

**Pioneer** *sound.vision.soul*

DVD Recorder

# DVR-7000

## ELITE



Operating Instructions

**RW**  
COMPATIBLE

Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

**[For Canadian model]**

**CAUTION:** TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

**ATTENTION:** POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

H007A2L

**CAUTION:**

THE STANDBY/ON BUTTON IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION. THEREFORE INSTALL THE UNIT SUITABLE PLACES EASY TO DISCONNECT THE MAINS PLUG IN CASE OF THE ACCIDENT. THE MAINS PLUG OF UNIT SHOULD BE UNPLUGGED FROM THE WALL SOCKET WHEN LEFT UNUSED FOR A LONG PERIOD OF TIME.

H017BEh

**Note to CATV system installer**

This reminder is provided to call the CATV system installer's attention to article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

H008 En

**DANGER**

VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.

**POWER-CORD CAUTION**

S002 En

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

This product includes FontAvenue (R) fonts licenced by NEC Corporation. FontAvenue is a registered trademark of NEC Corporation

**WARNING:** THE APPARATUS IS NOT WATERPROOFS, TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE AND DO NOT PUT ANY WATER SOURCE NEAR THIS APPARATUS, SUCH AS VASE, FLOWER POT, COSMETICS CONTAINER AND MEDICINE BOTTLE ETC.

H001AEn

**IMPORTANT NOTICE**

H006AEn

The serial number for this equipment is located in the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

**[For Canadian model]**

This Class B digital apparatus complies with Canadian ICES-003.

**[Pour le modèle Canadien]**

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

H009 2L

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

H010 En

**Information to User**

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

H011 En

**CAUTION:**

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

H012 En

# IMPORTANT



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

## CAUTION

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

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



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

# IMPORTANT SAFETY INSTRUCTIONS

H003 En

**READ INSTRUCTIONS** — All the safety and operating instructions should be read before the product is operated.

**RETAIN INSTRUCTIONS** — The safety and operating instructions should be retained for future reference.

**HEED WARNINGS** — All warnings on the product and in the operating instructions should be adhered to.

**FOLLOW INSTRUCTIONS** — All operating and use instructions should be followed.

**CLEANING** — Unplug this product from the wall outlet before cleaning. The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

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

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

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

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



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

**POWER SOURCES** — This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

**LOCATION** — The appliance should be installed in a stable location.

**NONUSE PERIODS** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

## GROUNDING OR POLARIZATION

• If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

• If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

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

**OUTDOOR ANTENNA GROUNDING** — If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

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

**POWER LINES** — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

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

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

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

**DAMAGE REQUIRING SERVICE** — Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

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

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

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

**WALL OR CEILING MOUNTING** — The product should not be mounted to a wall or ceiling.

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

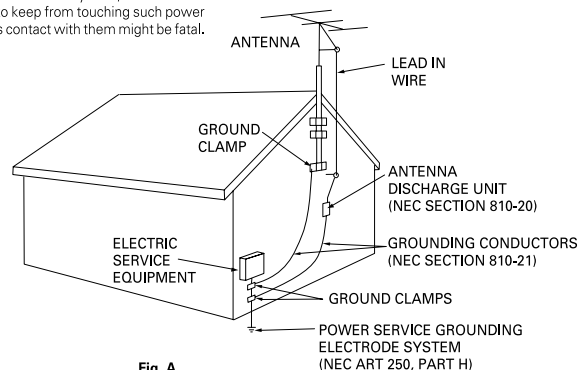


Fig. A

NEC — NATIONAL ELECTRICAL CODE

**CAUTION :** USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

**CAUTION :** THE USE OF OPTICAL INSTRUMENTS WITH THIS PRODUCT WILL INCREASE EYE HAZARD.

H013 En

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## Features

### Playback

- **Progressive scan compatible**  
Compared to standard interlaced video, progressive scan effectively doubles the amount of video information fed to your TV or monitor. The result is a stable, flicker-free image. (Check your TV/monitor for compatibility with this feature.)
- **Cinema surround sound in your home**  
Connect the DVR-7000 to a Dolby Digital and/or DTS-compatible amplifier/receiver to enjoy full surround sound effects from Dolby Digital and DTS DVD discs.
- **Find what you want to watch quickly and easily**  
Unlike video tape that needs to be wound to the correct place, you can jump right to the part of a DVD disc that you want to watch. Search for a point on a disc by title, chapter or time.
- **Discnavi (Disc Navigator) (VR mode)**  
The Discnavi makes editing and finding your way around a disc easy by displaying a still frame from each title (or chapter within a title) as a visual reminder of what the title (or chapter) is.

## Recording

- **Program up to 8 timer recordings**  
You can program the recorder to record up to 8 programs, up to a month in advance, using the VCR Plus+ system\* for easy programming if you want. As well as single programs, you can specify daily or weekly recordings, too.  
*\* VCR Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VCR Plus+ system is manufactured under licence from Gemstar Development Corporation.*
- **One-touch recording**  
Use one-touch recording to start recording immediately in 30 minute blocks. Each time you press the record button, the recording time is extended by another 30 minutes.
- **Disc timer recording (VR mode)**  
Instead of having a timer recording program stored in the recorder, you can program a disc with a timer recording so that when you load that disc, the timer automatically becomes active. This is great for recording a regular weekly show on a single disc. Just load the disc and the timer is set.
- **Optimized recording (VR mode)**  
Optimized recording adjusts the recording quality automatically if a timer recording will not fit onto a disc with the settings the user made.
- **High quality 16-bit Linear PCM audio**  
When recording using one of the high quality record settings in VR mode, the audio is recorded in uncompressed 16-bit Linear PCM format. This delivers great sounding audio to accompany the high picture quality.

- **Picture quality adjustment features**  
During playback, you can adjust various picture quality settings to improve the picture. You can also adjust the recording picture quality. For example, if you want to make a DVD copy of an old video tape, you can optimize the picture quality before transferring it to disc.
- **Manual level recording (VR mode)**  
In addition to the standard mode, which gives you 2-hours of recording time on a disc, there is the manual mode which lets you trade off recording time for picture quality to suit your particular application. In all there are 32 recording levels.
- **Auto Recording from satellite receiver or other set top box**  
With a satellite receiver or other set top box connected to the **LINE 2/AUTO REC** inputs of this recorder, you can start and stop recording automatically according to the timer settings of the set top box.

## Video input/output

- **Connect a digital video camera**  
This recorder has a built-in DV (Digital Video) input/output jack for connection to a digital video camera. This makes the DVR-7000 perfect for transferring video camera footage to DVD for editing. You can also transfer DVD content back to the digital camera.

## Editing

- **Safe, non-destructive editing (VR mode)**  
When you edit a DVD-RW, the actual content of the disc (the Original content) is not touched. The edited version (the Playlist content) just points to various parts of the Original content.
- **Chapter marking (VR mode)**  
You can easily add chapter markers anywhere in your recordings for easy editing.
- **Add and erase parts (VR mode)**  
'Part' here means a user-defined part of a title. You can add parts to the Playlist, or erase parts from Original or Playlist titles.

## Compatibility

- **Play Video mode recordings on a regular DVD player (Video mode)**  
Discs recorded using the Video mode can be played back on regular DVD players, including computer DVD drives compatible with DVD-Video playback\*.

*\* DVD-Video Format (Video mode) is a new format for recording on DVD-R/RW discs that was approved by the DVD Forum in 2000. Adoption of this format is optional for manufacturers of DVD playback devices, and there are DVD-Video players, DVD-ROM drives or other DVD playback devices that do not play DVD-R/RW discs recorded in the DVD-Video Format.*

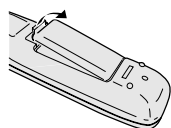
## What's in the box

Thank you for buying this Pioneer product. Please confirm that the following accessories are in the box when you open it.

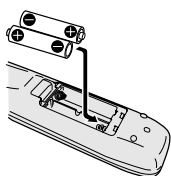
- Remote control
- AA/R6P dry cell batteries x2
- Stereo audio cable (red/white)
- Video cable (yellow)
- RF antenna cable
- Power cable
- DVD-RW disc
- These operating instructions
- Warranty card

## Putting the batteries in the remote control

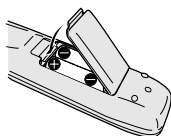
- 1 Open the battery compartment cover on the back of the remote control.



- 2 Insert two AA/R6P batteries into the battery compartment following the indications (+, -) inside the compartment.



- 3 Close the cover.



## Note

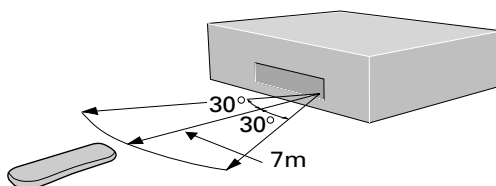
Incorrect use of batteries can result in hazards such as leakage and bursting. Please observe the following:

- Don't mix new and old batteries together.
- Don't use different kinds of battery together—although they may look similar, different batteries may have different voltages.
- Make sure that the plus and minus ends of each battery match the indications in the battery compartment.
- Remove batteries from equipment that isn't going to be used for a month or more.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.

## Using the remote control

Keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote and the remote sensor on the unit.
- Use within the operating range and angle, as shown.
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the unit's remote sensor.
- Remote controllers for different devices can interfere with each other. Avoid using remotes for other equipment located close to this unit.
- Replace the batteries when you notice a fall off in the operating range of the remote.
- When the batteries run down or you change the batteries, the remote control mode and TV preset code are automatically reset. See **pages 30 and 87** to reset them.



- See **page 12** if you want to control this component from the remote sensor of another component.



## Important information before you start

Please take a few minutes to read through this section before reading on through the manual.

### How are DVD-R and DVD-RW discs different?

The essential difference between DVD-R and DVD-RW is that DVD-R is a record-once medium, while DVD-RW is a re-recordable/erasable medium. You can re-record/erase a DVD-RW disc approximately 1,000 times.

### Can I play my recordable discs in a regular DVD player?

Generally, DVD-R discs and DVD-RW discs recorded in Video mode are playable in a regular DVD player, but they must be 'finalized' first. This process fixes the contents of the disc to make them readable to other DVD players as DVD-Video discs.

DVD-RW discs recorded in VR (Video Recording) mode are playable in some players.

**RW**  
COMPATIBLE This indicates a product feature that is capable of playing DVD-RW discs recorded with Video Recording format.

### What are 'recording modes'?

There are two recording modes available using this recorder: VR mode and Video mode. When recording to a DVD-R disc, recordings are always in Video mode. DVD-RW discs can be formatted for VR mode recording or Video mode recording.

#### VR mode recording

- Standard Play (SP) or Manual (MN) modes
- 32 different picture quality/recording time settings available in MN mode
- Not playable on regular DVD players
- Recordings can be extensively edited

#### Video mode recording

- 2 picture quality/recording time settings (V1 and V2)
- Playable on regular DVD players (after finalizing)
- Limited editing features

Many functions of this recorder are dependent on the recording mode. One or more of the following symbols appear by each function explained in this manual so that you can see at a glance whether it's relevant for the disc loaded.



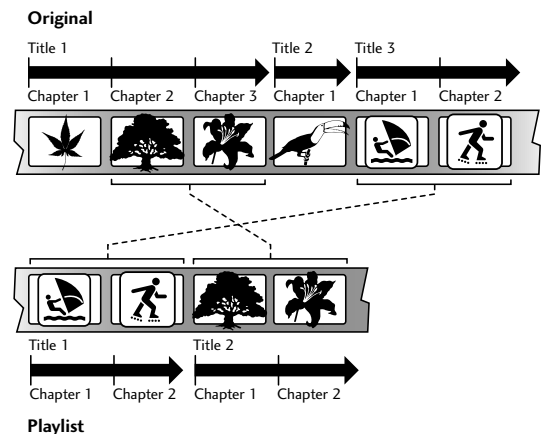
You can find more information on disc formats, recording modes and record settings on **page 38**.

#### Note

DVD-Video Format (Video mode) is a new format for recording on DVD-R/RW discs that was approved by the DVD Forum in 2000. You may therefore experience problems playing recordable DVD discs in some players. Symptoms include video artifacts, audio and/or video dropouts and playback suddenly stopping. Pioneer cannot take responsibility for problems playing discs recorded on this recorder in other players.

### Is editing a DVD like editing a video tape?



No. When you edit a video tape you need one video deck to play the original tape and another to record the edits. With DVD, you edit by making a 'Playlist' of what to play and when to play it. On playback, the recorder plays the disc according to the Playlist.





Throughout this manual, you will often see the words *Original* and *Playlist* to refer to the actual content and the edited version.

- **Original** content refers to what's actually recorded on the disc.
- **Playlist** content refers to the edited version of the disc—how the Original content is to be played.




## On-screen icons

While using this recorder, you may occasionally see either a  icon or a  icon appear on-screen when you try and do something.

The  icon means that the disc does not allow the function to be used at present.

The  icon means that the player does not allow the function to be used at present.

## Recordable discs

Logo	Attributes
 DVD-RW	12cm, single-sided, single layer disc Approx. max. recording time (VR mode): 360 minutes (4.7GB)
 DVD-R	8cm, single-sided, single layer disc Approx. max. recording time (VR mode): 100 minutes (1.46GB)
 DVD-R4.7	12cm, single-sided, single layer disc Approx. max. recording time (V2 mode): 120 minutes (4.7GB)
	8cm, single-sided, single layer disc Approx. max. recording time (VR mode): 30 minutes (1.46GB)

### Important

- This recorder cannot record CD-R or CD-RW discs.
- DVD-R/RW and CD-R/RW discs recorded using a personal computer or a DVD or CD recorder may not play if the disc is damaged or dirty, or if there is dirt or condensation on the player's lens.
- If you record a disc using a personal computer, even if it is recorded in a compatible format, there are cases in which it may not play because of the settings of the application software used to create the disc. (Check with the software publisher for more detailed information.)

## Playback-only discs

Any disc that displays one of the following logos should play in this recorder. Other formats, including DVD-RAM, DVD-ROM, CD-ROM, SACD and Photo CD will not play.

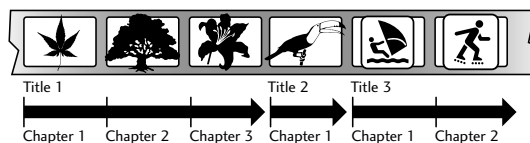


### Note

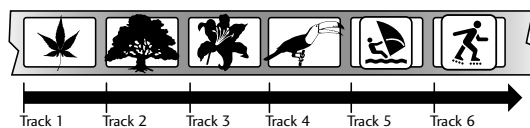
- This recorder can play only NTSC video.
- Do not use an adapter when playing 8cm discs.

## Titles, chapters and tracks

DVD discs are generally divided into one or more titles. Titles may be further subdivided into chapters.



CDs and Video CDs are divided into tracks.



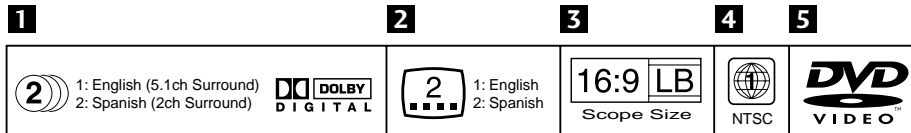
## DVD Video regions



All DVD Video discs carry a region mark on the case somewhere that indicates which region(s) of the world the disc is compatible with. Your DVD player also has a region mark, which you can find on the rear panel. Discs from incompatible regions will not play in this player. Discs marked **ALL** will play in any player.

## DVD disc box information

When you buy a DVD-Video in the shops, the back of the disc box usually contains various information about the contents of the disc. Below is an example, with an explanation of each section.



### 1 Audio languages and audio formats

DVD-Video discs can contain up to 8 separate soundtracks with a different language on each. The first in the list is the original soundtrack.

This section also details the audio format of each soundtrack—Dolby Digital, DTS, etc.

#### Dolby Digital

Dolby Digital is the most widespread DVD-Video audio format. Dolby Digital soundtracks can be mono, stereo, or contain up to 5.1 channels (the .1 refers to a special low-frequency effects channel).

#### DTS

DTS is another 5.1 channel surround format sometimes used on DVD-Video discs, often in addition to a Dolby Digital track.

#### Linear PCM

Linear PCM audio also sometimes appears on DVD-Video discs, usually on music related material. Linear PCM soundtracks are mono or stereo only.

### 2 Subtitle languages

DVD discs can contain up to 32 subtitle languages. You can watch the disc with any of these subtitle languages, or with no subtitles displayed at all.

### 3 Screen aspect ratio

Movies are shot in a variety of screen formats. This box tells you what the original format was (in this case, Cinemascope), and what it is best viewed as on a widescreen TV and a regular 4:3 TV. In this case, if you have a regular 4:3 TV, it is recommended that you watch it in letterbox mode.

### 4 Region code and TV format

The world is divided into 6 DVD regions. Both discs and players are coded for a particular region, and to be able to play a disc, it must contain the same region code as the player.

This section also contains the TV format of the disc. In this case, NTSC.

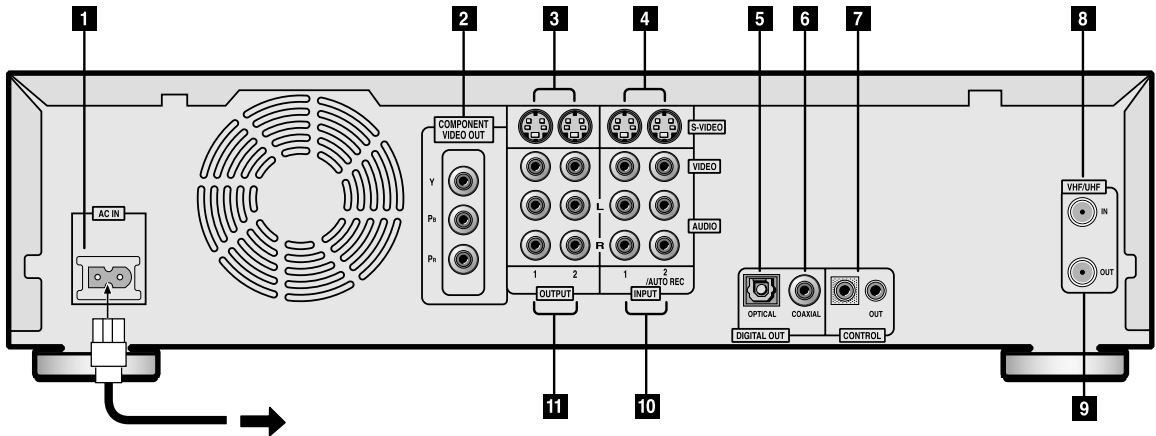
### 5 DVD-Video logo

#### Angle mark ( )

Some DVD-Video discs feature scenes shot simultaneously from two or more angles. During playback, you can switch between these different angles.

- *Manufactured under license from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.*
- *“DTS” and “DTS Digital Surround” are registered trademarks of Digital Theater Systems, Inc.*

## Rear panel connections



**1 AC IN – Power inlet**

**2 COMPONENT VIDEO OUT**

For connecting to a TV or monitor that has component video input (**page 16**)

**3 S-VIDEO OUTPUT 1, 2**

For connecting to a TV, monitor, AV receiver or other equipment with S-Video input (**page 16**)

**4 S-VIDEO INPUT 1, 2**

For recording from a camcorder, VCR or other equipment with S-Video output (**page 18–19**)

**5 DIGITAL OUT OPTICAL**

For connecting to an AV receiver, Dolby Digital/DTS decoder or other equipment with optical digital input (**page 17**)

**6 DIGITAL OUT COAXIAL**

For connecting to an AV receiver, Dolby Digital/DTS decoder or other equipment with coaxial digital input (**page 17**)

**7 CONTROL IN / OUT**

Use for connecting to other Pioneer components bearing the Pioneer **PR** mark. Connect the **CONTROL OUT** of one component to the **CONTROL IN** of another using a mini-plug cord. The device at the beginning of the chain acts as the remote control sensor for everything in the chain.

**8 VHF/UHF IN**

Connect the TV antenna here (**page 14**)

**9 VHF/UHF OUT**

Passes the signal from the **VHF/UHF IN** to your TV/monitor

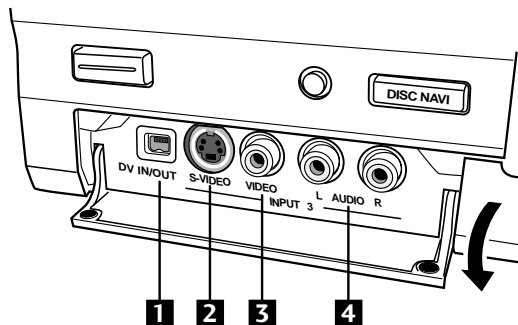
**10 AUDIO/VIDEO INPUT 1, 2/AUTO REC**

For recording from a camcorder, VCR, satellite receiver or other equipment (**page 18–19**)

**11 AUDIO/VIDEO OUTPUT 1, 2**

For connecting to the audio and video inputs of a TV, monitor, AV receiver or other equipment (**page 15, 17–18**)

## Front panel connections



### 1 DV IN/OUT jack

A combined input and output jack for connecting a digital camcorder. See **page 19** for details.

### 2 S-VIDEO input (INPUT 3)

Connect to an S-Video output of an external component.

### 3 VIDEO input (INPUT 3)

Connect to a composite (standard) video output of an external component.

### 4 AUDIO L/R (INPUT 3)

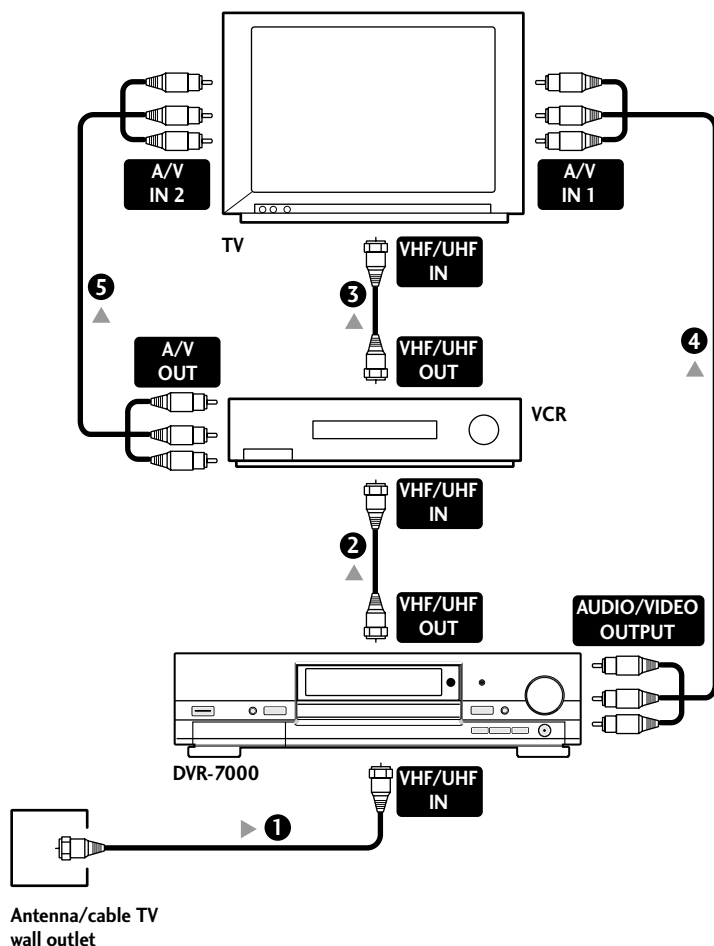
Connect to a stereo pair of audio outputs of an external component.

## Easy connections

The setup described below is a basic setup that allows you to watch and record TV programs, and play discs. Other types of connection are explained starting on **page 16**.

### Important

- This recorder is equipped with copy protection technology. Do not connect this recorder to your TV via a VCR (or your VCR via this recorder) using AV cables, as the picture from this recorder will not appear properly on your TV.
- Before making or changing any rear panel connections, make sure that all components are switched off and unplugged from the wall outlet.



- 1** Connect your TV antenna/cable TV outlet to the VHF/UHF IN jack on this recorder.
- 2** Use an RF antenna cable (one is supplied) to connect the VHF/UHF OUT jack on this recorder to the antenna input on your VCR.

### Note

If you are not connecting a VCR in the chain, connect this recorder directly to your TV and skip the next step.

- 3** Use an RF antenna cable to connect the antenna output on your VCR to the antenna input on your TV.
- 4** Connect the VIDEO OUTPUT 1 AUDIO and VIDEO jacks to a set of A/V inputs on your TV.

Use the supplied stereo audio cable for the audio connection and the yellow video cable for the video connection. Make sure you match up the left and right outputs with their corresponding inputs for correct stereo sound.

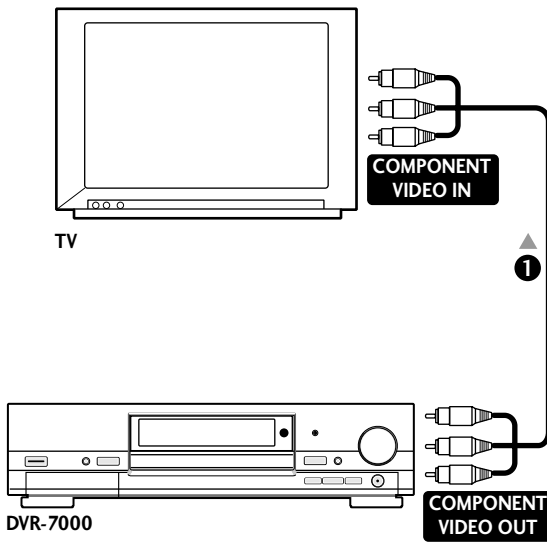
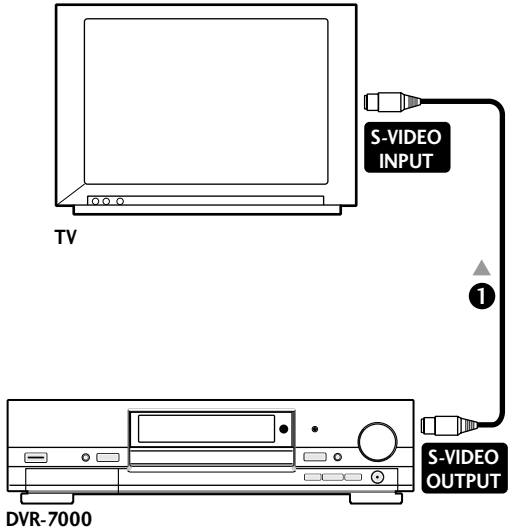
### Note

See the following page if you want to use S-Video or component video cables for the video connection.

- 5** Connect your VCR to your TV using a set of audio and video cables.

## Using other types of video output

This recorder has standard (composite), S-Video and component video outputs. The main difference between them is the quality of the picture. S-Video delivers a better picture than standard composite video, while component video gives better picture quality still. The variety of outputs also gives you the flexibility of connecting your particular equipment using the best connection type available.



## Connecting using an S-Video output

S-Video carries the picture as separate color and luminance (brightness) signals.

There are two S-Video outputs for connection to TVs, monitors, VCRs or other equipment.

- 1 Use an S-Video cable (not supplied) to connect the S-VIDEO OUTPUT to an S-Video input on your TV, monitor (or other equipment).

## Connecting using the component video output

Component video carries the picture as two separate color signals, plus a luminance (brightness) signal.

See also **page 80** for setting up the component video output for use with a progressive scan-compatible TV.

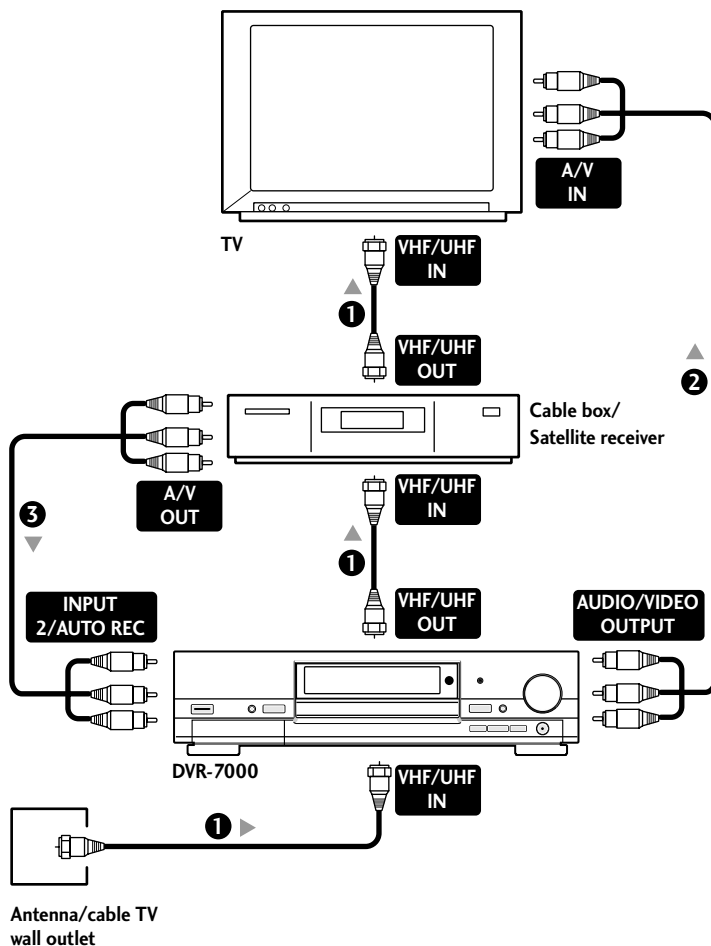
- 1 Use a component video cable (not supplied) to connect the COMPONENT VIDEO OUT jacks to a component video input on your TV, monitor (or other equipment).

