

remote control

The CR402 universal remote controller

The CR402 is a sophisticated 'universal' backlit remote control that can control up to eight devices. It is pre-programmed for use with the AVR and many other Arcam products (FM/DAB tuners, CD players and DVD players).

With its extensive built-in library of codes, it can also be used with thousands of third party audio-visual components – TVs, satellite and set-top boxes, PVRs, CD players, etc. See the list of codes at the back of this haddendum.

The CR402 is a 'learning' remote, so you can teach it almost any function from an old single-device remote.

Using the remote control

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

- Ensure there are no obstacles between the remote control and the remote sensor on the AVR. The remote has a range of about 7 metres. (If the remote sensor is obscured, the Z1 IR remote control input jack on the rear panel is available. Please consult your dealer for further information.)
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the remote sensor of the AVR.
- Replace the batteries when you notice a reduction in the operating range of the remote control.



Inserting batteries into the remote control

1. Open the battery compartment on the back of the handset, by sliding its cover off.
2. Insert two 'AAA' batteries, as indicated in the battery compartment.
3. Slide the battery compartment cover back firmly into its locked position with a click.

Notes on batteries:

- Incorrect use of batteries can result in hazards such as leakage and bursting.
- Do not mix old and new batteries together.
- Do not use non-identical batteries together – although they may look similar, different batteries may have different voltages.
- Ensure the plus (+) and minus (-) ends of each battery match the direction indicated 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 local regulations that apply in your country or area.

Useful information


Backlight

A backlight comes on for eight seconds whenever a key is pressed. This helps you use the handset in subdued lighting conditions.

Power LED blinks

A blink indicate a valid key press.

Multiple blinks convey information (such as a device code) or signal the beginning and successful completion of a programming sequence.

The symbol  is used in the manual to indicate a power LED blink.

Timeouts and unassigned keys

Time out – After 30 seconds the CR402 exits the programming state and returns to normal operation.

Stuck key timeout – After any key is pressed continuously for 30 seconds, the CR402 stops sending IR transmission to conserve battery life. The CR402 remains off until all keys are released.

Unassigned keys – the CR402 ignores any unassigned key presses for a particular Device Mode and does not transmit IR.

Low voltage indicator

When the batteries are running down, the LED flashes five times whenever you press a button:



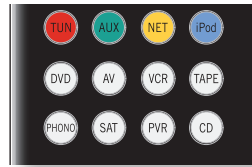
If this happens, fit two new AAA alkaline batteries as soon as possible.














Device Mode / Source keys



As the CR402 can control your AVR as well as a range of other equipment: many of the buttons have more than

one function depending on the 'device mode' selected on the remote control.



The Device Mode keys (shown below) select the source on the AVR. If one of these keys is pressed briefly, a command is transmitted to change the source on the unit. Also the functionality of the remote control changes to operate the selected source device; it's like having a bundle of different remotes in your hand!




	Multi-channel input
	Internal FM or DAB tuner input
	Auxiliary input
	Ethernet input (e.g. Internet radio)
	iPod, input
	DVD or Blu-ray disc player
	Audio-visual sound input (use with TV)
	Video Cassette recorder input
	Tape input
	Phono input
	Satellite input
	Personal Video Recorder (or Digital Video Recorder) input
	Compact Disc player input

Each Device Mode changes the behaviour of many of the CR402 keys to control the source device appropriately. For example: in CD mode  plays the previous CD track, but in AV mode  issues the TV 'channel down' command.

The CR402 remains in the last selected Device Mode so it is not necessary to press a Device Mode key before every command key if all you are doing is playing or skipping tracks on a CD, for example.




Pressing the  or  keys will put the remote into AMP Device Mode.


Navigation keys

The Navigation keys steer the cursor in Setup menus or on-screen menus. They also replicate the navigation functions of original remotes supplied with other home entertainment devices in your system.  confirms a setting.

Volume control



By default, the CR402 is set up so that the volume control and mute buttons (, , and ) always control the volume of the AVR, regardless of which Device Mode the remote is currently set for. This is known as volume 'punch through'.

For example, if you are listening to a CD, you will probably have the CR402 in CD Device Mode to control the CD player. You can use the volume controls on the remote directly to adjust the volume of the AVR without first having to press  to put the remote into AMP Device Mode. The volume buttons 'punch through' the CD Device Mode on the remote to the AMP Device Mode.

Volume 'punch through' can be disabled individually for any Device Mode if desired.

Customising the CR402

The CR402 offers a Code Learning feature that allows you to copy functions from an original remote control onto the CR402 keypad. For details of this, and other customisation features, see "customising the CR402" on page 7.

The CR402 complies with Part 15 of the FCC rules

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

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet or a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

AMP Device Mode

The **AMP** Device Mode button configures the CR402 to control the AVR. Pressing this button does not affect the currently selected input on the AVR.

IMPORTANT: The CR402 must also be in **AMP** Device Mode to select the following sources: **TUNER, AUX, NET OR IPOD.**

The functionality of the CR402 is context sensitive for the internal sources and is described in the following table.

	Single press – Toggles AVR power between standby and on in the current zone (zone in which the command is received). Press and hold – Forces all zones into standby, regardless of which zone the command was received in.
	Displays the room EQ settings menu.
	The number keys can be used for source selection (without changing the CR402 Device Mode). <ul style="list-style-type: none"> 0 SAT (satellite) input 1 STB input 2 AV input 3 TUNER input 4 DVD input 5 GAME input 6 VCR input 7 CD input 8 AUX (front panel) input
	Cycles through the front panel display's brightness options.
	Cycles through the available surround and downmix modes.

