

Arcam DV79 DVD player

Lecture de DVD Arcam DV79

DVD-Spieler Arcam DV79

Arcam DV79 DVD-Speler

English

Français



Deutsch

Nederlands



ARCAM

Safety guidelines

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	ATTENTION RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR	
<p>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.</p> <p>WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.</p> <p>The lightning flash with an 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 to persons.</p> <p>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 product.</p> <p>CAUTION: In Canada and the USA, to prevent electric shock, match the wide blade of the plug to the wide slot in the socket and insert the plug fully into the socket.</p>			

Important safety instructions

This product is designed and manufactured to meet strict quality and safety standards. However, you should be aware of the following installation and operation precautions:

1. Take heed of warnings and instructions

You should read all the safety and operating instructions before operating this appliance. Retain this handbook for future reference and adhere to all warnings in the handbook or on the appliance.

2. Water and moisture

The presence of electricity near water can be dangerous. Do not use the appliance near water – for example next to a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool, etc.

3. Object or liquid entry

Take care that objects do not fall and liquids are not spilled into the enclosure through any openings. Liquid filled objects such as vases should not be placed on the equipment.

4. Ventilation

Do not place the equipment on a bed, sofa, rug or similar soft surface, or in an enclosed bookcase or cabinet, since ventilation may be impeded. We recommend a minimum distance of 50mm (2 inches) around the sides and top of the appliance to provide adequate ventilation.

5. Heat

Locate the appliance away from naked flames or heat producing equipment such as radiators, stoves or other appliances (including other amplifiers) that produce heat.

6. Climate

The appliance has been designed for use in moderate climates.

7. Racks and stands

Only use a rack or stand that is recommended for use with audio equipment. If the equipment is on a portable rack it should be moved with great care, to avoid overturning the combination.

8. Cleaning

Unplug the unit from the mains supply before cleaning.

The case should normally only require a wipe with a soft, damp, lint-free cloth. Do not use paint thinners or other chemical solvents for cleaning.

We do not advise the use of furniture cleaning sprays or polishes as they can cause indelible white marks if the unit is subsequently wiped with a damp cloth.

9. Power sources

Only connect the appliance to a power supply of the type described in the operating instructions or as marked on the appliance.

10. 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 and plugs, and the point where they exit from the appliance.

11. Grounding

Ensure that the grounding means of the appliance is not defeated.

12. Power lines

Locate any outdoor antenna/aerial away from power lines.

13. Non-use periods

If the unit has a stand-by function, a small amount of current will continue to flow into the equipment in this mode. Unplug the power cord of the appliance from the outlet if left unused for a long period of time.

14. Abnormal smell

If an abnormal smell or smoke is detected from the appliance, turn the power off immediately and unplug the unit from the wall outlet. Contact your dealer immediately.

15. Servicing

You should not attempt to service the appliance beyond that described in this handbook. All other servicing should be referred to qualified service personnel.

16. Damage requiring service

The appliance should be serviced by qualified service personnel when:

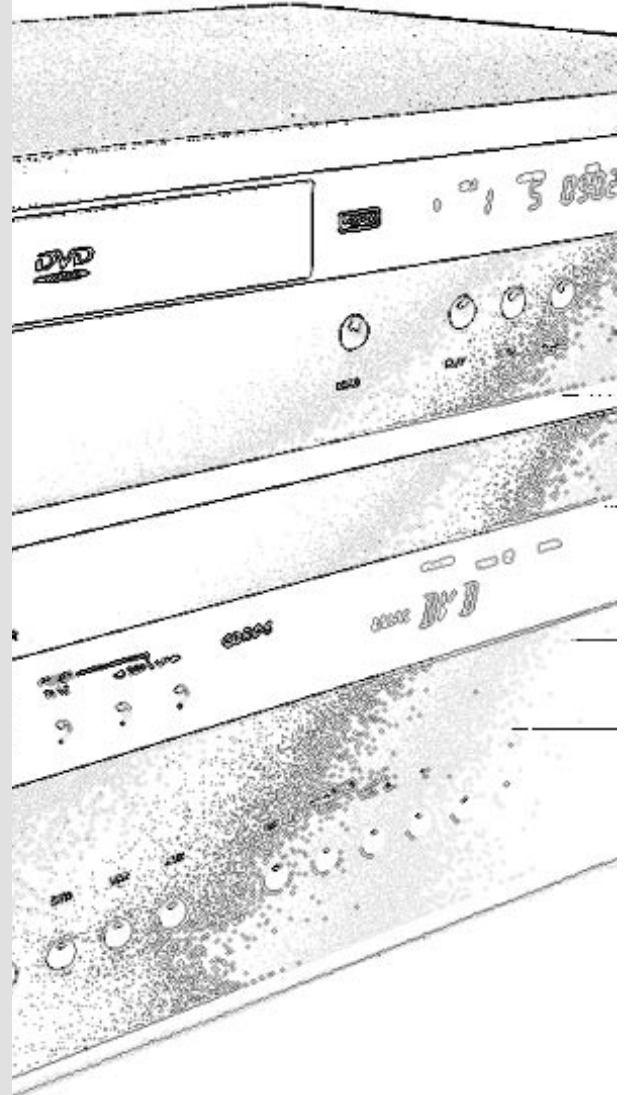
- the power-supply cord or the plug has been damaged, or
- objects have fallen, or liquid has spilled into the appliance, or
- the appliance has been exposed to rain, or
- the appliance does not appear to operate normally or exhibits a marked change in performance, or
- the appliance has been dropped or the enclosure damaged.

Safety compliance

This product has been designed to meet the IEC 60065 international electrical safety standard.

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English

The small print:

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Consumers should note that not all high definition on television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In case of 525/625 progressive scan picture problems, it is recommended that the user switch the connection to the 'Standard Definition' output. If there are questions regarding TV set compatibility with this model 525/625p DVD player, please contact your dealer or the Arcam Customer Support Department.

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Before you start!

Using this handbook

This handbook has been designed to give you all the information you need to install, connect, set-up and use the Arcam DiVA DV79. The remote control handset supplied with the equipment is also described.

It may be that the DV79 has been installed and set-up as part of your Hi-Fi installation by a qualified Arcam dealer. In this case, you may wish to skip the sections of this handbook dealing with installation and setting up the unit, and move directly to the sections dealing with using the player. Use the contents list on page 3 to guide you to these sections.

Safety

Safety guidelines are set out on page 2 of this handbook.

Many of these items are common sense precautions, but for your own safety, and to ensure that you do not damage the unit, we recommend that you read them. This is a class 1 product and requires an earth connection.

What's in the box?

Please confirm that the following items are in the box when you receive it:

- Arcam DV79 DVD player — the model number is shown on the right of the front panel of the player;
- Arcam CR-415 remote control with 2 'AAA' batteries — the remote control model number is shown on the front at the bottom of the remote control;
- Mains power lead appropriate for the mains supply in your area;
- Product registration card and envelope.

If any of these items are missing or incorrect, please contact your Arcam dealer immediately.

Inserting the batteries into the remote control

The remote control requires 2 'AAA' batteries to operate. To insert the batteries into the remote control, please follow these instructions:

1. Open the battery compartment cover on the back of the remote control.
2. Insert two AAA batteries into the battery compartment, following the polarity indications given inside the compartment itself.
3. Close the cover.

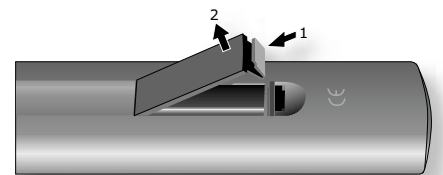
Notes on inserting the remote control batteries

- Incorrect use of batteries can result in hazards such as leakage and bursting.
- Do not mix old and new batteries together.
- Do not use different kinds of battery together—although they may look similar, different batteries may have different voltages.
- Ensure that the plus (+) and minus (−) ends of each battery match the indications in the battery compartment.
- Remove batteries from equipment that is not going to be used for a month or more.
- When disposing of used batteries, please comply with governmental (or other) regulations that apply in your country or area.

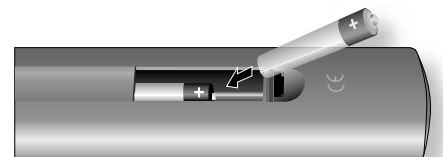
Using the remote control

Please keep in mind the following when using the remote control:

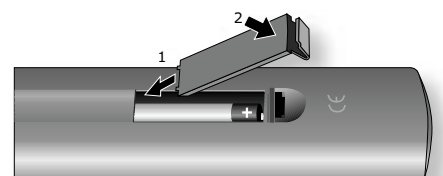
- Ensure that there are no obstacles between the remote control and the remote sensor on the DV79. The remote has a range of about seven meters. (If the remote sensor is obscured, the remote control input jack on the rear panel is available. Please contact your dealer for further information.)
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the remote sensor of the DV79.
- Replace the batteries when you notice a reduction in the operating range of the remote control.



A. Open the cover of the remote control battery compartment



B. Insert the batteries into the remote control



C. Close the cover of the remote control battery compartment

Disc types supported

The ARCAM DV79 DVD-player plays a range of disc types. Discs entered into the DV79 should bear one of the logos shown on the right. These disc types include:

- DVD-video (single region, set at factory);
- DVD-audio;
- CDDA ('normal' audio-CDs) including HDCD decoding, CD-R, and CD-RW;
- Video CD, including variants such as CVCD, SVCD and DVCD;
- MP3 and WMA audio files, when on a CD-ROM or CD-R/CD-RW (some restrictions apply);
- Picture CDs (JPEG image files).

Other disc formats may not play correctly in this player.

DVD-R/RW and CD-R/RW discs (Audio CDs and Video CD/Super VCDs) recorded using a DVD recorder, CD recorder or personal computer may not play in the DV79. This may be caused by a number of possibilities, such as the type of disc used and the type of recording.

CD-R/RW compatibility

- This unit will play CD-R and CD-RW discs recorded in CD Audio or Video CD/Super VCD format, or as a CD-ROM containing MP3/WMA audio files, or as a 'Kodak' Picture CD. However, any other content may cause the disc not to play, or create noise/distortion in the output. This unit cannot record CD-R or CD-RW discs.
- Unfinalized CD-R/RW discs recorded as CD Audio cannot be played.

DVD-R/RW compatibility

This unit will play DVD-R/RW discs that are recorded using the DVD Video format.

- This unit cannot record DVD-R/RW discs.
- Unfinalized DVD-R/RW discs cannot be played in this player.

Compressed audio compatibility

The DV79 will play CD-ROM discs containing files saved in the MPEG1 Audio Layer 3 (MP3) and Windows Media file (WMA) formats, with sampling rates of 44.1 or 48kHz. Incompatible files will not play correctly, potentially causing noise or distortion on the audio outputs.

- Fixed bitrate files are recommended. Variable bitrate (VBR) files are playable, but the playing time may not be shown correctly.
- The CD-ROM used to compile your MP3/WMA files must be ISO 9660 Level 2 compliant. CD physical format: Mode1, or Mode2 XA Form 1.
- This player plays only tracks that are named with the file extensions '.mp3', '.MP3', '.wma' or '.WMA'.
- This player is compatible with multi-session discs, but plays only sessions that are closed.
- Use CD-R or CD-RW media for recording your MP3/WMA files.
- There are many different recording bit rates available to encode your MP3/WMA files. See page 22 for a list of bit rates that are compatible with this player. Note that MP3 audio encoded at 128 Kbps or higher should sound close to regular CD Audio quality. This player will play lower bitrate MP3 or WMA tracks, but be aware that the sound quality becomes noticeably worse at lower bitrates.

PC created disc compatibility

- If you record a disc using a personal computer, even if it is recorded in a 'compatible format' as listed above, there will be cases in which the disc may not be playable in this machine due to the setting of the application software used to create the disc. In these particular instances, check with the software publisher for more detailed information.
- Check the DVD-R/RW or CD-R/RW software disc boxes for additional compatibility information.

HDMI digital interface

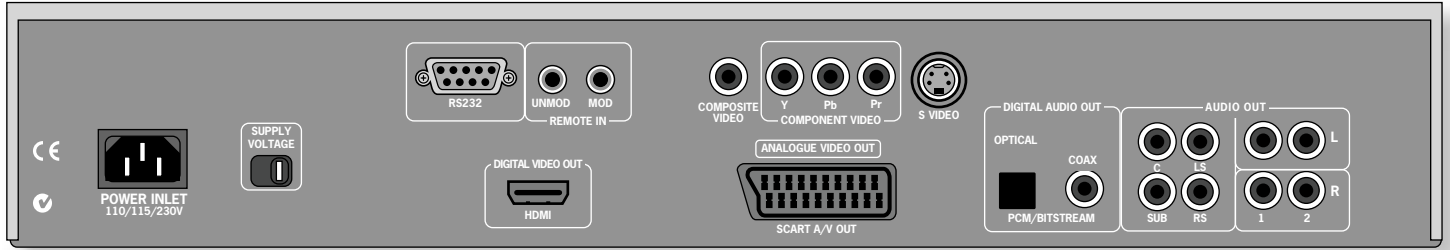
The HDMI (High Definition Multimedia Interface) interconnect provides high-quality digital audio and video, all through a single user-friendly connector. HDMI is the first consumer-electronics interface to support uncompressed standard, enhanced, or high-definition video together with stereo or multi-channel surround-sound audio, all using one interface.

Connection to a HDMI-equipped AV receiver or audio-visual device for high-quality audio and video is easy, and communication between the video source and (DTV) players, set-top boxes, and other audio-visual devices occurs automatically.

For further information on HDMI, please see page 9.



Installation



Positioning the unit

Place the DV79 on a level, firm surface and ensure that there is adequate ventilation for the unit.

Connecting the video output

To view the pictures from the DVD player you need to connect one of its video outputs to your display device (TV, monitor, projector, etc.).

The DV79 has six video output options:

- Component video
- Composite video
- RGB
- Progressive scan component 525P (480P) and 625P (576P) video
- S-video
- HDMI digital video

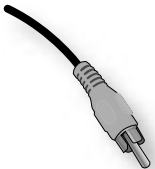
You only need to use one type of video from the list; choose a type that your display device supports. If your display device does not support any of the above connection types then you will be unable to use it with the DV79; in this case, please contact your dealer for further assistance.

Note that you may connect equipment such as AV receivers in the signal path between the DVD player and the display device, so long that the connected equipment also supports the type of video signal you intend to use. For instructions on how to connect AV equipment, consult the manual for that equipment.

NOTE: The DVD player supports either component video or RGB video at any one time, but not both. This is specified in the set-up menu (see page 12). If you use either of these outputs with an incorrect menu setting, no damage will occur but the picture will be coloured in a strange way. Similar effects result from cross-connection of the three signals.

If you use component video outputs, you must ensure that the SCART socket is not used. Similarly, if the SCART socket is used, disconnect the component video leads.

Composite video



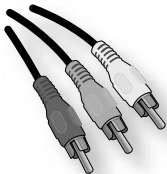
If your display device offers only a composite input (sometimes labelled CVBS or just 'video'), connect this to the **COMPOSITE** video output of the DVD player using a 75Ω phono cable suitable for video use. Note that a composite video connection gives the lowest quality output; if your display device supports other video connection types, we advise that those are used instead.

S-Video



The S-Video output (also known as S-VHS or Y/C) is commonly supported by display devices worldwide. Connect the **S-VIDEO** output of the DVD player to the S-Video input of the display device using an appropriate cable.

Component video



Use three 75Ω phono cables to connect the Component Y, Pb, Pr outputs of the DVD player to the Y, Pb, Pr inputs of the display device. Ensure that the cables are suitable for video use and that they are approximately the same length.

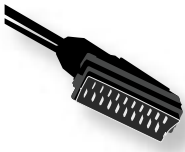
Some component video interfaces are labelled differently to the DV79; see the table if the component inputs of your display device are not labelled 'Y, Pb, Pr'.

DV79	alternative	alternative	alternative
Y	Y	Y	Y
Pb	Cb	(B-Y)	U
Pr	Cr	(R-Y)	V

RGB/SCART output

RGB output is available on both the SCART and Component/RGB sockets and offers picture quality equal to component video.

Use appropriate cables to connect either the SCART connector or RGB phonos to your display device. Note that if you are using RGB output via phono connectors, you will also need to use the **COMPOSITE** signal as a synchronisation signal.



If you are using a SCART connection to your TV, and you do not wish to listen to the audio through it, then it is best to mute your TV's speakers as SCART also carries stereo audio signals; muting the TV will prevent this audio being heard.

