

Service
Service
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DVDR3330H/02/05/19/51 & DVDR5330H/02/05/19



Service Instruction



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The 2005 range DVD Recorder products are repaired centrally.
Defective sets must be identified, labelled and stored for pick-up.
This document gives full instructions for a functional check.
Technical information to repair faulty sets is therefore not provided in this document.

To test in-coming sets the following must be performed:

1. Verify / Reproduce the customer's problem
2. Verify that set has latest Firmware (see chapter 2) and upgrade if it is not the latest version.
3. Full functional check

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1. Technical Specifications and Connection Facilities

1.1 General:

| | |
|----------------------------|---------------|
| Mains voltage | : 220V – 240V |
| Mains frequency | : 50 Hz |
| Power consumption (record) | : 40 W |
| Standby Power Consumption | : < 6 W |

1.2 RF Tuner

Test equipment: Fluke 54200 TV Signal generator
 Test streams: PAL BG Philips Standard test pattern

1.2.1 System

PAL B/G, PAL D/K, SECAM L/L', PAL I

1.2.2 RF - Loop Through:

| | |
|--------------------------|--------------------|
| Frequency range | : 45 MHz – 860 MHz |
| Gain: (ANT IN - ANT OUT) | : -5dB to 0dB |

1.2.3 Receiver:

PLL tuning with AFC for optimum reception

| | |
|--|-----------------------|
| Frequency range | : 45.25 MHz – 857 MHz |
| Sensitivity at 40dB S/N (video unweighted) | : ≤ 60dBμV at 75 Ω |

1.2.4 Video Performance:

Channel 25 / 503,25 MHz,
 Test pattern: PAL BG PHILIPS standard test pattern,
 RF Level 74dBV, Measured on SCART 1

| | |
|---------------------------------|-------------------------|
| Frequency response | : 0.1 MHz – 4 MHz ± 3dB |
| Group delay (0.1 MHz - 4.4 MHz) | : 0 nsec ± 150 nsec |

1.2.5 Audio Performance:

Audio Performance Analogue - HiFi:

Frequency response at SCART 1 (L+R) output

| | |
|---|-----------------------------|
| | : 100 Hz – 12 kHz / 0 ± 3dB |
| S/N Ratio (20Hz – 20kHz) unweighted | : ≥ 50dB |
| Harmonic distortion (1 kHz, ± 25 kHz deviation) | : ≤ 0.5% |

Audio Performance NICAM:

Frequency response at SCART 1 (L+R) output

| | |
|--|----------------------------|
| | : 40 Hz – 15 kHz / 0 ± 3dB |
| S/N Ratio (20Hz – 20kHz) unweighted | : ≥ 60dB |
| Harmonic distortion (1kHz, ± 25 kHz deviation) | : ≤ 0.5% |

1.2.6 Tuning

Automatic Search Tuning

| | |
|---|-----------------|
| Scanning time without RF signal | : 3min. typical |
| Stop level (vision carrier) | : ≥ 37dB/μV |
| Maximum tuning error of a recalled program | : ± 100 kHz |
| Maximum tuning error (drift) during operation | : ± 100 kHz |

Tuning Principle:

Automatic B, G, I, DK and L/L' detection
 Manual selection in "STORE" mode

1.3 Analog Inputs / Outputs

1.3.1 SCART 1 (Connected to TV)

Pin Signals:

| | | |
|----|-----------------------------|---|
| 1 | Audio-out R | 1.8V RMS |
| 2 | Audio-in R | |
| 3 | Audio-out L | 1.8V RMS |
| 4 | Audio GND | |
| 5 | Blue / Chroma GND | |
| 6 | Audio-in L | |
| 7 | Blue-out / Chroma-in | 0.7Vpp ± 0.1V into 75Ω |
| 8 | Function switch | < 2V = TV > 4.5V / < 7V = asp. Ratio 16:9 DVD > 9.5V / < 12V = asp. Ratio 4:3 DVD |
| 9 | Green GND | |
| 10 | P50 control | not use |
| 11 | Green out | 0.7Vpp ± 0.1V into 75Ω |
| 12 | NC | |
| 13 | Red / Chroma GND | |
| 14 | Fast switch GND | |
| 15 | Red-out / Chroma-out | 0.7Vpp ± 0.1V into 75Ω 300mVpp ± 3dB |
| 16 | Fast switch RGB / CVBS or Y | < 0.4V into 75Ω = CVBS > 1V / < 3V into 75Ω = RGB |
| 17 | Y/CVBS-out GND | |
| 18 | CVBS-in GND | |
| 19 | CVBS-out / Y-out | 1Vpp ± 0.1V into 75Ω |
| 20 | CVBS-in | |
| 21 | Shield | |

1.3.2 SCART 2 (Connected to AUX)

Pin Signals:

| | | |
|----|-----------------------------|----------------------|
| 1 | Audio-out R | 1.8V RMS |
| 2 | Audio-in R | |
| 3 | Audio-out L | 1.8V RMS |
| 4 | Audio GND | |
| 5 | Blue / Chroma GND | |
| 6 | Audio-in L | |
| 7 | Blue-in / Chroma-out | 300mVpp ± 3dB |
| 8 | Function switch | |
| 9 | Green GND | |
| 10 | P50 control | |
| 11 | Green-in | |
| 12 | NC | |
| 13 | Red / Chroma GND | |
| 14 | Fast switch GND | |
| 15 | Red-in / Chroma-in | |
| 16 | Fast switch RGB / CVBS or Y | |
| 17 | CVBS-out GND | |
| 18 | Y / CVBS-in GND | |
| 19 | CVBS-out | 1Vpp ± 0.1V into 75Ω |
| 20 | CVBS-in / Y-in | |
| 21 | Shield | |