## Connecting to a cable box or satellite receiver (1)

If you are using a cable box or satellite receiver with only a few scrambled channels, follow the setup on this page. If many or all the channels are scrambled, we recommend using the setup on the following page.

Using the setup on this page you can:

- Record unscrambled channels by selecting them on this recorder.
- Record scrambled channels by selecting them on the cable box/satellite tuner and using the Auto Rec Start feature (page 62).
- Watch one channel while recording another.



- 1 Connect RF antenna cables as shown.**  
This enables you to watch and record TV channels.
- 2 Connect the AUDIO OUTPUT and VIDEO OUTPUT jacks on this recorder to an audio and video input on your TV using a set of A/V cables (as supplied).**  
This enables you to watch discs.
- 3 Connect the audio/video output of your cable box/satellite tuner to the INPUT 2/AUTO REC jacks on this recorder using a set of A/V cables.**  
This enables you to record scrambled TV channels.

**Note**

The diagram shows standard video connections, but you can alternatively use the S-Video or component video connections if they're available.

**Important**

Do not connect this recorder 'through' your VCR, satellite receiver or cable box. Always connect each component directly to your TV or AV receiver.



## Connecting to a cable box or satellite receiver (2)

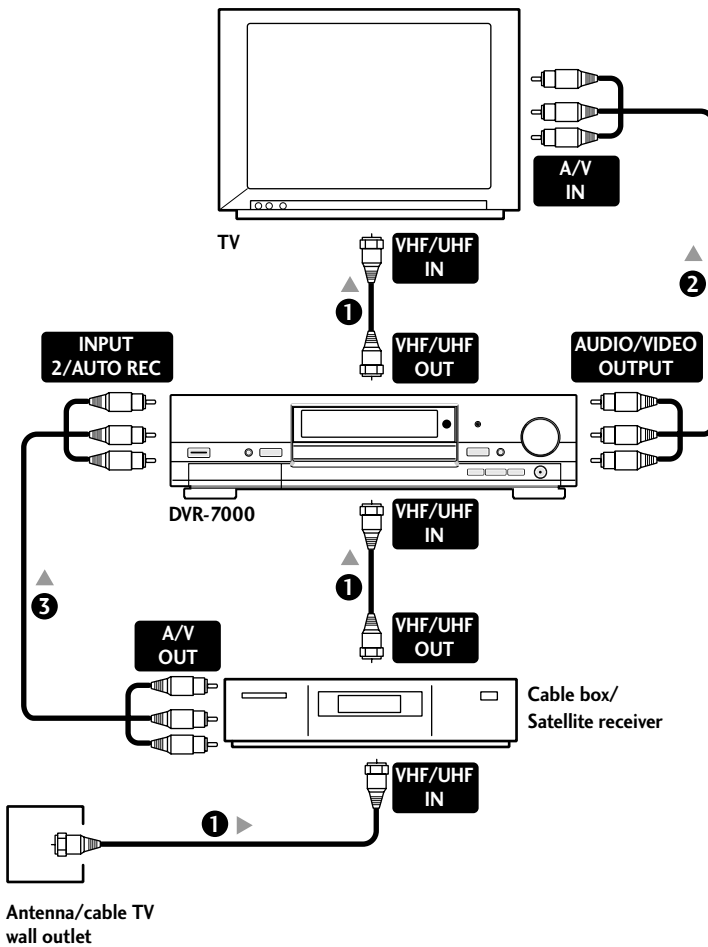
If many or all the channels you receive by cable or satellite are scrambled, we recommend using this setup.

Using the setup on this page you can:

- Record any channel by selecting it on the cable box/satellite tuner.
- Record using the Auto Rec Start feature (page 62).

 **Note**

The setup on this page does not allow you to watch one channel and record another.



- 1 Connect RF antenna cables as shown.**  
This enables you to watch and record TV channels.
- 2 Connect the AUDIO OUTPUT and VIDEO OUTPUT jacks on this recorder to an audio and video input on your TV using a set of A/V cables (as supplied).**  
This enables you to watch discs.
- 3 Connect the audio/video output of your cable box/satellite tuner to the INPUT 2/AUTO REC jacks on this recorder using a set of A/V cables.**

 **Note**

The diagram shows standard video connections, but you can alternatively use the S-Video or component video connections if they're available.

 **Important**

Do not connect this recorder 'through' your VCR, satellite receiver or cable box. Always connect each component directly to your TV or AV receiver.

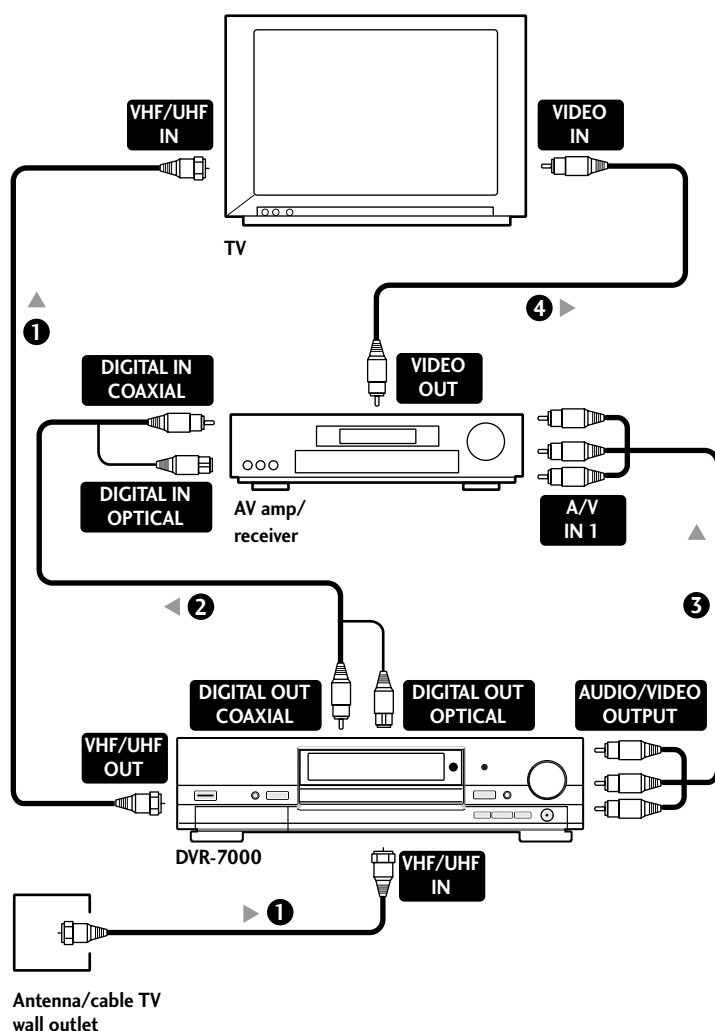
## Connecting to an AV amplifier

To enjoy multichannel surround sound you need to connect this recorder to an AV amplifier/receiver using either the digital optical output or the coaxial output. Use whichever is convenient (don't connect both).

In addition to a digital connection, we recommend also connecting using the stereo analog connection.

You'll probably also want to connect a video output to your AV amplifier/receiver. Use the standard (composite) video output (as shown here), or the S-Video or component video connections.

See also **page 29** for how to set up the digital audio output. (Noise may be output from your speakers if the recorder is not set up to work with your AV amplifier/receiver.)



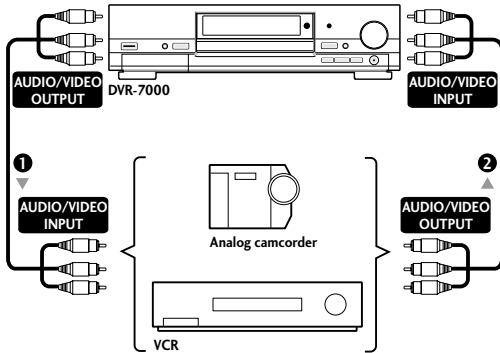
- 1 **Connect RF antenna cables as shown.**  
This enables you to watch and record TV channels.
- 2 **Connect one of DIGITAL OUT jacks on this recorder to a digital input on your AV receiver.**  
This enables you to listen to multichannel surround sound.  
For an optical connection, use an optical cable (not supplied) to connect the **OPTICAL DIGITAL OUT** jack to an optical input on your AV amplifier/receiver.  
For a coaxial connection, use a coaxial cable (similar to the supplied video cable) to connect the **COAXIAL DIGITAL OUT** jack to a coaxial input on your AV amplifier/receiver.
- 3 **Connect the analog AUDIO OUTPUT and VIDEO OUTPUT jacks on this recorder to an analog audio and video input on your AV receiver.**
- 4 **Connect the AV receiver's video output to a video input on your TV.**

**Note**

The diagram shows standard video connections, but you can alternatively use the S-Video or component video connections if they're available.

**Important**

Do not connect this recorder to your TV 'through' your VCR or other component using A/V cables. Always connect it directly to your TV.



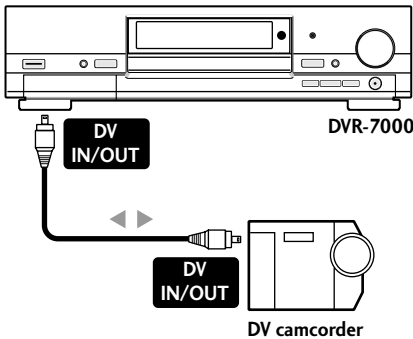
## Connecting other AV sources

### Connecting a VCR or analog camcorder

- 1 Connect a set of audio and video outputs of your VCR or camcorder to a set of inputs on this recorder.** This enables you to record tapes from your VCR or camcorder.

  - You can use standard video or S-Video cables for the video connection.
  - The front panel connections make convenient connections for a camcorder.
- 2 Connect a set of audio and video inputs of your VCR or camcorder to a set of outputs on this recorder.** This enables you to record from this recorder to your VCR or camcorder.

  - You can use standard video or S-Video cables for the video connection.



### Connecting a digital camcorder

Using the front panel **DV IN/OUT** jack, it is possible to connect a DV digital camcorder or video deck, or DVD-R/RW recorder and digitally transfer DV tapes or DVD-R/RW discs to DVD-R/RW.

- 1 Use a DV cable (not supplied) to connect the DV in/out jack of your DV camcorder/video deck to the front panel DV IN/OUT jack of this recorder.**

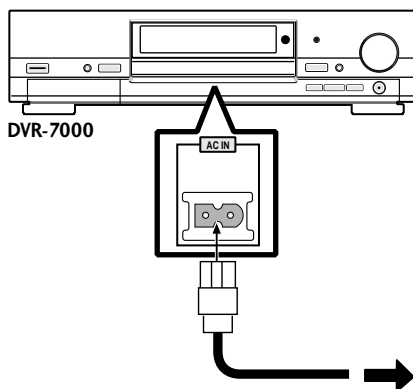


#### Important

This jack is for connection to DV equipment only. It is not compatible with digital satellite tuners or D-VHS video decks.

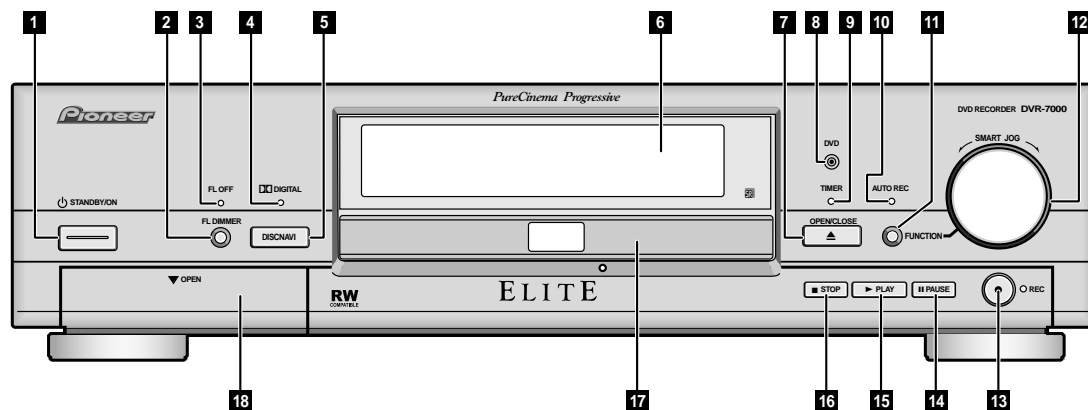
## Plugging in

Before plugging in for the first time, make sure that everything is connected properly.



- 1 Plug the supplied AC power cable into the AC IN inlet and the other end into a standard household power outlet.**

## Front panel

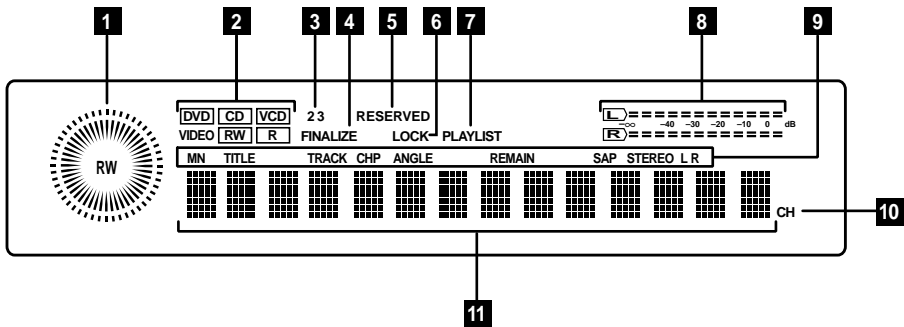


- 1** **STANDBY/ON button**  
page 24
- 2** **FL DIMMER button**  
Press to change the display brightness
- 3** **FL OFF indicator**  
Lights when the display is switched off using the FL DIMMER button
- 4** **DOLBY DIGITAL indicator**  
Lights when a Dolby Digital soundtrack is playing
- 5** **DISCNAVI button**  
Press to display the Discnavi screen | page 66–75
- 6** **Display**  
page 21
- 7** **OPEN/CLOSE button**  
Press to open/close the disc tray | page 32
- 8** **TIMER indicator**  
Lights when the record timer is set and the power is in standby
- 9** **DVD indicator**  
Lights when a DVD disc is loaded
- 10** **AUTO REC indicator**  
Lights when the recorder has been set for automatic recording | page 62
- 11** **FUNCTION button**  
Press to switch the function of the SMART JOG
- 12** **SMART JOG control**  
Turn to change the parameter selected with the FUNCTION button
- 13** **REC button/indicator**  
Press to start recording | page 43–44, 62–64
- 14** **PAUSE button**  
Press to pause playback or recording | page 32–33
- 15** **PLAY button**  
Press to start or restart playback | page 32–33
- 16** **STOP button**  
Press to stop playback or recording | page 32–33
- 17** **Disc tray**
- 18** **Front panel jacks**  
Analog and digital input/output jacks for connecting a camcorder or other external equipment | page 13, 19

**RW**  
COMPATIBLE

This indicates a product feature that is capable of playing DVD-RW discs recorded with Video Recording format.

Display



**1 Play/record indicator**

Outer (white) ring indicates the playback speed and direction. Inner (red) ring indicates elapsed playback/recording time

The center **RW** indicator lights when a VR mode disc is loaded

**2 DVD CD VCD VIDEO RW R**

Shows the type of disc loaded

**3 2 3**

Shows the remote control mode (if nothing is displayed, the remote control mode is 1) | **page 87**

**4 FINALIZE**

Lights when a finalized disc is loaded | **page 44**

**5 RESERVED**

Lights when a disc containing a disc timer program is loaded | **page 60–61**

**6 LOCK**

Lights when the child lock is active | **page 61**

**7 PLAYLIST**

Lights when a VR mode disc is loaded and the recorder is in Playlist mode | **page 66**

**8 Audio level indicators**

Monitors the output audio level during playback and the input audio level during recording

**9 MN**

Display shows the manual rate recording level | **page 41**

**TITLE**

Display shows the current title number of the DVD disc playing

**TRACK**

Display shows the current track number of the CD or Video CD disc playing

**CHP**

Display shows the current chapter number of the DVD disc playing

**ANGLE**

Lights when a multiangle scene on a DVD disc is playing, indicating that you can switch angles

**REMAIN**

Display shows the amount of recording time available on the disc loaded

**SAP**

Lights when the currently selected TV channel has a Secondary Audio Program channel | **page 50**

**STEREO**

Lights when the incoming TV signal is stereo

**L R**

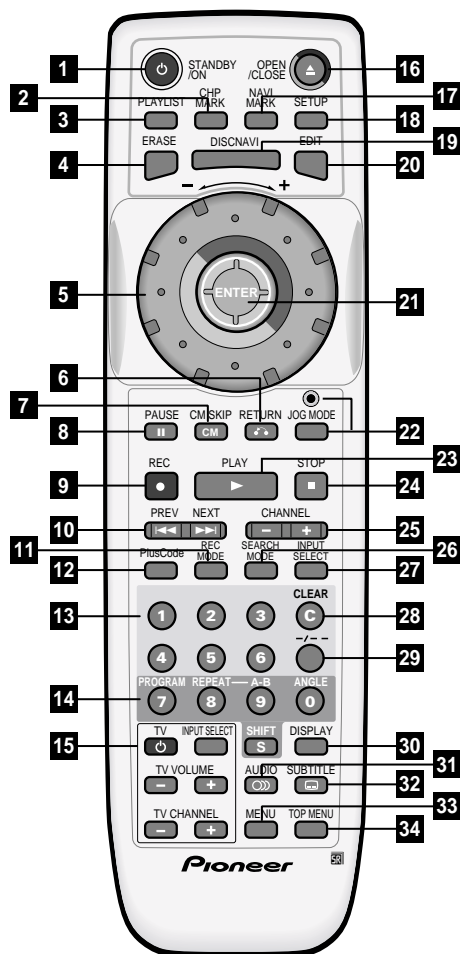
Indicates which channels are recorded/played back when Dual Mono is selected. See *External Audio* on **page 80**

**10 CH**

Channel indicator for the built-in TV tuner

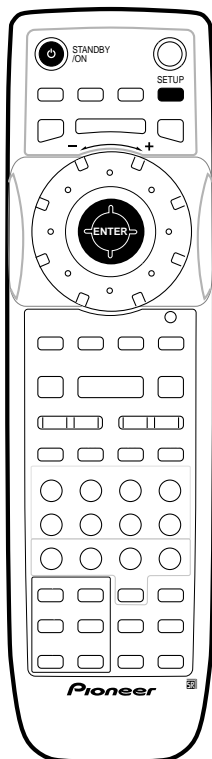
**11 Character display**

## Remote control



- 1 **STANDBY/ON**  
Switches the recorder on/into standby | page 24
- 2 **CHP MARK**  
Inserts a chapter marker when playing/recording a VR mode DVD-RW disc | page 66
- 3 **PLAYLIST**  
Switches between Original and Playlist | page 67
- 4 **ERASE**  
Shortcut to the erase function in the Discnavi or Title List screen | page 71–72, 77
- 5 **Jog dial**  
Controls scanning/slow motion speed and direction, and frame advance/reverse | page 36–37
- 6 **RETURN**  
Returns to the previously displayed on-screen display
- 7 **CM SKIP**  
Skips 30 seconds forward on the disc (about the length of a typical TV commercial) | page 32–33
- 8 **II PAUSE**  
Pauses playback or recording | page 32–33
- 9 **● REC**  
Starts recording. Press repeatedly to set the recording time | page 43–44, 62–64
- 10 **◀◀ PREV**  
Track or chapter skip/displays the previous page of a menu | page 32–34
- ▶▶ NEXT  
Track or chapter skip/displays the next page of a menu | page 32–34
- 11 **REC MODE**  
Switches the recording mode between **SP** to **MN** for a VR mode disc, or between **V1** and **V2** for a Video mode disc | page 38, 41–42
- 12 **PlusCode**  
Press, then use the number buttons to enter a PlusCode programming number for timer recording | page 58–59

- 13 Number buttons**
- 14 PROGRAM** (Press **SHIFT** first to access)  
Displays the program play screen | **page 52**
- REPEAT** (Press **SHIFT** first to access)  
Selects the repeat play mode | **page 51**
- A-B** (Press **SHIFT** first to access)  
Marks a loop for looped playback | **page 51**
- ANGLE** (Press **SHIFT** first to access)  
Switches camera angles on discs with multi-angle scenes | **page 50**
- SHIFT**  
Press first to access the above functions
- 15 TV controls**  
Use this remote to control your TV | **page 30**
- 16 ▲ OPEN/CLOSE**  
Opens/closes the disc tray | **page 32**
- 17 NAVI MARK**  
Selects a thumbnail picture for the current title for use in the Discnavi screen | **page 67**
- 18 SETUP**  
Displays the Setup menu | **page 24**
- 19 DISCNAVI**  
Displays the Discnavi screen | **page 66**
- 20 EDIT**  
Shortcut to the editing functions within the Discnavi or Title List screen | **page 67–77**
- 21 Joystick / ENTER**  
Use the joystick to navigate all on-screen displays. Press **ENTER** to select the currently highlighted option.
- 22 JOG MODE button and indicator**  
Switches the Jog dial between scanning and frame advance mode | **page 37**
- 23 ► PLAY**  
Starts playback | **page 32–33**
- 24 ■ STOP**  
Stops playback/recording | **page 32–33**
- 25 CHANNEL –/+**  
Changes the channel of the built-in TV tuner | **page 31**
- 26 SEARCH MODE**  
Allows searching of the disc by title, chapter, track, time, etc. | **page 48**
- 27 INPUT SELECT**  
Changes the input to use for recording | **page 62–63**
- 28 CLEAR**  
Clears the current setting, etc.
- 29 –/--**  
Press, then use the number button to enter a two-digit channel number | **page 35**
- 30 DISPLAY**  
Displays/changes the on-screen information displays | **page 45–47**
- 31 AUDIO**  
Changes the audio language or channel | **page 49–50**
- 32 SUBTITLE**  
Displays/changes the subtitles included in multilingual DVD-Video discs | **page 49**
- 33 MENU**  
Displays the disc menu of DVD-Video discs or the Title List screen of Video mode DVD-R/RW discs | **page 34, 76**
- 34 TOP MENU**  
Displays the disc 'top' menu of DVD-Video discs or the Title List screen of Video mode DVD-R/RW discs | **page 34, 76**



## Switching on

- 1 Press the **STANDBY/ON** button on the remote control or the front panel to switch on.
  - To put the recorder back into standby, press **STANDBY/ON** again. Make sure you never disconnect the power cord before the **POWER OFF** indication in the display goes off. You could lose portions of a recording.
- 2 Switch on your TV and set the video input to this recorder.
  - You can set up the remote to control your TV—see **page 30** for how to do this.

## Using the on-screen displays

Most of the settings and functions of this recorder are accessed using on-screen displays on your TV. These are navigated very simply using the joystick to change the highlighted option (shown in yellow), and pressing **ENTER** to select it.

The following setup procedures will not only get your recorder setup for use, but will also get you acquainted with the way the on-screen displays work.

Information about the highlighted option is displayed towards the bottom of the screen. Under the help information is a summary of the controls used to navigate the screen.

## Setting up: Auto-tuning channels

This recorder has a built-in TV tuner for recording TV programs off the air. We recommend that you first use the Auto Channel Setting described here to tune into the channels in your area, then if there are any unwanted channels, you can disable them using Channel Skip (described below).

- 1 Press **SETUP**.



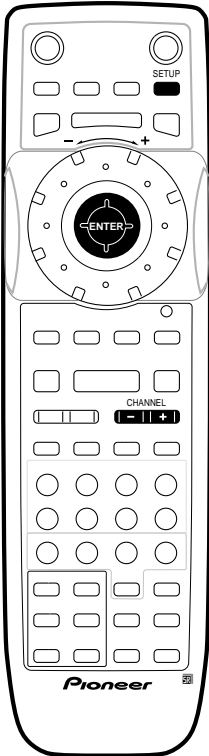
- 2 Choose **'Initial Setup'** from the menu.
  - Move the joystick up/down to change the highlighted option, then press **ENTER**.
- 3 Choose **'Tuner'** from the Initial Setup menu.



STANDBY/ON







- 4 Choose 'Auto Channel Setting' from the sub-menu.



- 5 Choose 'Antenna' or 'Cable' depending on how you receive your terrestrial TV channels.  
The recorder starts tuning.



- If you want to cancel, press **ENTER**.



#### Note

You can fine-tune individual stations using the **Manual CH Setting** feature. See [page 25](#) for how to use this.

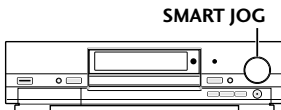
- 1 If the 'Initial Setup' menu is not already displayed, press **SETUP** and choose 'Initial Setup'.
- 2 Choose 'Tuner' from the Initial Setup menu.
- 3 Choose 'Manual CH Setting' from the sub-menu.
- 4 Press **ENTER** to go to the manual channel setting screen.



- Use the **CHANNEL +/-** button to change channels.
- If you want to skip the displayed channel (because there is no station assigned to that channel), change the **Skip** setting to **On**.
- If you want to manually tune the displayed channel, change the **Manual Tuning** setting to **On**, then move down to **Level** to manually tune to a station.



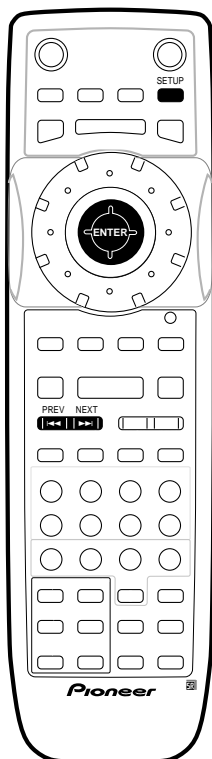
- 5 To return to the Initial Setup menu, press **ENTER**.



## Setting up: Channel skip and manual tuning

The channel skip function lets you skip channels where there is no station so that as you change channels using the **CHANNEL +/-** buttons or the front panel **SMART JOG**, you only change to channels that have a station.

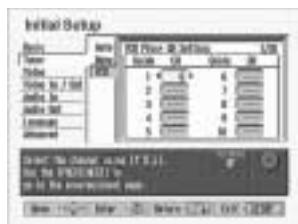
The manual tuning function allows you to manually tune to stations, should you need to.



## Setting up: Assigning guide channels for VCR Plus+ programming system

Guide channels are used by the VCR Plus+ system so that the channel number specified in the PlusCode programming numbers can be guaranteed to correspond to the correct station.

- 1 If the 'Initial Setup' menu is not already displayed, press **SETUP** and choose 'Initial Setup'.
- 2 Choose 'Tuner' from the Initial Setup menu.
- 3 Choose 'VCR Plus+ CH Setting' from the sub-menu.
- 4 Press **ENTER** to go to the VCR Plus+ channel setting screen.



- 5 Assign channel numbers to the guide channels as necessary. Look in your TV guide to see which channel numbers should be assigned to which guide channels.
  - Use the **PREV** / **NEXT** button to display the previous/next 10 guide channels.
- 6 To return to the Initial Setup menu, press **ENTER**.

## Setting up: Setting the clock

You must set the clock before you can use the timer recording features. This recorder features automatic clock setup, although it is also possible to set it manually.

### Auto clock setting

Some TV and cable channels broadcast time signals together with the program. This recorder can use these signals to set the clock automatically.

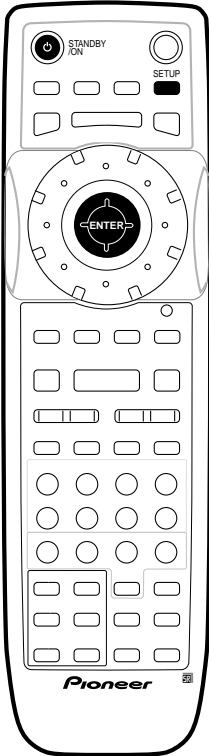
- 1 If the 'Initial Setup' menu is not already displayed, press **SETUP** and choose 'Initial Setup'.
- 2 Choose 'Basic' from the Initial Setup menu.