Note that the SCART output has a control signal that switches your TV to its SCART input when the DV79 is turned on. It will also signal to wide-screen TVs the correct aspect ratio (16:9 or 4:3), provided this feature is supported by the TV.

Progressive video

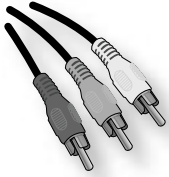
If your television is capable of accepting a progressively scanned (de-interlaced) video signal, you may wish to use the progressive video output from the DV79.

To connect the progressive output of the DV79 to your display device, follow the instructions above for connecting component video. If you are unsure whether your display device can accept progressive video, please refer to its instruction manual or consult your dealer.

HDMI digital video

The HDMI connector offers uncompressed digital video transmission between the DV79 and the display device, and provides the highest quality video output.

To use this video connection, you will require a HDMI or HDMI/DVI cable between the DV79 and the display device. See page 9 for further details.



? If no picture is visible, ensure that your display device is set to the correct input

If 'black bars' are shown at the top and bottom of the screen: you are viewing a 'widescreen' formatted film via a 4:3 format display device. If possible, change your display device to show 16:9 format output

Connecting the digital-audio output

If you have an external surround-sound decoder, receiver or D-A converter that you wish to use with the DVD player, then you will need to connect it using either a co-axial or optical lead. These digital outputs provide PCM, Dolby Digital, DTS or MPEG multi-channel audio, depending on the source material. It is also possible (via the set-up menu of the DV79) to set the digital output always to put 2-channel PCM (stereo mix-down) out.

If possible, use the co-axial connection as this offers slightly better performance. Connect the co-axial output of the DVD player to the digital audio co-axial input of the decoder/D-A converter or receiver using a phono cable designed for digital audio interconnection.

Alternatively, connect the optical output of the DVD player to the optical input of the decoder/D-A converter or receiver using a TOSLINK optical lead.

Connecting the analogue-audio output

If you wish to use the high quality D-A converters of the DV79, then you will need to use its analogue audio outputs.

Two pairs of stereo outputs are provided (these are identical), labelled **L** (left) and **R** (right). Connect one of these pairs to the input of your amplifier using a suitable pair of interconnect cables. If required, the second set of audio outputs can be used to connect to a second amplifier set-up for 'multi-room' use, or routed to a tape recorder for making recordings.

For 6-channel material, an additional four outputs are provided. Together with one pair of the 2-channel output connections, these should be connected (using suitable interconnect cables) to the 'multi-channel' analogue input of your home cinema processor (the multi-channel input may be labelled 'DVDA' or 'SACD'). In this case, the additional 2-channel output pair may be used for some other function, as suggested above (although when playing 6-channel material, only the left and right channels of this material would be heard).

? If nothing is audible, ensure that your audio device (TV, amplifier, etc) is set to the correct input. Check the connections at both ends and, if necessary, try an alternative cable

The remote-control input

The **REMOTE IN** input can be used to pass RC5 codes to the DV79 if it is installed in a position (or system) where infrared cannot be used. If this is required, please contact your dealer for further information. The DV79 can accept both modulated (at 36kHz) and unmodulated RC5 signals.

Connecting to a power supply

Mains lead

The appliance is normally supplied with a moulded mains plug already fitted to the lead. If for any reason the plug needs to be removed, it must be disposed of immediately and securely, as it is a potential shock hazard when inserted into the mains socket.

Check that the plug supplied with the unit fits your supply and that your mains supply voltage agrees with the voltage setting (**115V** or **230V**) indicated on the rear panel of the unit.

If your mains supply voltage or mains plug is different, or you require a new lead, please consult your Arcam dealer.

Plugging in

Push the plug (IEC line socket) of the power cable supplied with the unit into the socket (**POWER INLET**) in the back of the unit. Make sure it is pushed in firmly.

Put the plug on the other end of the cable into your power supply socket and switch the socket on.

Basic use of your DVD player



Introduction

'Basic operation' explains how to play a DVD, CD or other type of disc. Note that it may be necessary to configure your player correctly for your system before optimum – or any – playback can be achieved. Player configuration is described beginning on page 12.

More sophisticated features – such as special playback modes and programming jumps and playback sequences – are described in the 'Advanced features' section, later in this handbook.

Front-panel controls

Switching on

Switch the unit on by pressing the **POWER** button. The status LED glows green when the unit is powered up and red when in stand-by mode (stand-by is operated from the remote control).

Note that the remote control sensor is located on the right-hand side of the display window. Do not obstruct this or the remote will not work.

Playing a disc

Loading a disc

Press **LOAD** on the front panel (or **OPEN** on the handset) and place the disc on the tray, with the playback side facing down (some discs are double sided, in which case the side labelled 'side A' should face up to play side A).

Press **LOAD** on the front panel to close the tray. The disc loads after a pause of a few seconds.

Playing a disc

Many DVDs begin playing automatically, but some titles begin by displaying a menu. Select the menu item 'Play movie' (or similar) using the cursor pad, then press **OK** to start playback.

For discs that do not play automatically (including CDs and VCDs), press **PLAY**.

Note that when playing DVDs, the drive mechanism operates at much higher speeds compared with CDs and so may produce more noise when loading and playing initial chapters; this is normal.

Fast play

Press **▶▶** or **◀◀** on the front-panel or remote control to play fast forward or backwards. For DVDs, VCDs and CDs the following speeds for fast playback are available: x2, x4, x8, x20, x60 and x100. Press the button repeatedly to cycle through the different speeds. To resume normal playback speed, press **PLAY**. Fast playback is not available for MP3/WMA discs.

Skipping chapters/tracks

To skip chapters (or tracks on a CD), press **▶** or **◀**.

When skipping back, the first button press takes you to the beginning of the current chapter. Pressing the button again takes you to the start of the previous chapter.

Pausing playback

Press **PAUSE** on the front panel or **||** on the remote control to pause playback. To resume playback, press **PLAY** on the front panel or **▶** on the handset.

Stopping playback

Press the **STOP** button on the front panel or **■** on the remote control to stop playback.

When playing a DVD, pressing **STOP** once performs a 'resume stop'. If you now press **PLAY**, playback resumes from the point it was stopped.

If you press **STOP** twice, this is a 'complete stop', and playback resumes from the beginning of the disc.

Front panel menu navigation

If desired, it is possible to navigate disc and player menus using the front panel buttons; to this end, the **NAV** button is provided.

Pressing the **NAV** button causes the player to enter 'navigator' mode, indicated by the 'NAV MODE' LED being illuminated. In this mode, the front panel buttons take on the functions illustrated above each button, for example the **STOP** and **PAUSE** buttons become **▼** and **▲**.

To exit navigator mode, press the **NAV** button for a second time.

The HDMI interface

If you have a HDMI- or DVI-equipped monitor or display, you can connect it to the DV79 using a HDMI cable. The HDMI connector carries uncompressed digital video, as well as digital audio.

About HDMI

HDMI (High Definition Multimedia Interface) supports both video and audio on a single digital connection for use with DVD players, digital TV, set-top boxes, and other AV devices. HDMI was developed to combine the technologies of High-bandwidth Digital Content Protection (HDCP) and the Digital Visual Interface (DVI) in one specification, with the addition of transmission of digital audio information; HDCP is used to protect digital content transmitted to DVI-compliant displays.

HDMI has the capability to support standard (interlaced), enhanced, or high-definition video together with stereo or multi-channel surround-sound audio. HDMI features include uncompressed digital video, one connector (instead of several cables and connectors), and communication between the AV source and AV devices.

Connecting using HDMI

If the HDMI connector is to be used, we recommend first setting the 'Output Priority' item on the video menu page to 'HDMI/DVI'. This will give full 'plug and play' functionality. See page 14 for details on how to do this.

Use a HDMI cable to connect the **HDMI** socket on this player to a HDMI socket on a compatible display device or receiver. The arrow on the cable connector body should be face up for correct alignment with the connector on the DV79. If the DV79 has been configured to 'HDMI priority', then the DV79 will configure its video output automatically to match the capabilities of the attached HDMI device. If the connection was successful, 'HDMI' or 'DVI' is shown briefly via the on-screen display according to the compatibility of the connected component.

NOTE: A HDMI connection can be made only with HDMI or DVI-equipped components compatible with both DVI and HDCP. Note that if you choose to connect to a DVI device, you will need an adaptor (HDMI to DVI) to do so; a DVI/HDCP connection, however, does not support audio signals.

If you require further information on the possibilities for connecting your DV79 to your DVI/HDMI equipped display device, please contact your Arcam dealer.

Troubleshooting

Problems with video

NO VIDEO (BLANK SCREEN)

- Check that the HDMI cable is connected correctly at both ends. If an HDMI-equipped A/V receiver is in use, try connecting the DV79 directly to the display device, in order to isolate where the fault may lie.
- Check that the display device is set to display the HDMI input (i.e., has not been set to some other video input, instead).
- Check that the HDMI connector of the receiver and/or display device is enabled. See the user handbook of the connected device for details on doing this.
- Using an alternative video display device (e.g., connected via the composite video out), check that the 'Output Priority' item on the Video page of the Set-up menu is set to 'HDMI / DVI'. See page 14 for details on how to do this.
- Consult the user handbook of the display device to ensure that it can handle the output formats provided by the DV79. The DV79 can provide the following: 720x480P (NTSC progressive scan), 720(1440)x480i (NTSC interlaced), 720x576P (PAL progressive scan) and 720(1440)x576i (PAL interlaced). At least one of these must be supported by the connected device in order for it to work with the DV79.

NO VIDEO (RANDOM NOISE)

Random noise will be displayed if the content-protection algorithm fails to authenticate the attached device. This will occur, for example, if a DVI device that does not support HDCP (such as a computer monitor) is connected to the DV79.

To attempt to isolate this problem, remove all discs from the DV79, the power-off both it and the connected display device. Switch the display device on, then the DV79 – at this point, the idle logo of the DV79 should be shown on the display device. If this is not the case, please check the items listed above for a blank screen.

If the noise appears when a copy-protected disc (DVD) is played, then it is the authentication that is failing. Please contact your dealer for further information.

Problems with audio

The audio provided by the HDMI connector is the same as that provided through the SPDIF socket. Note that pure DVI devices (connections requiring a HDMI to DVI convertor cable) do not support audio via this connection.

If you have a HDMI device, try setting the audio output to Audio item of the Set-up menu to 'PCM/2 Ch. '; it may be that the display device supports only 2-channel audio.

Advanced controls (CR-415)

TRIM

This button brings up a menu very similar to the 'Trims' page in the Set-up menu (as described on page 18). It allows on-the-fly changes to the relative volume of each speaker in your system, while a disc is being played.

For a full description, see page 18.

AUDIO

Some DVDs offer the facility to select different audio tracks. Press **AUDIO** to cycle through the available tracks.

The on-screen display shows the number, language and type of audio track, e.g. '1 Eng DD 6CH'.

ZOOM

Press **ZOOM** to enlarge a particular area of the picture. Each press of the **ZOOM** button increases the zoom, normally until a maximum of 4x enlargement is reached.

Pressing **ZOOM** when the maximum enlargement has been reached returns the image to normal size.

While using the zoom function, the cursor pad can be used to move around within the image. The zoom function can also be used when playback is paused.

Note that a zoom level of x1.25 is particularly useful if the output from the DVD player is in a screen format different from that of your display device. A zoom of x1.25 when a 'widescreen' image is displayed on a 4:3 display causes the bars at the top and bottom of the screen to disappear (although the sides of the image are lost); a zoom of x1.25 when a 4:3 image is displayed on a widescreen display causes the bars at the side of the image to disappear (although the top and bottom of the image are lost).

P MODE

Press **P MODE** to toggle random playback

STATUS

Press **STATUS** once to show the elapsed and remaining time of the disc. Press **STATUS** a second time to give play status information about the current disc. Press **STATUS** a third time to close the status display.

The status information displayed varies depending on the type of disc – DVD, CD or VCD.

SUBT (subtitle)

Press **SUBT** on the remote control to cycle through the available subtitle languages, including 'OFF'. Some discs force subtitles on, over-riding player set up.

TITLE

Press **TITLE** to access the DVD's 'Title' menu. Note that this feature applies only to multi-title discs.

RTN (return)

Press **RTN** to move back through the DVD 'Disc' and 'Title' menus. Note that this feature is only of use with discs using multi-level menus.

PL (PRO LOGIC)

This button brings up a menu very similar to the 'Audio' page of the Set-up menu (as described on page 15) and allows the Pro Logic II settings to be changed while the disc is being played.

SRCH (search)

It is possible to get access to any point on the disc directly using the 'Search' menu. Press **SRCH** to access the 'Search' menu.

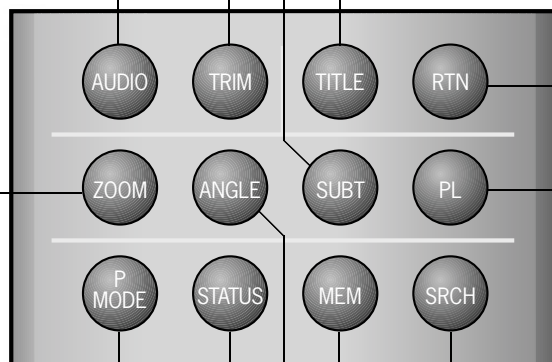
MEM (memorise)

It is possible to 'bookmark' up to three points on a DVD title, so you can jump quickly to those parts of the title again (until the disc is ejected or the player reset. Press **MEM** to open the 'Bookmark' menu.

ANGLE

Some DVDs offer the facility to select different camera angles. If this feature is available the 'camera' symbol lights in the display.

Press **ANGLE** to cycle through the available angles.



Configuring your DVD player

Introduction

This section of the document describes the use of the 'Set-up' menu, which is used to configure your player for your system and your personal preferences.

Obtaining a picture

To view the Set-up menu for the initial configuration, we recommend the use of the composite video output to connect to your display device. This is because the high quality video output has several display modes and may be incompatible with your display device in its default configuration.

Ensure that your display device is switched on and that you have selected the correct video input. You should see the image shown on the right. This is the image that the DVD player gives whenever there is no disc playing.

NOTE: To protect your screen from damage caused by persistent static images, a 'screen saver' facility activates after a few minutes of inactivity. When this occurs, the image shown on the right will be 'bounced' around the screen. To reset the image to the central position, press the **STOP** button on the player or on the remote control.

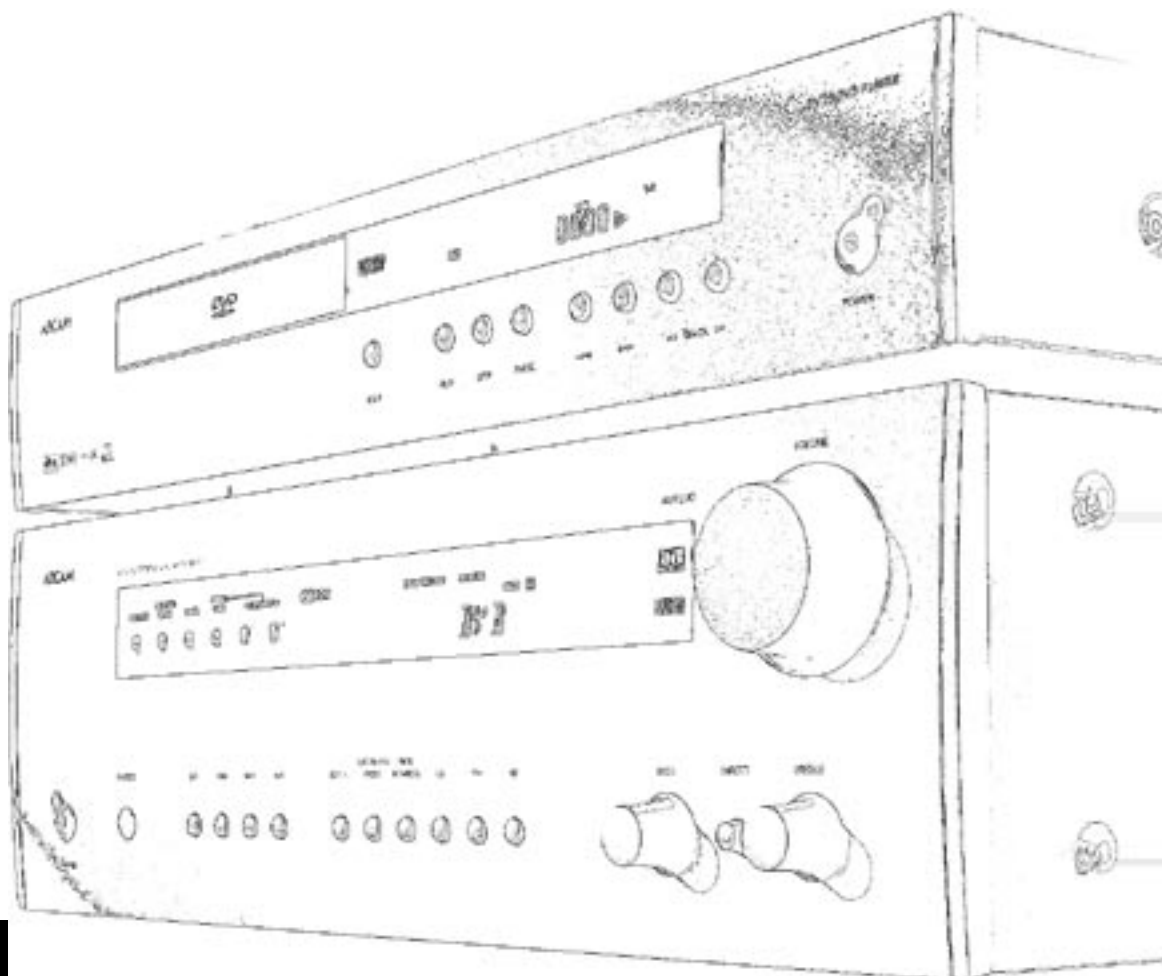


Using the Set-up menus

To enter the Set-up menu, ensure that no disc is playing. Press **SETUP** on the remote control: a menu will appear on the screen.

