

OPERATING INSTRUCTIONS PHILIPS TL960A5T

UK

Power supply: AC 120V, 60 Hz only

If the unit is to be left unattended for a long period and it is not intended to use the unit, it is recommended that the unit be completely switched off by removing the plug.

Illustrated below is molded on the back of your unit.



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK), NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Warning: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate frequency and, if not installed and used in accordance with the operating instructions manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the Interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Safety

- Should any solid object or liquid fall into the cabinet, turn off the unit and have it checked by qualified personnel before operating it any further.
- To disconnect the power cord, pull it out by the plug. Never pull the cord itself.

Installation

- Choose a location in which air can pass through the ventilation holes in the bottom, top and back of the unit to prevent it from overheating.
- Do not install the unit near sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibrations or shock.
- Never bring a magnet or magnetized object near the VCR because it will adversely affect the performance of the VCR.
- Do not install the unit in an inclined position. The unit is designed for operation in a horizontal position.

Operation

- **Condensation**
If you pour a cold liquid into a glass, water vapor in the air will condense on the surface of glass. This is the condensation moisture. Condensation on the head drum, one of the most crucial parts of the VCR, will cause damage to the tape. The VCR should not be operated for at least 2 hours after being removed from a cold to a hot environment to avoid condensation from occurring on the head drum.

Cleaning

- Be careful; when surface of the case is wiped with a volatile agent such as benzine, alcohol, thinner, etc., or a chemically processed cloth, the surface finish may be degraded or its coating may peel off.

Repacking

- It is wise to save the packing materials and box in case you ever need to ship or store your unit.

IMPORTANT SAFEGUARDS

In addition to the careful attention devoted to quality standards in the manufacture of your video product, safety is a major factor in the design of every instrument. But, safety is your responsibility too.

These pages list important information that will help to assure your employment and proper use of a Video Cassette Recorder and accessory equipment. Please read it carefully before operating your video product and keep it in a handy place for future reference.

INSTALLATION

Caution: To prevent electrical shock, match wide blade of plug to wide slot, fully insert.

- 1 Read and Follow Instructions** - All the safety and operating instructions should be read before the video product is operated. Follow all operating and use instructions.
- 2 Retain Instructions** - The safety and operating instructions should be retained for future reference.
- 3 Head Warnings** - Comply with all warnings on the video product and in the operating instructions.
- 4 Grounding or Polarization** - The sets concerned should be operated with the mains cable supplied.
- 5 Power Sources** - This video 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 video dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

6 Overloading - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock. Overloaded AC outlets and extension cords are dangerous, and so are frayed power cords, damaged or cracked wire insulation and broken plugs. They may result in a shock or fire hazard. Periodically examine the cord and have it replaced by your service technician if appearance indicates damage or deteriorated insulation.

7 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 appliance.

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

9 Attachments - Do not use attachments unless recommended by the video product manufacturer as they may cause hazards.

Caution: Maintain electrical safety. Powerlines operated equipment or accessories connected to this unit should bear the UL listing mark or CSA certification mark on the accessory itself and should not have been modified so as to defeat the safety features. This will help avoid any potential hazard from electric shock or fire. If in doubt, contact qualified personnel.

10 Water and Moisture - Do not use this video 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.

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

11A An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

USE

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

13 Object and Liquid Entry - Never push objects of any kind into this video 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 video product.

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

SERVICE

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

16 Conditions Requiring Service - Unplug this video 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 video product.
- c. If the video product has been exposed to rain or water.
- d. If the video product does not operate normally by following the operation instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
- e. If the video product has been dropped or the cabinet has been damaged.
- f. When the video product exhibits a distinct change in performance - this indicates a need for service.

17 Replacement Parts - When replacement parts are required, have the service technician verify that the replacements he uses have the same safety characteristics as the original parts. Use of replacements specified by the video product manufacturer can prevent fire, electric shock or other hazards.

18 Safety Check - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the video product is in safe operating condition.



Congratulations on your purchase. You are now the owner of a Time Lapse Recorder (TLR), one of the most advanced and simple-to-use VHS standard video recorders on the market.

