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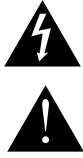
AV9 Pre-amp. processor

Préamplificateur-processeur AV9

Vorverstärker/Prozessor AV9

AV9 Voorversterker Processor

Safety guidelines



CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

ATTENTION
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR



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

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

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

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

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

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

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

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

The appliance has been designed for use in moderate climates.

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

Unplug the unit from the mains supply before cleaning.

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

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

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

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

This is a class 1 product and requires an earth connection. Ensure that the grounding means of the appliance is not defeated.

Locate any outdoor antenna/aerial away from power lines.

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

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

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

The appliance should be serviced by qualified service personnel when:

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

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

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The small print:

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Before you start!

Thank you for purchasing the Arcam AV9 Preamp processor.

The AV9 is a high-quality and high-performance home-cinema processor and audio pre-amplifier built to Arcam's quality design and manufacturing standards. It combines digital processing with high performance audio and video components to bring you an unrivalled home-entertainment centre.

The AV9 allows switching and volume control of eight analogue and seven digital sources making it an ideal companion for both home cinema and two-channel stereo systems. Since many of these source components are also capable of putting video signals out, the AV9 includes broadcast-quality video switching for composite-, S-video-, component-, RGB- and HDMI-video signals. There are inputs and outputs for both tape and VCR, as well as a digital output; DVD-Audio and SACD can be connected via the multichannel input. Control of the AV9 is either by front panel control buttons, IR remote control or an RS232 port (which can also be used to upload future software enhancements).

The AV9 can be integrated with various types of power amplifiers and loudspeakers, including those that are THX certified. The AV9 is itself THX certified, meaning it has passed the rigorous THX Ultra2 specification enabling it to reproduce THX Surround EX signals from Dolby Digital soundtracks.

The installation of the AV9 in a listening room is an important process which requires care at every stage. For this reason, the installation information is very comprehensive and should be followed carefully.

This handbook has been designed to give you all the information you need to install, connect, set-up and use the Arcam AV9. The remote control handset supplied with the equipment is also described.

It may be that the AV9 has been installed and set-up as part of your Hi-Fi installation by a qualified Arcam dealer. In this case, you may wish to skip the sections of this handbook dealing with installation and setting up the unit, and move directly to the sections dealing with using the player. Use the contents list on page 3 to guide you to these sections.

Safety guidelines are set out on page 2 of this handbook. Many of these items are common sense precautions, but for your own safety, and to ensure that you do not damage the unit, we recommend that you read them.

This is a class 1 product and requires an earth connection.

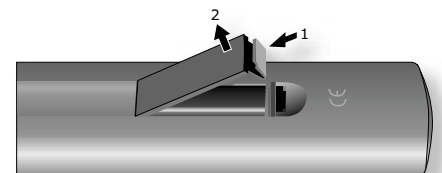
The remote control requires two 'AA' batteries to operate. To insert the batteries into the remote control, please follow these instructions:

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

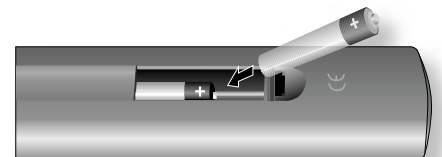
- Incorrect use of batteries can result in hazards such as leakage and bursting.
- Do not mix old and new batteries together.
- Do not use different kinds of battery together—although they may look similar, different batteries may have different voltages.
- Ensure that the plus (+) and minus (-) ends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

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

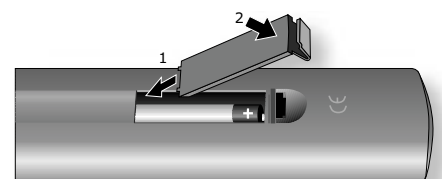
- Ensure that there are no obstacles between the remote control and the remote sensor on the AV9. The remote has a range of about 7 metres. (If the remote sensor is obscured, the remote control input jack on the rear panel is available. Please contact your dealer for further information.)
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the remote sensor of the AV9.
- Replace the batteries when you notice a reduction in the operating range of the remote control.



1. Opening the cover of the remote control battery compartment.



2. Inserting batteries into the remote control.



3. Closing the cover of the remote control battery compartment.

Before connecting your equipment it is important to think about the following points, as these will affect your choice of connections and subsequent use of the system.

Wherever possible, connect both analogue and digital outputs of digital sources. This enables use of a digital input for the main zone with the corresponding analogue input used for recording onto an analogue tape deck or VCR, or for the Zone 2 output.

The AV9 does not provide conversion between different video formats as this would result in degradation of the video signal. This means simply that the AV9 does not convert between composite, S-video or component video signals.

For example, if you are watching a composite input from a VCR you must view it from the composite output of the AV9, as there will be no picture on the other outputs. Connect as follows:

- VCR (composite) input and Monitor out (composite)

or, for a device with an S-video output, such as a DVD player, connect:

- DVD (S-video) input and Monitor out (S-video)

The video quality hierarchy is as follows:

- Component/RGB – highest
- S-video – middle
- Composite – lowest

If all the video inputs are connected simultaneously from one device, e.g., a DVD player, the AV9 will select automatically the best format available.

The AV9 is fitted with five HDMI inputs and one HDMI output, allowing switching of HDMI signals. In most cases, HDMI provides the highest quality video connection between your source and your display. The AV9 does not perform conversion between analogue audio/video and HDMI. HDMI signals cannot be routed to Zone 2. If you are using an HDMI connection and you wish to have the same audio and video in Zone 2, then you will need additionally to provide analogue audio and video connections (as described above).

A line-level signal from the stereo analogue audio together with the composite video inputs are available for Zone 2. The analogue inputs from source components are required because the AV9 provides no analogue-to-digital, DSP processing or digital-to-analogue conversion; the composite video connections are required since the AV9 does not convert video formats.

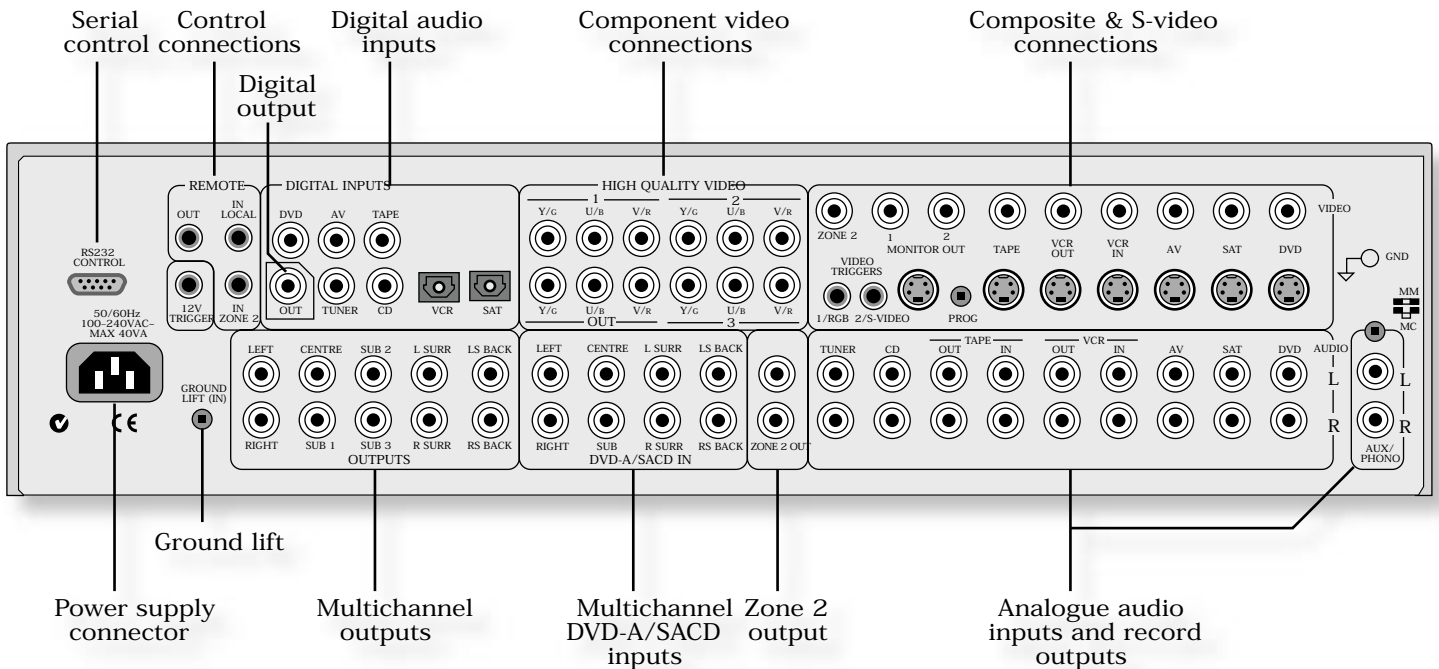
For these reasons, we recommend that source devices that have a digital connection are also connected to the analogue inputs. High quality YUV/RGB and S-video sources should also have their composite outputs connected to the AV9 for use in Zone 2.

The inputs are named to make it easier to reference when connecting (e.g., 'DVD' or 'VCR'). They all have the same input circuit, however, so there is no reason why you should not connect a different device to any of the inputs. For example, if you had two DVD players and the AV input was not being used, then the second DVD player could be connected to the AV input.



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

Installation



- Place the processor on a level, firm surface.
- Avoid placing the unit in direct sunlight or near sources of heat or damp.
- Do not place the unit on top of a power amplifier or other source of heat.
- Ensure adequate ventilation. Do not place the unit in an enclosed space such as a bookcase or closed cabinet unless there is good provision for ventilation. The processor is designed to run warm during normal operation.
- Make sure the IR receiver on the front panel is unobstructed, otherwise this will impair the use of the remote control. If line-of-sight is impractical, an infrared remote repeater can be used with the rear panel IR connector.
- Do not place your record deck on top of this unit or any other unit which is mains supplied. Record decks are very sensitive to the noise generated by mains power supplies which will be heard as 'hum' if the record deck is too close.

We recommend the use of high quality screened analogue, digital and video cables, as inferior quality cables will degrade the overall quality of your system. Use only cables that are designed for the particular application as other cables will have different impedance characteristics that will degrade the performance of your system.

- Video and digital connections must be made with cables that are designed for this purpose, i.e., coaxial cable with a 75Ω impedance. If substandard cables are used you may suffer from poor picture quality such as ghost images and/or grainy picture quality (snow).
- Speaker cables should be kept short, and low-impedance wire should be used throughout to ensure efficient power transmission and to avoid audible distortion.
- All cables should be kept as short as is practically possible.

It is good practice when connecting your equipment to make sure that the mains power supply cabling is kept as far away as possible from your audio and video cables, as this will provide the best sound and picture quality. Failure to do so may result in unwanted noise in the audio and video signals.

- Wherever possible, connect both the analogue and digital outputs of digital sources. This enables use of a digital input for the main zone and the corresponding analogue input for recording onto an analogue tape deck or VCR, and for the Zone 2 output if used.
- Take care to place the audio cables as far from any power supply cabling as is practically possible to reduce hum and other noise problems.

3 , **4** , **6** , **8** , **9** , **10** , **11** .
Connect the left and right inputs to the left and right outputs of your source equipment.

12 .
With the optional phono card installed, this input can be connected directly to a record deck. This card caters for both moving magnet and moving coil cartridges.
If the optional phono card has not been installed, this input will function identically to the other line inputs. For example it can be connected to a second CD player.

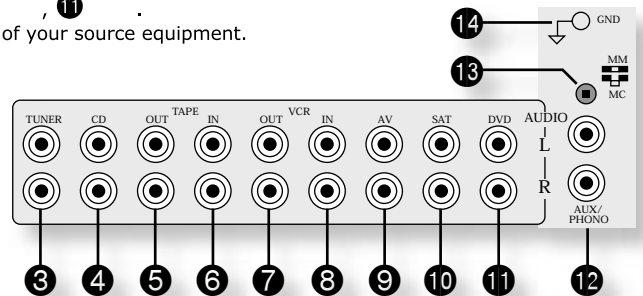
13 switch.
(This switch is available only if the optional phono card has been installed.)

The switch on the back panel marked MM/MC is used to select the correct sensitivity to match the cartridge fitted to the record deck, which is either moving magnet (MM) or moving coil (MC).

If you are unsure which type of cartridge is fitted to your record deck, connect the record deck and select the 'MM' setting on the switch. If, when tested, the output from the record deck is very quiet compared with the CD or DVD inputs then your cartridge is probably a moving coil type cartridge. Turn the AV9 off and select the 'MC' setting on the switch and test the record deck again.

Please note that if the AV9 is set to 'MM' and the record deck has a 'MC' cartridge fitted, testing these together will cause any damage to either the AV9 or the record deck.

14 .
This is the phono earth or ground terminal and is used to connect to a turntable earth lead (if fitted). Note that this terminal must not be used as a safety (mains) earth.



5 , **7** .
Connect the left and right audio outputs sockets to the left and right input sockets of your cassette deck or VCR (usually labelled 'RECORD'). The VCR connections may also be used for a second tape deck.

15 , **16** , **17** , **18** , **19** , **20** , **21** .
Connect these inputs to the digital outputs of your available source equipment.

Notes:

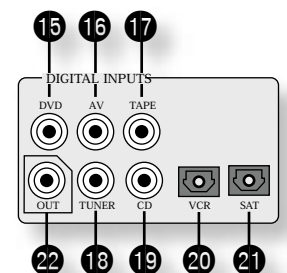
- Each of these seven digital inputs can be associated with different audio inputs (if required), by use of the 'Digital Settings' page of the Setup menu.
- The AV9 does not contain an RF decoder for Laserdisc with RF output.

22 (Digital) .
Connect this coaxial digital output to your digital recording device such as a CD-R, digital VCR or minidisc player.

When a digital source is selected, the digital output will send an exact copy of the incoming digital signal. For example, for a 5.1 digital source, the digital output will also be in 5.1 format.

When an analogue-only source is selected, this is digitised by the AV9 and routed to the digital outputs. The exception to this is when or processing modes are selected. These require extra processing power and the digital outputs will be muted when these modes are active.

These outputs are also muted if a source is selected where the only connection for that source is HDMI. The digital audio from the HDMI link (if any) is not routed to these outputs.

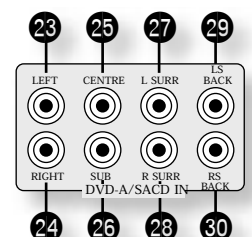


The multichannel input is suitable for use with sources that decode the surround channels internally, such as DVD-A or SACD players.

The AV9 switches these analogue inputs directly to the analogue outputs via its volume control circuit. This direct path maintains the best possible sound quality for DVD-A and SACD sources.

23 , **24** , **25** , **26** , **27** , **28** .
Connect the equivalent audio outputs of your DVD-Audio or SACD player to these inputs.

29 , and **30** .
These are available for formats requiring eight channels.



All these analogue outputs are buffered, have a low output impedance and are at line level. They are able to drive long cables or several inputs in parallel if required.

31, **32**, **33**
Connect these to the equivalent front channel inputs of your power amplifier.

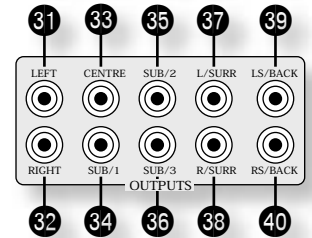
34
Main subwoofer output. Connect this to the input of your active subwoofer, if you have one.

35, **36**
Subwoofer auxiliary outputs 2 and 3. These are equivalent to **34** and allow the use of multiple subwoofers. If you are using more than one subwoofer, please set the number used on the subwoofer setting page. Refer to 'Subwoofer Settings', page 15.

37
Surround left output. Connect this output to the surround left power amplifier input.

38
Surround right output. Connect this output to the surround right power amplifier input.

39, **40**
Surround back left and right outputs (only used in 7.1 channel systems). Connect these outputs to the inputs of your LS back and RS back amplifiers.



The AV9 allows independent routing and control of analogue audio and composite video to a separate set of equipment, typically used for a second living space, e.g., bedroom or lounge.

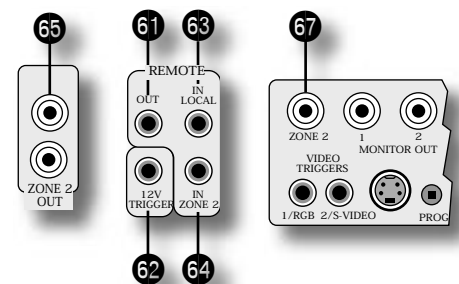
Zone 2 receives only signals obtained by the AV9 from the analogue audio and composite video inputs. The analogue inputs are required because there is no analogue-to-digital, digital-to-analogue or DSP processing available for Zone 2 signals; as the AV9 does not convert video formats a composite signal must also be connected from the source.

For these reasons we recommend that source devices that have a digital connection are also connected to the analogue inputs. High quality YUV/RGB and S-video sources should also have their composite output connected to the AV9 for use in Zone 2.

65
Connect these to a line level input on your Zone 2 amplifier.

64
This allows the AV9 to be controlled remotely from Zone 2 via infrared remote control.

67
Connect to your Zone 2 video display using 75Ω low loss coaxial cable.



Zone 2 remote controller connection.

A receiver compatible with this connector **64** is available from Xantech (part no. 291-10). Please contact a Xantech registered dealer for this part, as ARCAM does not stock them. See [www.xantech.com](#) for more information.

The 3.5mm jack plug for this connector is wired as follows:

3.5mm stereo jack	Function
Tip	Signal
Ring	0V
Sleeve	12V, 30mA current-limited

This follows the Xantech standard for IR transmission over wire.

As described on page 5, the AV9 performs no video format conversion between component, RGB, S-video or composite.

Therefore, wherever possible, connect multiple video outputs from your video sources. This enables use of the higher quality video connection for the main system and the corresponding S-video or composite connection for the record and Zone 2 outputs.

For any video source to be viewed in Zone 2 you must have a composite video connection between the source and the AV9.

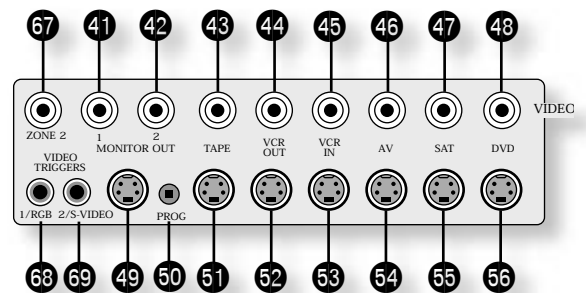
41
Connect this output to the composite video input of your display device. (You will need an RCA phono-to-phono, or, in Europe, a phono-to-SCART video cable to do this.)

42
This is the same as **41**, and enables a second display device to be used; it can also be used as a sync reference for a four-wire RGB signal.

45, **46**, **47**, **48**
Connect the composite video outputs of your source equipment to these inputs.

