00265 00324 00294 01938
Hisawa	00312 00485
HiSense	00878 00238 00039 01101 00257 01103 00538 01112 00726 01113 00778 00783 00841 00851 01105 00810
Hit	00117
Hitachi	00255 00068 00039 00086 00066 00049 00386 00074 00439 00060 00073 00062 00503 00193 00069 00608 00122 00247 00139 00257 00187 00195 00208 00209 00546 00102 00216 00511 00529 00067 00411 00504 00538 00586 00578 00664 00774 00135 00391 00542 00510 00827 00767 00914 01606
Hitachi Fujian	00858 00255
HMV	00117
H'her	00744
Hongmei	00039 00123 00294 00847 00878 01940
Hongyan	00294 00442 00847
Hua Tun	00039
Huafa	00039
Huanghaimei	00039
Huanghe	00039 00847
Huanglong	00039
Huangshan	00039 00294 00442 00847
Huanyu	00246 00404 00257 00294 00847 00878 01940
Huaqiang	00294 00442
Huari	00294 00442
Huodateji	00081
Hyper	00039 00246 00247 00277
Hypersonic	00391
Hypson	00067 00294 00586 00312 00744 00745 01964 00247 00485 01938 00698 01698
Hyundai	00067 00833 00895 00586 00736 00783
Iberia	00067 00586
ICE	00247 00294 00067 00401 00039 00586 00248 00246
Ices	00248
Imperial	00067 00104 00193 00277 00400 00448 00586 00441 00391 00461
Imperial Crown	00031 00039 00294 00404 00421 00442

Indiana	00067 00586
Ingelen	00193 00517 00640 00744 00391
Inno Hit	00039 00102 00546 00067 00586 00248 00320 00247 00277 00132 00312
Innova	00067
Inteq	00047
Interactive	00067 00586 00042 00117 00542 00357 00193 00391 00400 00139 00441
Interbuy	00039 00067 00294 00277 00542 00586
Interfunk	00067 00193 00277 00391 00542
Internal	00067 00586 00529 00404 01939
International	00246
Intervision	00067 00312 00247 00132 00485 00294 00401 00407 00478 00516 00400 00517 00248 00461 00193 00277 00039 00586
IRT	00481 00728
Isukai	00248 00067 00586 00312 00485
ITC	00247
ITS	00067 00401 00248 00312 00294 00246 00039 00586
ITT	00193 00391 00510 00574 00578 00503 00376 00369 00238 00209 00640
ITT Nokia	00391 00578 00193 00503 00510 00376 00238 00209 00369 00636 00640 00661 00461
ITV	00314
Jean	00066 00504 00751 00039 00081 00122 00209 00266
JEC	00065
Jensen	00847
Jiahua	00081
Jialicai	00039 00294 00442 00676
Jinfeng	00081 00238 00256 00847
Jinhai	00878 01940
Jinque	00039 00294 00442 00847
Jinta	00039 00294 00442 00878 01940
Jinxing	00039 00294 00728 00847 00851
JMB	00067 00529 00664 00404 00586 00473 01938
Jubilee	00586
Juhua	00294 00442 00847
JVC	00683 00066 00099 00199 00184 00220 00401 00538 00636 00713 00248 00448 00761 00123
Kaige	00039 00294 00442 00847
Kaisui	00039 00246 00247 00248 00312
Kamp	00246
Kangchong	00878 01940
Kanghua	00926
Kangli	00031 00039 00294 00404 00421 00847
Kangyi	00039 00294 00442
Kapsch	00193

Karcher	00067 00586 00451 00400 00640 00193 00312 00132 00294 00744
Kathrein	00586 00067
Kawasho	00246
KB Aristocrat	00193
KEC	00210
Kendo	00067 00640 00265 00392 00586 00193 00542 00400 00407 00441 00132 00277
Kennedy	00193 00236
Kenwood	00049 00060 00135
KIC	00247 00359
Kingsley	00246
Kiota	00031
Kioto	00586 00736
Kiton	00586 00067 00698 01698
KLL	00067
Kneissel	00289
Kolin	00504 00210 00066 00063
Kolster	00067 00586 00132 00277
Kongque	00039 00294 00676 00847
Konichi	00039
Konka	00067 00586 00401 00744 01969 00448 00248 00755 01970 00756 00671 01986 00846 01987 00617 00784 00809 00924 01114 00825 00847
Kontakt	00517
Korpel	00067 00586
Kosmos	00067 00586
Kotron	00442 00294
Koyoda	00039
Kriesler	00042
KTV	00060 00069 00210 00247
Kuaile	00039 00294 00442
Kuba	00193
Kuba Electronic	00193
Kulun	00039
Kunlun	00081 00238 00256 00294 00404 00847
Kyoshu	00442 00448 00294 00062
Kyoto	00062 00193 00246 00247
LaSAT	00516 00400
Leader	00039
Lecson	00067 00586
Legend	00039
Lemair	00441 00062
Lenco	00067 00039 00193 00404 00586 00134 00504
Lesca	00277
Levis Austria	00067 00586



Leyco	00067 00294 00102 00586 00324 00609
LG	00067 00086 00472 00031 00400 00032 00039 00407 00062 00586 00247 00049 00060 00744 00068 00246 00439 00461 00320 00504 00193 00674 00090 00208 00636 00139 01964 00728 01408 00745 00853 01667
Liesen &	
Lifetec	00067 00039 00404 00698 00542 00586 00248 00294 01698 00713
Lihua	00847
Lloyd's	00031 00039
Lloytron	00062
Loewe	00542 00067 00820 00586 00400 00663 00117 00322 00392 00546
Logik	00031 00041 00063 00090 00728 00803 00039 00294 00401
Logix	00698 01698
Longjiang	00294 00442 00847
Luma	00067 00236 00193 00441 00586 00404 00039 00392 00289
Lumatron	00236 00067 00586 00392 00193 00289 00391 00247 00294
Luxman	00086 00609
Luxor	00386 00391 00320 00510 00238 00578 00193 00376 00503 00209 00247 00661
LXI	00184 00208 00777
Madison	00067 00586
Magnadyne	00132 00277 00546 00574
Magnafon	00132 00546
Magnavox	00067 00586 00060 00066 00209 00216 00736 00810 01099
Magnum	00744 00067 00586 00745
Mandor	00294
Manesth	00067 00247 00265 00586 00294 00065 00324 00193
Manhattan	00067 00586 00698 00193 01698
Marantz	00060 00067 00586 00442
Mark	00067 00586 00247 00246 00404 00039 00744 00745
Maruman	00421
Masuda	00248 00401 00039 00294 00067 00247 00586
Materin	00888
Matsui	00039 00067 00041 00586 00065 00517 00066 00265 00102 00207 00238 00385 00247 00063 00302 00401 00324 00473 00463 00546 00574 00609 00485 00193 00461 00075 00225 00365 00744 01938
Matsushita	00680 00191
Matsuyama	00617
Maxam	00294
MCE	00039
McMichael	00073
Mediator	00042 00067 00586
Medion	00067 00698 01698 00542 00586 00728 00838 01938 01467 01930
Megas	00640
Megatron	00208
MEI	00067 00586

