RX-V765

AV Receiver

Caution: Read this before operating your unit.

- 1 To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- 2 Install this sound system in a well ventilated, cool, dry, clean place away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold. Allow ventilation space of at least 30 cm on the top, 20 cm on the left and right, and 20 cm on the back of this unit.
- 3 Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds.
- 4 Do not expose this unit to sudden temperature changes from cold to hot, and do not locate this unit in an environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
- 5 Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:
 - Other components, as they may cause damage and/or discoloration on the surface of this unit.
 - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
 - Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.
- 6 Do not cover this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
- 7 Do not plug in this unit to a wall outlet until all connections are complete.
- 8 Do not operate this unit upside-down. It may overheat, possibly causing damage.
- 9 Do not use force on switches, knobs and/or cords.
- 10 When disconnecting the power cable from the wall outlet, grasp the plug; do not pull the cable.
- 11 Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- 12 Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. Yamaha will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
- 13 To prevent damage by lightning, keep the power cord and outdoor antennas disconnected from a wall outlet or the unit during a lightning storm.
- 14 Do not attempt to modify or fix this unit. Contact qualified Yamaha service personnel when any service is needed. The cabinet should never be opened for any reasons.
- 15 When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the wall outlet
- 16 Install this unit near the AC outlet and where the AC power plug can be reached easily.

- 17 Be sure to read the "Troubleshooting" section on common operating errors before concluding that this unit is faulty.
- 18 Before moving this unit, press @MAIN ZONE ON/OFF to set this unit in the standby mode, and disconnect the AC power plug from the wall outlet.
- 19 VOLTAGE SELECTOR (Asia and General models only) The VOLTAGE SELECTOR on the rear panel of this unit must be set for your local main voltage BEFORE plugging into the AC wall outlet. Voltages are:
- 20 The batteries shall not be exposed to excessive heat such as sunshine, fire or like.
- 21 Excessive sound pressure from earphones and headphones can cause hearing loss.
- 22 When replacing the batteries, be sure to use batteries of the same type. Danger of explosion may happen if batteries are incorrectly replaced.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by **MAIN ZONE ON/ OFF.** In this state, this unit is designed to consume a

■ For U.K. customers

very small quantity of power.

If the socket outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate 3 pin plug fitted. For details, refer to the instructions described below.

Note

The plug severed from the mains lead must be destroyed, as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

Special Instructions for U.K. Model

IMPORTANT

THE WIRES IN MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

Blue: NEUTRAL Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Making sure that neither core is connected to the earth terminal of the three pin plug.



Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.



Pb

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.



Thank you for having chosen a Yamaha product. In the unlikely event that your Yamaha product needs guarantee service, please contact the dealer from whom it was purchased. If you experience any difficulty, please contact Yamaha representative office in your country. You can find full details on our website (http://www.yamaha-hifi.com/ or http://www.yamaha-uk.com/ for U.K. resident).

The product is guaranteed to be free from defects in workmanship or materials for a period of two years from the date of the original purchase. Yamaha undertakes, subject to the conditions listed below, to have the faulty product or any part(s) repaired, or replaced at Yamaha's discretion, without any charge for parts or labour. Yamaha reserves the right to replace a product with that of a similar kind and/or value and condition, where a model has been discontinued or is considered uneconomic to repair.

Conditions

- 1. The original invoice or sales receipt (showing date of purchase, product code and dealer's name) MUST accompany the defective product, along with a statement detailing the fault. In the absence of this clear proof of purchase, Yamaha reserves the right to refuse to provide free of charge service and the product may be returned at the customer's expense.
- 2. The product MUST have been purchased from an AUTHORISED Yamaha dealer within the European Economic Area (EEA) or Switzerland.
- 3. The product must not have been the subject of any modifications or alterations, unless authorised in writing by Yamaha.
- The following are excluded from this guarantee:
 - a. Periodic maintenance and repair or replacement of parts due to normal wear and tear.
 - b. Damage resulting from:
 - (1) Repairs performed by the customer himself or by an unauthorised third party.
 - (2) Inadequate packaging or mishandling, when the product is in transit from the customer. Please note that it is the customer's responsibility to ensure the product is adequately packaged when returning the product for repair.
 - (3) Misuse, including but not limited to (a) failure to use the product for its normal purpose or in accordance with Yamaha's instructions on the proper use, maintenance and storage, and (b) installation or use of the product in a manner inconsistent with the technical or safety standards in force in the country where it is used.
 - (4) Accidents, lightning, water, fire, improper ventilation, battery leakage or any cause beyond Yamaha's control.
 - (5) Defects of the system into which this product is incorporated and/or incompatibility with third party products.
 - (6) Use of a product imported into the EEA and/or Switzerland, not by Yamaha, where that product does not conform to the technical or safety standards of the country of use and/or to the standard specification of a product sold by Yamaha in the EEA and/or Switzerland.
 - (7) Non AV (Audio Visual) related products. (Products subject to "Yamaha AV Guarantee Statement" are defined in our website at http://www.yamaha-hifi.com/ or http://www.yamaha-uk.com/ for U.K. resident.)
- 5. Where the guarantee differs between the country of purchase and the country of use of the product, the guarantee of the country of use shall apply
- 6. Yamaha may not be held responsible for any losses or damages, whether direct, consequential or otherwise, save for the repair or replacement of the product.
- 7. Please backup any custom settings or data, as Yamaha may not be held responsible for any alteration or loss to such settings or data.
- 8. This guarantee does not affect the consumer's statutory rights under applicable national laws in force or the consumer's rights against the dealer arising from their sales/purchase contract.