The Set-up menu comprises seven pages of options. The top line of each page shows the page title, indicating the nature of the settings controlled by the page. To make a change, first use the **UP/DOWN** controls to highlight the item. Once the item to be changed has been highlighted, press **RIGHT** to open the list of options for the menu item. The current option for the menu item is shown highlighted; the **UP/DOWN** controls can be used to select the new option, then pressing **LEFT** confirms the selection and closes the option list.

- To change page, highlight the page bar at the top of the screen and use the **LEFT/RIGHT** controls to move through the pages.
- The **UP/DOWN** controls 'wrap around', so that with the highlight bar at the bottom of the screen, pressing **DOWN** takes the bar to the top of the screen.
- Items that are not applicable currently (for example, the Pro Logic II settings, when Pro Logic II processing is switched off) are shown in dark blue, and cannot be highlighted or changed.



Operational set-up

OSD Language

This setting controls the language of the messages displayed on the On-Screen Display (OSD). The default language is English, with three other languages supported.

Note that this setting does not change the language of any information displayed on the front panel, which is always in English.

OSD Status

This setting controls the 'pop up' messages that appear on screen.

On	Pop-up messages are enabled
Off	No pop-up messages, only menus when required.

Certain messages, such as 'No Disc' are always shown regardless of how this is set.

DVD menu

Some DVD discs support a number of different languages for the DVD disc menu (the menu present on the DVD itself). This setting allows the preferred language to be specified. For example, if this item is set to 'French' then disc menus will be displayed in French, where supported by the disc.

Note that not all discs will have your preferred language available.

Subtitle

This setting controls the subtitles displayed on the display device (although note that some discs may force the subtitles to be displayed regardless of how this item is set).

Off	No Subtitles
Auto	Subtitles for the primary language on the disc
English	English subtitles
French	French subtitles, etc. (six languages are supported)

The default setting for Subtitle is 'Off'; alternatively, choose the setting for the language you prefer. Note that not all discs will have your preferred language available as a subtitle.

Force DVI

Even though your display device may be fully HDMI compliant, it is possible that in-line receivers or repeaters may work only in DVI mode. In this case, it is useful to disable HDMI, forcing DVI output instead.

Select **YES** to force the DV79 into DVI mode even when a HDMI device is detected; select **NO** otherwise. If you are not using the HDMI capabilities of the DV79, then it does not matter which way this item is set.

Remote type

This informs the player which type of remote control you are using, so that the player can take into account the slight differences between the remote types. For ARCAM remote controls, the remote type is always written on the front of the remote control, normally at the bottom of the unit.

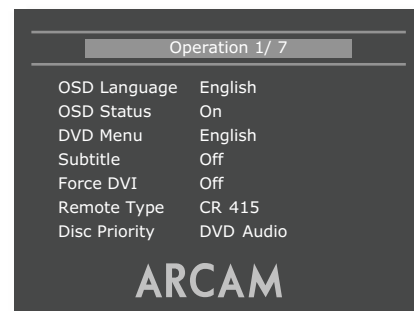
CR-314	This selects the grey ARCAM CR-314 remote control
CR-415	This selects the black ARCAM CR-415 remote control
CR-80	This selects the black ARCAM CR-80 learning remote control
CR-9000	This selects the black ARCAM CR-9000 learning remote control
Other	A non-ARCAM learning remote control is being used

It is important to choose 'Other' if the learning remote in use does not support RC-5 'toggle bits'.

Disc Priority

Some DVD discs show different material, or have different behaviour, depending on whether the disc is played on a DVD-video or on a DVD-audio player. The 'Disc Priority' option allows you to configure the DV79 to be (primarily) one or other of the player types.

Note that, although this setting may be changed after a disc has been loaded into the DV79, this setting does not take effect unless the disc is re-loaded (or a different disc is played).

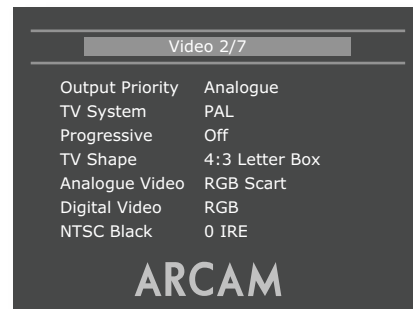


Video set-up

If your display device is HDMI-compliant, the DV79 can read the capabilities of the display device directly; the information allows the DV79 to configure its output automatically and optimally for the attached device. This is known as 'plug and play'.

The DV79 can be configured for plug and play, or not; this depends on the 'Output Priority' setting, described below. If the DV79 is configured for plug and play, and the display device cannot handle some of the options described below, then the options shown will be restricted to just the ones applicable to the attached device. For example, if the display device can handle PAL signals, but not NTSC, then NTSC will not be shown as an option for the 'TV System' menu item.

See page 9 for more information about connecting to HDMI devices.



Output Priority

Allows specification of whether HDMI 'plug and play' capabilities should be used.

HDMI/DVI	Select this item if you are connecting the DV79 to a HDMI-compliant device, and you are happy for the DV79 to configure itself automatically for the device it is attached to. This is the recommended setting if you are connecting the DV79 to a HDMI-compliant device.
Analogue	Select this setting if you are not connecting the DV79 to a HDMI-compliant device.

TV System

This is set at the factory to be appropriate for the type of display device used in your country. Should you need to change this setting, the options are explained below.

Auto	The video output is taken from that recorded on the disc. When no disc is playing, the logo screen is displayed using the standard of the last disc played.
NTSC	NTSC is always used as the video standard. Note that PAL discs are converted to NTSC, but this causes some reduction in the quality of the video output (and may cause the video to become 'jerky'). This is the best setting to use if your display device can accept only NTSC video (this is generally the case in North America); better results are obtained by using 'Auto', but your display device must be able to support PAL.
PAL	PAL is always used as the video standard. Note that NTSC discs are converted to PAL, but this causes some reduction in the quality of the video output (and may cause the video to become 'jerky'). Better results will be obtained by using 'Auto', but your display device must be able to support NTSC.

If the picture is 'jerky' or 'shimmers', you may be playing a disc that has a format different to the setting of your player (a PAL disc played with NTSC output, for example) If your display device can handle both PAL and NTSC video, then change the 'TV system' setting to 'Auto'

Progressive

Allows configuration of interlaced or de-interlaced (progressive scan) output.

Off	The video output will always be interlaced (standard definition video). Use this setting if your display device does not support progressive scan.
NTSC only (525)	The component video output will switch to progressive scan mode whenever the output standard is NTSC (525). This would be whenever an NTSC disc is played, or whenever 'TV System' is set to NTSC. The video output will revert to interlaced (standard definition) for PAL (625) modes. Use this setting only if your display device supports NTSC progressive scan.
PAL only (625)	The component video output will switch to progressive scan mode whenever the output standard is PAL (625). This would be whenever a PAL disc is played, or whenever 'TV System' is set to PAL. The video output will revert to interlaced (standard definition) for NTSC (525) modes. Use this setting only if your display device supports PAL progressive scan.
On	The component- and HDMI-video outputs will put progressive scan video out for both PAL and NTSC discs. Use this setting only if your display device supports progressive scan in both PAL and NTSC formats.

*Not all displays support progressive scan. If you enable progressive scan accidentally and your display does not support it, you may be unable to view the picture from the DVD player, including the on-screen display required to change the video settings. To revert to interlaced mode without using the on-screen menus, press and hold the **STOP** button on the front panel at any time. The video mode will revert to interlaced mode after the button has been held in for about five seconds.*

NOTE: When progressive scan is active, the component- and HDMI-video outputs will be in Progressive mode; the other video outputs (Composite and S-Video) will be muted.

Since progressive scan must be Component, (not RGB), the 'Analogue Video' item will be forced to 'Component' if progressive scan is enabled.

TV shape

This needs to be set correctly for the type of display device you have and the type of display you prefer.

4:3 Letterbox	Use this setting if you have a conventional 4:3 display device, and you prefer to view wide screen movies in letterbox format (with black bars at the top and bottom)
4:3 Panscan	Use this setting if you have a conventional 4:3 display device, and you prefer to view wide screen movies in Pan & Scan format (cropping the sides of the image)
16:9	Use this setting if you have a wide screen (16:9) display device. Material in 16:9 format is displayed so as to fill the screen.

If you have a 4:3 display device and you have set a preference for **PANSCAN**, it does not mean you will always see movies in this format, since Panscan display must be supported by the disc being played.

Analogue Video

This setting controls the type of video given out on the Component and SCART video outputs. It is set at the factory to be appropriate for the type of display device used in your country, so it is best not to change it. If it gets set incorrectly then the picture shown on the display device will have strange colouring.

Component	The video output on the Component video (3 phono), SCART and HDMI connections is Y, Pb, Pr component video.
RGB SCART	The video output on the Component video (3 phono), SCART and HDMI connections is RGB. Note that if you are using RGB output via phono connectors, you will also need to use COMPOSITE as a sync. signal.

Note that this setting has no effect on the video provided by the HDMI connector.

Digital Video

This setting controls the type of video given out over the HDMI connection.

YUV	The HDMI connection carries Y, Pb, Pr (YUV) component video.
RGB SCART	The HDMI connection carries RGB video.

Note that this setting has no effect on the analogue video outputs.

NTSC black (Pedestal)

This setting controls the 'pedestal' signal or black level when the NTSC video standard is used.

0 IRE	This removes the pedestal from NTSC video. This setting should be used in Japan, and also if you are using RGB video, whatever the country.
7.5 IRE	This is the standard pedestal level that should be used in all countries that use NTSC video, with the exception of Japan.

Note that this setting has no effect on PAL, progressive scan or HDMI outputs.

Audio set-up

This section allows you to configure the type of analogue and digital audio outputs. In particular, the digital output type needs to be set correctly if you are using an external audio decoder, receiver or D-A converter.

Audio

Two different types of digital output are supported: 'Bitstream' and 'Stereo PCM'.

Bitstream	<p>The Bitstream setting supports the following audio standards:</p> <ul style="list-style-type: none"> <input type="checkbox"/> 2 channel PCM (on CDs or DVDs) <input type="checkbox"/> Dolby Digital <input type="checkbox"/> MPEG multi channel <input type="checkbox"/> DTS multi channel <p>Use the Bitstream setting if you have an external decoder that supports Dolby Digital.</p>
Stereo PCM	When the 'Stereo PCM' digital output is selected, all audio material played is down-mixed to stereo and output as stereo PCM. Use this setting if you have an external D-A converter that supports only 2-channel PCM.



Since the digital and analogue outputs are closely related, the analogue audio output reflects the digital output type selected.

The options available are as follows:

Bitstream + 6 Ch.	The digital output is 'Bitstream' (as described above). The analogue audio will comprise up to six channels of output, depending on the source material, the speaker configuration (see the 'Speaker Setup' section) and the 'Pro Logic II' setting (see below).
Bitstream + 2 Ch.	The digital output is 'Bitstream' (as described above). The analogue audio will comprise a 2-channel stereo down-mix of the source material.
PCM + 2 Ch.	The digital output is 'Stereo PCM' (as described above). The analogue audio will comprise a 2-channel stereo down-mix of the source material.

Language

This controls the default audio track, when there is more than one audio track present.

The default setting is 'English'. Choose the setting you would like as default. Note that the audio-language preference setting is not respected by all discs, which may impose their own default choice.

Down-sample

This needs to be set correctly if you are using an external audio decoder, receiver or D-A converter.

Max 96K	Choose this option if your external audio decoder is able to process digital audio with a sample rate of up to 96kHz, or if you are not using the digital audio outputs. This is the maximum sample rate present on DVD-video discs.
Max 48K	Choose this option if your external audio decoder is unable to process digital audio with a sample rate of up to 96kHz, or the HDMI connection is being used to carry the audio.

Note that this setting is relevant only to the output from DVD-video discs. DVD-audio disc digital output is limited to 2-channel PCM, at a maximum sample rate of 48kHz.

Compression

Allows compression of the audio stream to be turned on or off, where 'On' is intended for 'late night' listening when large volume changes are not desirable.


Turning compression on increases the volume of the quiet passages and decreases the volume of the louder passages, i.e., the total dynamic range of the audio is reduced. Compression can be disabled by setting this item to 'Off'.

Compression is available only on Dolby Digital recordings.

Pro Logic II

Dolby Pro Logic II decoding is designed to produce a 5-channel output from two-channel source material. This item can be changed only if the 'Audio' menu item (described above) is set to 'Bitstream/6 Ch'.

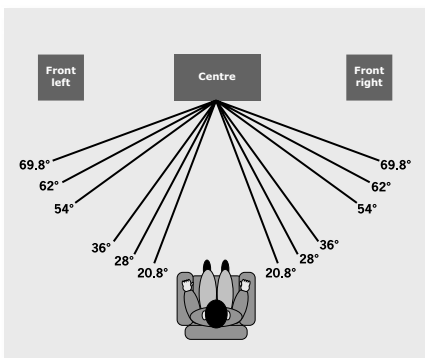
Set this item to one of the following. Due to the different recording methods used for movies and music, it is recommended that the correct decoding mode for your source material is used to obtain the best results.

Off	No Pro Logic decoding is performed.
 PL	Dolby Pro Logic decoding is performed. Dolby Pro Logic decoding is a legacy mode, and we recommend using one of the Pro Logic II decoding options, instead.
Movie	Movie mode should be used with material marked as 'Dolby Surround' encoded.
Music	Music mode is for use with any stereo music recording. As the optimum decoding method varies according to the recording, Music mode allows user adjustment of the processing characteristics; information about adjusting the Music mode by using 'Dimension', 'Centre Width' and 'Panorama' controls can be found below.
Matrix	The Matrix mode is the same as the Music mode except that the directional enhancement logic is turned off. Matrix mode may be used to enhance mono signal by making them seem 'larger'.

Dimension

(This setting can be adjusted only when Dolby Pro Logic II Music mode is selected.)

'Dimension' allows the user gradually to adjust the soundfield either towards the front or towards the rear. If a recording is too spacious or strong from the surrounds, it can be adjusted 'forward' to get a better balance. Likewise, if a stereo recording is somewhat too 'narrow' sounding, it can be adjusted toward the rear to get a more enveloping, immersive result. We recommend 'Dimension' is set to 0 for normal use.



Centre Width

This setting can be adjusted only when Dolby Pro Logic II Music mode is selected.)

With Pro Logic II decoding, dominant centre signals come only from the centre speaker. If no centre speaker is present, the decoder splits the centre signal equally to the left and right speakers to create a 'phantom' centre image. The Centre Width control allows variable adjustment of the centre image so it may be heard only from the centre speaker; only from the left/right speakers as a phantom image; or from all three front speakers for varying degrees. We recommend 'Centre Width' is set to 3 for normal use.

Panorama Mode

(This setting can be adjusted only when Dolby Pro Logic II Music mode is selected.)

Extends the front centre image to include the surround speakers for an exciting 'wrap-around' effect with side wall imaging.