Meile	00294 00442 00847 00878 01940
Melectronic	00039 00376 00067 00542 00134 00139 00193 00277 00135 00247 00317 00404 00510 00246 00441 00586 00664 00391 00225
Memorex	00039 00086 00184 00208 00209 00090 01954
Memphis	00367 00102 00039
Mercury	00031 00067 00039 00586 00359
Metronic	00655
Metz	00225 00565 00477 00397 00776 00067 00117 00586 00617 00698 01698
MGA	00049 00060 00208 00067 00586 00248 00134
Micromaxx	00067 00586 00698 00838 01698
Microstar	00838
Midland	00047 00062 00069 00081 00777
Minato	00067 00586
Minerva	00517 00565 00225 00546
Minoka	00442 00067 00586
Mirror	01930
Mitsubishi	00049 00123 00542 00067 00208 00504 00411 00117 00266 00063 00066 00209 00210 00184 00086 00128 00565 00060 00586 00238 01964 00847 01947
Mitsuri General	00193
Mivar	00246 00322 00320 00546 00321 00400 00247
Monaco	00039
Morgan's	00067 00586
Motorola	00085 00123
MTC	00049 00060 00090 00400 00086 00542 00193 00246 00391 00478
MTEC	00302 00062
Mudan	00039 00081 00238 00256 00294 00442 00847
Multitec	00067 00586 00516 00698 01698
Multitech	00039 00210 00132 00246 00516 00067 00247 00400 00586 00277 00294
Murphy	00134 00504 00246 00069 00102 00193
Myryad	00586 00067
NAD	00196 00208 00391 00193
Naiko	00067 00636 00586
Nakimura	00404 00067 00586
Nanbao	00039 00294 00442 00878 01940
Nansheng	00294 00442 00847
Naonis	00193
NAT	00256 00370 00244
National	00244 00256 00081 00238 00257 00370 00538
NEC	00504 00208 00039 00066 00049 00060 00081 00086 00485 00184 00404 00411 00216 00247 00067 00195 00586 00041 00294 00734 00442 00538 00847 00529 01734 00801 01408 01400
Neckermann	00067 00400 00586 01535 00230 00193 00357 00448 00117 00277 00247 00441 00542
NEI	00067 00367 00586 00461 00401 00193

Nesco	00209 00277 01938
Netsat	00067 00586
Network	00062 00367
Neufunk	00067 00039 00586 00640 00248 00312 00744
New Tech	00067 00039 00586 00247 00478
Newave	00039 00751 00676 00208 00191 00123 00122
Nfren	00830
Nicam	00574
Nicamagic	00246 00676
Nikkai	00062 00102 00065 00248 00067 00586 00246 00247 00294 00367 00039 00066
Nikko	00060 00122 00208
Nikon	00878 01940
Nisato	00421
Noblex	00184
Nobliko	00132 00246
Nokia	00391 00193 00503 00510 00578 00636 00661 00369 00238 00404 00376 00209 00640 00139
Norcent	00778
Nordmende	00139 00744 00317 00590 00225 00067 00586 00365 00193 00501
Norfolk	00193
Normerel	00067 00586
Novak	00042 00067 00586
Novatronic	00067 00135 00404 00586
NTC	00122
NU-TEC	00485 00728
Oceanic	00193 00391 00324 00238 00503 00578 00510
Odeon	00294
Omega	00294
Omni	00810 00921 00728 00856
Onwa	00210 00401 00632 00248 00463 00611 00132 00461
Optimus	00184 00196 00680 01954
Optonica	00123 00195
Orbit	00067 00586
Orion	00067 00209 00207 00266 00385 00586 00265 01984 00744 00351 00473 00324 00504 00041 00546 00039 00574 00132 00294 00442 01946 01938 00063
Orline	00067 00248 00586
Ormond	00698 00067 00586 01698
Orsowe	00546
Osaki	00062 00102 00248 00247 00294 00442 00504 00067 00302 00404 00385 00586
Osio	00067 00586 00320
Oso	00248
Osume	00062 00187 00102 00504 00066 00248 00067 00586
Otto Versand	00066 00067 00247 00542 00565 00586

Pace	01938
Pacific	00067 00586 00744
Pael	00246
Palladium	00400 00448 00067 01535 00230 00586 00277 00357 00117 00193 00247 00441 00744
Palsonic	00294 00314 00442 00803 00067 00809 00247 00407 00248 00728 00586 00478 00518 00031 00448
Panama	00039 00247 00294 00246 00067 00586 00277
Panashiba	00031
Panasonic	00081 00680 00085 00256 01954 00067 00244 00586 00191 00193 00238 00391 00257 00397 00538 00926 00370 00546 00578 01340 00031 00883 01971
Panda	00039 00081 00238 00256 00294 00442 00538 00676 00728 00847 00851 00878 01940
Pathe Cinema	00193 00246 00322 00461 00400
Pathe Marconi	00139
Pausa	00039
Peng Sheng	00921
Penney	00032 00777 00049 00069 00060 00062 00081 00090 00208 01408
Perdio	00102 00193 00067 00246 00312 00586
Phase	00062
Philco	00117 00504 00804 00104 00439 00448 00777 00049 00060 00086 00277 00067 00586 00193 00400 00062 00210 00216 00208 00308 00511
Philex	00193
Philharmonic	00247
Philips	00067 00586 00086 00042 00751 00504 00049 00073 00117 00804 00777 00439 00308 00216 00208 00600 00404 00060 00122 00062 00081 00802 00039 00230
Phoenix	00067 00586 00400 00516 00193 00117 00102 00246
Phonola	00042 00067 00586 00117 00246
Pilot	00049 00586 00060 00067 00069 00742
Pioneer	00068 00196 00041 00067 00139 00586 00193 00317 00400 00391 00516 00542 00790
Pionier	00400 00516
Plantron	00067 00586 00294 00039
Playsonic	00744 00067 00247 00369 00745
Plus	00801
Policom	00132 00139 00236 00391 00193 00104 00117 00565
Polytron	00727 00312
Poppy	00039
Portland	00049 00122 00404 00069 01939
Powerpoint	00517 00067 00586
Prandoni-Prince	00277 00546 00391
Precision	00247
Premier	00039 00841 00294
Prima	00062 00847 00039 00294 00504 00442