We're sure you can hardly wait to use it. However, it's worth taking a moment to read through the operating manual. That way you'll find out how to use it properly. Whatever button you press, you won't damage your video recorder, so you can quite safely practice operating it. Please also read the chapter on safety.



Safety tips

- Dangerous high voltage inside video recorder. Do not open the set. The appliance does not contain any components that can be repaired by the customer. When the appliance is connected to the mains there are some components that are constantly operational. You can only switch it off completely by unplugging it from the mains.
- Note that this video recorder is designed for a power supply of 110-120V/60Hz.
- Ensure that air can flow freely through the ventilation openings on the appliance. Do not place the appliance on soft surfaces.
- Do not place the appliance near a heat source (e.g.: radiator).
- Ensure that no objects or liquids are allowed to penetrate the appliance. If liquid is spilt on it, unplug it immediately from the mains and call the customer service department.

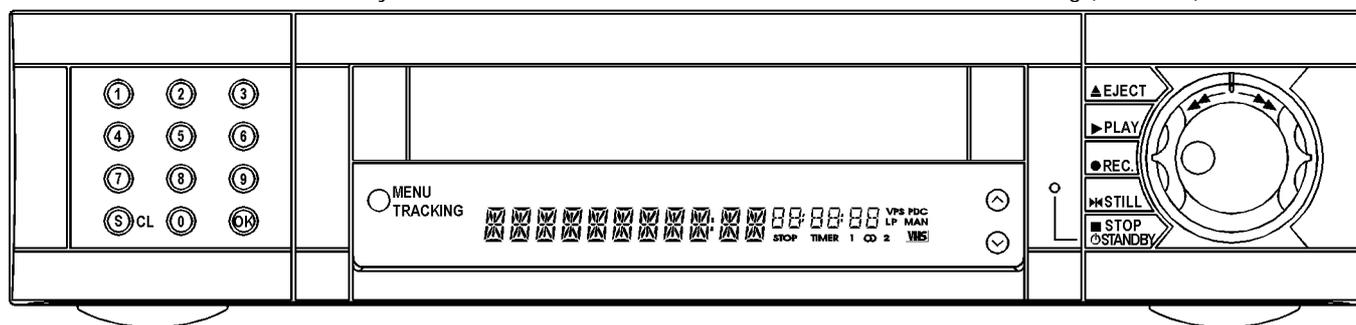
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1. SUMMARY OF BUTTONS, CONTROLS AND SOCKETS

You will find exact details of the various functions in the corresponding chapters.

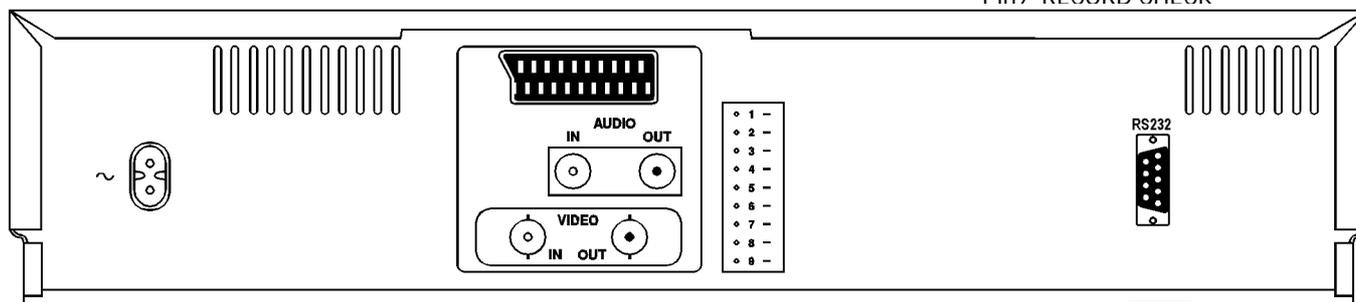
The front of the appliance

- | | |
|--------------------------------------|-----------------------|
| 0-9 Digit buttons | ●REC. Record |
| S/CL Select/Delete | ►◀STILL Still picture |
| OK Confirm | ■STOP Stop |
| MENU/TRACKING Menu/Tracking position | ⏻STANDBY Switch off |
| ▲▼ Up/Plus, Down/Minus | ◀◀ Rewind |
| ▲EJECT Cassette eject | ▶▶ Fast forward |
| ►PLAY Playback | Ⓞ Jog (inner dial) |