Display	Centre spreading effect
0	No centre spreading
1	20.8°
2	28°
3	36°
4	54°
5	62°
6	69.8°
7	Phantom centre

The 'Centre Width' setting for Dolby Pro Logic II Music Mode

Speaker set-up

This menu screen allows you to specify the speaker configuration that is connected to the analogue outputs of your DVD player. (Note that these settings do not affect the digital output in any way.) It is important that this configuration reflects accurately the actual situation, otherwise audio quality may be severely compromised.

The speakers are indicated as follows:

Front L/R	This is the setting for the 'Front' speakers (the speakers used for 2-channel stereo output).
Centre	This is the 'Centre' speaker setting.
Surround L/R	This is the setting for the 'Surround' speakers (normally next to or behind the user).
Subwoofer	This is used to indicate whether a subwoofer is connected.



For each speaker, the player can be configured to send either audio with the full frequency range of the source material, or with a reduced frequency range. The reduced frequency range option is used normally when 'satellite' speakers are used for the surround channels; these cannot handle low frequency information. Full frequency speakers are commonly called 'Large' speakers, with reduced-range speakers given the name 'Small'. Low frequency information is re-routed from 'small' speakers to 'large' speakers, or to the subwoofer (depending on the speaker configuration).

NOTES:

1. Any speaker that is not connected should be identified by selecting 'Not Present' for that speaker.
2. Although the DV79 is very flexible in the speaker configurations it can handle, some restrictions have been applied. For example, if no subwoofer is present, then it is not possible to configure the Front speakers to be 'Small' since there would be nowhere to redirect the low frequency information.

Stereo+Sub

This setting is relevant to 2-channel source material only (such as CDs). It controls whether the low frequency information is redirected to the subwoofer, or not. This item can be changed only if a subwoofer is specified as present in the system.

None	No redirection of low-frequency information occurs; all the audio is sent to the Front speakers.
Crossover	Low-frequency information is redirected to the subwoofer, with the remaining (higher-frequency) information sent to the Front speakers.
Duplicate	All the audio is sent to the Front speakers. In addition, the low-frequency information is duplicated to the subwoofer.

Crossover Frequency

This setting defines the frequency at which bass redirection begins. Frequencies below this level are redirected from 'small' speakers to the Fronts or to the subwoofer; frequencies above this level are not redirected. The redirection frequency is the same for all the speakers in a system.

The optimum crossover frequency depends on the characteristics of your speaker set-up, and is best determined by experimentation. We suggest you start at 100Hz.

? No sound from the centre/rear speakers? Ensure that the following are correct:

- A multi-channel source is being played;
- The 'Audio' item is set to 'Bitstream/6 Ch';
- The connection between the DV79 and your audio device is made correctly – if using multi-channel analogue output, check that the cables have not been swapped

Delay set-up

The delay set-up menu page allows two different type of delay to be configured: those due to speaker positioning and those due to video post-processing.

Speaker positioning

The relative positioning of speakers within a room (particularly a large room) may mean that sound from some speakers arrives at the listener later than sound from others. By altering the delay settings for the different speakers, this difference in arrival time can be reduced or eliminated.

When setting the delay, it should be imagined that the listener is sitting in a circle of the speakers; the delay indicates the distance of the speaker from the listener.

Measurement Units

Your DV79 allows you to choose the measurement units that you feel most comfortable with: metres or feet.

Delays

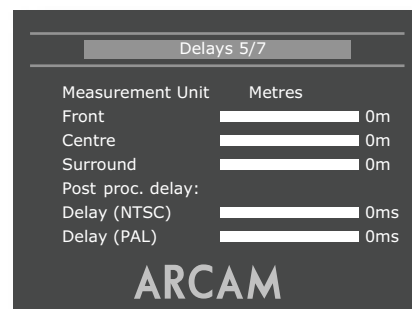
Delays for the front, centre and surround speakers can be set using the associated sliders. A delay may be necessary for a speaker set if those speakers are further away from the listener than the others – specifying the different speaker distances will cause a slight delay to be added to the output of the closest speakers so that the sound from all the speakers will arrive at the listener at the same time.

Video post-processing (lip-sync.)

Delay (NTSC/PAL)

Modern displays and video scalers often employ digital video processing that can introduce a significant video delay. The 'Delay' menu items allow correction of this effect by delaying the audio soundtrack up to 150 milliseconds. The amount of correction required in a given system is best determined by experimentation.

- If the interlaced video outputs of the DV79 are in use and the display is converting the signal to progressive scan then we recommend a delay of 50–80ms, depending upon the display.
- If the progressive video output of the DV79 is in use, the player corrects automatically for its own processing delays and it is unlikely that additional delay will be necessary. Therefore, start by setting these items to 0ms (no delay).



Trim set-up

The relative sensitivity (volume) of different speakers can lead to some speakers sounding disproportionately loud or quiet, relative to others in the system. The trims setting of your DV79 can help to address this imbalance.

Test Noise

Setting this item to 'On' causes pink noise to be generated from the speaker indicated by the on-screen highlight. The noise is at the volume indicated by the slider for the speaker. Setting this to 'On' may be useful in ensuring that the relative volume for each speaker is the same.

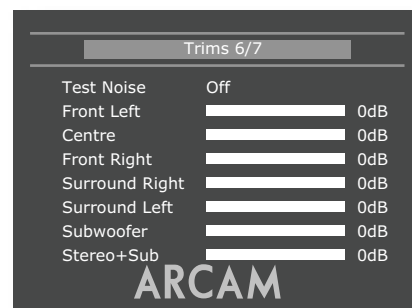
Note that this setting is set automatically to 'Off' on exit from this menu page.

Trims

Trims for all the speakers can be set using the associated sliders. These settings are useful if the speakers have different sensitivities (and so have different volumes for the same input levels). The trims can be set in 1dB steps.

Subwoofer/Stereo+Sub trims

Both the 'Subwoofer' and the 'Stereo+Sub' trims control the subwoofer trim setting. 'Subwoofer' is the trim used when multi-channel material is being played; 'Stereo+Sub' is the subwoofer trim used with 2-channel material.



Access set-up

Password

The password setting works in conjunction with the rating setting (the next menu item) to provide a means of limiting content playback by children (parental control).

You will see there are four dashes and a padlock symbol. Normally the padlock symbol will be open and this means the parental control is unlocked. Under this condition the rating setting may be freely changed.

To lock the parental control, choose a suitable four digit number. Don't forget your password as you will need to know it to unlock the player. Highlight 'Password' and enter your four digit number using the numerical keys on the handset. When all four digits have been entered, press **OK** on the handset. The player is now locked and you will not be able to change the rating setting.

To unlock the parental control, highlight 'Password' and enter your four digit number, followed by **OK**.

Note that a different pass-code can be selected each time that the player is locked.

Rating

The rating setting is used in conjunction with the password to restrict the content of DVD titles that may be played. To change this setting the parental control must be unlocked.

The term 'Parental level' refers to a standard defined for DVDs. DVD movies may have a parental level between 1 and 8. Note that this only applies to DVD video discs that have the parental level correctly implemented. Some DVD video titles do not respond to parental control settings, and Video CDs have no mechanism for parental control.

Once the rating level has been set, DVD titles with parental level higher than the setting will not play. Sometimes DVD video titles may be produced that have the parental level set for specific scenes, so a disc will play but skip or substitute certain scenes.



Completing the set-up

Complete the set-up procedure by pressing **SETUP** on the remote control. This saves all the data and closes the set-up menu. You can press **SETUP** at any time while in a menu to quit from it.

To return to the set-up menu at any time, ensure that there is no disc playing and press the **SETUP** button.

Advanced DVD and VCD features

This section explains the more sophisticated DVD and VCD features, such as special playback modes. The operations described here are not exactly the same for DVDs and VCDs, but are similar enough to make it appropriate to group them together.

Note that many VCDs have a single track, so some operations involving tracks will not be relevant.

Jumping to a particular point

Press the **SRCH** button on the remote control to open the 'Search' menu:

If the disc is playing, then the elapsed and total times on the disc are shown in the top right of the page.

A jump can be performed using different specifiers: jump to a particular time or to a specified chapter/track on the disc.

Time

Highlight the 'Time' field and enter the time in hours, minutes and seconds, then press **OK**. The Search menu is removed from the screen and playback starts from the time specified. Invalid time entries are ignored.

Title/Chapter

(Applies to DVDs only) To jump to a title or chapter, highlight the title/chapter position and enter the number of the title/chapter to jump to, before pressing **OK**.

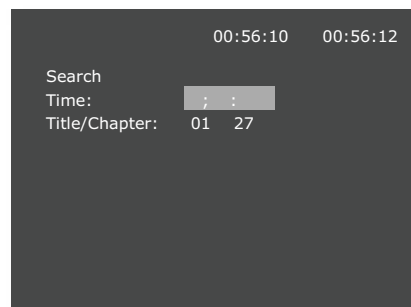
It is possible to jump to a chapter within a different title to the current one by entering a value into both fields. Note that specifying a title without a chapter will jump to the first chapter in the title.

Group/Track

(Applicable to DVD-audio discs only.) To jump to a group or track, highlight the group/track position and enter the number of the group/track to jump to, before pressing **OK**. It is possible to jump to a track within a different group to the current one by entering a value into both fields. Note that specifying a group without a track will jump to the first track in the group.

Track

(Applies to VCDs only) To jump to a specified track on a VCD, enter the track number in the 'Track' field, then press **OK**. Note that many VCDs have only one track.



Closing the Search menu

When displayed, this menu screen can be closed again by pressing the **SRCH** button (which also has the effect of cancelling the search).

Special playback modes

Playback modes are available that allow repeat, shuffle and programmed playback.

Repeat

Press the **RPT** button on the remote control to cycle through the repeat options. For DVDs, a chapter or title repeat may be selected (i.e., play continuously the current chapter or the current title). For VCDs, a track or disc repeat is available.

When a chapter/track repeat is selected, the loop symbol on the front panel display is illuminated and the current chapter/track is repeated. If a title/disc repeat is selected, the loop symbol and 'ALL' are illuminated and the current title/disc is repeated.

To cancel repeat, press the **RPT** button until 'Repeat: Off' is displayed.

Shuffle

Press the **P MODE** button on the remote control to switch shuffle play on.

The 'RAND' (random play) indicator shows on the display, and the chapters/tracks are played in random order.

To cancel random play, press the **P MODE** button for a second time.

A-B repeat

The DV79 can repeat a specific section of a DVD or VCD; this is called an A-B repeat.

To perform an A-B repeat, wait until the disc is at the point where you want the repeat to start, then press **A-B**. The OSD shows a repeat symbol, followed by 'A-', and the front panel shows 'A-'.

Press **A-B** again at the point you want the repeat to end. The repeat symbol, followed by 'A-B' is shown on the display device, and the front panel shows 'A-B'. The selected section is repeated in a loop.

To cancel the A-B repeat, press **A-B** again. An 'Off' message is displayed on the OSD.



Programmed playback (DVD-video)

Press **PROG** on the remote control to open the 'Programme' menu. Note that playback must be stopped first.

The bottom of the screen shows the number of titles present on the disc, together with the number of chapters in the title selected currently (or the first title if no title has yet been specified). Below this is an information line, giving relevant information for the cursor position.

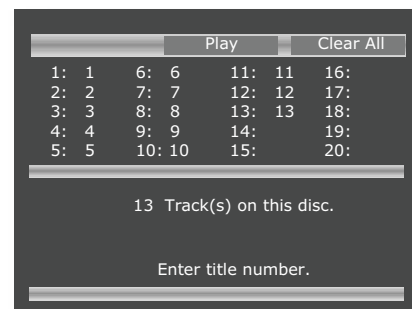
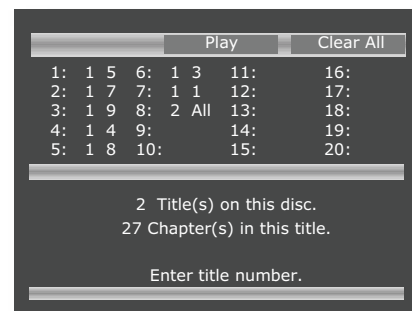
You can enter a sequence of up to 20 title/chapter combinations for programmed playback. If you enter data that is invalid for the current disc, the field is erased automatically.

A number of aids have been built in to the programme menu to make it easier to use. These are best illustrated by an example. Let's assume that you want to play chapters 5, 7, 9, 4, 8, 3, and 1 (in that order) of title 1, then all of title 2.

First, highlight the title position for the first programmed item, then press the number **1** on the remote control: '1' is shown in the position. Using the remote control, press **▶** to highlight the chapter position. The message at the bottom of the screen changes accordingly, prompting you for the required information. Press **5** on the remote handset.

Since we have a number of chapters all from the same title, it would be a lot of work to have to enter the title number each time. Press **▼** on the remote handset. Notice that the player assumes that the title number remains the same for this entry as for the previous one. Enter the remaining chapter numbers, pressing **▼** after each one. (Note that pressing **▼** at the bottom of a column places the cursor at the top of the next column.)

Next, we want to specify all of title 2. For this, highlight the title position of the next entry (entry 8) and enter the number **2**, indicating title 2. Highlight the chapter position and, without entering any number, press **▼**. The player fills in the text 'All' to indicate that all the chapters in title 2 will be played.



Program (DVD-audio)

The programming of a sequence for a DVD-audio disc is essentially the same as for a DVD-video disc, and the instructions given above should be followed. For DVD-audio discs, the 'titles with chapters' combination found on DVD-video discs changes to 'groups with tracks'.

Programmed playback (VCD)

The bottom of the screen shows the number of tracks present on the disc. Below this is an information line, giving relevant information for the cursor position.

You can enter a sequence of up to 20 tracks for programmed playback. If you enter data that is invalid for the current disc, the field is erased automatically.

To program the player, highlight the first entry (using the cursor pad on the remote control), then press the number of the track you want to play first. To enter a second track, move down, then type the number of the second track to play, etc. To enter a track number greater than 9, press the two digits sequentially (e.g., for track 10, first press **1**, then press **0**).

General

To play the programme you have entered, highlight the 'Play' button on the screen and press **OK**. The 'PROG' indicator shows in the display and the programmed sequence begins.

If you make a mistake while programming, you can clear a single field by highlighting it and pressing **CLEAR**. To clear all the fields at once, highlight the 'Clear All' button on the screen and press **OK**.

To stop the programmed sequence and return to normal playback, select the **PLAY** button in the programme menu with no programme specified. This clears the programme mode and cause normal playback order to be resumed.

Note that skipping forward or back through tracks while in programmed play mode skips through the programmed sequence.

Advanced MP3/WMA/JPEG and audio-CD features

The DV79 DVD player has the ability to handle MP3, WMA and JPEG files, when these are burned on to a CD-R or CD-RW disc. Picture/Photo CDs are also playable. These file types may be mixed together, if desired.

This section explains the more sophisticated CD-based features, for audio CDs and for CD-ROM discs containing MP3, WMA and JPEG files. The operation for audio-CDs and other CD-ROMs is very similar, except that CD-ROMs can have directories and sub-directories, while audio-CDs do not have a directory structure.

In this section of the document, we use the term 'CD-ROM' to refer to a CD-R or CD-RW disc containing MP3, WMA or JPEG files, and including Picture/Photo CDs.

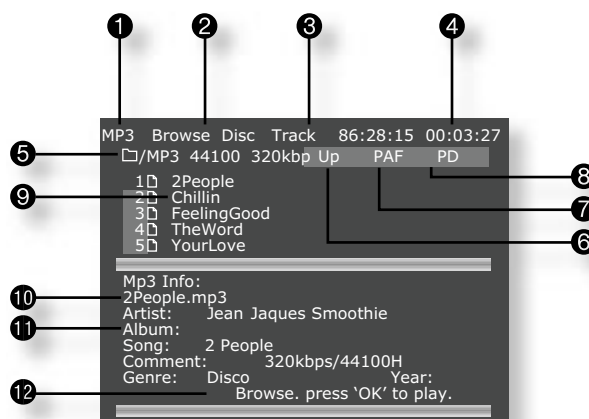
All of these advanced features use on-screen menus, so a Display device monitor is required.

Screen layout

When an audio-CD or CD-ROM is detected by the DVD player, the disc navigator screen is displayed.