1.3.3 Audio/Video Front Input Connectors

Audio - Cinch

Input voltage : 2Vrms
 Input impedance : > 10kΩ

Video - Cinch

Input voltage : 1Vpp ± 3dB
 Input impedance : 75Ω

Video - YC (Hosiden)

According to IEC 933-5
 Superimposed DC-level on pin 4 (load > 100kΩ)
 < 2.4V is detected as 4:3 aspect ratio
 > 3.5V is detected as 16:9 aspect ratio
 Input voltage Y : 1Vpp ± 3dB
 Input impedance Y : 75Ω
 Input voltage C : 300mVpp ± 3dB
 Input impedance C : 75Ω

1.3.4 Audio/Video Output rear Connectors

Audio - Cinch

Output voltage : 2Vrms max.
 Output impedance : > 10kΩ

Video - Cinch

Output voltage : 1Vpp ± 3dB
 Output impedance : 75Ω

Video - YC (Hosiden)

According to IEC 933-5
 Superimposed DC-level on pin 4 (load > 100kΩ)
 < 2.4V is detected as 4:3 aspect ratio
 > 3.5V is detected as 16:9 aspect ratio
 Output voltage Y : 1Vpp ± 3dB
 Input impedance : 75Ω
 Output voltage C : 300mVpp ± 3dB
 Input impedance : 75Ω

1.4 Digital Inputs / Outputs

1.4.1 Digital Output

Digital Audio – Coaxial / Optical

LCM : according IEC 60958
 MPEG 1, MPEG 2, AC3 : according IEC 61937
 DTS : according IEC 61937 + addendum

1.4.2 Digital Video Input (IEEE 1394)

Implementation Standard according:

IEEE Std 1394-1995
 IEC61883 - Part1
 IEC61883 - Part 2 SD-DVCR (02-01-1997)

Specification of consumer use digital VCR's using 6.3mm magnetic tape – dec.1994
 Mechanical connection according to Annex of IEC 61883-1

1.5 Video Performance

All outputs loaded with 75Ω
 SNR measurements over full bandwidth without weighting.

1.5.1 SCART (RGB)

SNR : ≥ 55dB on all output
 Bandwidth : 4.8MHz -3dB

1.6 Audio Performance

1.6.1 Cinch Output Rear

Output voltage 2 channel mode : 1.8Vrms ± 2dB
 Channel unbalance (1kHz) : < 1dB
 Crosstalk 1kHz : > 85dB
 Crosstalk 20Hz-20kHz : > 70dB
 Frequency response 20Hz-20kHz : ± 0.5dB
 Signal to noise ratio (unweighted) : > 80dB
 Dynamic range 1kHz : > 75dB
 Distortion and noise 1kHz : > 70dB
 Distortion and noise 20Hz-20kHz : > 55dB
 Intermodulation distortion : > 70dB
 Mute : > 85dB
 Outband attenuation (above 30kHz): > 40dB

1.6.2 Scart Audio

Output voltage 2 channel mode : 1.4Vrms ± 2dB
 Channel unbalance (1kHz) : < 1dB
 Crosstalk 1kHz : > 85dB
 Crosstalk 20Hz-20kHz : > 70dB
 Frequency response 20Hz-20kHz : ± 0.5dB
 Signal to noise ratio (unweighted) : > 80dB
 Dynamic range 1kHz : > 75dB
 Distortion and noise 1kHz : > 70dB
 Distortion and noise 20Hz-20kHz : > 55dB
 Intermodulation distortion : > 70dB
 Mute : > 85dB
 Outband attenuation (above 30kHz): > 40dB

1.7 Dimensions and Weight

Height of feet : 5.5mm
 Apparatus tray closed : WxDxH:435x340x65mm
 Apparatus tray open : WxDxH:435x477x65mm
 Weight without packaging : 4.3kg
 Weight with packaging : 6.0kg

1.8 Laser Output Power & Wavelength

1.8.1 DVD

Output power during reading : 0.8mW
 Output power during writing : 20mW
 Wavelength : 650nm

1.8.2 CD

Output power : 0.3mW
 Wavelength : 780nm

1.9 Read / Write Speed

| Type of Disc (Function) | Disc Rotation Speed |
|-------------------------|---------------------|
| Read Speed CD | 7X CAV |
| Read Speed DVD | 4X CAV |
| Write Speed DVD+R/+RW | 2.4X ZCAV |
| Write Speed DVD-R/-RW | 2X |

1.10 Commercial Difference

| | DVDR3300H | DVDR3330H | DVDR5330H |
|--------------|-----------|-----------|-----------|
| HDD capacity | 80GB | 160GB | 250GB |

1.11 Playability

| | | DVDR3300H | DVDR3330H | DVDR5330H |
|-------------------------------|---|-----------|-----------|-----------|
| Video Playback | | | | |
| 1. | Disc Media: CD-R/-RW, MP3- CD, VCD/SVCD, DVD-Video, DVD+R/+RW, DVD-R/-RW | x | x | x |
| 2. | Compression Format: MPEG1, MPEG2 | x | x | x |
| Audio Playback | | | | |
| 1. | Disc Media: CD, CD-R/-RW, MP3-CD | x | x | x |
| 2. | Compression Format: Dolby Digital, MP3, MPEG2 Multi- channel, PCM | x | x | x |
| 3. | MP3 bit rates: 80- 320 kbps | x | x | x |
| Still Picture Playback | | | | |
| 1. | Disc Media: Picture CD | x | x | x |
| 2. | Picture Compression Format: JPEG | x | x | x |