The rear of the appliance

- | | |
|---------------------------------------|--------------------------|
| Mains socket | Control socket: |
| EXT 1 Scart socket (AV Euroconnector) | Pin1 ALARM IN |
| AUDIO IN CINCH audio input socket | Pin2 SERIAL IN |
| AUDIO OUT CINCH audio output socket | Pin3 ALARM RESET/REC OUT |
| VIDEO IN BNC video input socket | Pin4 GND (earth) |
| VIDEO OUT BNC video output socket | Pin5 ALARM OUT |
| | Pin6 SERIAL OUT |
| | Pin7 CAM. SW. OUT |
| | Pin8 TAPE END OUT |
| | Pin9 RECORD CHECK |



2. INSTALLATION. HOW TO INSTALL YOUR VIDEO RECORDER.

Connecting the television/monitor

Connect your monitor/television set to the corresponding VIDEO OUT socket on the video recorder with a BNC cable. Connect your monitor/television set to the corresponding AUDIO OUT socket on the video recorder with a cinch cable.

Instead of using the BNC-cable you can also use the scart cable as a connection between scart socket and television/monitor.

Select programme number 'EXT', '0' or 'AV' on your monitor/television set to play recordings. Consult the operating manual for your monitor/television set for further information.

Connecting to an input source

Connect your video source (e.g.: camera) to the corresponding VIDEO IN socket on the video recorder with a BNC cable. Connect your audio source (e.g.: camera with a microphone) to the corresponding AUDIO IN socket on the video recorder with a CINCH cable.

Connecting to the mains

- 1 Connect the appliance end of the power cable into mains socket  at the rear of the video recorder.
- 2 Plug the other plug into the wall socket.

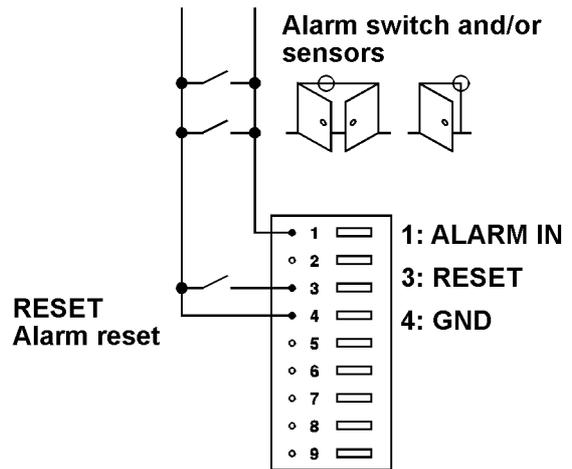


Note:

- * The video recorder switches on automatically when you insert a cassette or press button .
- * When 'SET CLOCK' appears in the display or if the clock time flashes in the display, e.g.: '20:00', you must set the clock.
- * When 'PL' (POWER LOSS) appears on the screen, press button .

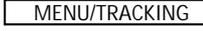
Connections on the control socket

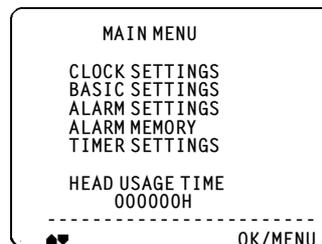
Do not connect any external voltage sources to the 9 contacts on the control terminal as this could damage the inputs and outputs. To connect the wire, remove 5 - 10 mm of the insulation and insert the bare wire into the relevant opening right up to the insulation.



See "Technical Data" for more information on the signal level at the control terminal.

On-Screen Display (OSD)

- 1 Press button  with the recorder in STOP mode to call up the On-Screen Display (OSD).
- 2 Press buttons  to go to the required line in the main menu.



- 3 If there is more than one choice, select the one you require by pressing button .
- 4 To confirm, press button .
- 5 To exit from the OSD, press button .

The bottom line of the screen displays information on operation.

Setting the time/date on the video recorder

In all the steps below, press buttons $\square \wedge \vee$ or digit buttons $\square 0-9$.