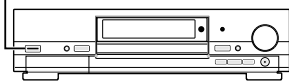
- You can press **ENTER** or move the joystick right to enter the Basic sub-menu.

- 3 Choose 'Clock Setting'.





STANDBY/ON



- 4 **Choose 'Auto'.**  
A screen appears where you can set the channel that broadcasts clock information (**Clock Set CH**), your **Time Zone** and whether or not you are currently observing Daylight Saving (**D.S.T.**).
- 5 **Set 'Clock Set CH' to the channel number for PBS, then press ENTER.**



- If you have a cable box, switch it on and set it for PBS.
- If you have a digital satellite receiver, make sure it's switched off.
- If leaving the other settings on **Auto** doesn't work, you can manually make a setting: Move the joystick left/right to set the currently highlighted option.

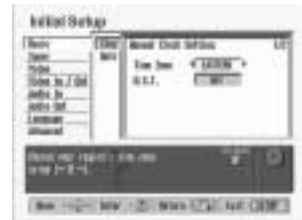
- 6 **Press SETUP to exit the Setup menu.**
- 7 **Press STANDBY/ON to switch the recorder into standby.** 'AUTO CLOCK SET' appears in the display, changing to the time when the clock signal is received. If '---:--' appears, set the clock manually.

### Manual clock setting

If it's not possible to set the clock automatically (because no stations in your area are broadcasting time signals), you can set the clock manually.

- 1 **Press SETUP.**
- 2 **Choose 'Initial Setup' from the menu.**
  - Move the joystick up/down to change the highlighted option, then press **ENTER** to select it.
- 3 **Choose 'Basic' from the Initial Setup menu.**
  - You can press **ENTER** or move the joystick right to enter the Basic sub-menu.

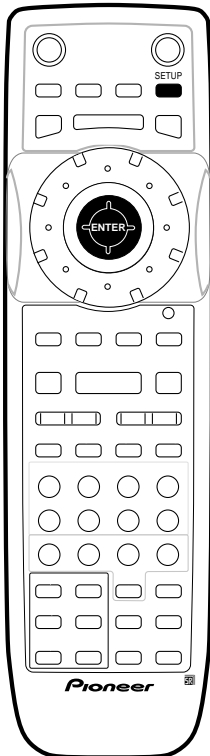
- 4 **Choose 'Clock Setting'.**
- 5 **Choose 'Manual'.**
- 6 **Set the time zone and whether or not you are currently observing daylight saving (D.S.T.).**



- 7 **Press ENTER to proceed to the date and time setting screen.**
- 8 **Set the date (month/day/year), and the time.**



- 9 **Press ENTER to make all the settings.**
- 10 **Press SETUP if you want to exit the Initial Setup menu.**



## Setting up: TV aspect ratio

So that DVD-Video discs play properly on your TV, you need to tell the recorder what aspect ratio your TV is: standard (4:3) or widescreen (16:9).

If you have a standard (4:3) TV, you can choose between Letterbox and Pan & Scan presentation for widescreen discs. Letterbox shows the whole widescreen picture with black bars at the top and bottom of the screen. Pan & Scan chops off the sides of the picture to fit it into the 4:3 aspect ratio.



### Note

- Some DVD-Video discs do not allow changing of the aspect ratio. Many discs will allow only the 16:9 (Wide) or 4:3 Letter Box settings. See the disc box for details.
- When playing a disc recorded at **MN1–MN20**, the recorder automatically switches to **4:3 Letter Box**.

- 1 If the 'Initial Setup' menu is not already displayed, press **SETUP** and choose 'Initial Setup'.



- 2 Choose 'Video' from the Initial Setup menu.



- 3 Choose 'TV Screen Size' from the sub-menu.



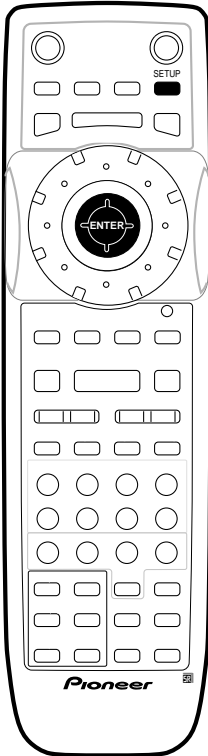
The available settings appear on the right, with the current setting indicated with a yellow square.

- 4 Choose a setting.

If you have a widescreen TV, choose **16:9 (Wide)**. If you have a standard TV, choose **4:3 Letter Box** or **4:3 Pan & Scan**, depending on which you prefer.

- See also **page 101** for more on screen sizes and settings.

- 5 If you want to exit the menu here, press **SETUP**.



## Setting up: Digital audio output

If you have connected this recorder to an AV amplifier/receiver to enjoy full surround sound, you need to setup the recorder to make sure that it only outputs digital audio formats that are compatible with your amplifier/receiver.



### Important

Sending an incompatible digital signal to an AV amplifier/receiver may result in noise being output from the speakers.

- 1 If the 'Initial Setup' menu is not already displayed, press **SETUP** and choose 'Initial Setup'.
- 2 Choose 'Audio Out' from the Initial Setup menu.



- 3 Choose 'Dolby Digital Out' from the sub-menu.



- 4 Choose a setting.  
If your amplifier/receiver has a built-in Dolby Digital decoder, set to **Dolby Digital**, otherwise set to **Dolby Digital -> PCM**.
  - Check your amplifier/receiver's manual if you're not sure.

- 5 Choose 'DTS Out' from the sub-menu.

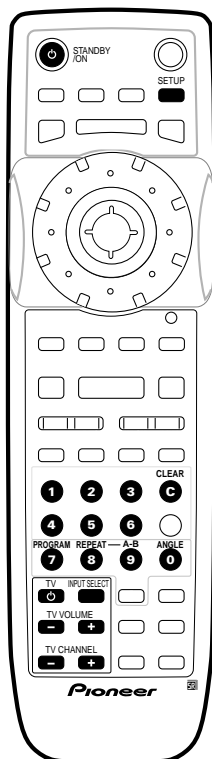


- 6 Choose 'On' if your amplifier/receiver has a built-in DTS decoder, otherwise leave it set to 'Off'.
  - Check your amplifier/receiver's manual if you're not sure.
  - When set to On there is no analog audio output when playing a DVD disc with DTS audio.
- 7 Choose '96kHz PCM Out' from the sub-menu.



- 8 Choose '96kHz' if your AV amplifier/receiver is compatible with 96kHz sampling rate audio, otherwise leave it set to '96kHz -> 48kHz'.
  - Check your amplifier/receiver's manual if you're not sure.
  - Some 96kHz discs do not output 96kHz digital audio.
- 9 Choose 'MPEG Out' from the sub-menu.





**10 Choose 'MPEG' if your amplifier/receiver has a built-in MPEG audio decoder, otherwise leave it set to 'MPEG → PCM'.**

- Check your amplifier/receiver's manual if you're not sure.

**11 If you want to exit the menu here, press SETUP.**

## Other settings you can make

There are many other settings that you can make from the Initial Setup menu, including options for audio and video input/output formats, DVD-Video language options, and parental lock settings. You can find more information about each of these settings in **chapter 10**, starting on **page 78**.


## Setting up the remote to control your TV

You can use the remote supplied with this recorder to control your TV. To be able to use this feature you first have to program the remote with a maker code from the table below.


**1 Hold down the CLEAR button and use the number buttons to input the maker code for your TV.**

See the table below for the list of maker codes. If there is more than one code given for your maker, input the first one in the list.

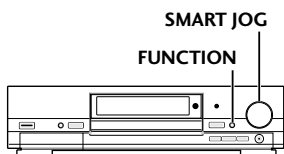
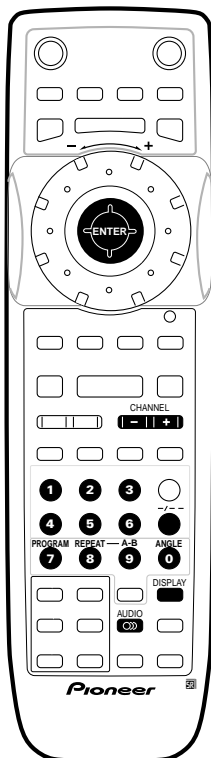
- If the maker's name for your TV does not appear in the table below, you will not be able to use this remote to control your TV.

**2 Press TV  to check that the remote works with your TV.**

If the remote is set up correctly, the TV should switch on/off. If it doesn't and there is another code given for your maker, repeat step 1 with the new code.

button	What it does
TV 	Press to switch the TV on/off (standby)
INPUT SELECT	Press to change the video input
TV VOLUME	Use to adjust the TV volume
TV CHANNEL	Use to change TV channels

Maker	Code
GE	11,28
General	33
Goldstar	10,23
Grandiente	35
Hitachi	06,24,25,31
Magnavox	12,29
Mitsubishi	09
NEC	36
Panasonic	08,22
Philips	07
Pioneer	00, 34
RCA	01,15,16,17,18
Sanyo	14,21
Sharp	02,19,27
Sony	04
Toshiba	05,26,30
Victor	13,32
Zenith	03,20



## Using the built-in TV tuner

### Changing TV channels

When disc is playing, you can change TV channels using the number or **CHANNEL** buttons on the remote control, or the **SMART JOG** on the front panel.



#### Note

Antenna channels are numbered 2 through 69. Cable channels are numbered 1 through 125.

- **Remote:** Use the number buttons to input a channel number, then press **ENTER**.

For example, to select channel 4, press **4** then **ENTER**; for channel 34, press **3**, **4** then **ENTER**; for channel 102, press **1**, **0**, **2** then **ENTER**.

- As an alternative, for two-digit channel numbers you can press **-/--** followed by the two-digit channel number.

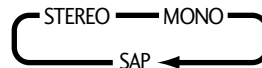
- **Remote:** Press **CHANNEL +** or **CHANNEL -** to change channel.

- **Front panel:** Press **FUNCTION** until **CHANNEL?** appears in the display, then turn the **SMART JOG** to change the channel.

### Changing audio channels

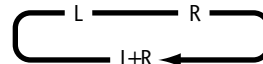
Some TV programs are broadcast with both a main and a Secondary Audio Program (SAP). You can change the TV audio using the **AUDIO** button.

- Press **AUDIO** to change the TV audio.



The current audio channel is displayed on-screen.

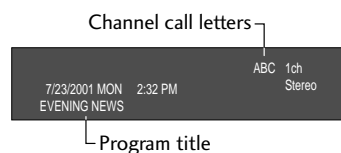
- If **SAP** is selected, but there is no SAP channel being broadcast, you will still hear the main audio channel.
- If the sound is poor quality when set to **Stereo**, you can often improve it by changing to **Mono**.
- When an external input is selected and Dual Mono recording is selected (**page 81**), the audio channel can be switched between left, right or both.



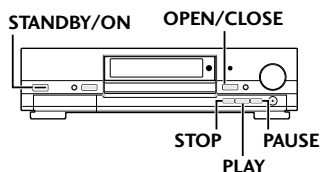
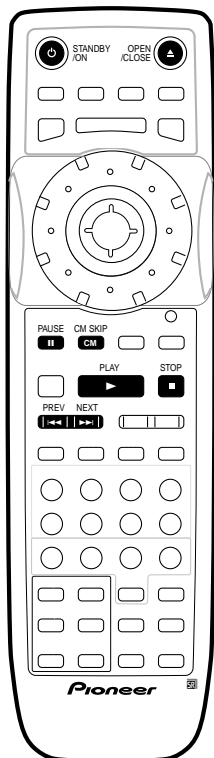
### Displaying program titles and channel call letters

Some TV stations transmit the program title and channel call letters together with the program.

- 1 Press **DISPLAY** to display/change the information displayed on-screen.



- The program title can also be displayed while recording.



## Playing discs

The basic playback controls for playing DVDs, Video CDs and Audio CDs are covered here.



### Note

Throughout this manual, the term 'DVD' means playback-only DVD-Video discs and DVD-R/RW. If a function is specific to a particular kind of DVD disc, it is specified.



### Important

While using the DVD playback controls, you may see the or mark displayed on-screen.

- means that the operation is not allowed by the player.
- means that the operation is not allowed by the disc.

### 1 Press STANDBY/ON to switch on.

If you're playing a DVD or Video CD, also turn on your TV and make sure that it is set to the correct video input.

### 2 Press OPEN/CLOSE to open the disc tray.

### 3 Load a disc.

Load a disc with the label side facing up, using the disc tray guide to align the disc (if you're loading a double-sided DVD-Video disc, load it with the side you want to play face down).



### Note

If you want to play a DTS audio CD, make sure the recorder is connected to a DTS-compatible amplifier with a digital connection. *Noise will be output through the analog outputs.* Also make sure that **STEREO** is selected using the **AUDIO** button (see page 50).

### 4 Press to start playback.

- If you're playing a DVD-Video or Video CD, a menu may appear. See page 34 for how to navigate these.
- To stop or pause playback, press **STOP** or **PAUSE** .
- To eject the disc, press **OPEN/CLOSE** . Remove the disc before switching off.

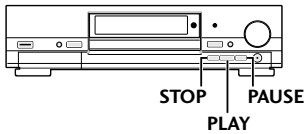
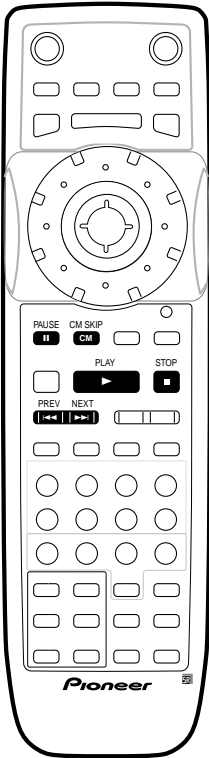
## Basic playback controls

**Video mode**

For more information on Video mode and VR mode formatted discs, see pages 9 and 38.

Button	What it does
	Starts playback. (If <b>RESUME</b> is displayed on-screen, playback starts from the place last stopped.)
	Pauses a disc that's playing, or restarts a paused disc.
	Stops playback. The display shows <b>RESUME</b> . (Press again to cancel the resume function.)
	Skips to the start of the current chapter, then to previous chapters.
	Skips to the next chapter.
<b>CM SKIP</b>	(Commercial skip) Each press skips forward 30 seconds (approximately two average-length commercials). Use to a maximum of 4 mins.





## VR mode

DVD-RW

For more information on Video mode and VR mode formatted discs, see **pages 9 and 38**.

Button	What it does
--------	--------------

- |    |   |
|----|---|
| ▶  | Starts playback. (If <b>RESUME</b> is displayed on-screen, playback starts from the place last stopped.)                          |
|    | Pauses a disc that's playing, or restarts a paused disc.  |
| ■  | Stops playback. The display shows <b>RESUME</b> . (Press again to cancel the resume function.)                                    |
| ◀◀ | Skips to the start of the current chapter, then to previous chapters. Press and hold for 2 seconds to skip to the previous title. |
| ▶▶ | Skips to the next chapter. Press and hold for 2 seconds to skip to the next title.  |

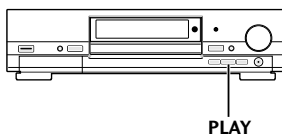
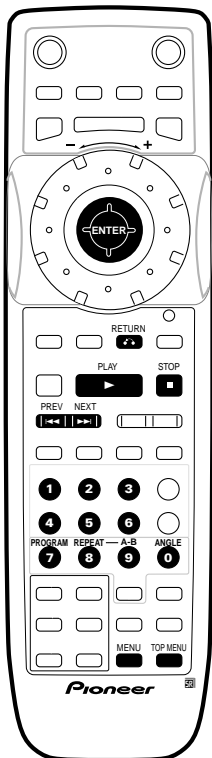
**CM SKIP** (Commercial skip) Each press skips forward 30 seconds (approximately two average-length commercials). Use to a maximum of 4 mins.

Video CD CD

Button	What it does
--------	--------------

- |    |   |
|----|---|
| ▶  | Starts playback. Video CD only: If <b>RESUME</b> is displayed on-screen, playback starts from the last place stopped. |
|    | Pauses a disc that's playing, or restarts a paused disc.  |
| ■  | Stops playback. Video CD only: The display shows <b>RESUME</b> . (Press again to cancel the resume function.)         |
| ◀◀ | Skips to the start of the current track, then to previous tracks.   |
| ▶▶ | Skips to the next track.  |

**CM SKIP** *Video CD only*\*. Each press skips forward 30 seconds (approximately two average-length commercials). Use to a maximum of 4 mins. \* Can't be used in PBC mode.



## Using DVD-Video disc menus

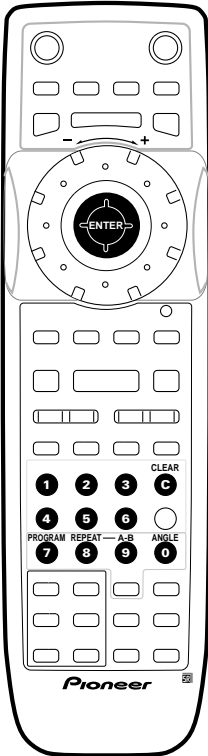
Many DVD-Video discs contain menus. Sometimes these are displayed automatically when you start playback; others only appear when you press **MENU** or **TOP MENU**.

Button	What it does
<b>TOP MENU</b>	Displays the 'top menu' of a DVD disc—this varies with the disc.
<b>MENU</b>	Displays a DVD disc menu—this varies with the disc and may be the same as the 'top menu'.
<b>RETURN</b>	Returns to the previously displayed menu screen.
<b>Joystick</b>	Moves the cursor around the screen.
<b>ENTER</b>	Selects the currently highlighted menu option.
<b>Numbers</b>	Selects a numbered menu option (some discs only). (Press <b>ENTER</b> after).

## Using Video CD PBC menus

Some Video CDs have menus from which you can choose what you want to watch. These are called PBC (Playback control) menus. You can play a PBC Video CD in non-PBC mode by pressing **▶▶** to start playback instead of **PLAY ▶**.

Button	What it does
<b>RETURN</b>	Displays the PBC menu.
<b>Numbers</b>	Selects a numbered menu option (press <b>ENTER</b> after).
<b>◀◀</b>	Displays the previous menu page (if there is one).
<b>▶▶</b>	Displays the next menu page (if there is one).



Video CD CD

## Navigating discs

During playback you can easily jump to another title, chapter or track on a disc using the number buttons on the remote, or the Smart Jog on the front panel.

- 1 **While a disc is playing, use the number buttons to input a track number.**

For example, for track 6, press **6**; for track 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

- 2 **Press ENTER.**

Playback jumps to the selected track.

## Using the remote control

Video mode

DVD-Video DVD-R DVD-RW

- 1 **While a disc is playing, use the number buttons to input a chapter number within the current title.**

For example, for chapter 6, press **6**; for chapter 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

- 2 **Press ENTER.**

Playback jumps to the selected chapter.

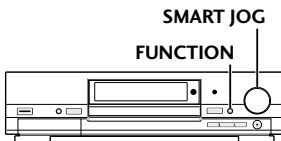


### Note

- You can also navigate DVD-R/RW discs recorded in Video mode using the Title List screen. See [page 76](#).

## Using the front panel controls

- 1 **Press FUNCTION until the display shows TITLE? or CHAPTER? (DVD), or TRACK? (CD/Video CD).**
- 2 **Turn the SMART JOG to select a title/chapter/track number.**  
After you stop turning the **SMART JOG**, playback jumps to the point specified.



VR mode

DVD-RW

- 1 **While a disc is playing, use the number buttons to input a title number.**

For example, for title 6, press **6**; for title 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

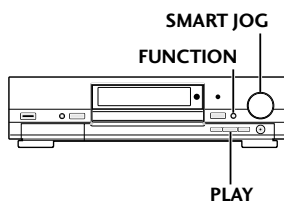
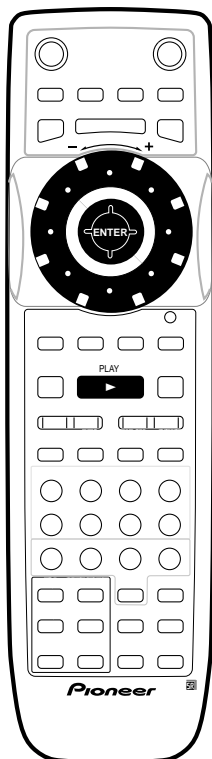
- 2 **Press ENTER.**

Playback jumps to the selected title.



### Note

- You can also navigate DVD-RW discs recorded in VR mode using the Discnavi screen. See [page 67](#).



## Scanning discs

Using the Jog dial on the remote, you can fast-scan discs forward or backward.

### Note

- Sound can be heard while scanning audio CDs.
- There are no subtitles displayed and no sound while scanning DVDs and Video CDs.
- Depending on the disc, normal playback may automatically resume when a new chapter is reached.

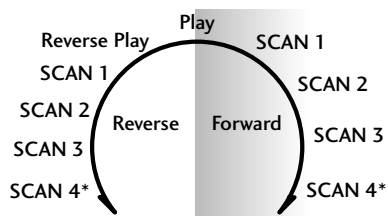
- 1 **Remote:** During playback, turn the Jog dial to start scanning.

**Front panel:** During playback, press **FUNCTION** until the display shows **PLAY**, then turn the **SMART JOG** to start scanning.

Turn clockwise for forward scanning; counter-clockwise for reverse scanning.

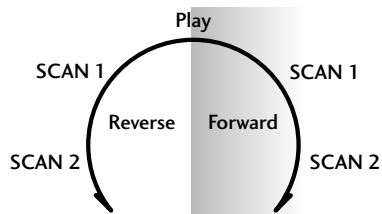
- The scanning speed is shown on-screen.

### DVD

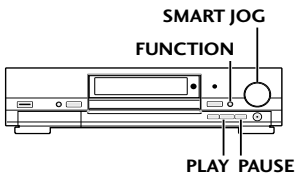
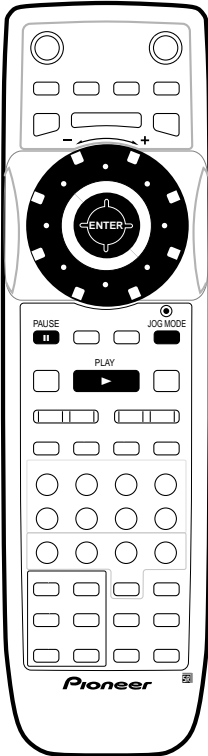


\* **SCAN 4** is only available with VR mode DVD-RW discs.

### Video CD CD



- 2 Use the Jog dial to change the scanning speed and direction.
- 3 To resume normal playback, press **▶**.



## Playing in slow motion

DVD Video CD

After pausing playback, you can use the Jog dial on the remote or the **SMART JOG** on the front panel to control the direction and speed of slow motion playback.

### Note

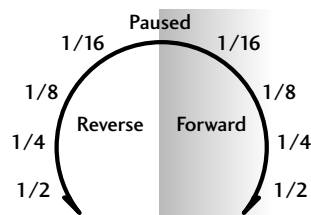
- Video CD only supports forward slow motion playback.
- The picture quality during slow motion playback is not as good as during normal playback.
- Depending on the disc, normal playback may automatically resume when a new chapter is reached.

- 1 During playback, press **II PAUSE**.
- 2 Remote: Turn the Jog dial to start slow motion playback.

*Front panel:* Press **FUNCTION** until the display shows **PAUSE**, then use the **SMART JOG** to start slow motion playback.

Turn clockwise for forward slow motion playback; counter-clockwise for reverse slow motion playback.

- The scanning speed is shown on-screen.
- There is no sound during slow motion playback



- 3 Use the Jog dial to change the scanning speed and direction.
- 4 To resume normal playback, press **▶**.

## Frame advance/frame reverse

DVD Video CD

You can advance or back up a DVD disc frame-by-frame. With Video CDs, you can only use frame advance.

### Note

- The picture quality when using frame reverse is not as good as frame advance.
- Depending on the disc, normal playback may automatically resume when a new chapter is reached.

## Using the remote control

- 1 During playback, press **JOG MODE**.  
The jog mode indicator lights.
- 2 Turn the Jog dial to advance/reverse a frame at a time.
  - Turn clockwise for frame advance.
  - Turn counter-clockwise for frame reverse.
- 3 To resume normal playback, press **▶**.

## Using the front panel controls

- 1 Press **FUNCTION** until the display shows **STEP?**
- 2 Turn the **SMART JOG** to advance or back up a frame at a time.

## About DVD recording



### Important

- This recorder cannot record onto CD-R or CD-RW discs.
- Pioneer takes no responsibility for recording failure due to power cuts, defective discs, or damage to the recorder.
- Fingerprints and small scratches on a disc can affect playback and/or recording performance. Please take proper care of your discs.

### Disc types and recording formats, modes and settings

This recorder can play three different kinds of DVD disc: pre-recorded DVD-Video discs, DVD-RW and DVD-R discs. The disc format for DVD-R discs is always “Video format”—the same as pre-recorded DVD-Video discs. This means that once finalized, you can play a DVD-R in a regular DVD player.

By default, the DVD-RW disc format is Video Recording format, though you can change this to Video format, if required. (Reinitializing the disc will erase the contents of the disc.)

The recording mode is closely related to the disc format. If the disc format is Video Recording

format, then the recording mode is VR mode; if the disc format is Video mode, then the recording mode is Video mode (except for DVD-Video, which is not recordable, and so does not have a recording mode).

Within the recording modes (which are fixed for the whole disc) are the record settings. These can be changed as required for each recording and determine the picture quality and how much space the recording will take up on the disc.

### Recording in VR mode

When recording in VR mode, you need to first set the recording mode to **SP** (Standard), or **MN** (Manual).

In **SP** mode, the recording quality and recording time are fixed. The total recording time available on a disc recorded in **SP** mode is 120 minutes (for a 12cm/4.7GB disc).

In **MN** mode you can trade off recording quality for recording time. Recording rate levels range from 1 (360 minutes of recording per disc) to 32 (61 minutes/disc). The default setting is level 9, which gives you 240 minutes/disc. The **SP** mode is the equivalent of level 21.

The table below shows approximately how much recording time a whole disc would give at each level.

Disc type	Disc format	Recording mode	Record settings	Functions
DVD-Video	Video format	n/a	n/a	Playback only
DVD-RW	Video Recording format (default)	VR mode	<b>SP</b> (standard), <b>MN</b> (manual) - level 1-32	Playback, recording, Original/Playlist editing
	Video format	Video mode	<b>V1</b> (high quality), <b>V2</b> (standard)	Playback, limited recording, limited editing
DVD-R	Video format	Video mode	<b>V1</b> (high quality), <b>V2</b> (standard)	Playback, limited recording, limited editing

Level 1	360 mins (Longest recording time)
Level 2	345 mins
Level 3	330 mins
Level 4	315 mins
Level 5	300 mins
Level 6	285 mins*
Level 7	270 mins
Level 8	255 mins
Level 9	240 mins
Level 10	230 mins
Level 11	220 mins*
Level 12	210 mins
Level 13	200 mins
Level 14	190 mins
Level 15	180 mins
Level 16	170 mins*
Level 17	160 mins
Level 18	150 mins
Level 19	140 mins
Level 20	130 mins*
Level 21	120 mins (Equivalent to SP recording)
Level 22	110 mins
Level 23	105 mins
Level 24	100 mins
Level 25	95 mins
Level 26	90 mins
Level 27	85 mins
Level 28	80 mins
Level 29	75 mins
Level 30	70 mins
Level 31	65 mins
Level 32	61 mins (Highest quality recording)

\* As a guide, these are places where you will notice a significant change in the picture quality



#### Note

- The recording times shown are not exact because the recorder uses variable bit-rate video compression. This means that the exact recording time will depend on the material being recorded.
- When recording a TV broadcast, if the reception is poor or the picture contains interference, the recording times may be shorter than indicated in the above table.
- If you record still pictures or audio only, the recording time may be longer than indicated in the above table.
- The displayed times for recording and time remaining may not always add up to exactly the length of the disc.
- The recording time available may decrease if you heavily edit a disc.
- When recording from the **DV IN/OUT** jack, levels 1 through 8 are not available. If you try and select one of these levels, the recorder will automatically change the recording level to 9.
- When recording at the highest quality (level 32), audio is recorded uncompressed in Linear PCM format (excluding when recording from a component connected to the **DV IN/OUT** jack). At all other recording levels, audio is recorded in 2 channel Dolby Digital format.

## Recording in Video mode

When recording in Video mode, two quality settings are available; **V1** (high quality) and **V2** (standard). Around 60 minutes of **V1** recording will fit onto a disc, while on the **V2** setting, a disc holds about 120 minutes.