2. Test Disc & Repair Hints

2.1 Test Disc

- | | | |
|----|----------------|--------------------------|
| 1) | 7104 099 96611 | CD-RW printed Audio Disc |
| 2) | 9965 000 25728 | DVD Player Test Pack |
| 3) | - | Blank DVD+RW |
| 4) | - | Blank DVD-RW |

2.2 Open the DVD Tray manually

Note: This procedure needs to be performed on condition that:

- a customer's Disc is jammed in the DVD Tray
 - the DVD Tray cannot be open via the normal open/close button on the set.
- 1) Place the set on the table with the bottom faced upwards as shown below.
 - 2) Insert a screw driver into the slot and open the DVD Tray by sliding the screw driver in the direction shown.

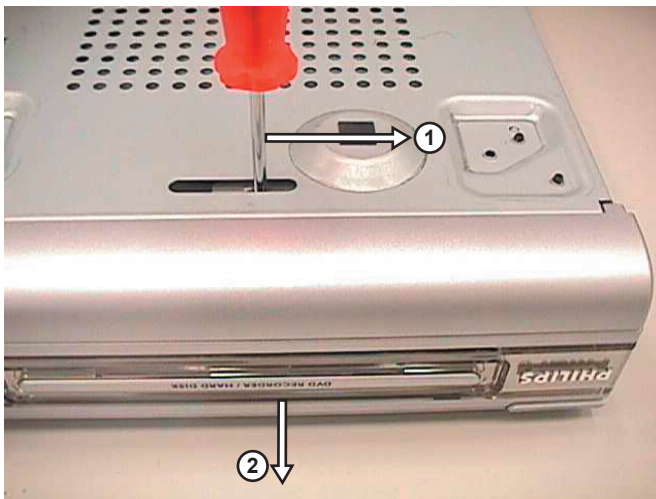


Figure 2-1

3. Firmware Upgrading

All new firmware will be published via symptom/cure information at AYS website:
www.atyourservice.ce.philips.com

A. Preparation to upgrade firmware:

1. Unzip the zip-archive file
2. Start the CD Burning software and create a new CD project (data disc) with the following settings:

| | |
|----------------|--|
| File system | : Joliet |
| Format | : MODE 2: CDROM XA |
| Recording mode | : SINGLE SESSION (TRACK-AT-ONCE), FINALIZED CD |

Note: Long file name is necessary for the preparation of the upgrade disc

3. Place the content of the zip-archive into the root directory of the new CD project.
4. Burn the data onto a blank CDR or CD-RW

B. Procedure to apply the firmware upgrade:

1. Hold the Record + Next buttons down and Power up the set to go into "Forced Download". The tray door opens automatically and the display shows:

DOWNLOAD ->.....PUT DISC

2. Insert the prepared Upgrade CDROM and close the tray.
3. The set will display:

READING -> DOWNLOAD ->.....

The whole process takes less than 10 minutes

Note: Do not press any buttons or interrupt the mains supply during the upgrading process, otherwise the set may become defective.

4. When the upgrade is completed the tray opens automatically and the set will display:

REMOVE

5. Remove the Upgrade CDROM and close the tray. The display shows:

DONE

6. The set switches automatically into Standby mode. Power off the set to complete the download process.

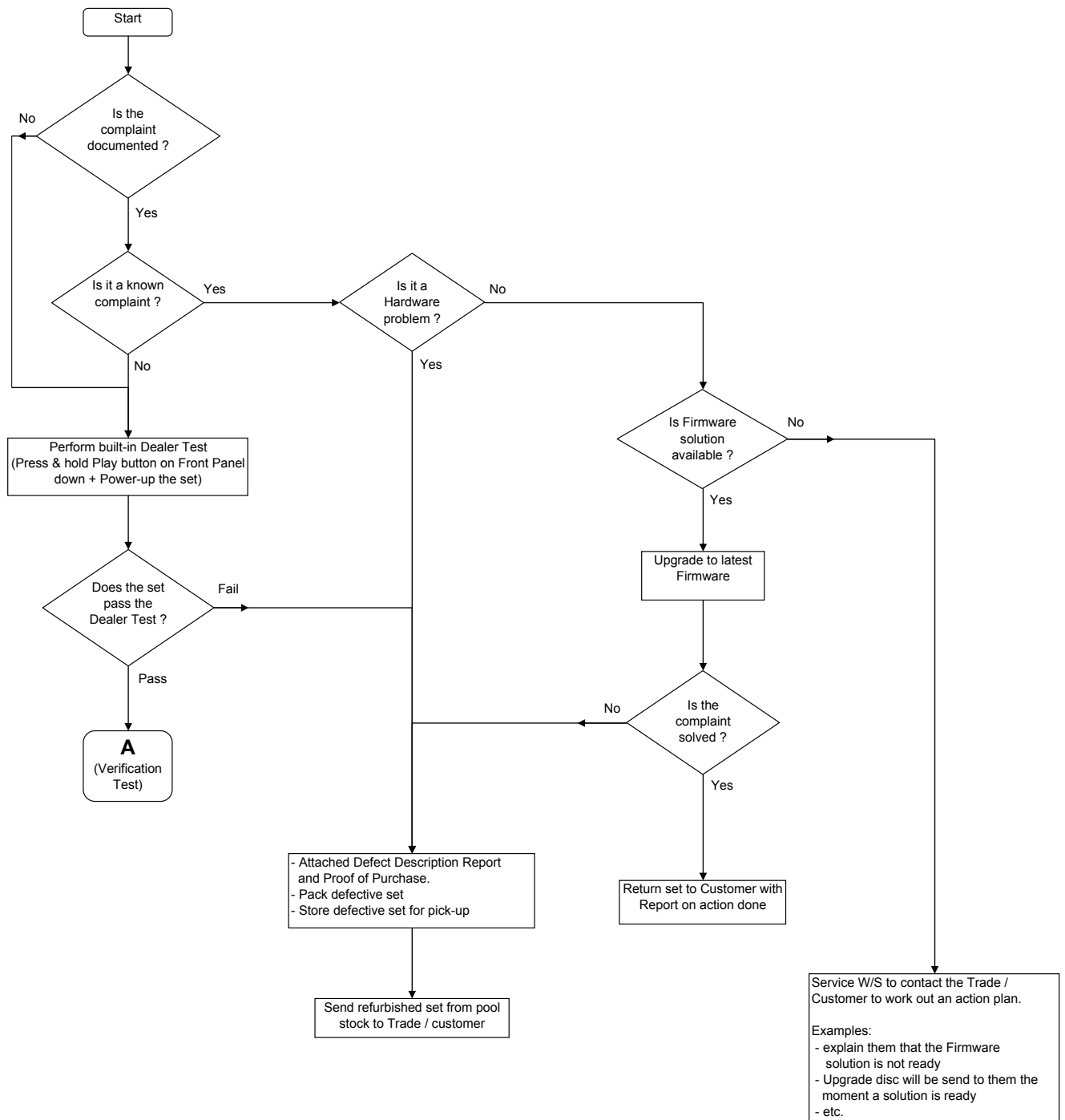
C. How to read out the firmware version to confirm set has been upgraded.