Princess	00728
Prinz	00102 00574 00391
Prism	00081
Profex	00039 00193 00391 00461
Profi	00039
Profitronic	00067 00586 00132
Proline	00067 00351 00586 00655 00664 00441 00042 00102
Proscan	00777 00060
Prosonic	00067 00586 00400 00404 00401 00698 00744 00481 00246 00244 00609 00247 01698
Protech	00039 00067 00586 00132 00247 00277 00294 00367 00448 00461 00698 01698 00312 00193 00516
Proton	00031 00208 00039 00674 00504 00069 00060
Provision	00529 00067 00586 00744
Pulsar	00047 00049
Pye	00042 00067 00586 00117 00404 00442
Pymi	00039
Qingdao	00081 00238 00256 00294 00442 00847
Qualcraft	00069
Quasar	00081 00277 00680 00195 00504 00039 00085 01954
Quelle	00041 00067 01535 00104 00134 00391 00442 00139 00565 00574 00542 00062 00066 00247 00277 00357 00135 00698 00586 00187 00225 00230 00294 00320 00176 00324 00376 00451 00039 01698
Questa	00066 00062
R-Line	00067
Radiola	00042 00067 00586 00247
Radiomarelli	00117 00546 00277 00067 00586
RadioShack	00049 00067 00060 00586 00062 00069 00086 00184 00195 00208 00210 00439 00777
Radiotone	00039 00067 00586 00400 00609 00448 00442 00698 00294 01698
Rank Arena	00066 00826 00187 00632 00783
RCA	00049 00060 00655 00068 00090 00081 00122 00123 00208 00590 00308 00365 00648 00777 00783
Realistic	00049 00060 00062 00069 00086 00184 00195 00208 00210
Recor	00067 00448 00586
Rectiligne	00067 00586
Rediffusion	00391 00578 00066 00376
Redstar	00067 00586
Reflex	00067 00586 00698 01698
Relisys	00895
Reoc	00744 00664 01939
Revox	00067 00586 00400
Rex	00193 00236 00289 00294 00441 00277
Rhapsody	00246
Ricoh	00067 00586
Roadstar	00039 00248 00294 00448 00067 00586 00698 00312 01946 01698

Robotron	00117
Rodex	00067 00586
Rowa	00067 00294 00728 00039 00247 00742 00246 00617 00778 00847
Roxy	00478
Royal Lux	00451 00400 00442 00365
Rukopir	00586 00067
Runco	00047 00060
Ruyi	00257 00847
Saba	00139 00655 00193 00317 00365 00117 00546 00391 00528 00578 00501 00590 00744
Sagem	00640 00485 00312
Saige	00039 00847
Saisho	00039 00265 00041 00546 00063 00207 00294 00247 00574 00461 00193
Saivod	00067 00586 00698 00742 01698
Sakan	00193
Sakyno	00485
Salora	00193 00320 00386 00391 00578 00546 00369 00238 00510
Salsa	00365
Sambers	00132 00546
Sampo	00060 00039 00062 00069 00066 00122 00123 00184 00208 00504 00680 00751
Samsung	00049 00648 00674 00086 00090 00617 00067 00208 00060 00504 00586 00039 00732 00804 00123 00247 00478 00777 00512 00400 00518 00294 00439 00359 00062 00246 00320 00184 00122 00102 00209 00238 00308 00069 00193 00655 00256 00847 00851
Samsux	00069
Sandra	00246 00247
Sanjian	00294 00442
Sansei	00122 00481
Sansui	00067 00759 00586 00736 00401 00757 00756 00891 00755 00632 00451 00485
Santon	00039
Sanyo	00184 00238 00187 00322 00751 00041 00066 00075 00400 00369 00102 00246 00134 00247 00176 00585 00411 00442 00039 00504 00538 00574 00193 00829 00067 00586 00516
Sanyuan	00039 00123 00847
Save	00067 00586
Saville	01938
SBR	00042 00067 00586 00073
Schaub Lorenz	00391 00578 00744 00636 00516 00404
Schneider	00067 00248 00277 00586 00401 00042 00574 00698 01698 00382 00289 00247 00391 00193 00744 01939 01938
Scimitsu	00049
Scotch	00208
Scotland	00193
Scott	00049 00266 00208 00209 00210

Sears	00176 00777 00086 00184 00208 00209
Seaway	00664
SEG	00066 00067 00247 00586 00294 00698 01467 01698 00517 00039 00193 00664 00132 00277 00392 00246 00248 01939 01931
SEI	00117 00132 00207 00546 01535 00574 00193 00324 00236 00067 00586
Sei-Sinudyne	00132 00236 00324 00546 01535 00574 00067 00586 00117
Seleco	00193 00236 00289 00392 00441 00401 00066 00294 00376
Semivox	00210
Sencora	00039
Sentra	00065 00248 00039
Shancha	00294 00442 00847
Shanghai	00039 00238 00256 00294 00359 00442 00847 00878 01940
Shaofeng	00257 00847
Sharp	00123 00195 00039 00060 00069 00062 00187 00066 00324 00286 00683 00439 00504 00680 00216 00848 00546 00230 00790 01947
Shen Ying	00039 00122 00209 00504
Shencai	00039 00294 00442
Sheng Chai	00504 00039 00063 00209 00266
Sheng Chia	00039 00063 00123 00209 00266 00504
Shenyang	00039 00294 00726 00783 00847
Sherwood	00039
Shintoshi	00067 00586
Shivaki	00067 00586 00473 00481 00404 00208
Shogun	00049
Show	00448 00039 00102
Siarem	00132 00546 00193 00117
Siemens	00067 00187 00225 00565 00230 00357 00062 00176 00586 00391
Siera	00067 00586 00042 00617
Siesta	00400
Silva	00067 00586 00246 00391
Silver	00066 00067 00485 00391 00586 00209 00745 00193
Simpson	00216
Singer	00039 01567 00117 00836 00067 00586 00132 00277 00365 00193
Sinotec	00803
Sinudyne	00132 00207 00117 00265 00546 00574 00324 00193 00391 01535 00236 00067 00586 01938
Skantic	00386
Sky	00067 00312 00586
Skygiant	00210
Skymaster	00135
Skysonic	00726 00783
Skyworth	00067 00586 00039 00294 00726 00728 00757 00778 00783 00847
SLX	00698 01698
Smaragd	00517
Solavox	00062 00193 00391 00102 00578 00067 00586