#### Note

- **V1** (high quality) recordings are about the same quality as a VR mode recording made on the **MN32** setting.
- Although **V2** (standard) recordings give about the same recording time as **SP** recordings in VR mode, you may notice slightly more artifacts on fast moving objects in **V2** mode.
- If using a DVD-RW disc, make sure you change the recording format to Video mode before you record anything on the disc. See **page 42** for how to do this.
- Before recording in Video mode, set the **Screen Size for Rec** option in the **Video** menu to 4:3 or 16:9 according to the program you're recording. See **page 79**.
- When using a DVD-R disc, you can keep recording until the disc is full, or until you finalize the disc. Before you start a recording session, check the amount of recording time left on the disc.
- When using a DVD-RW disc, available recording time will only increase when you erase the last title recorded on the disc.
- Recordings are made in 30-second blocks. This means that some video may be recorded after you press **■ STOP** to stop recording.

- By default, you have to press **REC** twice to start recording on a DVD-R disc. The first press puts the recorder into record standby; the second press starts the recording. See **page 87** for how to change this setting so that Video mode recording starts with one press.
- The **Erase Title** option in the Title List screen only hides the title, it does not actually erase the title from the disc and increase the recording time available (except for the last recorded title on a DVD-RW disc).

## Recording TV audio channels

This recorder can record one or two channel audio. For TV broadcasts, this usually means mono or stereo, but some programs are broadcast with a main and a SAP (Secondary Audio Program) audio channel.

If you're recording in Video mode (or in VR mode on the **MN32** setting), you can record either the main audio or the SAP audio.

If you're recording in VR mode (on a setting other than **MN32**), you can choose to record either the main audio, or both the main and SAP audio together. On playback you can switch between the main and SAP audio as you like.

## Restrictions on video recording

- You cannot record copy-protected video using this recorder. Copy-protected video includes DVD-Video discs and some satellite broadcasts. If copy-protected material is encountered during a recording, recording will pause or stop automatically and an error message will be displayed on-screen.
- Video that is 'copy-once only' can only be recorded using a DVD-RW disc in VR mode with CPRM (see below).
- When recording a TV broadcast or through an external input, you can display copy control information on screen. (see **page 46**).

## What is 'CPRM'?

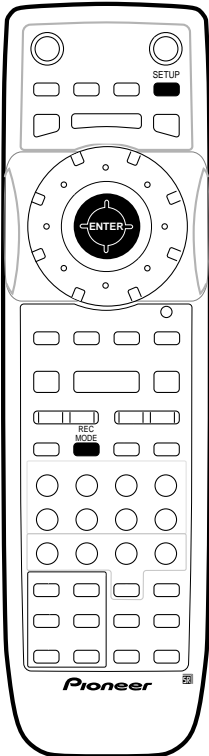
CPRM is a copy protection system with scramble system regarding the recording of 'copy once' broadcast programs. CPRM stands for Content Protection for Recordable Media.

This recorder is CPRM compatible, which means that you can record copy-once broadcast programs, but you cannot then make a copy of those recordings. CPRM recordings can only be made on DVD-RW discs formatted in VR mode, and CPRM recordings can only be played on players that are specifically compatible with CPRM.

## Copyright

- Audio and video recordings you make using this recorder are for your personal use only. You may not sell, lend or rent them to other people.
- This product incorporates copyright protection technology that is protected by method claims of certain U. S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision corporation. Reverse engineering or disassembly is prohibited.





## Initializing a disc

If you're recording on a DVD-R disc, the recording mode will always be Video mode.

If you are using a DVD-RW disc, by default it will be VR mode. You can change this to Video mode from the Disc Setup menu.



### Important

If you want to change the disc format, everything recorded on the disc will be erased.

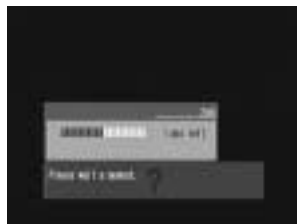
- 1 Press **SETUP** and select 'Disc Setup' to display the Disc Setup menu.



- 2 Select 'Video Mode' or 'VR Mode' from the sub-menu.



- 3 Select 'Start'.



It takes a few moments to initialize the disc.

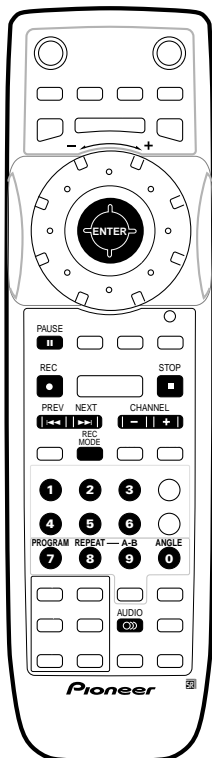
## Setting up for VR mode recording

When recording a disc in VR mode, you can select either **SP** (standard) or **MN** (manual) recording. If you choose **MN**, you can set the picture quality to one of 32 different settings. See [page 38](#) for more information on VR mode recording.

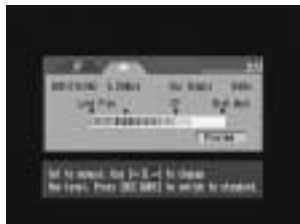
- 1 Load a disc initialized for VR mode recording.
- 2 Press **REC MODE** repeatedly to select either the **SP** (standard) or **MN** (manual) record setting.



- The screen also shows the total disc recording time, the data transfer rate and the remaining recording time on disc based on the current settings.
- Select **PREVIEW** to see how the recorded picture will look.
- Press **ENTER** to select the setting displayed, or just wait until the screen disappears after a few seconds.



- 3 If you selected the MN setting, set the recording rate level. Move the joystick left/right to adjust the level.



- Use the ◀◀ and ▶▶ buttons to move to the previous/next preset level.
- Press ENTER to select the setting displayed, or just wait until the screen disappears after a few seconds.

## Setting up for Video mode recording

When recording a disc in Video mode, you can select either **V1** (high quality) or **V2** (standard) recording. The **V2** setting gives approximately twice as much recording time as the **V1** setting. See [page 39](#) for more information on Video mode recording.

- 1 Load a disc initialized for Video mode recording.
- 2 Press REC MODE.



- The screen also shows the total disc recording time and the remaining recording time on disc based on the current settings.

- 2 Move the joystick left/right or press REC MODE to select either **V1** (high quality) or **V2** (standard).

- Select **PREVIEW** to see how the recorded picture will look.
- Press **ENTER** to select the setting displayed, or just wait until the screen disappears after a few seconds.

## Setting the recording mode from the front panel

- 1 Press **FUNCTION** until **REC MODE?** appears in the display.

- 2 Turn the **SMART JOG** to change the recording mode.

Video Mode: Switch between **V1** and **V2**

VR Mode: Switch between **SP** and **MN**

- To change the rate level in MN mode, press **FUNCTION** again, then turn the **SMART JOG**.

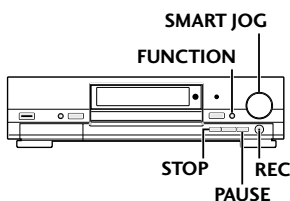
## Adjusting the audio recording level

You can check the audio level by looking at the audio level meter on the front panel display. If it's too high or too low, you can adjust it using the **SMART JOG** on the front panel.

- 1 Press **FUNCTION** until **REC LEVEL?** appears in the display.

- 2 Use the **SMART JOG** to adjust the level.

Check the level meter while you do this to get the best level. If the red segments at the end of the level meter are lighting, the audio level is too high.



## Basic recording from the TV

Follow the instructions below to record a TV program. Recording starts immediately and continues until the disc is full or you stop the recording.

### 1 Switch on the recorder and load a recordable disc.

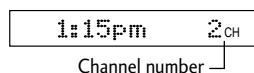
Also make sure that the TV input is set to this recorder.

- If you load a completely blank disc, the recorder takes a short while to initialize the disc.

### 2 Set the recording mode as necessary.

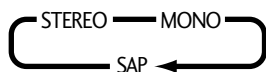
See *Setting up for VR mode recording* and *Setting up for Video mode recording* on the previous pages for detailed instructions.

### 3 Use the CHANNEL +/- buttons to select the TV channel to record.



- While the recorder is stopped, you can also use the number buttons on the remote to select the channel. (For channel 6, press **6** then **ENTER**; for channel 24, press **2**, **4** then **ENTER**)
- See [page 31](#) for how to select a channel using the front panel controls.

### 4 Press AUDIO to select the audio channel to record.



The table opposite shows what will be recorded on the different settings for different types of broadcast. The last column (Monitor audio) shows what you'll hear as it is recording.

For example, if the TV broadcast is stereo, then setting the recorder to **STEREO** or **SAP** will record the broadcast in stereo, and the monitor audio is also stereo.

- When recording in VR mode (except on the MN32 setting), it is possible to record both the main and SAP audio and switch it on playback. When recording in Video mode or on the MN32 setting in VR mode, you can't record both the main and SAP audio.
- If you set the audio channel to **SAP**, but there is no SAP channel being broadcast, the main audio (mono or stereo) will be recorded.

### 5 Set the audio recording level as necessary.

See *Adjusting the audio recording level* on the previous page for detailed instructions.

### 6 Press ● REC.

DVD-RW: Recording starts immediately.

DVD-R: The recorder prepares to start recording. Wait for the on-screen display to prompt, then press ● **REC** again to start recording.

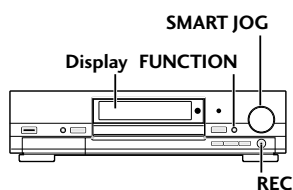
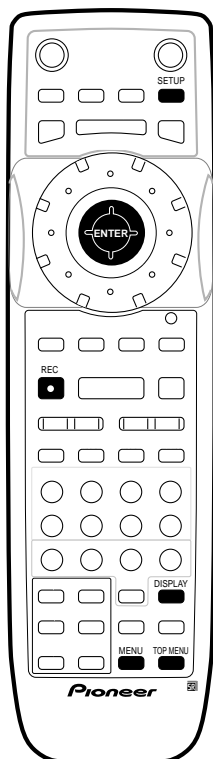
- Recording continues until you press ■ or the disc is full.
- To record for a fixed length of time, see *One touch recording* on [page 44](#).

*While recording:*

- Press to pause the recording. Press again to restart recording. When recording in VR mode, a new chapter is created when recording is restarted.
- Press to stop recording.

TV Broadcast	Selected audio	Broadcast audio L ch	Broadcast audio R ch	Monitor audio
Mono	Stereo/Mono/SAP	Mono	Mono	Mono
Stereo	Stereo/SAP	L	R	Stereo
	Mono	L+R	L+R	Mono
Mono + SAP	Stereo/Mono	Mono	Mono	Mono
	SAP	Mono * <sup>1</sup>	SAP	SAP
Stereo + SAP	Stereo	L	R	Stereo
	Mono	L+R	Mono	Mono
	SAP	L+R * <sup>1</sup>	SAP	SAP

\*<sup>1</sup> When recording in VR mode (MN32) or Video mode, the SAP channel is recorded on this channel



## One touch recording

This is a simple way to set the recording time in blocks of 30 minutes. Check that the disc you're recording onto has enough space for the time you set.

When the recording finishes the recorder automatically goes into standby.

### 1 Load a recordable disc.

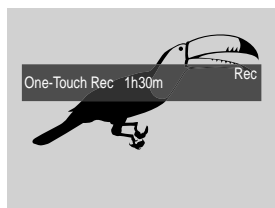
- If you load a completely blank disc, the recorder takes a short while to initialize the disc.

### 2 Set the record mode, the audio channel and the audio recording level as necessary.

See above for detailed instructions.

### 3 Press REC repeatedly to set the recording time.

Recording starts after the first press (or, by default, after the second press for a DVD-R disc). Each subsequent press increases the recording time by 30 minutes, up to a total of 6 hours. The recording time is displayed on-screen.



Stop on the recording time you want.

- Once recording has started, you can cancel the recording time without stopping the recording by pressing **REC**.

## Playing your recordings on other DVD players

Most regular DVD players can play finalized discs recorded in Video mode. A small number of players can also play DVD-RW discs recorded in VR mode, finalized or not. Check the manual that came with the other player to check what kinds of discs it will play.

### Finalizing a disc

Finalizing 'fixes' the recordings in place so that the disc can be played on a regular DVD player or computer equipped with a suitable DVD-ROM drive.

Finalizing a Video mode disc creates a menu screen for navigating the disc. This is accessed by pressing **MENU** or **TOP MENU**.



#### Important

- Once you've finalized a disc recorded in Video mode, you can't edit or record anything else on that disc.
- A VR mode disc can still be recorded and edited on this recorder even after finalizing.

### 1 Load the disc you want to finalize.

Make sure that the recorder is stopped before proceeding.

### 2 Press **SETUP**.

The Setup menu appears on-screen.

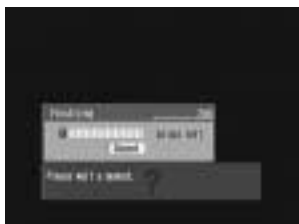
- 3 Select 'Disc Setup' from the menu.



- 4 Select 'Finalize' from the sub-menu.



- 5 Select 'Start'.



The recorder starts finalizing the disc.

- If the finalization process is going to take more than around 4 minutes, you can press **ENTER** to cancel. Around 4 minutes before completion, the option to cancel disappears.
- How long finalization takes depends on the type of disc, how much is recorded on the disc and the number of titles on the disc. A disc recorded in VR mode can take up to 1 hour to finalize. A disc recorded in Video mode can take up to 20 minutes.



#### Note

If you load a DVD-RW that has already been finalized on a different DVD recorder, you can 'un-finalize' it by choosing **Undo Finalize** from the Finalize menu. After doing this, you can edit and re-record onto the disc.

## Displaying disc information on-screen

You can display various information about the disc loaded on-screen.

- 1 Press **DISPLAY** repeatedly to display/change the information displayed on-screen.

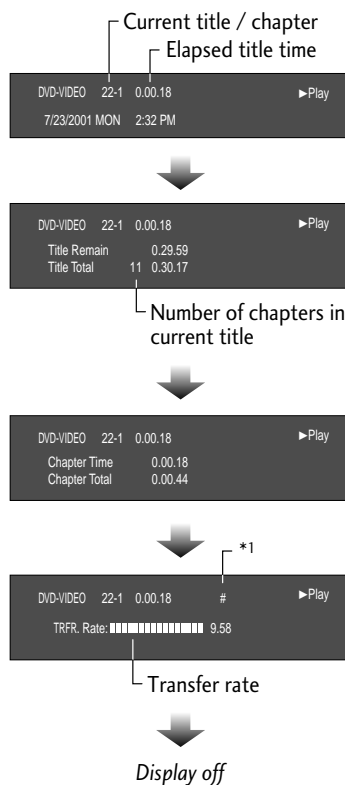
- 2 To remove the on-screen display, press **DISPLAY** repeatedly until it disappears.

See the following page for detailed explanation of each display.

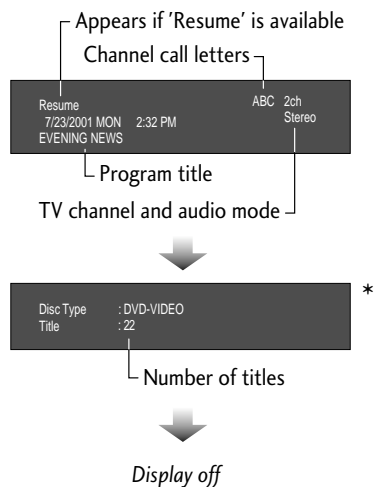
- The on-screen display automatically disappears after 150 minutes.



### Playing



## Stopped

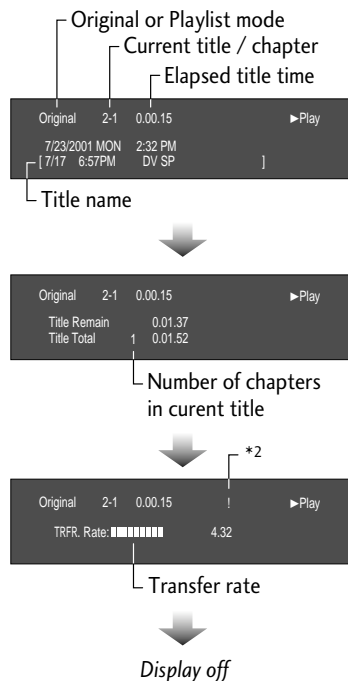


\* When an unfinalized disc is loaded, the remaining recording time is also displayed.

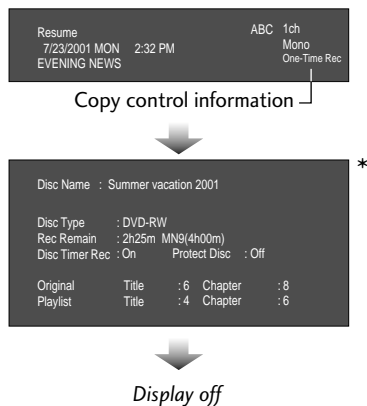
## VR mode

DVD-RW

## Playing



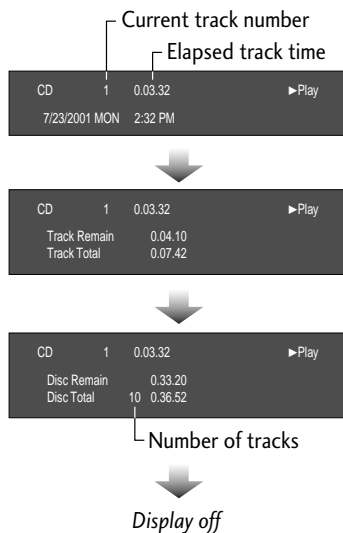
## Stopped



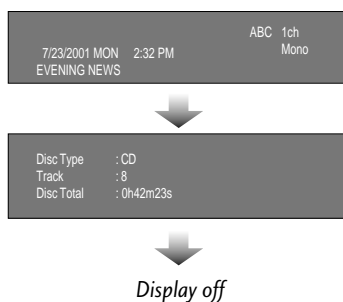
\* This display is also shown when a VR mode disc is loaded.

CD

## Playing



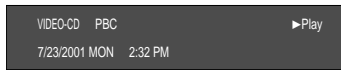
## Stopped



## Video CD

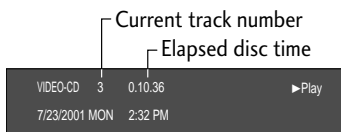
## Playing

- Video CD playing in PBC mode

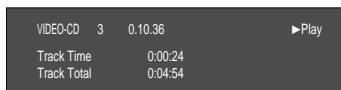


Display off

- Video CD playing in non-PBC mode

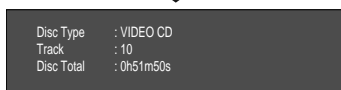
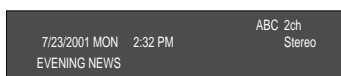


Number of tracks



Display off

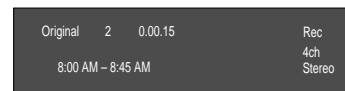
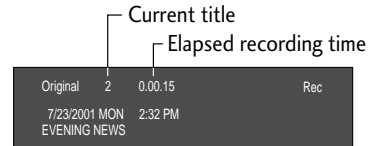
## Stopped



Display off

## DVD-R DVD-RW

## Recording



Timer recording only

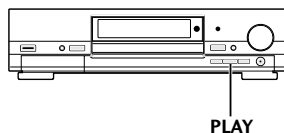
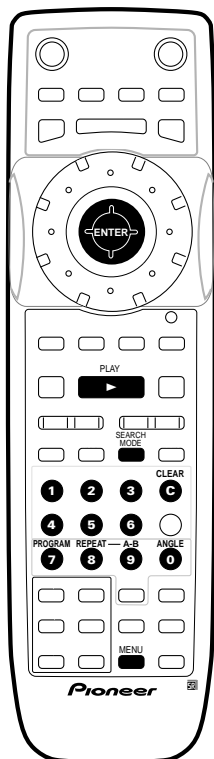
Display off






## Note

- \*1 The '#' mark means that the video signal being recorded is 24 frame/sec progressive scan. See *PureCinema* in the glossary on page 96.
- \*2 The '!' mark means that the content is scrambled with CPRM.

- If **Frame Search** is **On** (see page 87), the frame number is shown next to the elapsed time display when the disc is paused.
- Transfer frame rate shows the amount of video and audio information recorded on the disc. It is not an indication of picture/audio quality.
- In the recording or stop display, **One Time Rec** or **Can't Record** may appear. This means that the TV program contains copy control information.
- The stop display of a Video mode disc becomes the same as a DVD-Video disc once the disc is finalized.
- In the recording display, the total recording time figure in parenthesis is calculated based on a 12cm/4.7GB disc at the displayed record setting.
- Recording and playback times for TV recordings are approximately 0.1% shorter than the actual time. This is because of the slightly different frame rates of TV broadcasts versus DVD.



## Introduction

- When playing DVD discs, if the  or  icon appears on-screen when you try and use a particular function, either the player or the disc doesn't allow the use of that function.
- When playing Video CDs, some functions, such as making a program list, are not available in PBC mode. Stop the disc first, then start playback by pressing .

## Finding what you want on a disc

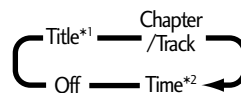
You can directly access any point on a disc using one of the search modes. Use these search modes while a disc is playing, or when it's stopped. Playback jumps to the point specified.



### Note

- Depending on the disc, you may also be able to search using the disc's menu. Press **MENU** to display this.
- You can't use time search with DVD-Video or Video mode discs when they are stopped.
- When using time search, playback may occasionally start slightly before or after the time you input.

- 1 Press **SEARCH MODE** repeatedly to choose between:



\*1 DVD only

\*2 DVD and Video CD only

- 2 Enter the title/chapter/track number or time (hours, minutes & seconds).


For example, for title 4, press **4**.

For chapter/track 12, press **1, 2**.

For 45 minutes into the disc, press **4, 5, 0, 0**.

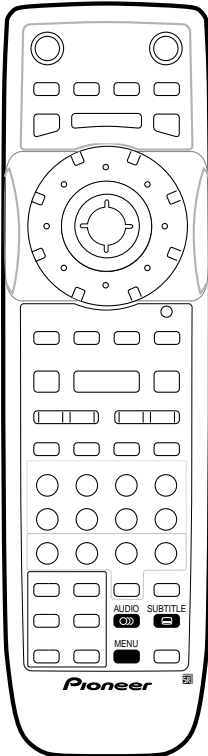
For 1 hour and 15 minutes and 20 seconds into the disc, press **1, 1, 5, 2, 0**.

- If **Frame Search** is **On** (see page 87), then you need to add a frame number to the end of the time search. For example 22 minutes, 10 seconds and 5 frames, press **2, 1, 0, 0, 5**.
- NTSC video contains 30 frames per second, numbered 0 through 29.
- When using frame search with film material (recorded at 24 frames/second), accurate frame search may not be possible. This is because of the difference between the recorded frame rate and the playback frame rate.

- 3 Press  or **ENTER** to start/restart playback.

- If you searched by frame, the recorder will pause on the selected frame.





## Switching subtitles

**DVD-Video**

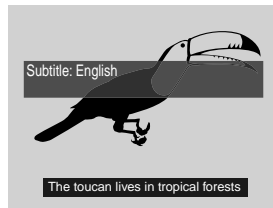
Many DVD Video discs have subtitles in one or more languages—the disc box will usually tell you which subtitle languages are available. You can switch subtitle language anytime during playback.

### Note

- Some discs will only allow you to change the subtitle from the disc's menu. Press **MENU** to display this.

### 1 To display/switch the subtitle language, press **SUBTITLE** repeatedly.

The current subtitle language is shown on-screen and in the front panel display.



### 2 To switch off subtitles, press **SUBTITLE** then **CLEAR**.

- To set subtitle preferences, see [page 83](#).

## Switching audio soundtrack

**DVD-Video**

**Video mode**

**DVD-R**

**DVD-RW**

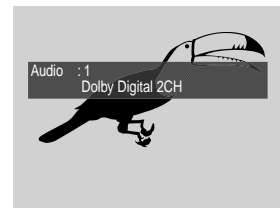
When playing a DVD-Video disc recorded with two or more soundtracks (these are often in different languages), you can switch between them anytime during playback.

### Note

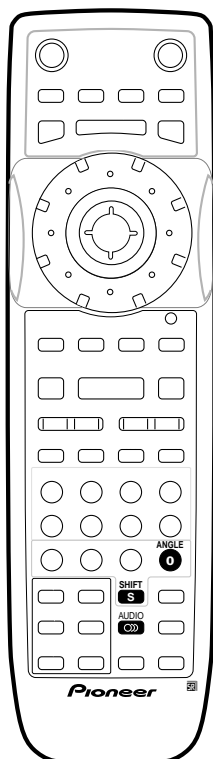
- Some discs will only allow you to change the soundtrack/language from the disc's menu. Press **MENU** to display this.
- Some discs feature both Dolby Digital and DTS soundtracks. There is no analog audio output when DTS is selected. To listen to the DTS soundtrack, connect this recorder to a DTS decoder via one of the digital outputs. See [page 18](#) for connection details.

### 1 To display/switch the audio soundtrack/language, press **AUDIO** repeatedly.

The current audio soundtrack/language is shown on-screen and in the front panel display.



- Some discs may be interrupted momentarily when you change the audio language.
- To set audio language preferences, see [page 82](#).



## Switching audio channel

VR mode

DVD-RW Video CD CD

When playing Video CDs and audio CDs you can switch between stereo, just the left channel or just the right channel.

On DVD-RW discs recorded in VR mode that have both a main and a SAP (Secondary Audio Program) audio channel, you can switch between main (R), SAP (L), or a mix of both (L+R). See also [page 43](#).

- 1 To display/switch the audio channel, press **AUDIO** repeatedly.

The audio channel(s) currently playing are indicated on-screen.

Video CD CD



VR mode

DVD-RW




### Note

When playing a Dual Mono recording on a VR mode disc, if you are listening to the Dolby Digital soundtrack via the digital output, you cannot switch the audio channel. Set **Dolby Digital Out** to **Dolby Digital ► PCM** (see [page 29](#)) or listen via the analog outputs if you need to switch the audio channel.

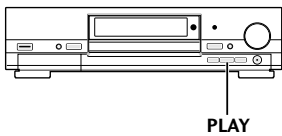
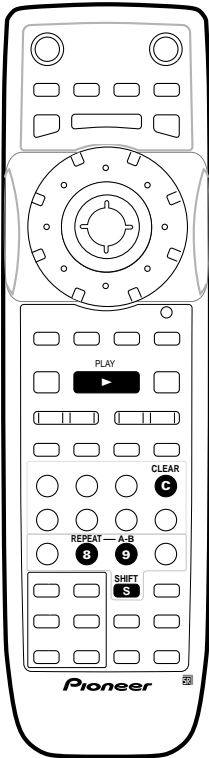
## Switching camera angles

DVD-Video

Some DVD Video discs feature scenes shot from two or more angles—check the disc box for details: it should be marked with a  icon if it contains multi-angle scenes.

- 1 To switch the camera angle, press **SHIFT** then **ANGLE**.

- If the disc was paused, playback starts again with the new angle.
- If repeat play is on, it is canceled when you switch angle.



## Using repeat play

DVD Video CD CD

You can set the player to repeat individual tracks on CDs or Video-CDs, or chapters and titles on DVD discs, or the whole disc. It's also possible to loop a section of a disc.

You can use the repeat together with program play to repeat the tracks/chapters/titles in the program list (see page 52 for how to make a program list).

You can't use any repeat mode or looped play with a Video CD playing in PBC mode.



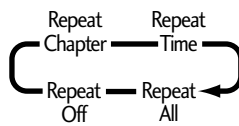
### Note

If you switch camera angle during repeat play, repeat play is canceled.

- 1 Press **SHIFT** then **REPEAT** during playback to select a repeat mode.

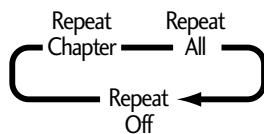
Each press (press **SHIFT** each time) changes the repeat mode:

DVD



\* VR mode only

Video CD CD



- 2 To resume normal playback, press **CLEAR**.



### Tip

You can use repeat play with program play. During program play, press **REPEAT**.

## Looping a section of a disc

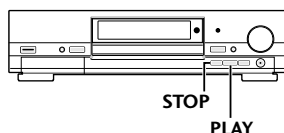
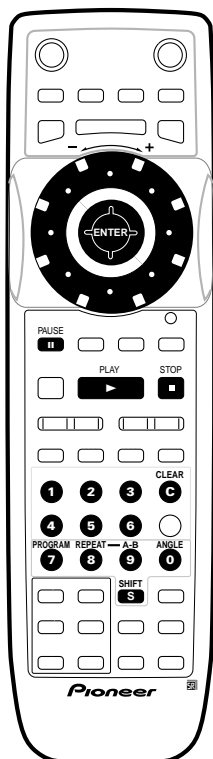
- 1 Press **SHIFT** then **A-B** once at the start of the section you want to repeat, then again at the end.