1. Power up the set
2. Press <System menu> button on the Remote control and select {Feature} option
3. Press <Right> to select {Access Control option}
4. Press <1> <5> <9> <6> buttons in sequence
5. The TV connected to the set will display:

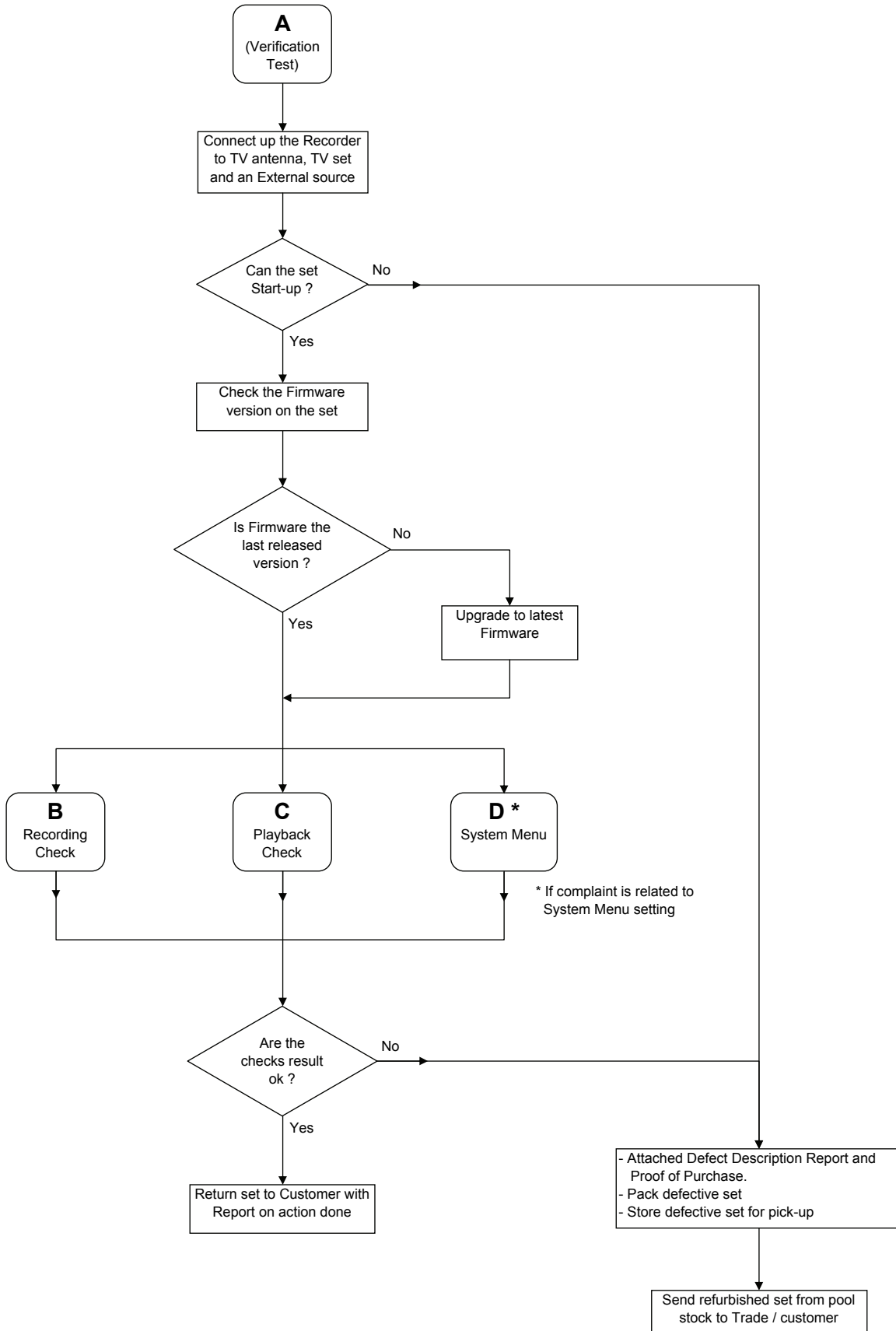
**AB 1.18.1.9 DB F05_4/53117
 BE 43.2.14 SV 11203 DV 1234567890
 BASE 52_221_20050730 dev sxc 3300h rad_int
 SpectraCORE 3300v1.13**