	Brings up the speaker trim menu. Use the , , and navigation buttons. Press TRIM again to exit the speaker trim menu. As this is a temporary adjustment, these additional trim levels are reset to zero when the unit is turned off or put into standby, but are retained if the selected input is changed. These temporary trim levels are independent of the speaker levels found in the setup menu.
	Stereo direct on/off. Provides a direct analogue path from the analogue inputs to the left and right front outputs. Switches off any surround processing modes and shuts down the DSP circuits for the best stereo sound quality.
	Sync. Delays may be introduced into the video signal by video processing which causes a mismatch between the audio and video timing. You will notice this by speech sound being out of synchronization with the lip movements in the video. To compensate for this, you can adjust the lip sync delay. Press the SYNC button and use the and navigation buttons. Press again to exit the lip sync trim menu.
	Toggles Dolby Volume on / off.
	Brings up a temporary subwoofer trim control. Use the and navigation buttons. Press SUB again to exit the sub trim control. As this is a temporary adjustment, the sub trim level is reset to the value set in the Speaker Levels menu when the unit is turned off or put into standby.
	Info cycles through the information displayed on the lower left portion of the front panel display when on TUN, NET & IPOD inputs.
	Displays the unit's setup menu on the On Screen Display.

	Navigate the files and menus on the screen. OK selects the highlighted file or enters the highlighted menu on the screen – equivalent to 'Enter' or 'Select' on some remote controls. <ul style="list-style-type: none"> Up Left Right Down AMP + Power on from Standby AMP + Standby from Power on AMP + OK select zone 2 AMP + changes the picture resolution
	Returns navigation to the top level of the network client menus ('Home').
	Calls up a pop-up to adjust the bass setting for a particular input.
	Toggles the mute function of the AVR.
	Increase amplifier volume .
	Calls up a pop-up to adjust the treble setting for a particular input.
	Resets remote to AMP mode.
	Decrease amplifier volume .
	Tuner / Red button
	Aux / Green button
	Network (NET) internal input / Yellow button
	iPod / Blue button
	DVD/BD input
	AV input
	VCR input
	Tape input
	Phono input
	Satellite input
	PVR input
	CD input

iPod commands

The iPod interface is selected by pressing **(IPOD)** key in **AMP** Device Mode on the CR402. When connected to an iPod via an optional rLead/rDock/irDock/drDock, the keys below are used to navigate music files in **AMP** Device Mode.

	Navigate the files on screen. OK selects/play the highlighted file.
	Selects the previous/next track in the current playlist.
	Toggles pause and playback of the current track.
	Stops playback.














Network commands











When using the network client, the keys below are used to navigate music files in **AMP** Device Mode.

	Navigate the files and menus on the screen. OK selects the highlighted file or enters the highlighted menu on the screen.
	Selects the previous/next track in the current playlist.
	Toggles pause and playback of current track.
	Stops playback.
	Adds the currently displayed file or radio station to favourites list when using the network client.
	Removes the currently displayed file or radio station from favourites list when using the network client.
	Returns navigation to the top level of the music files structure ('Home').

DVD Device Mode

















The **DVD** Device Mode button configures the CR402 to control the functions of Arcam DVD and Blu-ray Disc players, although this can be changed. Pressing this button also selects **DVD** as the source.

	Toggles power between standby and on.
	Open/close disc tray.
	Searches for and plays the track corresponding to the key pressed when playing CD.
	Cycles through the front panel display's brightness options.
	Cycles through the repeat options (track, disc, etc).
	Fast rewind
	Fast forward
	Press and release to skip back to the beginning of the current/previous track.
	Press and release to skip forwards to the beginning of the next track. Stereo direct on/off. Provides a direct analogue path from the analogue inputs to the left and right front outputs. Switches off any surround processing modes and shuts down the DSP circuits for the best stereo sound quality.
	Stop playback of a BD or DVD.
	Toggles pause and playback of current track.
	Start recording (on products that have this feature).
	Disc menu

	Activates BD/DVD player menu, if available.
	Navigate setup and BD/DVD programme selection menus. OK selects the highlighted file or enters the highlighted menu on the screen – equivalent to 'Enter' or 'Select' on some remote controls. ▲ Up ◀ Left ▶ Right ▼ Down DVD + ▲ Power on from Standby DVD + ▼ Standby from Power on DVD + ▶ increases the picture resolution, note for BD only on the home screen.
	Returns navigation to the top level of the menu ('Home').
	Changes audio decode format (Dolby Digital, DTS, etc).
	Cycles through subtitle options, if available.
	Resets remote to AMP mode.
	Displays programming screen on Arcam DVD players.
	Clears bookmark, search and programme display entries on Arcam DVD players.
	Displays the Memory function (Bookmarks).
	Displays Status Info on Arcam DVD players.

AV Device Mode

The **AV** Device Mode button configures the CR402 to control the functions of a television or other display device. You will need to configure this Device Mode to work with your equipment. Pressing this button also selects **AV** as the source.

















