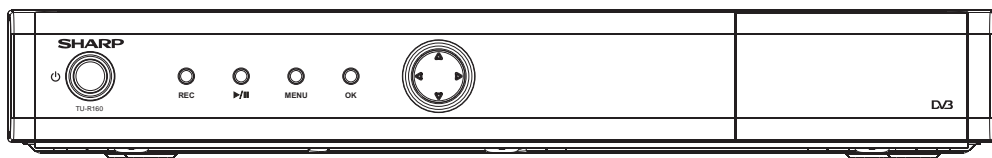


SHARP®

Operation Manual

Model: TU-R160H Digital TV Recorder



Important : This product can only receive Digital Terrestrial TV signals, subject to coverage and an aerial upgrade may be required.

1. Please check coverage by phoning 08708 80 99 80 or use your mobile to SMS text your post code to 83331 for an instant reply or visit www.freeview.co.uk
2. Read this operational manual carefully.
3. If you still encounter a problem please call our service help line on 0845 880 0421 during normal weekday office hours

INDEX

POWER CORD (MAINS LEAD).....	2
SUPPLIED ACCESSORIES.....	5
GENERAL PROPERTIES.....	6
REMOTE CONTROL.....	6
FRONT AND BACK PANEL.....	7
GETTING STARTED.....	8
CONNECTION DIAGRAMS.....	8
REMOTE CONTROL & FUNCTIONS.....	9
MENU INTERFACE.....	11
FIRST TIME INSTALLATION.....	11
MAIN MENU.....	11
1. CHANNEL LIST.....	11
1.1. NAVIGATING CHANNEL LIST.....	11
1.2. DELETING CHANNEL.....	11
1.3. EDIT CHANNELS.....	12
1.4. ADDING LOCKS TO CHANNELS.....	12
1.5. SETTING FAVOURITE LIST.....	12
2. PROGRAMME GUIDE (8 DAYS).....	12
3. TIMERS.....	13
4. RECORDINGS LIBRARY.....	14
5. SETUP.....	14
5.1. CONFIGURATION.....	15
5.1.1. COUNTRY.....	15
5.1.2. SUBTITLE.....	15
5.1.3. TV TYPE.....	15
5.1.4. TV OUT.....	15
5.1.5. VCR OUT.....	15
5.1.6. FAVOURITE MODE.....	15
5.1.7. CHANNEL LIST.....	15
5.1.8. RECEIVER UPGRADE - OAD.....	16
5.1.9. MENU LOCKING.....	16
5.1.9.i. MENU LOCK.....	16
5.1.9.ii. SET PIN.....	16
5.1.10. RECORDINGS.....	17
5.1.11. HARD DISK INFO.....	17
Recording Format.....	18
Unrecordable Material.....	18
Hard Disk Operation (Recording / Playback / Time Shift Recording).....	18
Format Disk.....	18
5.2. LANGUAGE.....	19
5.3. INSTALLATION.....	19
5.3.1. AUTOMATIC CHANNEL SCAN.....	19
5.3.2. MANUAL CHANNEL SCAN.....	19
5.3.3. FORMAT DISK.....	20
5.3.4. FIRST TIME INSTALLATION.....	20
6. MESSAGES.....	20
7. SPECIFIC FUNCTIONS OF REMOTE CONTROL.....	20
TIME SHIFTING (PAUSE LIVE RECORDING).....	22
8. SOFTWARE UPGRADE THROUGH RS232.....	23
9. NOTES.....	24
10. TROUBLE SHOOTING GUIDE.....	25
11. TECHNICAL SPECIFICATIONS.....	26
12. INFORMATION ABOUT PRODUCT DISPOSAL.....	28

POWER CORD (MAINS LEAD)

Do not place the product where a piece of furniture or other heavy object could trap the power cord (mains lead). Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Never make a knot in the cord or tie it with other cords. The power cords should be routed in such a way that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord periodically to see if it is damaged. If it is damaged, please ask an approved Sharp service agent to replace it.

For your own safety read following instructions carefully before attempting to connect this device to the mains.

This unit is designed to operate on a 220V-240V AC - 50Hz supply only. Connecting it to other power sources may damage it. Ensure that the supply corresponds to the information on the rating label on the bottom of the unit. This component system may be fitted with a non-rewireable plug. If it is necessary to change the fuse in a non-rewireable plug, the fuse cover must be refitted. If the fuse cover becomes lost or damaged, the plug must not be used until a replacement, available from the manufacturer, is obtained. It is important that the colour of the replacement fuse cover corresponds with the colour marking on the base of the plug. If the plug needs to be changed because it is not suitable for your socket, or it becomes damaged, it should be cut off and the fuse removed immediately. Please dispose of the plug safely and out of reach from children. Under no circumstance should the cut-off plug be inserted into a mains socket outlet due to high risk of electric shock. Then fit an appropriate plug carefully following the wiring instructions shown below.

IMPORTANT

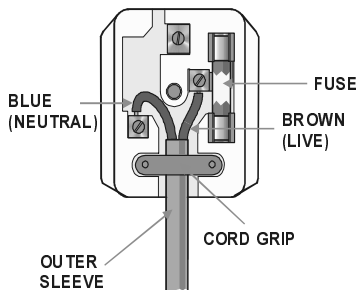
The wires in the mains plug should be connected as shown in the diagram.

The colours of the wires in the mains lead of the unit may not correspond with the coloured markings identifying the terminals in your plug. Connect them as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter 'N' or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter 'L' or coloured red.

There should be no connection to earth terminal of your plug. If you use a 13 Amp (BS1363) plug, you will need a 5 Amp fuse.



How to replace the fuse

Open the fuse compartment with a blade screwdriver and replace the fuse. When replacing the fuse in the plug, use ASTA or BSI approved 5 AMP fuse and be sure to re-fit the fuse cover. If the plug supplied with this equipment has a detachable fuse cover, be sure attach the fuse cover after you change the fuse. Never use the plug without the fuse cover.

If you should lose the fuse cover, please contact an electrical goods retailer.

If in doubt, consult a competent electrician how to replace the fuse



This symbol means that this unit is double insulated. An earth connection is not required.

CAUTION

To prevent electric shock, disconnect from the mains before removing cover. No user serviceable parts inside. Refer servicing to qualified service personnel. Disconnect from the mains supply before cleaning.

CAUTION: Please read all of these instructions before you operate this product and save these instructions for later use.

Electrical energy can perform many useful functions. This product has been engineered and manufactured to assure your personal safety. BUT IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARDS. In order not to defeat the safeguards incorporated in this product, observe the following basic rules for its installation, use and servicing.

1. Read Instructions

All the safety and operating instructions should be read before the product is operated.

2. Retain Instructions

The safety and operating instructions should be retained for future reference.

3. Heed Warnings

All warnings on the product and in the operating instructions should be adhered to.

4. Follow Instructions

All operating and use instructions should be followed.

5. Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

7. Water and Moisture

Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

The mains plug or the appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

8. Accessories

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. Transportation

A product and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the product and cart combination to overturn.