44
Connect to the composite video input of your video recorder.

43
If you are using the tape loop for a second VCR then connect the composite video from the VCR to this input.



49
Connect this to the S-video input of your display device.

53, **54**, **55**, **56**
Connect the S-video outputs of your source equipment to these inputs.

52
Connect this to the S-video input of your video recorder.

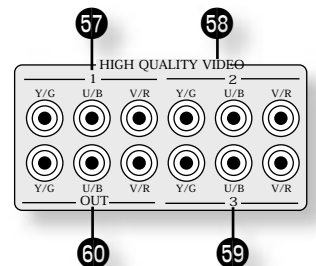
51
If you are using the tape loop for a second VCR then connect the S-video from the VCR to this input.

These inputs are suitable for connection to component (YUV/ YCrCb) or RGB outputs. These signals are usually available from a DVD player, set-top box or games console and offer the best possible picture quality.

Generally, the component video standard is used in North America/NTSC regions, while RGB is used in Europe.

57, **58**, **59**
Connect the high-quality video outputs of your video sources to these inputs.

60
Connect these sockets to the component video inputs of your display device.



- When you connect your devices to these connectors, take care to follow the letter/colour coding for each input. No damage will occur if incorrectly connected, but unusually coloured or unstable pictures will result.
- In the 'Video Settings' setup menu, each of these three high quality component video inputs can be individually allocated to one of the following inputs: , , , , , or
- You cannot mix component and RGB sources.
- The high quality component video inputs have sufficient bandwidth for line-doubled NTSC (525/60) or PAL (625/50) video and US HDTV video signals. However, when used with such signals the OSD is not overlaid on the picture but is output at standard interlaced NTSC or PAL (525 or 625 line) rate on a solid background.
- Initially, the high quality video inputs are all disabled. Before any HQ video input can be selected it must be allocated to an input.

Some video projectors and most European TV sets require the use of a 4-wire RGB connection, where the 'sync.' signal is separate from RGB. In these cases, you need to use the composite video for the sync information. A special cable is available from your dealer for 4-wire RGB connection to do this (described in the table of SCART connections at the back of the manual). If you require further information on this connection type, please contact your dealer.

An HDMI connection between a source and your display device offers (in most cases) the best possible picture quality. This connection type is, however, the most limiting in terms of routing and conversion.

The AV9 provides five HDMI inputs, labelled to match the other digital inputs. Each input may be used for any HDMI source.

It is important to realise that analogue video sources cannot be routed by the AV9 to the HDMI output, nor can the HDMI inputs be converted to analogue video (of any sort). The AV9 acts simply as a switching device, selecting one of the inputs and routing it to the output.

Keeping the above in mind, it will be necessary (as with the high-quality analogue video connections), to provide a composite video feed, in addition to the HDMI connection, if the video is to be routed to Zone 2.

63

Use with a local IR receiver when the AV9 front panel IR receiver is obstructed.

64

This allows the AV9 to be controlled remotely from Zone 2 via infrared remote control. Connect to a remote IR receiver in Zone 2 to allow control of the AV9 from Zone 2.

61 (REMOTE)

This enables control of the source components remotely from Zone 2 or zone 1 using the local input. Control is possible by either connecting to the source devices via the 3.5mm IR jack (Arcam units only) or using an IR emitter stuck to the centre of the IR sensor window on the source component (such as a Xantech 283MW mini emitter).

66

Use with control devices having an RS232 serial port (for example, Crestron and AMX touch screen controllers). This connection is also used for upgrading control software. See the sections at the end of this manual for control and programming information.

If you require further information on using any of these connections, please contact your dealer.



There are three trigger output sockets on the AV9, each of which is a 3.5mm stereo jack with two contacts, 'tip' and 'ring'. See the tables for technical information on the trigger outputs.

62

Use for remotely turning on and off power amps or source equipment for the main zone and Zone 2.

68

69

The trigger outputs have different functions depending on how the **62** has been set (**68** or **69**) in the 'General Settings' menu.

1

The AV9 has a universal input power supply that is compatible with mains voltages between 85VAC and 265VAC.

2

button.

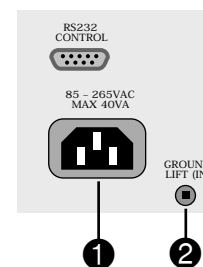
In complex setups which involve satellite inputs or radio aerials, grounding the unit may increase the level of background hum or buzz in the loudspeakers, in which case press the **2** button in to lift the signal ground from the chassis ground.

The appliance is normally supplied with a moulded mains plug already fitted to the lead. Check that the plug supplied with the unit fits your supply; if your mains plug is different, consult your Arcam dealer.

If for any reason the plug needs to be removed, it must be disposed of immediately and securely, as it is a potential shock hazard when inserted into the mains socket. Should you require a new mains lead, contact your Arcam dealer.

Push the plug (IEC line socket) of the power cable supplied with the unit into the power input socket (**1**) in the back of the unit. Make sure it is pushed in firmly.

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





Configuring the AV9

The AV9 'Setup Menu' has six 'Basic' and six 'Advanced' menu screens which take you through the configuration process. The 'Basic' menus enable you to match your AV9 to your speakers. The 'Advanced' menus allow you to optimise the operation of your system. Screen shots of these menus are shown in shaded boxes on the following pages.


The best way to set the AV9 up is using the on-screen display (OSD).



This is because the high quality video output has several display modes and may be incompatible with your display device in the default configuration.

The AV9 defaults to the NTSC video standard – most display devices can synchronise to this automatically. For PAL-only display devices, press and hold the  button for two seconds, when the AV9 will change to the PAL video standard. As soon as a video signal is input to the AV9, it detects automatically which standard it is and switches to it.



To enter the Setup menus press and hold the  button on the remote control, or on the front panel, for at least two seconds. The 'Setup Menu Index' is displayed on your display device.


UNSTABLE OSD MENU DISPLAY?


Your AV9 may be in the wrong video standard mode. Press and hold the  button for more than two seconds to switch between the NTSC and PAL standard OSD mode.

To prevent tampering with the AV9 setup configuration you can 'lock' the menus by pressing the  and  buttons simultaneously on the front panel. To unlock the AV9, press the same buttons again.

The main 'Setup Menu' page allows you instant access to six 'Basic' and six 'Advanced' menus.

They are listed side-by-side on the OSD on your display device. The selected line of the menu is also displayed on the front panel of the AV9. Use the  remote control button to go to page 1 from the menu heading, or use the navigation buttons to scroll down the list to a specific page, then press  to go directly to the page.

 takes you to the 'Save Settings' screen to allow you to save in one of the five available presets.

 exits the Setup menus without saving any changes.












Each of the following sections shows the screen that is displayed as you move through the menus.




Setup Menu Index

Basic	Advanced
1. General	1. Speaker Eq
2. Speaker Size	2. Video
3. Delays	3. Digital
4. Level Set	4. Zone 2
5. Subwoofer	5. Input Trim
6. THX	6. Input name
Save Setup	Exit Setup



... BY USING THE REMOTE CONTROL

The Set-up menu can be navigated by using the cursor (arrow) keys on the remote control. This is by far the easiest method.

1. To enter the Set-up menu, press and hold the  button (which is located immediately under the navigation buttons) for at least two seconds, until the Index page appears. (Pressing the menu button for just a short time will take you to 'Main Menu Screen 1'. If this happens, the Main Menu can be closed by pressing  for a second time.)
2. When the menu heading is highlighted, using the  and  keys will navigate between menu pages. Using this method to navigate between pages the first time the unit is being configured will help to ensure that no pages are missed out.
3. Use the  and  keys to navigate up and down the menu lines.
4. To change the setting for a particular menu item, highlight the item then use the  and  keys to cycle through the options for that item.
5. Once you have set all the menu items on a page to have values that are appropriate for your system, move the menu highlight to the top of the screen (the menu heading) and press  to move to the next menu page.
6. At any time, press the  button to return to the main Set-up menu index screen.
7. To save the changes you have made, return to the Set-up menu index page and highlight the 'Save Set-up' item at the bottom of the screen. Press the  button to save the settings. Press again to exit the Set-up menu.

In addition to the above method of moving from page to page using the  and  keys, each menu page can be accessed directly from the Set-up menu index page. This is achieved by using the cursor keys to move the menu highlight to the desired page on the Index page, then pressing .

... BY USING THE BUTTONS ON THE FRONT PANEL OF THE AV9

The AV9 front panel controls can be used to configure the options. Follow the instructions given for using the remote control, in this case using the  button for 'down', the  button for 'up' and the volume control for left and right.



: Allows you to select how volume is displayed. Choose from (in 1dB steps), -63dB to $+19\text{dB}$, and (in 0.5dB steps). We recommend setting this to as this represents a volume control around 0dB (the reference level) which is the same loudness level of a movie in a movie theatre (once you have calibrated your system correctly).

: Limits the maximum volume setting the system can be turned up to. This is a useful feature to prevent accidental overdriving of low power-handling speakers (for example).

: Limits the maximum volume the system operates at when it is first switched on. The system comes on at this volume if the last used (possibly very loud) volume exceeds this value.

: Controls whether the delay settings for the speakers in surround modes (page 3 of this menu) are specified in terms of , or distances from the listening position. Choose the measurement system that you feel most comfortable with. Note that changing the units resets all distances/times to zero. It is therefore important to choose the units (Time, Imperial or Metric) before set up.

: Controls how the on screen display is viewed. will overlap the OSD on top of the existing video picture, while will give a full screen black background with the OSD displayed in white.

Note that no on-screen display is available over the HDMI connection.

On video signals that have a sync. rate of greater than the normal interlaced rate (e.g., progressive scan, frame-scaled video, HDTV) the OSD will switch into mode (black background) when the control menu is accessed. Any pop-up displays (such as the volume bar, source selection information, etc) will be switched off.

Note that in Mixed mode, the highlight bar is black if video is present; it is blue if no video signal is present or if in mode.

: This setting controls the trigger sockets on the rear panel of the AV9 (62, 66 and 69, described on page 10). It can be set either to or . **SCART mode is useful only if you wish to use SCART connections from the AV9 (SCART refers to the multipole A/V connector useMm**



: Allows selection of the high quality video output to match your display device. Choose between or .

This setting has no effect on the HDMI output.

The AV9 allows progressive scan and high definition TV (HDTV) signals to be passed through the high quality component inputs to the high quality output. Note, however, that the OSD cannot overlay text at any rate other than standard NTSC or PAL.

: This applies only if RGB video is used. makes the AV9 feed the video synchronisation signal out with the green signal. Some RGB-driven display devices require this to lock on to the video signal coming in, while others need the video synchronisation on a separate lead. Systems using SCART connections will normally have a four-wire system (i.e., with sync. on composite [CVBS] video) and, therefore, require to be set to .

Note: The menu option is not selectable when is selected as the HQ video type.

The size and number of loudspeakers are defined on this page of the OSD.

Definitions:

A speaker is one that is capable of handling a full range signal (i.e., 20Hz–20kHz).

A speaker is one that is not capable of reproducing a deep bass signal (i.e., below 100Hz), for example a satellite speaker.

is used when there is no speaker connected to that channel.

Allows the setting of 'standard configurations' as in the table below:

Speaker	Config.1	Config.2	Config.3	Custom	THX	THX Surr.Ex
Front L/R	Small	Large	Large	Sm/Lge	Small THX	Small THX
Centre	Small	Small	Small	Sm/Lge/None	Small THX	Small THX
Surr L/R	Small	Small	Large	Sm/Lge/None	Small THX	Small THX
Surr Back L/R	Small	Small	Small	Sm/None	None	Small THX
Sub-woofer	Present	None	Present	Present/ None	Present THX	Present THX
5.1 Rears	Both	Both	Both	SurrL/R/ Surr Back L/R/ Both	Surr L/R	Both

setting allows you to choose any combination of speakers to suit your system. Note that the centre and rear speakers cannot be set to large if the front speakers are set to small.

automatically sets the speaker selections to the specified configuration for THX™ listening. This automatically sets the surround back speakers to , and all filters are set to 80Hz. This configuration is not adjustable. Only select this if you are using a full set of THX™ certified speakers.

automatically sets the speaker selections for a THX™ Surround EX setup with a pair of surround speakers, a pair of surround back speakers and all filters set to 80Hz. This configuration is not adjustable. Only select this if you are using a full set of THX™ certified speakers.

defines how the speakers in a full '7.1' installation handle 5.1 decoded sources.

- redirects 5.1 surround signal to the surround left and right speakers. No signal will be directed to the surround back left or right speakers.
- redirects 5.1 surround signal to the surround back left and right speakers. No signal will be directed to the surround left or right speakers.
- redirects the 5.1 surround signal to both pairs of speakers with the signal to each set reduced by 3dB.

2 - Speaker Sizes

Auto Setup: Custom

Front L/R: Small

Centre: Small

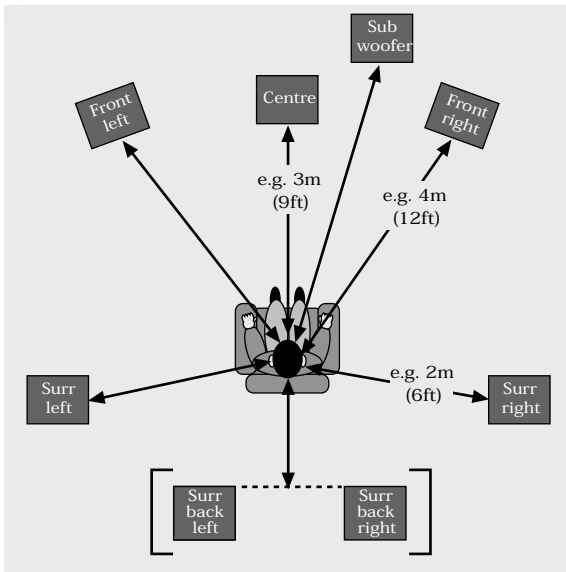
Surr.L/R: Small

Surr.Back L/R: Small

Subwoofer: Present

Rears for 5.1: Both

: Only enter these delay settings once you have specified what delay units (i.e., , or) you will be using, or the information will be lost when changing units. The measurement units can be specified on page 1 of this menu (described on page 12).



The speaker distance control automatically sets the appropriate time delays required for all the speakers in your system. To set up the correct speaker distance, you must measure from the usual listening position to the front of each individual speaker in the system. If the delay units are set to , then enter the delay in milliseconds for each channel.

The delay adjustment is not a substitute for proper speaker placement, but helps to ensure accurate and correct signal arrival times from all the channels to the primary listening position.

No measurement can be entered for a speaker that is not selected in the previous 'Speaker Sizes' menu.

3 - Delay Settings

Front Left: 3Ft
 Centre: 3Ft
 Front Right: 3Ft
 Surr. Right: 3Ft
 Surr. Back L+R: 3Ft
 Surr. Left: 3Ft
 Subwoofer: 3Ft

It is very important to calibrate the speakers correctly to achieve an accurately-centred sound stage. We recommend you use a sound pressure level meter (SPL meter) to perform this part of the setup as it is difficult to judge the levels accurately by ear alone.

is best for setting up with an SPL meter as the test tone will not change to the next speaker until instructed by you. is best for setting up by ear as the test tone changes automatically to each speaker after a two second burst of sound.

On first installation, watch the OSD display as you cycle through the available speakers with the test tone. Check that the speaker in use corresponds to that indicated on the OSD. If there is an error then check and correct the system cabling before proceeding further.

To calibrate the speakers with an SPL meter, place the meter at ear level with the microphone pointing towards the ceiling, when seated in the usual listening position. You will need to set the meter to 'C', setting with a 'slow', response and to read 75dB SPL at the centre of the scale. This volume is equivalent to normal conversation.

Each speaker can be finely tuned by 0.5dB increments to ±10dB. The output from each speaker needs to be adjusted to the 75dB SPL sound level. No adjustments can be made for a speaker that is not selected in the previous 'Speaker Sizes' menu.

: If you do not have an SPL meter, simply set the front left speaker to 0dB on the menu and then match all the other speakers to this level.

4 - Level Settings

Test Tone Cycle: Manual
 Front L: ---I--- +0dB
 Centre: ---I--- +0dB
 Front R: ---I--- +0dB
 Surr. R: ---I--- +0dB
 Surr. BR: Not Present
 Surr. BL: Not Present
 Surr. L: ---I--- +0dB
 Subwoofer: ---I--- +0dB
 Select Speaker for Tone

If no subwoofer was selected in the previous speaker menus you cannot adjust the stereo sub level or the number of subwoofers.

Crossover Freq: : This setting defines the frequency at which bass redirection begins. Frequencies below this level are redirected from 'small' speakers to the Fronts or to the subwoofer; frequencies above this level are not redirected. The value for this setting depends on your speakers, environment and taste, and is best determined by experimentation.

The adjustment can be made in increments of 5Hz between 40Hz and 150Hz.

If **Large** or **Large+Sub** have been selected in the previous menus, the crossover frequency will be set to THX specification at 80Hz.

Stereo Mode: : Select between Large, Large+Sub or Sat+Sub.

If you have configured your system to have a subwoofer, then you have the flexibility to choose how bass information is distributed between the front left/right speakers and the subwoofer when listening to stereo sources. Choose the option which gives you the most solid even sounding bass (for best results test with a set-up disc or live program material).

- **Pure Stereo:** : Pure stereo information — all audio is sent to the front left and right speakers. Use this setting if you have large front speakers. Note that this option will override the setting configured on the 'Speaker Sizes' menu page.
- **Large+Sub:** : Pure stereo is fed to left and right and extracted bass is sent to the subwoofer. In this case the low frequency information is, effectively, duplicated.
- **Small+Sub:** : Use this setting if you have 'Small' satellite left and right speakers. Full bass management is used in analogue stereo so that analogue sources are fed to the DSP where the bass is filtered off left and right and redirected to the subwoofer.

Note that the above three Stereo Mode settings pass the audio through the DSP, which may degrade the sound quality slightly. This can be avoided for the 'Large' setting by pressing the **BYPASS** button to bypass the DSP processing.

LFE Level: : Allows you to adjust the output level of the low frequency effects channel relative to the other speakers in the system. This adjustment affects the loudness of movie low frequency effects such as thunder, explosions, etc.

DTS LFE Gain: : DTS soundtracks typically have the LFE track recorded 10dB lower than the main audio tracks. It is, therefore, necessary to compensate for this by raising the LFE output level by 10dB, and setting the DTS LFE gain to 'Normal' activates this compensation. Some DTS soundtracks have been recorded with the LFE signal at the same levels as the main audio, however, and therefore require no gain compensation. For these disks set the DTS LFE gain to -10dB.

- **Normal:** : This increases the LFE signal by 10dB and is the recommended setting for the AV9.
- **-10dB:** : This allows the LFE to pass directly to the output with no gain adjustment.

Unfortunately, there is no rule for determining which discs are recorded using which method. As a general guide, however, it is only early DTS music discs that require the -10dB setting.