The screen shown above is the disc navigator screen, in this example showing a CD-R containing MP3 files. The following items can be identified:

- 1 The user command indicator.
- 2 The mode of the player. This is described in more detail below.
- 3 The current track number and the total number of tracks in this directory (for CD-ROMs), or on the whole disc (for audio-CDs).
- 4 The playback time of the current track, and the total playback time.
- 5 For CD-ROMs, this area shows the current directory.
- 6 'Up' – for CD-ROMs, selecting this button changes directory to one level above the current one. This button is not shown for audio-CDs, or if the current directory is at the top level.
- 7 'PAF' – Play All Files on the disc. Starting from the first valid file/track, all valid files/tracks on the disc are played, in the order found.
- 8 'PD' – Play Directory. (CD-ROMs only). Starting from the first valid file in the current directory, all the (valid) files in the current directory are played.
- 9 The names of the tracks in this directory. For audio-CDs, the text 'Track 1', etc., is shown here. For CD-ROMs, the text shown here is based on the file name of the track.
- 10 When playing CD-ROMs, the full name of the file being played is displayed here (subject to screen space).
- 11 When playing CD-ROMs, tag information from MP3 and WMA files is displayed here, if present on the disc.
- 12 Helpful messages to the user are displayed here. When the disc is loaded, the PAF button (7) is highlighted. This means that loading the disc and pressing **PLAY** or **OK** is enough to set the disc playing.



Player mode

When playing audio-CDs or CD-ROMs, the player can be in one of three modes:

Browse mode: the user is free to navigate around the disc directory structure (while playback is stopped). Valid files/tracks in each directory (audio-CD tracks or files that can be played) are displayed on the screen. Pressing **PLAY** while the cursor is on a valid file/track will start playback from that point, continuing to the end of the disc. Alternatively, the 'PD' or 'PAF' buttons can be used to start playback.

Programme mode: Press **PROG** on the remote control to enter 'Programme' mode to choose the order in which the files/tracks are played. Playback must be stopped first. 'Programme' mode operates differently for audio-CDs and MP3 discs, and is explained on page 22.

Playlist mode: The player is in this mode when a programmed sequence of files/tracks is being played. No navigation of the disc may be performed in this mode; the player starts at the beginning of the programmed playlist and plays through to the end.

Browsing the disc (Browse mode)

By default, the disc navigator is in 'Browse' mode. In this mode, the user can navigate around the disc (using the cursor pad for direction and 'OK' to select an option). When a file/track is highlighted, the tag information for that file (if available) is displayed in the lower portion of the screen. Use the 'Up' button to move to a higher-level directory; to enter a lower-level directory, press **OK** when the directory name is highlighted.

At any time, press **PLAY** or **OK** to begin playback from the file/track highlighted currently. Navigation around the current directory is possible during playback, but playback stops automatically if you attempt to navigate out of the current directory. Please note the following:

- Fast forward and fast rewind do not work with MP3 or WMA playback.
- Skipping forward past the end of a directory with CD-ROMs causes playback to continue from the next directory containing valid files. Skip-back can be performed only as far as the beginning of the current directory.
- Directory trees may be up to 10 directories deep.
- Long file names, of up to 64 characters (Joliet standard), are supported.
- Only sample rates of 44.1kHz and 48kHz are supported for MP3 and WMA files.
- For MP3 playback, the following constant bit rates are supported: 32, 64, 80, 96, 112, 128, 160, 192, 256 and 320 kilobits per second. Variable bit rate (VBR) between 96kb/s and 320kb/s is also supported.
- For WMA playback, the following constant bit rates are supported: 48, 64, 80, 96, 128, 160 and 192kb/s.
- CD-ROM discs may contain files other than MP3, WMA or JPEGs, but these are not displayed on the screen.

Because of differences in the many MP3 and WMA encoders available, we recommend that you conduct a test recording before transferring large numbers of MP3 files to CD-R or CD-RW for subsequent playback on the DV79.

Programmed playback (Audio CDs)

Press **PROG** on the remote control to open the 'Programme' menu. Playback must be stopped first.

The bottom of the screen shows the number of tracks present on the disc. Below this is an information line, giving relevant information for the cursor position.

You can enter a sequence of up to 20 tracks for programmed playback. If you enter data that is invalid for the current disc, the field will be erased automatically.

To program the player, highlight the first entry (using the cursor pad on the remote control), then press the number of the track you want to play first. To enter a second track, move down, then type the number of the second track to play, etc. To enter a track number greater than 9, press the two digits sequentially (e.g., for track 10, first press **1**, then press **0**).

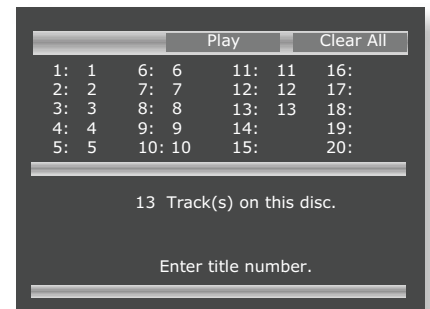
To play the programme you have entered, highlight the **PLAY** button on the screen and press **OK**. The 'PROG' indicator shows on the front panel display and the programmed sequence begins.

If you make a mistake while programming, you can clear a single field by highlighting it and pressing **CLEAR**. To clear all the fields at once, highlight the 'Clear All' button on the screen and press **OK**.

To stop the programmed sequence and return to normal playback, select the 'Play' button in the programme menu with no programme specified. This clears programme mode and causes normal playback order to be resumed.

Note that in programmed playback mode, skipping track forward or back skips forward or back through the programmed sequence.

The player returns to 'Browse' mode if no programme has been entered when **PROG** is pressed for a second time.



Programmed playback (CD-ROM)

Pressing the **PROG** button on the remote control stops playback (if active) and changes the player mode to 'Programme' mode (as indicated at point ②).

Navigating the directory tree is the same as described earlier for 'Browse' mode. Files from any location on the disc may be added to the playlist by moving the cursor to the file, then pressing **OK** on the remote control. Files that are present in the playlist are shown with a light blue highlight.

To remove a file from the playlist, move the cursor to the file and press **OK**. The blue highlight disappears from the file, indicating that the file is no longer in the playlist. To remove all files from the playlist, press **CLEAR** on the remote control.

When you have entered the programme to your satisfaction, press the **PROG** button again. This changes the display to show the programmed list ('Playlist' mode) and playback starts automatically.

Playback can be stopped and started using the **STOP** and **PLAY** keys, as normal. To stop the programmed sequence and return to normal playback, press the **PROG** button for a third time; this stops playback and changes the player to 'Browse' mode.

Shuffle and Repeat

Note that this section is valid for audio-CDs only.

Repeat

Press the **RPT** button on the remote control to cycle through the repeat options. 'Track' or 'Disc' (i.e. all) repeat are available.

When a track repeat is selected, the loop symbol on the front panel display is illuminated and the current track is repeated. If a disc repeat is selected, the loop symbol and 'ALL' are illuminated and the entire disc is repeated.

To cancel repeat, press the **RPT** button until the Repeat symbols on the front panel display are no longer illuminated.

Shuffle

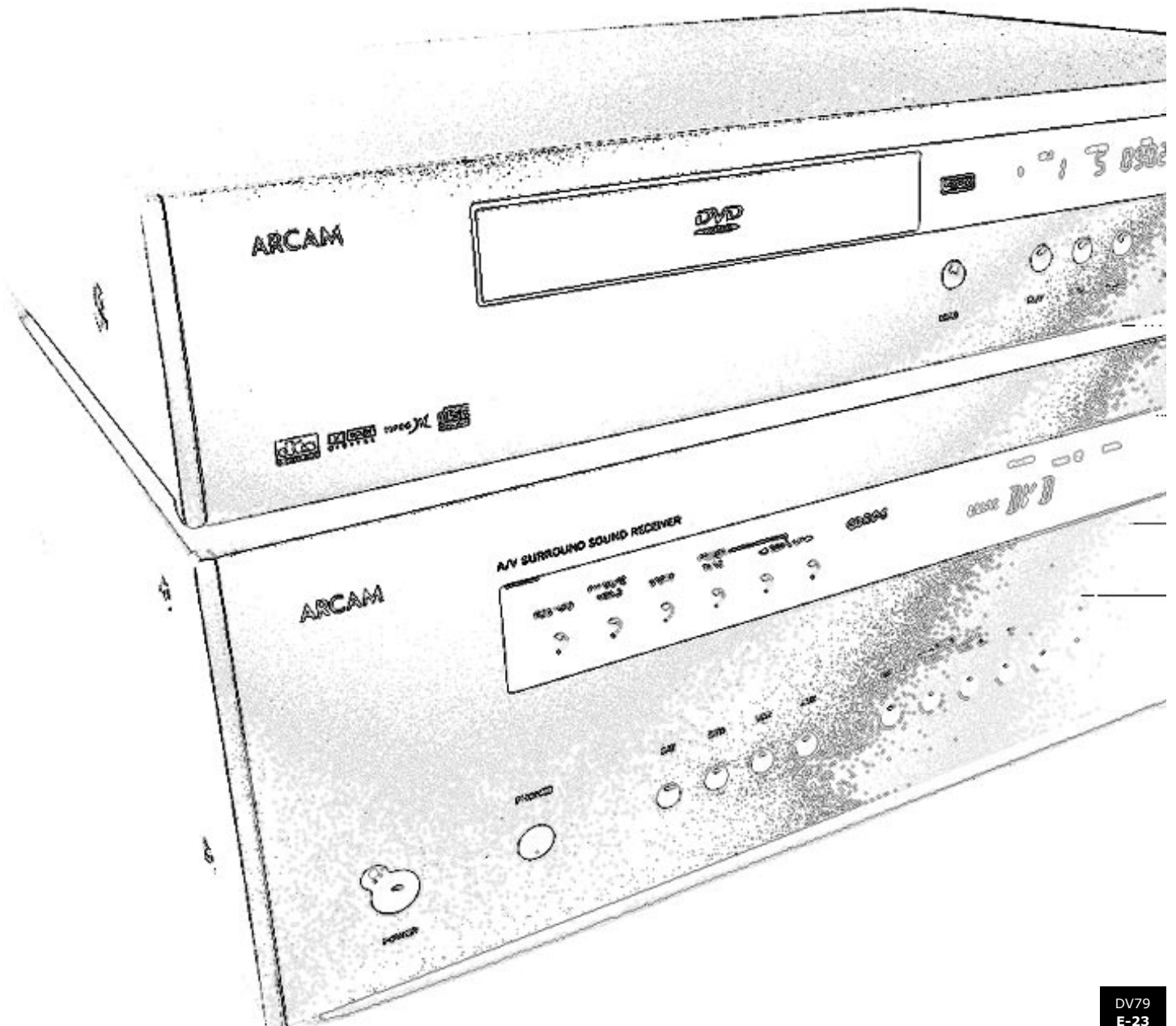
Press the **P MODE** button on the remote control to activate shuffle play. The 'RAND' (random play) indicator shows on the display, and the tracks are played in random order.

To cancel random play, press the **P MODE** button for a second time.



Note that:

- Repeat and Shuffle cannot be set at the same time
- If a programmed sequence is shuffled using the **P MODE** button on the remote control, pressing **P MODE** again will not 'unshuffle' the programme



Remote-control codes

The following table gives the IR-commands accepted by the DV79. The system code for the DV79 is 25 (in common with other Arcam DVD players).

Power commands

Command	Decimal Code
Power toggle	25-12
Power-on	25-123
Power-off	25-124

Playback control commands

Command	Decimal Code
Track number 'n', (e.g., 1)	25-n (e.g., 25-1)
Track forward	25-32
Track back	25-33
Fast forward	25-52
Fast rewind	25-50
Slow forward	25-30
Slow rewind	25-31
Open	25-45
Pause	25-48
Stop	25-54
Play	25-53

Display control commands

Command	Decimal Code
Display	25-18

Advanced control commands

Command	Decimal Code
Repeat toggle	25-29
Repeat A-B	25-59
Clear	25-58
Programme	25-41
Up	25-86
Down	25-85
Left	25-81
Right	25-80
OK	25-87
PMode	25-64
Subtitle	25-65
Title	25-66
Menu	25-67
Zoom	25-68
Audio	25-69
Mem (Bookmark)	25-70
Return	25-72
Angle	25-73
Setup	25-74
Status	25-75
Search	25-76
PL	25-77
Trim	25-37

Technical specifications

General	
Power Requirements	100/115V or 230V AC, set by voltage selector switch on rear panel
Power consumption	< 35 VA
Dimensions	435mm x 80mm x 350mm
Weight	net: 5.2kg; packed: 8.0kg
Video outputs	
Composite video	1 x gold plated phono. 1V pk-pk in 75Ω
S-Video	1 x 4-pin mini-DIN. Y 1V pk-pk in 75Ω, C 0.3V pk-pk in 75Ω
Component video	Interlaced or Progressive 3 gold plated phono sockets. Y 1V pk-pk in 75Ω, Pb 0.7V pk-pk in 75Ω, Pr 0.7V pk-pk in 75Ω
SCART socket with RGB video	All 0.7V in 75Ω, composite video 1V in 75Ω, and stereo audio Auto switching of TV with aspect ratio control
HDMI	19-pin HDMI connector Supported video formats are: 720x576p, 720(1440)x576i, 720x480p, 720(1440)x480i, all with basic audio.
Audio outputs	
Analogue audio outputs	Stereo or multi-channel output on gold-plated phono sockets
Output level	2.2V rms at 0dB signal, 4V rms with HDCD discs (left and right channels only)
Frequency response	20Hz to 20kHz (+0.1dB, -0.5dB)
THD+N	<0.005% for 1kHz 0dB signal, measured 22Hz-22kHz, unweighted
Signal-to-noise ratio	105dB, measured 20Hz-20kHz, unweighted
Digital audio output (IEC958)	PCM/Dolby digital/MPEG/DTS on gold plated phono (coax) and TOSLINK (optical)
Accessories supplied	
	CR-415 Remote control
	2 x AAA batteries
	mains lead
E&EO	

NOTE: All specification values are typical unless otherwise stated.

Continual improvement policy

Arcam has a policy of continual improvement for its products. This means that designs and specifications are subject to change without notice.

Guarantee

Worldwide Guarantee

This entitles you to have the unit repaired free of charge, during the first two years after purchase, at any authorised Arcam distributor provided that it was originally purchased from an authorised Arcam dealer or distributor. The manufacturer can take no responsibility for defects arising from accident, misuse, abuse, wear and tear, neglect or through unauthorised adjustment and/or repair, neither can they accept responsibility for damage or loss occurring during transit to or from the person claiming under the guarantee.

The warranty covers:

Parts and labour costs for two years from the purchase date. After two years you must pay for both parts and labour costs. The warranty does not cover transportation costs at any time.

Claims under guarantee

This equipment should be packed in the original packing and returned to the dealer from whom it was purchased, or failing this, directly to the Arcam distributor in the country of residence.

It should be sent carriage prepaid by a reputable carrier -- NOT by post. No responsibility can be accepted for the unit whilst in transit to the dealer or distributor and customers are therefore advised to insure the unit against loss or damage whilst in transit.

For further details contact Arcam at:

Arcam Customer Support Department,
Pembroke Avenue, Waterbeach, CAMBRIDGE, CB5 9QR, England.

Problems?

If your Arcam dealer is unable to answer any query regarding this or any other Arcam product please contact Arcam Customer Support at the above address and we will do our best to help you.

On line registration

You can register your Arcam product on line at: www.arcam.co.uk

Appendix: Serial programming interface

Introduction

This section of the document describes the remote control protocol for controlling the DV79 via the RS232 interface.

Conventions

- The remote controller is referred to as the 'RC', with the DV79 called the 'DV79'.
- All values in this section are hexadecimal values, unless otherwise specified.

Data transfer format

- Transfer rate: 19,200bps.
- 1 start bit, 8 data bits, 1 stop bit, no parity, no flow control.

Command and response formats

Communication between the RC and the DV79 takes the form of sequences of ASCII characters, with all commands and responses having the same basic format. With the exception of status triggers (see below), the DV79 shall transmit only to respond to communication from the RC. The DV79 shall always respond to a received command.

Each transmission by the RC shall be five bytes long in the following format:

- <STR> <CC> <P1> <P2> <ETR>
- STR (Start transmission): 0x21
 - CC (Command code): the code for the command
 - Px (Parameter code): the parameters for the command
 - ETR (End transmission): 0xD

Each response by the DV79 shall be seven bytes long in the following format:

- <STR> <RC> <AC> <P1> <P2> <P3> <ETR>
- STR (Start transmission): 0x21
 - RC (Reply code): = command code
 - AC (Answer code): answer code (see below)
 - Px (Parameter code): the parameters for the response
 - ETR (End transmission): 0xD

The RC shall transmit commands and receive answers according to the following procedure:

1. The RC shall transmit a command.
2. Having issued a command, the RC shall wait at least 100ms before transmitting a subsequent command (otherwise commands may be lost). Ideally, the RC shall wait for an answer from the DV79 before issuing the next command.
3. The RC shall analyse the RC, AC and Px values of a received message to decide whether the command has been executed normally.
4. The time from the completion of command transmission by the RC to the beginning of the response by the DV79 shall be maximum two seconds.
5. The DV79 shall not accept any commands from the RC for five seconds after the power switch is turned on or a 'power-on' command is received.