10. Ventilation

Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

11. Power Sources

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

12. Grounding or Polarization

This product is provided with one of the following types of plugs. If the plug should fail to fit into the power outlet, please contact your electrician. Do not defeat the safety purpose of the plug.

a. Two-wire type (mains) plug.

b. Three-wire grounding type (mains) plug with a grounding terminal. This plug will only fit into a grounding type power outlet.

13. Power-Cord Protection

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

14. Lightning

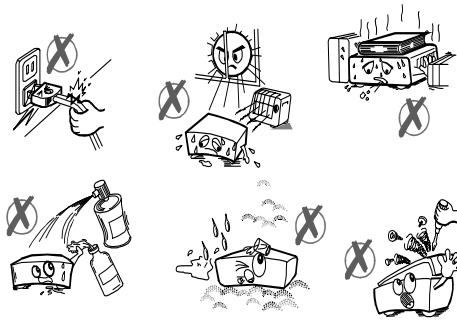
For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the product due to lightning and power-line surges.

15. Overloading

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

16. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.



17. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

18. Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the product.
- c. If the product has been exposed to rain or water.
- d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
- e. If the product has been dropped or damaged in any way.
- f. When the product exhibits a distinct change in performance, this indicates a need for service.

19. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

20. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

21. Wall or Ceiling Mounting





This product should be mounted to a wall or ceiling only as recommended by the manufacturer.

22. Heat

This product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

23. Copyright

Audio-visual material may consist of copyright works which must not be recorded without the authority of the owner of the copyright. Please refer to relevant laws in your country.

	<table border="1"><tr><td>WARNING</td></tr><tr><td>RISK OF ELECTRIC SHOCK</td></tr></table>	WARNING	RISK OF ELECTRIC SHOCK	
WARNING				
RISK OF ELECTRIC SHOCK				
	<i>The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock of persons.</i>			
	<i>The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.</i>			



SUPPLIED ACCESSORIES

- Operation manual
- QSG (Quick Start Guide)
- Remote control & 2 x AAA batteries
- 1 Scart lead

GENERAL PROPERTIES

1. Menu Language : English
2. Channel lock, Menu lock
3. Channel list sorted by D-book logical channel numbers.
4. Channel list name editing option.
5. BBC UK Compliant Over Air Download.
6. PIP (Picture in picture)
7. Time shift – pause live TV.
8. One key record (Instant recording of channels).
9. Once, daily, weekly programmed event recordings.
10. Ability to record one channel while watching another channel.
11. X1/4, X1/2, X1, X2, X4, X8, X16, X32 forward and backward play options.
12. Play list shows available recordings (Event name, Start time, Duration, delete/playback permission).
13. Timers list shows scheduled recordings (Event name, Start time, Duration, once/daily/weekly repeat, change/delete/playback permission)
14. Record timer via 8 day EPG
15. Records DVB subtitles where broadcast. To access this feature, subtitles must be turned on.
16. Automatic/Manual channel search.
17. Guided first time installation.
18. Storage for 200 channels.
19. Favourite channel lists.
20. Automatic day light saving time updating.
21. MHEG-5 Engine

REMOTE CONTROL

1. Press the \wedge mark on the cover and slide it in the direction of the arrow.
2. Insert the batteries making sure the polarities correctly match the + and - marks inside the battery compartment.
3. Attach the cover and slide it until it clicks into place.

Please follow the precautions below.

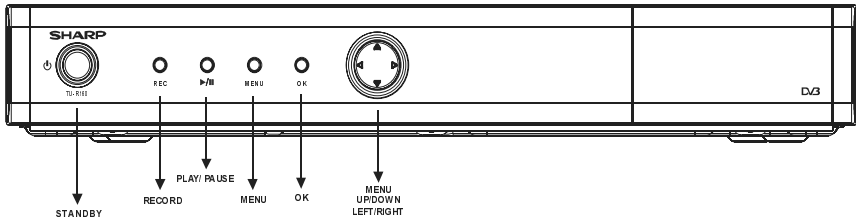


- Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
- Insert the batteries making sure the polarities correctly match the + and - marks inside the battery compartment.
- Batteries of different types have different properties, therefore do not mix batteries of different types.
- Do not mix new and old batteries.
This may shorten the life of new batteries or may cause old batteries to leak.
- Remove the batteries from the remote control once they have run out, as leaving them in can cause them to leak.
Battery fluid from leaked batteries is harmful to skin, therefore ensure that you wipe them first and then remove them using a cloth.
- Remove the batteries from the remote control if you will not be using the remote control for a long time.
- Comply with the rules (ordinance) of each local government when disposing of worn-out batteries.
- Dispose of batteries carefully, safely and according to local regulations. Do not incinerate them.

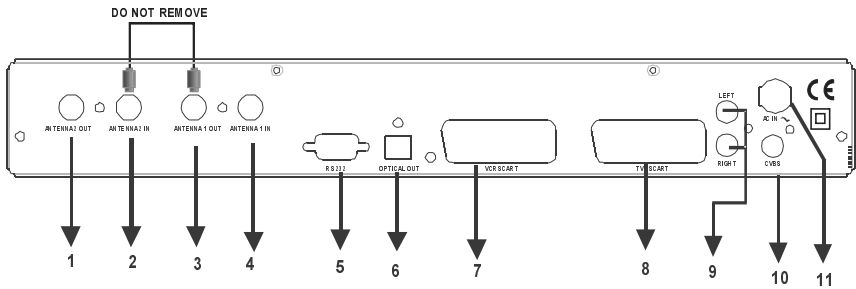
Replacement batteries for this unit are 1.5 Volt (R03/AAA).

FRONT AND BACK PANEL

FRONT PANEL



BACK PANEL



- | | |
|------------------------------|--|
| 1. AERIAL 2 OUT | : To watch analogue channels on the TV |
| 2. AERIAL 2 IN | : Loop through |
| 3. AERIAL 1 OUT | : Loop through |
| 4. AERIAL 1 IN | : Aerial input |
| 5. RS232 | : Software Upgrade (Service Only) |
| 6. OPTICAL SPDIF | : Optical Digital Audio Output |
| 7. VCR SCART | : Output for other equipment such as DVD, VCR...etc. |
| 8. TV SCART | : TV Scart connection |
| 9. ANALOGUE AUDIO LEFT/RIGHT | : Analogue Audio output |
| 10. CVBS | : Video Output |
| 11. POWER SUPPLY | : 220-240V AC, 50 Hz |