	Toggles power between standby and on. (Some TVs require you to use a number key to turn them on.)
	Functions as original remote number key – usually for channel selection.
	Display INFO or OSD (On Screen Display) function, if available.
	AV, this function is TV specific.
	Channel down
	Channel up
	Displays picture information, this function is TV specific.
	Guide
	Navigate setup and programme selection menus. OK confirms a selection (equivalent to 'Enter' or 'Select' on some remotes).
	Returns navigation to the top level of the menu ('Home').
	Cycles through subtitle options, if available.
	Resets remote to AMP mode
	RED key for Text TV
	GREEN key for Text TV
	YELLOW key for Text TV
	BLUE key for Text TV

VCR Device Mode

The **VCR** Device Mode button selects **VCR** as the source. The VCR page allows code learning from a dedicated VCR remote – see "customising the CR402" on page 7.
















SAT Device Mode








The **SAT** Device Mode button selects **SAT** as the source. If configured to work with your satellite receiver, the CR402 can subsequently control the device.

	Toggles power between standby and on.
	Functions as original remote number key – usually for channel selection.
	Display INFO or OSD (On Screen Display) function, if available.
	Channel down
	Channel up
	Displays programme information.
	Guide (or Setup on some set top boxes).
	Navigate setup and programme selection menus. OK confirms a selection (equivalent to 'Enter' or 'Select' on some remotes).
	Returns navigation to the top level of the menu ('Home').
	Back
	Cycles through subtitle options, if available.
	Resets remote to AMP mode.
	RED key for SAT
	GREEN key for SAT
	YELLOW key for SAT
	BLUE key for Text SAT


PVR Device Mode


















The **PVR** Device Mode button selects **PVR** as the source. If configured to work with your personal (hard disc) video recorder or similar device, the CR402 can subsequently control the device.














	Toggles power between standby and on.
	Functions as original remote number key – usually for channel selection.
	Display INFO or OSD (On Screen Display) function, if available.
	Selects the Library or Media function.
	Rewind
	Fast Forward
	Channel down
	Channel up
	Stop playback
	Toggles pause and playback of current track.
	Record
	Opens the EPG (Electronic Program Guide) on some Satellite and Cable set top boxes.
	Turns on the Menu function if the PVR uses this feature.
	Navigate setup and programme selection menus. OK confirms a selection (equivalent to 'Enter' or 'Select' on some remotes).
	Returns navigation to the top level of the menu ('Home').

	Selects the Help function.
	Cycles through subtitle options, if available.
	Resets remote to AMP mode.
	RED key for PVR
	GREEN key for PVR
	YELLOW key for PVR
	BLUE key for Text PVR

CD Device Mode

The  Device Mode button selects CD as the source. The button is configured to control the CD functions of Arcam CD players, although this can be changed (see “Locking/Unlocking a specific Device Mode” on page 8).

	Toggles power between standby and on
 	Open/close disc tray.
	Searches for and plays the track corresponding to the key pressed.
	Cycles through the front panel display's brightness options
	Cycles through the repeat options (track, disc, etc).
	Fast rewind.
	Fast forward.
	Press and release to skip back to the beginning of the current/previous track
	Press and release to skip forwards to the beginning of the next track.
	Stop playback of a CD
	Toggles pause and playback of current track.
	In 'normal play' mode (ie the display does not show the letter 'P') press the  and  keys to select the track and then the  stores the track. In 'program play' mode the  key deletes the stored track.

	Navigate setup and CD programme selection menus.
	 selects the highlighted file or enters the highlighted menu on the screen – equivalent to 'Enter' or 'Select' on some remote controls.
	Up
	Left
	Right
	Down
 + 	Power on from Standby
 + 	Standby from Power on
	Resets remote to AMP mode.
	Plays the programmed tracks.

customising the CR402

Code learning

The CR402 comes with a complete library of pre-programmed codes. After you have set up the CR402 for your device, you may find that there are one or more functions on your original remote which do not have a place on the CR402 keypad. For convenience, the CR402 offers a Code Learning feature that allows you to copy up to 16 functions from an original remote control onto the CR402 keypad.

Before you start, make sure that:


- The original remote control is working correctly.
- The remotes are not pointing at your device.
- The remotes have fresh batteries.
- The remotes are not in direct sunlight or under strong fluorescent lights.

NOTE


Learned functions are mode-dependent. You could assign up to eight different functions to a single key – a separate learned function for each mode.

Direct code setup (Method 1)

The first method is to program the remote with the 3-digit code number for the device you wish to control – see “device code tables” on page 9. Make a note of the suggested number or numbers – the most popular code is listed first. Now power on the device.






1. Press the Device key for the product you want to set up, together with the ① key. Hold down both buttons for three seconds until the LED stays lit.
You are now in setup mode, and you can release the buttons.
2. Enter a 3-digit code for the device.
If the 3-digit code number you entered is correct for the device, it will turn off. If it doesn't turn off, enter the next code number from your list until the device does turn off.
3. Once you have found the correct code, press the Device key again. The LED blinks three times  to confirm that the code has been successfully stored.

NOTE

On the following pages, a single ‘blink’ of the CR402's power LED is indicated by the symbol .