Sub Stereo: : Allows you to trim the subwoofer output for stereo listening. Use this trim setting, with a stereo source, to reduce the subwoofer output in stereo playback to an acceptable level. The subwoofer level for stereo music often needs to be set at a lower level than that for cinema use. This depends on various factors such as speakers, the types and styles of music to be played and personal taste.

DVD-A Sub Level: : This setting allows compensation for subwoofer level gain from external decoders or sources (such as DVD-A players).

When decoding digital inputs, the AV9 follows the convention for products of this type and sets the subwoofer level 10dB higher than that of the other channels. Source products such as DVD-audio players do not follow this pattern, however, setting the subwoofer level to be the same as the other channels. This means that switching from material that has been decoded by the AV9 to that decoded externally may mean that the subwoofer sounds very quiet. This setting provides for the removal of that difference by allowing the subwoofer level of the DVD-A (multi-channel) input to be raised by 10dB.

- **Normal:** : This increases the DVD-A sub level by 10dB and is the default setting for the AV9.
- **-10dB:** : This allows the DVD-A sub level to pass directly to the output with no gain adjustment.

If you are using the AV9 in combination with the multi-channel analogue outputs of an Arcam DVD-A player, then this item should be set to **Normal**.

No. of Subwoofers: : Allows you to set the number of subwoofers used in the system between 1 and 3. All three subwoofer outputs are active all the time; this setting compensates the sub. output level for the number of subwoofers in the system.

5 - Subwoofer Settings

Crossover Freq.: 80Hz THX
Stereo Mode: Sat+Sub
LFE Level: ---I--- -0dB
DTS LFE Gain: 0dB Normal

Sub Stereo: ---I--- -0dB
DVD-A Sub Level: Normal
No. of Subwoofers: 1

: This can either be set to or and is only applicable when playing either THX 'Surround EX'-encoded material.

- The AV9 switches to when suitably encoded material is detected (this can be temporarily overridden by pressing the button on the AV9).
- The AV9 will not select automatically. It can however be selected manually by pressing the button.

'THX Surround EX' and 'Dolby Digital Surround EX' processing are both indicated in the same way in the digital audio stream received by the AV9. This means that audio from a Dolby Digital Surround EX-encoded disc will cause the AV9 to switch to THX Surround EX mode if the menu item is set to . If you do not wish this to happen, set the menu item to ; THX Surround EX or Dolby Digital Surround EX decoding can then be selected by pressing the button on the remote or front-panel.

: THX Ultra2 specified subwoofers can deliver down to 20Hz, which may be problematic in some rooms.

- Set to if the subwoofer being used is not a THX Ultra2 specified subwoofer, is not capable of a good response to 20Hz, or you do not wish audio at this level to be sent to your subwoofer.
- Set to If you are using a 20Hz subwoofer or a THX Ultra2 specified subwoofer. When set to , another menu option appears:

: Tailors the subwoofer low frequency response.

- When set to , this will roll off the very low frequency information coming from the subwoofer so that any interactions and reinforcements from nearby boundaries (i.e., walls) can be compensated for to reduce boom and overblown bass response. We recommend this setting for smaller rooms.
- When set to , the subwoofer output from the AV9 will remain flat to 20Hz.

: Set this distance to be the separation between the surround back left and right speakers. This enables the AV9 to distribute the signal to the surround back speakers appropriately to get the most accurate image for the soundstage.

Measurement units are in inches only (30cm = 12 inches).

6 - THX Settings

THX Surr. EX: Auto

Boundary Gain Compensation
THX Ultra 2 Sub: No

Advanced Speaker Array
SurrBack L/R: 12 to 48in

6 - THX Settings

THX Surr. EX: Auto

Boundary Gain Compensation
THX Ultra 2 Sub: Yes
Boundary Gain Comp: On
Advanced Speaker Array
SurrBack L/R: 12 to 48in

Allows adjustment of bass and treble management in 1dB steps (up to ± 6 dB) for all speakers. Use these adjustments sparingly to compensate for speaker response problems caused by positioning, adjacent surface textures, or mixed brands of loudspeakers.

Work with one speaker on at a time, and as an example, use the bass control to reduce boom problems for speakers placed in corners, and the treble control for speakers placed near reflective surfaces.

We recommend trying to obtain a good speaker response by speaker placement first, then apply speaker equalisation last.

The tone control nominal corner frequencies are at 100Hz and 8kHz, shelf type.

: Set to if you wish to have any tone adjustments made in 'Main Menu Screen 1' by-passed in analogue or digital mode. (Note that this does not switch the AV9 into Direct mode, only sets the tone controls to zero.)

Adv 1 - Speaker Eq.

Bass Treble

FL: --I-- +0dB --I-- +0dB

C: --I-- +0dB --I-- +0dB

FR: --I-- +0dB --I-- +0dB

SR: --I-- +0dB --I-- +0dB

SBR: --I-- +0dB --I-- +0dB

SBL: --I-- +0dB --I-- +0dB

SL: --I-- +0dB --I-- +0dB

Auto Stereo Tone Bypass: Yes

This menu allows adjustment of the video settings for your AV9.

: Selects whether the main zone OSD is on or off.

- When set to , all user adjustments that are made during the general use of the AV9 are displayed on the screen. This includes the adjustment of the volume control, the inputs selected and the setup menus.
- When set to , you will have no displays of the general user adjustments – only the setup menus and the main menus are displayed.

It is recommended you keep the OSD turned , since, if you cannot see the front panel of the AV9, you will have no idea if any adjustments you have made to the processor are correct or to your liking.

: Composite and S-video inputs for DVD, Sat, AV, VCR and Tape have, by default, their audio and video assigned to track each other. The four lines for Aux, CD, Tuner and DVD-A allow you to assign a video source to these normally audio-only sources; additionally, you can allocate the same video source to more than one audio input. This facility allows you to listen to an audio source and view a separate video source at the same time – for example, you can listen to radio while watching TV for a sports simulcast.

Adv 2 - Video Settings

OSD: On

Video Input Aux: None

Video Input CD: None

Video Input Tuner: None

Video Input DVD-A: None

Audio and Video: Tracked

HQ Vid 1 Comp/RGB: None

HQ Vid 2 Comp/RGB: None

HQ Vid 3 Comp/RGB: None

: Applies to the audio and video assignments set up in the 'Main Menu Screen 1'.

- If set to , then audio and video signals for video sources can be separately assigned (e.g., DVD sound with video from a satellite receiver). Once assigned to be separate, audio and video remain separate.
- If set to , audio and video signals are linked together (e.g., DVD audio and video). This setting is recommended for simplicity. In this mode, audio and video sources can still be separated temporarily via 'Main Menu Screen 1'.

: Allocates the high quality component or RGB video inputs to any source buttons. For example, to use the component or RGB output on a DVD player with HQ Vid 1 input, select in the menu.

and . Each of the digital inputs can be assigned to any of the eight stereo source buttons (, , , , , , , and) or can be assigned .

The OSD menu lists the physical inputs, as per the back panel, on the left hand side of the screen, and the buttons used to select the inputs are listed on the right hand side. Each digital input can only be allocated to one source button. For example, if you choose the 'Co-axial DVD input' to be assigned to the button, then the choices for the other digital inputs are: , , , , , and . If you wish to re-assign the Co-axial DVD input to a different button, then the input must be first set to something different (or) before the re-assignment can occur.

```
Adv 3 - Digital Settings
Coaxial Inputs
DVD input: DVD button
AV input: AV button
Tape input: Tape button
Tuner input: Tuner button
CD input: CD button
Optical Inputs
VCR input: VCR button
Sat input: Sat button
```

: Limits the maximum volume setting for Zone 2. This is a useful feature to prevent accidental overdriving of low power-handling speakers (for example). The volume range is adjustable between -63dB and +19dB (i.e. from 0 to 82).

: This selects between fixed and variable audio output to Zone 2. If is selected, the output level can be controlled from Zone 2 or the main system. If you want to fix the volume level, first set the Zone 2 volume to the desired level, then select .

: Limits the maximum volume Zone 2 operates at when it is first switched on. Zone 2 comes on at this volume if the last used (possibly very loud) volume exceeds this value.

: This setting allows configuration of the meaning of the stand-by command from the remote control, when received by the AV9 in Zone 1.

- When the AV9 receives a stand-by command in Zone 1, only Zone 1 will be switched to stand-by.
- When the AV9 receives a stand-by command in Zone 1, both Zone 1 and Zone 2 will be switched to stand-by.

Note: the setting for applies only for putting the AV9 stand-by mode. Re-activating Zone 1 is always a local function.

: This setting allows configuration of the meaning of the stand-by command from the remote control, when received by the AV9 in Zone 2.

- When the AV9 receives a stand-by command in Zone 2, only Zone 2 will be switched to stand-by.
- When the AV9 receives a stand-by command in Zone 2, both Zone 1 and Zone 2 will be switched to stand-by.

Note: the setting for applies only for putting the AV9 stand-by mode. Re-activating Zone 2 is always a local function.

: Selects whether the Zone 2 OSD is on or off.

- When set to , all user adjustments that are made during the use of Zone 2 are displayed on the Zone 2 video. This includes the adjustment of the volume control, the inputs selected and the setup menus. It is recommended that Zone 2 OSD turned , as there is no other display available in Zone 2.
- When set to , all user adjustment displays are disabled, but pressing the key still displays the Zone 2 control menu.

: If set to this allows Zone 2 to control and adjust inputs and user controls for the main zone.

: This acts as a 'parental control' device to disable or enable access to sources for Zone 2.

Press the unwanted source button on the remote control handset or front panel to disable it for Zone 2. Press again to enable the source.

Enabled sources are listed on the 'Access' line of the OSD.

```
Adv 4 - Zone 2 Settings
Max Vol 20-72: 72
Fix Vol: No
Max On Vol 0-72: 20
Zone 1 Standby: Local Only
Zone 2 Standby: Local Only
Local OSD: On
Zone 1 Control: Yes
Access: All
```

: Allows the adjustment of the input sensitivity of the analogue inputs (in Volts RMS) so that each one achieves the optimum dynamic range and sounds similar in loudness to the others.

Available level settings are: , , , . The reference level of 2V should be appropriate for most inputs.

To ensure the correct level is set up, first ensure that all source levels are set to

. Find some loud music or use a 0dB reference signal from each source. If the source activates the 'Analogue CLIP' indication at the bottom of the screen, then adjust its level upwards to 4V or 8V, until the 'Analogue CLIP' indicator is no longer there. Then repeat the adjustment process with every other input, selecting the lowest voltage setting that does not activate the 'Analogue CLIP' indicator. If in doubt or a loud signal is not available, then leave a source on the 2V setting. If you have a CD player with built-in HDCD decoding, you should generally use the 4V setting.

If a source is very quiet compared with the other sources you can increase its loudness by selecting the setting. Once set, we suggest you play some loud music from this source to check the 'Analogue CLIP' indicator does not come on.

Notes:

- The 'Analogue CLIP' detector is only active in the 'Input Trims' menu, and only responds to the input indicated by the highlight bar on the screen.
- When the Aux input is converted into a Phono (turntable) input, the sensitivity adjustment is still available.
- The 'Input Trims' control is only available for analogue inputs. Whenever a digital input is selected, this control is overridden.

Adv 5 - Input Trims

Aux: Reference 2V
DVD: Reference 2V
Sat: Reference 2V
AV: Reference 2V
VCR: Reference 2V
Tape: Reference 2V
CD: Reference 2V
Tuner: Reference 2V
DVD-A: Reference 2V

The input name displayed for each input can be changed to something different, up to a maximum of 13 characters. For example, if you are feeding signals from a games console into the input, then you may wish to change the display name of this input to 'console'.

On entering the menu, all possible sources are displayed on the screen. To rename an input, move the screen highlight to the input name that you wish to change; you are prompted to 'Press OK to edit name'. Pressing on the remote control or front panel causes a flashing cursor to appear on the first letter of the input name.

Use the Up/Down controls to change the character in the position indicated by the cursor; use the Left/Right controls to move the cursor position along the input name. When you have finished entering the name you require, press for a second time.

If, at any time, you wish to abort changing the input name, pressing the button returns the name of the selected input to its last saved setting.

Note that the input names are not stored as part of the presets (see below). Therefore, if the input names are changed, these names apply irrespective of the preset in use.

Adv 6 - Input Name

Aux: Phono/Aux
DVD: DVD
Sat: Sat
AV: AV
VCR: VCR
Tape: Tape
CD: CD
Tuner: Tuner
DVD-A: Multichannel

1. Press **Enter** to go to the **Save Settings** at the **top** point.
2. Press **Enter** to go to the **Save Settings** menu.

All the settings you have made on the previous screens can be saved as a user profile and stored as one of five 'Presets'. A choice of setup presets caters for different events such as movies or sport, and for different user preferences.

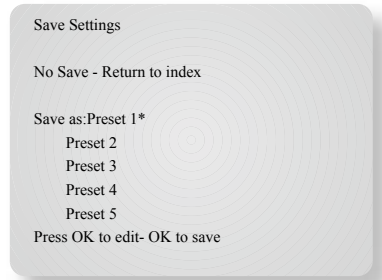
3. Press **Left** **Right** to select the desired preset in which to save the setting.

To make these customised settings easier to retrieve, you can give each preset a memorable name, such as 'John', 'Jacky', 'Movies', 'Sport', 'Rock', etc.

The presets can be used to create different listening preferences. You may wish to set up different presets for listening to music, watching DVD, watching TV material or for different listening positions.

To change the name of a preset, highlight it by using the navigation **Left** and **Right** buttons. Press the **Enter** button to edit. Using the **Left** and **Right** navigation buttons, cycle through and select lower case letters (a...z), upper case letters (A...Z) and numbers (0...9). Move along the line using the **Left** and **Right** buttons.

When you are satisfied with the text you have written, press **Enter** to specify the preset saving options.



This menu gives you the option to change which settings are saved for each preset.

The following options are available:

Zone 1: If **Zone 1** is selected, the volume for Zone 1 is recalled on loading this preset.

Source-specific items: If **Source-specific items** is selected, the audio and video input sources are recalled on loading this preset.

(Source-specific items): Each source has its own value for each of the settings listed below. If **Source-specific items** is selected, the preset stores all of the following settings for each source:

- Decode mode
- THX setting
- Downmix setting
- Effect mode

From Main Menu Screen 1:

- Video Type
- Treble
- Bass

From Main Menu Screen 2:

- Lip Sync.
- Record to VCR
- Record to Tape

From Advanced Menu 4 – Zone 2:

- Zone 2 max. volume
- Zone 2 OSD setting
- Zone 2 fixed volume
- Zone 2 access settings
- Zone 2 max. on volume

From Advanced Menu 5 – Input Trims:

- Analogue Input gain settings for all sources.

Other Zone 2 settings:

- Zone 2 audio source
- Zone 2 video source

Once you have specified the settings you wish to save, highlight the **Save** text and press **Enter**.

4. After the AV9 has finished saving, press OK to return to the 'Setup Menu Index'.
5. Press **Enter** to select 'Exit Setup' and exit system configuration.

If you choose to 'Exit Setup' without first saving the changes, then these new settings will be used by the AV9 until you recall a preset or press **Enter** on the remote control, when the last used preset will be recalled. This is the case even if the AV9 is put into stand-by or turned off.

1. Press **Enter** to go to the **Save Settings** at the **top** point.
2. Press **Left** to select **Save**.
3. Press **Enter** when **Save** is selected to exit system configuration.

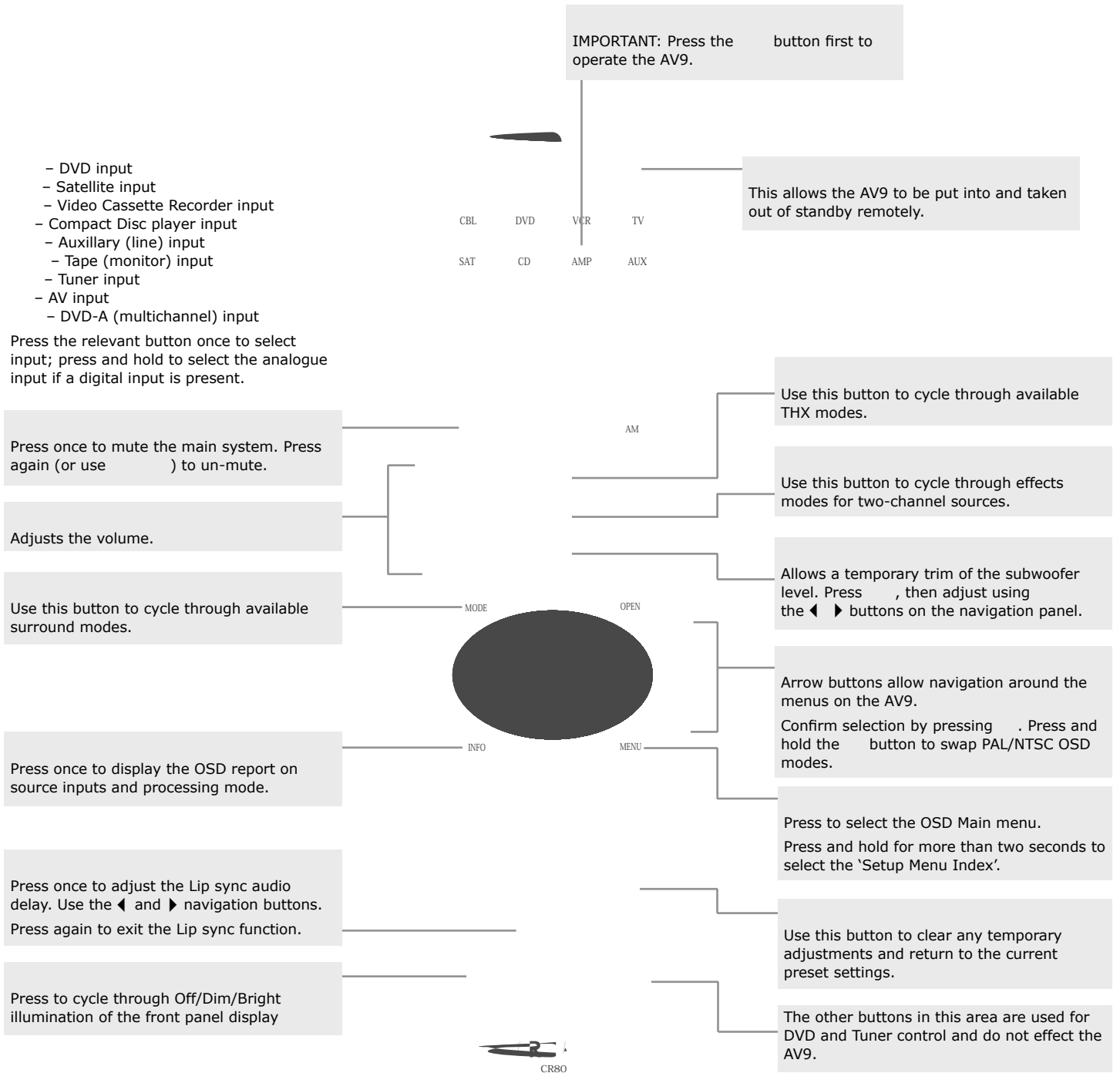
Front panel controls



- ① . This is positioned behind the FMJ badge. Ensure the receiver is in a clear line of sight from the remote control for operation. If this is not possible, use a separate sensor connected to the IR input on the rear panel.
- ② . Selects between the available THX® modes.
- ③ . Selects between the available DSP effects modes for two-channel sources. All other modes must be switched off first.
- ④ . Selects between Stereo, Mono and the available surround modes for the current source.
- ⑤ . This socket accepts headphones with an impedance rating between 32Ω and 600Ω, fitted with a 1/4-inch stereo jack plug.
- ⑥ . This switches the display brightness between Off/Dim/Bright.
- ⑦ . Selects the 'Main Menu' on the OSD. Also accesses the 'Setup Menu Index' when pressed for two seconds.
- ⑧ . Used to enter selections made from operating menus. Also changes the OSD video standard (PAL/NTSC) when pressed for two seconds.
- ⑨ . The control knob has two functions:
 - as a volume control, to adjust the output to the power amplifier(s) and headphones connected to the AV9.
 - when used in the menus with the ▼ button and ▲ button, to navigate menu options.
- ⑩ . These buttons select the source connected to the corresponding input. A light above the relevant button indicates which input is currently selected.
- ⑪ . Stereo direct on/off. Provides a direct analogue path from analogue inputs to the left and right front outputs. Switches off any sound processing modes and shuts down the DSP circuits for best stereo sound quality.
- ⑫ . Mutes all main analogue outputs when selected.
- ⑬ . Switches the main power to the AV9 on and off.