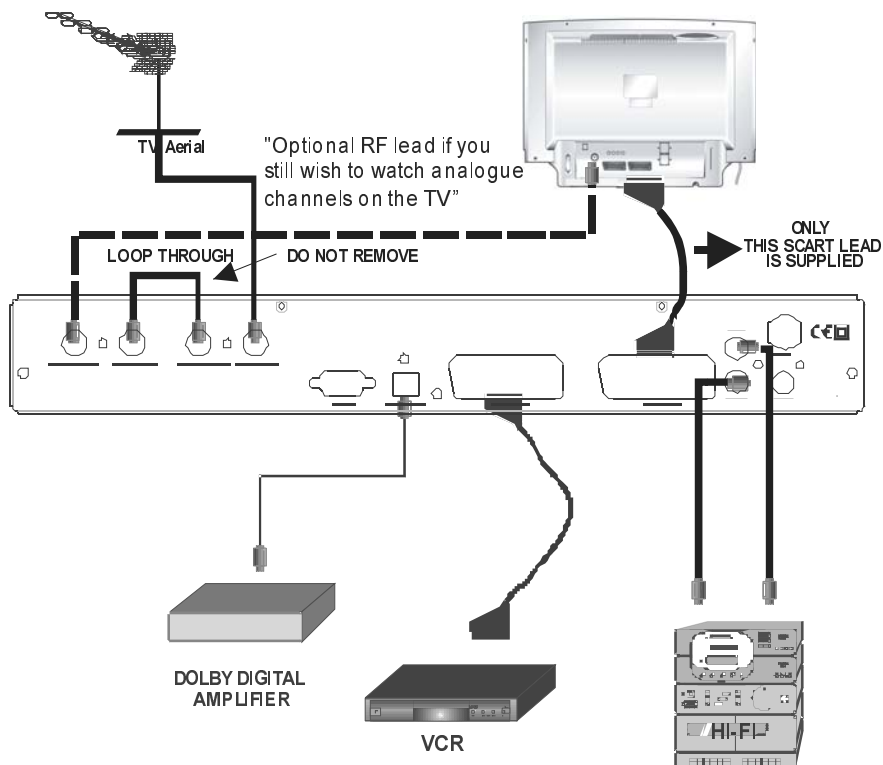
GETTING STARTED

Before connecting, ensure that the power cord of the unit is unplugged from the AC outlet and turn off the devices to be connected. After making all connections (Diagrams on page 8), turn on the unit first and then the other devices.

"NOTE" - When the unit is first powered up, please wait a short while before activating the receiver as the unit's software needs to be initialised and the hard disk checked.

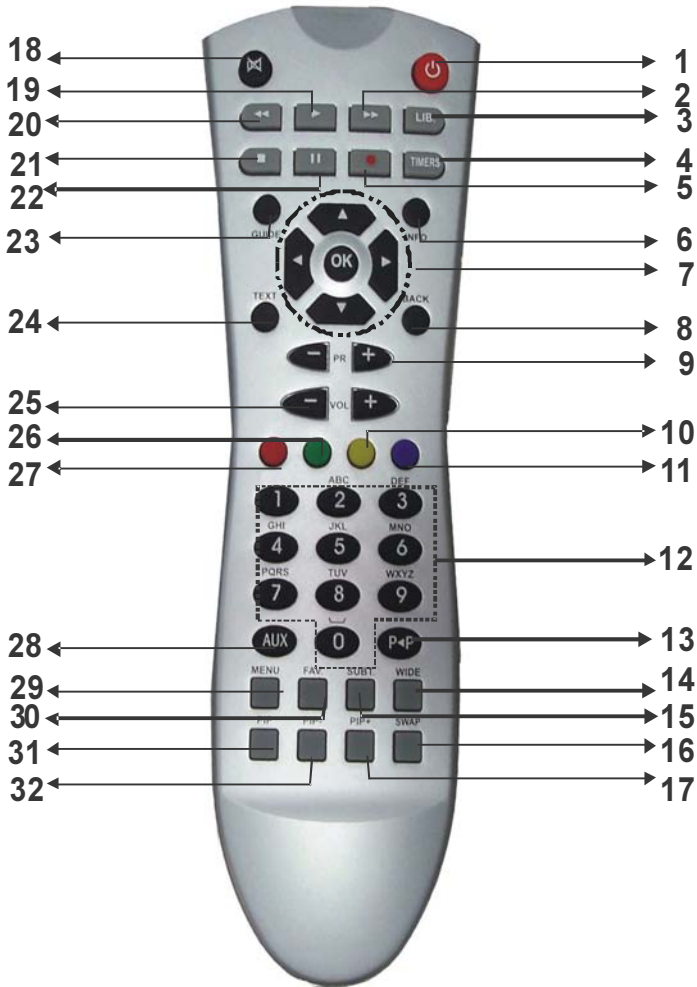
The unit is equipped with input terminals that support RGB, S-video and CVBS video signals. The image quality is highest in the order of the RGB signal, the S-video signal and the CVBS video signal.

CONNECTION DIAGRAMS




NOTE: This set top box supports Free To View only. There is no provision for a CAM or Pay To View card.

REMOTE CONTROL & FUNCTIONS



USING THE CONTROLS ON THE FRONT PANEL

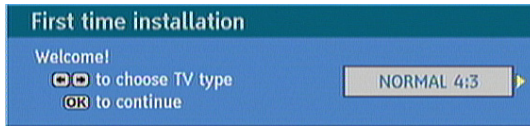
You can enter the main menu by pressing the menu key on the front of the unit. Then navigate through the menu's with the four Arrow keys on the front of the unit and make a selection with the OK key.

KEY	FUNCTION
1. STAND BY	Standby ON/OFF
2. ►►	Fast Forward
3. LIB.	Library of recordings
4. TIMERS	Schedule recording information
5. 	Record key
6. INFO	Displays Info window
7. Arrow keys/OK	Menu Navigation
8. BACK	Exit from menu (Without saving) / Page back
9. PR+/-	Next/Previous channel
10. YELLOW	Teletext Function key
11. BLUE	Teletext Function key
12. 0,1,2,3.....9	Numeric keys
13. P ◀ P	Previous channel
14. WIDE	TV Mode
15. SUBT.	Enables Subtitles
16. SWAP	Normal screen and PIP window change their places
17. PIP +	Next channel in PIP window
18. MUTE	Mute
19. ►	Play the recording
20. ◀◀	Fast reverse
21. ■	Stop the recording
22. II	Pause
23. GUIDE	Electronic Program Guide
24. TEXT	Teletext key
25. V+ / V -	Volume UP/DOWN
26. GREEN	Teletext Function key / Interactive Service
27. RED	Teletext Function key
28. AUX	AUX Input
29. MENU	Enter menu/ Exit menu (With saving)
30. FAV	Favourite list
31. PIP	Opens PIP window
32. PIP-	Previous Channel in PIP window

MENU INTERFACE

FIRST TIME INSTALLATION

When the unit is operated for the first time or if there is no channel stored in the database, "First Time Installation" Menu window is displayed on the screen. In this window, set the TV type with "◀ / ▶" keys and press OK to continue.



The automatic channel scan window appears and the unit has started searching for channels. When the automatic channel scan is complete, the unit will switch to PR 1.

CAUTION - Do not press any buttons on the remote or front display during automatic channel search.

MAIN MENU

The main menu is accessed by pressing the "MENU" key on the remote control.

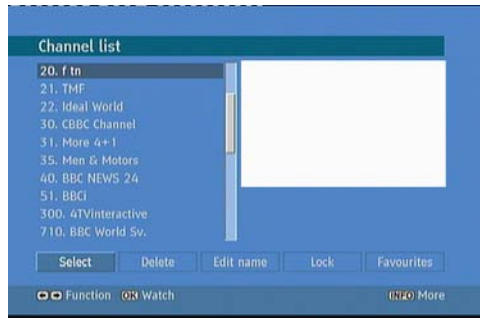
You can navigate the menu using the "▲ / ▼" keys on the remote control. To activate the menu selection, press the OK key on the remote control. Press "BACK" on the remote control to exit the selected menu. In all menus there is an info banner located at the bottom of the screen. These are functions that can be applied in that menu option.