4. Service Flow Chart

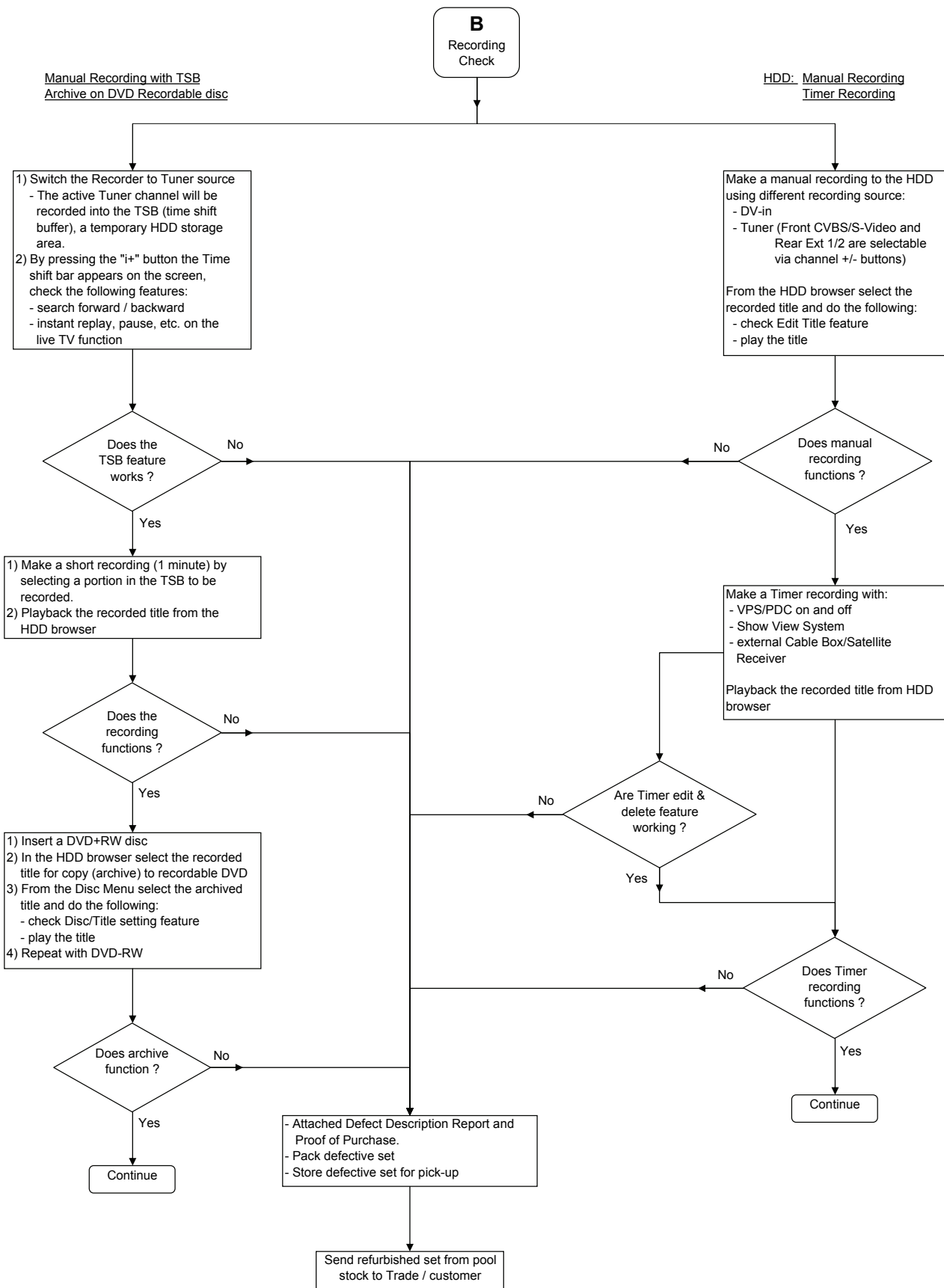
4.1 Start Process



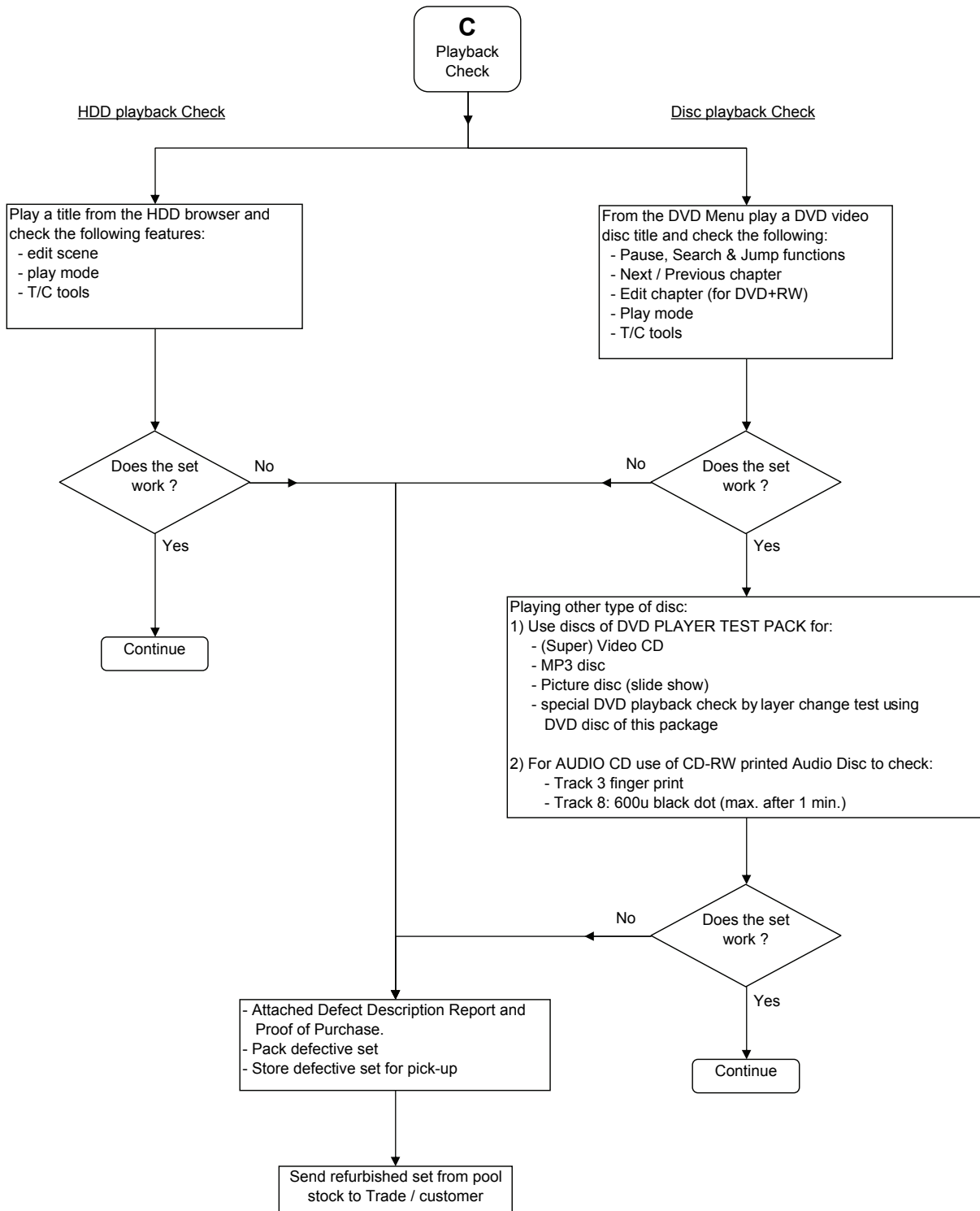
4.2 Verification Process



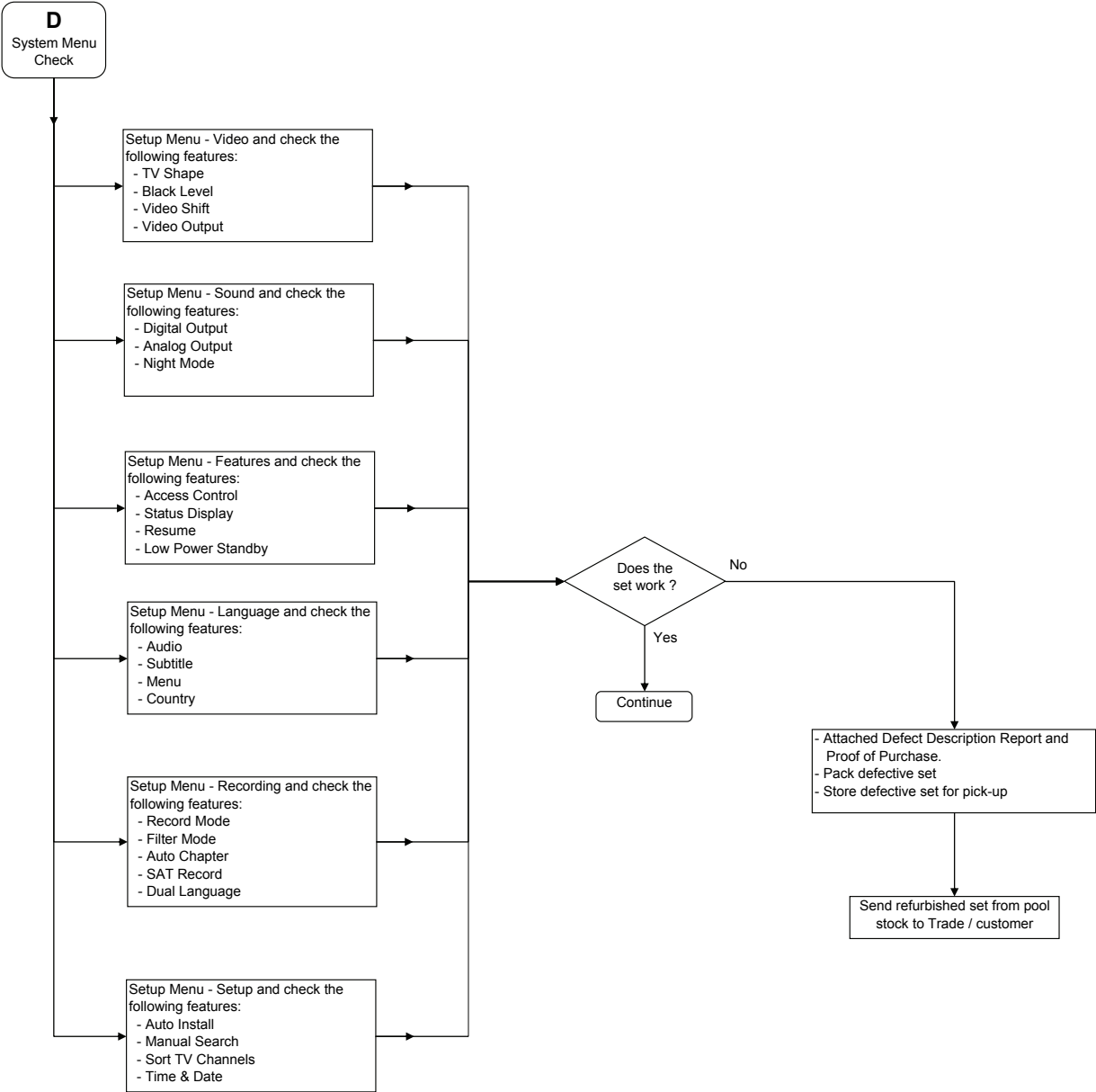
4.3 Recording Process



4.4 Playback Process



4.5 System Menu Process



5. Directions For Use

The following excerpt of the Quick Use Guide serves as an introduction to the set. The Complete Direction for the Use can be downloaded in different languages from the internet site of Philips Customer care Center: www.p4c.philips.com

DVDR 3300H
 DVDR 3330H
 DVDR 5330H

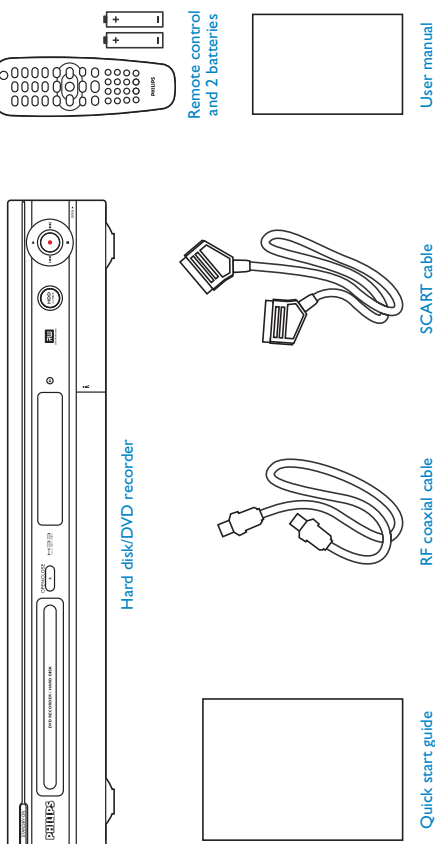
Hard Disk/DVD Recorder

Quick Start Guide



- 1** Connect
- 2** Set Up
- 3** Enjoy

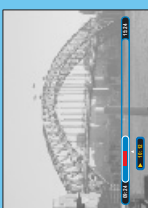
What's in the Box



PHILIPS

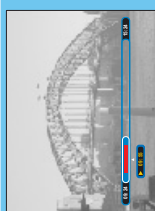
3 Enjoy

Recording to hard disk



- 1** Press **INFO** and a bar representing what is temporarily stored will appear.