Note: Once the unit is switched off, it should be left off for at least ten seconds before switching on again.
- ⑭ . This indicates the status of the preamp processor. When first turned on, the LED is yellow, to indicate that the AV9 is 'initialising'. This changes to green when the AV9 is fully powered and ready. Red indicates that the AV9 is in standby mode.
- ⑮ . Indicates that bass or treble tone equalisation is currently active.

Remote control



Press to display the OSD Speaker trim level menu. allows temporary adjustment of speaker levels, using the navigation buttons. Press again to exit the 'Speaker Trim' function.

Operating your AV9

For information display we recommend you use the OSD on your TV/screen whenever possible. However all key information is also duplicated one line at a time on the front panel display of the AV9.

Press the power button in. Between one and five seconds later, the power LED will then come on (first as yellow), the front panel display window shows 'ARCAM', followed by 'initialising'. This is followed by the initial volume setting and the name of the input selected. After initialisation is complete, the power LED changes colour to green.

Please wait until the unit has finished initialising before operating the AV9. It is recommended that if the unit is switched off, you should wait at least 10 seconds before switching the unit back on.

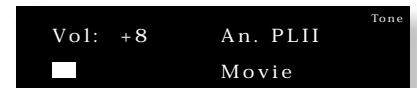
The AV9 has a standby mode which can be entered by pressing on the remote control. When in standby mode the display is blank and the power LED glows red.

When not being used, the AV9 may be left in standby mode, as power consumption is low. If you are not using your AV9 for several days we recommend you switch the unit completely off at the front panel.

Press one of the source buttons on the front panel or on the remote control, or use the standby button on the remote control.

The AV9 is ready for use after about four seconds. This display window shows the processing mode and initial volume setting.

Output channels in digital processing modes are indicated in the format: '3/2.1', where '3' refers to the front channels, '2' to the rear channels, and '.1' to the subwoofer channel.



To select a particular source, press the corresponding button on the front panel or on the remote control. There are nine inputs available: DVD, Sat, AV, VCR, Phono/Aux, CD, Tuner, Tape and DVD-A (multichannel).

Recorded format	Front speakers	Surround speakers	Sub-woofer	Comment
3/2/1	3	2	Yes	Full 5.1 sound
3/2/0	3	2	No	5-channel sound, no LFE
3/0/0	3	No	No	3-channel sound, no LFE
2/0/0	2	No	No	Stereo (Dolby digital or DTS encoded)

On selecting a source, the AV9 will normally select an active digital input in preference to an analogue input. If you want to override the digital input and select the analogue input, press and hold the source button for at least two seconds.

The processing mode and Stereo Direct functions are remembered and recalled for each input. The digital input and high quality video input associated with each source may be customised in the setup procedure.

The DVD-A input is intended for direct analogue pass-through of DVD Audio or SACD surround sources. Apart from volume control and level trim, no processing modes are possible on this input.

The AV9 has a fully independent tape loop. This can be configured to record the source you are listening to, or to record any other input using the option in 'Main Menu Screen 2'.

Pressing the button will select audio from the tape input.

If the option is set to (its default setting), the tape LED will illuminate as well as the previously selected input.

If the option is set to a specific input, the tape LED will illuminate as well as the input selected in the menu item.

This indicates the tape loop is active and displays the source that will be recorded.

For example, if is set to and you want to record the CD input:

- Select the input then put your recorder into record pause so that it will monitor its input.
- Press the button – you can now listen to the sound actually being recorded by your tape deck from the CD player.
- If you select a different source from CD, the recording will change to this source.

If you want to record from CD while listening to the Tuner input:

- Call up the 'Main Menu Screen 2' and set to .
- Put your recorder into record pause so that it monitors its input then press the button. You can now start the recording and listen to the sound actually being recorded by your tape deck from the CD player.
- Once the recording is running press the button to listen to the Tuner, the recording of the CD will continue.
- You can check the progress of the recording at any time by pressing the button again.

The AV9 has a fully independent VCR loop for audio and video (Composite and S-video only). This can be configured to record the source you are watching to or to record any other input using the option in the 'Main Menu Screen 2'.

- Pressing the **RECORD** button selects audio and video from the VCR input.
- If the **RECORD** option is set to **TV** (its default setting), the VCR LED illuminates as well as the previously selected input.
- If the **RECORD** option is set to a specific input, the **RECORD** LED illuminates as well as the input selected in the VCR menu.

This indicates the VCR loop is active and displays the source that will be recorded.

For example, if **RECORD** is set to **SAT** and you want to record the SAT input:

- Select the **SAT** input then put your VCR into record pause so that it will monitor its input.
- Press the **RECORD** button, and you can now watch the audio and video actually being recorded by your VCR from the satellite system.
- If you select a different source from SAT, the recording changes to this source.

If you want to record from SAT while watching the AV input:

- Call up the 'Main Menu Screen 2' and set **RECORD** to **SAT**.
- Put your VCR into record pause so that it monitors its input, then press the **RECORD** button.
- You can now start the recording and watch the audio and video actually being recorded by your VCR.
- Once the recording is running, or you have set the timer on the VCR, press the **RECORD** button to watch the AV input. The recording of the SAT input continues or starts when the timer activates.
- You can check the progress of the recording at any time by pressing the **RECORD** button again.

To listen to a pure analogue stereo input, press the **DIRECT** button. The Direct mode automatically bypasses all processing and any surround functions. In Direct mode, digital processing is shut down to improve the sound quality and reduces digital noise within the AV9 to an absolute minimum. The LED above the **DIRECT** button on the front panel also lights to indicate this mode.

■ : When the digital processing is shut down, no digital output is available.

It is important to realise that the position of the volume control indicator bar is not an accurate indication of the power delivered to your loudspeakers. The AV9 often delivers its full output power long before the volume control reaches its maximum position, particularly when listening to heavily recorded music. In comparison, some movie soundtracks can appear to be very quiet, as many directors like to keep the maximum levels in reserve for special effect sequences.

If your system is set up as a THX-referenced configuration, the volume range covers -63dB to $+19\text{dB}$, where 0dB is the THX reference level at which the movie director intended the movie to be reproduced. If your room is small you may find this too loud, so reduce the level until you are comfortable.

■ : the volume range covers 0 to 82 in 1dB steps.

■ : The volume range covers 0 to 82 in 0.5dB steps

■ : The volume range covers -63dB to $+19\text{dB}$ in 1dB steps.

To use headphones with the AV9, plug the headphones into the socket on the left hand side of the front panel.

When headphones are plugged into the headphones socket the outputs for the zone to which they are assigned is muted. If that zone is zone 1 and it is in a surround sound mode, the audio will be down-mixed to two channels (2.0). The two-channel down-mix is required so that the centre channel and surround information can be heard via the headphones.

■ : If the headphones are selected to Zone 2, only analogue sources can be heard as there is no digital-to-analogue conversion available for Zone 2.

To listen to Zone 2 using the headphones:

- Call up 'Main Menu Screen 1' by pressing the **HOME** button.
- Navigate to screen 3 of the Main Menu by pressing the **RIGHT** button on the remote, or by turning the volume knob on the front panel.
- Move the highlighted line to **HEADPHONES**.
- Use the **RIGHT** button on the remote, or use the volume knob to select **HEADPHONES**.

When listening to Zone 2 via the headphones, you can control the source and volume from 'Main Menu Screen 3'.


To select a source:

- Move the highlighted line to **SOURCE**.
- Use the **LEFT** **RIGHT** buttons to select the source you wish to hear.

To change the volume:

- Move the highlighted line to **VOLUME**.
- Use the **LEFT** **RIGHT** buttons to move the volume up and down.

■ : If the headphones are associated with Zone 2, the main volume control knob on the AV9 will not adjust the headphone volume level as this only controls the main zone 1 volume setting.




The **Effects** button ( on the remote) cycles through the available effect modes. The effects are only available when the AV9 is in stereo mode.

For more information on the effects, see the section 'DSP Effects Modes'.


This button cycles through the available THX modes. The available THX modes change depending on what mode the AV9 is in and what source material is being played.

For more information on THX, see the section 'THX Modes' on page 30.

Effect	Description
None	No effects active, stereo signal
Music	Extracted ambience and centre information
Party	All speakers on
Club	Small room
Hall	Medium reverberant room
Sport	Very reverberant with extracted ambience and dry centre dialogue
Church	Long reverberant room

This button on the remote allows temporary trim of the Subwoofer level. Press , then adjust using the  and  buttons.





Use this button on the remote to clear any temporary adjustments and return to the current or 'favourite' preset settings.



Use this button to mute the local zone. Press again (or use ) to un-mute. The Mute LED will light when zone 1 output is muted.


Use this button to cycle through the available surround modes.

Press this button on the remote once to display the local OSD report on source inputs and processing mode. The display times out after about three seconds.

Delays may be introduced into the video signal by external video processing equipment which causes a mismatch between the audio and video timing. You will notice this by speech sound being out of synchronisation with the lip movements in the video.






To compensate for this you can adjust the lip sync audio delay. Press  and use the  and  navigation buttons to change the delay. Press  again to exit the lip sync function.






This allows you to select the illumination level of the front panel display. Press  on the front panel or  on the remote to cycle through the settings Off/Dim/Bright.

This allows temporary adjustment of the speaker levels. Press  to access the OSD 'Speaker Trims' menu, using the navigation buttons to adjust the levels required. Press again to exit the trim function. As this is a temporary adjustment, the trim levels are reset to 0 when the unit is turned off or the selected input is changed, but are retained if the unit is put in standby. These temporary trim levels are independent of the 'Level Settings' page found in the Setup Menu.

Three Main Menu screens allow day-to-day changes to be made to the way the AV9 operates. Examples include adjusting the tone control for a particular input, recording one source while listening to another or configuring the headphone output.

The three Main menu screens are available on your display device. The selected line of each screen is also displayed on the front panel of the AV9. Each of the following sections has a picture showing the screen that is displayed as you move through the menus.

Briefly press the  button to enter 'Main Menu Screen 1'. Use the navigation  and  buttons to go up and down the menu respectively. The  and  buttons are used to alter the selection on the highlighted line, or to change to the next screen if the menu heading is highlighted.

Press the  button to enter the main menu. To cycle through the items on a menu, use the  button to go down and  button to go up one line for each press. Use the volume control knob for the  and  functions in order to cycle through the available choices, or to change the menu page if the menu heading is highlighted.

Volume : Shows the present volume being used for the main zone and can be adjusted from here.

Presets : Cycles through user setup presets 1 to 5. These presets may have customised names. (See 'Advanced Setup'.)

Audio Input : This shows the current audio input source selected. The current audio input can be changed when this line is highlighted using the source select buttons on the front panel or the remote.

Changing the audio input also changes the video input to the same setting.

Video Input : This shows the current video input source selected. The current video input can be changed when this line is highlighted using the source select buttons on the front panel or the remote.

Changing the video input does not change the audio input, so you can watch a different input from the one you are listening to.

If the audio and video are set to different inputs, they will be reset to be the same when the audio input is next changed. However it is possible to set the AV9 so that they remain separated in the 'Video Settings' in the Setup Menu.

For example, you may wish to watch a sports event from satellite but wish to listen to the commentary from a radio broadcast.

Video Aspect Ratio : This line is only present if **Video** mode has been set in the 'General Settings' in the Setup Menu. It shows the video aspect ratio currently selected on the display. It can be set manually to **16:9** or **4:3**, depending on which format you are feeding into the unit.

Stereo Direct : If Stereo direct is **Off**, the AV9 functions in its normal way.

If stereo direct is **On**, the AV9 uses the analogue input signal for the source, bypassing the digital circuitry. In this mode, the AV9 functions like an analogue preamp: it also shuts down all the unused digital circuitry for optimum stereo performance.

Note: In Direct mode no digital output is available.

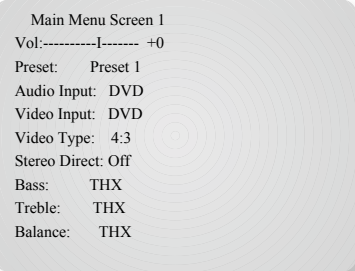
Bass/Treble : These allow you to alter the bass and treble controls temporarily for all currently active speakers. In the case of Stereo, this would only apply to the front left and right speakers. In Effects, Pro Logic II Music, Dolby Digital and DTS modes (for example), this would apply to all present speakers.

You can adjust the bass and treble by up to ± 6 dB. These adjustments are in addition to those made in 'Speaker Eq' in the Setup Menu. However, the maximum overall tone control range for each speaker using this screen plus the settings in 'Speaker Eq' is still ± 6 dB (not ± 12 dB).

Note: Bass and treble alterations are not available in THX mode, Stereo mode when 'Audio Stereo Tone Bypass' is set to Yes, or in Stereo Direct mode.

Balance : To alter the sound balance temporarily between the front left and right speakers. You can alter the sound stage to either the left or right by up to 10dB. Note that it is not possible to shift the audio signal completely over to one channel.

Note: Balance alterations are not available in THX mode.



```
Main Menu Screen 1
Vol:-----|----- +0
Preset: Preset 1
Audio Input: DVD
Video Input: DVD
Video Type: 4:3
Stereo Direct: Off
Bass: THX
Treble: THX
Balance: THX
```

: Allows any analogue input to be directed to the tape output, independently of the input that is being listened to.
 You cannot select tape as a record source: if allowed this would cause feedback through the tape recorder.

If is set to the tape input, you cannot select the VCR input as a option. If allowed this would cause feedback through the VCR.

: Allows any analogue audio, together with Composite or S-video input, to be directed to the VCR output. The selection is independent of the input that is currently being listened to or watched.

You cannot select VCR as a record source: if allowed this would cause feedback through the VCR.

If is set to the VCR input, you cannot select the tape input as a option. If allowed this would cause feedback through the tape recorder.

Allows selection of two different compression ratios (medium and high) which are ideal for late night listening. The compression effect increases the volume of the quiet passages and decreases the volume of the louder passages. Compression can be disabled by setting to .

Compression is only available on Dolby Digital recordings and on some DTS recordings.

Allows the introduction and adjustment of a time delay between the audio and video signals to compensate for the sound and picture not being synchronised. This is normally required when extra video processing is used in the system for line doubling or progressive scan video. The range of lip sync delay is -5 to 220 milliseconds.

The other use for lip sync is when a DVD has been poorly mastered or a broadcast shows noticeable delay between the video and audio.

The lip sync function works on all sources, unless is selected. Lip sync is also directly available on the button on the remote control.

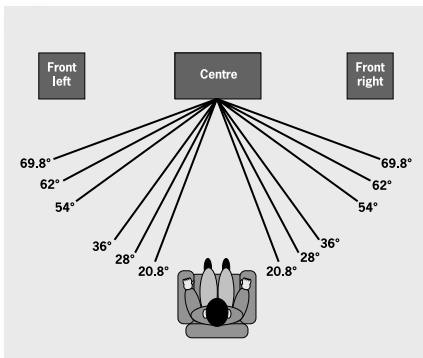
The lip sync adjustment can only correct for delayed video: if the audio is delayed, set lip sync to its minimum.

This allows the adjustment of the sound field for Dolby Pro Logic II Music decoding of two-channel sources.

Main Menu Screen 2

Record to Tape: Source
 Record to VCR: Source
 Compression: Off
 Lip Sync.: +0ms
 Pro Logic II Music Mode:
 Dimension: +3
 Centre Width: +3
 Panorama: Off

: allows the user gradually to adjust the soundfield either towards the front or towards the rear. Settings range from -3 to +3. We recommend 'Dimension' is set to 0 for normal use. This setting is used for Pro Logic II and Pro Logic IIX



: This setting controls the centre width, allowing variable adjustment of the centre image for Pro Logic II and Pro Logic IIX.

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

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

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

This page refers to Zone 2 functions. These are required if your system is installed to send audio and video to a separate 'Zone 2' room, or you wish to make use of the Zone 2 headphone facility.

: Shows present volume being used in Zone 2 and can be adjusted from here. This is also the volume control for the headphones output if it is assigned to .

: Selects whether the audio signal being fed to the headphone socket is the audio from zone 1 or Zone 2.

: Selects which audio source is sent to Zone 2. The source can be selected specifically, or can be set to .

: Only sources that have been allowed in the 'Access' line of 'Zone 2 Settings' in the Setup Menu can be selected. If Zone 2 is set to , and zone 1 is on a disallowed input, no audio or video is available in Zone 2.


: Turns Zone 2 output or . This should be set to if no equipment is connected to the Zone 2 outputs on the AV9.

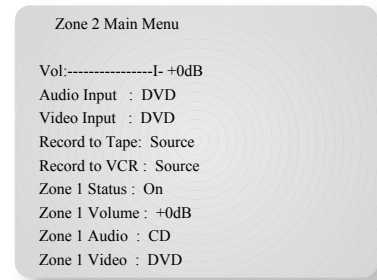
Note: You cannot change the Zone 2 audio or video inputs unless Zone 2 is on. It takes about five seconds to initialise Zone 2.


Main Menu Screen 3




Zone 2
 Vol:-----[--- +0
 Headphone Out: Zone 1
 Zone 2 Audio: Follow Zone 1
 Zone 2 Video: Follow Zone 1
 Zone 2 Status: On




Zone 2 provides the option for the occupants of the master bedroom, children's room or kitchen to view or listen to a different source at a different volume level from the main zone (zone 1).