1. CHANNEL LIST

"Channel list" is the place where the channels are managed. The following operations can be performed in this menu:

1. Navigating channel list
2. Deleting channels
3. Renaming channels
4. Adding locks to channels
5. Setting favourite list



1.1. NAVIGATING CHANNEL LIST

In the "channel table" "▲ / ▼" keys can be used to move the selection to the previous or next. To exit menu and watch a specific channel, highlight it using "▲ / ▼" then press OK key while the "SELECT" option at the bottom of the screen is highlighted. If the selected channel is password protected then a pop up menu is displayed. If the correct code is entered, the selected channel can be watched. You can now select another channel in the list. The scroll Bar in the middle of the screen shows relative position of the currently visible channels with respect to the whole list.

1.2. DELETING CHANNEL

To delete a channel highlight it using "▲ / ▼", then highlight the "Delete" key using "◀ / ▶" and press OK. A message is displayed to confirm your decision, if you still want to delete select "YES", with the "◀ / ▶" keys or the operation will be cancelled if you select "NO".

1.3. EDIT CHANNELS

To rename a specific channel, highlight "Edit Name" key after the channel is selected and press OK. A box appears on the screen. "◀/▶" moves to the previous/next character. "▲/▼" toggles the current character, i.e., 'b' character becomes 'a' on "▼" and 'c' on "▲". Pressing the numeric keys '0...9' replaces the highlighted character with the characters printed above the key one by one as the key is pressed. Pressing "BACK" cancels the editing and OK saves the new name.

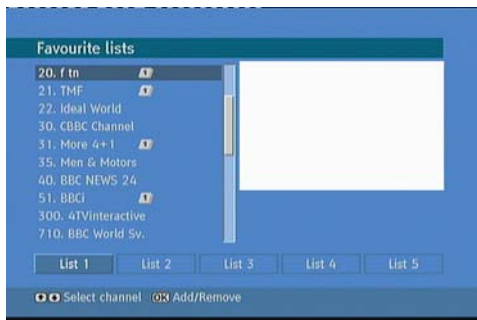
1.4. ADDING LOCKS TO CHANNELS

"Channel Locking" provides password-protected access to channels selected by parents. In order to lock a channel you should know the parental Lock password (set to 0000 in the factory and can only be changed from the "Configuration Menu"), from the channel list menu highlight the channel to be locked and select the "Lock" key with the "◀/▶" keys, when OK is pressed a password box is displayed. Enter the parental Lock code, press "OK" and the Lock icon will be displayed in front of the selected channel. Repeat the same operation to cancel the Lock.

1.5. SETTING FAVOURITE LIST

"Favourite lists" provide an easy way to group programs in a customizable way. Five favourite lists are available on this product named as List1, List2, List3, List4 and List5.

- From the channel list use the "◀/▶" keys to highlight "Favourites" and press "OK" to enter the "Favourite Lists" menu.
- Press the "◀/▶" keys to select your preferred favourite list (List1/List2/List3/List4 or List5).




- Press "OK" to add the highlighted programme to your list and continue to add the programmes you want to include in your favourites by highlighting the channel and pressing OK.
- Repeat the above steps to remove the channels from the list. Once complete press MENU to save your settings.
- You can step through your favourite lists with the FAV key on the remote. Each press will advance to the next list. The PR+ and PR- keys will cycle through the channels you put in the currently selected favourites list.

2. PROGRAMME GUIDE (8 DAYS)

"Electronic Program Guide" appears on the screen. It is able to get Information of the channel - programs weekly by means of 8-DAY-EPG. All programs of channels are displayed. The current program is highlighted and there is brief information about the programs of the channel, such as: name, short/extended event description, start & end time. By pressing "◀/▶" keys continuously the time scale can be changed. If there is any event information data available only program names and dates are displayed. Across the bottom of the screen there is an info bar showing all the available commands which are listed below.



GUIDE BUTTON	: Access the 8-day-EPG
RED KEY (SHRINK)	: make the info boxes smaller
GREEN KEY (EXPAND)	: make the info boxes larger
YELLOW KEY (PREV DAY)	: displays the programs of previous day
BLUE KEY (NEXT DAY)	: displays the programs of next day.
INFO (DETAILS)	: displays the short extended programs in detail.
 (RECORD)	: the unit will record the current programme.
NUMERIC KEYS (JUMP)	: go to preferred channel directly via numeric keys.
OK (VIEW)	: shows the highlighted channel
TEXT (GENRE)	: activates "Select Genre" window.
◀ (PAGE LEFT)	: moves the page to left.
▶ (PAGE RIGHT)	: moves the page to right.
▶ (NOW)	: shows the current programme

GENRE

Select the genre that you require by pressing the "TEXT" key on the remote whilst you are in the programme guide. Use the up / down keys to highlight your genre and press OK.

All the programmes in the programme guide that fit the selected genre will be highlighted.
E.g., "KIDS" will highlight all the children's programmes.

3. TIMERS

To display the Timer window, press the "TIMERS" key or select it from the main menu. To add a Timer, press the "BLUE" button. The "Add Timer" window appears.

Channel: "◀ / ▶" keys will navigate the user through the TV or Radio list.

Date: By using either "◀ / ▶" or "0,1,2,...,9" keys start date is entered.

Start: By using either "◀ / ▶" or "0,1,2,...,9" keys start time is entered.

End: By using either "◀ / ▶" or "0,1,2,...,9" keys end time is entered.

Duration: Displays the duration of the recording.

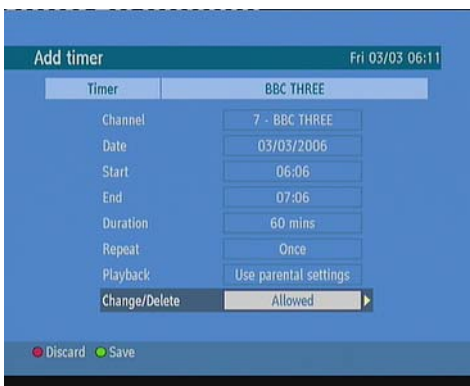
This is automatically worked out after the start and end times have been entered.

Repeat: By using "◀ / ▶" keys, repeat mode is set to "Once", "Daily" or "Weekly".

Playback: Permit or block playback for other users. "use parental settings" is default.

Change /Delete: Permit or prohibit any modifications for other users.

When a timer Start time is reached, the receiver starts to record the desired program, then when the end time is reached, the record stops. Save the adjustments by pressing the "GREEN" key or cancel with "RED" key. Edit the list via "YELLOW" key and delete by pressing the "RED" key.

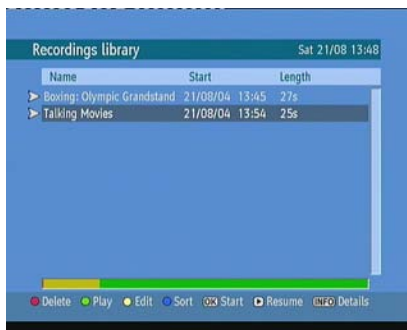


Add timer		Fri 03/03 06:11
Timer	BBC THREE	
Channel	7 - BBC THREE	
Date	03/03/2006	
Start	06:06	
End	07:06	
Duration	60 mins	
Repeat	Once	
Playback	Use parental settings	
Change/Delete	Allowed ▶	
Discard Save		

4. RECORDINGS LIBRARY

All the recordings are kept in the library. To show the list of recordings press “LIB” key on the remote or access it by the main menu.