- 1 Press button $\square \text{MENU/TRACKING}$. Select CLOCK SETTINGS in the main menu. Now press button $\square \text{OK}$.
The word 'MENU' will appear in the display on the video recorder during the next steps.
- 2 Set the current time (TIME).
When you enter minutes, seconds will automatically be set to '0'.
- 3 Now press button $\square \text{OK}$ again.
Set the current date (DATE).
- 4 Now press button $\square \text{OK}$ again.
Now set the current month (MONTH).
- 5 Now press button $\square \text{OK}$ again.
Now set the current year (YEAR).
- 6 Press button $\square \text{OK}$ again, followed by $\square \text{MENU/TRACKING}$. You have now finished setting the time and date.
- 7 Press button $\square \text{MENU/TRACKING}$ to exit from the main menu.

```
TIME : 13:45
DATE : 28
MONTH: 02
YEAR : 98
-----
▲♥/0-9          OK/MENU
```

Basic settings

Define the basic settings on your appliance: input via SCART or BNC socket, position of OSD, camera synchronisation and locking function.

- 1 In the main menu, select the 'BASIC SETTINGS' line.
- 2 Select the 'SCART' or 'BNC' socket as the recording source (REC SOURCE).
If no recording source has been connected or if the recording source has been incorrectly selected in the basic settings, 'NO VIDEO' appears in the display.
- 3 Select the position of the OSD (OSD POS): bottom left (L-BOTTOM), bottom right (R-BOTTOM), top left (L-UPPER), top right (R-UPPER), OFF.
- 4 Select 'artificial synchronisation' (V SYNC) INT or EXT.
- 5 Select the lock function (SEC CODE) with (ON) or (OFF).
See the chapter 'Special Features' for more information.

```
BASIC SETTINGS
REC SOURCE   BNC
RS 232      ON
OSD         R-BOTTOM
V SYNC      INT
BEEP        N
PLAY MODE   24HA
SEC CODE    OFF
-----
▲♥/S          OK/MENU
```

Note:

* Always leave the video recorder connected to the mains so as not to lose the basic settings.

3. PLAYING A PRE-RECORDED CASSETTE

- 1 Switch the monitor/television set on.
- 2 Insert the cassette into the appliance with the window facing upwards.
Inserting the cassette automatically switches on the appliance.
- 3 Press button  .
The word 'PLAY' will appear in the display, along with the current total recording time for time-lapse recordings, e.g.: 24h.
In the 24h mode, in the menu BASIC SETTINGS, you can select between '24HA' (audio on) and '24H' (audio off).
- 4 To interrupt playback, press button  .
The word 'STOP' will appear in the display.
- 5 To remove the cassette, press button  .

Note:

- * The video recorder automatically cleans the video heads before playing back every tape. This keeps the playback quality as good as possible.
- * The sound on 12h + 24h recordings may be poorer than on 2h recordings. There is no sound on other long time recordings.

Fast forward and rewind

- 1 To stop the tape, press the  button. Turn outside rotary control   to the left or right. The tape will be fast forwarded or rewound at high speed.
- 2 Press button  as soon as you have found the required tape position.

The time-lapse/picture search function

- 1 Press button  .
- 2 With the inner dial  you can play back the tape in different time-lapse speeds, e.g.: 12, 24, ... hours.
- 3 Turn outer rotary control   to select different picture search speeds.

Note:

- * The picture quality is poorer when using the picture search function. The sound is switched off.

Still picture/slow motion

- 1 Press button  .
- 2 Press button  . The picture will stop.
Every time you press  again, the picture will move on one frame.
Keep button  pressed. The recording will be played back in super slow motion.
- 3 Turn outer rotary control   . You can change the speed of the playback in several stages.
The sound is switched off during slow motion playback.
- 4 Turn inner dial  . You can play back individual pictures forwards and backwards.
- 5 Press button  to play back at the normal speed again.

Note:

- * If the still picture vibrates vertically, press button  and then button  until the vibration is minimal. Confirm by pressing button  .

Tape position. Establishing your current position on the tape.