If a video feed is provided to Zone 2, then the following menu, unique to a Zone 2 IR receiver, can be called up using the  button on a CR80 remote control.





 : Shows present volume being used in Zone 2, which can be adjusted from here.

 : This shows the current audio input source selected. The current audio input can be changed when this line is highlighted, using the   navigation buttons. Changing the audio input also changes the video input to the same setting.




 : This shows the current video input source selected. The current video input can be changed when this line is highlighted, using the   navigation buttons.


Changing the video input does not change the audio input, so it is possible to watch a different input from the one you are listening to.


 : Allows any analogue input to be directed to the tape output, independently of the input being listened to. You cannot select tape as a record source: if allowed, this would cause feedback through the tape recorder.


 : Allows any analogue audio input together with Composite or S-video input to be directed to the VCR output. The selection is independent of the input that is currently being listened to or watched.

You cannot select 'VCR' as a record source: if allowed this would cause feedback through the VCR.

 : Shows the user status of zone 1 (the main zone). The status can be  (i.e., being used) or  (i.e., in standby mode).

 : Shows and allows adjustment of the volume in zone 1 (the main zone). This can be locked out with the 'Zone 1 Control' line of 'Zone 2 Settings' in the Setup Menu.

 : Shows and allows adjustment of the audio selection in zone 1 (the main zone). This can be locked out with the 'Zone 1 Control' line of 'Zone 2 Settings' in the Setup Menu.

 : Shows and allows adjustment of the video selection in zone 1 (the main zone). This can be locked out with the 'Zone 1 Control' line of 'Zone 2 Settings' in the Setup Menu.

Surround modes

Your AV9 processor provides all the key decoding and processing modes for analogue and digital signals.

Digital recordings are usually encoded to include information about their format type. The AV9 detects automatically the relevant format in a digital signal, such as Dolby Digital or DTS, and switches in the appropriate decoding.

Analogue recordings do not contain information about their encoding formats, so the desired decoding mode – such as Dolby Pro Logic – needs to be selected manually.

Dolby Digital or DTS audio data (sometimes collectively referred to as 'bitstream' sources) can be output in three mix modes, selected using the button:

- Surround (e.g., five main channels plus a subwoofer for a 5.1 source)
- Stereo Downmix
- Mono Downmix

Two-channel audio, regardless of whether it is analogue or digital also can be output in three mix modes, selected using the button:

- Surround (e.g., Dolby Pro Logic II Movie, Neo:6 Music, etc.)
- Stereo (with effects applied for analogue or digital PCM)
- Mono

The AV9 has a comprehensive memory that allows it to store the settings for each source button (except for DVD-A output). Thus the decoding mode for the following three groups of source material can be stored independently:

- Dolby Digital (multi-channel) and DTS source material
- Two-channel PCM and Analogue source material
- Two-channel Dolby Digital source material

There is a link between the mix modes for multi-channel bitstream (e.g., 5.1) and two-channel bitstream (2.0 or 2.1) sources. If a 5.1 source is played in Surround mix mode, the AV9 will remember this for all bitstream sources (e.g., DTS-ES Matrix, Dolby Digital 3.0 etc.) and use the maximum number of speakers the signal is encoded for. As a result, when a 2.0 or 2.1 bitstream is played the Surround mix mode is recalled and the AV9 enters Dolby Pro Logic II Movie mode to try to recreate the surround environment from what may be a Pro Logic encoded source. If you would rather listen to a 2.0 or 2.1 bitstream in ordinary stereo (with or without a subwoofer), press to cycle through to the Stereo mix mode (e.g., Dolby Digital 2/0.0 on the display). However, if the source becomes multi-channel bitstream (e.g., 5.1) again, the AV9 will recall Stereo mix mode and therefore output a Stereo Downmix of the multi-channel signal. Full surround output can be re-achieved by pressing to cycle through to the surround mode encoded on the disc.

The following decoding and surround modes are available:

■ For PCM or Analogue sources:	Mono Stereo Pro Logic II Movie Pro Logic II Music Pro Logic IIX Movie	Pro Logic IIX Music Pro Logic Emulation Neo:6 Cinema Neo:6 Music
■ For Dolby Digital 2.0 sources:	Pro Logic II Movie Pro Logic II Music	Pro Logic IIX Movie Pro Logic IIX Music
■ For DTS 2.0 sources:	Mono Stereo	Pro Logic II Movie

: Pro Logic IIX Music and Pro Logic IIX Movie options are selectable only when surround-back speakers are present.

: The AV9 will combine the left and right audio channels from a stereo signal to produce a mono signal. This can be of benefit when playing older audio recordings or VCR tapes, especially mono LP records.

: In this mode the AV9 works as a conventional high quality audio amplifier. Note that if the subwoofer is enabled in stereo mode, then some processing of the signal will be carried out. For ultimate sound quality with analogue sources, therefore, select the Stereo Direct function.

: Decodes two-channel digital signals such as PCM signals from sources such as CDs and some DVDs.

: Dolby Pro Logic II decoding is designed to produce a 5-channel output from two channel source material.

There are two different modes available in Pro Logic II: 'Movie' and 'Music' modes, which are intended for use as their names suggest. Due to the different recording methods used for movies and music, it is recommended that the correct decoding mode for your source material is used to obtain the best results.

- **Movie Mode:** This is intended for use with 'cinematic' material, which is mixed and monitored in a calibrated multi-channel environment. Movie mode is a 'fixed' mode that is designed to give a similar sound when listening using a home cinema system to that obtained in a cinema.
- **Music Mode:** Stereo music is not designed for surround processing, although good surround effects can be obtained through careful production. As the optimum decoding method varies according to the recording, Music mode allows user adjustment of the processing characteristics. Information about adjusting the Music mode by using 'Dimension' and 'Centre Width' controls can be found in the 'Main Menu Screen 2' section.

: Dolby Pro Logic IIx is an extension of the Dolby Pro Logic II matrix-decoding method. The decoder allows the processor to derive seven outputs from a two or multi-channel (up to 5.1 with EX) source to take better advantage of all amplifiers and speakers in a 7.1 setup. There are two different modes available in Pro Logic IIx: Movie and Music modes. Due to the different recording methods used for movies and music, you should select the correct decoding mode for your source material.

: Dolby Pro Logic decoding is a legacy mode that is designed to produce a five-channel output from two-channel source material. It should be used only when the source material is encoded as Dolby Pro Logic; otherwise, we recommend the use of Dolby Pro Logic II. This is because Pro Logic processing on straight stereo sources can sound muffled and compressed.

: DTS Neo:6 provides up to six full-band channels of decoding from stereo material. The AV9 will derive separate channels corresponding to the standard home theatre speaker layout.

- **Cinema:** A movie mode designed to reproduce a movie theatre environment. Neo:6 technology allows various sound elements within a channel or channels to be steered separately, and in a way which follows the original presentation naturally.
- **Music:** A music mode designed to produce a lively, high-integrity surround-effect from most two-channel music sources from all available speakers. Neo:6 music mode expands stereo recordings into the five- or six-channel layout without diminishing the subtlety and integrity of the original stereo recording.

Digital multi-channel source material is normally provided as '5.1 audio'. The '5.1 channels' comprise of: left, centre and right front speakers, two surround speakers and a low frequency effects (LFE) channel. Since the LFE channel is not a full range channel, it is referred to as '.1'.

Surround systems decode and reproduce the 5.1 channels directly. Dolby Digital EX and DTS-ES enhanced decoding systems create one extra rear channel from information buried in the two surround signals of the 5.1 source. These EX and ES enhanced systems are sometimes referred to as '6.1' systems. This extra surround back channel is normally reproduced through two separate loudspeakers, creating a '7.1 system'.

: This is accessed from the button. THX Surround Ex encoded source material automatically selects THX Surround Ex selection (when activated).

: Less common than the Dolby Digital format, but generally recognised within the audio industry as being of superior sound quality. DTS 5.1 delivers surround sound with five full range channels plus an LFE channel.

: This is a 6.1 channel format based on DTS 5.1. It has the sixth channel matrix encoded into the surround left and surround right channels. The sixth channel is a surround centre channel and is directed to the surround back left and surround back right speakers.

: This is a true discrete 6.1 channel sound format (unlike DTS-ES 6.1 Matrix where the sixth (surround centre) channel information is extracted from the two surround channels). DTS-ES 6.1 Discrete mode operates only on sources with DTS-ES 6.1 Discrete audio encoding, such as certain DVD discs.

THX processing offers additional performance benefits on top of the conventional decoding modes listed earlier.

THX is an exclusive set of technologies and standards established by the world-renowned film production company, Lucasfilm Ltd. THX grew from George Lucas' personal desire to make your experience of the film soundtrack, in both movie theatres and in your home theatre, as faithful as possible to what the director intended.

Movie soundtracks are mixed in special movie theatres called dubbing stages and are designed to be played back in movie theatres with similar equipment and conditions. This same soundtrack is then transferred directly onto DVD, Laserdisc, VHS tape, etc., and is not changed for playback in a small home theatre environment.

THX engineers developed patented technologies to translate accurately the sound from the movie theatre environment into the home, correcting the tonal and spatial errors that would otherwise occur.

A full explanation of THX technologies is provided in the section 'About THX Cinema Processing'. Available THX modes are:

THX Cinema mode provides the additional processing required for the optimal presentation of movies in the home.

- In reproduction, this mode provides Re-Equalisation™, Timbre Matching™ and Adaptive Decorrelation™ as necessary to all channels.
- In reproduction, this mode provides Re-Equalisation™ of the left and right channels.
- In reproduction, this mode provides Re-Equalisation™ of the mono signal.

THX Ultra2 Cinema mode plays 5.1 movies using all 7.1 speakers giving you the best possible movie watching experience. In this mode, ASA (Advanced Speaker Array)™ processing blends the surround speakers and surround back speakers providing the optimal mix of ambient and directional surround sounds. See 'About THX Cinema Processing' for more information.

DTS-ES (6.1 Matrix and 6.1 Discrete) and Dolby Digital Surround EX encoded soundtracks will be detected automatically if the appropriate flag has been encoded on the DVD.

Some Dolby Digital Surround EX soundtracks are missing the digital flag that allows automatic switching. If you know that the movie that you are watching is encoded in Surround EX, you can select the THX Surround EX playback mode manually.

Surround EX is a joint development of Dolby Laboratories and the THX division of Lucasfilm Ltd. In a movie theatre, film soundtracks that have been encoded with Surround EX technology are able to reproduce an extra channel which has been added during the mixing of the programme. This channel, called surround back, places sounds behind the listener in addition to the front left, centre, front right, surround left, surround right and LFE channels. This additional channel provides the opportunity for more detailed imaging behind the listener and brings more depth, spacious ambience and sound localization than with simple 5.1 reproduction. Movies that were created using the Surround EX technology, when released into the home consumer market may exhibit wording to that effect on the packaging.

With appropriate material, the THX Surround EX mode will normally activate automatically, providing this option has been enabled in the 'THX Settings' page of the Setup Menu. Some Dolby Digital Surround EX soundtracks are missing the digital flag that allows automatic switching. If you know that the movie that you are watching is encoded in Surround EX, you can select the THX Surround EX playback mode manually.

You can also switch on the THX Surround EX mode during the playback of 5.1 channel material that is Surround EX encoded. In such case the information delivered to the surround back channels will be programme-dependent and may or may not be very pleasing depending on the particular soundtrack and the tastes of the individual listener.

For the replay of multichannel music the THX MusicMode can be selected. In this mode THX ASA processing is applied to the surround channels of all 5.1 encoded music sources such as DTS and Dolby Digital to provide a wide stable rear soundstage.

The AV9 has a number of effects modes that can be used to enhance a stereo signal and to make use of the surround loudspeakers. DSP effects modes are only available with stereo source signals.

You can listen to the influence of any effect mode by playing a CD, then pressing pause, when the decaying reverberation effect can be heard.

Available effects modes

Music surround makes full use of the additional speakers placed at the centre, sides and rear of the room. This effect uses ambiance extraction for the side and rear speakers and offers the most subtle surround processing with no reverberation or reflections.

The Party effect allows unprocessed stereo signals to be played over all speakers for background music or for maximum acoustical output of the system.

The Club effect generates reflections and short reverberation information to the front, side and rear speakers. It simulates a small club venue, such as a Jazz Club.

The Concert Hall effect generates the ambient information for the simulation of a medium size hall. Reflections and medium length reverberation information are sent to all channels.

Sports stadium effect is ideal for use when watching live sports events which would normally be in stereo. The open ambience of a sports stadium is actively recreated around you, except from the centre channel which is kept clear for commentary.

The Church effect uses a reverberation algorithm which emphasises rich, smooth reverberant decay in large spaces. As its name suggests, it works well for simulating a space with long reverberation time relative to its size, such as a large church or cathedral.

The tonal balance of a film soundtrack will be excessively bright and harsh when played back over audio equipment in the home because film soundtracks were designed to be played back in large movie theatres using very different professional equipment. Re-Equalization restores the correct tonal balance for watching a movie soundtrack in a small home environment.

The human ear changes our perception of a sound depending on the direction from which the sound is coming. In a movie theatre, there is an array of surround speakers so that the surround information is all around you. In a home theatre there are usually only two speakers located at either side of your head. The Timbre Matching feature filters the information going to the surround speakers so that they more closely match the tonal characteristics of the sound coming from the front speakers. This ensures seamless panning between the front and surround speakers.

In a movie theatre, a large number of surround speakers help create an enveloping surround sound experience, but in a home theatre there are usually only two speakers. Two surround speakers can sound like headphones that lack spaciousness and envelopment. The surround sounds will also collapse into the closest speaker as you move away from the middle seating position. Adaptive decorrelation slightly changes one surround channel's time and phase relationship with respect to the other surround channel. This expands the listening position and creates – with only two speakers – the same spacious surround experience as in a movie theatre.

ASA is a proprietary THX technology which processes the sound fed to two surround and two surround back speakers to provide the optimal surround sound experience. ASA is used in two modes; THX Ultra2 Cinema and THX MusicMode.

Lucasfilm define a series of technical performance standards that equipment must exceed before it is awarded THX certification. Several levels of performance standards are defined, the most demanding standards are set for THX Ultra2. THX Ultra2 requirements cover every aspect of the product including pre-amplifier performance and operation, video pass through, and hundreds of other parameters in both the digital and analogue domain.

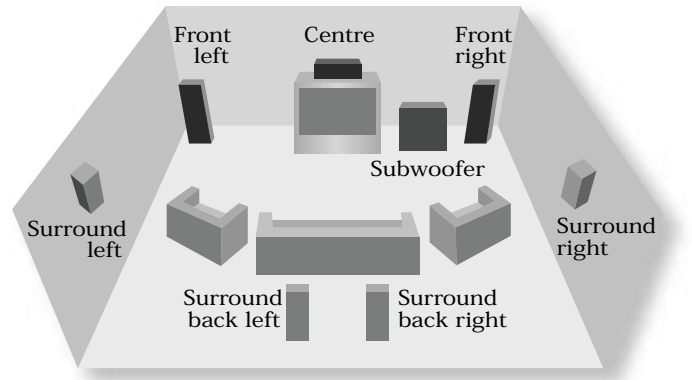
Before any home theatre component can be THX Ultra2 certified, it must incorporate all the technology features above and also pass this rigorous series of quality and performance tests. Only then can a product feature the THX Ultra2 logo, which is your guarantee that the home cinema products you purchase will give you superb performance for many years to come.

A list of available DVD software titles encoded with Dolby Digital Surround EX technology can be found at
and

The AV9 allows you to connect up to seven channels of amplification and three active subwoofers in the main system. The output channels correspond to speakers installed in the front left, centre, front right, surround left, surround right, surround back left, surround back right and an active subwoofer (see diagram).

All speakers, with the exception of the subwoofer, should be arranged around your normal viewing/listening position (see diagram). The subwoofer can be placed almost anywhere and we recommend experimenting with it in various positions to obtain the best result.

The configuration and placement of your speakers are very important. For THX surround EX playback we recommend that you use a THX speaker system that is certified by Lucasfilm Ltd. If you are not installing a full THX surround EX system then ignore the instructions regarding the surround back left and right loudspeakers.



Position your front left and right speakers to achieve a good stereo image for normal musical reproduction as well as for the multichannel modes. If they are placed too close together there will be a lack of spaciousness; if they are placed too far apart a stereo image will appear to have a large 'hole' in the middle and will be presented in two halves. If there is no practical alternative to placing the speakers widely apart, this effect can be overcome in music reproduction by using centre sound extraction from the left and right speakers (see Dolby ProLogic II Music Mode).

The centre speaker allows for a more realistic reproduction of dialogue and centre sounds. The centre speaker should have a similar tonal balance to the front left and right speakers and be positioned at a similar height.

The surround left and right speakers reproduce the ambient sound and effects present in a multichannel home cinema system and should be installed approximately one metre higher than the listener's ears.

The surround back left and right speakers are used to add extra depth and better sound localisation and should be installed approximately one metre higher than the listener's ears. Place the two surround back speakers such that there is an arc of approximately 150 degrees between each surround back speaker and the centre speaker. The surround back speakers should face the front of the room as shown in the diagram to provide the largest 'sweet spot'. You will then need to measure the distance between the two surround back speakers and set the 'Advanced Speaker Array' line of the 'THX Settings' menu accordingly.

A subwoofer will greatly improve the bass performance of your system. This is useful for reproducing special cinema effects, especially where a dedicated LFE (Low-Frequency Effects) channel is available, as with many Dolby Digital or DTS encoded discs.

Multiple subwoofers may be required for larger installations, particularly in rooms of a timber frame construction. Multiple subwoofers need care in placement because there may be cancellation effects between the units. Seek expert advice on multiple subwoofer placement.

Troubleshooting

Check that:


- the power cord is plugged into the AV9 and the mains socket outlet it is plugged into is switched on.
- the power button is pressed in.

If a red LED is present, the AV9 is in standby mode. Press any source button on the front panel or on the remote control.

Check that:

- there are fresh batteries in the remote control.
- the Remote IR receiver window is visible and you are pointing the remote control towards it.




Check that:

- the display hasn't been turned off. Press the  button on the remote control.
- the AV9 is not in 'Programming mode' by turning it off, waiting ten seconds then switching back on again.

Check that:

- your viewing device is turned on and switched to display your AV9. Test by pressing the button on the AV9 or AV9 remote and look for the AV9 'Main Menu Screen 1' displayed on your device.
- the correct video input is selected on the AV9
- the video source is on, is operating normally, and is in 'play' mode if appropriate.
- you have the same video connection between the video source and the AV9 as between the AV9 and your viewing device. For example, composite video is used from the source to the AV9, and from the AV9 to the display device.

Check that:

- the video and audio inputs are correctly selected in 'Main Menu Screen 1'. Press , then change either the video or audio source by first using the navigation  and  buttons, then use the source buttons to select the correct input.
- the digital audio inputs and HQ video inputs are correctly assigned to their sources on the 'Digital Settings' page in the Setup Menu.