- RED KEY (DELETE)** : erase the recordings
- GREEN KEY (PLAY FROM)** : play from....
- YELLOW KEY(EDIT)** : make changes to the recordings
- BLUE KEY (SORT)** : change the order of the recordings
- INFO (DETAILS)** : displays the short extended programs in detail.
- OK (START)** : play the recordings
- ▶ (RESUME)** : recommence the recordings



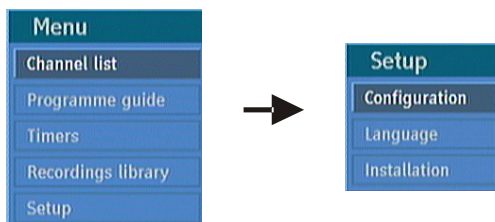
Red bar: indicates the amount of space used for recordings saved on the hard disk.

Yellow bar: displays the approximate capacity required for the timers currently set.

Green bar: shows the free space available on the hard disk.

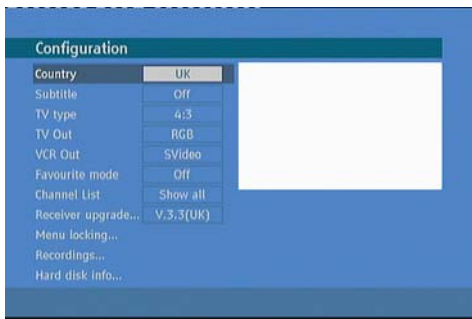
5. SETUP

All the settings for the unit are adjusted in the “SETUP” window.



5.1. CONFIGURATION

You can configure the settings of your set top box. Select Configuration from Setup menu and press **OK** to enter this menu. Press the "BACK" key on the remote to exit



5.1.1. COUNTRY

Country setting is displayed.

5.1.2. SUBTITLE

Digital terrestrial television channels can broadcast with subtitles displayed on-screen for the hard-of-hearing. This function selects the desired subtitle language and enables the automatic display of subtitles whenever subtitle information is broadcast. Highlight the Subtitle line in the "Configuration menu" and use the "◀ / ▶" keys to select "OFF / ON".

5.1.3. TV TYPE

Digital terrestrial television channels can broadcast programmes in a widescreen format which must be output differently to normal and widescreen TV sets. This function tells the receiver the screen format of the TV connected so that broadcasts are displayed correctly. Highlight the TV Type line in the "Configuration menu" and use the "◀ / ▶" keys to select 4:3 if you have a standard TV set connected or 16:9 if it is a widescreen TV. This function duplicates the selection made at the time of first installation and can be used if you change TV sets.

5.1.4. TV OUT

The receiver can output RGB, CVBS and S-Video signal from the TV SCART on the rear panel. Although the RGB format results in a better quality picture, not all equipment can cope with an RGB signal.

5.1.5. VCR OUT

This allows you to select CVBS or S-Video output from the VCR SCART socket. The receiver can output SVideo and CVBS signal from the VCR SCART on the rear panel.

5.1.6. FAVOURITE MODE

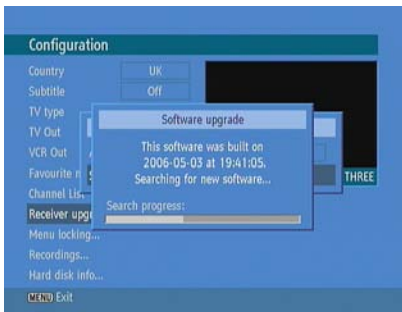
This function enables or disables the 5 favourite channel list mode by pressing "◀ / ▶" keys and press **OK**. If a favourites list exists it will switch to the list number selected. If there is no favourite listing, a warning message is displayed.

5.1.7. CHANNEL LIST

Use "▲ / ▼" keys to go to "Channel List" option. Use "◀ / ▶" keys to toggle Channel List Mode. If you select "TV Only", with the PR+/PR- keys, you navigate through only TV channels. If you select "Radio Only", with the PR+/PR- keys, you navigate through only radio channels. If you select "Text Only", with the PR+/PR- keys, you navigate through only text channels. If you choose "Show All", all channels can be navigated with the PR+/PR- keys. To save the recent changes and exit, press the "MENU" key.

5.1.8. RECEIVER UPGRADE - OAD

Over Air Download (OAD): To ensure your DTR always has the most up to date information, please ensure that after use the unit is set to standby mode. The DTR automatically powers up at 3.00 A.M. each day and searches for any new information which may be broadcast and will download this to your receiver automatically. This operation will normally take approximately 30 minutes. If you have an important recording to make at 3.00 A.M. which must not have a 30 minutes interrupt then you can disable the auto OAD search by performing the following:



- Press "Menu" key and using the "▲/▼" keys to choose "Setup" and press the "OK" key.
- Highlight "Configuration menu" with "▲/▼" keys and press "OK".
- Use "▲/▼" keys to choose "RECEIVER UPGRADE" and press "OK" key.
- Using the left / right key change "Automatic scanning" from Enabled to Disabled.
- Highlight "Scan for upgrade" menu with "▲/▼" keys and press "OK" to commence upgrade.

Do not forget to re enable the automatic "OAD" function after you have made your recording by repeating the above instructions but this time selecting "ENABLE".

5.1.9. MENU LOCKING

Use "▲/▼" keys to go to "Menu Lock" option. Press "OK" key to enter the menu. A box asking for the lock key is displayed. The key is set to "0000" initially. Enter lock key. If it is incorrect, "Wrong Pin" is displayed. If it is correct, the Parental Settings Menu is displayed.

5.1.9.i. MENU LOCK

In menu lock you can set locking for All Menus, or the Installation Menu to restrict access to these menu's. If the menu lock is disabled, there will be free access to the menu system. Use "▲/▼" keys to go to "Menu Lock" option. Use "◀/▶" keys to choose "Menu Lock Mode".

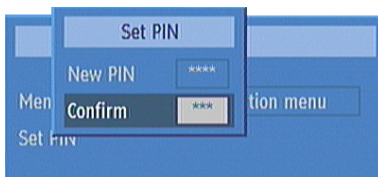
DISABLED : All menus are unlocked.

ALL MENUS : All Menus are accessible only with the correct lock key. So the user can't add, delete, rename, channels, can't set timers.

INSTALLATION MENU : Installation menu is locked. So the user can't add channels. Changes will be updated after exiting 'Configuration Menu'.

5.1.9.ii. SET PIN

The PIN code of the unit changed. Use "▲/▼" keys to go to "Set PIN" option. Press "OK" to display the "Set PIN" window. Use "NUMERIC" keys to enter new pin code you will need to input your new pin a second time for verification purposes. If Both pin codes are four digits long and the same, the pin will be changed. Write the PIN code on page 24. If you should forget your PIN refer to the trouble shooting guide on page 24.