Sonawa	00248
Songba	00039
Soniko	00067 00586
Sonitron	00238 00400 00369 00247
Sonoko	00039 00067 00586 00294 00312 00247
Sonolor	00193 00238
Sontec	00067 00586 00400 00324 00039
Sony	01535 00041 00066 00680 00132 00067 00586 00187
Sound & Vision	00132 00248 00404 00067 00586
Soundesign	00208 00209 00210 00216
Soundwave	00067 00448 00586 00062 00745
Sowa	00504 00090 00256 00066 00081 00122 00208
Spectra	00039
Ssangyong	00062 00039
SSS	00049 00210
Staksonic	00039
Standard	00039 00067 00247 00586 00248 00404
Starlite	00039 00210 00193 00067 00586 00294 00442
Stenway	00312 00248
Stern	00193 00236 00289 00294 00441
Strato	00067 00586 00294 00039
Stylandia	00247
Sunic Line	00067 00586
Sunkai	00351 00385
Sunstar	00401 00067 00586 00039 00609 00294
Sunwood	00067 00586 00039
Superla	00546 00246 00247
Supersonic	00238 00586 00728 00294 00835
SuperTech	00039 00246 00067 00586 00248
Superton	00461
Supra	00086 00208 00404 00039 00069
Susumu	00248 00504 00365 00317
Sutron	00039
SVA	00617 00778 00798 00895 00902
Sydney	00246 00247
Sylvania	00216 00060 00411
Symphonic	00210 01934
Synco	00066 00090 00122 00123 00208 00481 00504
Sysline	00067 00586
Sytong	00246
T+A	00477
Tacico	00504 00676 00208 00209 00122 00039
Tactus	00302
Tai Yi	00039
Taishan	00039 00404 00421 00847



Tandberg	00397 00441 00139 00367 00392 00391 00193
Tandy	00069 00248 00102 00123 00247 00193 00277
Tashiko	00066 00751 00073 00247 00680 00063 00176 00122 00062 00246 00193
Tatung	00085 00039 00066 00067 00586 00081 00102 00546 00090 00247 00184 00302 00041 00504 00063 01938
TCL	00757 00836 00856 01065 01066 01069 01080 01057 01071 01072 01076 01050 00442 00728
TCM	00744
Teac	00039 00728 00067 00542 00294 00312 01467 00442 00448 00586 00485 00742 00574 00698 00716 00247 00736 00751 00785 01939 00208 00461 00744 01962 00922 01698 01943 01979 01754
TEC	00247 00277 00039 00501 00365 00504 00367 00289 00067 00586 00391 00193
Tech Line	00067 00586 00698 01467 01698
Techica	00248
Technics	00081 00680
TechniSat	00067 00586 00193
Technol Ace	00209
Techwood	00081 00086
Teco	01070 00039 00066 00081 00122 00123 00208 00248 00294 00504 00683
Tedexlex	00247 00448 00636 01567 00039 00736 00238 00728 00617 00921 00067 00314 00586 00461
Tek	00825
Teknika	00049 00122 00069 00090 00086 00209 00210 00216
Telefunken	00086 00139 00104 00655 00732 00617 00365 00728 00528 00742 00501 00850 00926 00317 00067 00586 00516
Telefusion	00067 00586
Telemeister	00067 00586
Telesonic	00067 00586
Telestar	00039 00067 00586 00609 00442
Teletech	00039 00067 00586 00698 00277 00367 01698
Teleton	00066 00247 00216 00236 00193 00289
Televideon	00193 00246
Televiuew	00067 00586
Telexa	00132
Tempest	00039 00067 00586 00294
Tensai	00134 00248 00067 00586 00247 00324 00039 00135 00404 00401 00407 00277 00745 00193
Tenson	00039
Tera	00504 00676 00060
Tesla	00067
Tevion	00924
Textet	00246 00247 00248 00404 00039
Thomas	01934

Thomson	00139 00655 00317 00590 00501 00365 00067 00586 00604
Thorn	00065 00067 00139 00102 00255 00104 00134 00220 00391 01535 00308 00529 00542 00565 00586 00041 00042 00365 00063 00066 00073 00302 00075 00404 00386
Thorn-Ferguson	00134 00139 00220 00391 00365 00529 00065
Tiane	00123 00847
TMK	00086 00207 00208
TNCi	00047
Tobishi	00248
Tobo	00039 00294 00442 00778
Tokyo	00246 00065 00478 00359
Tomashi	00312
Tongguang	00294 00442
Tongtel	00810
Tophouse	00210
Toshiba	00065 00090 00039 00184 00538 00066 00123 00273 00132 00191 00257 00247 00294 00139 00411 00442 00225 00648 00674 01946 00680 01938 00851 00728 00067 01975
Totevision	00069
Towada	00132 00247
Toyoda	00039 00401 00294
Trakton	00039 00294 00247
Trans Continens	00247 00067 00586 00516
Transonic	00067 00728 00586 00742 00485 00617 00542 00294 00448 00039
Triad	00067 00586
Trical	00187
Trident	00546 00247
Tristar	00294 00248
Triumph	00207 00273 00546 00376 00586 00067
Tuntex	00039 00060 00504 00676 00122
TVTEXT	095 00586
Uher	00067 00586 00236 00404 00448 00516 00400 00289 00510
Ultra	00421
Ultravox	00117 00132 00404 00277 00246 00193 00067 00586
Unic Line	00067 00586 00503 00485
United	00067 00586 00744 00745
Universum	00067 00104 00134 00294 00400 00504 00565
Univox	00067 00586 00367 00117 00193
Utax	00193
Vector Research	00060
Vestel	00067 00193 00247 00586 00698 01698
Vexa	00039 00067 00586
Vibrant	00302
Victor	00683 00066 00680
Video Concepts	00128
Videologic	00248 00246