The tape length is indicated on the cassette in minutes, e.g.: 'E120' is 120 minutes of playing time (= 2:00 hours). You will find the tape length printed on the left hand side of the front narrow edge.
However, the actual playing time might be a little longer than specified (e.g.: 2:05 hours).
You can read the exact number of minutes played in the display during fast forward, rewinding, recording, playing back and pause/stop, e.g.: 'U1:25'.

Some more useful tips:

* The video recorder has to calculate the tape position when a new cassette is inserted. The video recorder will therefore display ' - : - ' first, and after a few seconds the used playing time will be displayed.

* Only use T120 cassettes.

Other cassettes will indicate a wrong tape position.

Rectifying picture disturbances.

Every time you insert a cassette in the video recorder, it automatically sets the right tracking position.

You can adjust the automatic tracking position for recordings recorded on another machine. If you need to do so, proceed as follows:

- 1 Press button  twice.
- 2 Press button .
- 3 Press button  until the playback quality is optimised.
- 4 Press button . This setting will be retained until the cassette is removed.

Note:

* Cleaning function: Select the 3h-playback mode. During playback, hold the  button for several seconds. The video head cleaning function starts.

* Some cassettes have poor picture and sound quality.

This is not a malfunction on your video recorder.

* If the picture jumps vertically, switch the 'V SYNC' function in BASIC SETTINGS to (INT).

* If playback is poor (12h + 24h), press button .

4. RECORDING DIRECTLY

UK

To make a recording, proceed as follows:

- 1 Insert a cassette. The video recorder will switch on automatically. You can also switch it on by pressing button **STOP**.
- 2 To start the recording, press button **REC.**. The word 'REC' and the current total recording time, e.g.: 2h, will appear in the display on the video recorder. The video recorder will start recording.
- 3 Stop recording by pressing button **STOP**.
- 4 Select the total recording time with button **⊙**.

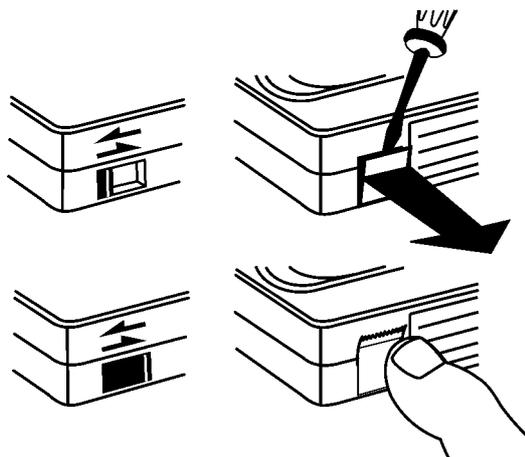
Some general tips:

- * If you have forgotten to insert a cassette, the display will read 'NO CASSETTE'.
- * If you accidentally try to start recording on a cassette that is erase protected, the word 'PROTECTED' will appear in the display. The cassette will be automatically ejected.
- * If the end of the cassette is reached during recording, the appliance will stop automatically. If you have activated repeat recording (REPEAT REC), the tape will wind back to the beginning. The video will then start recording at the beginning of the tape.
- * Existing recordings on the tape will be automatically deleted if you make a new recording on the tape.

Erase protection

To prevent an important recording from being deleted accidentally, you can remove the erase protection tab on the narrow side of the cassette with a screwdriver.

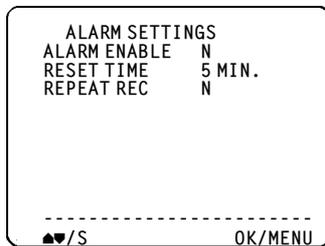
To undo the erase protection, seal the gap again with adhesive tape.



Alarm settings

Defining the alarm settings on your appliance: automatic alarm recording, alarm reset time and repeat recording.

- 1 In the main menu, select the 'ALARM SETTINGS' line.
- 2 Select the alarm recording function (ALARM ENABLE) (A2H, A12H, A24H, N).
- 3 Select the reset time (RESET TIME) after an alarm recording.
- 4 Select the repeat record function (REPEAT REC) with (Y) or (N) or 'NOT IF ALARM'.