- 2** Press **PREVIOUS** or **NEXT** to search for where you want to start recording.
Tip You can also press **JUMP BACK**, **JUMP FWD** or press and hold **PREVIOUS** or **NEXT**.
- 3** Press **REC**.
- 4** Key in the time period to record or press **REC** again for a 30 minutes recording.
Tip Each time you press **REC** another 30 minutes recording time is added.

Play recording while recording it



- 1** Press **PREVIOUS**, a bar representing what is temporarily stored will appear with the recording marked in red, continue to press **PREVIOUS** to go back to the part of the recording you want to watch and the recorder will start playing from there.
- 2** Press **TUNER** to go back to the live TV broadcast.
Tip You can pause and jump forward or backward of what you have already recorded without interfering with the recording.

Troubleshooting

For more troubleshooting tips, see the user manual.

Problem

Remote control

Tip

- Aim remote control at recorder (not TV) or remove any obstacles in the way.
- Batteries are weak; replace the batteries.
- The child lock is on. Refer to user manual to unlock it.
- Wrong region code. The DVD must be coded for ALL regions or Region 2.
- Check if the disc is defective, scratched or warped. Clean the disc or try another disc.
- The disc does not match the TV colour system standard (PAL/NTSC).
- When playing DVD set Record Mode to high-quality speed to improve picture quality.
- Channel you are recording is not stored or the wrong programme number is selected.
- If you adjust the clock after you set a timer recording, reset the timer recording.
- The recorder cannot duplicate copyrighted material onto a recordable DVD.
- A finalised DVD+R has been inserted. Change disc.

Disc does not play

The picture is distorted

Recordings are not occurring as scheduled. New recordings cannot be made.

Need help?