Videosat	00277
VideoSystem	00067 00586
Videotechnic	00247
Videoton	00386 00193 00461
Vidikron	00132
Vidtech	00049 00066 00208
Viper	00367
Visiola	00246
Vision	00062 00067 00294 00586 00504 00247 00518
Vistar	00236 00391
Vortec	00067 00586
Voxson	00117 00193 00208 00067 00586 00448
Waltham	00247 00386 00448 00317 00067 00586 00698 00139 00461 01698
Wards	00195 00049 00209 00060 00086 00208
Warumaia	00404 00421
Watson	00067 00586 00193 00248 00609 00039 00698 01938 01467 01698
Watt Radio	00132 00574 00193 00246
Wega	00066 00067 00586 00117
Wegavox	00039 00067 00586
Weipai	00039
Weltblick	00067 00586 00247
Welttech	00314
Weston	00067 00586
Wharfedale	00067 00891 00586
White Westinghouse	00067 00216 00246 00586 00367 01939
Windstar	00312 00367
Windy Sam	00586
Wintel	00744
Worldview	00485
Xenius	00664
Xiahua	00039 00294 00442 00728 00803 00809 00847
Xianghai	00039
Xiangyang	00294 00442
Xihu	00294 00442 00847
Xinaghai	00442
Xingfu	00039
Xinghai	00294
Xingyu	00039
Xinrisong	00878 01940
Xinsida	00359
XLogic	00728 00890
Xrypton	00067 00586
Xuelian	00878 01940
Yamaha	00049 00680 00060 00676
Yingge	00039

Yokan	00067 00586
Yoko	00067 00247 00294 00586 00248 00039 00461 00451 00400 00369 00246 00277
Yongbao	00878 01940
Yonggu	00039
Yorx	00248
Youlanasi	00847
Yousida	00039 00878 01940
Yuhang	00039
Zanussi	00236 00247
Zenith	00047 00122 00208 01939
Zenor	00369
Zhuhai	00039 00404
Zonda	00728 00809
ZX	00314 01938

## 6.2 Codes for Amplifiers, Tuners, Home Theatre Systems

Accuphase	10412
Acoustic Solutions	11496 11476
Aiwa	10151 11435 11188 11288 11377
Akai	10376 10145 10470 10639 11250 11420
All-Tel	11420
Amstrad	10774
Anam	10311 10639
Arcam	10672 11119 11219 11319 10671
Audiolab	11119 11219 11319
Audiosonic	10623
AVM	10728
Bang & Olufsen	10829 11070
BAT	11119 11219 11319
Bose	11659 11259 11283 11385
Brandt	10854
Bush	11119 11219 11319 10827 10451 11304
Cambridge Audio	11219 11677
Capetronic	10720
Carver	10390
Casio	10225
Centrex	11287
Centrum	11584
Clarinette	10225
Classic	11382 11625
Clatronic	10774 10827 11612
Copland	11119 11219 11319

Curtis Mathes	10110
Creative	11501
Cyrus	10563 11470
Daewoo	10437 11280 11466
Dantax	10761
Denon	11390 10034 10801 10302
Diamond	10761
DMTECH	11420
Dual	10437 10854 11250 11420 10034
Elektra	10718
Elta	10774 10827 11420
Eroica	10470
Firstline	10437
Fisher	10390 10249 10831
Fujitsu Siemens	10874 11433
Garrard	10311 10316 10470 10493 10774
Genexxa	10216 10470
Goldmund	11119 11219 11319
GoldStar	10311
Goodmans	10437 10623 10639 10774 10470 10827 10376 11155 11229 11450 10451 11304
GPX	11557
Grundig	11119 11219 11319 10316 10311 10249 10774 11155 11374 10827
Harman/Kardon	11334 11340 10921 11119 11219 11319 10238 10922
Harwood	10774
Heco	11141
Hitachi	11374 10854 11250 11584
HiTo	11277
Hypson	10761
Hyundai	11655
Inkel	10521 10532
Intersound	10774
JBL	11207 11033 10698
JVC	10104 10494 11404 11525
Kenwood	11057 11343 10107 10216 10269 11311 10292
Kinyo	11125
Koss	10774
Krell	10864
Kysho	10623
Kysho Japan	10623
Lenoxx	11467 11617
Lenoxx Sound	11467
LG	10311 11323 11554
Lifetec	10827
Linn	10305 11119 11219 11319 10859

Lloyd's	10225
Loewe	11119 11219 11319
LXI	10774
Marantz	11119 11219 11319 10249 10921 10672 10650 11504 10351 10922 10671 10859
Mark	11119 11219 11319 11033
Mark Levinson	11513
Matsui	10827 11158 10225 10774
McIntosh	10649
MCS	10069 10376
MEI	11420
Melectronic	10639
Meridian	10305 10650 10563 11119 11219 11319 10859
Micromega	11119 11219 11319 10563
Midiland	11125
Mitsubishi	10470
Minton	11125
Modulaire	10225
Musical Fidelity	10718
Myryad	11219 11119 11319
NAD	10350 10639
Naim	10305 11119 11219 11319 10859
Nakamichi	11266 10377
Nikkai	11419
Nikkei	10774
Nordmende	10854
NTDE	10774
Okano	10470 10639 10720
Onkyo	10165
Optimus	10211 10216
Orient Power	10774
Orion	10493
Palladium	10720 10827 11250
Panasonic	11338 11339 11793 11548 10397 10069
Philips	11119 11219 11319 10672 10305 10921 10376 11296 10671
Phonotrend	10532
Pioneer	10110 10319 10216 11114 11153 11152 11214 11119 11219 11319 11314 11414 10720 11489 10274 11653 10287 10853
Prima Electronic	10827
Primare	11424 11425
Proline	10827 11420
Quad	10305 10563 11119 11219 11319
Quasar	10069
Radiola	11119 11219 11319
RadioShack	10774