INTERPOLICE	Radio Data System tuning	33
INTRODUCTION	Displaying the Radio Data System information.	33
Features2	Selecting the Radio Data System program type	
About this manual3	(PTY Seek mode)	33
Supplied accessories3	Using the enhanced other networks (EON) data	
Part names and functions4	service	
	Using iPod TM	
Front panel	Controlling iPod TM	35
Rear panel 5 Front panel display 6	Using Bluetooth™ components	
	Pairing the Bluetooth TM wireless audio receiver	
Remote control	and your Bluetooth TM component	37
Quick start guide8	Playback of the Bluetooth TM component	
PREPARATION	Other functions	
	Using the sleep timer	
Preparing remote control9	Using the HDMI TM control function	
Installing batteries in the remote control9		
Using the remote control9	ADVANCED OPERATION	
Connections10		0
Placing speakers10	Setting the option menu for each input source	
Connecting speakers11	(OPTION menu)	
Information on jacks and cable plugs14	OPTION menu items	39
Connecting a video monitor15	Outputting a video signal input from another	_
Connecting other components16	input source during reproducing a multi-chan	
Connecting a multi-format player or an external	audio signal	41
decoder18	Editing surround decoders/sound field	
Connecting an external amplifier18	programs	
Using REMOTE IN/OUT jacks19	Setting sound field parameters	
Connecting a Yamaha iPod universal dock or	Sound field parameters	42
Bluetooth TM wireless audio receiver19	Changing various settings of this unit	
Connecting a camcorder or portable audio player 19	(SETUP menu)	46
Connecting the FM and AM antennas20	Basic operation of the SETUP menu	47
Connecting the power cable20	Speaker Setup	47
Turning this unit on and off20	Sound Setup	
Optimizing the speaker setting for your	Function Setup	50
listening room (YPAO)21	DSP Parameter	52
Using Auto Setup21	Memory Guard	52
When an error message is displayed during	Using multi-zone configuration	53
measurement23	Connecting Zone2	53
When a warning message is displayed after	Controlling Zone2	54
measurement23	Controlling other components with the remo	
	control	
BASIC OPERATION	Setting remote control codes	
Playback24	Programming from other remote controls	
Basic procedure24	Resetting all remote control codes	
Using the SCENE function24	Advanced setup	
Muting audio output temporarily (MUTE)25	navancea scrap	50
Adjusting high/low frequency sound	APPENDIX	
(tone control)25		
Enjoying pure hi-fi sound (Pure Direct mode)25	Troubleshooting	
Using your headphones26	General	
Displaying input signal information26	HDMI TM	
Changing information on the front panel display 26	Tuner (FM/AM)	
Enjoy the sound field programs27	Remote control	
Selecting sound field programs	iPod TM	
Enjoying unprocessed input sources	Bluetooth TM	66
(Straight decoding mode)30	Auto Setup (YPAO)	
Enjoying sound field programs without surround	Glossary	69
	Sound field program information	
speakers (Virtual CINEMA DSP)	Information on HDMI TM	71
(SILENT CINEMA TM)30	Specifications	72
Enjoying more spatial sound fields	Index	
Enjoying more spanar sound ficius		

(CINEMA DSP 3D mode)......30

(Frequency tuning mode)......31

(Preset tuning mode)......31

FM/AM tuning31

Tuning into the desired FM/AM station

Registering FM/AM stations and tuning in

Contents

(at the end of this manual)

List of remote control codes.....i

INTRODUCTION

Features

■ Built-in 7-channel power amplifier

- Minimum RMS Output Power (20 Hz-20 kHz, 0.08% THD, 8 Ω)
- FRONT L/R: 95 W + 95 W
- · CENTER: 95 W
- SURROUND L/R: 95 W + 95 W
- SURROUND BACK L/R: 95 W + 95 W

■ Speaker/Preout outputs

 Speaker jacks (7-channel + presence 2-channel), preout output jacks (7-channel, and subwoofer preout jack x 2)

■ Input/Output terminals

Input terminals

- HDMI input x 4
- Audio/Video input

[Audio] Digital input (coaxial) x 2, digital input (optical) x 2, analog input x 2 [Video] Component video x 2, S-video x 1, composite video x 4

- Audio input (analog) x 2
- Phono input x 1
- Multi-channel audio input x 1
- · Dock input x 1
- V-AUX input