Playback immediately jumps back to the start point and plays the loop round and round.

- On a DVD disc, the start and end points of the loop must be in the same title.
- You can't loop a CD or Video CD that is playing a program list.

- 2 To resume normal playback, press **CLEAR**.

- You can also repeat a section of a disc just once by pressing **SHIFT** then **A-B** at the start of the section, then **▶ PLAY** to jump back and repeat it.



## Making a program list

DVD-Video Video CD CD

Video mode

DVD-R DVD-RW

This feature lets you program the play order of titles/chapters/tracks on a disc.



### Note

Programmed playback is not available for DVD-RW discs recorded in VR mode.

DVD-Video

Video mode

DVD-R DVD-RW

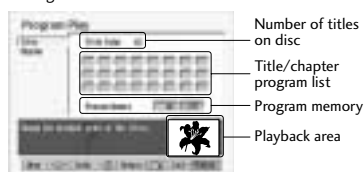
### 1 Press SHIFT then PROGRAM.

You can make a program list while the disc is playing, or when it's stopped. If it is playing, you can see the picture in the lower-right corner of the screen.

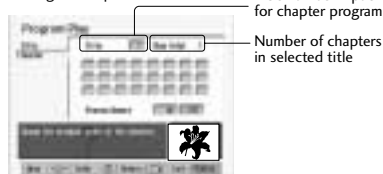
Even while the Program Play screen is displayed, you can use all the normal controls for skipping chapters/tracks, scanning, and so on.

### 2 Move the joystick up or down to select 'Title' or 'Chapter'.

#### • Program titles



#### • Program chapters



### 3 Move the joystick right to the program list window.

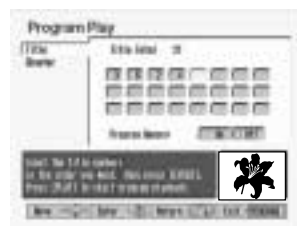
If you selected **Chapter**, move up to the Title number input box, enter a title number (all the programmed chapters will come from this title), then press **ENTER**.

### 4 Enter the title/chapter numbers for your program list.

For title/chapter 8, press **8**.

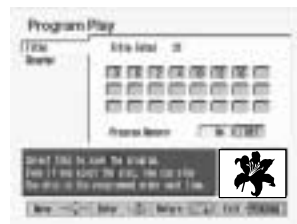
For title/chapter 16, press **1**, **6**.

Press **ENTER** after each title/chapter number.



- You can program a pause instead of a title/chapter: press **II** instead of entering a number in the program list. (A pause can't be the first or last step in the list.)
- A program list can contain up to 24 steps.

### 5 If you want to save the program list, move the cursor down to 'Program Memory' and set it to 'On'.



If you do this, the program list is automatically recalled when you next load the disc.

- This feature can't be used with unfinalized discs.
- You can save program lists for up to 24 discs.

## 6 After entering all the titles/chapters you want, press ► to start playback.

- If you want to start playback later, press **SHIFT** then **PROGRAM** to exit the program screen.
- To cancel program play (but not stop playback), press **CLEAR**.
- During program play, you may occasionally see the start of a chapter that was not programmed when the chapter number changes. This is not a malfunction.

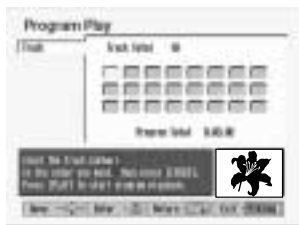
Video CD CD



### Note

For Video CDs that feature PBC, make sure that the disc is stopped before you start.

## 1 Press **SHIFT** then **PROGRAM**.

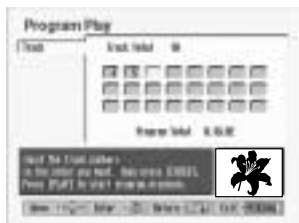


## 2 Enter the track numbers for your program list.

For track 8, press **8**.

For track 16, press **1**, **6**.

Press **ENTER** after each track number.



- You can program pauses between tracks: press **II** instead of entering a number in the program list. (A pause can't be the first or last step in the list.)
- A program list can contain up to 24 steps.

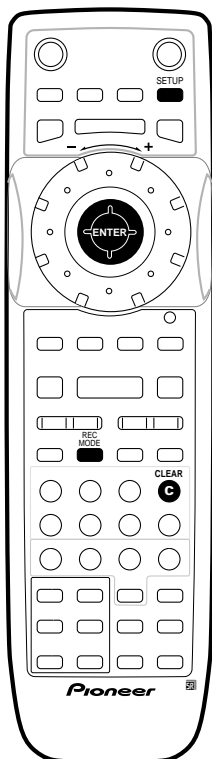
## 3 After entering all the tracks you want, press ► to start playback.

- If you want to start playback later, press **SHIFT** then **PROGRAM** to exit the program screen.
- To cancel program play (but not stop playback), press **CLEAR**.



### Tip

- To view the program list press **SHIFT** then **PROGRAM**.
- To add the currently playing title/chapter/track to the program list, press **SHIFT** then **PROGRAM** for about a second.  
If there is no current program list, a new one is created. (For DVD, if the last program list was a title list, a title list is created, otherwise a chapter list is created. All programmed chapters must be within the same title).
- To delete a step in the program list, position the cursor on the title/chapter/track and press **CLEAR**.
- To insert a step into the program list, position the cursor where you want the new step to appear, enter the title/chapter/track number, then press **ENTER**. All the following steps move up one. (There must be fewer than 24 steps in the list to do this.)
- To delete the program list, stop playback (press **■**), then press **CLEAR**.  
The program list is also erased when you remove the disc from the player or turn the power off (standby).
- To delete a memorized DVD program list, load the DVD, press **SHIFT** then **PROGRAM**, then change the **Program Memory** option to **Off**.
- During program playback, press **SHIFT** then **PROGRAM** to display program information on-screen.



## Introduction

This recorder offers two types of timer recording: standard and disc. When using standard timer recording, the timer recording information is stored in the recorder for recording onto any disc. When using disc timer recording, the timer recording information is stored on a disc so that the recording is made on that specific disc.



### Note

Timer recordings have higher priority than the Auto Start Recording function (see [page 62](#)). A timer recording will interrupt an Auto Start Recording. (Auto Start Recording will resume after the timer recording has finished.)

## Standard timer recording

You can set up to 8 timer recording programs for scheduled recordings up to a month in advance. In addition, you can also program the recorder to record every day or every week at a specified time.



### Note

The screen shots in the steps below show the on-screen displays for standard timer recording, although the instructions apply to both standard timer recording and disc timer recording. See *Disc timer recording* on [page 60–61](#) for more information.

### 1 Load a recordable disc.

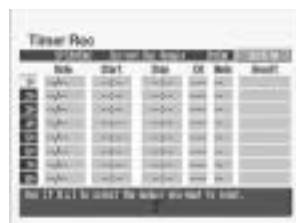
If you load a blank DVD-RW disc, it will automatically be formatted for VR mode recording. This takes around 40 seconds.

### 2 Press **SETUP** to display the Setup menu.



- If disc timer recording is active, the top menu item will be **Disc Timer Rec.**

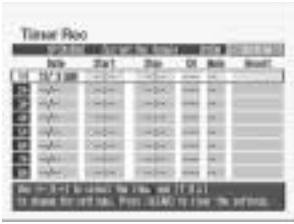
### 3 Select 'Timer Rec' (or 'Disc Timer Rec' if disc timer recording is active).



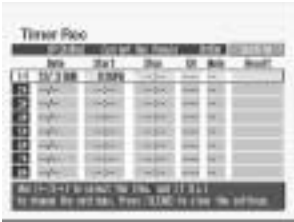
The timer recording program screen appears. From here you can set up to 8 independent timer recordings—one on each line.

### 4 Enter the necessary information for your timer recording(s).

- Joystick left/right – move the cursor left/right
- Joystick up/down – change the setting at the current cursor position
- Press **CLEAR** to clear the current program
- Press **ENTER** after filling in all the program information.



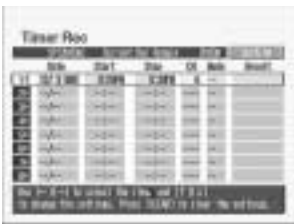
**Date** – Choose a date up to one month in advance, or select a daily or weekly program



**Start** – Set the recording start time

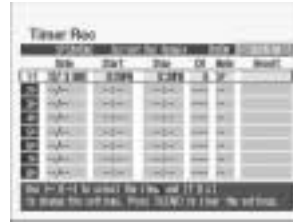


**Stop** – Set the recording end time.



**CH** – Choose a channel (2-69 or 1-125 for antenna or cable channels respectively, excluding skip channels), or one of the external inputs from which to record.

- If you change the **Auto Channel Setting** (from cable to satellite or the other way around), existing timer programs will appear in white. These will not record as they are. To make them active, edit the channel number.



**Mode**

**For VR mode discs:** Choose **SP** (standard) or **MN** (manual), then a recording level (**1-32**). For more on these, see **page 38**. (If recording from the DV input, you cannot set the recording mode to **MN 1** through **MN 8**.)

**For Video mode discs:** It is not possible to set to **V1** or **V2**. If you plan to make a Video mode recording, leave this set to **SP**, then use the **REC MODE** button afterwards to set the recording mode.



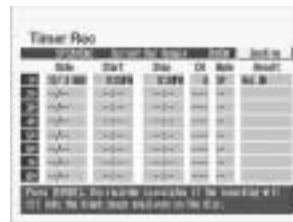
**Note**

If you press **ENTER** or move the cursor back to the program number field before you've input all the program information, all the fields are cleared.

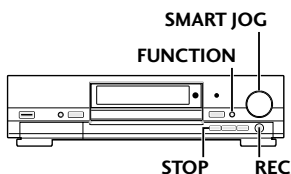
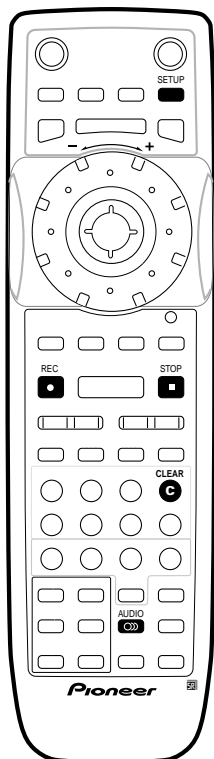


**Tip**

To calculate whether the recordings programmed will fit on the disc loaded, move the cursor up to **Confirm** and press **ENTER**. (Keep moving the cursor up past **1▶** to reach **Confirm**.) **Rec OK** appears for all the timer recordings that will fit onto the disc.



- If you selected a daily or weekly program, the date of the last recording that will fit on the disc appears (up to a maximum of one month ahead).
- If the timer program is too long to fit into the available disc space, the message **Time Over** appears. The program will record until the disc is full.



- If **Optimized Rec** (see page 78) is **On**, the recorder will adjust the recording quality to try and fit the recording on the disc. If the program is too long even when recorded at **MN 1**, the message **Time Over** appears.
- If a timer program overlaps another in the list, the message **Duplicate** appears.

**5 When you're done, press SETUP to exit the timer recording program screen.**

**6 Make sure that you switch the recorder into standby before the timer recording is due to start.**

Timer recording will not work if the recorder is left on!

- The timer indicator lights in the front panel display when the recorder is in standby with the timer active. If the indicator is blinking it means that there is no disc loaded, or the disc loaded is not recordable.
- The recorder will record the audio according to the current TV tuner setting (**Stereo**, **Mono** or **SAP**). Use the **AUDIO** button to set the audio as you want before switching the recorder into standby.
- The recorder will automatically switch on two minutes before the timer recording is due to start.



#### Tip

You can freely edit your timer recording program settings anytime, whether there is a recordable disc loaded or not. Press **SETUP**, select **Timer Rec** (or **Disc Timer Rec**) to go into the timer recording program screen, then make the necessary changes.

## Checking timer recording details

- 1 With the recorder stopped, press FUNCTION (front panel) until PROGRAM 1 appears in the display.**  
If there are no timer recordings programmed, **PROGRAM NON** is displayed.
- 2 Turn the SMART JOG (front panel) to display the timer information.**

PROGRAM 1
DATE 8(WED)
START 11:15am
STOP 1:15pm
MODE SP 2CH

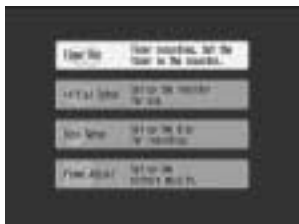
Keep turning the **SMART JOG** to see all the timer information for all the programs.



## Canceling a timer recording

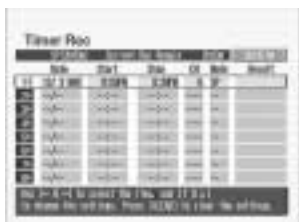
You can clear a timer setting anytime before the recording actually starts.

- 1 Press **SETUP** to display the Setup menu.



- If disc timer recording is active, the top menu item will be **Disc Timer Rec**.

- 2 Select 'Timer Rec' (or 'Disc Timer Rec' if disc timer recording is active).



- 3 With the program timer number highlighted, press **CLEAR**.

The timer information is cleared.

- When the recorder is in standby with the timer recording indicator lit, you can cancel the recording by switching on the recorder then following the above steps.
- About 2 minutes before a timer program starts, the recorder automatically switches on to prepare for recording. During this time you can cancel the program by pressing **STANDBY/ON**.

## Stopping a timer recording in progress

After a timer recording has started, you can still cancel the program.

- 1 Press and hold **● REC** for 3 seconds.  
Only the program is canceled (the timer indicator disappears); recording continues.
- 2 If you want to stop recording completely, press **■**.

## Extending a timer recording in progress

If you want to adjust the stop time of a timer recording after it's started:

- 1 Press and hold **● REC** for 3 seconds.
- 2 Press **● REC** repeatedly to extend the recording time in 30 minute steps.

You can extend the recording time for up to 6 hours.

## Timer recording troubleshooting

Even though the timer is set, the recorder will not record when:

- There is no disc loaded
- A non-recordable disc is loaded
- The disc that's loaded is protected (see **page 73**)
- There are already 99 titles recorded on the disc

You cannot enter a timer program when:

- A recording is already underway
- The clock isn't set
- The time you're trying to set has already passed
- There are already 8 timer programs set

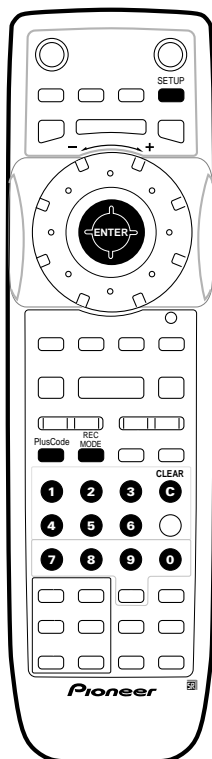
If two or more timer programs overlap:

- The earlier program takes priority
- When the earlier timer program finishes, the later program starts (about 30 seconds later)
- If two programs are set to start at exactly the same time, the program entered first takes priority

Confirmation is not possible when:

- There is no disc loaded
- A non-recordable disc is loaded
- The disc that's loaded is protected (see **page 73**)
- There are already 99 titles recorded on the disc

If the disc is damaged, the recording may not complete successfully. In this case even though the Confirm field says **Rec OK**, it may not be.



## Automatic timer recording using the VCR Plus+ programming system

This system makes programming timer recordings very simple. Most TV guides publish VCR Plus+ system PlusCode numbers with their program details. If you want to make a timer recording of a program, you just input the corresponding code. The date, start, stop and channel settings are made automatically. All you have to do is tell the recorder the recording mode and quality, and whether it's a once-only recording, or a regular recording.

Up to 8 timer programs can be stored in the recorder.



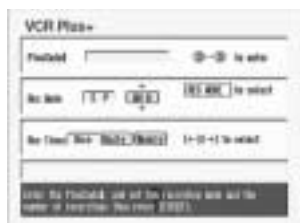
### Note

The screen shots in the steps below show the on-screen displays for standard timer recording, although the instructions apply to both standard timer recording and disc timer recording. See also *Disc timer recording* on page 60.

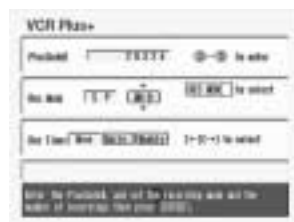
#### 1 Load a recordable disc.

If you load a blank DVD-RW disc, it will automatically be formatted for VR mode recording. This takes around 40 seconds.

#### 2 Press the PlusCode button to display the VCR Plus+ program screen.

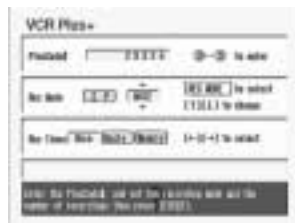


#### 3 Use the number buttons to enter the PlusCode programming number.



- To clear the last digit entered, press **CLEAR**.

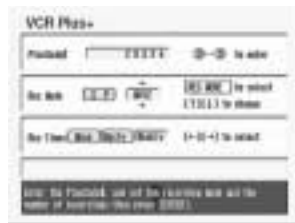
#### 4 Press REC MODE to change the recording quality.



**For VR mode discs:** Switch between **SP** and **MN** recording. If you select **MN**, move the joystick up/down to set the recording quality.

**For Video mode discs:** It is not possible to set to **V1** or **V2**. If you plan to make a Video mode recording, leave this set to **SP**, then use the **REC MODE** button afterwards to set the recording mode.

#### 5 Move the joystick left/right to select the Once, Daily or Weekly recording option.



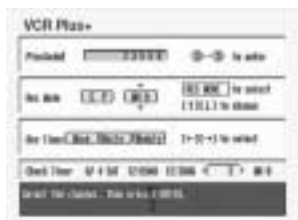
## 6 After making the settings, press ENTER.

The program details are shown at the bottom of the screen for a few seconds then the screen is automatically exited.



### Note

If you haven't set up the guide channels (or at least the guide channel for the PlusCode programming number that you entered), the recorder will prompt you to enter the channel number that the TV program is showing on.



## 7 Make sure that you switch the recorder into standby before the timer recording is due to start.

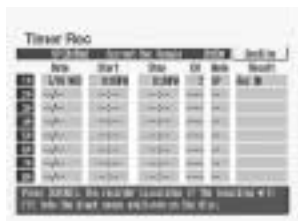
Timer recording will not work if the recorder is left on!

- The recorder will automatically switch on two minutes before the timer recording is due to start.



### Tip

- If you need to check or change anything in the program, press **SETUP**, then **ENTER** to display the timer recording program screen. From here you can check, change or clear any settings you want.
- To calculate whether the recordings programmed will fit on the disc loaded, move the cursor up to **Confirm** and press **ENTER**. (Keep moving the cursor up past **1** to reach **Confirm**.)



## VCR Plus+ programming with the power off

You can enter a PlusCode programming number when the recorder is in standby.

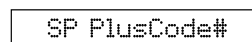


### Important

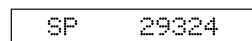
- You can't use this feature until you have set up the guide channels. See **page 26**.
- You can't change the recording mode.
- You can't program daily or weekly timer recordings.

### 1 Press the PlusCode button.

The front panel display shows the current recording mode and prompts you to enter the PlusCode programming number.



### 2 Use the number buttons to enter the PlusCode programming number.

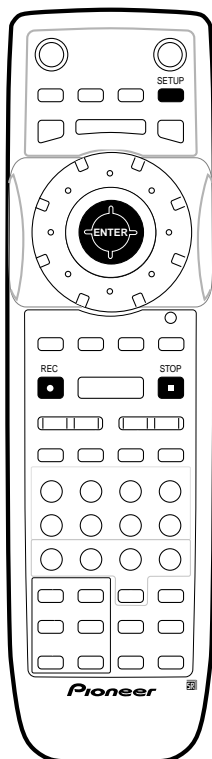


- To clear the last digit entered, press **CLEAR**.

### 3 Press ENTER.

The display shows the timer settings: Date → Start time → End time → Recording mode/channel.

- If **CODE ERROR** appears in the display, check the PlusCode number and start again from step 1.
- If **CANNOT RECORD** appears in the display, it means that although you entered a valid PlusCode number, the program cannot be recorded for some other reason (if there is a timer recording already set for that time, for example).



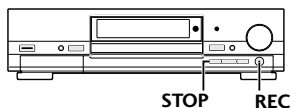
## Disc timer recording

VR mode  
DVD-RW

Using this feature, you can store up to 8 timer recordings on the disc instead of in the recorder. This is convenient in a number of situations. For example, you might want to record consecutive episodes of a weekly TV program on the same disc. Load up a DVD-RW and turn on Disc Timer Recording, then set up a timer recording program in the normal way (using the VCR Plus+ programming system if you want). Now, whenever you load that disc, the timer recording program automatically becomes active.

### Setting up the disc for disc timer recording

Before you can program a disc timer recording, you need to set up the disc.



- 1 **Load a DVD-RW disc.**  
If you load a blank DVD-RW disc, it will automatically be formatted for VR mode recording. This takes around 40 seconds.
- 2 **Press SETUP to display the Setup menu.**
- 3 **Select 'Disc Setup'.**



- 4 **Set the 'Disc Timer Rec' option (from the 'Basic' menu) to 'On'.**



- 5 **Press SETUP to exit.**  
The disc is now setup for disc timer recording.
  - To switch off disc timer recording, set the **Disc Timer Rec** option to **Off**.
  - If you eject the disc from the recorder without programming at least one disc timer program, the **Disc Timer Rec** option automatically reverts to **Off**.

### Programming a disc timer recording

Once the disc is set up for disc timer recording, you can program the actual timer recording. The methods for doing this are the same as standard timer recordings: you can either enter all the information individually, or enter a PlusCode programming number. For detailed instructions, see *Standard timer recording* on page 54, and *Timer recording using the VCR Plus+ programming system* on page 58.

## Using a disc with disc timer recording programs

### 1 Load the disc in the recorder.

The display shows **RESERVED** to indicate that the disc contains timer record program information, and the **Disc Timer Rec** option is automatically set to **On**.

### 2 Switch the recorder into standby.

Timer recording will not work if the recorder is left on! The recorder will automatically switch on two minutes before the timer recording is due to start.



#### Note

- Disc timer recordings become active if you load a disc containing disc program recordings, or set the **Disc Timer Rec** option to **On**.
- When disc timer recording is active, the standard timer recordings stored in the recorder become inactive.
- Standard timer recording becomes active if you eject a disc that contains disc timer programs or load a disc that does not contain any disc timer programs or set **Disc Timer Rec** to **Off** (in this case, any current disc programs are erased).
- You can't program disc timer recordings on a protected disc (see [page 73](#)).

## Child lock

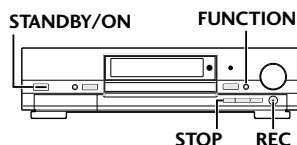
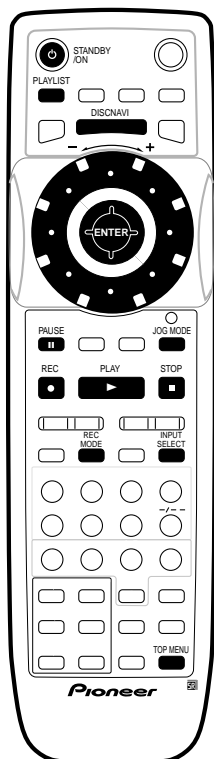
This recorder features a child lock feature that makes the front panel buttons and controls inoperative. This is useful when you have set the timer and don't want the recorder accidentally turned on before the timer recording has started.

### 1 Put the recorder into standby.

### 2 Press and hold ■ STOP (front panel only) for three seconds to lock the controls.

The front panel display **LOCK** indicator lights.

- To unlock the controls, press and hold ■ **STOP** (front panel) for 3 seconds.
- If you press a button on the remote or front panel, the **LOCK** indicator blinks for a few seconds.
- To cancel a timer recording when the recorder is locked, first press ■ **STOP** (front panel) for 3 seconds, then press ● **REC** for 3 seconds to cancel the timer program.



## Recording from an external component

You can record from an external component, such as a camcorder or VCR, connected to any of the recorder's external inputs.

- 1 **Make sure that the component you want to record from is connected properly to the DVD recorder.**
- 2 **Press INPUT SELECT repeatedly to select the external input to record from.**

Input	On-screen display
Built-in tuner	(Channel number)
INPUT 1	L1
INPUT 2/AUTO REC	L2
INPUT 3	L3
DV IN/OUT	DV

- Check that the **Audio In** settings for **External Audio**, **Dual Mono Recording** and **DV Input** are as you want them. See **pages 80–81**.
- If the aspect ratio is distorted (squashed or stretched), adjust on the source component or your TV before recording.

- 3 **Start recording.**  
When recording from the **DV IN/OUT** jack, the recorder will automatically pause recording when there is no signal (for example, during blank sections of digital camcorder tape).

### Note

If your source is copy-protected using CopyGuard, you will not be able to record it using this recorder. See **page 40** for more details.

## Automatic recording from a satellite tuner

If you have a satellite tuner or some other kind of set top box connected to **INPUT 2/AUTO REC (L2)** of this recorder, you can have the recorder start and stop recording automatically with the timer settings of the other component. (If the other component doesn't have a built-in timer, you'll need to use it with an external timer unit.)

After setting up for Auto Start Recording, this recorder starts recording when it detects a signal from the other component. When the signal ceases, the recorder stops recording.

### Note

It takes a little while for this recorder to switch on and start recording after detecting a signal. Please bear this in mind when setting the timer.

- 1 **Set the timer for the satellite receiver (or other component), then switch off/into standby.**  
Check the manual that came with the receiver if you're not sure how to do this.
- 2 **Load a recordable disc into this recorder.**
- 3 **Check that the Audio In settings for External Audio and Dual Mono Recording are as you want them.**  
See **pages 80–81** for more on these settings.

#### 4 Press REC MODE to set the recording mode.

See [page 41–42](#) for detailed instructions on setting the recording mode.

#### 5 Press and hold FUNCTION (front panel only) until the recorder goes into standby (about 3 seconds).

The **AUTO REC** indicator on the front panel lights.

The recorder will automatically switch on and start recording when the other component comes on.

Recording stops when the external component switches off.

- To cancel auto recording, press **STANDBY/ON** to switch on this recorder. The **AUTO REC** indicator goes off.
- To cancel auto recording once recording has already started, press **REC** for 3 seconds, then **STOP**.



#### Important

You can't set auto recording when:

- the recorder is recording
- there is no recordable disc loaded
- the disc loaded is protected
- the disc loaded already contains the maximum number of titles (99).
- If auto recording is set, it will not start if another timer recording is in progress.
- Timer recordings take precedence over auto recordings. The auto recording will stop if a timer recording is due to start. After the timer recording has finished, the auto recording will resume.

### Recording from a digital camcorder

You can record from a digital camcorder connected to the **DV IN/OUT** jack on the front panel of this recorder. Using the recorder's remote, you can control both the camcorder and this recorder.

Before recording, make sure that the audio input for the **DV IN/OUT** jack is setup (see [page 81](#)).



#### Important

- The source signal must be DVC-SD format
- Some camcorders cannot be controlled using this recorder's remote.
- If you connect a second DVR-7000 using a DV cable, you cannot control the second unit from this one.
- You can't control this unit remotely from a component connected to the **DV IN/OUT** jack.
- You can't record date and time information from DV cassette.
- You can't record copy-protected or copy-once material.

#### 1 Make sure your digital camcorder is connected to the front panel DV IN/OUT jack.

Also, set the camcorder to VTR mode.

#### 2 Set the recording mode as you require.

See [page 41–42](#) for how to do this.

- You cannot record in modes **MN 1** through **MN 8** when recording from the **DV IN/OUT** jack.
- Audio is always recorded in 2ch Dolby Digital when recording from the **DV IN/OUT** jack.

#### 3 Check that the DV audio input is as you require.



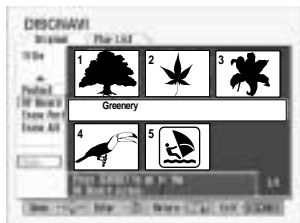
You can choose between **Stereo1** (original audio) and **Stereo2** (overdubbed audio).

- DV Input is set from the **Audio In** sub-menu of the **Initial Setup** menu. See *DV Input* on [page 81](#) for more information.
- Check also that the **Audio In** settings for **External Audio** and **Dual Mono Recording** are as you want them. See [page 80–81](#).

## 4 Press DISCNAVI (for a VR mode disc) or TOP MENU (for a Video mode disc).

The Discnavi or Title List screen appears.