RCA	10376
Realistic	10211 10225
Reoc	11411 11508
Revox	11119 11219 11319 10650 10216 10563
Revoy	11119 11219 11319
Roadstar	10376 10827 11304
Roberts	10307
Rotel	10823 10756
S.A.T.	11474
Saba	10854 11184
Saisho	10376
Samsung	10316 11229 10674 11311 11454 11325
Sansui	10639 10376 10623 11119 10316 11354 10351
Sanyo	10390 10249 10831 10774
Schneider	10774 11420 10761 11229 11250 11159
SEG	11280
Sentra	10718
Sharp	10216 10292 11116 11644
Sherwood	10532 10521 10683 11080
Siemens	10437 10639 10623
Singer	11550
SM Electronic	11607
Sonic	10311
Sony	11688 11788 11188 11288 11888 10445 11087 11377 11472 11484 10250 10719
Soundwave	10437 10639
T+A	11716
TaeKwang	10470
Tag McLaren	11219 11371
Teac	11229 10827 10639 10493 10623 10774 11420 11455 11155 11509 11249 11311 11256 10451 11304
Technics	11338 11339 11793 11548 10238 10069
Techwood	10311
Telefunken	10854 11158 11601 11508
Temeisheng	11642
Tevion	11455
Thomson	11184 11384 10854 11159
Thorens	11219 11119 11319
Thorn	10774
Thule Audio	11459
Topline	10307
Toshiba	11602
Uher	10376 10307 10720 10437 10421
United	11420
Universum	10311 10225 10307 10639 10774 10316 10470 10761 11119 11219 11319 11466 11528

Velleman	10809
Venturer	11063 11155 11420
Victor	10104
Videologic	11125
Vorx	11557
Voxson	11618
Wharfedale	10470 10639 11420
XMS	11496 11277
Yamaha	10206 10112 10216 10742 1136 110173 10384 10878 11624
Yorx	10225
Yukai	11382
Zenith	10311 10774



## 7. Complete Table of Functionality

### 7.1 Normal Functionality (non-shifted)

#	Key	Function
1	Standby	Goes to Standby (switches decoder on/off)
2	TV	Displays available Bouquets
3	ALT	Toggles between current and last viewed service
4	SHIFT	Access to "shifted" functions
5	TV GUIDE	Displays the DStv Guide
6	LANGUAGE	Displays the Language Options
7	MUTE	Mutes the audio
8	i <sup>[4]</sup>	Displays the i-Plate
9	EXIT <sup>[4]</sup>	Removes onscreen information
10	1A	Controls TV1
11	1B	
12	1C	
13	1D	
14	2A	
15	2B	
16	2C	
17	2D	
18	X	Programmable modes
19	Y	
20	Z	
21	Up Arrow <sup>[4]</sup>	
22	Left Arrow <sup>[4]</sup>	
23	OK <sup>[4]</sup>	
24	Right Arrow <sup>[4]</sup>	Scroll through onscreen items / display channel grid
25	Down Arrow <sup>[4]</sup>	
26	P+ <sup>[4]</sup>	Goes to next channel
27	P- <sup>[4]</sup>	Goes to previous channel



28	V- <sup>[4]</sup>	Volume down
29	V+ <sup>[4]</sup>	Volume up
30	Red (Playlist)	Displays the Playlist
31	Blue (Bookmark)	Sets a Bookmark
32	White (SlowMo)	Watch in slow motion
33	Yellow (Status Bar)	Displays the Status Bar
34	Green (PVR Menu)	Goes to the PVR Menu
35	Stop	Stops the playback of a recording / Stops a recording in progress
36	Rewind	Rewinds the programme / recording
37	Play / Pause	Toggles between play and pause on a programme / recording
38	Fast Forward	Fast Forwards the programme / recording
39	REC	Sets a recording
40	1	Digit 1
41	2	Digit 2
42	3	Digit 3
43	4	Digit 4
44	5	Digit 5
45	6	Digit 6
46	7	Digit 7
47	8	Digit 8
48	9	Digit 9
49	MENU	Goes to the Decoder Main Menu
50	0	Digit 0
51	HELP	Currently Disabled



Low Voltage <sup>[3][5]</sup>	Transmit command when low voltage is reached
Undefined Rotary position <sup>[2][3][5]</sup>	Sends IR when the rotary mode selection switch is set to an undefined position

- [1] Data shall only be transmitted when pressing two keys simultaneously
- [2] If the Rotary Mode selection switch is set to an undefined position, the unit shall give 1 long blink and transmit an IR command.
- [3] These are hidden keys / functions and not actual buttons on the remote control.
- [4] Defined as "Action Keys" to allow for simultaneous key presses during games and similar services.
- [5] These commands are transmitted regardless of the mode that is selected.

## 7.2 Shifted functions

#	Key	Function
1	<SHIFT> Standby	For future use
2	<SHIFT> TV (Audio)	Goes to Audio Bouquet
3	<SHIFT> ALT (Subtitle)	Displays Subtitles / Teletext options
4	<SHIFT> SHIFT	Cancels SHIFT, except for channel scan and volume redirect
5	<SHIFT> TV GUIDE (About Us)	Goes to About Us
6	<SHIFT> LANGUAGE (PG)	Goes to the Parental Control Menu
7	<SHIFT> MUTE	Access to volume redirect
8	<SHIFT> i	For future use
9	<SHIFT> EXIT (Input)	Toggles SCART input mode of decoder
10	<SHIFT> 1A	Controls TV1
11	<SHIFT> 1B	
12	<SHIFT> 1C	
13	<SHIFT> 1D	
14	<SHIFT> 2A	Controls TV2
15	<SHIFT> 2B	
16	<SHIFT> 2C	
17	<SHIFT> 2D	
18	<SHIFT> X	Programmable modes
19	<SHIFT> Y	
20	<SHIFT> Z	
21	<SHIFT> Up Arrow	
22	<SHIFT> Left Arrow	For future use
23	<SHIFT> OK	For future use
24	<SHIFT> Right Arrow	For future use
25	<SHIFT> Down Arrow	For future use
26	<SHIFT> P+	Initiate favourite channels scan
27	<SHIFT> P-	Initiate favourite channels scan



28	<SHIFT> V-	Access to volume redirect
29	<SHIFT> V+	Access to volume redirect
30	<SHIFT> Red (Playlist)	Access macro
31	<SHIFT> Blue (Bookmark)	Access macro
32	<SHIFT> White (SlowMo)	Access macro
33	<SHIFT> Yellow (Status Bar)	Access macro
34	<SHIFT> Green (PVR Menu)	Access macro
35	<SHIFT> Stop	For future use
36	<SHIFT> Rewind	Not active
37	<SHIFT> Play / Pause	Not active
38	<SHIFT> Fast Forward	Not active
39	<SHIFT> REC	For future use
40	<SHIFT> 1	Shortcut to favourite channel #1
41	<SHIFT> 2	Shortcut to favourite channel #2
42	<SHIFT> 3	Shortcut to favourite channel #3
43	<SHIFT> 4	Shortcut to favourite channel #4
44	<SHIFT> 5	Shortcut to favourite channel #5
45	<SHIFT> 6	Shortcut to favourite channel #6
46	<SHIFT> 7	Shortcut to favourite channel #7
47	<SHIFT> 8	Shortcut to favourite channel #8
48	<SHIFT> 9	Shortcut to favourite channel #9
49	<SHIFT> MENU	Goes to the Decoder Main Menu
50	<SHIFT> 0	Shortcut to favourite channel #10
51	<SHIFT> HELP	Displays Infocentral screen