Library search setup (Method 2)

Library search allows you to scan through all the codes contained in the CR402's memory. It can take a lot longer than the previous method, so only use this method if:


- Your device does not respond to the CR402 after you have tried all the codes listed for your brand.
 - Your brand is not listed at all in the Device Code tables.
1. Press the Device key for the product you want to set up, together with the ① key. Hold down both buttons for three seconds until the LED stays lit.
 2. Point the remote control at the product you wish to control and press the  or  button on the navigation pad. Each time the  or  button is pressed, the code counts up (or down) one code number with a signal to power off the device.
 3. Continue pressing the up or down button, in approximately one second intervals, until the device turns off. (DO NOT alternate the up and down button – you need to move in only one direction.)
 4. To store the correct code, press the Device key again. The LED blinks three times  to confirm that the code has been successfully stored.

Learning setup (Method 3)

The third method involves ‘teaching’ the CR402 remote from the original remote for the device. The two remotes should be facing each other, about a metre apart.

1. Press the Device key for the product you want to set up, together with the ③ key. Hold down both buttons for three seconds until the LED stays lit.
2. Press the button on the CR402 that you want to assign a command to. The LED blinks once  indicating that the remote is ready to learn the command.
3. Press and hold the appropriate key on the other remote until the LED blinks twice . This indicates the CR402 has learned the command from your other remote.
4. Continue learning the commands from your other remote by pressing the next button on the remote and repeating steps 2 and 3.
5. Once the remote has learned all the selected commands, press and hold the Device key you used to enter learning together with the Numeric ③ key to store the learned commands. The LED blinks three times  to confirm that the code has been successfully stored.

NOTE

If the CR402 LED blinks five times  there was an error in the learning process. In this case, please start the Learning Setup from the start.






The device keys, ,  and  do not learn commands.

Important notes

- Once you start a Code Learning session, you have approximately thirty seconds to conduct each step. Any longer, and a timeout means that you'll have to start the process again.
- The Learning feature is mode-specific – you can copy one feature *per mode* onto a key.
- The CR402 can learn approximately 16 functions in total.
- To replace a learned function, simply assign a new function to the same key.
- Learned functions are retained when you change batteries.
- If Code Learning fails, try altering the distance between the two remotes; make sure that the ambient light is not too bright.




Deleting the learned data

To delete all the learned data for a device:














1. Press the Device key for the product you want to set up, together with the ③ key. Hold down both buttons for three seconds until the LED stays lit.
2. Press and hold down the Device key for the product that you want to erase, together with the  key for three seconds until the LED blinks twice .
3. If any further key press is not made for 30 seconds after the LED blinks twice , the remote leaves erase mode without deleting the learned data.
4. If you press the Device key together with the ③ key one more time within 30 seconds after the LED blinks twice , you can finish the erase mode deleting all the data learned on the Device. The LED blinks three times  to confirm.

To delete the learned data for a key for a device:

1. Press the Device key for the product you want to set up, together with the ③ key. Hold down both buttons for three seconds until the LED stays lit.

- Press and hold down the key on which you want to delete the data for three seconds. The LED blinks twice . If any further key press is made, the remote escapes from erase mode without deleting the learned data.
- If any further key press is not made for 30 seconds, the LED blinks twice , the remote get out of the erase mode automatically without deleting the learned data.
- If you press the Device key together with the **(3)** key again within 30 seconds after the LED blinks twice, the data learned for that key is deleted and you leave erase mode. The LED blinks three times  in confirmation.

Reading stored code numbers

- Press the Device key for the product that you want to set up together with the **(4)** key. Hold down both keys for three seconds until the LED stays lit.
- Press the **(INFO)** key and count the number of blinks (=1, =2, =3, etc.). There is a time gap between digits. (Note that '0' is represented by ten blinks:          .)

Locking/Unlocking a specific Device Mode

When you first unpack your CR402 and insert the batteries, it is able to control certain Arcam components automatically (e.g. BD players, Amplifiers, Tuners and CD Players). We achieve this by programming specific Arcam device codes onto the relevant Device Mode keys, then locking the Device Modes so you don't reprogram them inadvertently.

If you want to override these locked default settings – to control a third-party DVD/BD player, for example – you will first need to unlock DVD Mode before setting up the CR402 using one of the learning methods described on the previous page.

Here are the factory default settings:

Device Mode	Default status	Default codes
AMP	Locked	001 (Arcam code 16)
DVD	Locked	001 (Arcam)
AV	Unlocked	108 (Philips TV)
VCR	Unlocked	Code learning only
SAT	Unlocked	128 (Sky+ Digital, from SAT database)
PVR	Unlocked	018 (Humax PVR, from SAT database)
CD	Locked	001 (Arcam)




Alternative codes are available for multi-room solutions, or in the case of code clashes with other manufacturer's products.

For example:

AMP (system code 19) : 002

Note that you need to change the system code on the product you wish to control, as well as the CR402.


- AMP, DVD and CD are the Device keys that may be Locked or Unlocked.
Lock and Unlock are toggles (they change from Lock to Unlock to Lock, etc.).
- Press and hold the Device and **(6)** keys together for three seconds.
The power LED stays lit, showing that it is in Lock/Unlock setup mode.

- If there is no further key input for 30 seconds, the LED goes off and the remote leaves Lock/Unlock setup mode.
- To verify the status of a device, press the **(3)** **(6)** **(9)** keys in sequence:
If Lock is set, the LED blinks three times: .
If Unlock is set, the LED blinks five times: .
- If you press a valid Device key within 30 seconds, the LED blinks three times:  and the remote leaves Lock/Unlock setup mode.