Check that:

- Check that the cables used for analogue video connections (not HDMI) are designed to carry video (i.e., they are 75Ω coaxial cables).
- Ensure that the 'Sharpness' control on your video display device is switched off or set near minimum.
- If this problem occurs when using an HDMI connection, try using a shorter cable. In general, HDMI signals cannot be run over such long cables as analogue signals.

Check that:

- your video display device is connected to your AV9 correctly.
- the on screen display has not been turned off on the 'Video Settings' or 'Zone 2 Settings' pages (for zone 1 and Zone 2 respectively) in the Setup Menu.
- if you are using a component display, check that the AV9 is set for component video. See the 'Basic Setup' section.

No OSD will be visible on the HDMI output.

If a component video signal is fed into the AV9 when the 'HQ Video' setting is set to  you will have a pink/red OSD.

To correct this you must set the 'HQ Video' line on the General Settings menu to 'Component'.

The AV9 cannot overlay video onto progressive scan or HDTV signals. In this case, the AV9 creates a full screen display with a black background for the menus and turns off the pop up messages.

Check that:

- the correct input has been selected.
 - the source equipment is on, is operating normally, and is in 'play' mode if appropriate.
 - the volume is turned up to a reasonable level and 'MUTE' is not displayed on the front panel display.
 - your power amplifier(s) are turned on and working correctly.
 - you have assigned the digital input to the correct source button.
 - If the HDMI connection is in use for video, have you made analogue connections for the audio?
- If possible, plug some head-phones into the AV9. If sound can be heard through these, then the problem is likely to be 'down-stream' of the AV9 (check your power-amps. and speakers). If no sound can be heard through the headphones, ensure that the source (CD player, cassette deck, etc.) is generating audio and has been selected on the AV9.

Check that:

- the cables to that source and to the power amplifier are making a good connection. If necessary withdraw the cable from the connector and plug it back in again. (Turn the power off before doing this)
- you have not excessively reduced the input sensitivity on the 'Input Trims' page in the Setup Menu if an analogue input has been selected. Check that the input is not clipping by using the 'Analogue Settings' page.
- you have selected the correct size of speakers to suit your system on the 'Speaker Sizes' page in the Setup Menu.

Check that:

- you have an appropriate surround sound source selected and playing.
- the DVD disc is encoded in the appropriate format, and that the correct format has been selected in the Disc start menu of the DVD player (if applicable).
- the DVD player has been set to output 'Bitstream' audio on the digital output.
- the display window indicates that the disc you are playing is a multichannel recording.
- all the speakers are correctly connected to the power amp, and are secure.
- you have not selected 'Stereo' in the mode selection.
- your speaker balance is correct.
- all amplifiers are turned on and all channels are working correctly.
- after setup, that you have configured your AV9 to include all the speakers in your system.

The AV9 can only apply Dolby Digital and DTS decoding to sources which have been encoded in the same format.

Check that:

- a digital source is selected and connected.
- the source is playing appropriately encoded material.
- the DVD disc is encoded in the appropriate format, and that the correct format has been selected in the Disc start menu of the DVD player (if applicable).
- the DVD player has been set to output 'Bitstream' audio on the digital output.

Check that:

- you have a digital connection from your DVD player.
- sometimes Dolby Digital DVD discs contain material at either the beginning or the end of the main movie that is not in full 5.1 format, but in two-channel or Pro Logic encoding.

Check that:

- all cables are making a good connection. If necessary withdraw the cable from the connector and plug it fully in again. (Turn the power off before doing this)
- the connections inside the source cable connector are not broken or badly soldered.
- if the hum originates only when one particular source component is connected, that an aerial, cable or dish connection to this source is ground isolated. Contact your installation contractor.
- try switching the ground lift switch on the back panel.

Check:

- where the interference is coming from. Switch off each source component in turn, then any other equipment. Most electronic equipment does generate low levels of interference.
- try re-arranging cabling from the nuisance source away from other cabling
- ensure that the cabling used is high quality, specified for its purpose, and is properly screened.
- if the problem persists contact your installer.

Check that:

- there are no static or impulse interference problems caused by nearby power equipment switching, e.g., heating or air conditioning control. Switch the AV9 off, wait ten seconds, then switch it on again to clear an operating problem. Contact your installer if the problem returns or persists.

Check that, on the 'Zone 2 Settings' page of the Setup Menu, you have set the 'Zone 1 Control' line to .

Check that the 'Max On Volume' line of 'General Settings' or 'Zone 2 Settings' pages in the Setup Menu. They will need adjusting to a lower level.

Check that you have not blocked that particular input using the 'Access' line of 'Zone 2 Settings' in the Setup Menu.

Check that the 'Zone 2 Standby' line of 'Zone 2 Settings' in the Setup Menu is set to .

It is possible to configure the AV9 by using the front panel as the selected line of the menu is displayed on the front panel, however it is easier using the OSD on your display device.

If you are using only a component connection to your display device it is possible to turn the HQ video output on and therefore view the OSD information with just a few buttons of the remote control as listed below.

- Turn the AV9 on and wait for it to initialise
- Press and hold the button on the remote control for two seconds. The front panel display will indicate 'Setup Menu Index'.
- Press ► ▲ ▲ ► in sequence.

The OSD information is now displayed on your display device.

To prevent tampering with the AV9 setup configuration you can 'lock' the menus by pressing the , and buttons simultaneously on the front panel. To unlock the AV9 press the same buttons again.

The AV9 defaults to the NTSC video standard: most display devices can sync to this automatically.

For PAL-only display devices, press and hold the button for two seconds: this will switch the video standard to PAL. Repeating this returns the AV9 to the NTSC video standard.

As the AV9 has only one analogue-to-digital converter (ADC), it is not possible to use a tape monitor loop when making a digital recording. If you try to do this, the tape analogue input is directed to the ADC (so that the tape input can have DSP processing), converting it to digital and feeding it to the digital output. This creates a loop through the digital recorder.

Digital recorders should not be used with the analogue tape monitor if you are using digital output from the AV9.

The DV27 (and most other two-channel DVD players) cannot output a stereo decoded version of the DTS signal – its analogue outputs are muted when playing back DTS films. If you want to watch a DVD in both the Main zone and Zone 2, please use the Dolby Digital sound track.

The DV27 (and other DVD players) can only decode video to one aspect ratio at a time. If you are using wide screen in the Main zone, then wide screen information will also be fed to Zone 2.

To overcome this, either set the film to 4:3 for the main zone when you want to use Zone 2 as well, or change the Zone 2 display to a wide screen capable type.

Bass and treble is not available in THX mode. For Analogue Stereo and Digital Stereo modes, check that the 'Auto Stereo Tone Bypass' line of 'Speaker Eq' in the Setup Menu is set to .

Balance is not available in THX mode.

If a poor quality or incorrect type of cable has been used for the digital inputs, they can pick up electrical noise. Change the cable to a 75Ω low loss coaxial type.

Check the connections have not oxidised. Clean the connectors with contact cleaner if they appear oxidised.

Technical specifications

Line input sensitivity (set to Reference)	2V rms
Input impedance	10k Ω
Preamp output level (nominal)	2V rms
Output impedance	25 Ω
Signal/noise ratio (unwtd 20Hz–20kHz) – analogue	>100dB
Signal/noise ratio (unwtd 20Hz–20kHz) – digital (24-bit)	>98dB
THD+N – analogue	0.0012%
THD+N – digital (24-bit)	0.0015%
Headphone maximum output level into 600 Ω	5V p-p
Output impedance	5 Ω
Input and output impedance	75 Ω
Composite video level	1V
HF response to (-3dB)	12MHz
S-video level (Y/C)	1V / 0.28V
HF response to (-3dB)	12MHz
HQ (component) video	
level (Y / Cr / Cb)	1V / 0.5V / 0.5V
level (R / G / B)	1V / 1V / 1V
HF response to (-3dB)	300MHz
Coaxial connection (level/impedance)	0.5V/75 Ω
Acceptable sampling frequencies, all inputs	44.1kHz, 48kHz, (and 96kHz stereo only)
Digital output	
Output level/impedance	0.5V/75 Ω
Sampling frequency in ADC output mode	44.1kHz
Trigger outputs	
Output D.C. voltage (excl. RGB status)	12V \pm 1V
Allowable load	30mA max (min 400 Ω)
Remote inputs and output	
Signal	modulated 36kHz carrier
Coding	Philips RC-5
Mains voltage range	85V to 265V
Power consumption	35VA
Power consumption (standby)	32VA
Dimensions Width x Depth x Height (including feet)	433mm x 360mm x 130mm
Weight (net)	9kg
Weight (packed)	14kg
Supplied accessories	Mains lead, CR80 remote control, 2 x AA batteries
E&OE	

: All specification values are typical unless otherwise stated.

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

Additional technical information

The AV9 is a digital audio device which has been designed to very high standards of electromagnetic compatibility.

The unit can radiate RF (radio frequency) energy. In some cases this can cause interference with FM and AM radio reception. If this is the case, keep the AV9 player and its connecting cables as far from the tuner and its aerials as possible. Connecting the AV9 and the tuner to different mains sockets can also help to reduce interference.

EU COUNTRIES – These products have been designed to comply with directive 89/336/EEC.

USA – These products comply with FCC requirements.

The following list of chipsets used in the AV9 is provided for the interest of technical enthusiasts:

- : Crystal Semiconductor CS8415A – a 96kHz digital audio interface receiver chipset.
- : AKM AK5383 – a 24-bit, 96kHz, 128x oversampling two-channel A/D converter for professional digital audio systems.
- : WM8740 – a 24-bit 96kHz very high performance stereo DAC designed for home theatre systems.
- : Burr-Brown PGA2310 digitally controlled stereo analogue volume control.
- : STV5730 – a high performing chipset used for on screen displays.
- : Rohm BA7625 – a high performance chipset used for video switching.
- : Elantec EL4332 – a very high performing broadcast quality chipset designed for component video multiplexing.
- : Crystal Semiconductor CS49326 and CS49330 – these are 24-bit 96kHz multi-standard DSP decoders.
- : Hitachi HD64F2329VF25 – provides three serial communications ports, a watchdog timer, and 384KB flash-updated memory.

With the facility for up to five preset setups, and the ability to temporarily trim many settings, there should be little need to use the Setup Menus once the system is fully installed. Many of the AV9 settings in the Setup Menus require specialist knowledge and measurement. Access to the Setup Menus may be locked out to prevent changes being made to the settings by inexperienced users.

To lock the setup menus, press the **66**, **50** and **66** buttons on the front panel together at the same time. 'Setup Menus Locked' is displayed.

Similarly, to unlock the menus, press the same three buttons together at the same time.

Re-programming the AV9 with new operating software is possible via the RS232 control input, but this should only be carried out by trained technical personnel.

Use the **66** button with a suitable lead to the re-programming computer. Locate the **50** button which is adjacent to the S-video inputs.

To re-program, the AV9 must first be turned off. Press and hold the **66** button while powering up the AV9. Note that the front display is blank in programming mode. Follow the operating instructions provided with the update software. When reprogramming is complete, turn the AV9 off then on again ten seconds later to restore normal operation with the new software.

The AV9 programmer utility allows future software upgrades to be installed and allows backup and restoration of the unit's settings via the RS232 port on the back of the AV9.

The following equipment is required:

- IBM PC compatible computer running Windows 98 or later.
- Software – ARCAM AV9 Programmer utility (included on the AV9 CD-ROM).
- Lead – RS232 9-way female D-type to 9-way female D-type (i.e., a null modem).

Full Instructions on how to install and operate the Programmer utility are available in the root directory of the CD-ROM.

SCART connections

These pinouts describe the signal connections between the AV9 and your display device input.

Pin	Signal	Connector type	Connector Pin	Cable Type	Label
1	Audio output B (right) from TV Tuner	RCA Phono (1)	Centre	Coaxial cable (1)	Audio out R
2	Audio input B (right)	Not connected			
3	Audio output A (left) from TV Tuner	RCA Phono (2)	Centre	Coaxial cable (2)	Audio out L
4	Ground (audio)	RCA Phono (1 and 2)	Sleeve	Coaxial cable (1 and 2)	
5	Ground (blue)	RCA Phono (3)	Sleeve	Coaxial cable (3)	
6	Audio input A (left)	Not connected			
7	Blue input	RCA Phono (3)	Centre	Coaxial cable (3)	Blue
8	RGB/composite SCART input select (CVBS status)	Stereo Mini Jack 3.5mm	Ring	Screened twin cable	Trigger RGB
9	Ground (green)	RCA Phono (4)	Sleeve	Coaxial cable (4)	
10	Comms data 2	Not connected			
11	Green input	RCA Phono (4)	Centre	Coaxial cable (4)	Green
12	Comms data 1	Not connected			
13	Ground (red)	RCA Phono (5)	Sleeve	Coaxial cable (5)	
14	Ground (comms)	Not connected			
15	Red input	RCA Phono (5)	Centre	Coaxial cable (5)	Red
16	RGB mode select	Stereo Mini Jack 3.5mm	Tip	Screened twin cable	
17	Ground (video input & output)	RCA Phono (6 and 7)	Sleeve	Coaxial cable (6 and 7)	
18	Ground (RGB switching control)	Stereo Mini Jack 3.5mm	Sleeve	Screened cable	
19	Video output (composite)	RCA Phono (6)	Centre	Coaxial cable (6)	Comp out
20	Video input (composite)	RCA Phono (7)	Centre	Coaxial cable (7)	RGB sync (Comp in)
21	Common ground (shield)	SCART	Sleeve	Overall Cable Screen	

Pin	Signal	Connector Type	Connector Pin	Cable Type	Label
1	Audio output B (right) from TV Tuner	RCA Phono (1)	Centre	Coaxial cable (1)	Audio out R
2		Not connected			
3	Audio output A (left) from TV Tuner	RCA Phono (2)	Centre	Coaxial cable (2)	Audio out L
4	Ground (audio)	RCA Phono (1 and 2)	Screen	Coaxial cable (1 and 2)	
5		Not connected			
6		Not connected			
7		Not connected			
8	CVBS (AV control)	Stereo Mini Jack 3.5mm	Ring	Screened cable	Trigger S-video
9		Not connected			
10		Not connected			
11		Not connected			
12		Not connected			
13	Ground (chroma)	S-video Mini DIN	Pin 2	Coaxial cable (3) screen	S-video
14		Not connected			
15	Chroma input	S-video Mini DIN	Pin 4	Coaxial cable (3) centre	S-video
16		Not connected			
17	Ground (video input & output)	S-video Mini DIN	Pin 1	Coaxial cable (4) screen	S-video
18	Ground (S-video SCART input select)	Stereo Mini Jack 3.5mm	Sleeve	Screened twin cable	
19		Not connected			
20	Video input (luma)	S-video Mini DIN	Pin 3	Coaxial cable (4) centre	S-video
21	Common ground (shield)	SCART		Overall Cable Screen	

IR remote codes

The following information is supplied for owners of advanced programmable remote controls, such as the Philips 'Pronto' and similar devices, where it is possible to program remote codes directly into the device.

The coding system for the AV9 is based on the Philips RC-5 standard. The main system control uses RC-5 system code '16', so for example, to program in a 'Standby' command, use the command '16-124'.

Zone 2 also uses RC-5 system code 16 as standard, as Zone 2 is normally operated in a separate room using a standard (system code 16) remote control.

Changing the system code for Zone 2 (or zone 1) from '16' to '19' is possible, but this is only necessary for non-standard use of Zone 2. A specially programmed remote control will be required if the system code is changed. The CR80 remote control has system code 19 functions only for Zone 2 in memory as code '1213'. Alternatively, remote controls such as the Philips 'Pronto' can be specially computer programmed. Consult Arcam customer support about changing the remote system code.

Example for programming; Display = RC-5 code 16-59

Command	Command code
Standby	124
On	123
Power toggle	12
Display	59
Menu	82
Info	55
Mute	119
Un-mute	120
Mute toggle	13
Volume up	16
Volume down	17
Sat input	0
AV input	2
Tuner input	3
DVD input	4
Tape input	5
VCR input	6
CD input	7
Aux input	8
DVD-A input	9
Direct on	78
Direct off	79
Direct toggle	10
Modes	32
THX modes	28
Effects modes	70
Prologic IIX Movie	104
Prologic IIX Music	105
Mono mode	106
Stereo mode	107
Dolby PL 2 Movie mode	108
Dolby PL2 Music mode	109
Dolby Pro Logic Emulation	110
DTS Neo:6 Cinema mode	111
DTS Neo:6 Music mode	112

Command	Command code
THX off	113
THX Cinema mode	114
THX Ultra2 Cinema mode	115
THX Music mode	116
THX Surround EX	117
Effect off	63
Effect: Music	64
Effect: Party	65
Effect: Club	66
Effect: Hall	67
Effect: Sport	68
Effect: Church	69
Preset 1	72
Preset 2	73
Preset 3	74
Preset 4	75
Preset 5	76
Nav up	86
Nav down	85
Nav left	81
Nav right	80
OK	87
Trim menu	37
Sub trim	51
Lip sync	50
Restore ('Fav')	14
Sat video	19
AV video	20
DVD video	22
Tape video	23
VCR video	24
Video type	126

Guarantee

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

The warranty covers parts and labour costs for two years from the purchase date (five years upon registration). After this time you must pay for both parts and labour costs.

This equipment should be packed in the original packing and returned to the dealer from whom it was purchased, or failing this, directly to the Arcam distributor in the country of residence. It should be sent 'carriage prepaid' by a reputable carrier — by post. No responsibility can be accepted for the unit whilst in transit to the dealer or distributor and customers are therefore advised to insure the unit against loss or damage whilst in transit.

For further details contact Arcam at:

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

If you have a problem, always contact your dealer in the first instance. If your dealer is unable to answer any query regarding this or any other Arcam product please contact Arcam Customer Support and we will do our best to help you.

You can register your Arcam product on line at:

Appendix: AV9 serial programming interface

This section of the document details the serial command set of the AV9 software.

- Transfer rate: 38,400bps.
- 1 start bit, 8 data bits, 1 stop bit, no parity, no flow control.

Command lines must be terminated by an ASCII line feed (0x0A hexadecimal) and be no longer than 64 bytes (including the line feed terminator).

For example: to turn zone 1 on, send:

```
Z1PWR1<1f>
```

where <1f> is an ASCII line feed.

As well as setting options directly to specific values, as described above, current values may be incremented or decremented by following the command with a + (increment) or - (decrement). For example, to increment the decode mode in zone 1:

```
Z1DEC+<1f>
```

If a zone is not specified, the command is carried out in relation to zone 1. For example, to decrement the THX mode:

```
Z1THX-<1f>
```

would produce identical results to using:

```
THX-<1f>
```

Multiple commands may be placed on a single command line if separated by a semicolon. For example, to turn on zone 1 and switch to the tuner, use:

```
Z1PWR1;Z1AUD2<1f>
```

The current values of a small subset of settings may be queried, by preceding the command with a ?. For example, to query the mute status of Zone 2, use:

```
?Z2MUT<1f>
```

If Zone 2 mute is ON, the AV9 responds with the message:

```
Z2MUT1<1f>
```

This response gives the zone it is reporting on (z2 in this case), the setting (MUT), and the current value (a 1, showing it as ON).