Low Voltage	Transmit command when low voltage is reached
Undefined Rotary position	Sends IR when the rotary mode selection switch is set to an undefined position

### 7.3 Functionality when controlling other devices

#	Key	Universal TV	Universal Amp / Tuner
1	Standby	Standby	Standby
2	TV	[2]	[2]
3	ALT	AV	Input Select <sup>[1]</sup>
4	SHIFT	-	-
5	TV GUIDE	[2]	[2]
6	LANGUAGE	[2]	[2]
7	MUTE	Mute	Mute
8	i	[2]	[2]
9	EXIT	[2]	[2]
10	1A	-	-
11	1B	-	-
12	1C	-	-
13	1D	-	-
14	2A	-	-
15	2B	-	-
16	2C	-	-
17	2D	-	-
18	X	-	-
19	Y	-	-
20	Z	-	-
21	Up Arrow	[2]	[2]
22	Left Arrow	[2]	[2]
23	OK	[2]	[2]
24	Right Arrow	[2]	[2]
25	Down Arrow	[2]	[2]
26	P+	P+	Input Select <sup>[1]</sup>
27	P-	P- <sup>[2]</sup>	[2]
28	V- <sup>[4]</sup>	Volume down	Volume down
29	V+ <sup>[4]</sup>	Volume up	Volume up
30	Red (Playlist)	[2]	[2]
31	Blue (Bookmark)	[2]	[2]
32	White (SlowMo)	[2]	[2]
33	Yellow (Status Bar)	[2]	[2]
34	Green (PVR Menu)	[2]	[2]



35	Stop	[2]	[2]
36	Rewind	[2]	[2]
37	Play / Pause	[2]	[2]
38	Fast Forward	[2]	[2]
39	REC	[2]	[2]
40	1	Digit 1	CD
41	2	Digit 2	DVD
42	3	Digit 3	SAT
43	4	Digit 4	TUNER
44	5	Digit 5	TV
45	6	Digit 6	VCR
46	7	Digit 7	5.1
47	8	Digit 8	AUX 1
48	9	Digit 9	AUX 2
49	MENU	[2]	[2]
50	0	Digit 0	TAPE
51	HELP	[2]	[2]

Low Voltage	-	-
Fingerprinting	-	-
Undefined Rotary Position	-	-

[1] "Input Select" function is double picked and available on key 3 (ALT) and on key 26 (P+)

[2] No data presently, but reserved for future use. (Remote Control is software upgradeable).

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## 8. Troubleshooting

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### 8.1 Close encounters of the 3<sup>rd</sup> blink

This remote control communicates through a blinking mechanism. Once you understand the logic behind the speed, position, colour and number of blinks, you will understand what the remote control is "saying".

#### Blinking location

Both the mode window and the SHIFT button can "blink". (See "What's New" on page 5). If the SHIFT button is blinking, it means that either SHIFT is active, or the remote is in a special mode, for example volume redirect or favourite channels. These special modes (see "Advanced Functionality" from page 9) all adhere to the 20 second timeout rule, so if the remote control is not behaving as it should, just wait 20 seconds and everything will be restored.

#### The Colour of Blink

The "colours" of the blink also give you a good indication of which mode is active.

- Red = TV1 environment (1A, 1B, 1C or 1D).
- Blue = TV2 environment (2A, 2B, 2C or 2D).
- Green = programmable mode "X".
- Black (with only the marked letter blinking) = programmable mode "Y".
- Purple = programmable mode "Z".

This allows you to easily recognise the mode without having to actually read the marked letter in the mode window.

#### A Blinking Good Time

- Short blinks are good – they indicate that the remote is working correctly.
- Long blinks are bad – they indicate errors. The only exception is if you are in a programmable mode (X, Y or Z) and you are controlling a device with a really slow command set. The mode will then give a slow blink when the command is sent – appropriate to the time taken to send the command.

#### Note

- ▶ If the remote blinks slowly (and there is no reaction from the PVR) when pressing a button in TV1 (red mode) or TV2 (blue mode), it is possible that the mode is not properly set. Just turn the dial forward and back again to confirm the dial position and to ensure that is correctly positioned and check the blink again.

#### Blinks and more Blinks

- A single blink indicates that a command has been sent. Even in the case mentioned above where the remote might be between modes, it is still sending an error message to the decoder.
- Double blinks indicate an error (except when programming favourite channels – see "Favourite Channels" on page 13)
- (Slow double blinks can only indicate an error)
- A triple blink means Yes! Yes! Yes! and indicates success.

## 8.2 Resets

### 8.2.1 Reset Macros and Favourite Channels

To reset the macros and favourite channels for both environments (they cannot be reset individually) follow the steps below :

1. Press and hold the **SHIFT** button until the mode window blinks 3 times.
2. Press the **BLUE** button. (The mode window will blink 3 times to indicate successful completion).

Devices programmed on X, Y and Z will not be affected.

### 8.2.2 Reset all user-programmable Functions

To reset all user-programmable features (macros, favourite channels, volume redirect and devices programmed on X, Y and Z) follow the steps below :

1. Press and hold the **SHIFT** button until the mode window blinks 3 times.
2. Enter **981**. (The mode window will blink 3 times to indicate successful completion).

### 8.2.3 Factory Reset (if all else fails)

This will revert the remote control to manufactured defaults.

1. Press and hold the **SHIFT** button until the mode window blinks 3 times.
2. Enter **977**. (The mode window will blink 3 times to indicate successful completion).

#### Note

- ▶ The only difference between resetting all user-programmable functions and the Factory Reset, is that any software upgrades that might have been done, will also be deleted.



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## 9. Specifications

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### 9.1 Quality

- CE – EN 61000-6-1 Electromagnetic Compatibility Generic Standard. (Immunity for Residential, Commercial and Light Industrial Equipment).
- EN 61000-4-2 Electrostatic Discharge Immunity (ESD).
- EN 61000-4-3 Radiated, Radio Frequency, Electromagnetic Field Immunity test. (Radiated Immunity).