Controlling the volume of other devices

By default, the volume keys and mute key (**(VOL+)**, **(VOL-)** and **(MUTE)**) control the amplifier volume.

You can configure these buttons so they send volume commands to another device. In the following example, the volume commands are sent to a linked AV device (your television, for instance):

- Press **(AV)**+**(5)** for three seconds, until the LED lights and stays on.
- Press **(VOL+)**.
- Press **(AV)** again. The LED blinks three times .

The **(VOL+)**, **(VOL-)** and **(MUTE)** keys will now send the volume commands to the TV.

To set the volume buttons to control the amplifier once more, repeat the above steps, except press **(AMP)** in step 3.

Extended commands


- (AMP)**+**(▲)** : sends a Power On command
- (AMP)**+**(▼)** : sends a Power Off command
- (AMP)**+**(OK)** : sends a Zone command
- (AMP)**+**(▶)** : sends a Resolution command
- (AMP)**+**(TUN)** : sends a Red command to the Arcam amp
- (AMP)**+**(AUX)** : sends a Green command to the Arcam amp
- (AMP)**+**(NET)** : sends a Yellow command to the Arcam amp
- (AMP)**+**(USB)** : sends a Blue command to the Arcam amp

- (CD)**+**(▲)** : to send a Power On command
- (CD)**+**(▼)** : to send a Power Off command

- (BD)**+**(▲)** : to send a Power On command
- (BD)**+**(▼)** : to send a Power Off command
- (BD)**+**(▶)** : to send a Resolution command

Factory default reset

You can reset your remote to the original factory default settings.

Press and hold both the **(HOME)** and **(MENU)** keys for about five seconds until the power LED blinks five times .

All programming and setup codes that you have entered into the remote are erased and the remote returns to the original factory default settings.

Device codes

The tables that begin on the next page list 3-figure codes for different manufacturers' devices.

Use these when setting your CR402 up to control your devices, as described in Direct code setup: Method 1 (see previous page).

If more than one code number is listed, try the first number. If the results are unsatisfactory, continue trying the numbers for that manufacturer to get the best 'fit' with the functionality required.

If the manufacturer of your equipment is not listed, you can try Library search setup: Method 2 (see previous page). This method allows you to scan through every code contained in the CR402's memory.



Amplifier

Adc	007
Adcom	082 092 225 161 269 356
Aiwa	170 018 104 202 203 213 211 188
Akai	189
Amc	125 126 127 281 282
Angstrom	142
Anthem	335 337
Arcam	001 002 141 418
Atlantic Technology	342
Audio File	071
Audio Matrix	167
Audio Technica	134
B & K	096 097
Bose	070 170 224 347 409 460 903 906
Boston Acoustics	447
Brix	555
Bryston	023
Cambridge Audio	522 523 525 630 683 684 552
Carver	006 028 061 071 201 214 226 185 022 077 284
Cinema Sound	134
Citation	148 272
Clarion	026
Classe	537 410 411
Delphi	515
Denon	109 215 230 234 330 801
Dvico	802
Elan	057 290
Enlightened Audio	099 098
Escient	368 451
Fisher	047 214 182 297
Flextronics	378
Fosgate Audionics	231 342
GE	056
Goldstar	008
Harman Kardon	231 233 153 154 118 318
Hitachi	020
Integra	275 781
Jamo	398
Jcpenney	216
Jensen	058
JVC	163 191 114 279 291
Kenwood	026 066 145 192 182 005 280 374
Klh	331
Klipsch	042 043 081 687
Koss	216
Krell	072 376 384
Kyocera	007
Lexicon	120 235 236 237 357 360
Linn	124 377
Loewe	904 905 907 908 909
Luxman	139 052 165 115 004 009
LXI	056
Magnavox	086 164 152 208
Marantz	006 028 031 040 063 185 479 251 265 119 289

Mcintosh	238 286
Meridian	100 012 013
Mitsubish	242 243 204
Mondial	157 158 042 043 081 112
Musical Fidelity	647 648
Myryad	276 293
Nad	113 283 478 479
Naim	533 534 535
Nakamichi	040 244 245 172 183 287
NEC	176
Niles	403
Onkyo	017 046 108 080 209 275
Optimus	026
Outlaw	342
Panasonic	032 195 219 177 292 383
Parasound	129 130 132 261 294 295 333 334
Philips	249 250 251 063 119 805
Pioneer	014 044 069 168 116 035 078 198 480
Polkaudio	515
Primare	461 462 463 464 465
Proceed	144 268
RCA	010 048 117 156 067 288
Realistic	019 056 073 075 095
Rotel	074 083 085
Russound	379 391 392
Samsung	016 804
Sansui	040 048 110 119 065 228
Sanyo	047
Scott	019 091
Sharp	026 094 026 175
Sherwood	024 102 106 447
Sirius	555
Sony	018 247 248 166 101 184 218 271 369 372 380
SSI	068
Sugden	430
Sunfire	344 345 346
Systemline	759
Teac	005 019 049 040 212 217
Technics	122 176 193 219 178 177 200 257 262
Theta Digital	136
Toshiba	060 087 198 278
XM Satellite Radio	515
Yamaha	026 253 169 067 173 264 232 089 264 274 285 373 803 644
Zenith	143 210