- If a VR mode disc is loaded, make sure **Original** is selected (press **PLAYLIST** to switch between **Playlist** and **Original** screens).



## 5 Select 'DV Record' from the menu.



### Note

- **DV Record** only works when the digital camcorder is in VTR mode with a tape loaded.

## 6 Find the place on the camcorder tape that you want to start recording from.

For best results, pause playback at the point from which you want to record.

- Depending on your camcorder, you can use this recorder's remote to control the camcorder using the **■**, **▶** and **||** and the **Jog dial**.

## 7 Press ENTER to start recording.



- Recording is automatically paused if the recorder detects no signal, or a copy-protected signal. Recording restarts when there is a non-copy-protected signal.
- You can pause or stop the recording by selecting **Rec Pause** or **Rec Stop**. You cannot control the camcorder from this remote control during recording.
- In Video mode, the final frame of the recording may remain displayed on screen for a while after selecting **Rec Stop**.

## Recording from the DV output

You can record from a non-copy-protected DVD disc to a camcorder connected to the **DV IN/OUT** jack.

- 1 **Connect the camcorder to the DV IN/OUT jack of this recorder.**
- 2 **Load the disc you want to record and find the place you want to start recording from.**
- 3 **Start recording on the camcorder.**
- 4 **Press ▶ PLAY to play the disc.**



## What is DV?

Using DV, also known as i.LINK, you can connect a DV-equipped camcorder to this recorder using a single DV cable for input and output of audio, video, data and control signals.

The i.LINK interface is also known as IEEE 1394-1995. "i.LINK" and the "i.LINK" logo are trademarks.

- This recorder is only compatible with DV-format (DVC-SD) camcorders. Digital satellite tuners and Digital VHS video recorders are not compatible.
- You cannot connect more than one DV camcorder at a time to this recorder.
- You cannot control this recorder from external equipment connected via the **DV IN/OUT** jack (including two DVR-7000 recorders).
- It may not always be possible to control the connected camcorder via the **DV IN/OUT** jack.
- This recorder only outputs DVD video from the **DV IN/OUT** jack; signals from the built-in TV tuner, CD, Video CD and other inputs are not output.
- Copy-protected or copy-once DVD signals are not output from the **DV IN/OUT** jack.
- Digital camcorders can usually record audio as stereo 16-bit/48kHz, or twin stereo tracks of 12-bit/32kHz. This recorder can only record one stereo audio track. Set **DV Input** to **Stereo1** or **Stereo2** as required (see [page 81](#)).
- Audio output from the **DV IN/OUT** jack is 16-bit only.
- Audio input to the **DV IN/OUT** jack should be 32 or 48kHz (not 44.1 kHz).
- Picture disturbance in the recording may occur if the source component pauses playback or plays an unrecorded section of tape, or if the power fails in the source component, or the DV cable becomes disconnected.

## DV-related messages

You may see the following messages appear on your TV screen when using the **DV IN/OUT** jack.

### 'No DV camera connected'

The camcorder is not connected properly, or the camcorder is switched off.

### 'The DV camera is recording'

The camcorder is recording, so you cannot start recording from the camcorder to this recorder.

### 'You can't connect more than one DV camera at the same time'

The DV jack on this recorder supports connection to just one camcorder.

### 'No tape in the DV camera'

There is no cassette loaded into the connected equipment.

### 'The DV camera is recording or is record-paused'

The camcorder is either in camera mode or record-pause mode. Put it into VTR mode.

### 'DV camera playback canceled'

Playback unexpectedly stopped due to the tape running out, etc.

### 'Cannot operate the DV camera'

This recorder cannot control the camcorder. Try switching off the camcorder then switching it back on.

### 'Could not operate the DV camera'

This recorder could not control the camcorder.

## Troubleshooting

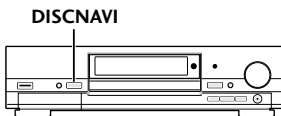
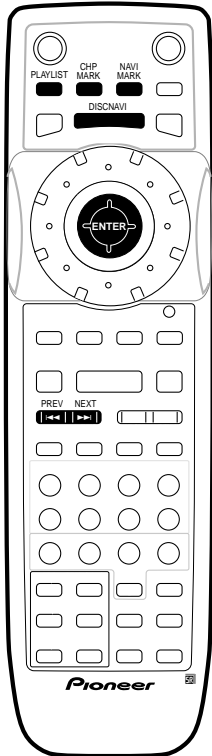
If you can't get a picture and/or audio through the **DV IN/OUT** jack, check the following points:

- If the source signal is copy-protected, it is not output through the **DV IN/OUT** jack.
- Make sure the DV cable is properly connected.
- Try switching off the connected equipment then switch back on.
- Try switching the audio input.
- Make sure that the **Linear PCM** audio setting is not set to **96kHz** (see [page 82](#)).



### Note

Depending on the connected camcorder, you may not be able to control it using the remote control supplied with this recorder.



## Original and Playlist editing

VR mode  
(DVD-RW)

Edits you make to the Original content changes the actual content of the disc. For example, if you erase a title from the Original content, that title is erased from the disc, freeing up extra recording time.

When you edit the Playlist, on the other hand, you are not changing the content of the disc. For example, when you erase a title from the Playlist, you are just telling the recorder not to play that title; nothing is actually erased from the disc.

### Titles, chapters and parts

Titles in the disc's original content contain one or more chapters. When you insert a title into the Playlist, all the chapters within that title also appear. In other words, chapters in the Playlist behave exactly as chapters on a DVD-Video disc do.

Parts are sections of Original or Playlist titles. From the Discnavi you can add or erase parts. Adding a part to the Playlist creates a new title made up of a section (ie., part) of an Original title. Erasing a part removes part of a title from the Original or Playlist.

### Important

- When editing using the erase, add and move functions, the start and end frames may not be exactly as set in the start and end point display.
- During Playlist playback, you may notice a momentary pause between edits. This is not a malfunction.

### Adding chapter markers

VR mode  
(DVD-RW)

You can put a chapter marker anywhere in a Playlist or Original title during recording or playback. Once the chapter is marked, you can use the chapter search feature, as well as erase, combine and move chapters in the Discnavi. You can insert up to 999 chapter markers in both the Original and Playlist contents.


### Note

- In Video mode, chapter markers are inserted at regular intervals automatically. You can change this interval from the Initial Setup menu (see *Chapter Interval* on **page 87**).

#### 1 Play the title (Original or Playlist).

- Press **PLAYLIST** to switch between Playlist and Original playback.

#### 2 At the point you want to start a new chapter, press **CHP MARK**.

- A chapter marker icon (  ) appears on-screen.
- You can also put chapter markers in during recording.

## Using the Discnavi

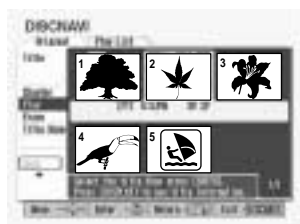
VR mode

DVD-RW

The Discnavi (Disc Navigator) is where you build and edit your Playlist, and where you can erase titles and make other changes to the Original content of the disc. You can also play individual titles directly from the Discnavi, and record material from a digital camcorder.

The recorder must be stopped in order to edit using the Discnavi.

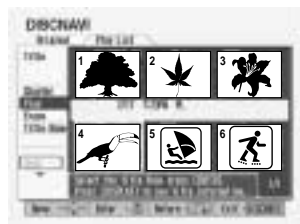
### 1 Press DISCNAVI to display the Discnavi



- Press **DISPLAY** to display more detailed title information for each title.
- Use the **◀◀** and **▶▶** buttons to display the previous/next page if there are more than 6 titles/chapters.
- To exit the Discnavi, press **DISCNAVI** again.

### 2 To switch between the Original and Playlist Discnavi screens, press PLAYLIST.

The **Original** and **Play List** tabs at the top of the screen indicate which you are in.



The left side of the screen shows the Discnavi's functions. The main part of the screen shows thumbnails of the titles on the disc.

### 3 To switch to chapter view, select 'Chapter', then select the title you want to view chapters for.

The main part of the screen now shows thumbnails of the chapters in the title you selected.

- To switch back to title view, select **Title** from the menu on the left.

## Changing the Discnavi title thumbnail

VR mode

DVD-RW

Each title and chapter displayed in the Discnavi is represented by a thumbnail picture taken from the start of that title or chapter.

If you prefer, select a different still picture from within a title.



#### Note

You can only change the title thumbnail. It is not possible to change the chapter thumbnails.

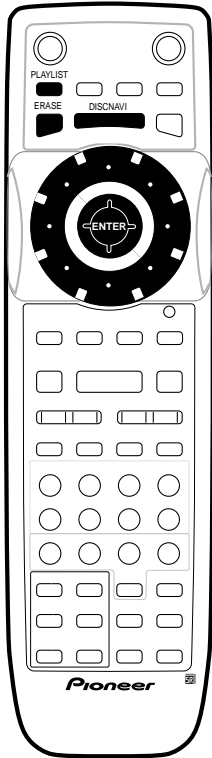
- 1 **Play the title (Original or Playlist).**
- 2 **Press NAVI MARK to make the currently displayed picture the one that appears in the Discnavi.**

The still picture that you choose appears in both the Original and Playlist screens of the Discnavi.



#### Tip

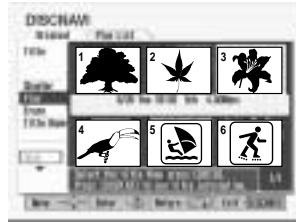
You can also change where the still picture is automatically taken from. See *Navi Mark* on **page 87**.



## Playing a chapter or title

VR mode  
DVD-RW

- 1 If you want to play a chapter, switch to chapter view.
- 2 Select 'Play' from the Discnavi menu.



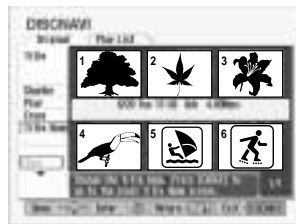
- 3 Choose the title or chapter you want to play.

## Naming a title

VR mode  
DVD-RW

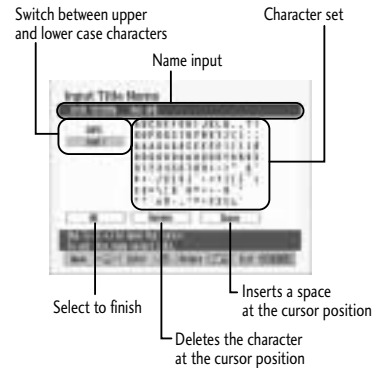
You can name Original and Playlist titles independently. Names can be up to 64 characters long.

- 1 Select 'Title Name' from the Discnavi menu.



- 2 Choose the title you want to name.

- 3 Enter a name for the selected title.



- A name generated automatically by the recorder will already be in the name input section of the screen. Move the joystick left/right to change the cursor position.
- You can also use the **ERASE** button to delete characters directly.
- Names can be up to 64 characters long.
- For discs formatted on a different DVD recorder, you will see only a limited character set.

- 4 Choose **OK** to fix the name and return to the Discnavi main screen.



DISCNAVI



## Making a new Playlist title

VR mode  
(DVD-RW)

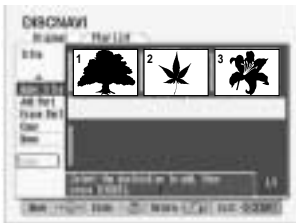
Use this function to add an Original title to the Playlist. When you do this, the whole title is put into the Playlist (you can erase bits you don't need later—see *Erasing a part from the Original or Playlist* on **page 71**).

The title appears in the Playlist complete with the chapter markers that appear in the Original. However, if you add more chapter markers to the Original later, these are not automatically copied over into the Playlist title.

You can add up to 99 titles to the Playlist.

If you only want to add a section of a title, use the Add Part function—see *Adding a part to the Playlist* on **page 70**.

- 1 Select 'Make Title' from the Discnavi Playlist menu.

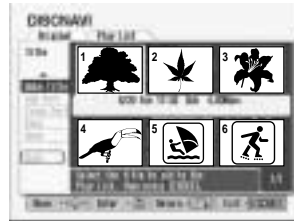


- 2 Choose where to insert the new title.

If there are no titles in the Playlist yet, you can only make a title at the start of the Playlist.

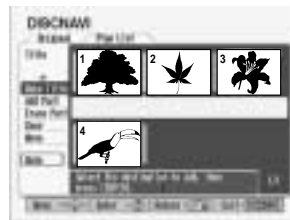
If there are already titles in the Playlist, choose where the new title will go.

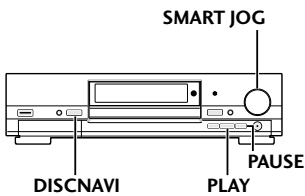
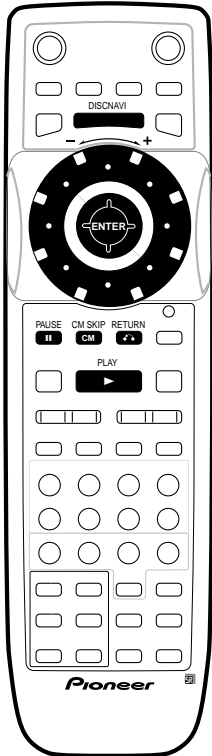
- 3 Choose an Original title to put into the Playlist.



- 4 Press ENTER to select the title.

The new title appears in the updated Playlist.

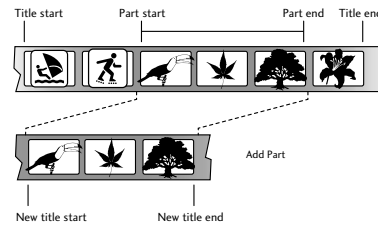




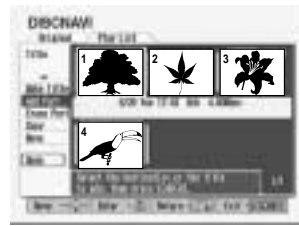
## Adding a part to the Playlist

VR mode  
DVD-RW

You can define part of an Original title as a new title to add to the Playlist.

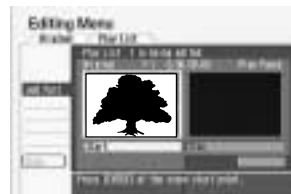


- 1 Select 'Add Part' from the Playlist Discnavi menu.
- 2 Choose where to insert the new part.



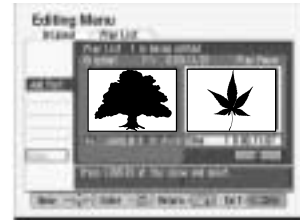
You can insert a part as a new title between existing titles in the Playlist, or insert a part into one of the Playlist titles as a new chapter.

- 3 Define the start point of the part.



Use the **PLAY** ►, ◀◀, ▶▶, ◻◻ and **CM SKIP** buttons and the **Jog dial** (for slow and fast scanning and frame advance) to find the place you want. Press **ENTER** to mark the scene start.

- 4 Define the end point of the part.



Do this in the same way as the start point. Press **ENTER** to mark the end point.

- You can go back and forth between the start and end points to fine-tune as necessary.

- 7 When you're done, select 'OK' to add the part.



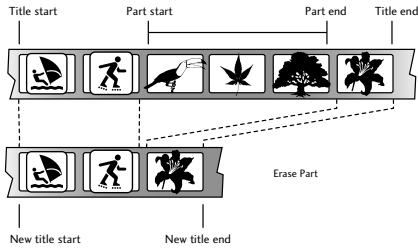
- 8 Press **DISCNAVI** to exit, or **RETURN** to go back to the main Playlist screen.

## Erasing a part from the Original or Playlist

VR mode

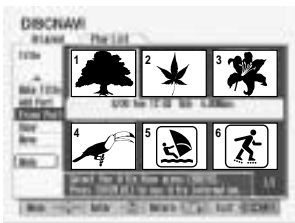
DVD-RW

Using this function, you can erase a part of a title currently in the Original content or the Playlist.

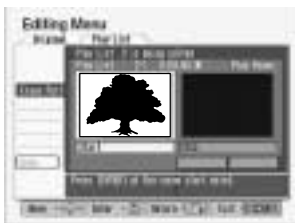


When you erase a part from the playlist, nothing is actually erased from the disc. When you erase a part from the original, that part of the title is deleted from the disc—if it was also in the Playlist, it is also erased from there. When you erase a part longer than about one minute (the actual length depends on the recording rate) from the Original, the available recording time increases. Parts shorter than this don't get added to the available recording time.

- 1 Select 'Erase Part' from the Original or Playlist Discnavi menu.

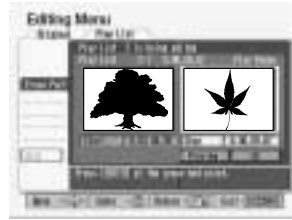


- 2 Define the start point of the part to erase.



Use the **PLAY** ►, ◀◀, ▶▶, || and **CM SKIP** buttons and the **Jog dial** (for slow and fast scanning and frame advance) to find the place you want. Press **ENTER** to mark the scene start.

- 3 Define the end point of the part.



Do this in the same way as the start point. Press **ENTER** to mark the end point.

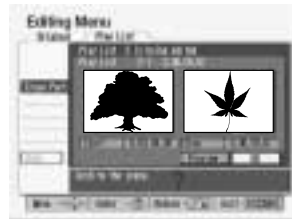
- You can go back and forth between the start point and the end point to fine-tune as necessary.
- You may not be able to erase parts from the Original which are less than 5 seconds long.

- 4 To preview the part, select 'Preview'

The part plays in the part end window. If necessary, go back and change the start or end point.

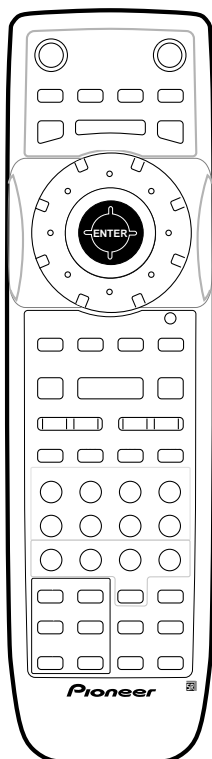
- The preview starts 3 seconds before the part start point and ends 3 seconds after the part end point.

- 5 When you're done, select 'OK' to erase the part.



- A chapter marker is automatically inserted at the cut point.

- 6 Press **DISCNAVI** to exit, or **RETURN** to go back to the main Playlist screen.



## Erasing an Original or Playlist title/chapter

VR mode  
DVD-RW

When you erase a title or chapter from the Discnavi's Playlist screen, you only remove it from the Playlist; the title/chapter remains in the Original title/chapter list.

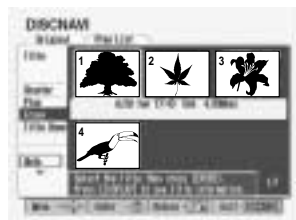
If you choose to erase a title or chapter from the Original title/chapter list, the title or chapter is actually erased from the disc and the remaining time available for recording increases. Titles/chapters erased from the Original are also removed from the Playlist.



### Note

It may not be possible to erase chapters that are less than 5 seconds long.

- 1 If you want to play a chapter, switch to chapter view.
- 2 Select 'Erase' from the Original or Playlist Discnavi menu.



- 3 Select the title you want to erase.

After pressing **ENTER**, the new, updated title list is displayed.

## Erasing all Original titles

VR mode  
DVD-RW

This erases all unprotected titles from the disc and frees up the space for additional recording. If any of these titles appear in the Playlist, then they will also be removed from the Playlist.

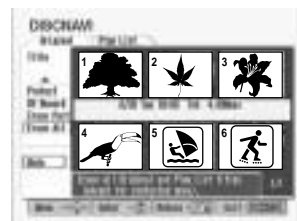
See also *Protecting/unprotecting an Original title* on **page 73**.



### Note

Disc program recording information that is on the disc will not be affected by this operation.

- 1 Select 'Erase All' from the Original Discnavi menu.



After pressing **ENTER**, only protected titles remain.



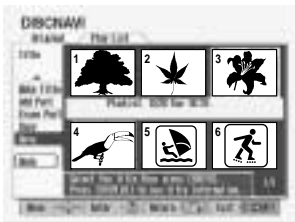
## Moving a Playlist chapter or title

VR mode

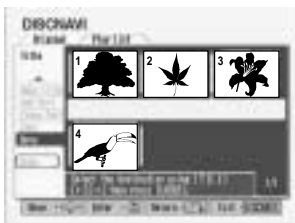
DVD-RW

Use this function to re-arrange the playing order of Playlist titles or chapters within a title.

- 1 If you want to play a chapter, switch to chapter view.
- 2 Select 'Move' from the Playlist Discnavi menu.
- 3 Select the title or chapter you want to move.



- 4 Choose the place you want to move the title or chapter to.



After pressing **ENTER**, the new, updated Playlist is displayed.

## Protecting/unprotecting an Original title

VR mode

DVD-RW

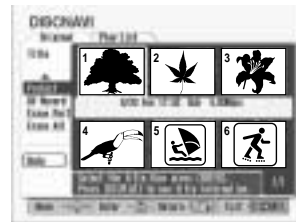
You can protect a title so that it can't be edited accidentally. If you do need to edit it, you can always unprotect it later.



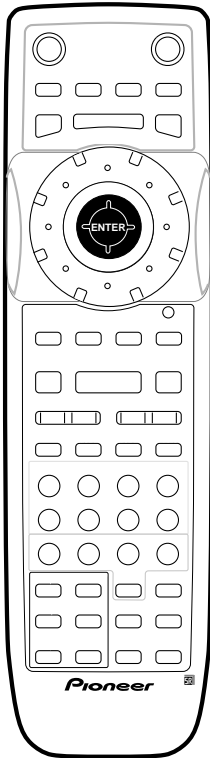
### Important

You cannot undo any edits made before changing the protect status. You also cannot undo a protect/unprotect function.

- 1 Select 'Protect' from the Original Discnavi menu.
- 2 Select the title you want to protect (or unprotect).



An unprotected title will become protected; a protected title will be unprotected. Protected titles are shown in the Discnavi with a padlock icon.

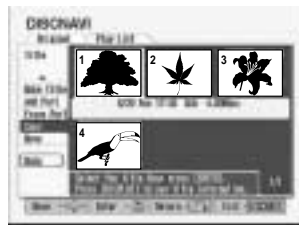


## Copying a Playlist title

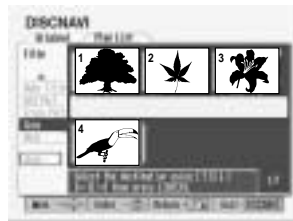
VR mode  
DVD-RW

Using this function, you can paste a copy of a title anywhere into the Playlist.

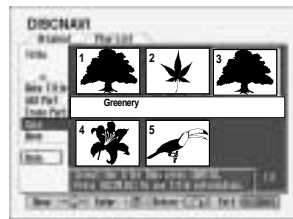
- 1 Select 'Copy' from the Playlist Discnavi menu.
- 2 Select the title you want to copy.



- 3 Choose the place you want to paste the title.



After pressing **ENTER**, the new, updated Playlist is displayed.



## Combining two chapters into one

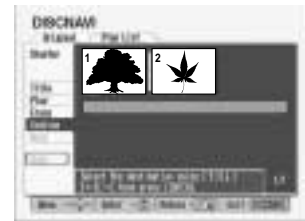
VR mode  
DVD-RW

Use this function to combine two adjacent Playlist or Original chapters into one.

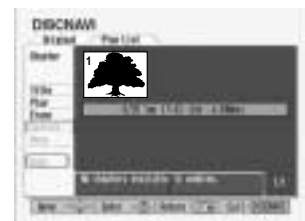
### Note

- This function is not available if there is only one chapter in the title.
- You can't combine two chapters that were created by erasing a part from an original title.

- 1 Make sure that chapter view is selected in the Original or Playlist Discnavi.
- 2 Select 'Combine' from the menu.
- 3 Choose the dividing line between the two chapters you want to combine.



After pressing **ENTER**, the new, updated Playlist is displayed.



## Undoing the last edit

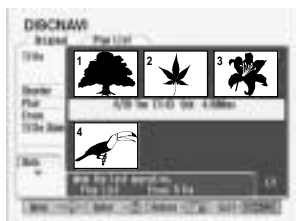
VR mode

DVD-RW

If you make a mistake while editing, you can undo it. There are three levels of undo (in other words, you can undo the last three edits you made).

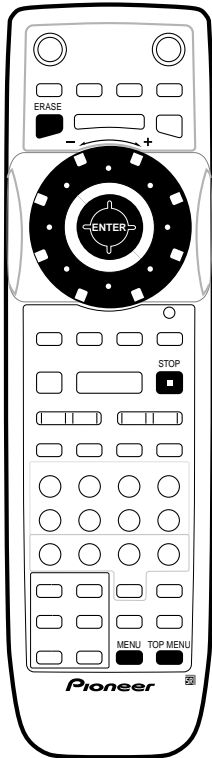
### 1 Select 'Undo' from the Discnavi menu.

It doesn't matter whether you are currently in the Original or Playlist Discnavi screen; the last edit is undone.



#### Note

- You can't undo a recording
- You can't undo anything after ejecting the disc from the recorder or switching the recorder into standby
- You can't undo a protect/unprotect operation
- You can't undo edits made after initializing or finalizing a disc, protecting or unprotecting, or using the preview function in either the Record Mode screen ([page 42](#)), or the **Rec NR** setting screen ([page 91](#))
- You can still undo edits after exiting the Discnavi screen



STOP

## What you can do from the Title List menu

Video mode

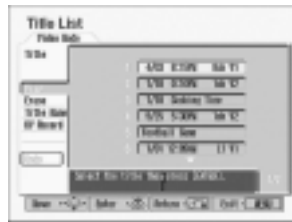
DVD-R DVD-RW

From the Title List screen you can play, name and erase titles and record from a camcorder connected to the front panel **DV IN/OUT** jack.

Once a Video mode disc is finalized, the Title List screen changes its appearance and all you can do is select titles to play.

### 1 Press TOP MENU or MENU to display the Title List.

If the disc is not finalized, you should see a screen like the one below.



If the disc has already been finalized, you should see a screen like the one below.



- Editing can only be done when the disc is stopped.
- To exit the Title List screen, press **TOP MENU** or **MENU** again.

### 2 Use the joystick to move the cursor around the screen. Press ENTER to select the highlighted option.

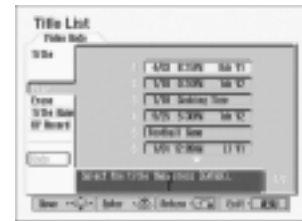
Other controls for the Title List are shown at the bottom of the screen.

## Playing a title

Video mode

DVD-R DVD-RW

- 1 Press **MENU** or **TOP MENU** to display the Title List.
- 2 Use the joystick to select a title.



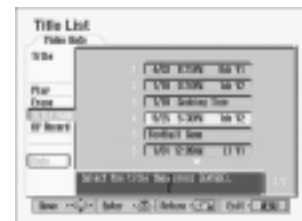
- 3 Press **ENTER** to play the selected title.

## Naming a title

Video mode

DVD-R DVD-RW

- 1 If the disc is playing, press **■** to stop playback.
- 2 Press **MENU** or **TOP MENU** to display the Title List.
- 3 Select 'Title Name' from the Title List menu.
- 4 Choose the title you want to name.



## 5 Enter a name for the selected title.

Names can be up to 24 characters long.



- For discs formatted on a different DVD recorder, you will see only a limited character set.

## 6 Choose OK to fix the name and return to the Title List screen.



## Erasing a Title

Video mode  
DVD-R DVD-RW

Before a disc is finalized, you can erase titles recorded on the disc.



### Important

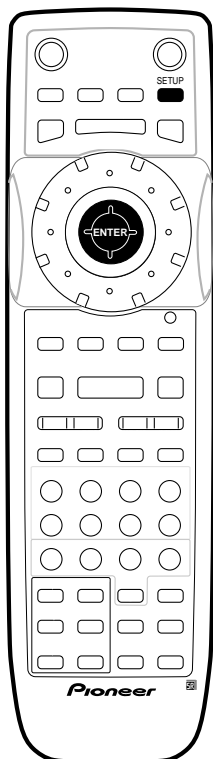
- If you erase a title from a DVD-R disc, the title will disappear from the Title List screen, but the available recording time does not increase.
- Erasing a title from a DVD-RW disc, the remaining time available for recording only increases if it is the last title on the disc.

- 1 If the disc is playing, press ■ STOP to stop playback.
- 2 Press MENU or TOP MENU to display the Title List.
- Alternatively, you can press ERASE and go straight to step 4.
- 3 Select 'Erase Title' from the Title List menu.
- 4 Choose the title you want to erase.



After pressing ENTER, the new, updated Title List is displayed.