5.1.10. RECORDINGS

The settings of the recordings are configured in this menu, press "OK" to display the menu.

START EARLY: enter the required amount of minutes by means of "◀ / ▶" keys. The recorder will start early by this amount of minutes.

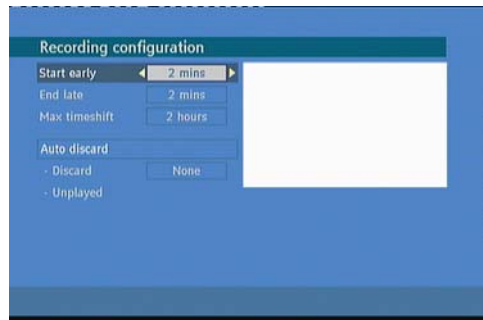
END LATE: enter the required extended record time via "◀ / ▶" keys. The recorder will stop this amount of minutes late.

MAX TIMESHIFT: type the preferred timeshift time. See the section on Timeshifting.

AUTO DISCARD

DISCARD: When the "HDD" is full records will be erased as to their type, the choices are: "Oldest, Largest, Smallest".

UNPLAYED: select "Included" to remove the unplayed records otherwise choose "Excluded".



5.1.11. HARD DISK INFO

Displays Hard disk information in the form of a table.

This is selectable from the configuration menu.

This Recorder has a built in hard disk (abbreviated as HDD) for recording and playback. Beware of the following points when setting up and using the Recorder. Failure to observe precautions may cause damage to the HDD itself or its content, failure of the disk to operate, or recording of noise.

Hard disk information	
Total space	159.8 GB
Reserved for timeshift	3.7 GB
Space used by recordings	0.0 GB
Free space	156.1 GB
Estimated space for timers set	0.0 GB
Estimated recording time after	75 h 10 m

- Do not subject the Recorder to any vibration or impact.
- Do not place the Recorder in a cramped location which might block the ventilation port on the back of the Recorder.
- Do not place the Recorder at a location with severe temperature variation.
 - If the Recorder is set up at a location with severe temperature variation, dew may form on and inside the Recorder. If the Recorder is used with internal dew formation present, this may cause HDD damage or malfunction. We recommend keeping variation in room temperature within 10°C per hour.
- Do not place the Recorder at a location with high humidity.
- Place the Recorder horizontally, never at an incline.
- When the power is on, do not unplug the power cord from the AC outlet, turn off the breaker for the area where the Recorder is set up, or move the Recorder.
 - When moving the Recorder, first turn off the power and then unplug the power cord from the AC outlet.

Recording Format

- **HDD recording is done using the variable bit rate format (VBR) for more efficient recording. The following phenomena may occur.**

With the variable bit rate format, the remaining amount which can be recorded may increase or decrease relative to the display of the remaining amount of HDD space.

- When the display indicates that the remaining amount of HDD space is low, first delete unnecessary programmes, and then record with an extra margin in the amount of remaining space. There is an option in the configuration menu to discard the recordings. You could choose between three options:
Deleting.
1 – Oldest recordings
2 – Largest recordings
3 – Smallest recordings
When the HDD is out of space, it will operate regarding one of these options and delete the recordings.
- Even if you delete a programme, the remaining amount may not increase by the amount of deleted time. When recording new video, record with an extra margin in the amount of remaining space.

Unrecordable Material

In the unlikely event that there is some problem like loss of recorded video or audio content due to an HDD malfunction, please be aware beforehand that Sharp will bear no responsibility to compensate for the content which could not be recorded or edited, for the loss of recorded or edited video, or for other related direct or indirect damages.

- **If a power failure occurs**

- The content being recorded or timer recorded may be damaged if power failure occurs.
- The content being played back may be damaged.

- **For important recording**

- If the HDD malfunctions, the content recorded on the HDD may be lost. If you wish to save content permanently, we recommend copying or moving the content to Video or DVD.

NOTE

- If a message indicating an HDD error is displayed (such as "ERROR IN HDD. CANNOT OPERATE.") and the HDD has malfunctioned, you cannot replace the HDD by yourself. If you disassemble the Recorder, the warranty will become void. Also, recovery of data is impossible. If playback is possible, re-record the recorded content onto a Video or DVD, and contact the approved service centre with the details provided at the front and back of this operation manual.

Hard Disk Operation (Recording / Playback / Time Shift Recording)

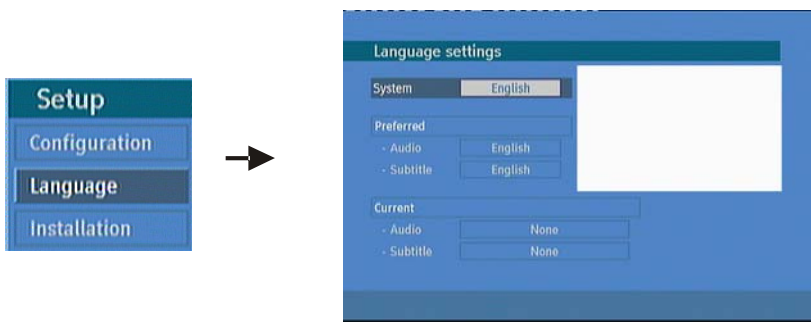
- If the Recorder is used in a cold location (a location at low temperature), the drive will only allow live viewing after power is turned on until the HDD is ready. During this time, the Recorder will not allow Time Shift Viewing, recording, display of recording lists or playback of recorded programmes. Please wait until the HDD is ready.

Format Disk

- "Format Disk" erases all video recorded on the HDD. Ensure you dub important recordings onto Video or DVD before you format the HDD.

5.2. LANGUAGE

In this menu the user can adjust the preferred language. Language is changed by pressing OK key.



System: shows the language of the system

Preferred

These settings will be used if available. Otherwise the current settings will be used.

- **Audio:** by pressing "◀ / ▶" keys change the audio language.
- **Subtitle:** alter the subtitle language with "◀ / ▶" keys. The chosen language will be seen in subtitles.

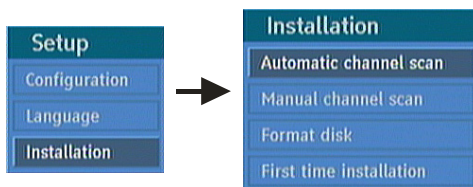
Current

- **Audio:** if audio language is supported change the audio language by pressing "◀ / ▶" keys
- **Subtitle:** if subtitle is backed up alter the subtitle language with "◀ / ▶" keys. The chosen language will be seen in subtitles.

5.3. INSTALLATION

5.3.1. AUTOMATIC CHANNEL SCAN

"Automatic channel scan" is activated by selecting "OK" when the line is highlighted. A pop-up menu appears on the screen, select "YES" the automatic scan begins. All the multiplexes are searched and a channel table is created automatically. All channels found are stored in a sorted form with respect to their channel numbers. Selecting "NO" will cancel the operation.



5.3.2. MANUAL CHANNEL SCAN

In "manual search" the number of the multiplex is entered manually and only that multiplex is searched for the channels. In manual and auto search, any existing channel in the database is not re-stored to avoid redundant duplicates of that channel. To start the scan enter the channel number manually and press "OK".