Alarm chart

To view a chart displaying the most recent alarm recordings with their number, date and time, proceed as follows:

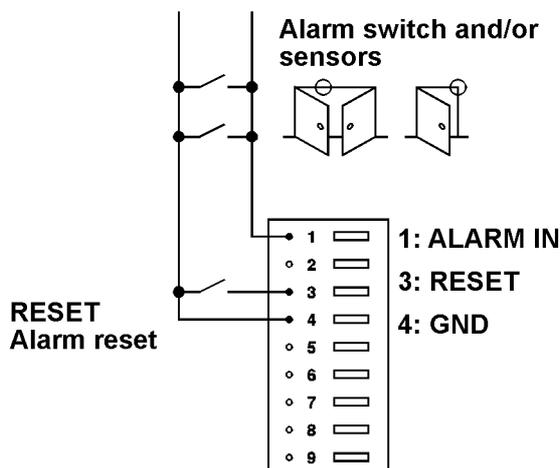
- 1 In the main menu, select the 'ALARM MEMORY' line.
- 2 Select an alarm line. Start playback by pressing **▶PLAY**.
- 3 If you want to delete **all** entries, press the **S/CL** button for a few seconds. If you remove the cassette all entries will be deleted as well.

ALARMDATE	TIME
1	01.12.98 13:25
2	01.12.98 18:10
3	01.13.98 19:30
4	01.14.98 20:25
5	01.15.98 22:12
6	01.16.98 00:15
7	01.16.98 12:01
8	01.16.98 17:50

▲▼/▶ CL MENU

Note:

- * Alarms will only be recorded if there are alarm sensors connected to your video recorder.
- * Alarm recordings can only be interrupted by an external alarm reset (RESET).



5. PROGRAMMING RECORDINGS

TIMER settings

You can programme up to 7 TIMERS within any 31-day (1 month) period. You can select between a one-off, daily or weekly recording.

The settings you made in the BASIC and ALARM SETTINGS menu will apply.

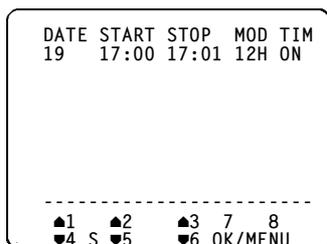
You will then see a chart of all programmed TIMERS with their dates, start times and stop times, recording speed, TIMER on or off.

- 1 In the main menu select the 'TIMER SETTINGS' line.



- 2 To activate a new TIMER line, press button .

- 3 To select the DATE, the START time and the STOP time, press digit buttons .



- 4 Select the recording speed ('MOD').
- 5 Switch the TIMER on or off ('TIM').
- 6 When you have finished your entry in the TIMER line, confirm with .
- 7 To delete a TIMER line, press button .
- 8 Press button twice. The video recorder is now in standby and cannot be operated.

Notes:

* If a timer is programmed, 'DATE', 'START', 'STOP', 'TIMER' will appear in the display on the video recorder.

Interrupting a TIMER recording and standby mode

You cannot operate the video recorder manually while a programmed recording is being made.

To interrupt the programmed recording, press button and hold for a few seconds.

Checking or changing a TIMER block

- 1 Press and hold button for several seconds.
- 2 Press button . Select the TIMER SETTINGS menu.
- 3 The TIMER blocks will appear in time order on the screen.
- 4 Now press one of the digit buttons to change the recording date, start time, stop time, TIMER-activation and recording speed.
- 5 Finally press button . If you have changed the settings, the new settings will now be stored in the video recorder.
- 6 Press button twice. The video recorder is now in standby.

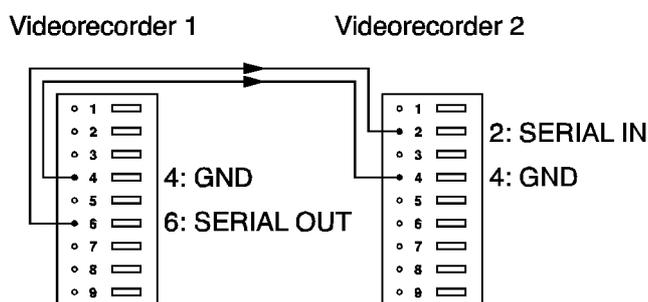
6. SPECIAL FEATURES

Besides the functions described above, your video recorder has a number of other special features for additional ease of use.