The exception to the above communication protocol is when 'status triggers' are enabled by the RC (using the 'Status Triggers' command). In this case, the DV79 shall transmit messages whenever the status of the player changes. These messages shall be transmitted by the DV79 at asynchronous intervals.

State changes as a result of other inputs

It is possible that the state of the DV79 may be changed as a result of user input via the front panel buttons or via the IR remote control. Changes resulting from these inputs shall be relayed to the RC (using the appropriate message type) only if 'status triggers' have been enabled by the RC.

For example, if the user changed the front panel display brightness using the **DISP** button on the remote control, a display message (defined below) would be sent to the RC. A similar action would be taken for all other state changes.

Answer codes

The following answer codes are defined:

- **Command OK** '@' (0x40): The command has been accepted and processed completely.
- **Command ACC** 'A' (0x41): The command has been accepted but not yet processed fully.
- **Status update** 'B' (0x42): Status change message
- **Invalid command** '0' (0x30): The command or command format was invalid
- **Invalid request** '5' (0x35): The command is not valid for the current player state

If the answer code returned is anything other than 'Command OK' or 'Status update' then all parameter fields in the return message become 'reserved'.

Status codes

The following status codes are defined:

MSB CODES:

■ Stand-by	'0' (0x30):	The DV79 is in stand-by state.
■ Disc loading	'1' (0x31):	A disc is being loaded by the DV79.
■ Tray open	'2' (0x32):	The disc tray is open.
■ No disc	'3' (0x33):	There is no disc in the DV79.
■ Stop	'4' (0x34):	Play-back of the disc is stopped.
■ Resume stop	'5' (0x35):	The DV79 is in 'resume-stop' state.
■ Play	'6' (0x36):	The DV79 is playing the disc.
■ Pause	'7' (0x37):	The DV79 is in 'pause' state.
■ Scanning	'8' (0x38):	Fast/slow forward/rewind in progress.

LSB CODES:

■ No menu	'@' (0x40):	No player menu is open (DVD menus may be open).
■ Setup	'A' (0x41):	The set-up menu of the DV79 is open.
■ Programme	'B' (0x42):	The programme menu of the DV79 is open.
■ Bookmark	'C' (0x43):	The bookmark menu of the DV79 is open.
■ Search	'D' (0x44):	The search menu of the DV79 is open.
■ Trim	'E' (0x45):	The trim menu of the DV79 is open.
■ PLII	'F' (0x46):	The Pro Logic II menu of the DV79 is open.

Example command and response sequence

As an example, the command to be set the front-panel display of the DV79 to 'dimmed' (defined below) is as follows:

<i>STR</i>	<i>CC</i>	<i>P1</i>	<i>P2</i>	<i>ETR</i>
!	+	1	~	(0xD)

Assuming that the command was accepted by the DV79, the DV79 shall respond to this command with the following sequence:

<i>STR</i>	<i>RC</i>	<i>AC</i>	<i>P1</i>	<i>P2</i>	<i>P3</i>	<i>ETR</i>
!	+	@	1	~	~	(0xD)

Command Specifications / Spécifications des commandes / Befehlspezifikationen / Opdrachtspecificaties

Power / Alimentation / Betriebsbereitschaft / Stroom

- GB Change the stand-by state of the DV79.
- F Permet de modifier l'état de veille du DV79.
- D Ändern des Stand-by-Zustands des DV79.
- NL De standby-status van de DV79 wijzigen.

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to bring the DV79 out of standby:
- F Séquence commande/réponse pour désactiver le mode veille du DV79 :
- D Befehls-/Rückmeldesequenz zur Aktivierung des im Stand-by-Modus befindlichen DV79:
- NL Opdracht- en responsreeks om de DV79 uit stand-by te halen:

COMMAND: !*1~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !*A1~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'*' (0x2A) (Command code)
P1	'0' (0x30) – Enter stand-by state '1' (0x31) – Power-on 'Q' (0x51) – Request power state
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'*' (0x2A) (Reply Code)
AC	Answer code
P1	Response to the 'Request power state': '0' (0x30) – DV79 is in standby '1' (0x31) – DV79 is powered on Otherwise: '~' (0x7E) – (Reserved)
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Display Control / Contrôle de l'affichage / Steuerung des Displays / Bedienung display

- GB Allows the brightness of the front-panel display to be changed.
- F Permet de modifier la luminosité de l'affichage du panneau avant.
- D Hiermit können Sie die Helligkeit des Displays an der Gerätevorderseite ändern.
- NL Hiermee kan de helderheid op het display aan de voorkant gewijzigd worden.

Example / Exemple / Beispiel / Voorbeeld

- GB: Command/response sequence to change the brightness of the display to 'off'
- F: Séquence commande/réponse pour désactiver la luminosité de l'affichage :
- D: Befehls-/Rückmeldesequenz, mit der der Helligkeitsstatus des Displays auf „aus“ gesetzt wird:
- NL: Opdracht- en responsreeks om de helderheid van het display op 'off' te zetten:

COMMAND: !+0~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !+@0~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'+' (0x2B) (Command code)
P1	'0' (0x30) – Set the display to off '1' (0x31) – Set the display to dimmed '2' (0x32) – Set the display bright 'Q' (0x51) – Request the display brightness
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'+' (0x2B) (Reply Code)
AC	Answer code
P1	'0' (0x30) – The display is off '1' (0x31) – The display is dimmed '2' (0x32) – The display is bright
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Request disc time / Demande de durée du disque / Spieldauer abfragen / Schijftijd aanvragen

- GB Requests the current playback time of the disc.
- F Permet de demander la durée de lecture actuelle du disque.
- D Fragt die aktuelle Spielzeit des Datenträgers ab.
- NL Hiermee kan de huidige afspeeltijd van de schijf aangevraagd worden.

GB Notes:

Each time item (hours/minutes/seconds) is offset by 0x30. To obtain the correct value, subtract 0x30 from the reported value.

- Formulae: actual hours = (reported hours - 0x30)
actual minutes = (reported minutes - 0x30)
actual seconds = (reported seconds - 0x30)
- If status messages are enabled, then the RC shall receive this message indicating the new disc time if the disc time changes.

F Remarques :

Chaque élément de durée (heures/minutes/secondes) est décalé de 0x30. Pour obtenir la valeur correcte, ôtez 0x30 de la valeur indiquée.

- Formules : heures réelles = (heures indiquées - 0x30)
minutes réelles = (minutes indiquées - 0x30)
secondes réelles = (secondes indiquées - 0x30)
- En cas d'activation des messages d'état, la télécommande doit recevoir le message indiquant la nouvelle durée du disque si elle change.

D Hinweise:

Der Wert (Stunden/Minuten/Sekunden) wird jedesmal um 0x30 versetzt. Subtrahieren Sie 0x30 vom angegebenen Wert, um den richtigen Wert zu erhalten.

- Formeln: tatsächliche Stunden = (angegebene Stunden - 0x30)
tatsächliche Minuten = (angegebene Minuten - 0x30)
tatsächliche Sekunden = (angegebene Sekunden - 0x30)
- Sind Zustandsmeldungen aktiviert, empfängt die FB diese Meldung, die die neue Spieldauer anzeigt, wenn sich die Spieldauer ändert.

NL Opmerkingen:

Elk tijdsitem (uren/ minuten/seconden) wordt met 0x30 verschoven. Wilt u de juiste waarde verkrijgen, dan moet u 0x30 van de weergegeven waarde aftrekken.

- Formules: feitelijke uren = (weergegeven uren - 0x30)
feitelijke minuten = (weergegeven minuten - 0x30)
feitelijke seconden = (weergegeven seconden - 0x30)
- Zijn statusberichten ingeschakeld en wordt de schijftijd gewijzigd, dan ontvangt de afstandsbediening dit bericht met de nieuwe schijftijd.

Example / Exemple / Beispiel / Voorbeeld

GB Command/response sequence to request the disc time, with the response being 1 hour, 23 minutes and 15 seconds

F Séquence de commande/réponse pour demander la durée du disque, la réponse étant 1 heure, 23 minutes et 15 secondes :

D Befehls-/Rückmeldesequenz zum Abfragen der Spieldauer, wobei die Antwort 1 Stunde, 23 Minuten und 15 Sekunden ist:

NL Opdracht- en responsreeks om de schijftijd aan te vragen, waarbij de respons 1 uur, 23 minuten en 15 seconden is:

COMMAND: !0Q~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !0@1G? - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'0' (0x30) (Command code)
P1	'Q' (0x51)
P2	'~' (0x7E) - (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'0' (0x30) (Reply Code)
AC	Answer code
P1	Elapsed time (hours) + '0' (0x30)
P2	Elapsed time (minutes) + '0' (0x30)
P3	Elapsed time (seconds) + '0' (0x30)

Request title-group information / Demande de numéro de groupe-titre / Titel-/Gruppeninformationen abfragen / Gegevens titels-groepen aanvragen

- GB This requests the current title/group information of the disc.
- F Permet de demander le numéro de groupe/titre en cours du disque.
- D Fragt die aktuelle Titel-/Gruppeninformationen des Datenträgers ab.
- NL Hiermee kunnen de huidige gegevens van titels/groepen van de schijf aangevraagd worden.

COMMAND:

Byte:	Description:
CC	'1' (0x31) (Command code)
P1	'Q' (0x51)
P2	'~' (0x7E) (Reserved)

Notes

- This command is applicable only to DVD discs.
- Each title/group item is offset by 0x30. To obtain the correct value for each field, subtract 0x30 from the reported value.
Formula: actual title = (((title_10s - 0x30) * 0xa) + (title_1s - 0x30))
- If status messages are enabled, then the RC shall receive this message indicating the new title/group if these change.

RESPONSE:

Byte:	Description:
RC	'1' (0x31) (Reply Code)
AC	Answer code
P1	'~' (0x7E) (Reserved)
P2	Group/Title number 10's + '0' (0x30)
P3	Group/Title number 1's + '0' (0x30)

Remarques

- Cette commande ne concerne que les disques DVD.
- Chaque élément de numéro de groupe/titre est décalé de 0x30. Pour obtenir la valeur correcte de chaque champ, ôtez 0x30 de la valeur indiquée.
Formule : numéro de titre réel = (((titre_dizaine - 0x30) * 0xa) + (titre_unité - 0x30))
- En cas d'activation des messages d'état, la télécommande doit recevoir le message indiquant le nouveau numéro de groupe/titre s'il change.

Hinweise:

- Dieser Befehl gilt nur für DVDs.
- Jeder Titel-/Gruppenwert wird um 0x30 versetzt. Subtrahieren Sie 0x30 vom angegebenen Wert, um den richtigen Wert zu erhalten.
Formel: tatsächlicher Titel = (((Titel_10er - 0x30)*0xa) + (Titel_1er - 0x30))
- Sind Zustandsmeldungen aktiviert, empfängt die FB diese Meldung, die den neue Titel-/Gruppenwert anzeigt, wenn sich diese ändern.

Opmerkingen:

- Elk titel-/groepsitem wordt met 0x30 verschoven. Wilt u de juiste waarde voor elk veld verkrijgen, dan moet u 0x30 van de weergegeven waarde aftrekken.
Formule: feitelijke titel = (((titel_tientallen -0x30)*0xa) + (titel_eenheden -0x30))
- Zijn statusberichten ingeschakeld en worden de titels/groepen gewijzigd, dan ontvangt de afstandsbediening dit bericht met de nieuwe titel/groep.

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to request the current disc title, where the response is title 15:
- F Séquence de commande/réponse pour demander le numéro du titre en cours du disque, la réponse étant le titre 15 :
- D Befehls-/Rückmeldesequenz zur Abfrage des aktuellen Datenträgeritels, wobei die Rückmeldung 15 ist:
- NL Opdracht- en responsreeks om de huidige schijftitel aan te vragen, waarbij de respons titel 15 is:

COMMAND: !1Q~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !1@~15 – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Request chapter-track information / Demande de numéro de chapitre/piste / Kapitel-/Titelinformationen abfragen / Gegevens hoofdstuk-track aanvragen

GB: Requests the current chapter/track information of the disc.

F: Permet de demander le numéro de chapitre/piste en cours du disque.

D: Fragt die aktuelle Kapitel-/Titelinformationen des Datenträgers ab.

NL: Hiermee kunnen de huidige gegevens van hoofdstukken/titels van de schijf aangevraagd worden.

Notes

- Each chapter/track item is offset by 0x30. To obtain the correct value for each field, subtract 0x30 from the reported value.

$$\text{Formula: actual track} = (((\text{track_100s} - 0x30) * 0x64) + ((\text{track_10s} - 0x30) * 0xa) + (\text{track_1s} - 0x30))$$

- If status messages are enabled, then the RC shall receive this message indicating the new chapter/track if these change.

Remarques

- Chaque élément de numéro de chapitre/piste est décalé de 0x30. Pour obtenir la valeur correcte de chaque champ, ôtez 0x30 de la valeur indiquée.

$$\text{Formule: numéro de piste réel} = (((\text{piste_centaine} - 0x30) * 0x64) + ((\text{piste_dizaine} - 0x30) * 0xa) + (\text{piste_unité} - 0x30))$$

- En cas d'activation des messages d'état, la télécommande doit recevoir le message indiquant le nouveau numéro de chapitre/piste s'il change.

Hinweise:

- Jeder Kapitel-/Titelwert wird um 0x30 versetzt. Subtrahieren Sie 0x30 vom angegebenen Wert, um den richtigen Wert zu erhalten.

$$\text{Formel: tatsächlicher Titel} = (((\text{Titel_100er} - 0x30) * 0x64) + ((\text{Titel_10er} - 0x30) * 0xa) + (\text{Titel_1er} - 0x30))$$

- Sind Zustandsmeldungen aktiviert, empfängt die FB diese Meldung, die den neue Kapitel-/Titelwert anzeigt, wenn sich diese ändern.

Opmerkingen:

- Elk hoofdstuk-/trackitem wordt met 0x30 verschoven. Wilt u de juiste waarde voor elk veld verkrijgen, dan moet u 0x30 van de weergegeven waarde aftrekken.

$$\text{Formule: feitelijke track} = (((\text{track_honderdtallen} - 0x30) * 0x64) + ((\text{track_tientallen} - 0x30) * 0xa) + (\text{track_eenheden} - 0x30))$$

- Zijn statusberichten ingeschakeld en worden de hoofdstukken/tracks gewijzigd, dan ontvangt de afstandsbediening dit bericht met de nieuwe hoofdstukken/tracks

COMMAND:

Byte:	Descript on:
CC	'2' (0x32) (Command code)
P1	'Q' (0x51)
P2	'~' (0x7E) (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'2' (0x32) (Reply Code)
AC	Answer code
P1	Group/T tle number 100's + '0' (0x30)
P2	Group/T tle number 10's + '0' (0x30)
P3	Group/T tle number 1's + '0' (0x30)

Example / Exemple / Beispiel / Voorbeeld

GB: Command/response sequence to request the current disc title, where the response is track 123:

F: Séquence de commande/réponse pour demander le numéro de la piste en cours du disque, la réponse étant la piste 123 :

D: Befehls-/Rückmeldesequenz zur Abfrage des aktuellen Datenträgeritels, wobei die Rückmeldung Titel 123 ist:

NL: Opdracht- en responsreeks om de huidige schijftitel aan te vragen, waarbij de respons track 123 is:

COMMAND: !2Q~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !2@123 – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Request system status / Demande d'état système / Systemzustand abfragen / Status systeem aanvragen

GB: Requests the current status of the player.

F: Permet de demander l'état actuel du lecteur.

D: Fragt den aktuellen Zustand des Geräts ab.

NL: Hiermee kan de huidige status van de speler aangevraagd worden.