5.3.3. FORMAT DISK

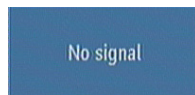
All the data on the Hard Disk will be lost. Press OK when the "Format Disk" line is highlighted. A pop-up menu appears on the screen, select "YES" and press "OK" and the Hard Disk will be formatted. Selecting "NO" and pressing "OK" will cancel the operation.

5.3.4. FIRST TIME INSTALLATION

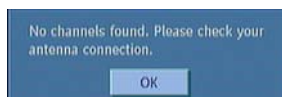
Use this option to load the default settings, which had been set at the factory. To install factory settings, highlight 'First Time Installation' menu and press "OK" key, then you will be asked to confirm deleting all channels and settings. Selecting "YES" and pressing "OK" will delete the channel table. Selecting "NO" and pressing "OK" will cancel the operation.

6. MESSAGES

When the box receives no signal (e.g. the antenna cable is disconnected), "NO SIGNAL" message is seen on the screen.



When there are no channels stored in the box, the "Channel List menu" is not accessible. "Channel navigation" is not allowed. Therefore, trying to enter these menus or navigate the channels will display an error message on the screen.



7. SPECIFIC FUNCTIONS OF REMOTE CONTROL

When there is no menu active on the screen, each of the keys have specific functions.

OK KEY: when OK key is pressed "Channel list" appears on the screen.

RECORD KEY

The programs are recorded at once. 

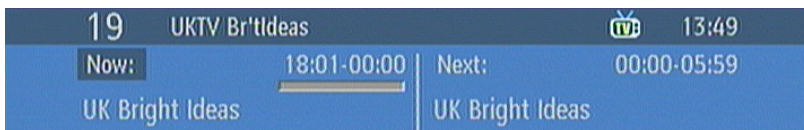
- Record time is attained from EPG automatically.
- In EPG by pressing the record key, programs are recorded instantly.

LIB KEY: by pressing this key, you will get to the "Recordings Library", which shows you the details of your saved recordings. By pressing it again, you will exit the "Recordings Library".

SUBTITLE: subtitle key shows/hides subtitles of channel. When the subtitle key is pressed, subtitle "ON/OFF" message is displayed.

INFO KEY

When "INFO" key pressed, and when changing channels the information window is displayed on the lower part of the screen. The small bar indicates the program duration. On the channel info window there are



- Current event name next event name, and their start and end times.
- Program duration bar
- Program mode (TV or Radio, Text)
- Channel number
- Name of the channel

The second press of the info key brings up a box containing a brief description of the currently viewed programme.

You can now use the "►" key to change the programme description to that of the next programme on the current channel.

PR+ / PR - (CHANNEL NAVIGATION)

There are two ways to navigate through the channels:

- Pressing PR +/ PR - keys will take you to go to the next or the previous channel in the list.
- Pressing a number key will activate a small digit entry window on the left upper corner of the screen. After a digit is entered, the box will stay for 2 seconds while you enter another digit. If no digit is entered during these 2 seconds, then the box will switch to the entered number channel. If a number that is greater than the maximum number of channels is entered, the box will switch automatically to the last channel.
- Press "OK" key to display the channel list.

VOLUME CONTROL

The volume level of the sound from the receiver can be altered with the VOL+ and VOL- keys on the remote control handset. Pressing either key displays a bar graph of the sound volume on the TV screen. The volume level selected will remain set, even when the receiver is turned off and on again, until it is altered with "VOL + and VOL -" keys. The audio volume adjustment for the receiver is independent of the volume control on your TV set. Be careful that both volume controls are kept within reasonable levels so that when switching from analogue to digital television viewing, or when first turning on your TV set, the sound level is not too high.



You can silence the sound from the receiver by pressing the "MUTE" key. The sound remains muted until the "MUTE" key is pressed again, the "VOL + or VOL-" keys are pressed. While the sound is muted in this way, the mute symbol is displayed in the top left of the TV screen. The symbol is removed after 3 seconds, but the sound will remain muted until the "MUTE" key is pressed for the second time and the mute symbol will display for 3 seconds.



PIP (PICTURE-IN-PICTURE)

Enables / disables PIP window.

- **PIP +:** next channel in PIP window.
- **PIP -:** previous channel in PIP window.

NOTE: PIP is only available when "LOOP THROUGH" is connected. (Please see page 6, connection diagrams) You cannot use PIP if you are recording another channel.




SWAP


Main window and PIP window change their places.

TIME SHIFTING (PAUSE LIVE RECORDING)

Pause Live Recording is a feature that enables you to pause a live broadcast if, say the phone rings you can go back to the same spot that you were at when you left. The live broadcasting can be stopped

any time. Press "PAUSE"  key to suspend the broadcasting. In the INFO banner the timeshift will commence. The duration of Timeshift can be adjusted from Recordings in the Configuration menu (See 5.1.10 RECORDINGS). In order to stop the timeshift press "PLAY", "PAUSE" or "OK" key. The paused recording can be watched in different speeds by means of



keys. To terminate the Pause Live Recording press  key.



NOTE:

You can also use the PAUSE key on the front of the unit if you wish.

TEXT

Many digital terrestrial television channels not only broadcast pictures and sound for programmes but also pages of information on the programmes, the weather, news and many other topics. This digital teletext can be displayed by the receiver. Some channels are entirely given over to digital teletext and carry no normal TV programme at all.

These dedicated digital teletext channels will not give a quarter-screen image in the "EPG" or the "Channel List" screen. When such a channel is selected, after a brief pause, they will usually display the opening page of information automatically. Other channels have digital teletext pages broadcast alongside the television programme and often include a reduced-size broadcast picture within digital teletext pages.

These usually require the "TEXT" key to be pressed to activate the digital teletext pages. In both cases, moving through the different pages of information is accomplished in a variety of ways, dependent on the individual broadcasters, but including use of the "▲/▼/◀/▶" and [OK] keys to select items from on-screen menus, and the coloured keys to jump directly to particular pages.

You can exit teletext mode by pressing the TEXT key on the remote or by changing channel. Also if you call for the INFO bar or bring up a menu you will temporarily enter TV mode returning to "TEXT" mode when you cancel the menu or "INFO" bar.

You can exit any digital teletext channel by changing channel in any of the normal ways. You can leave the digital teletext function of a combined digital teletext/programme channel, to return to normal television viewing of that channel, by pressing the "TEXT" key. Calling for the information banner or any menu on-screen stops the receiver from displaying the digital teletext pages and they are temporarily replaced by a blank picture while the banner or menu is displayed. Digital teletext cannot be accessed when the Subtitles are enabled

WIDE

TV sets are available with screens of the standard (4:3) format and widescreen (16:9) format. When you first installed your receiver you specified the format of the connected TV (this can now be altered if necessary; see Configuration). Digital terrestrial television broadcasts are also made in both standard and widescreen formats. In particular, films and dramas tend to be broadcast in widescreen format to closer emulate the cinema experience, but some programmes such as news bulletins are 4:3. To help get the most from both TV set and programme when a widescreen film is watched on a standard TV, or a standard broadcast is viewed on a widescreen set, the receiver includes the "WIDE" key. So long as the receiver has been correctly set up for the TV set connected, a widescreen programme will

always be displayed correctly on a widescreen set, and a standard format programme will correctly fill the screen of a standard format TV.