In order to keep the RS232 controller informed of the current state of the AV9, certain changes in configuration/state will result in the AV9 automatically sending messages, just as if they had been queried using the method above. Changes in the following items will result in an RS232 response:

- Zone Status
- Zone 1 Audio
- Zone 1 Video
- Decode Mode
- Effect Mode
- THX Mode
- Zone 1 Volume
- Audio Signal Type
- Current Preset
- Direct Mode

Command processing begins when the first semicolon separator of line feed terminator is received. If there is an error in the command an error message **FAIL** is sent back. If the command is executed successfully, the command is echoed back to the sender.

In the command tables below, one or more of the following parameters may be used:

Param.	Description
?	Query Option. The value can be queried by putting a ? before the command.
z	Zone selection. The zone can be selected by putting a z before the command. Values are z1 (for zone 1) or z2 (for Zone 2).
x	On/Off, Yes/No. The value can be set by putting an x after the command. Values are 1 (for On/Yes) or 0 (for Off/No).
y	Value. The value can be set by putting a y after the command. Values have various ranges, as described in the tables below.
i	Input Source. The source can be set by putting an i after the command. Values are in the range 0 to 9, A, B as follows: 0 = None/Not Connected, 1 = Source, 2 = AUX, 3 = CD, 4 = TUNER, 5 = DVD, 6 = SAT, 7 = AV, 8 = MULTICHANNEL, 9 = TAPE, A = VCR, B = Follow Zone 1.
s	Channel/Speaker Select. Values are in the range 0 to 8 as follows: 0 = Centre, 1 = Front Left, 2 = Front Right, 3 = Surr. Left, 4 = Surr. Right, 5 = Surr. Back Left, 6 = Surr. Back Right, 7 = Subwoofer, 8 = All/Master.

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Response/ Réponse/ Werte/ Antwoord
PWR	?zPWR	<ul style="list-style-type: none"> Ⓒ Query Power State Ⓕ Interroger état M/A Ⓓ Ein/Aus abfragen Ⓝ Spanningsstatus opvraag 	zPWRx , z = zone.
MUT	?zMUT	<ul style="list-style-type: none"> Ⓒ Query Mute State Ⓕ Interroger état mute Ⓓ Stummschaltung abfragen Ⓝ Geluidsonderdrukkings-status opvraag 	zMUTx , z = zone.
EFF	?EFF	<ul style="list-style-type: none"> Ⓒ Query Effect Mode Ⓕ Interroger mode effet Ⓓ Effektmodus abfragen Ⓝ Effectenmode opvraag 	EFFy , y = 0 – 7: 0 = Off, 1 = Music, 2 = Party, 3 = Club, 4 = Hall, 5 = Sport, 6 = Church, 7 = Next effect.
THX	?THX	<ul style="list-style-type: none"> Ⓒ Query THX Mode Ⓕ Interroger mode THX Ⓓ THX-Modus abfragen Ⓝ THX mode opvraag 	THXy , y = 0 – 4: 0 = Off, 1 = THX Cinema, 2 = THX Ultra2 Cinema, 3 = THX MusicMode, 4 = THX SurrEX
DEC	?DEC	<ul style="list-style-type: none"> Ⓒ Query Decode/Downmix Mode Ⓕ Interroger mode décodage/mixage Ⓓ Decodier-/Abmischmodus abfragen Ⓝ Decodering/Terugschroeven mode opvraag 	DECy If Audio = Analogue or PCM, y = 0 – 6: 0 = Mono, 1 = Stereo, 2 = Pro Logic II Movie, 3 = Pro Logic II Music, 4 = Pro Logic, 5 = Neo:6 Cinema, 6 = Neo:6 Music, 7 = Pro Logic IIX Movie, 8 = Pro Logic IIX Music If Audio = Dolby Stereo 2 = Pro Logic II Movie, 3 = Pro Logic II Music, 4 = Pro Logic IIX Movie, 5 = Pro Logic IIX Music If Audio = Dolby Multichannel 4 = Pro Logic IIX Movie, 5 = Pro Logic IIX Music, 6 = Dolby Digital Surround EX If Audio = Digital Surround (Dolby or DTS), y = 0 – 2: 0 = Mono Downmix, 1 = Stereo Downmix, 2 = No Downmix.
DIR	?DIR	<ul style="list-style-type: none"> Ⓒ Query Direct State Ⓕ Interroger état direct Ⓓ Direktmodus abfragen Ⓝ Rechtstreeks status opvraag 	DIRx
VOL	?zVOL	<ul style="list-style-type: none"> Ⓒ Query Volume Ⓕ Interroger volume Ⓓ Lautstärke abfragen Ⓝ Volume status opvraag 	zVOLy , z = zone, y = -63 to +19: -63 = -63dB +19 = +19dB
AUD	?zAUD	<ul style="list-style-type: none"> Ⓒ Query Audio Source Ⓕ Interroger source audio Ⓓ Audioquelle abfragen Ⓝ Audiobron status opvraag 	zAUDi , z = zone.
VID	?zVID	<ul style="list-style-type: none"> Ⓒ Query Video Source Ⓕ Interroger source vidéo Ⓓ Videoquelle abfragen Ⓝ Videobron status opvraag 	zVIDi , z = zone.
SIG	?zSIG	<ul style="list-style-type: none"> Ⓒ Query Audio Signal Type Ⓕ Interroger type de signal audio Ⓓ Audiosignaltyp abfragen Ⓝ Audiosignaal type opvraag 	zSIGy , z = zone, y = 0 – 20: 0 = Analogue, 1 = PCM, 2 = Dolby Digital 1+1, 3 = Dolby Digital 1/0, 4 = Dolby Digital 2/0, 5 = Dolby Digital 3/0, 6 = Dolby Digital 2/1, 7 = Dolby Digital 3/1, 8 = Dolby Digital 2/2, 9 = Dolby Digital 3/2, 10 = Dolby Digital EX, 11 = DTS 1/0, 12 = DTS 1+1, 13 = DTS 2/0, 14 = DTS 3/0, 15 = DTS 2/1, 16 = DTS 3/1, 17 = DTS 2/2, 18 = DTS 3/2, 19 = DTS-ES Matrix, 20 = DTS-ES Discrete.

Command/ Commande/ Befehl/ Comando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Response/ Réponse/ Werte/ Antwoord
STS	?zSTS	GB Query Zone Status. F Interroger état Zone D Zustand der Zone abfragen NL Zone status opvraag	GB Reports the current state of Audio, Video, Volume, Mute, Audio Signal Type, *Decode/Downmix Mode, *Effect Mode, *THX Mode. * Zone 1 only F Renvoie l'état actuel audio, vidéo, volume, mute, 'Audio Signal Type', *Mode décodage/mixage, *Mode effet, *Mode THX. * Zone 1 seulement D Gibt den aktuellen Zustand von Audio, Video, Lautstärke, Stummschaltung, Audiosignaltyp, *Decodier-/Abmischmodus, *Effektmodus und *THX-Modus aus. *Nur für Zone 1 NL Rapporteert de gangbare status op gebied van Audio, Video, Volume, Geluidsonderdrukking, Audiosignaal type, *Decodering/ Terugschroeven mode, *Effecten mode, *THX mode. * Zone 1 uitsluitend.
PRE	?PRE	GB Query Current Preset F Interroger présélection actuelle D Aktuelle Voreinstellung abfragen NL Gangbare preselectie opvraag	PREy , y = 1 – 5.
TRM	?TRMs	GB Query Trims F Interroger trims D Trimms abfrage NL Instelling opvraag	TRMsy , y = -10 – +10: -10 = -10dB +10 = +10dB in 0.5dB steps
BSA	?BSA	GB Query Bass Trim F Interroger trim grave D Tiefen-Trim abfragen NL Lage toneninstelling opvraag	BSAy , y = -6 – +6: -6 = -6dB +6 = +6dB
TBA	?TBA	GB Query Treble Trim F Interroger trim aigu D Höhen-Trim abfragen NL Hoge toneninstelling opvraag	TBAy , y = -6 – +6: -6 = -6dB +6 = +6dB
BAL	?BAL	GB Query Balance F Interroger balance D Balance abfragen NL Balans opvraag	BALy , y = -10 – +10: -10 = +10dB Left/Gauche/Links/Links +10 = +10dB Right/Droite/Rechts/Rechts
VDT	?VDT	GB Query Video Type F Interroger format image D Seitenverhältnis abfragen NL Videotype opvraag	VDTy , y = 0 – 1: 0 = 4:3, 1 = 16:9.
RCT	?RCT	GB Query Record To Tape F Interroger 'Record to Tape' D Bandaufzeichnung abfragen NL Bandopname opvraag	RCTi
RCV	?RCV	GB Query Record To VCR F Interroger 'Record to VCR' D Videoaufzeichnung abfragen NL VCR opname opvraag	RCVi
COM	?COM	GB Query Compression F Interroger compression D Komprimierung abfragen NL Compressiegraad opvraag	COMy , y = 0 – 2: 0 = Off/Arrêt/Aus/Uit 1 = Medium/Moyenne/Medium/Medium 2 = High/Haute/High/Hoog
LIP	?LIP	GB Query Lip Sync F Interroger synchronisation D Lippen-synchronisation abfragen NL Lippensynchronisatie opvraag	LIPy , y = -1 – +44: -1 = -5ms +44 = +220ms
HED	?HED	GB Query Headphone Out F Interroger sortie casque D Kopfhörerausgang abfragen NL Koptelefoonuitgang opvraag	HEDz , z = 0 – 1 0 = Zone 1, 1 = Zone 2

Command/ Commande/ Befehl/ Comando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
PWR	?zPWRx	<input checked="" type="radio"/> Power on/off <input type="radio"/> Power marche/arrêt <input type="radio"/> Gerät ein/aus <input type="radio"/> Spanningsstatus aan/uit	
MUT	?zMUTx	<input checked="" type="radio"/> Mute on/off <input type="radio"/> Mute marche/arrêt <input type="radio"/> Stummschaltung ein/aus <input type="radio"/> Geluidsonderdrukking (Mute) aan/uit	
FAN	zFANx	<input checked="" type="radio"/> Force Analogue <input type="radio"/> Forcer analogique <input type="radio"/> Analog erzwingen <input type="radio"/> Geforceerd analoog	
EFF	?EFFy	<input checked="" type="radio"/> Effect Mode Selection <input type="radio"/> Sélectionner mode effet <input type="radio"/> Effektmodus <input type="radio"/> Effectenmode selectie	y = 0 – 7: 0 = Off, 1 = Music, 2 = Party, 3 = Club, 4 = Hall, 5 = Sport, 6 = Church, 7 = Next effect.
THX	?THXy	<input checked="" type="radio"/> THX Mode Selection <input type="radio"/> Sélectionner mode THX <input type="radio"/> THX-Modus <input type="radio"/> THX mode selectie	y = 0 – 4: 0 = Off, 1 = THX Cinema, 2 = THX Ultra2 Cinema, 3 = THX MusicMode, 4 = THX SurrEX
DEC	?DECy	<input checked="" type="radio"/> Decode/Downmix Mode Selection <input type="radio"/> Sélectionner mode décodage/ mixage <input type="radio"/> Decodier-/Abmischmodus <input type="radio"/> Decodering/Terugschroeven mode selectie	If Audio = Analogue or PCM, y = 0 – 6: 0 = Mono, 1 = Stereo, 2 = Pro Logic II Movie, 3 = Pro Logic II Music, 4 = Pro Logic, 5 = Neo:6 Cinema, 6 = Neo:6 Music If Audio = Dolby Stereo 2 = Pro Logic II Movie, 3 = Pro Logic II Music, 4 = Pro Logic IIX Movie, 5 = Pro Logic IIX Music If Audio = Dolby Multichannel 4 = Pro Logic IIX Movie, 5 = Pro Logic IIX Music, 6 = Dolby Digital Surround EX If Audio = Digital Surround (Dolby or DTS), y = 0 – 2: 0 = Mono Downmix, 1 = Stereo Downmix, 2 = No Downmix.
DIS		<input checked="" type="radio"/> VFD Display <input type="radio"/> Luminosité affichage <input type="radio"/> VFD-Display <input type="radio"/> VFD Display	
RES		<input checked="" type="radio"/> Restore Preset <input type="radio"/> Rétablir présélection <input type="radio"/> Voreinstellung wiederherstellen <input type="radio"/> Preselectie herstellen	
INF		<input checked="" type="radio"/> Current Source information (on OSD) <input type="radio"/> Information source actuelle (sur l'écran) <input type="radio"/> Aktuelle Quelle (auf dem OSD) <input checked="" type="radio"/> Gangbare broninformatie (op OSD)	
SIG	?zSIG	<input checked="" type="radio"/> Current Audio Signal Type <input type="radio"/> Type signal audio actuel <input type="radio"/> Aktueller Audiosignaltyp <input type="radio"/> Gangbaar audiosignaal type	

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
STS	?zSTS	<p>GB Zone Status. Displays current state of Audio, Video, Volume, Mute, Audio Signal Type, *Decode/Downmix Mode, *Effect Mode, *THX Mode.</p> <p>* Zone 1 only</p> <p>F État Zone. Affiche l'état actuel audio, vidéo, volume, mute, type signal audio, *mode décodage/mixage, *mode effet, *mode THX.</p> <p>* Zone 1 seulement.</p> <p>D Zustand der Zone. Zeigt den aktuellen Zustand von Audio, Video, Lautstärke, Stummschaltung, Audiosignaltyp, *Decodier-/Abmischmodus, *Effektmodus und *THX-Modus an.</p> <p>*Nur für Zone 1</p> <p>NL Zone status opvraag. Duidt de gangbare status op gebied van Audio, Video, Volume, Mute, Audio-signaal type, *Decodering/Terugschroeven mode, *Effecten mode, *THX mode aan.</p> <p>*Zone 1 uitsluitend.</p>	
TRM	TRMsy	<p>GB Trim Levels</p> <p>F Niveaux trim</p> <p>D Trimm-Pegel</p> <p>NL Instellingsniveaus</p>	<p>y = -10 – +10: -10 = -10dB +10 = +10dB in 0.5dB steps</p>

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
VOL	?zVOLy	<p>GB Volume</p> <p>F Volume</p> <p>D Lautstärke</p> <p>NL Volume</p>	<p>y = -53 – +19: -63 = -63dB +19 = +19dB</p>
PRE	PREy	<p>GB Preset Select</p> <p>F Sélectionner présélection</p> <p>D Voreinstellung wählen</p> <p>NL Preselectie selectie</p>	<p>y = 1 – 5.</p>
AUD	?zAUDi	<p>GB Audio source selection</p> <p>F Sélectionner source audio</p> <p>D Audioquelle wählen</p> <p>NL Audiobron selectie</p>	
VID	?zVIDi	<p>GB Video source selection</p> <p>F Sélectionner source vidéo</p> <p>D Videoquelle wählen</p> <p>NL Videobron selectie</p>	

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
VDT	VDTy	<p>GB Video Type</p> <p>F Format image</p> <p>D Seitenverhältnis</p> <p>NL Video Type</p>	<p>y = 0 – 1: 0 = 4:3, 1 = 16:9.</p>
DIR	?DIRx	<p>GB Stereo Direct</p> <p>F Stéréo direct</p> <p>D Stereo-Direktmodus</p> <p>NL Stereo rechtstreeks</p>	
BAL	BALy	<p>GB Balance</p> <p>F Balance</p> <p>D Balance</p> <p>NL Balans</p>	<p>y = -10 – +10: -10 = +10dB Left/Gauche/Links/Links +10 = +10dB Right/Droite/Rechts/Rechts</p>

RCT	RCTi	<input checked="" type="radio"/> Record To Tape Select <input type="radio"/> Sélectionner 'Record To Tape' <input checked="" type="radio"/> Bandaufzeichnung auswählen <input type="radio"/> Bandopname selectie	
RCV	RCVi	<input checked="" type="radio"/> Record To VCR Select <input type="radio"/> Sélectionner 'Record To VCR' <input type="radio"/> Videoaufzeichnung auswählen <input type="radio"/> VCR opname selectie	
COM	COMy	<input checked="" type="radio"/> Compression <input type="radio"/> Compression <input type="radio"/> Komprimierung <input type="radio"/> Compressie	y = 0 – 2: 0 = Off/Arrêt/Aus/Uit 1 = Medium/Moyenne/Medium/Medium 2 = High/Haute/High/Hoog
LIP	LIPy	<input checked="" type="radio"/> Lip Sync Control <input type="radio"/> Synchronisation son/image <input type="radio"/> Lippen-synchronisation <input type="radio"/> Lippensynchronisatie controle	y = -1 – +44: -1 = -5ms +44 = +220ms
DIM	DIMy	<input checked="" type="radio"/> Pro Logic II MusicMode Dimension <input type="radio"/> Pro Logic II MusicMode Dimension <input type="radio"/> Pro Logic II Music-Modus (Dimension) <input type="radio"/> Pro Logic II Muziek Mode dimensie	y = 0 – 6: 0 = +3, ..., 6 = -3
CTW	CTWy	<input checked="" type="radio"/> Pro Logic II Music Mode Centre Width <input type="radio"/> Pro Logic II Music Mode Centre Width <input type="radio"/> Pro Logic II Music-Modus (Breite in der Mitte) <input type="radio"/> Pro Logic II Muziek Mode center breedte	y = 0 – 7 (y is the Centre Width setting for Pro Logic II and Pro Logic Iix, from 0 to 7)
PAN	PANx	<input checked="" type="radio"/> Pro Logic II MusicMode Panorama <input type="radio"/> Pro Logic II MusicMode Panorama <input type="radio"/> Pro Logic II Music-Modus (Panorama) <input type="radio"/> Pro Logic II Muziek Mode panorama	(x is the Panorama setting for Pro Logic II and Pro Logic Iix MusicMode)
HED	HEDz	<input checked="" type="radio"/> Headphone Out <input type="radio"/> Sortie casque <input type="radio"/> Kopfhörerausgang <input type="radio"/> Koptelefoonuitgang	HEDz, z = 0 – 1 0 = Zone 1, 1 = Zone 2