CD

Adcom	062 042
Aiwa	089 170 187
Akai	202
Amc	231 232
Arcam	001 238 275
Audio Access	119 147
Audio Ease	165
Audio Technica	046
California Audio	147 008
Cambridge Audio	268
Carver	185 041 050 067 107 130 134 135 138 139 203 167
Classe	267
Creek	159
Denon	002 123
Emerson	042
Fisher	050 185 134 008
Genexxa	010
Goldstar	080
Harman Kardon	033 047 208
Hitachi	042 175
Inkel	130
Insignia	298
Integra	030 273
Jcpenney	141
Jensen	158
JVC	004 022 136 163 213 214 242 243
Kenwood	185 007 023 055 071 072 142 137 254
Krell	241 255
Kyocera	005
Linn	295
Loewe	256
Luxman	011 028 070 249 252
Magnavox	107
Marantz	041 051 077 107 209 246
Mcintosh	212 247
Memorex	010
Mission	107
Mitsubishi	179
Mondial	147
Musical Fidelity	258 284
Myryad	244 155
Nad	006 005 067 178 293
Nakamichi	217 218
NEC	062
Nikko	046
Nsm	107
Onkyo	030 038 039 168 169
Optimus	010 050 081
Panasonic	147 172 008 068 248
Parasound	233 240
Philips	041 107 246
Pioneer	010 020 174 175 176
Primare	266
Proceed	239
Proton	107
Quasar	147 008
RCA	017 042 150
Realistic	042 050 051 187
Rotel	107 161 178 250

SAE	107
Sansui	107 128 171 190 125
Sanyo	050
Sharp	026 031 051
Sherwood	051 096 112 115 119 166
Signature	033
Sony	048 081 097 126 133 177 226 164
Soundesign	251
Sumo	155
Sylvania	107
Symphonic	052
Tandy	010
Teac	051 052 233 079
Technics	147 172 184 008 068
Theta Digital	234 235
Toshiba	006 067 091 160 148
Victor	004 022
Wards	185 033
Yamaha	024 046 054 186 183 245

DVD

Aiwa	146
Akai	281
Alpine	098
Apex Digital	087 282 115
Arcam	001
Broksonic	130
Cambridge Audio	215 323 333
Cinevision	091
Coby	260
Cyberhome	271
Denon	138 080 173 358
Durabrand	091
DVD 2000	017
Emerson	091 143
ESA	143
Fisher	147
Funai	143
GE	027
Go Video	137 091 220 221
Goldstar	091
Harman Kardon	084 140
Hitachi	101
Initial	282
Insignia	143
Integra	142 338
JBC	084
JVC	012
Kenwood	151
Kiss	279
KLH	135
Krell	104
Lexicon	148
LG	091 057
Linn	306 309
Liteon	264
Loewe	359 360
Magnavox	001 096 143 282
Marantz	083 095
Meridian	153
Microsoft	027
Mintek	282
Mitsubishi	017
Myryad	102 134
Nad	088 353
Nakamichi	103
Onkyo	076 141 142 338
Oppo	341
Optimus	107
Orion	130
Panasonic	042 138 144 150 285
Philips	083 095 166 344
Philips-Magnovox	141 001
Pioneer	023 092 099 107 108 131 304 354
Polaroid	233
Polkaudio	141 001
Primare	193 194
Proscan	027
RCA	027
Rotel	335 336
Samsung	056 165 170 137 159 275
Sansui	130
Sanyo	147
Sears	130
Sharp	094
Sherwood	245 246 247 248 249 250 345

Sony	033 118 145 126 191 286 242 243 343 340
Superscan	143
Sv2000	143
Sylvania	143
Symphonic	143
Tag McLaren	156
Tatung	102
Teac	107
Technics	042
Techwood	088
Thompson	027
Toshiba	130 141 164 188 273 356
Venturer	149
X-Box	027
Yamaha	042 089 166 138 197 334
Zenith	057 091

DVD-TV combo

Aiwa	146
Akai	281
Durabrand	143
Esa	143
Funai	143
Insignia	143
Magnavox	282
Mintek	282
Samsung	165
SV2000	143
Sylvania	143
Symphonic	143
Toshiba	130

DVD-TV-VCR combo

Emerson	143
Insignia	143
Magnavox	143
Panasonic	144
Superscan	143
Sylvania	143
Toshiba	164

DVD-VCR combo

Go Video	137
Panasonic	150
Philips	001 (VCR functions 067)
Samsung	137 159
Sansui	130
Sony	145 191
Toshiba	141

Zenith	091 (VCR functions 101)
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DVD-Recorder

Cyberhome	271
Go Video	220 221
Kiss	279
Panasonic	138
Samsung	301
Sony	191
Toshiba	188

Blu-ray/HD-DVD

Denon	358
LG	091
Nad	353
Onkyo	338
Panasonic	285
Pioneer	304 354
Samsung	275
Sony	286
Toshiba	273 356
Yamaha	197