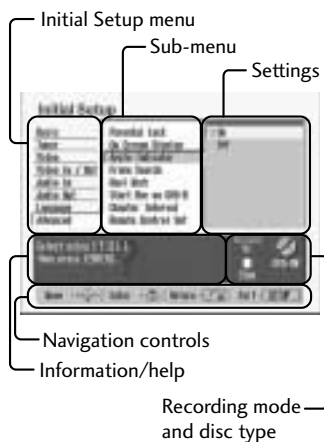




## Using the Initial Setup menu

The Initial Setup menu is where you can set various recorder options for sound, picture, language and so on.

### 1 Press **SETUP** and select 'Initial Setup'.



- Some settings can only be changed when the recorder is stopped. During playback these settings are shown in outline in the Initial Setup menu.
- The menu screen is exited automatically after 20 minutes of inactivity,

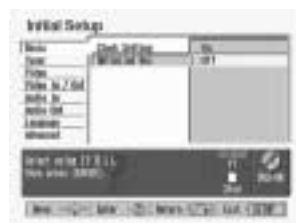
## Basic settings

### Clock Setting

- Default setting: --:-- (not set)
- See page 26–27 for detailed instructions on setting the clock using either the automatic or manual setup.

### Optimized Rec

- Default setting: **Off**



On the default setting, if a timer program (standard, disc or VCR Plus+ programming system) is set but there isn't enough space on the disc at the recording quality set, the recording will start, but it will be cut off when the disc is full. Set **Optimized Rec** to **On** to have the recorder automatically adjust the recording quality to fit the available disc space.



#### Note

- You may notice a reduction in picture quality if the recorder has to fit a lot of extra material into the remaining time available on the disc.
- **Optimized Rec** only applies to VR mode recordings.
- If, even on recording level **MN 1** (**MN 9** for the DV input), there is insufficient space available on the disc, the recording is made at level **MN 1** (or **MN 9**) but recording will stop once the disc is full.
- Optimized Recording can only compensate for one timer program.

## Tuner settings

### Auto Channel Setting

- Default setting: **Antenna**

See page 24 for detailed instructions on automatic channel setting.

### Manual CH Setting

- Default setting: **n/a**

See page 25 for detailed instructions on manual channel setting.

### VCR Plus+ CH Setting

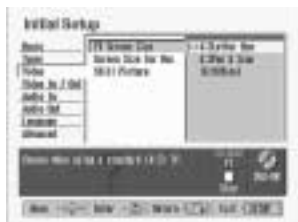
- Default setting: **n/a**

See page 26 for detailed instructions on VCR Plus+ channel setting.

## Video settings

### TV Screen Size

- Default setting: **16:9 (Wide)**

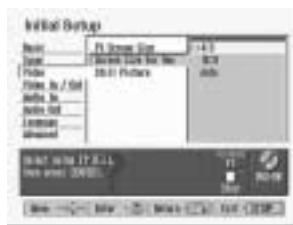


If you have a widescreen TV, select the **16:9 (Wide)** setting—widescreen DVD software is then shown using the full screen area. When playing software recorded in conventional (4:3) format, the settings on your TV will determine how the material is presented—see the manual that came with your TV for details on what options are available.

If you have a conventional TV, choose either **4:3 Letter Box** or **4:3 Pan & Scan**. In Letter Box mode, widescreen software is shown with black bars at the top and bottom of the screen. Pan & Scan chops the sides off widescreen material to make it fit the 4:3 screen (so even though the picture looks larger on the screen, you're actually seeing less of the movie). See page 101 for more information.

### Screen Size for Rec

- Default setting: **4:3**



When recording in Video mode, you can set the recording aspect ratio to suit the material you're recording (16:9 widescreen, or 4:3 standard).

Set to **Auto** to record programs in the aspect ratio that they are broadcast.



#### Note

On the **Auto** setting, the aspect ratio is fixed at the point you start recording. This may cause problems if, for example, you start recording when commercials are showing (which are typically 4:3 aspect ratio), but the program you want to record is 16:9. In this case, manually set to **16:9**.

### Still Picture

- Default setting: **Auto**



The recorder uses one of two processes when displaying a still frame from a DVD disc. The default **Auto** setting automatically chooses the best setting each time.

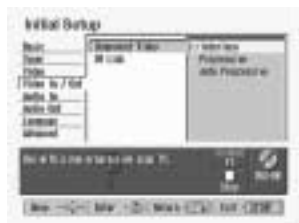
- **Field** – produces a stable, generally shake-free image.
- **Frame** – produces a sharper image, but more prone to shake than field stills.

## Video In / Out settings

### Component Video

- Default setting: **Interlace**

You only need to make this setting if you connected this recorder to your TV using the component video jacks.



If your TV is compatible with progressive-scan component video, set this **Progressive** for the highest quality picture. If your TV is not compatible with progressive-scan video, leave it set to **Interlace**.

On the **Auto Progressive** setting, 16:9 aspect discs are played with progressive scan on, while 4:3 aspect discs are played with progressive scan off.

See also *Progressive scan video* in the glossary on page 96.



### Important

If you switch to **Progressive** when using a TV that is not compatible with progressive-scan video, you will not be able to see anything displayed on your TV. If this happens, press and hold **II PAUSE** on the front panel, then press **FL DIMMER**. This will set the recorder's video output back to **Interlace**.

#### Compatibility of this unit with progressive-scan TVs

Consumers should note that not all high-definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In case of 525 progressive scan picture problems, it is recommended that the user switch the connection to the 'standard definition' output (**Interlace**). If there are questions regarding our TV set compatibility with this model, please contact our customer service center.

This recorder is compatible with the following Pioneer displays and monitors

#### Plasma display

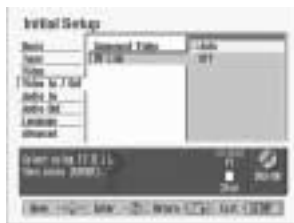
- PDP-505HD
- PDP-502MX

#### Projection monitor receiver

- Pro-700HD
- Pro-710HD
- Pro-610HD
- Pro-510HD
- Pro-720HD
- Pro-620HD
- Pro-520HD
- SD-641HD5
- SD-582HD5
- SD-532HD5
- SD-533HD5
- SD-643HD5

### DV Link

- Default: **Auto**



If you have problems with the audio and/or video from a digital camcorder connected to the **DV IN/OUT** jack, try setting this to **Off**.



### Note

Even when set to **Off**, some camcorders may not be fully compatible with this recorder when linked using a DV cable.

## Audio In settings

### External Audio

- Default: **Stereo**

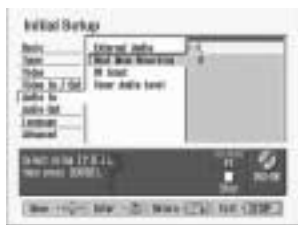


If the external source is standard stereo, leave set to **Stereo**. If each channel carries a separate soundtrack, change to **Dual Mono**.



## Dual Mono Recording

- Default: **L**



When recording a dual mono source from an external input in Video mode or VR mode set to **MN32\***, you can choose to record either the **L** (left), or the **R** (right) audio channel.

\* This does not apply if recording from the DV input.



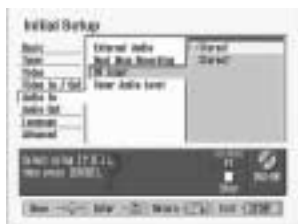
### Note

If you're recording in VR mode (except when set to **MN32\***), both channels will be recorded and you can switch them as you like on playback.

## DV Input

- Default: **Stereo1**

*You need to set this if you have a camcorder using 32kHz/12-bit sound connected to the front panel **DV IN/OUT** jack.*



Some digital camcorders have two stereo tracks for audio. One is recorded at the time of shooting; the other is for overdubbing after shooting.

On the **Stereo1** setting, the sound that was recorded while shooting is used. On the **Stereo2** setting, the overdubbed sound is used.

## Tuner Audio Level

- Default: **Standard**



If the audio from the built-in TV tuner seems loud compared to disc playback, set this to **Minimum**, otherwise leave on the **Standard** setting.

## Audio Output settings

### Digital Out

- Default setting: **On**



If at any time you need to switch off the digital audio output, set this to **Off**, otherwise leave it **On**. Note that you can't switch on/off the optical and coaxial outputs individually.

### Dolby Digital Out

- Default: **Dolby Digital**

*See page 29 for more on this setting.*

## DTS Out

- Default setting: **Off**

See page 29 for more on this setting.



### Important

- If you set to **On** with a non-DTS compatible amplifier, noise will be output when you play a DTS disc.
- When set to **On**, there is no analog audio output when playing a DTS DVD-Video disc.
- When playing a DTS audio CD (even when **DTS Out** is **Off**), noise is output from the analog outputs. *Do not play this through your amplifier and speakers.*
- When playing a DTS audio CD, make sure that **Stereo** is selected using the **AUDIO** button. See page 50.

## 96kHz PCM Out

- Default setting: **96kHz** → **48kHz**

See page 29 for more on this setting.

## MPEG Out

- Default setting: **MPEG** → **PCM**

See page 29 for more on this setting.

## Audio DRC

- Default setting: **Off**



When watching Dolby Digital DVDs at low volume, it's easy to lose low level sounds completely—including some of the dialog. Switching on Audio DRC (Dynamic Range Control) can help by bringing up the low level sounds, while controlling high level peaks.

The **Off** setting leaves the original dynamics intact; **Max** 'squashes' the dynamics the most. Exactly how much difference you can hear between the settings will depend on the material.



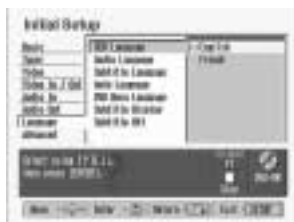
### Remember

- Audio DRC is not effective when listening to a disc via the digital output when **Dolby Digital Out** is set to **Dolby Digital**. In this case adjust the dynamic range from your AV amplifier/receiver.

## Language settings

### OSD Language

- Default Setting: **English**



You can choose to display all the OSDs of this recorder in either **English** or **French**.

### Audio Language

- Default Setting: **English**



This setting is your preferred audio language for DVD discs. If the language you specify here is recorded on a disc, the recorder automatically plays the disc in that language (although this depends on the **Auto Language** setting—see page 83).

Choose **Other** if you want to specify a language other than English or French (see page 84).



### Tip

You can switch between the languages recorded on a DVD disc any time during playback using the **AUDIO** button. (This does not affect this setting.)

## Subtitle Language

- Default Setting: **English**



This setting is your preferred subtitle language for DVD discs. If the language you specify here is recorded on a disc, the recorder automatically plays the disc with those subtitles (although this depends on the **Auto Language** setting—see [page 83](#)).

Choose **Other** if you want to specify a language other than English or French (see [page 84](#)).



### Tip

You can change or switch off the subtitles on a DVD disc any time during playback using the **SUBTITLE** button. (This does not affect this setting.)

## Auto Language

- Default Setting: **On**



When set to **On**, the recorder selects the default audio language on a DVD disc (French dialog for a French movie, for example), and displays subtitles in your preferred subtitle language only if that is set to something different. In other words, movies in your native language won't have any subtitles, while foreign language movies will be shown with subtitles.

Set to **Off** to have the recorder play discs strictly according to your **Audio Language** and **Subtitle Language** settings.

For **Auto Language** to work, the **Audio Language** and **Subtitle Language** settings must be the same—see [page 82–83](#).



### Note

Even when set to **On**, Auto Language may not work with some discs. In this case, set the audio and subtitle languages using the **AUDIO** and **SUBTITLE** buttons.

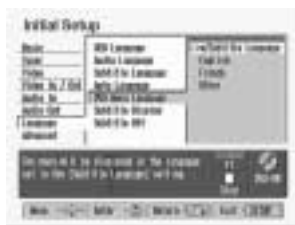


### Tip

You can still switch audio and subtitle languages on playback using the **AUDIO** and **SUBTITLE** buttons.

## DVD Menu Language

- Default Setting: **w/Subtitle Language**



Some multilingual discs have disc menus in several languages. This setting specifies in which language the disc menus should appear. Leave on the default setting for menus to appear in the same language as your **Subtitle Language**—see [page 83](#).

Choose **Other** if you want to specify a language other than English or French (see [page 84](#)).

## Subtitle Display

- Default Setting: **On**



When set to **On**, the recorder displays subtitles according to the **Subtitle Language** and **Auto Language** settings. Set to **Off** to switch subtitles off altogether (although see **Subtitle Off** on this page for special cases). Set to **Assist Subtitle** to have the recorder display the extra assistive subtitles recorded on to some DVD discs.

## Subtitle Off

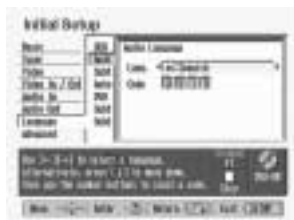
- Default Setting: **Selected Subtitle**



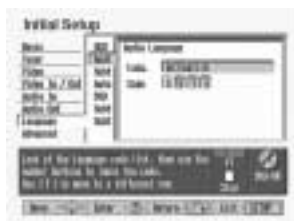
Some discs display subtitles even if the **Subtitle Display** setting (above) is set to **Off**. In this case, you can either have the subtitles displayed in the same language as your preferred audio language (**With Audio**), or in your preferred subtitle language (**Selected Subtitle**). If the **Audio Language** and **Subtitle Language** settings are the same then both of these choices will give the same result.

## Selecting 'Other' languages

- 1 Select 'Other' from the language list.**  
This option appears in the settings for DVD Menu Language, Audio Language, and Subtitle Language.
- 2 Select the language you want.**



Move the joystick left/right to select a language, or move down and enter a code using the number buttons.



See the language code list on **page 100** for a list of available languages and corresponding codes.

- 3 Press ENTER to confirm and exit the screen.**

## Advanced settings

### Parental Lock

- Default level: 8
- Default password: *none*



Some DVD Video discs feature a Parental Lock level. If the recorder is set to a lower level than the disc, it will require you to enter a password before the disc will play. This gives you some control about what your children watch on your DVD recorder.



#### Note

Not all discs that you may consider inappropriate for your children use the Parental Lock feature. These discs will always play without requiring the password first.

### Registering a new password and setting/changing the parental lock level

When you change the parental lock level for the first time (or after resetting the recorder), there is no password set. When you are asked to input your password, key in the number you want to use as your password and it will be registered.



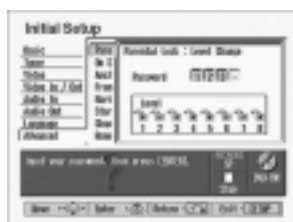
#### Note

- If you forget your password, you can reset all the recorder settings, including the password.
- Some discs contain only certain scenes that are restricted using parental lock. If the password is not entered, the disc will play, but these scenes will be skipped automatically.

#### 1 Select 'Level Change'.



#### 2 Use the number buttons to input your password, then press ENTER.



- If there is no existing password, the number you input will be registered as your password.

#### 3 Move the joystick left or right to lock/unlock levels.



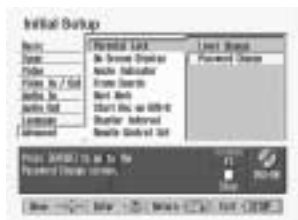
- You can't lock level 1.

#### 4 Press ENTER to set the parental lock level.

## Changing your password

To change your password, confirm your existing password then enter a new one.

### 1 Select 'Password Change'.



### 2 Use the number buttons to enter your existing password.



### 3 Press ENTER.

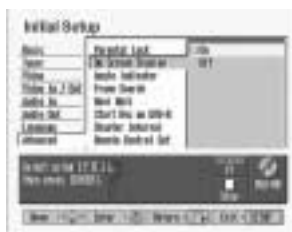
### 4 Enter a new password.



### 5 Press ENTER.

## On Screen Display

- Default: **On**



On the default setting, the recorder shows on-screen operation displays (**Play**, **Stop** and so on). Change to **Off** to hide these displays.

## Angle Indicator

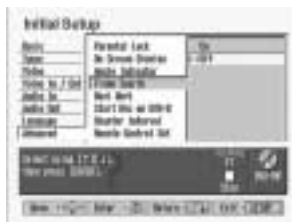
- Default: **On**



On the default setting, when playing a DVD-Video disc that features multi-angle scenes, an icon appears on-screen during the parts of the disc where angle switching is available. Change to **Off** to hide the on-screen indicator.

## Frame Search

- Default: **Off**



On the default setting, the frame number is not displayed when a DVD disc is paused, and the search by frame number feature is not available. You can switch these features on by changing this setting to **On**.

## Navi Mark

- Default: **0 sec**

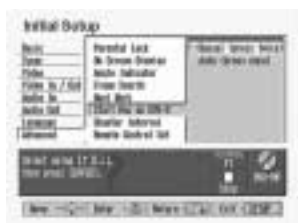


In the Discnavi, each title is shown with a still frame picture to remind you what it is. This setting lets you decide the default still frame. The default setting of **0 second** takes the first frame of the title, but you can also set it to **30 seconds** or **3 minutes** into the title (if the title is shorter than the setting, then the first frame is used).

This setting also determines where in the recording the program name is taken from: 1 minute, 3 minutes or 10 minutes (corresponding to 0 seconds, 30 seconds and 3 minutes).

## Start Rec on DVD-R

- Default: **Manual (press twice)**



On the default setting, when recording using a DVD-R disc, you need to press the record button twice to actually start recording. You can change this to **Auto (press once)** if you prefer DVD-R recording to work in the same way as recording to DVD-RW.



### Note

On the **Auto (press once)** setting, after pressing ● **REC** the recorder takes a few seconds to prepare for recording.

## Chapter Interval

- Default: **3 min**



When recording in Video mode, chapter markers are put in every three minutes on the default setting. You can change this interval to **5 minutes** or **10 minutes**, or switch off automatic chapter marking altogether with the **No Separation** setting.

## Remote Control Set

- Default: **Recorder1**

*You only need to set this if you are using more than one Pioneer DVD recorder in the same room.*

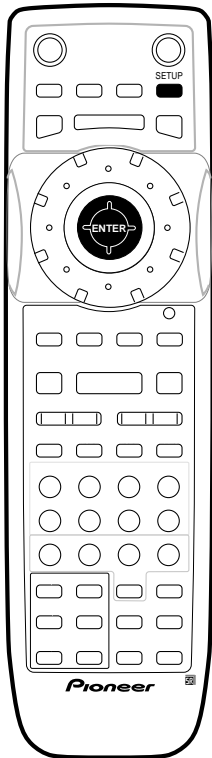


So that each remote control operates only its own recorder, make this setting different for each recorder and remote in the room.

There are three different recorder IDs. When set to **Recorder2** or **Recorder3**, the remote control mode is shown in the front panel display.

Note that as soon as you change the recorder ID, the remote becomes inoperative until you change the remote to the same ID.

To set the remote, press and hold ♂● **RETURN** and a number button (**1**, **2** or **3**) until the **JOG MODE** indicator on the remote lights.



## Using the Disc Setup menu

The Disc Setup menu is where you can set various disc options, such as disc format and disc timer recording, and disc lock.

- 1 Press **SETUP** and select 'Disc Setup' to display the Disc Setup menu.



## Basic settings

### Disc Timer Recording

- Default: **Off**

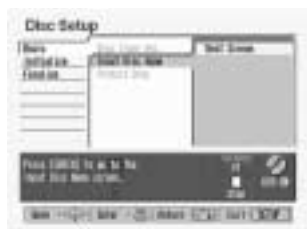


Set to **On** to enable disc timer recording for the disc loaded. Set to **Off** to disable.

Using disc timer recording is explained on [page 60-61](#).

### Input Disc Name

- Default: *n/a*



Use this to enter a name for the disc. This name appears when you load the disc and when you display disc information on-screen.



- The disc name can be up to 64 characters long for VR mode discs, or 24 for Video mode discs.
- For discs formatted on a different DVD recorder, you will see only a limited character set.
- See also [page 68](#).

## Protect Disc

- Default: **Off**



Set to **On** to prevent accidental recording, editing or erasing of the disc loaded. If you need to unlock the disc to make edits, select **Off**.



### Important

A protected disc can still be initialized (which will completely erase the disc).

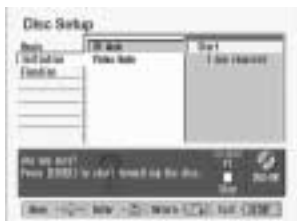


## Initialize settings

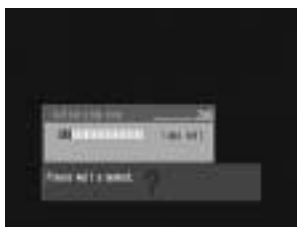
### VR Mode

DVD-RW only

- Default: *n/a*



Select **Start** to format the DVD-RW disc loaded for VR mode recording.



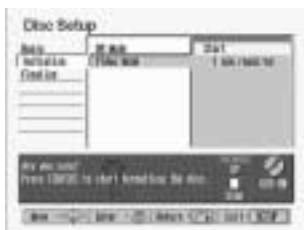
#### Important

Formatting the disc will completely erase the contents of the disc.

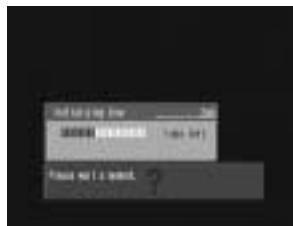
### Video Mode

DVD-RW only

- Default: *n/a*



Select **Start** to format the DVD-RW disc loaded for Video mode recording.



#### Important

Formatting the disc will completely erase the contents of the disc.

## Finalize settings

### Finalize

- Default: *n/a*



Select **Start** to finalize the disc loaded. See [page 44](#) for more information.



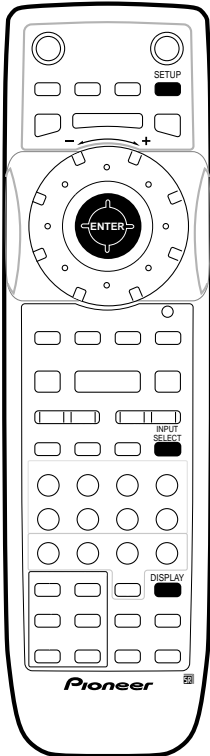
### Undo Finalize

- Default: *n/a*

If you want to edit or record more material on a VR mode DVD-RW disc that has been finalized on another DVD recorder, you need to undo the finalization first.

Select **Start** to begin removing the finalization.

- You cannot use this function for DVD-R discs, or DVD-RW discs that were finalized using this recorder.



## Using the Video Adjust menu

Using the Video Adjust menu you can setup the picture quality for the built-in tuner and external inputs, for disc playback, and for recording.

## Setting the picture quality for TV and external inputs

Picture Creation lets you choose a set of picture quality settings for the built-in TV tuner and for each external input. There are several preset settings that suit various sources, or you can create up to three of your own sets.

### Choosing a preset

- 1 Make sure that the recorder is stopped, then press **SETUP** and select 'Video Adjust' from the menu.



- 2 Press **ENTER** to select 'Picture Creation'.



- 3 Move the joystick left or right to change the preset.



- Use the **INPUT SELECT** to switch between the built-in TV tuner and the external inputs.

There are 6 presets available:

- **TV Program** – suitable for general TV broadcasts
- **VCR** – suitable for video cassettes
- **LDP** – suitable for Laserdiscs
- **Memory1** – user preset 1
- **Memory2** – user preset 2
- **Memory3** – user preset 3

You can press **DISPLAY** to see the individual settings for the current preset.

- 4 Press **ENTER** to select the preset.

## Creating your own set

There are three user presets in which you can save your own set of picture quality settings.

- 1 Follow steps 1 to 3 above and select one of the user presets (Memory 1, 2 or 3).
- 2 Move the cursor down and select 'Detailed Settings'.



- 3 Select the picture quality setting you want to adjust.



There are 9 settings available to adjust:

- **Prog. Motion** – When using progressive scan, this adjusts the motion and still picture quality
  - **3-D Y/C** – Adjusts the brightness/color separation
  - **Detail** – Adjusts how sharp edges appear
  - **White AGC** – Turn on for automatic white level adjustment
  - **White Level** – Adjusts the intensity of white
  - **Black Level** – Adjusts the intensity of black
  - **Black Setup** – For correction of floating black color
  - **Hue** – Adjusts overall balance between red and green
  - **Chroma Level** – Adjusts how rich the colors appear
- When the DV input is selected, only the **Prog. Motion** setting can be set.



### Tip

To see more of the picture as you adjust different settings, press **ENTER** after selecting the setting you want to adjust.

- 4 Move the joystick left/right to adjust the currently selected picture quality setting.
- 5 When you have all the settings as you want them, press **SETUP** to exit.

You can now use the preset for any other input or the built-in TV tuner.

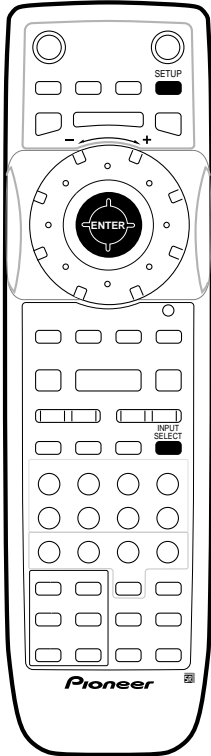
## Setting the noise reduction for recording

You can make settings for both brightness and color noise reduction. These are designed to improve the recorded picture quality.

Using the Preview feature, you can see how your recording will look on various playback picture settings.

- 1 Make sure that the recorder is stopped, then press **SETUP** and select 'Video Adjust' from the menu.
- 2 Select 'Rec NR'.





- 3 Move the joystick up/down to select 'Rec YNR' or 'Rec CNR'.

**Rec YNR** is the noise reduction applied to the brightness component of the video signal.

**Rec CNR** is the noise reduction applied to the color component of the video signal.

- Use the **INPUT SELECT** button to switch between the built-in TV tuner and the external inputs (you cannot set the recording NR for the DV input).



- 4 Move the joystick left/right to adjust.
- 5 To see a preview of your settings, move down to 'Play Qual.' and select a playback preset.



- 6 Move down to 'Preview' and press ENTER to see the preview.



- Press **ENTER** to return to the settings screen.

## Setting the picture quality for disc playback

This setting determines how the picture will look when playing discs.

### Choosing a preset

- 1 With a disc playing (or paused), press **SETUP** and select 'Video Adjust' from the menu.



## 2 Move the joystick left/right to change the setting.

There are 6 presets available:

- **TV(CRT)** – suitable for standard cathode-ray tube TVs
- **PDP** – suitable for plasma display screens
- **Professional** – suitable for professional monitors
- **Memory1** – user preset 1
- **Memory2** – user preset 2
- **Memory3** – user preset 3

## 3 Press ENTER to select the preset.

### Creating your own set

There are three user presets in which you can save your own set of picture quality settings for disc playback.

## 1 Follow steps 1 and 2 above and select one of the user presets (Memory 1, 2 or 3).

## 2 Move the cursor down and select 'Detailed Settings'.



## 3 Select the picture quality setting you want to adjust.



There are 14 settings available to adjust:

- **Prog. Motion** – When using progressive scan, this adjusts the motion and still picture quality (this does not affect the disc content).
- **Pure Cinema** – When watching DVD movies, Pure Cinema optimizes the picture quality. If the picture appears unnatural on the default **Auto** setting, change to **On** or **Off** as desired. If using with a progressive scan TV, adjust in conjunction with **Prog. Motion** above.  
See also *PureCinema* in the glossary on page 97.
- **YNR** – Adjusts the amount of noise reduction (NR) applied to the Y (brightness) component
- **CNR** – Adjusts the amount of noise reduction (NR) applied to the C (color) component
- **QNR** – Adjusts the amount of noise reduction (NR) applied to the mosquito noise (video artifacts on the edge of the image resulting from MPEG compression) and the black noise.
- **Sharpness High** – Adjusts the sharpness of the high-frequency (finely detailed) elements in the picture
- **Sharpness Mid** – Adjusts the sharpness of the mid-frequency (less detailed) elements in the picture
- **Detail** – Adjusts how sharp edges appear
- **White Level** – Adjusts the intensity of white
- **Black Level** – Adjusts the intensity of black
- **Black Setup** – For correction of floating black color
- **Hue** – Adjusts overall balance between red and green (not applicable to the component output)
- **Chroma Level** – Adjusts how rich the colors appear
- **Chroma Delay** – Compensates for misalignment of the Y (brightness) and C (color) components



### Tip

To see more of the picture as you adjust different settings, press **ENTER** after selecting the setting you want to adjust.

## 4 Move the joystick left/right to adjust the currently selected picture quality setting.

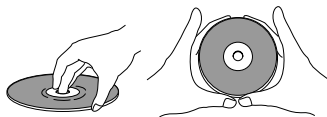
## 5 When you have all the settings as you want them, press SETUP to exit.