GENERAL / GÉNÉRALES / ALLGEMEINE EINSTELLUNGEN / GENERAAL

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
VDS	VDSy	<input checked="" type="radio"/> Volume Display <input type="radio"/> Affichage volume <input type="radio"/> Lautstärkeanzeige <input type="radio"/> Volume Display	y = 0 – 2: 0 = Normal/Normal/Normal/Normal 1 = dB ref/Réf. dB/dB-Bezug/dB ref. 2 = Fine/Fin/Fein/Fine
MXV	zMXVy	<input checked="" type="radio"/> Maximum Volume <input type="radio"/> Volume max. <input type="radio"/> Max. Lautstärke <input type="radio"/> Maximaal volume	For Zone 1: y = -43 – +19: -43 = -43dB +19 = +19dB For Zone 2: y = 20 – 82
MXO	zMXOy	<input checked="" type="radio"/> Max On Volume <input type="radio"/> Volume max. à la mise en marche <input type="radio"/> Max. Lautstärke beim Einschalten <input type="radio"/> Maximaal volume bij het aanzetten	For Zone 1: y = -63 – +19: -63 = -63dB +19 = +19dB For Zone 2: y = 20 – 82
DYU	DYUy	<input checked="" type="radio"/> Delay Units <input type="radio"/> Unités de retard <input type="radio"/> Verzögerungseinheit <input type="radio"/> Vertragingseenheden	y = 0 – 2: 0 = Imperial 1 = Metric 2 = Time
OMD	OMDy	<input checked="" type="radio"/> OSD Mode <input type="radio"/> Mode affichage sur l'écran <input type="radio"/> OSD-Modus <input type="radio"/> OSD Mode	y = 0 – 1: 0 = Full Page/Pleine page/Ganze Seite/Volledige bladzijde 1 = Mixed/Mélangé/Gemischt/Gemengd
VST	VSTy	<input checked="" type="radio"/> Video Status <input type="radio"/> État vidéo <input type="radio"/> Videostatus <input type="radio"/> Video Status	y = 0 – 1: 0 = Scart 1 = Screen Control
HQV	HQVy	<input checked="" type="radio"/> HQ Video <input type="radio"/> Vidéo HQ <input type="radio"/> HQ-Video <input type="radio"/> HQ Video	y = 0 – 1: 0 = RGB 1 = Component
SYG	SYGx	<input checked="" type="radio"/> Sync On Green <input type="radio"/> Synch. sur vert <input type="radio"/> Sync On Green <input type="radio"/> Synchronisatie op groen	

BASIC SPEAKERS / ENCEINTES / LAUTSPRECHERFORMAT / LUIDSPREKERS

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
AST	ASTy	<input checked="" type="radio"/> Auto Setup <input type="radio"/> Auto Setup (réglage auto.) <input type="radio"/> Autom. Setup <input type="radio"/> Automatische Set-up	y = 0 – 5: 0 = THX, 1 = THX SurrEX, 2 = Config. 1, 3 = Config. 2, 4 = Config. 3, 5 = Custom.
SSZ	SSZsy	<input checked="" type="radio"/> Speaker Size <input type="radio"/> Taille des enceintes <input type="radio"/> Lautsprechergröße <input type="radio"/> Luidspreker afmetingen	y = 0 – 2: 0 = None/Aucune/Keine/Geen 1 = Small/Present / Petite/Présente / Klein/vorhanden / Klein/aanwezig 2 = Large/Grande/Groß/Groot
5P1	5P1y	<input checked="" type="radio"/> 5.1 Rears <input type="radio"/> Arrières 5.1 <input type="radio"/> 5.1 hinten <input type="radio"/> 5.1 Achter	y = 0 – 2: 0 = Surr L/R 1 = SurrBack L/R 2 = Both

DELAY / RETARDS / VERZÖGERUNG / VERTRAGING

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
DLY	DLYsy	<input checked="" type="radio"/> Speaker Delays <input type="radio"/> Retards enceintes <input type="radio"/> Lautsprecher-verzögerung <input type="radio"/> Luidspreker vertragingstijden	y: if 'Imperial': 0 – 38.8 in, in 4inch steps if 'Metric': 0 – 12.0 metres, in 0.1m steps if 'Time': 0 – 52.5 milliseconds, in 0.5ms steps

LEVELS / NIVEAUX / PEGELEINSTELLUNGEN / NIVEAUS

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
LVL	LVLsy	<ul style="list-style-type: none"> GB Speaker Level settings F Réglages des niveaux enceintes D Lautsprecherpegel NL Luidspreker niveau-instellingen 	<p>y = -10 – +10: -10 = -10dB +10 = +10dB in 0.5dB steps</p>

SUB / CAISSON DE GRAVE / SUBWOOFER / SUB

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
CRF	CRFy	<ul style="list-style-type: none"> GB Crossover Frequency F Fréquence charnière D Schnittfrequenz NL Crossover frequentie 	<p>y = 0 – 22: 0 = 40Hz 22 = 150Hz in 5Hz steps</p>
STM	STM y	<ul style="list-style-type: none"> GB Stereo Mode F Mode stéréo D Stereomodus NL Stereo mode 	<p>y = 0 – 2: 0 = Large+Sub 1 = Sat+Sub 2 = Large.</p>
LFE	LFEy	<ul style="list-style-type: none"> GB LFE Level F Niveau LFE D LFE-Pegel NL LFE niveau 	<p>y = -10 – 0: -10 = -10dB 0 = 0dB</p>
DLF	DLFy	<ul style="list-style-type: none"> GB DTS LFE Gain F Gain DTS LFE D DTS-LFE-Verstärkung NL DTS LFE winst 	<p>y = 0 – 1: 0 = 0dB Normal 1 = -10dB.</p>
SST	SSTy	<ul style="list-style-type: none"> GB Sub Stereo F Caisson stéréo D Sub-Stereo NL Sub stereo 	<p>y = -10 – 0: -10 = -10dB 0 = 0dB</p>
DAL	DALy	<ul style="list-style-type: none"> GB DVD-A Sub Level F Niveau caisson DVD-A D Sub-Pegel für DVD-A NL DVD-A sub niveau 	<p>y = 0 – 1: 0 = Flat (0dB) 1 = Normal (+10dB)</p>
NSW	NSWy	<ul style="list-style-type: none"> GB No. of Subwoofers F Nombre de caissons D Anzahl der Subwoofer NL Aantal subwoofers 	<p>y = 1 – 3</p>

THX / THX / THX / THX

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
TEX	TEXx	<ul style="list-style-type: none"> GB THX Surround EX Flag detection F Détection THX Surround EX D THX Surround EX Kennzeichenerkennung NL THX Surround EX markeringsdetectie 	
U2S	U2Sx	<ul style="list-style-type: none"> GB THX Ultra 2 Sub F Caisson THX Ultra 2 D THX Ultra 2 – Sub NL THX Ultra 2 Sub 	
BGC	BGCx	<ul style="list-style-type: none"> GB Boundary Gain Compensation F 'Boundary Gain Compensation' D Grenzverstärkungsausgleich NL Omtrekbegrensende winstcompensatie 	
ASA	ASAy	<ul style="list-style-type: none"> GB Advanced Speaker Array F 'Advanced Speaker Array' D Advanced Speaker Array NL Geavanceerde luidsprekeropstelling 	<p>y = 0 – 2: 0 = 0-12' 1 = 12-48' 2 = 48'+</p>

ADV 1 – SPEAKER EQ / ENCEINTES / LAUTSPRECHER EQUALIZER / LUIDSPREKER

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
BAS	BASsy	GB Bass Levels F Niveaux grave D Tiefenpegel NL Lage tonen niveaus	$y = -6 - +6$: -6 = -6dB +6 = +6dB
TRB	TRBsy	GB Treble Levels F Niveau aigu D Höhenpegel NL Hoge tonen niveaus	$y = -6 - +6$: -6 = -6dB +6 = +6dB
STB	STBx	GB Auto Stereo Tone Bypass F 'Auto Stereo Tone Bypass' D Autom. Stereoklang-Umgehung NL Auto Stereo Toonregeling overbrugging	

ADV 2 – VIDEO / VIDÉO / VIDEO / VIDEO

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
OSD	zOSDx	GB OSD F Affichage sur l'écran GB OSD NL OSD	
VIA	VIAi	GB Video Input AUX F Entrée vidéo AUX D Videoeingang - AUX NL Video-ingang AUX	
VIC	VICi	GB Video Input CD F Entrée vidéo CD D Videoeingang - CD NL Video-ingang CD	
VIT	VITi	GB Video Input Tape F Entrée vidéo Tape D Videoeingang - Band NL Video-ingang Tape	
VIM	VIMi	GB Video Input Multichannel F Entrée vidéo multicanal D Videoeingang - Mehrkanal NL Video-ingang Meerkanalen	
ANV	ANVy	GB Audio and Video F Audio et vidéo D Audio und Video NL Audio en Video	$y = 0 - 1$: 0 = Tracked 1 = Separate.
HQS	HQSyi	GB HQ Video Setting F Réglage vidéo HQ D HQ-Videoeinstellungen NL HQ Video Instelling	$y = 0 - 2$: 0 = HQ Vid 1 1 = HQ Vid 2 2 = HQ Vid 3.

ADV 3 – DIGITAL / NUMÉRIQUE / DIGITALE / DIGITAAL

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
DIG	DIGyi	GB Digital Inputs F Entrées numériques D Digitale Eingänge NL Digitale ingangen	$y = 0 - 6$: Coaxial: 0 = DVD Input, 1 = AV Input, 2 = Tape Input, 3 = Tuner Input, 4 = CD Input Optical: 5 = VCR Input, 6 = SAT Input i = source assigned / la source affectée / durch Quelle zugewiesen / toegekende bron

ADV 4 – ZONE 2 / ZONE 2 / ZONE 2 / ZONE 2

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
FVL	FVLx	<ul style="list-style-type: none"> GB Zone 2 Fix Volume F Volume fixe Zone 2 D Feste Lautstärke von Zone 2 NL Zone 2 vast volume 	
SBY	zSBYy	<ul style="list-style-type: none"> GB Standby F Veille D Stand-by NL Stand-by 	y = 0 – 1: 0 = Local Only 1 = All Off.
CZI	CZIx	<ul style="list-style-type: none"> GB Zone 1 Control F Zone 1 Control D Zone 1 – Steuerung NL Zone 1 controle 	
ACC	ACCix	<ul style="list-style-type: none"> GB Zone 2 Access F Accès Zone 2 D Zone 2 – Zugriff NL Zone 2 toegang 	x : 0 = None 1 = All.

ADV 5 – INPUT TRIMS / ANALOGIQUE / EINGANGS-TRIMMS / ANALOOG

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
ANS	ANSiy	<ul style="list-style-type: none"> GB Analogue Settings F Réglages analogiques D Analogeinstellungen NL Analoge instellingen 	i = source assigned / la source affectée / durch Quelle zugewiesen / toegekende bron y = 0 – 3: 0 = Low 1V 1 = Reference 2V 2 = Medium 4V 3 = High 8V

ADV 6 – INPUT NAME / NOM D'ENTRÉE / EINGANGSNAME / INGANGSNAAM

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
INP	INPin	<ul style="list-style-type: none"> GB Input Name F Nom d'entrée D Eingangsname NL Ingangsnaam 	<ul style="list-style-type: none"> GB i: input number n: new input name, <14 characters. F i: le numéro des entrées n: le nouveau nom de l'entrée <14 caractères D i: die Eingangsnummer n: der neue Eingangsname <14 Zeichen NL i: het ingangsnummer n: de nieuwe ingangsnaam <14 tekens

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
SAV	SAVy P ₀ P ₁ P ₂ P ₃ P ₄	<ul style="list-style-type: none"> GB Save Preset F Mémoriser présélection D Voreinstellung speichern NL Save preselectie 	<p>y = 0 – 5: 0 = Current Preset / Présélection Actuelle / Aktuelle Voreinstellung / Gangbare preselectie 1 = Preset 1, 2 = Preset 2, ..., 5 = Preset 5.</p> <p>p₀: 1 = Save volume / Enregistrer le volume / Lautstärke speichern / Volume opslaan</p> <p>p₁: 1 = Save input source / Enregistrer la source / Eingangsquelle speichern / Ingangsbron opslaan</p> <p>p₂: 1 = Save source-spec. items / Enregistrer les éléments spécifiques à la source / Quellspezifische Einstellungen speichern / Bronspecifieke items opslaan</p> <p>p₃: 1 = Save Z2 settings / Enregistrer les réglages de zone 2 / Z2-Einstellungen speichern / Instellingen van Zone 2 opslaan</p> <p>p₄: 1 = Save record loop setting / Enregistrer les réglages de boucle d'enregistrement / Aufnahmeschleifen-Einstellungen speichern / Opnamelusinstelling opslaan</p>
PNM	PNMyn	<ul style="list-style-type: none"> GB Preset Name F Nom de présélection D Name d. Voreinstellung NL Preselectie naam 	<p>y = 0 – 5: 0 = Current Preset, 1 = Preset 1, 2 = Preset 2, ..., 5 = Preset 5. n = <15 characters.</p>

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
RC5	zRC5y	<ul style="list-style-type: none"> GB RC5 System Code F Code système RC-5 D RC5-Systemcode NL RC5 Systeemcode 	<p>y = 0 – 5: 0 = RC5 Code 16, 1 = RC5 Code 19.</p>
SCM	SCMx	<ul style="list-style-type: none"> GB Scrolling Message F Message déroulant D Laufende Meldung NL Afrollende boodschap 	
SCT	SCTyn	<ul style="list-style-type: none"> GB Scrolling Text Select F Sélectionner texte déroulant D Laufenden Text auswählen NL Afrollende tekstkeuze 	<p>y = 0 – 8.</p> <p>GB If y = 0, then n can be a string of your choice. If no string is given, the default is used.</p> <p>F Si y = 0, alors n peut être une suite de caractères de votre choix. Si aucune suite est fournie, la suite par défaut est utilisée.</p> <p>D Ist y = 0, kann n eine beliebige Zeichenkette sein. Wenn Sie keine Zeichenkette angeben, wird die Standardeinstellung verwendet.</p> <p>NL Als y = 0, kan n een string naar uw keuze kan zijn. De string bij verstek wordt gebruikt indien er geen opgegeven wordt.</p>
EPE		<ul style="list-style-type: none"> GB EEPROM Erase (Restore Defaults) F Effacer la mémoire EEPROM (rétablir les valeurs par défaut) D EEPROM löschen (Standard wiederherstellen) NL EEPROM uitwissen (instellingen bij verstek herstellen) 	
DIA	DIAx	<ul style="list-style-type: none"> GB Diagnostics F Diagnostiques D Diagnose NL Diagnostiek 	
FPR	FPRx	<ul style="list-style-type: none"> GB Front Panel IR Receiver F Capteur IR sur la face avant D IR-Empfänger an der Vorderseite NL Frontpaneel IR ontvanger 	

Command/ Comande/ Befehl/ Comando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
LOC		<ul style="list-style-type: none"> GB Setup Menu Lock F Verrouiller les menus de réglage D Setup-Menü sperren NL Instelmenu vergrendeling 	
TST		<ul style="list-style-type: none"> GB Test VFD and LEDs F Tester affichage et LEDs D Display und LEDs testen NL Test VFD and LED's 	
PLL		<ul style="list-style-type: none"> GB PLL Status F État PLL D PLL-Status NL PLL Status 	
RCM		<ul style="list-style-type: none"> GB RC5 Decode Mode F Mode décodage RC-5 D RC5-Decodiermodus NL RC5 Decodeingsmode 	

Command/ Comande/ Befehl/ Comando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
M	My	<ul style="list-style-type: none"> GB Display Main menus F Afficher menus principaux D Hauptmenü anzeigen NL Hoofdmenu's aanduiding 	<ul style="list-style-type: none"> GB $y = 1 - 3$ to display each of the Main menus. F $y = 1 - 3$ pour afficher chacun des menus principaux. D $y = 1 - 3$, je nach gewünschter Hauptmenüseite. NL $y = 1 - 3$ om iedere menu van de hoofdmenu's aan te duiden.
B	By	<ul style="list-style-type: none"> GB Display Basic Setup Menus F Afficher menus de réglages de base D Setup-Menüs - Basic anzeigen NL Basis Set-up menu's aanduiding 	<ul style="list-style-type: none"> GB $y = 1 - 6$ to display each of the Basic Setup menus. F $y = 1 - 6$ pour afficher chacun des menus de réglages de base. D $y = 1 - 6$, je nach gewünschtem Untermenü. NL $y = 1 - 6$ om iedere menu van de basis set-up menu's aan te duiden.
A	Ay	<ul style="list-style-type: none"> GB Display Advanced Setup Menus F Afficher menus de réglages avancés D Setup-Menüs - Advanced anzeigen NL Geavanceerde Set-up menu's aanduiding 	<ul style="list-style-type: none"> GB $y = 1 - 5$ to display each of the Advanced Setup menus. F $y = 1 - 5$ pour afficher chacun des menus de réglages avancés. D $y = 1 - 5$, je nach gewünschtem Untermenü. NL $y = 1 - 5$ om iedere menu van de geavanceerde set-up menu's aan te duiden.
SM		<ul style="list-style-type: none"> GB Display Setup Menu F Afficher 'Setup Menu' D Setup-Menü anzeigen NL Set-up menu aanduiding 	
SS		<ul style="list-style-type: none"> GB Display Save Settings Menu F Afficher menu 'Save Settings' D Menü „Save Settings' anzeigen NL Save instelling menu aanduiding 	
SV		<ul style="list-style-type: none"> GB Display Software Versions Menu F Afficher menu versions logiciel D Menü „Software Versions' anzeigen NL Software versies menu aanduiding 	
EM	EMy	<ul style="list-style-type: none"> GB Display Engineering Menu F Afficher menu technique D Menü „Engineering' anzeigen NL Engineering menu aanduiding 	<ul style="list-style-type: none"> GB $y = 1 - 2$ to display each of the Engineering menus. F y égale 1 ou 2 pour afficher chacun des menus Techniques. D y kann zwischen 1 und 2 liegen, je nach gewünschtem Untermenü. NL y kan om iedere menu van de engineeringmenu's aan te duiden een waarde tussen 1 to 2 innemen.
TM		<ul style="list-style-type: none"> GB Display Trims Menu F Afficher menu Trims D Menü „Input Trims' anzeigen NL Instellingsmenu's aanduiding 	

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
LS		<ul style="list-style-type: none"> GB Display LipSync Shortcut F Afficher raccourci synchronisation D Verknüpfung zu „LipSync“ anzeigen NL Lippensynchronisatie kortweg aanduiding 	
SW		<ul style="list-style-type: none"> GB Display Subwoofer Shortcut F Afficher raccourci caisson D Verknüpfung zu „Subwoofer“ anzeigen NL Subwoofer kortweg aanduiding 	

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
U		<ul style="list-style-type: none"> GB Up F Haut D Nach oben NL Omhoog 	
D		<ul style="list-style-type: none"> GB Down F Bas D Nach unten NL Omlaag 	
L		<ul style="list-style-type: none"> GB Left F Gauche D Nach links NL Links 	
R		<ul style="list-style-type: none"> GB Right F Droite D Nach rechts NL Rechts 	

Command/ Commande/ Befehl/ Commando	Parameters/ Paramètres/ Parameters/ Parameters	Description/ Description/ Beschreibung/ Beschrijving	Parameter values/ Valeurs des paramètres/ Mögliche Werte/ Parameter- waarden
O		<ul style="list-style-type: none"> GB OK F OK D OK NL OK 	
M		<ul style="list-style-type: none"> GB Menu F Menu D Menü NL Menu 	

ARCAM

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