Satellite STB

Acoustic Solutions	002 060
Akura	002 020 026 099 100
Alba	002 016 020 023 027 032 044 058 061 070 118
Antiference	073
Argos	044
Asda	002 099
Astratec	011
Astro	024
Audioline	007
Autrex	002
Black Diamond	002
Boca	024
Bush	002 007 009 011 016 020 023 027 029 030 032 044 052 053 058 062 064 069 073 079 092 098 102 103 112
Comag	024
Crown	002
Currys	062
Curtis	062 099
CYRUS	129
Daewoo	011 109
Digifusion	009 011
Digihome	002 020 073
Digilogic	002 026
Digitalstream	093
Dion	066 089 120
Dreamax	119
Dual	020
Durabrand	002 020 055
Essentials	062
Evesham	020
EZ Box	101
Ferguson	001 012 013 020 026 062 072 073
Fetch TV	086
Finlux	073 100
Freecom	045
Fuba	017
Fusion	009 011
Globo	024
Goodmans	002 011 019 020 023 027 029 030 032 044 058 064 069 070 071 098 102 103
Grundig	001 002 003 004 027 030 044 058 059 064 069 070 074 075 084 098
Hirschmann	024
Hitachi	002 020 082
Humax	012 018 028 035 048 049 050 051 054 108 115 116 117
i-Can	094
Icecrypt	063 090 095
Inverto	021
Kabel Digital	042 057
Kabel Figital	048
Labgear	026 104
Linsar	002 020 065 073 079
Lodas	002

Logik	002 013 020 036 062 065 087 092
Logisat	024
Lowry	073 085
Luxor	020 073 079
Manhattan	070 076
Maplin	020
Matsui	002 011 061
Medion	024
Meo	031 081
Metronic	007 046 047 067 068 072 073 076 077 079
Mico	016
Morgans.S.L.	024
Murphy	100
Nichimen	023
Nikkai	085
Onn	002 020
Pace	057 078 125
Pacific	002
Palcom	017
Panasonic	006
Philex	062
Philips	007 014 031 033 034 080 114
Premiere	048 054 057 116
Proline	002 016 020 026 062
Sagecom	056 096
Sagem	008 015 056 105
Samsung	037 038 091 111
Scientific Atlanta	081
SEG	002
Setanta	007
Sharp	020 079 083 088
Sky	048 054 125
Sky-digital	127
Sky HD	130
Sky+	128
Skymaster	017
Sony	010 110
Strong	002
TDC	081
Technika	002 020 058 070 073 086 087
Technomate	039 040 041 126
Technosonic	007
Techwood	002 020 079 100
Telewest	025
Tevion	007 017 023 104
Thomson	003 005 042 043 079 113
Top Up TV	007
Topfield	090
Toshiba	002
Triax	024 083 088
TVOpics	013 036 121 122 123 124
TWF Digital	007
Virgin Media	013 025
Walker	020
Wharfedale	002 020 079
Winix	097
Xenius	073
Yamada	026
Zon	078

Satellite Radio

Brix	555
Delphi	515
Polkaudio	515
Sirius	555
Sony	380
XM Satellite Radio	515

TV

A.R.Systems	160 418
Adl	299
Admiral	058 137 204 245 246
Adyson	159 219
Aeg	031 109 123 249 263 282 286 319 407
Ag	282
Ahh Isions	131
Aiostay	144
Akai	027 036 074 097 103 104 106 108 132 140 155 156 242 243 249 250 251 275 279 280 287 407 409 410
Akita	085
Akura	064 074 086 108 171 174 407 410 429 430 431
Alba	060 064 069 074 108 127 172 175 202 249 250 264 307 407 409
Alien	264
Allstar	108 251
Altus	250
Amstrad	025 074 123 171 245 249 286 407 409
Anam	285
Andersson	123
Anitech	108 185 219 251 267 277 410
Ansonic	108
Antecno	064
Aoc	016
Arc En Ciel	173 179
Arcelik	085 086 296
Ardem	085 250
Arena	127 250
Argos	250
Aristona	109 111 119 122 230
Asa	087 102 105 234
Asberg	185 267
Asora	171 410
Astrosound	108
Asuka	149
Atlantic	089 197
Audiosonic	074 085 090 108 110 159 164 171 185 218 250 263 267 269
Aurora	170 171 219
Autovox	123 158 159 163 197 249 282
Awa	108
Awatron	171
Axxion	409
Baird	032 188
Bang & Olufsen	204 239
Basic Line	033 108 120 170 249 264 277
Baur	036 042 045 074 092 096 097 108 111 131 132 134 158 171 211 212 216 217 233 251 256 266 408 414
Baysonic	410

Prima	219
Prime	249
Primus	251
Pro 2	031 407
Profex	136 171 267
Profilo	031 074 108 294 407
Profitronic	108 185
Proline	109 120 128 189 205 229 249 269 270 285 286 407
Prosonic	418
Protech	074 108 219 249 264
Provision	066 108 109 120 282 418
Pye	108 109 251
Quadro	123 249 286 293
Quelle	#
Radiola	065 067 108 251 420
Radiomarelli	108 161 164
Radionette	181
Radiotone	074 085 108 171 249 294 407 410
Rank/Bush/Murphy	232
Recor	108 249
Rediffusion	132
Redstar	282 407
Reflex	108 249 264 293
Reoc	250
Revox	131
Rex	088 089 137 164 197 245 246 247
Rft	064 085 116 132 204
Rm 2000	108 249 264
Roadstar	063 069 090 108 117 144 249 250 251 263 264 280 286
Robotron	204
Rosita	171
Rowa	249 283
Royal	277 410
Royal Lux	282
Saba	074 147 148 161 173 179 193 195 249 270
Sagem	206 273
Saisho	025 060 069 070 136 159 205
Sakio	171 410
Salora	032 066 074 103 104 105 116 128 132 134 135 137 140 145 156 159 237 242 249 251 275 276 279
Sambers	161 185 267
Samsung	045 086 108 126 159 171 220 237 257 268 284 408 410
Sankyo	108
Sansui	108 249 264 410
Sany	193
Sanyo	032 033 051 052 074 086 087 108 123 159 189 218 221 249 286 407 414 420