Find out more about them below.

Connecting two recorders in series

You can connect two recorders in series. This enables you to perform uninterrupted surveillance. The first recorder starts the second at the appropriate time. The first recorder will be in RECORD mode. The second will be in STOP or STANDBY.



Note:

* On the first recorder the 'REPEAT RECORD' function must be switched off.

Record Check

If you press the ● REC. button while recording, the last few seconds of the recording will be shown.

The lock function

You can lock the video recorder to prevent unauthorised use.

- 1 In the main menu select the 'BASIC SETTINGS' line.
- 2 Select the 'SEC CODE' line and switch the function 'ON' by pressing button S/CL .
- 3 To confirm, press button OK . The words 'LOCKED XXXX' will appear in the display on the video recorder.
- 4 To enter your personal 4-digit security number, use digit buttons 0-9 .
- 5 To confirm, press button OK .
- 6 To unlock the video recorder, press any button and enter your security number with digit buttons 0-9 . The machine is now ready for use again.

Note:

* If you have forgotten your number, contact your dealer or customer service point.

7. TROUBLESHOOTING



Problem

Possible cause

The video recorder does not react when you press any buttons.

- * No power.
- * A programmed recording is currently being made.
- * Technical fault - Disconnect from the mains for 30 seconds and then reconnect. If that does not help, you can: 1. Disconnect from the mains. 2. Press and hold button  on the machine and reconnect to the mains. All the data memories will be reset (deleted).

No playback from video recorder

- * No recording on the cassette.
- * The wrong VCR channel number on the television set has been selected, or the channel has been set wrong.
- * The connecting cable between the monitor/television set and the video recorder has been disconnected.

Bad playback quality on video recorder

- * Use TRACKING function if the recording was made on another machine.
- * Poor quality or worn cassette.

The programmed recording function does not work

- * Time wrongly programmed.
- * Time/date not properly set.
- * A cassette with erase protection has been inserted.

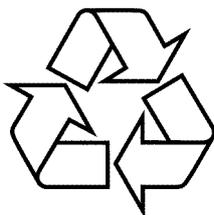
8. SAFETY TIPS

Precautionary safety measures/Tips

- Do not take the appliance straight from a cold room into a hot room or vice versa immediately after transportation. Do not use in an extremely humid environment. To give the appliance time to acclimatise, do not install the appliance for at least 3 hours after unpacking.
- Do not use the appliance in dusty rooms, near strong magnetic fields or in places where it will be exposed to vibration.
- We recommend disconnecting the appliance from the mains during thunderstorms to prevent lightning damage.
- There must be a vertical gap of at least 20 cm between the video recorder and the television set/monitor.
- Inserting fingers or foreign bodies into the cassette compartment can damage the mechanics of the appliance.
- This video recorder operates with standard VHS cassettes.
- To ensure that the picture quality on your video recorder is as good as possible, only use branded VHS cassettes.



- This operating manual is printed on recycled paper. This helps to preserve our environment.
- Use your local facilities for environmentally friendly disposal of packaging.
- This electronic appliance contains many materials that can be recycled. Find out whether your old one can be recycled in any way.



Recommended servicing

- This machine is designed for longevity. The operating hours are displayed in the main menu (HOUR METER). In order to ensure that your video recorder runs smoothly, we recommend servicing it every 1000 hours as follows:

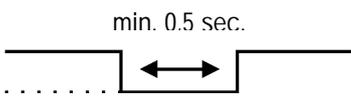
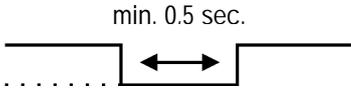
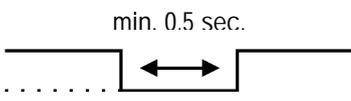
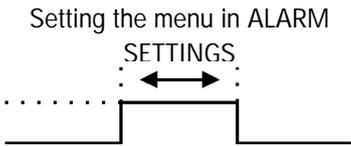
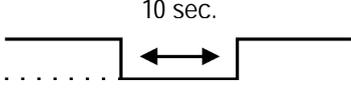
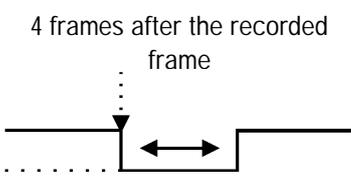
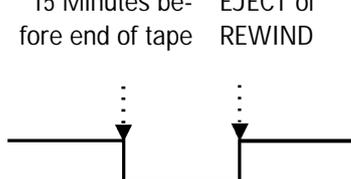
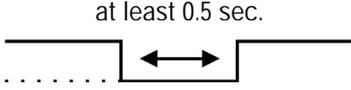
Operating hours	1000	2000	3000	4000 etc.
Inspectionpoint				
Transport system	①	①	①	①
A/C head	①	①	①	①
Upper drum	①	②	①	②
Lower drum	①	②	①	②
Capstan Axle	①	①	①	①
Capstan Motor	-	-	-	-
Pressure roller	①	②	①	②
Cleaning the heads	-	②	-	②

- ① ... Cleaning
- ② ... Servicing, replacing components

- The capstan motor and A/C head should also be replaced every 10,000 hours.
- This table is only a rough guide to servicing. You should adapt the actual servicing intervals according to the conditions in which the video recorder is used.

Technical data

Signallevel on control socket

Connection	Signallevel	Note
Pin 1 ALARM IN Alarm input	HIGH: 5V LOW: GND 	Input active with LOW signal level
Pin 2 SERIAL IN Starting the recording on a second video recording	HIGH: 5V - 12V LOW: GND 	Input active with LOW signal level
Pin 3 RESET/REC OUT Alarmreset	HIGH: 5V LOW: GND 	Input active with LOW signal level Output active with HIGH signal level
Pin 4 GND		Mass
Pin 5 ALARM OUT Alarm output	HIGH: 12V I _{out} = max. 50mA Short circuit protected 	Output active with HIGH signal level
Pin 6 SERIAL OUT Output for starting a second video recorder	HIGH: 12V I _{out} = max. 50mA Short circuit protected 	Output active with LOW signal level
Pin 7 CAMERA SW OUT Camera switching pulse	HIGH: 5V LOW: max. 0,8V Internal pullup 5kOhm 	Output active with LOW signal level
Pin 8 TAPE END OUT Tape end warning	HIGH: min. 11V I _{out} = max. 50mA Short circuit protected 	Output active with LOW signal level
Pin 9 RECORD CHECK	HIGH: 5V - 12V LOW: GND 	Input active with LOW signal level

- Mains power 110 to 120V
- Mains frequency 60Hz
- Power consumption typically 15W (typically 9,5 W in standby)
- Wind/Rewind time typically 95s for an E120
- Ambient temperature during operation +10°C to +35 °C
- Relative humidity 30% to 80%
- Recording: 2, 12, 24, 48, 72, 168, 336, 720, 960 hours
- Operating position max. 15° inclination in all directions
- Size 380 x 338 x 86 mm (incl. feet)
- Weight approx. 4,6 kg
- Video resolution VHS 240 lines
- Audio (SP) 500Hz - 10KHz (8dB) in 2h mode
- Power failure protection: 24 hours.
- VIDEO IN/OUT socket: 1 V p-p, 3dB, 75 Ohm
- AUDIO IN socket: -10dB, 50 kOhm
- AUDIO OUT socket -6dB, less than 1kOhm

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Philips Consumer Electronics Company
Knoxville Tennessee 37914

Rec speed	delay	fields/sec.	rec. interv.
2	every field	60,00	0,0167
12	7	8,57	0,12
24	13	4,62	0,22
48	25	2,40	0,42
72	37	1,62	0,62
168	85	0,71	1,42
336	169	0,36	2,82
720	361	0,17	6,02
960	481	0,12	8,02

Accessories supplied

- Operating instructions
- Power cable
- BNC cable (2)
- Double CINCH cable
- CINCH-BNC adapter (2)

To be able to identify your appliance if it is stolen, please enter the serial number (PROD.NO.) in the illustration. You will find the serial number on the type plate on the reverse of the appliance. It will also be quicker for us to answer any customer service queries if you can give the information on the type plate when you contact us. You should therefore keep this page in a safe place.

TYPE	TL960A5T
VN xx	PROD.NR.