User Manual

See the user manual that came with your hard disk/DVD recorder

Online

Go to www.philips.com/support



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 12 NC 31 39 246 17151
www.philips.com



Quick start guide

RF coaxial cable

SCART cable

User manual

Hard disk/DVD recorder

Remote control and 2 batteries

1 Connect

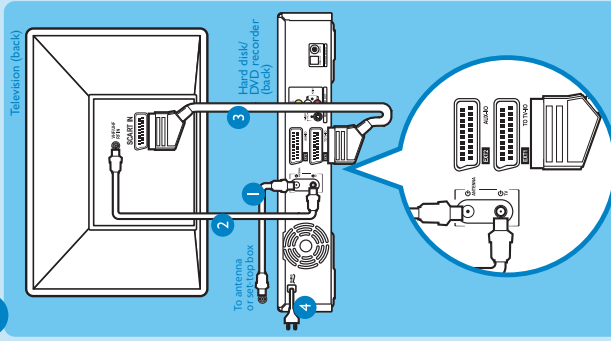
If you have a VCR, follow the instructions for 'Connection with VCR or similar device', if you don't have a VCR follow the instructions for 'Connection without VCR'.

Connection without VCR

A Before connecting

Your TV should be connected to the cable box/sec-top box, satellite receiver or aerial, unplug the antenna cable from the TV.

B Connecting



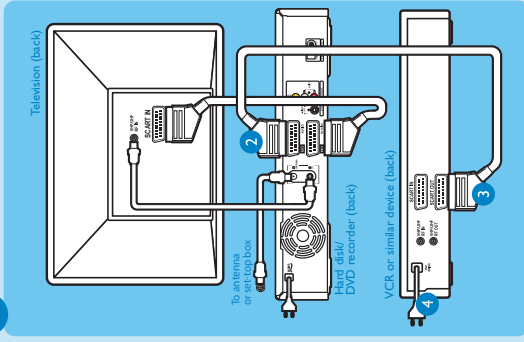
- 1 Connect the antenna cable (plugged out from the VCR or TV) to the ANTENNA socket at the rear of the recorder.
- 2 Connect the supplied RF coaxial cable into the TV socket at the rear of the recorder and into the Antenna In socket of the TV.
- 3 Connect the SCART cable to the SCART IN socket of the TV and to the EXTI socket at the rear of the recorder.
- 4 Plug in the power cable from the recorder to an AC power outlet.

Connection with VCR or similar device

A Before connecting

Your new Philips hard disk/DVD recorder can replace the VCR for all your recording needs, just unplug all the connections from your VCR.

B Connecting



- 1 Follow steps 1 to 4 of 'Connecting' under 'Connection without VCR' to connect the recorder before you proceed to step 2 below.
- 2 Connect another SCART cable (not supplied) into the EXT2 AUX I/O SCART socket at the rear of the recorder.
- 3 Connect the other end into the SCART OUT socket at the rear of your VCR.
- 4 Plug in the power cable from your VCR to an AC power outlet.

Note In this setup the VCR cannot record TV programmes.

2 Set Up

A Inserting batteries



Note where the positive and negative ends go.

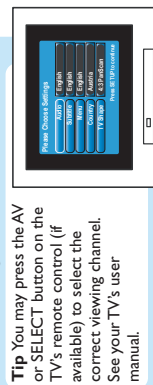
B Finding the viewing channel



- 1 Press **STANDBY-ON** on the recorder.
- 2 Switch on the TV.

Tip If connected to your VCR, make sure the VCR is switched off or in standby mode before proceeding.

Press '0' on the TV's remote control, then press the Channel Down button repeatedly until you see the General Setup page. This is the correct viewing channel for the recorder.



Tip You may press the AV or SELECT button on the TV's remote control (if available) to select the correct viewing channel. See your TV's user manual.

C Conduct installation

- 1 Select your Audio Language, Subtitle Language, Menu Language, Country and TV Shape.

Tip Use the recorder's remote control to make your choice.

- 2 Press **SETUP** to save and you are now prompted to connect the antenna.
- 3 Activate automatic Channel Search.

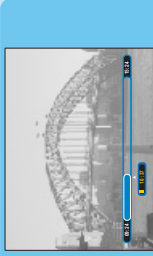
Tip If no channels were found, check the antenna connection and refer to user manual to search again once installation is done.

- 4 Check Date and Time.
- 5 Press **SETUP** to finish installation.

3 Enjoy

Pause Live TV

Sometimes you might be interrupted while watching your favourite programme. Now you can PAUSE it, as if you were in control of the broadcast.

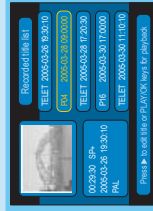


- 1 Press **PAUSE** while watching any live TV programme to suspend it.
- 2 Press **PLAY** to continue.

Tip When the recorder is switched on, the programme you are watching is temporarily recorded. In Pause Live TV the recorder replays the recorded footage, which will be erased when the recorder is switched to standby.

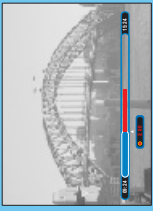
- 3 Press **TUNER** to go back to live broadcast.

Playback from hard disk



- 1 Press **HDD** to see the titles on hard disk.
- 2 Press **UP** or **DOWN** to select a title.
- 3 Press **PLAY** on the title you want.

Record



- 1 Press **REC** to record.
- 2 Key in the amount of time to record or press **REC** again for a 30 minutes recording.
- 3 Press **STOP** to stop the recording.

Tip Every time you press **REC** an additional 30 minutes is added to the recording time.