## On-screen displays and recorder displays

Message	Explanation/Action
<ul style="list-style-type: none"> <li>• <b>Initializing disc. Please wait a moment.</b></li> </ul>	When you load a blank DVD-RW disc, the recorder automatically initializes it.
<ul style="list-style-type: none"> <li>• <b>XX seconds before recording stops. Please wait a moment.</b></li> </ul>	In Video mode, recording is in 30 second blocks. After you stop recording, recording will continue until the end of the current block.
<ul style="list-style-type: none"> <li>• <b>Incompatible region number.</b></li> </ul>	The disc loaded has an incompatible region number for the recorder and so will not play.
<ul style="list-style-type: none"> <li>• <b>Cannot record any more titles.</b></li> <li>• <b>You cannot do this edit with the currently loaded disc.</b></li> <li>• <b>Cannot add any more chapter marks.</b></li> </ul>	The disc control data limit has been reached, or the maximum number of chapters and/or titles has been reached. Erase titles/chapters or combine chapters.
<ul style="list-style-type: none"> <li>• <b>You cannot record on this disc. Undo the finalization.</b></li> </ul>	The disc was finalized on a non-Pioneer DVD recorder. Undo the finalization in order to recording/editing.
<ul style="list-style-type: none"> <li>• <b>Cannot play because the disc is incompatible.</b></li> <li>• <b>You cannot record on this disc.</b></li> <li>• <b>Cannot read the CPRM information.</b></li> <li>• <b>Cannot prepare for recording.</b></li> <li>• <b>Could not record the information to the disc.</b></li> <li>• <b>Cannot edit.</b></li> <li>• <b>Could not initialize disc.</b></li> <li>• <b>Could not finalize successfully.</b></li> <li>• <b>Could not undo finalization successfully.</b></li> <li>• <b>Could not cancel the disc protection setting successfully.</b></li> </ul>	The disc may be dirty or damaged. Take out the disc, clean it and retry. If the error persists, use a new disc. If the error appears even with a new disc, please consult a Pioneer Service Center.
<ul style="list-style-type: none"> <li>• <b>Cannot record because the disc is not CPRM compatible.</b></li> <li>• <b>This source cannot be recorded with the Video mode.</b></li> </ul>	The video source is copy-once protected. Use a VR mode DVD-RW disc with CPRM for recording.
<ul style="list-style-type: none"> <li>• <b>This source is copy-protected.</b></li> </ul>	The video source is copy-protected and cannot be recorded.
<ul style="list-style-type: none"> <li>• <b>Incorrect CPRM information.</b></li> </ul>	The recorder could not read the CPRM information. The recorder may be damaged—please consult a Pioneer Service Center.
<ul style="list-style-type: none"> <li>• <b>No DV input.</b></li> <li>• <b>Cannot preview because there is no DV input.</b></li> </ul>	No signal was detected at the DV input/output jack. This may appear if a blank section of DV tape is playing in the connected camcorder.
<ul style="list-style-type: none"> <li>• <b>When recording the DV input, the recording level is automatically set to 9.</b></li> <li>• <b>The recording level has been temporarily set to 9 for the DV input.</b></li> </ul>	Recording levels 1-8 are not available when recording from the DV input.
<ul style="list-style-type: none"> <li>• <b>The audio follows [Dual Mono Recording] setting because the recording level is 32.</b></li> </ul>	When recording from an external input in Video mode, or in VR mode set to MN 32, audio is recorded in Linear PCM format. You can only record the left or right channel; not both.
<ul style="list-style-type: none"> <li>• <b>Repairing the disc. Please wait a moment.</b></li> </ul>	During recording, the power was cut. This display appears when the power is restored.
<ul style="list-style-type: none"> <li>• <b>Could not repair the disc.</b></li> </ul>	The recorder was unable to repair the disc after a power cut. The contents of the recording will be lost.

## Handling discs

When holding discs of any type, take care not to leave fingerprints, dirt or scratches on the disc surface. Hold the disc by its edge or by the center hole and edge.



Damaged or dirty discs can affect playback and recording performance. Take care also not to scratch the label side of the disc. Although not as fragile as the recorded side, scratches can still result in a disc becoming unusable.

Should a disc become marked with fingerprints, dust, etc., clean using a soft, dry cloth, wiping the disc lightly from the center to the outside edge as shown in the diagram below.



Wipe lightly from the center of the disc using straight strokes.

Don't wipe the disc surface using circular strokes.

If necessary, use a cloth soaked in alcohol, or a commercially available CD/DVD cleaning kit to clean a disc more thoroughly. Never use benzine, thinner or other cleaning agents, including products designed for cleaning vinyl records.

## Storing discs

Although CDs and DVD discs are more durable than vinyl records, you should still take care to handle and store discs correctly. When you're not using a disc, return it to its case and store upright. Avoid leaving discs in excessively cold, humid, or hot environments (including under direct sunlight).

Don't glue paper or put stickers onto the disc, or use a pencil, ball-point pen or other sharp-tipped writing instrument. These could all damage the disc.



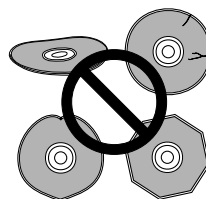
For more detailed care information see the instructions that come with discs.

Do not load more than one disc into the player.

## Discs to avoid

Discs spin at high speed inside the player. If you can see that a disc is cracked, chipped, warped, or otherwise damaged, don't risk using it in your player—you could end up damaging the unit.

This unit is designed for use with conventional, fully circular discs only. Use of shaped discs is not recommended for this product. Pioneer disclaims all liability arising in connection with the use of shaped discs.



## Cleaning the pickup lens

The DVD player's lens should not become dirty in normal use, but if for some reason it should malfunction due to dust or dirt, consult your nearest Pioneer-authorized service center. Although lens cleaners for CD players are commercially available, we do not recommend using them since some may damage the lens.

## Problems with condensation

Condensation may form inside the player if it is brought into a warm room from outside, or if the temperature of the room rises quickly. Although the condensation won't damage the player, it may temporarily impair its performance. For this reason you should leave it to adjust to the warmer temperature for about an hour before switching on and using.

## Hints on installation

We want you to enjoy using this unit for years to come, so please bear in mind the following points when choosing a suitable location for it:


### Do...

- ✓ Use in a well-ventilated room.
- ✓ Place on a solid, flat, level surface, such as a table, shelf or stereo rack.

### Don't...

- ✗ Use in a place exposed to high temperatures or humidity, including near radiators and other heat-generating appliances.
- ✗ Place on a window sill or other place where the player will be exposed to direct sunlight.
- ✗ Use in a dusty or damp environment or in a room where it will be exposed to excessive cigarette smoke.
- ✗ Place directly on top of an amplifier, or other component in your stereo system that becomes hot in use.
- ✗ Use near a television or monitor as you may experience interference—especially if the television uses an indoor antenna.
- ✗ Use in a kitchen or other room where the player may be exposed to smoke or steam.
- ✗ Use on a thick rug or carpet, or cover with cloth—this may prevent proper cooling of the unit.
- ✗ Place on an unstable surface, or one that is not large enough to support all four of the unit's feet.

## Moving the player

If you need to move the player, first remove the disc, if there's one loaded, and close the disc tray. Next, press  **STANDBY/ON** to switch the power to standby, checking that the **POWER OFF** indication in the display goes off. Lastly, disconnect the power cord. Never lift or move the unit during playback or recording—discs rotate at a high speed and may be damaged.

## Glossary

### Analog audio

An electrical signal that directly represents sound. Compare this to digital audio which can be an electrical signal, but is an indirect representation of sound. See also *Digital audio*.

### Aspect ratio

The width of a TV screen relative to its height. Conventional TVs are 4:3 (in other words, the screen is almost square); widescreen models are 16:9 (the screen is almost twice as wide as it is high).

### Chapter

Just as a book is split up into several chapters, a title on a DVD disc is usually divided into chapters. See also *Title*.

### Digital audio

An indirect representation of sound by numbers. During recording, the sound is measured at discrete intervals (44,100 times a second for CD audio) by an analog-to-digital converter, generating a stream of numbers. On playback, a digital-to-analog converter generates an analog signal based on these numbers. See also *Sampling frequency* and *Analog audio*.

### Dolby Digital



With multichannel audio, this high quality surround system is used in many movie theaters around the world.

### DTS



DTS stands for Digital Theater System. DTS is a surround system different from Dolby Digital that has become a popular surround sound format for movies.



**Dynamic range**

The difference between the quietest and loudest sounds possible in an audio signal (without distorting or getting lost in noise). Dolby Digital and DTS soundtracks are capable of a very wide dynamic range, delivering dramatic cinema-like effects.

**MPEG audio****MPEG)C Multichannel**

An audio format used on Video CDs and some DVD discs. This unit can convert MPEG audio to PCM format for wider compatibility with digital recorders and AV amplifiers. See also *PCM*.

**MPEG video**

The video format used for Video CDs and DVDs. Video CD uses the older MPEG-1 standard, while DVD uses the newer and much better quality MPEG-2 standard.

**Optical digital output**

A jack that outputs digital audio in the form of light pulses. Connect components with optical digital jacks using a special optical cord, available from specialist audio dealers.

**PCM (Pulse Code Modulation)**

The most common system of encoding digital audio, found on CDs and DAT. Excellent quality, but requires a lot of data compared to formats such as Dolby Digital and MPEG audio. For compatibility with digital audio recorders (CD, MD and DAT) and AV amplifiers with digital inputs, this unit can convert Dolby Digital and MPEG audio to PCM. See also *Digital audio*.

**PBC (PlayBack Control) (Video CD only)**

A system of navigating a Video CD through on-screen menus recorded onto the disc. Especially good for discs that you would normally not watch from beginning to end all at once—karaoke discs, for example.

**Progressive scan video**

Also called non-interlaced video, this method of displaying a picture updates all the lines in one pass, resulting in a more stable, flicker-free image than interlaced video (for a given scanning rate).

**PureCinema**

Video on a DVD disc may be either video material (originally shot on video) or film material (originally shot on film). Video material has a frame rate of 30 frames/second, compared to 24 frames/second for film. This recorder converts film material to 60 frames/second (in progressive scan mode). PureCinema adjusts the picture so that it matches more closely the picture quality of a cinema screen

You can see whether video on a DVD disc is film or video material by displaying the transfer rate. If a '#' appears above the transfer rate display, it is film material.

**Regions (DVD only)**

Regions associate discs and players with particular areas of the world. This unit will only play discs that have compatible region codes. You can find the region code of your unit by looking on the rear panel. Some discs are compatible with more than one region (or all regions).

**Sampling frequency**



The rate at which sound is measured to be turned into digital audio data. The higher the rate, the better the sound quality, but the more digital information is generated. Standard CD audio has a sampling frequency of 44.1 kHz, which means 44,100 samples (measurements) per second. See also *Digital audio*.

**Title (DVD only)**

A collection of chapters on a DVD disc. See also *Chapter*.

**Track**

Audio CDs and Video CDs use tracks to divide up the content of a disc. The DVD equivalent is called a chapter. See also *Chapter*.







Problem	Remedy
<b>General</b>	
Recorder won't switch on	<ul style="list-style-type: none"> <li>• Make sure the recorder is plugged in (<a href="#">page 15</a>)</li> </ul>
The disc is automatically ejected after closing the disc tray	<ul style="list-style-type: none"> <li>• Check that the disc is loaded properly (aligned in disc tray and label-side up)</li> <li>• Take out the disc and clean it (<a href="#">page 95</a>)</li> <li>• Check that the disc has a region code compatible with the recorder (<a href="#">page 10</a>)</li> </ul>
No picture	<ul style="list-style-type: none"> <li>• Check that everything is connected properly (<a href="#">chapter 2</a>)</li> <li>• Check that the connected TV and/or the AV receiver is set to the correct input</li> <li>• Check that the disc is NTSC</li> <li>• The recorder may be set to Progressive-scan with an incompatible TV. Reset to Interlace by pressing and holding <b>II PAUSE</b> (front panel) then pressing <b>FL DIMMER</b>.</li> </ul>
Can't play a disc	<ul style="list-style-type: none"> <li>• Take out the disc and clean it (<a href="#">page 95</a>)</li> <li>• Check that the disc is loaded properly (aligned in disc tray and label-side up)</li> <li>• Check that the disc has a region code compatible with the recorder (<a href="#">page 10</a>)</li> <li>• There may be condensation in the player. Leave the recorder for an hour or so.</li> </ul>
Settings have disappeared	<ul style="list-style-type: none"> <li>• If the recorder is unplugged (or there is a power failure) while the recorder is on, all the settings will be lost</li> <li>• Make sure that you switch the recorder into standby before unplugging the power cord</li> </ul>
Screen goes blank and operation buttons don't work	<ul style="list-style-type: none"> <li>• Press <b>■</b> then restart playback</li> </ul>
 mark appears on screen	<ul style="list-style-type: none"> <li>• The operation you want to perform is prohibited by the disc. This is not a malfunction</li> </ul>
 mark appears on screen	<ul style="list-style-type: none"> <li>• The operation you want to perform is prohibited by the player. This is not a malfunction</li> </ul>
Remote control does not work	<ul style="list-style-type: none"> <li>• If you connected this recorder to other Pioneer products using the <b>CONTROL IN/OUT</b> jacks, point the remote control at the other component to use (<a href="#">page 12</a>)</li> <li>• Set the remote control to the same ID number as the recorder (<a href="#">page 87</a>) (When the batteries run down, the remote mode is automatically reset to 1)</li> <li>• Use the remote within its operating range (<a href="#">page 8</a>)</li> <li>• Replace the batteries (<a href="#">page 8</a>)</li> </ul>
No sound or sound is distorted	<ul style="list-style-type: none"> <li>• Make sure that the volume of the amplifier/receiver or TV is not set to minimum</li> <li>• There is no sound when the picture is paused, or during scanning (even forwards at regular play speed) or slow motion play. Press <b>▶ PLAY</b> to resume regular playback</li> <li>• DTS discs can only be played if this recorder is connected to a DTS decoder or DTS compatible amplifier/receiver. If you have connected a suitable decoder, also make sure that the <b>Recorder Setup &gt; Audio &gt; DTS Output</b> setting is <b>On</b>.</li> <li>• Some 96kHz discs do not output audio through the digital outs. In this case, switch the input of your amplifier/receiver to analog</li> <li>• Check the audio cable connections (<a href="#">page 15, 17, 18</a>)</li> <li>• Check that the cable plugs are clean</li> </ul>
The picture from the external input is distorted	<ul style="list-style-type: none"> <li>• If the video signal from the external component is copy-protected, you cannot connect via this recorder. Connect the component directly to your TV</li> </ul>






Problem	Remedy
<b>General</b>	
Screen is stretched vertically or horizontally	<ul style="list-style-type: none"> <li>This recorder's input switches into wide mode automatically according to the input signal. When the unit connected is not compatible with ID-1, set the connected component to output 4:3 aspect ratio (standard)</li> <li>When you are playing a disc, set the <b>TV Screen Size (page 28)</b> to the correct setting for that disc</li> <li>Check the aspect ratio settings of your TV</li> </ul>
Can't play a disc recorded using this recorder on another player	<ul style="list-style-type: none"> <li>If the disc was recorded in Video mode, make sure that it's finalized (<b>page 44</b>)</li> <li>Some players will not play even a finalized disc recorded in Video mode</li> <li>If the disc was recorded in VR mode, the other player must be RW compatible in order to play it (<b>page 20</b>)</li> <li>Discs recorded with copy-once material cannot be played on other players (<b>page 40</b>)</li> </ul>
During playback the picture is dark or distorted	<ul style="list-style-type: none"> <li>When a copy-protected disc is played via a VCR, the picture will not display correctly. Connect the recorder directly to your TV</li> </ul>
Can't control your TV using this remote control	<ul style="list-style-type: none"> <li>Check that you entered the correct code for your make of TV (<b>page 30</b>)</li> <li>It may not be possible to control your TV using this remote control</li> </ul>
Cannot record or did not record successfully	<ul style="list-style-type: none"> <li>Check that there is some remaining blank space on the disc (<b>page 45</b>)</li> <li>Check that the number of titles on the disc hasn't already reached 99 (for a VR disc, Original titles only), or the number of chapters hasn't reached 999 (for a VR disc, Original chapters only). This is the maximum number of titles and chapters a disc can hold</li> <li>Check that the source you are trying to record is not copy protected</li> <li>For a VR formatted disc, check that the disc isn't protected (<b>page 73</b>)</li> <li>When setting the recording channel, make sure you set the recorder's built-in TV tuner, not the TV's own tuner (<b>page 31</b>)</li> <li>When recording to a Video mode disc, programs that are copy-once protected cannot be recorded. Use a VR mode formatted disc for copy-once material (<b>page 40</b>)</li> <li>Check that there wasn't a power outage during the timer recording</li> <li>Two timer programs may have overlapped</li> </ul>
Cannot use time search with frame search or frame number is not	<ul style="list-style-type: none"> <li>Set <b>Frame Search</b> to <b>On (page 87)</b></li> <li>Frame search can only be used with DVD discs</li> </ul>
<b>DV IN/OUT jack problems</b>	
No sound and/or picture from a camcorder connected to the DV IN/OUT jack	<ul style="list-style-type: none"> <li>Check the connection</li> <li>Disconnect the cable, then connect again</li> <li>You cannot record a source that is copy-protected or copy-once protected</li> <li>Try switching the <b>DV Link</b> to <b>Off (page 80)</b></li> <li>Try switching the <b>DV Input (page 81)</b></li> <li>Try switching off both the camera and this recorder, then switching both back on</li> <li>Check that the audio you're recording is 32 or 48kHz. This recorder cannot record audio with a sampling rate of 44.1kHz</li> </ul>
No sound and/or picture when recording from this recorder to a camcorder connected to the DV IN/OUT jack	<ul style="list-style-type: none"> <li>Check the connection</li> <li>Disconnect the cable, then connect again</li> <li>Try stopping playback of this recorder, then restarting</li> <li>Make sure that only one digital camera is connected to this recorder at a time</li> <li>Try switching off both the camera and this recorder, then switching both back on</li> <li>You can't record the audio/video from CDs, Video CDs, the built-in TV tuner, or from one of the external inputs, through the DV jack</li> <li>You cannot record copy-protected or copy-once material through the <b>DV IN/OUT</b> jack</li> </ul>
Can't control the connected camcorder using this remote control	<ul style="list-style-type: none"> <li>Some camcorders are not compatible with this remote</li> </ul>

## Language code list

Language/Langue	Code	Language/Langue	Code	Language/Langue	Code
Japanese/japonais ( ja )	1001	Hausa ( ha )	0801	Quechua ( qu )	1721
English/anglais ( en )	0514	Hindi ( hi )	0809	Rhaeto-Romance ( rm )	1813
French ( fr )	0618	Croatian ( hr )	0818	Kirundi ( rn )	1814
German ( de )	0405	Hungarian ( hu )	0821	Romanian ( ro )	1815
Italian ( it )	0920	Armenian ( hy )	0825	Kinyarwanda ( rw )	1823
Spanish ( es )	0519	Interlingua ( ia )	0901	Sanskrit ( sa )	1901
Dutch ( nl )	1412	Interlingue ( ie )	0905	Sindhi ( sd )	1904
Russian ( ru )	1821	Inupiak ( ik )	0911	Sangho ( sg )	1907
Chinese ( zh )	2608	Indonesian ( in )	0914	Serbo-Croatian ( sh )	1908
Korean ( ko )	1115	Icelandic ( is )	0919	Sinhalese ( si )	1909
Greek ( el )	0512	Hebrew ( iw )	0923	Slovak ( sk )	1911
Afar ( aa )	0101	Yiddish ( ji )	1009	Slovenian ( sl )	1912
Abkhazian ( ab )	0102	Javanese ( jw )	1023	Samoan ( sm )	1913
Afrikaans ( af )	0106	Georgian ( ka )	1101	Shona ( sn )	1914
Amharic ( am )	0113	Kazakh ( kk )	1111	Somali ( so )	1915
Arabic ( ar )	0118	Greenlandic ( kl )	1112	Albanian ( sq )	1917
Assamese ( as )	0119	Cambodian ( km )	1113	Serbian ( sr )	1918
Aymara ( ay )	0125	Kannada ( kn )	1114	Siswati ( ss )	1919
Azerbaijani ( az )	0126	Kashmiri ( ks )	1119	Sesotho ( st )	1920
Bashkir ( ba )	0201	Kurdish ( ku )	1121	Sundanese ( su )	1921
Byelorussian ( be )	0205	Kirghiz ( ky )	1125	Swedish ( sv )	1922
Bulgarian ( bg )	0207	Latin ( la )	1201	Swahili ( sw )	1923
Bihari ( bh )	0208	Lingala ( ln )	1214	Tamil ( ta )	2001
Bislama ( bi )	0209	Laothian ( lo )	1215	Telugu ( te )	2005
Bengali ( bn )	0214	Lithuanian ( lt )	1220	Tajik ( tg )	2007
Tibetan ( bo )	0215	Latvian ( lv )	1222	Thai ( th )	2008
Breton ( br )	0218	Malagasy ( mg )	1307	Tigrinya ( ti )	2009
Catalan ( ca )	0301	Maori ( mi )	1309	Turkmen ( tk )	2011
Corsican ( co )	0315	Macedonian ( mk )	1311	Tagalog ( tl )	2012
Czech ( cs )	0319	Malayalam ( ml )	1312	Setswana ( tn )	2014
Welsh ( cy )	0325	Mongolian ( mn )	1314	Tonga ( to )	2015
Danish ( da )	0401	Moldavian ( mo )	1315	Turkish ( tr )	2018
Bhutani ( dz )	0426	Marathi ( mr )	1318	Tsonga ( ts )	2019
Esperanto ( eo )	0515	Malay ( ms )	1319	Tatar ( tt )	2020
Estonian ( et )	0520	Maltese ( mt )	1320	Twi ( tw )	2023
Basque ( eu )	0521	Burmese ( my )	1325	Ukrainian ( uk )	2111
Persian ( fa )	0601	Nauru ( na )	1401	Urdu ( ur )	2118
Finnish ( fi )	0609	Nepali ( ne )	1405	Uzbek ( uz )	2126
Fiji ( fj )	0610	Norwegian ( no )	1415	Vietnamese ( vi )	2209
Faroese ( fo )	0615	Occitan ( oc )	1503	Volapük ( vo )	2215
Frisian ( fy )	0625	Oromo ( om )	1513	Wolof ( wo )	2315
Irish ( ga )	0701	Oriya ( or )	1518	Xhosa ( xh )	2408
Scots-Gaelic ( gd )	0704	Panjabi ( pa )	1601	Yoruba ( yo )	2515
Galician ( gl )	0712	Polish ( pl )	1612	Zulu ( zu )	2621
Guarani ( gn )	0714	Pashto, Pushto ( ps )	1619		
Gujarati ( gu )	0721	Portuguese ( pt )	1620		

## Screen sizes and disc formats

When viewing on a standard TV or monitor		
Screen format of disc	Setting	Appearance
16:9 	4:3 (Letter Box) 	The program is shown in widescreen with black bars at the top and bottom of the screen.
	4:3 (Pan & Scan) 	The sides of the program are cropped so that the picture fills the whole screen.
4:3 	16:9 (Wide) 	The program appears squashed. Set to either 4:3 (Letter Box) or 4:3 (Pan & Scan).
	4:3 (Letter Box) 4:3 (Pan & Scan) 	The program is presented correctly on either setting.

When viewing on a widescreen TV or monitor		
Screen format of disc	Setting	Appearance
16:9 	16:9 (Wide) 	The program is presented in widescreen.
4:3 	16:9 (Wide) 	Your TV will determine how the picture is presented—check the manual that came with the TV for details.
		

## Specifications

### General

System .....	DVD-Video, DVD-R/RW, Video-CD, CD
Power requirements .....	120 V, 50/60 Hz
Power consumption .....	65 W
Power consumption in standby mode .....	1.5 W (FL off)
Weight .....	7.0 kg
Dimensions .....	420 (W) x 107 (H) x 373.5 (D) mm
Operating temperature .....	+5°C to +35°C
Operating humidity .....	5% to 85% (no condensation)
TV format .....	NTSC

### Recording

Recording format .....	DVD VideoRecording DVD-VIDEO
Recordable discs .....	DVD-ReRecordable DVD-Recordable

### Video recording format

Sampling frequency .....	13.5MHz
Compression format .....	MPEG

### Audio recording format

Sampling frequency .....	48kHz
Compression format .....	Dolby Digital or Linear PCM (uncompressed)

### Recording time

DVD-RW (VR mode)	
Standard (SP) .....	Approx. 2 hours
Manual rate (MN) .....	Approx. 1–6 hours
DVD-R/RW (Video mode)	
V1 .....	Approx. 1 hour
V2 .....	Approx. 2 hours

### Tuner

Receivable channels	
VHF .....	1–13ch
UHF .....	14–69ch
CATV .....	C1–C125ch

### Timer

Programs .....	1 month/8 programs
Clock .....	Quartz lock (12-hour digital display)
Power off memory .....	Approx. 48 hours

### Input/Output

VHF/UHF antenna input/output terminal .....	VHF/UHF set 75 Ω (F-shape connector)
Video input .....	Input 1,2 (rear), 3 (front)
Input level .....	1 Vp-p (75 Ω)
Jacks .....	RCA jack
Video output .....	Output 1,2
Output level .....	1 Vp-p (75 Ω)
Jacks .....	RCA jack
S-Video input .....	Input 1,2 (rear), 3 (front)
Y (luminance) - Input level .....	1 Vp-p (75 Ω)
C (color) - Input level .....	286 mVp-p (75 Ω)
Jacks .....	4 pin mini DIN
S-Video output .....	Output 1,2
Y (luminance) - Output level .....	1 Vp-p (75 Ω)
C (color) - Output level .....	286 mVp-p (75 Ω)
Jacks .....	4 pin mini DIN
Component video output	
Output level .....	Y: 1.0 Vp-p (75 Ω) P <sub>B</sub> , P <sub>R</sub> : 0.7 Vp-p (75 Ω)
Jacks .....	RCA jacks
Audio input .....	Input 1,2 (rear), 3 (front) L/R
Input level	
During audio input .....	2V rms (Input impedance: more than 22kΩ)
Jacks .....	RCA jacks
Audio output .....	Output 1,2 L/R
During audio output .....	2V rms (Output impedance: less than 1.5kΩ)
Jacks .....	RCA jacks
Control input/output .....	Mini jack 1 each
DV input/output .....	4 pin (i.LINK/IEEE 1394 standard)


### Supplied accessories

Remote control .....	1
Dry cell batteries (AA/R6P) .....	2
Stereo audio cable (red/white) .....	1
Video cable (yellow) .....	1
RF antenna cable .....	1
Power cable .....	1
DVD-RW disc .....	1
Operating Instructions .....	1
Warranty card .....	1

*Note: The specifications and design of this product are subject to change without notice, due to improvement.*

### Resetting the recorder

If you need to, you can reset the recorder to all its factory settings.

- 1 **Make sure that the recorder is on.**
- 2 **Press and hold ■ STOP and press**  
 **STANDBY/ON.**  
 The recorder turns off with all settings reset.



## Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

### To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

### Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

## We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

### Decibel

Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

### THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

Information courtesy of the Deafness Research Foundation.



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Should this product require service in the U.S.A. and you wish to locate the nearest Pioneer Authorized Independent Service Company, or if you wish to purchase replacement parts, operating instructions, service manuals, or accessories, please call the number shown below.

8 0 0 - 4 2 1 - 1 4 0 4

Please do not ship your product to Pioneer without first calling the Customer Support Division at the above listed number for assistance.

Pioneer Electronics (USA) Inc.  
Customer Support Division  
P.O. BOX 1760, Long Beach,  
CA 90801-1760, U.S.A.

For warranty information please see the Limited Warranty sheet included with your product.

Should this product require service in Canada, please contact a Pioneer Canadian Authorized Dealer to locate the nearest Pioneer Authorized Service Company in Canada.

Alternatively, please contact the Customer Satisfaction Department at the following address:

Pioneer Electronics of Canada, Inc.  
Customer Satisfaction Department  
300 Allstate Parkway, Markham, Ontario L3R OP2  
(905)479-4411  
1(877)283-5901

For warranty information please see the Limited Warranty sheet included with your product.

Si ce produit doit être réparé au Canada, veuillez vous adresser à un distributeur autorisé Pioneer du Canada pour obtenir le nom du Centre de Service Autorisé Pioneer le plus près de chez-vous. Vous pouvez aussi contacter le Service à la clientèle de Pioneer:

Pioneer Électroniques du Canada, Inc.  
Service à la clientèle  
300, Allstate Parkway, Markham, Ontario L3R OP2  
(905)479-4411  
1(877)283-5901

Pour obtenir des renseignements sur la garantie, veuillez vous reporter au feuillet sur la garantie restreinte qui accompagne le produit.

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