With a widescreen TV set displaying a standard format programme the "WIDE" key switches between displaying the picture with black bars down the sides, and enlarging the picture so that it fills the whole width of the screen but the top and bottom are cropped off. With a standard format TV displaying a widescreen programme, the "WIDE" key switches between displaying the picture with black bars at the top and bottom of the screen, and filling the whole height of the screen but cropping the sides off according to instructions broadcast with the programme (called 'pan and scan'). The effect of the "WIDE" key on the picture display is cancelled by pressing "WIDE" again, changing channel or turning the receiver to standby.

NOTE:

Sometimes the TV will automatically try and compensate for an incorrect screen format, in this instance set the tv to the correct format whilst viewing the programme.

8. SOFTWARE UPGRADE THROUGH RS232

The RS232 socket is for use by qualified Sharp engineers to install software updates and is not intended for every day use.

9. NOTES

PIN CODE reminder

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10. TROUBLE SHOOTING GUIDE

The following conditions in the table below do not always indicate trouble. Please perform the checks described below before calling for service. If the trouble can not be corrected by the use of this guide, remove the mains plug from the power socket and contact the dealer or supplier from where the product was purchased in order to obtain service or advice. Where this is not possible please visit our web site www.sharp.co.uk/customersupport.aspx

Customers without Internet access may phone 0845 880 0421 during office hours.

In the unlikely event of this equipment requiring repair during the guarantee period, you will need to provide proof of purchase to the repair company. Please keep your purchase invoice or receipt in a safe place.

WARNING

Under no circumstances should you try and repair this product yourself. This will invalidate the warranty. Do not open the unit as there is risk of electric shock.

Problem	Possible Reason	What to do
The Led indicator does not glow	Mains cable is not connected	Check if the main cable is not plugged into the power socket.
No picture or sound	No signal or weak signal.	Check the Aerial and scart connections
The settings you have made in the menus have not been changed.	The digital set-top box was unplugged without first going to standby.	Before unplugging your digital set-top box, make sure it is in standby
The remote control is not working.	The digital set-top box is in Stand by. Remote control is incorrectly aimed. Battery exhausted.	Press the standby key. Check if anything is obstructing the front panel . Change the batteries
PIN code forgotten .		Reinstall the unit with "First Time Installation" (See page 11).
Record does not start	No or weak Aerial 2 input Signal	Check Aerial 2 input connection.
No PIP video	No or weak Aerial 2 input Signal PIP Channel is radio or teletext based.	Check Aerial 2 input connection. Use PIP+ / PIP- to choose a valid TV channel.

11. TECHNICAL SPECIFICATIONS

GENERAL CHARACTERISTICS	
Supply Voltage	220 - 240 V AC ~ 50Hz
Input Frequency	470Mhz-862Mhz
Maximum Power consumption	20 W
Standby Power Consumption	11.7 W (When in standby and recording), otherwise 0.5W.
Operating temperature	5°C to +45°C
Storage temperature	-15°C to +55°C
Humidity	25 to 75 % rel
Physical dimensions	360x280x48 mm
Weight	2820 g
HARDWARE CONFIGURATION	
Main Processor	STM5100
Flash Memory	4 MB
DDRRAM	32 MB
DIGITAL CAPABILITIES	
Transmission Standards	DVB, MPEG2
DEMODULATION	
COFDM	with 2K/8K FFT mode.
FEC	for all DVB Modes.(Automatically found)
VIDEO	
ALL MPEG-2 MP@ML Video Decoder	
Aspect Ratio	4:3, 16:9 with pan vector
RGB analogue outputs.	BW ≥ 5MHz at 0.5 to 5 MHz sweep signal
CVBS analogue output.	
AUDIO	
MPEG1 Layer 1 and 2	
Sampling frequencies supported	32 kHz, 44.1 kHz, or 48 kHz.
Output can be programmed as STEREO, LEFT only or RIGHT only (on both outputs). This is useful for dual mono channels in order to select the correct sound track, which is stored for every channel.	
Wide dynamic range	16-bit resolution

REMOTE CONTROL	
Operating Distance	10m Max.
Batteries	2x1.5V Micro (R-03/AAA)
TUNERS	
2 xRF In	IEC-type, female (75Ohm)
2 x RF Out (loop through)	IEC-type, male (75Ohm)
HARD DISK	
Hard Disk capacity	160 GB
FRONT PANEL	
Display	VFD
Remote Control Keys	Standby ON/OFF,Record,Play, Menu, OK,PR+ / PR-, V+ / V -,Standby Led, Record Led,
AUDIO R / L	
Connector	2 x RCA (R + L)
Output	2 Vrms, 0 dBfs / Z = 10 kohm
DIGITAL AUDIO	
Output	Optical SPDIF
A / V & DATA IN / OUT	
Scart	TV scart, VCR scart
RGB Video Output	TV scart
RGB Video Input	VCR scart
CVBS Video Output	TV scart, VCR scart
CVBS Video Input	VCR scart
Analog Audio Output	TV scart, RCA jack , VCR scart
Analog Audio Input	VCR scart
Digital Audio Output	Optical output
S-Video	
Data Interface	Serial RS 232, RS232 (max 115200 bps),9Pin

12. INFORMATION ABOUT PRODUCT DISPOSAL

ENGLISH



Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products

A. Information on Disposal for Users (private households)

1. In the European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin!

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment.

Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if you purchase a similar new one.

*) Please contact your local authority for further details.

If your used electrical or electronic equipment has batteries or accumulators, please dispose of these separately beforehand according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In Other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

For Switzerland: Used electrical or electronic equipment can be returned free of charge to the dealer, even if you don't purchase a new product. Further collection facilities are listed on the homepage of www.swico.ch or www.sens.ch.

B. Information on Disposal for Business Users

1. In the European Union

If the product is used for business purposes and you want to discard it:

Please contact your SHARP dealer who will inform you about the take-back of the product. You might be charged for the costs arising from take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

2. In Other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

TERMS OF GUARANTEE

Sharp Electronics (UK) Ltd. ("Sharp") guarantees to provide for the repair, or at its option the replacement, of this product subject to the conditions listed below:

1. This guarantee shall only apply to faults which are due to inferior workmanship or materials. It does not cover faults or damage caused by accident, misuse, fair wear and tear, neglect, tampering with the product, or repair other than by a Service Facility appointed by Sharp.
2. As this product is intended for private domestic use only, the guarantee will not apply if the product is used in the course of a business, trade or profession.
3. To benefit from this guarantee, any fault which occurs must be notified to Sharp, or its appointed Service Facility within one year from the date this product was purchased. Proof of purchase must be provided.
4. In the unlikely event of this product requiring repair, please contact the Sharp DTR help line on 0845 880 0421.
5. No person has any authority to vary the terms or conditions of this guarantee.
6. This guarantee is offered as an additional benefit to your statutory rights, and does not affect these rights in any way.

If you have any difficulty operating this product, or would like information on other Sharp products, please telephone the Sharp DTR Help Line on the number given below.

Sharp DTR Help Line - 0845 880 0421

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