### 9.2 Battery Life

Battery life should be at least nine months assuming 100 button presses per day with each button press lasting 0.5 seconds. This allows for typically 36,500 button presses utilizing 2 AA type Heavy Duty batteries.

### 9.3 Working Distance

- 15m head on.
- 10m at 20 degrees angle.
- 90 degrees at 1m distance.

#### Note

- ▶ These values depend on the receptor positioning on the receiving device as well as any lenses covering that receptor and is only for lab testing purposes on a calibrated receiver

### 9.4 Technical Specification (General)

- Motorola 32k FLASH DIE, chip number: 9RC32C-1040.
- XMP1.4 multiplayer asynchronous uni-directional protocol @ 38kHz.
- TV database with limited functionality.
- AMP database with limited functionality.
- XMP-1.4 (4 player XMP).
- Legacy protocols (8) (mini SAT library).
- Battery Low indication.
- Operating Temperature Range : 0 degrees C to 50 degrees C.
- Relative Humidity Maximum : 40±3 degrees C, 95% relative humidity.

### 9.5 PVR Remote Control Manual

- Version 1.3 (November 2005) e&oe

#### Note

- ▶ The latest version of the PVR Remote Control Manual is available at [www.dstv.com/go/pvr](http://www.dstv.com/go/pvr)

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## 10. Legal Matters & Warranty

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### 10.1 Universal Functionality Disclaimer

The universal control functionality of this remote control covers approximately 98% of all TV sets available in the DStv reception area. It is also possible that TV sets manufactured after the database was compiled will not be included. As most new systems make use of existing control methods, chances are very good that an equivalent code will be available.

### 10.2 Copyright

The intellectual property rights on the DStv PVR Remote Control belong to MultiChoice and as such, it cannot be imitated, sold or modified in any way, shape or form without written permission from MultiChoice.

The whole of this DStv PVR Remote Control Manual, including the graphics, menus and information contained herein are the subject of intellectual property rights, including copyright under domestic law and international conventions. All rights are reserved.

No part of this document may be reproduced, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical or optical, in whole or in part, without the prior written permission of MultiChoice.

The XMP protocol and code database as used in the remote control is the property of Universal Electronics International (UEI) and as such is subject to international copyright laws. Any usage of the protocol or database in a device other than this DStv PVR Remote Control is subject to prior agreement in writing from UEI. Furthermore, usage of the protocol for control (outside of this DStv PVR Remote Control) of any MultiChoice, M-Net or DStv branded device, also requires prior written permission from MultiChoice.

### 10.3 Damage

MultiChoice will not be held responsible for any loss, damage or interference to any property of the user or any third party as a result of the use of the DStv PVR Remote Control.

### 10.4 Remote Extenders / Remote Blasters

The DStv PVR Remote Control was tested using the remote extender (eye) as supplied with the DStv PVR Decoder. Compatibility of this remote control with other types of remote extenders or remote blasters cannot be guaranteed as it makes use of new generation advanced coding that operates at a higher speed than is used in most older equipment.

Should your existing or preferred configurations not work with the provided remote extender, a new generate remote blaster is required. Consult your nearest consumer electronics provider and preferably test the unit before purchasing it.

## 10.5 Product Warranty

Apart from replacing the batteries, you should never attempt to open or service the DStv PVR Remote Control. Any attempt to do so, will invalidate the warranty.

The manufacturer and MultiChoice warrant that the DStv PVR Remote Control will be free from defects in design, materials and workmanship for a period of 12 months from the date of sale to the consumer.

The warranty shall not apply in the event of :

- The remote control being tampered with or being opened, worked on, repaired or modified, save by an authorised representative of the manufacturer.
- Malfunctioning or damage caused by the use of this remote on other equipment.
- Damage due to batter malfunction including acid leakage.
- Wilful or accidental damage to the extent that the external casing has been breached.
- Prolonged exposure to liquid.

In the event of a problem, contact a MultiChoice Call Centre. MultiChoice or the manufacturer will, at their sole discretion, repair or replace any remote control which is not functioning as covered by the warranty. Repairs must be made by an authorised service centre or repair agent.

### **IMPORTANT**

To claim service in terms of this warranty, it will be necessary to produce a valid purchase receipt showing the date of purchase.

### **DISCLAIMER**

Other than set out in this PVR Remote Control Manual, the manufacturer and MultiChoice make no warranties, either expressed or implied, and including, but not limited to, implied warranties of merchant ability and fitness for a particular purpose, with respect to the remote control, including but not limited to, the software, the accompanying product manual(s), written materials and any accompanying hardware.

Notwithstanding anything to the contrary, and save for the above remedy for breakdown covered by the warranty set out in this warranty certificate, the manufacturer and MultiChoice shall have no liability whatsoever, whether in contract, direct or otherwise, for injury, loss or damage, including any loss of business profits or any other consequential damages arising out of the use, installation or operation of the remote or from defects therein.

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## 11. Hotlines

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### 11.1 Call Centres

#### MultiChoice (South Africa) Call Centres

Johannesburg	(011) 289 2222
Durban	(031) 710 2222
Cape Town	(021) 508 2222
Bloemfontein	(051) 503 2222
Port Elizabeth	(041) 395 2222
Pretoria	(012) 422 2222

#### MultiChoice Africa (Sub-Sahara) Call Centres

Sub-Sahara	+27 11 289 2266
Swaziland	+268 404 2881 / 404 6371 / 404 1786
Botswana	+267 360 5666
Malawi	+265 1 623505 / 623508
Mocambique	+258 21 220217 / 8
Namibia	+264 61 270 5222 / 5111
Zambia	+260 1 41261616
Zimbabwe	+263 4 253325

### 11.2 E-Mail Enquiries

[enquiries@multichoice.co.za](mailto:enquiries@multichoice.co.za)

Please ensure that the query is clearly marked "PVR Remote Control Query".

### 11.3 Websites

DStv	<a href="http://www.dstv.com">www.dstv.com</a>
DStv PVR	<a href="http://www.dstv.com/go/pvr">www.dstv.com/go/pvr</a>
MultiChoice (South Africa)	<a href="http://www.multichoice.co.za">www.multichoice.co.za</a>
MultiChoice Africa (Sub-Sahara)	<a href="http://www.dstvafrica.com">www.dstvafrica.com</a>
Manufacturer	<a href="http://www.uei.com">www.uei.com</a>