Example / Exemple / Beispiel / Voorbeeld

GB: Command/response sequence to request the disc type, where the disc in the player is a CD, playback is stopped and the set-up menu is open:

F: Séquence de commande/réponse pour demander le type de disque, le disque dans le lecteur étant un CD, la lecture arrêtée et le menu de réglage ouvert

D: Befehls-/Rückmeldesequenz zum Abfragen des Datenträgertyps, wobei es sich beim eingelegten Datenträger um eine CD handelt, die Wiedergabe angehalten wurde und das Setup-Menü geöffnet ist:

NL: Opdracht- en responsreeks om het schijftype aan te vragen, waarbij de schijf in de speler een CD is, het afspelen gestopt is en het setup-menu open is:

COMMAND:

Byte:	Descript on:
CC	'4' (0x34) (Command code)
P1	'Q' (0x51)
P2	'~' (0x7E) (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'4' (0x34) (Reply Code)
AC	Answer code
P1	Disc type code: '1' (0x31) DVD Video '2' (0x32) DVD Audio '3' (0x33) (S)VCD '4' (0x34) CDDA/HDCCD '5' (0x35) MP3/WMA/JPEG '6' (0x36) No Disc '7' (0x37) Unknown
P2	Status code msb (see above)
P3	Status code lsb (see above)

COMMAND: !4Q~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !4@44A – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Status triggers / Déclencheurs d'état / Zustands-Trigger / Statustriggers

- GB Aktiviert/deaktiviert Vollduplex-Zustandsaktualisierungen vom DV79.
- F Permettent d'activer/désactiver les mises à jour d'état en duplex intégral à partir du DV79.
- D Aktiviert/deaktiviert Vollduplex-Zustandsaktualisierungen vom DV79.
- NL Hiermee kunnen full-duplex statusupdates van de DV79 ingeschakeld/uitgeschakeld worden.

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to enable the full-duplex status triggers of the DV79:
- F Séquence de commande/réponse pour activer les déclencheurs d'état en duplex intégral du DV79 :
- D Befehls-/Rückmeldesequenz zur Aktivierung der Vollduplex-Zustands-Trigger des DV79:
- NL Opdracht- en responsreeks om de full-duplex status-triggers van de DV79 in te schakelen:

COMMAND: !61~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !6@0~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'6' (0x36) (Command code)
P1	'0' (0x30) – Disable status updates '1' (0x31) – Enable status updates 'Q' (0x51) – Request update status
P2	'~' (0x7E) (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'6' (0x36) (Reply Code)
AC	Answer code
P1	'0' (0x30) – Updates are disabled '1' (0x31) – Updates are enabled
P2	'~' (0x7E) (Reserved)
P3	'~' (0x7E) (Reserved)

Version / Version / Version / Versie

- GB Returns the software version of the RS232 command protocol.
- F Permet de déterminer la version logicielle du protocole de commande RS232.
- D Gibt die Softwareversion des RS232-Befehlsprotokolls zurück.
- NL Retourneert de softwareversie van het RS232-opdrachtprotocol.

GB Note

- RS232 command protocol software with a different major version number to that shown here is not guaranteed to be 100% compatible with this specification. Please contact your dealer/installer for further details.

F Remarque

- Un protocole de commande logiciel RS232 avec un numéro de version principale différent de celui indiqué risque de ne pas être totalement compatible avec les spécifications. Pour de plus amples informations à ce sujet, veuillez contacter votre revendeur/installateur.

D Hinweise:

- RS232-Befehlsprotokollsoftware mit einer anderen als der hier gezeigten Hauptversionsnummer ist nicht unbedingt vollständig kompatibel mit dieser Spezifikation. Weitere Informationen erhalten Sie bei Ihrem Fachhändler.

NL Opmerkingen:

- Er kan niet gegarandeerd worden dat het RS232-opdrachtprotocol voor de software met een ander primair versienummer dan dat hier getoond wordt 100% compatibel is met deze specificatie. Neem contact op met uw leverancier/installateur voor meer informatie.

Example / Exemple / Beispiel / Voorbeeld

GB Command/response sequence to request the RS232 command protocol version number, where the minor version number is 0x30:

F Séquence de commande/réponse pour demander le numéro de version du protocole de commande RS232, le numéro de version secondaire étant 0x30 :

D Befehls-/Rückmeldesequenz zur Abfrage der Versionsnummer des RS232-Befehlsprotokolls, wobei die Nebenversionsnummer 0x30 ist:

NL Opdracht- en responsreeks om het versienummer van het RS232-opdrachtprotocol aan te vragen, waarbij het secundaire versienummer 0x30 is:

COMMAND: !7Q~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !7@20~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'7' (0x37) (Command code)
P1	'Q' (0x51)
P2	'~' (0x7E) (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'7' (0x37) (Reply Code)
AC	Answer code
P1	'2' (0x32) – Major version number (for this specification)
P2	Minor vers on number (correction level)
P3	'~' (0x7E) (Reserved)

Basic control / Commandes de base / Grundlegende Steuerung / Basisfuncties

- GB Basic control commands for playing a disc.
- F Commandes de base pour lire un disque.
- D Grundlegende Steuerbefehle zum Abspielen eines Datenträgers
- NL Opdrachten van basisfuncties voor het afspelen van een schijf.

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to start playback of a disc:
- F Séquence de commande/réponse pour lancer la lecture d'un disque :
- D Befehls-/Rückmeldesequenz zum Starten der Wiedergabe eines Datenträgers:
- NL Opdracht- en responsreeks om het afspelen van een schijf te starten:

COMMAND: !@0~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !@A~~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'@' (0x40) (Command code)
P1	'0' (0x30) – Play '1' (0x31) – Stop '2' (0x32) – Pause '3' (0x33) – Skip to next/prev ous track/ group/chapter/title 'Q' (0x51) – Request current stats
P2	Direction code for Skip request: '0' (0x30) – Backward, '1' (0x31) – Forward, else: '~' (0x7E) (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'@' (0x40) (Reply Code)
AC	Answer code
P1	Response to the 'Request current status': '0' (0x30) – Playing '1' (0x31) – Stopped '2' (0x32) – Paused '3' (0x34) – Other state Otherwise: '~' (0x7E) (Reserved)
P2	'~' (0x7E) (Reserved)
P3	'~' (0x7E) (Reserved)

Zoom / Zoom / Zoom / Zoom

- GB Set the enlargement level of the screen image.
- F Permet de définir le niveau d'agrandissement de l'image affichée.
- D Stellt die Vergrößerung der Bildschirmanzeige ein.
- NL Hiermee kan het vergrotingsniveau van de schermweergave ingesteld worden.

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to set the zoom level to '3':
- F Séquence de commande/réponse pour définir le niveau de zoom sur 3 :
- D Befehls-/Rückmeldesequenz zum Einstellen des Zoomfaktors auf „3“:
- NL Opdracht- en responsreeks om het zoomniveau op '3' in te stellen:

COMMAND: !D3~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !DA~~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'D' (0x44) (Command code)
P1	Zoom level code: '0' (0x30) – No zoom '1' (0x31) – Zoom level 1 '2' (0x32) – Zoom level 2 '3' (0x33) – Zoom level 3 '4' (0x34) – Zoom level 4 'Q' (0x51) – Request zoom level
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Description:
RC	'D' (0x44) (Reply Code)
AC	Answer code
P1	Response to the 'Request current status': '0' (0x30) – No zoom '1' (0x31) – Zoom level 1 '2' (0x32) – Zoom level 2 '3' (0x33) – Zoom level 3 '4' (0x34) – Zoom level 4 Otherwise: '~' (0x7E) – (Reserved)
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Slow-Fast / Lent-rapide / Langsam-Schnell / Langzaam-snel

- GB Selects slow or fast forward/rewind.
- F Permet de sélectionner une avance ou un retour lent ou rapide.
- D Wählt den langsamen oder schnellen Vor- bzw. Rücklauf.
- NL Hiermee kunt u kiezen voor langzaam of snel vooruit-/terugspoelen.

Notes

- The search speed is incremental. This means, for example, that to achieve a fast-forward speed of x4 from normal playback speed, the fast-forward command has to be sent twice.
- The fast forward/rewind commands are valid only for DVD and CD discs. Slow play is valid only for DVD-video discs.
- If status messages are enabled, then the RC shall receive this message indicating the new playback speed if the status of the player changes.

Remarques

- La vitesse de recherche est incrémentielle. Par exemple, pour obtenir une vitesse d'avance rapide de x4 à partir de la vitesse de lecture normale, il faut envoyer deux fois la commande d'avance rapide.
- Les commandes d'avance/retour rapide ne concernent que les disques DVD et CD. La lecture lente ne concerne que les disques vidéo DVD.
- En cas d'activation des messages d'état, la télécommande doit recevoir le message indiquant la nouvelle vitesse de lecture si l'état du lecteur change.

Hinweise:

- Die Suchgeschwindigkeit verdoppelt sich jedesmal. Wenn Sie also die vierfache Wiedergabegeschwindigkeit möchten, muss der Befehl für den schnellen Vorlauf zweimal gesendet werden.
- Die Befehle für den schnellen Vor- bzw. Rücklauf gelten nur für DVDs und CDs. Die langsame Wiedergabe ist nur bei DVDs möglich.
- Sind Zustandsmeldungen aktiviert, empfängt die FB diese Meldung, die die neue Wiedergabegeschwindigkeit angibt, wenn sich der Gerätezustand ändert.

Opmerkingen:

- De zoeksnelheid is incrementeel. Dit betekent bijvoorbeeld dat, om 4x sneller dan normaal vooruit te kunnen spoelen, de toepasselijke opdracht twee keer verstuurd moet worden.
- De opdrachten voor snel vooruit-/terugspoelen zijn alleen geldig voor DVD- en CD-schijven. Langzaam afspelen is alleen voor DVD-geluidsschijven geldig.
- Zijn statusberichten ingeschakeld en wordt de status van de speler gewijzigd, dan ontvangt de afstandsbediening dit bericht met de nieuwe afspelstatus.

Search speed (return values):

Code	Speed
'1' (0x31)	x1/1
'2' (0x32)	x1/2
'3' (0x33)	x1/3
'4' (0x34)	x1/4
'5' (0x35)	x1/5

Code	Speed
'@' (0x40)	x2
'A' (0x41)	x4
'B' (0x42)	x8
'C' (0x43)	x20
'D' (0x44)	x60
'E' (0x45)	x100

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to increase the fast-forward scan speed:
- F Séquence de commande/réponse pour augmenter la vitesse d'avance rapide :
- D Befehls-/Rückmeldesequenz zum Erhöhen der Geschwindigkeit des schnellen Vorlaufs:
- NL Opdracht- en responsreeks om de scansnelheid voor snel vooruitspoelen te vergroten:

COMMAND: !A11 – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !AA1~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'A' (0x41) (Command code)
P1	Direction code: '0' (0x30) – Backwards '1' (0x31) – Forwards 'Q' (0x51) – Request current slow/fast status
P2	Speed code: '0' (0x30) – Slow '1' (0x31) – Fast else (for status request): '~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Description:
RC	'A' (0x41) (Reply Code)
AC	Answer code
P1	Direction code: '0' (0x30) – Backwards '1' (0x31) – Forwards
P2	Response to the 'Request current status': Speed code: as shown below, Otherwise: '~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Audio / Audio / Audio / Geluid

- GB This command changes the audio stream selection for a DVD disc.
- F Permet de modifier la sélection de flux audio pour un disque DVD.
- D Dieser Befehl ändert die Audio-Datenstromauswahl für eine DVD.
- NL Deze opdracht wijzigt de geluidsstream voor een DVD-schijf.

COMMAND:

Byte:	Descript on:
CC	'E' (0x45) (Command code)
P1	Aud o selection: '0' (0x30) – Next aud o stream 'Q' (0x51) – Request current audio stream informat on
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'E' (0x45) (Reply Code)
AC	Answer code
P1	Aud o format code (see below)
P2	Aud o channel code (see below)
P3	Dialogue code (see below)

Audio format codes:

Code:	Audio format:
'0' (0x30)	UNKNOWN/JPEG
'1' (0x31)	AC3
'2' (0x32)	DTS
'3' (0x33)	MPEG
'4' (0x34)	MP3
'5' (0x35)	(Reserved)
'6' (0x36)	PCM
'7' (0x37)	CDDA/HDCD
'8' (0x38)	WMA

Audio channel codes:

Code:	Channels:
'0' (0x30)	0 ch.
'1' (0x31)	1.x ch.
'2' (0x32)	2.x ch.
'3' (0x33)	3.x ch.
'4' (0x34)	4.x ch.
'5' (0x35)	5.0 ch.
'6' (0x36)	5.1 ch.

Dialogue codes:

Code:	Dialogue:
'0' (0x30)	OFF
'1' (0x31)	English
'2' (0x32)	French
'3' (0x33)	German
'4' (0x34)	Dutch
'5' (0x35)	Italian
'6' (0x36)	Spanish
'7' (0x37)	UNKNOWN / OTHER

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to select the next audio stream, where the new stream is 6-channel Dolby Digital in English
- F Séquence de commande/réponse pour sélectionner le flux audio suivant, le nouveau flux étant Dolby Digital 6 canaux en anglais :
- D Befehls-/Rückmeldesequenz zur Auswahl des nächsten Audiodatenstroms, wobei der neue Datenstrom 6-Kanal-Dolby Digital in Englisch ist:
- NL Opdracht- en responsreeks om de volgende geluidsstream te selecteren, waarbij de nieuwe stream 6-kanaals Dolby Digital in het Engels is:

COMMAND: !E0~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !E@161 – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Page / Page / Seite / Pagina

- GB** Change to the next/previous display page.
- F** Permet de passer à la page d’affichage suivante/précédente.
- D** Auf nächste/vorherige Seite umschalten.
- NL** Naar de volgende/vorige displaypagina gaan.

GB Notes

- This command is valid only for DVD-audio discs.
- The page number returned is offset by 0x30. To obtain the actual page number, subtract 0x30 from the returned value. Note that this field shall contain a value that is not valid as an ASCII character if the page number is 79 (decimal) or higher.

F Remarques

- Cette commande ne concerne que les disques audio DVD.
- Le numéro de page renvoyé est décalé de 0x30. Pour obtenir la valeur correcte, ôtez 0x30 de la valeur indiquée. Notez que ce champ doit contenir une valeur incorrecte en tant que caractère ASCII si le numéro de page est égal ou supérieur à 79 (valeur décimale).

D Hinweise:

- Dieser Befehl gilt nur für Audio-DVDs.
- Die ausgegebene Seitennummer wird um 0x30 versetzt. Subtrahieren Sie 0x30 vom ausgegebenen Wert, um die tatsächliche Seitennummer zu erhalten. Beachten Sie, dass dieses Feld einen Wert enthält, der nicht als ASCII-Zeichen gültig ist, wenn die Seitenzahl 79 (dezimal) oder höher ist

NL Opmerkingen:

- Deze opdracht is alleen voor DVD-geluidsschijven geldig.
- Het geretourneerde paginanummer wordt met 0x30 verschoven. Wilt u het feitelijke paginanummer verkrijgen, dan trekt u 0x30 van de geretourneerde waarde af. Dit veld bevat een waarde die niet als een ASCII-teken geldig is als het paginanummer 79 (decimaal) of hoger is.

Example / Exemple / Beispiel / Voorbeeld

- GB** Command/response sequence to select the next page:
- F** Séquence de commande/réponse pour sélectionner la page suivante :
- D** Befehls-/Rückmeldesequenz zur Auswahl der nächsten Seite:
- NL** Opdracht- en responsreeks om de volgende pagina te selecteren:

COMMAND: !B1~ – followed by/suivie d’un/gefolgt von/gevolgd door (0xD)
RESPONSE: !BA~~~ – followed by/suivie d’un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'B' (0x42) (Command code)
P1	Direction: '0' (0x30) – Show the previous page '1' (0x31) – Show the next page 'Q' (0x51) – Request the current page number
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'B' (0x42) (Reply Code)
AC	Answer code
P1	Response to the 'Request current status': Page number + '0' (0x30), Otherwise: '~' (0x7E) – (Reserved)
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Shuffle / Lecture aléatoire / Zufall / Shuffel

- GB** Change the play mode of the DV79 between 'shuffle' and 'non-shuffle'.
- F** Permet d’activer ou de désactiver le mode de lecture aléatoire du DV79.
- D** Umschalten des Wiedergabemodus des DV79 von „Zufall“ auf „Kein Zufall“
- NL** Tussen de afspeelmodi 'shuffle' en 'non-shuffle' schakelen op de DV79

GB Note

- This command is not valid for MP3/WMA or JPEG files.

F Remarque

- Cette commande est incorrecte pour les fichiers MP3/WMA ou JPEG.

D Hinweise:

- Dieser Befehl gilt nicht für MP3-, WMA- oder JPEG-Dateien

NL Opmerkingen:

- Deze opdracht is niet geldig voor MP3/WMA- of JPEG-bestanden.