Schaub Lorenz	074 108 116 117 132 141 147 148 156 171 242 249 250 264 275 277 296 410
Schneider	063 064 069 088 108 116 127 141 152 158 159 163 233 242 243 249 250 251 264 269 282 324 409
Schneider (F)	065 067 251
Seelver	069
Seg	064 108 115 123 144 159 165 171 185 219 249 264 267 269 286 293 410
Seitech	282 407
Seleco	088 089 109 110 137 195 197 226 229 245 246 247 249 251 407
Select	264
Sencor	117
Sentra	049 064 242
Serino	273
Set	074
Sharp	073 081 082 083 084 171 224 424 433
Shintom	108 249
Shintoshi	108
Shivaki	108 144 249 264
Siarem	148 161 185 204
Siemens	074 092 096 097 100 101 218 219 221 256 294
Siera	069
Silva	243 407
Silva Schneider	031 074 282 286 294 407
Silver	064 074 171 224 277 410
Sim2	226
Singer	069 108 164 185 204 251
Simudyne	025 062 063 069 074 118 148 158 162 185 196 204 212 249 251 282 407
Sky	187 194 207
Slx	264 407
Smaragd	172
Smc	418
Solavox	242
Sonitron	159 407
Sonix	194
Sonoko	249
Sonolor	140 156
Sontec	108
Sony	072 211 212 213 214 215 216 217
Soundcolor	074 108 249 264 407
Spectra	170
Standard	108
Starlite	108 171 264
Starlux	171
Stars	251
Stern	088 089 137 197 229 245 246 247
Strato	410
Strong	115 123 286

Sunkai	273
Sunstar	074 108 171
Superior	286
Supertech	074 108 171 243 249
Suprema	273
Swisstec	187 194 207 309
Tadistar	108
Tandberg	173 246 254
Tashiko	159 218 224
Tatung	063 066 069 070 079 108 118 128 159 161 184 189 282 286 407
Taurus	282 418
Tcl	152
Tcm	127
Td Design	131 140
Tec	108 144 159 165 166 170 171 243 247 249 264
Techline	108 123 185 249 264 293
Technica	249 282 286 407
Technisat	108 118 248
Techwood	115 123 249
Tecnimagen	069 251 407
Tecnison	108 159 171 249 249
Tecsonic	249
Tekon	171 268
Teleavia	173 178 179
Telefunken	177 179 193 195 225 261 270
Teleopta	171
Telerent	131 233
Telestar	031 074 108 227 282 294 407
Teletech	108 165 171 249 264
Teleton	088 089 134 159 197 247
Television	031 407
Telra	031 074 108 294 407
Tensai	064 108 110 120 127 144 149 159 171 191 249 264
Tenson	171
Tesla	069 074 090 108 109 116 127 144 150 160 204 229 249 250 263 264 273 282 407
Tevion	127 225 249 250 264 287 294 407 408
Tewa	409
Thomson	134 173 179 193 195 261 270
Thomson Ir2000	004 005 006
Thomson Rec 80	010 011 012
Thorn	026 028 032 033 036 043 045 049 052 065 067 072 075 078 079 087 097 102 105 106 107 108 110 116 120 128 132 135 141 145 156 159 160 161 168 169 170 177 179 188 189 195 198 199 200 201 211 213 216 224 232 242 244 251 270 411 414 415 416

Thorn-Ferguson	160 188 195 198 200
Tobo	171 410
Tokyo	268
Topline	249 264
Topvision	085
Toshiba	026 027 036 037 042 043 045 047 048 049 050 063 092 100 202 203 208 232 249 250 268 284 416
Tosumi	250
Towada	144 185
Trans-Continents	069
Trilux	120 264 292
Tristar	064 410
Triumph	025 219 234
E	249
TWF	320
Uher	089 108 131 149 185 197 233 249
Ultravox	108 148 164 185 204
Unimor	085 086
United	063 090 108 170 250 263 282 286
Universum	025 074 086 087 097 100 102 103 104 105 108 109 116 123 140 171 218 219 227 229 234 237 243 245 249 260 264 270 274 275 276 279 286 293
Univox	204
Vestel	108 115 121 123 243 249 264 286 293 303
Vestl	434
Videocom	425
Videocon	410
Videosat	165
Videoseven	187 194
Videoton	144 145 178 193 249 410
Vision	108 149 249
Visionmagic	187
Vog	069
Voxson	137 204
Walker	286
Waltham	134 145 159 171 178
Watson	064 074 108 127 149 171 194 249 264 293 410
Watt Radio	148 158 185
Wegavox	243 249 264 282 408
Welltech	250
Weltblick	108 110
Weston	413
Wharfedale	313 418
White	108 110 149 260
Westinghouse	
Wiewpia	428
Wilson	249
Winson	250
Worten	110 120 229 273 407
Xenius	298
Xiron	303
Yamo	064

Yoko	064 108 136 144 159 164 170 171 274 410
Zanela	224
Zanussi	137 197