Example / Exemple / Beispiel / Voorbeeld

- GB** Command/response sequence to query the current shuffle status, where the response is that the disc contents are shuffled:
- F** Séquence de commande/réponse pour demander l’état de lecture aléatoire actuel, la réponse étant que le contenu du disque fait l’objet d’une lecture aléatoire :
- D** Befehls-/Rückmeldesequenz zur Abfrage des aktuellen Zufallszustands, wobei die Rückmeldung besagt, dass der Inhalt des Datenträgers zufällig wiedergegeben wird:
- NL** Opdracht- en responsreeks om de huidige shuffle-status aan te vragen, waarbij de respons is dat de schijfinhoud geshuffeld is:

COMMAND: !CQ~ – followed by/suivie d’un/gefolgt von/gevolgd door (0xD)
RESPONSE: !C@1~~ – followed by/suivie d’un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'C' (0x43) (Command code)
P1	Play mode code: '0' (0x30) – No shuffle '1' (0x31) – Shuffle 'Q' (0x51) – Request shuffle status
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'C' (0x43) (Reply Code)
AC	Answer code
P1	New shuffle state: '0' (0x30) – Not shuffled '1' (0x31) – Shuffled
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Subtitle / Sous-titre / Untertitel / Ondertiteling

- GB This command changes the subtitle selection for a DVD disc.
- F Permet de modifier la sélection de sous-titre pour un disque DVD.
- D Dieser Befehl ändert die Untertitelerstellung für eine DVD.
- NL Deze opdracht wijzigt de ondertitelingsselectie voor een DVD-schijf.

Subtitle language codes:

Code:	Subtitle:	Code:	Subtitle:
'0' (0x30)	OFF	'4' (0x34)	Dutch
'1' (0x31)	English	'5' (0x35)	Italian
'2' (0x32)	French	'6' (0x36)	Spanish
'3' (0x33)	German	'7' (0x37)	UNKNOWN / OTHER

Notes

- The values for the current and total subtitle stream fields are returned offset by 0x30. To obtain the absolute values for these fields, subtract 0x30 from the returned value.
- When the value of the 'Current subtitle stream' is zero (0x30), it means that subtitles are switched off.

Remarques

- Les valeurs renvoyées pour les flux de sous-titre actuel et totaux sont décalées de 0x30. Pour obtenir la valeur correcte de ces champs, ôtez 0x30 de la valeur indiquée.
- Si la valeur du flux de sous-titre actuel est zéro (0x30), les sous-titres sont alors désactivés.

Hinweise:

- Die Werte für den aktuellen und gesamten Untertitel-Datenstrom werden um 0x30 versetzt ausgegeben. Subtrahieren Sie 0x30 vom angegebenen Wert, um den richtigen Wert zu erhalten.
- Ist der Wert von „Aktueller Untertitel-Datenstrom“ Null (0x30), sind die Untertitel deaktiviert.

Opmerkingen:

- De geretourneerde waarden voor de huidige en totale velden met ondertitelingsstreams zijn met 0x30 verschoven. Wilt u de absolute waarden voor deze velden verkrijgen, dan trekt u 0x30 van de geretourneerde waarde af.
- Wanneer de waarde van de huidige ondertitelingsstream nul (0x30) is, betekent dit dat de ondertiteling uitgeschakeld is

Example / Exemple / Beispiel / Voorbeeld

GB Command/response sequence to select the next subtitle stream, where the new subtitle stream is German, it is the first stream, and there are 5 streams in total:

F Séquence de commande/réponse pour sélectionner le flux de sous-titre suivant, le nouveau flux étant en allemand, le premier, avec un total de cinq flux :

D Befehls-/Rückmeldesequenz zur Auswahl des nächsten Untertitel-Datenstroms, wobei der neue Untertitel-Datenstrom „Deutsch“ ist, es sich um den ersten Datenstrom handelt und insgesamt fünf Datenströme vorhanden sind.

NL Opdracht- en responsreeks om de volgende ondertitelingstream te selecteren, waarbij de nieuwe ondertitelingsstream Duits is; het is de eerste stream en er zijn in totaal 5 streams:

COMMAND: !F1~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !F@153 – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'F' (0x46) (Command code)
P1	Subt tle selection: '0' (0x30) – Previous subt tle '1' (0x31) – Next subtitle 'Q' (0x51) – Request current subt tle information
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'F' (0x46) (Reply Code)
AC	Answer code
P1	Current subt tle stream + '0' (0x30)
P2	Total subtitle stream + '0' (0x30)
P3	Subt tle language (see below)

Angle / Angle / Winkel / Hoek

- GB This command changes the angle selection for a DVD disc.
- F Permet de modifier la sélection d'angle pour un disque DVD.
- D Dieser Befehl ändert die Winkeleinstellung für eine DVD.
- NL Deze opdracht wijzigt de hoekselectie voor een DVD-schijf.

Angle codes:

Code:	Angle:
'1' (0x31)	1
'2' (0x32)	2
'3' (0x33)	3
'4' (0x34)	4
'5' (0x35)	5

Code:	Angle:
'6' (0x36)	6
'7' (0x37)	7
'8' (0x38)	8
'9' (0x39)	9

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to select the previous angle, where the new angle is number 6 and there are 7 angles in total:
- F Séquence de commande/réponse pour sélectionner l'angle précédent, le nouvel angle étant le numéro 6, avec un total de sept angles :
- D Befehls-/Rückmeldesequenz zur Auswahl des vorherigen Winkels, wobei der neue Winkel Nr. 6 ist und es insgesamt sieben Winkel gibt:
- NL Opdracht- en responsreeks om de vorige hoek te selecteren, waarbij nummer 6 de nieuwe hoek is en er zijn in totaal 7 hoeken:

COMMAND: !G0~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)
 RESPONSE: !G@67~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Descript on:
CC	'G' (0x47) (Command code)
P1	Angle selection: '0' (0x30) – Previous angle '1' (0x31) – Next angle 'Q' (0x51) – Request current angle information
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'G' (0x47) (Reply Code)
AC	Answer code
P1	Current angle (see below)
P2	Total angles (see below)
P3	'~' (0x7E) – (Reserved)

Player menu / Menu du lecteur / Gerätemenü / Spelermenu

- GB Open/close a player menu.
- F Permet d'ouvrir/fermer un menu du lecteur.
- D Menü öffnen/schließen.
- NL Een spelermenu openen/sluiten

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to select Bookmark menu open:
- F Séquence de commande/réponse pour sélectionner l'ouverture du menu de signet
- D Befehls-/Rückmeldesequenz zur Auswahl des Lesezeichenmenüs:
- NL Opdracht- en responsreeks om het menu Bookmark te openen:

COMMAND: !H11 – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)
 RESPONSE: !H@1~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'H' (0x48) (Command code)
P1	'0' (0x30) – Close menu '1' (0x31) – Open menu '2' (0x32) – Toggle menu state 'Q' (0x51) – Request menu state
P2	'1' (0x31) – Bookmark menu '2' (0x32) – Search menu '3' (0x33) – Programme menu '4' (0x34) – Trim menu '5' (0x35) – Pro Log c II menu '6' (0x36) – Setup menu '~' (0x7E) – Used for request menu command

RESPONSE:

Byte:	Description:
RC	'H' (0x48) (Reply Code)
AC	Answer code
P1	'0' (0x30) – No menu open '1' (0x31) – Bookmark menu open '2' (0x32) – Search menu open '3' (0x33) – Programme menu open '4' (0x34) – Trim menu open '5' (0x35) – Pro Log c II menu open '6' (0x36) – Setup menu open '@' (0x40) – Unknown menu open
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Number / Nombre / Zahl / Nummer

- GB Send a number to the DVD player.
- F Permet d'envoyer un nombre au lecteur DVD
- D Senden einer Zahl an den DVD-Spieler.
- NL Een nummer naar de DVD-speler versturen.

GB Note

- Multi-digit numbers have to be sent digit-by-digit to the DV79.

F Remarque

- Il faut envoyer les nombres chiffre par chiffre au DV79.

D Hinweise:

- Bei mehrstelligen Zahlen müssen die Ziffern einzeln an den DV79 gesendet werden.

NL Opmerkingen:

- Meercijferige nummers moeten cijfer voor cijfer naar de DV79 verstuurd worden.

COMMAND:

Byte:	Description:
CC	'I' (0x49) (Command code)
P1	Number (0-9) in ASCII format. For example, 0 = 0x30, 1 = 0x31, etc.
P2	'~' (0x7E) - (Reserved)

RESPONSE:

Byte:	Description:
RC	'I' (0x49) (Reply Code)
AC	Answer code
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)
P3	'~' (0x7E) - (Reserved)

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to send '0' to the DV79:
- F Séquence de commande/réponse pour envoyer le nombre 0 au DV79 :
- D Befehls-/Rückmeldesequenz zum Löschen des Werts in einem Zahlenfeld:
- NL Opdracht- en responsreeks om '0' naar de DV79 versturen:

COMMAND: !I0~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !IA~~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Clear / Effacement / Löschen / Wissen

- GB Clear a numerical entry or field.
- F Permet d'effacer une entrée ou un champ numérique.
- D Zahleneintrag oder -feld löschen.
- NL Numerieke ingangen of velden wissen

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to clear a numerical field:
- F Séquence de commande/réponse pour effacer un champ numérique :
- D Befehls-/Rückmeldesequenz zum Löschen des Werts in einem Zahlenfeld:
- NL Opdracht- en responsreeks om een numeriek veld te wissen:

COMMAND: !J~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !JA~~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'J' (0x4a) (Command code)
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)

RESPONSE:

Byte:	Description:
RC	'J' (0x4a) (Reply Code)
AC	Answer code
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)
P3	'~' (0x7E) - (Reserved)

Cursor / Curseur / Cursor / Cursor

- GB Moves/selects the highlight on the screen.
- F Permet de déplacer/sélectionner la mise en surbrillance à l'écran.
- D Bewegt/aktiviert die Markierung auf dem Bildschirm.
- NL Hiermee kan de markering op het scherm verplaatst/geselecteerd worden.

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to move the cursor up one place:
- F Séquence de commande/réponse pour faire monter le curseur d'un niveau :
- D Befehls-/Rückmeldesequenz zum Bewegen des Cursors um eine Stelle nach oben:
- NL Opdracht- en responsreeks om de cursor één positie omhoog te bewegen:

COMMAND: !K:~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !KA~~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'K' (0x4b) (Command code)
P1	Cursor code: '^' (0x3a) - ▲ 'v' (0x3b) - ▼ '<' (0x3c) - ◀ '=' (0x3d) - OK '>' (0x3e) - ▶
P2	'~' (0x7E) - (Reserved)

RESPONSE:

Byte:	Description:
RC	'K' (0x4b) (Reply Code)
AC	Answer code
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)
P3	'~' (0x7E) - (Reserved)

Top menu / Menu principal / Hauptmenü / Hoofdmenu

- GB Play the top-level menu.
- F Permet de lire le menu de disque principal.
- D Ruft das Hauptmenü des Datenträgers auf.
- NL Het bovenste schijfmenu afspelen.

GB Note

- This command is valid only for DVDs.

F Remarque

- Cette commande ne concerne que les DVD..

D Hinweise:

- Dieser Befehl gilt nur für DVDs.

NL Opmerkingen:

- Deze opdracht is alleen geldig voor DVD's

COMMAND:

Byte:	Descript on:
CC	'L' (0x4c) (Command code)
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)

RESPONSE:

Byte:	Descript on:
RC	'L' (0x4c) (Reply Code)
AC	Answer code
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)
P3	'~' (0x7E) - (Reserved)

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to play the top-level disc menu:
- F Séquence de commande/réponse pour lire le menu de disque principal
- D Befehls-/Rückmeldesequenz zum Aufrufen des Hauptmenüs einer DVD:
- NL Opdracht- en responsreeks om het hoofdmenu af te spelen:

COMMAND: !L~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !LA~~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Title menu / Menu des titres / Titelmanü / Titelmanu

- GB Play the title-level menu of the disc.
- F Permet de lire le menu des titres du disque.
- D Ruft das Titelmanü des Datenträgers auf.
- NL Het titelmanu van de schijf afspelen.

GB Note

- This command is valid only for DVDs.

F Remarque

- Cette commande ne concerne que les DVD.

D Hinweise:

- Dieser Befehl gilt nur für DVDs.

NL Opmerkingen:

- Deze opdracht is alleen geldig voor DVD's

COMMAND:

Byte:	Description:
CC	'M' (0x4d) (Command code)
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)

RESPONSE:

Byte:	Description:
RC	'M' (0x4d) (Reply Code)
AC	Answer code
P1	'~' (0x7E) - (Reserved)
P2	'~' (0x7E) - (Reserved)
P3	'~' (0x7E) - (Reserved)

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to play the title-level disc menu:
- F Séquence de commande/réponse pour lire le menu des titres du disque :
- D Befehls-/Rückmeldesequenz zum Aufrufen des Titelmanüs einer DVD:
- NL Opdracht- en responsreeks om het schijfmenu op titel af te spelen:

COMMAND: !M~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !MA~~~ - followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Return / Retour / Zurück / Terug

- GB This command returns to the previous-level disc menu screen.
- F Permet de revenir à l'écran de menu de disque précédent.
- D Dieser Befehl ruft das vorherige Menü des Datenträgers auf.
- NL Met deze opdracht gaat u terug naar het scherm met een eerder niveau van het schijfmenu.

GB Note

- This command is valid only for DVDs.

F Remarque

- Cette commande ne concerne que les DVD.

D Hinweise:

- Dieser Befehl gilt nur für DVDs.

NL Opmerkingen:

- Deze opdracht is alleen geldig voor DVD's.

COMMAND:

Byte:	Description:
CC	'N' (0x4e) (Command code)
P1	'~' (0x7E) – (Reserved)
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Description:
RC	'N' (0x4e) (Reply Code)
AC	Answer code
P1	'~' (0x7E) – (Reserved)
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to return to the previous-level disc menu screen:
- F Séquence de commande/réponse pour revenir à l'écran de menu de disque précédent :
- D Befehls-/Rückmeldesequenz zum Aufrufen des vorherigen Menüs einer DVD:
- NL Opdracht- en responsreeks om naar het scherm met een eerder niveau van het schijfmenu terug te gaan:

COMMAND: !N~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !NA~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

Drawer / Plateau / Fach / Lade

- GB Open/close the drawer of the DV79.
- F Permet d'ouvrir/fermer le plateau du DV79.
- D Öffnet/schließt das Fach des DV79.
- NL De lade van de DV79 openen/sluiten.

Example / Exemple / Beispiel / Voorbeeld

- GB: Command/response sequence to open the drawer of the DV79:
- F Séquence de commande/réponse pour ouvrir le plateau du DV79 :
- D Befehls-/Rückmeldesequenz zum Öffnen des Fachs des DV79:
- NL Opdracht- en responsreeks om de lade van de DV79 te openen:

COMMAND: !O1~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !OA~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'O' (0x4f) (Command code)
P1	Drawer state: '0' (0x30) – Close drawer '1' (0x31) – Open drawer 'Q' (0x51) – Request drawer state information
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Description:
RC	'O' (0x4f) (Reply Code)
AC	Answer code
P1	Response to the 'Request drawer state': '0' (0x30) – Drawer is closed '1' (0x31) – Drawer is open Otherwise: '~' – (0x7E) (Reserved)
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)

Repeat / Lecture répétée / Wiederholung / Herhaling

- GB Set the player repeat state.
- F Permet de définir l'état de répétition du lecteur.
- D Stellt den Wiederholungsmodus des Geräts ein.
- NL De herhalingsstatus voor de speler instellen.

Example / Exemple / Beispiel / Voorbeeld

- GB Command/response sequence to cancel repeat mode:
- F Séquence de commande/réponse pour annuler le mode répétition :
- D Befehls-/Rückmeldesequenz zum Deaktivieren des Wiederholungsmodus:
- NL Opdracht- en responsreeks om de herhalingsmodus te annuleren:

COMMAND: !P0~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

RESPONSE: !P@0~~ – followed by/suivie d'un/gefolgt von/gevolgd door (0xD)

COMMAND:

Byte:	Description:
CC	'P' (0x50) (Command code)
P1	Request: 0x30 – Repeat off 0x31 – Repeat chapter/track 0x32 – Repeat title/group 0x51 – Request repeat status
P2	'~' (0x7E) – (Reserved)

RESPONSE:

Byte:	Description:
RC	'P' (0x50) (Reply Code)
AC	Answer code
P1	Repeat status: 0x30 – Repeat off 0x31 – Repeat chapter/track 0x32 – Repeat title/group
P2	'~' (0x7E) – (Reserved)
P3	'~' (0x7E) – (Reserved)