[Audio] Analog x 1, stereo mini jack x 1 [Video] Composite video x 1

Output terminals

· Monitor output

[Audio/Video] HDMI x 1

[Video] Component video x 1, Composite video x 1

• Audio/Video output

[Audio] Analog x 1

[Video] Composite video x 1

• Audio output

Analog x 1

• Zone2 output

Analog x 1

Other terminals

Remote input x 1, Remote output x 1 Trigger output x 1

Proprietary Yamaha technology for the creation of sound fields

- CINEMA DSP 3D
- · Compressed Music Enhancer mode
- Virtual CINEMA DSP
- SILENT CINEMATM

■ Digital audio decoders

- Dolby TrueHD, Dolby Digital Plus
- DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Express
- Dolby Digital, Dolby Digital EX

- DTS, DTS 96/24, DTS-ES Matrix 6.1, DTS-ES Discrete 6.1
- Dolby Pro Logic, Dolby Pro Logic II, Dolby Pro Logic IIx
- DTS NEO:6
- DSD

■ Sophisticated FM/AM tuner

- 40-station random and direct preset tuning
- Automatic preset tuning
- · Radio Data System tuning

■ HDMI™

(High-Definition Multimedia Interface)

- HDMI interface for standard, enhanced or highdefinition video as well as multi-channel digital audio
 - Automatic audio and video synchronization (lip sync) information capability
 - Deep Color video signal (30/36 bit) transmission capability
 - "x.v.Color" video signal transmission capability
 - High refresh rate and high resolution video signals canability
 - High definition digital audio format signals capability
- Analog video to HDMI digital video up-conversion (composite video → HDMI, component video → HDMI) capability for monitor out
- Analog video input up-scaling for HDMI digital video output 576i or 576p → 720p, 1080i or 1080p
- HDMI control capability

■ DOCK jack

 DOCK jack to connect a Yamaha iPod universal dock (such as YDS-11, sold separately) or Bluetooth wireless audio receiver (such as YBA-10, sold separately)

Automatic speaker setup features

 "YPAO" (Yamaha Parametric Room Acoustic Optimizer) for automatically optimizing speaker outputs suitable for listening environments

Other features

- 192-kHz/24-bit D/A converter
- OSD (on-screen display) menus that allow you to optimize this unit to suit your individual audiovisual system
- · Pure Direct mode for pure hi-fi sound for all sources
- · Adaptive dynamic range controlling capability
- SCENE function that allows you to change input sources and sound field programs with one key
- Sleep timer
- Multi-zone function

About this manual

- Some operations can be performed by using either the keys on the front panel or the ones on the remote control. In case the key names differ between the front panel and the remote control, the key name on the remote control is given in parentheses.
- This manual is printed prior to production. Design and specifications are subject to change in part as a result of improvements, etc. In case of differences between the manual and product, the product has priority.
- "AMAIN ZONE ON/OFF" or "5 HDMI 1" (example) indicates the name of the parts on the front panel or the remote control. Refer to the "Controls diagram" or "Part names and functions" on page 4 for the information about each position of the parts.
- 💥 indicates a tip for your operation.
- Is indicates the page describing the related information.

DOLBY. TRUETE

Manufactured under license from Dolby Laboratories.

Dolby, Pro Logic and the double-D symbol are trademarks of Dolby Laboratories.



Manufactured under license under U.S. Patent No's: 5,451,942;5,956,674;5,974,380;5,978,762;6,226,616;6,487,535 & other U.S. and worldwide patents issued & pending. DTS is a registered trademark and the DTS logos, Symbol, DTS-HD and DTS-HD Master Audio are trademark of DTS, Inc. © 1996-2007 DTS, Inc. All Rights Reserved.

iPod™

"iPod" is a trademark of Apple Inc., registered in the U.S. and other countries

Bluetooth™

Bluetooth is a registered trademark of Bluetooth SIG and is used by Yamaha in accordance with a license agreement.



"HDMI," the "HDMI" logo and "High-Definition Multimedia Interface" are trademarks, or registered trademarks of HDMI Licensing LLC.

x.v.Color™

"x.v.Color" is a trademark of Sony Corporation.

SILENT ™ CINEMA

"SILENT CINEMA" is a trademark of Yamaha Corporation.

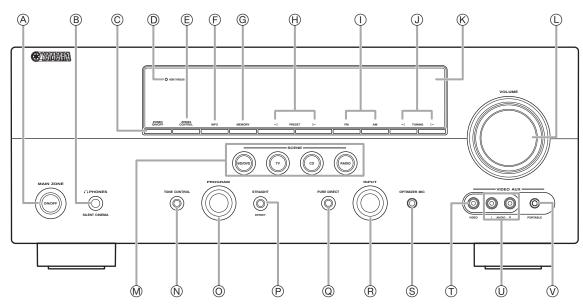
Supplied accessories

Check that you received all of the following parts.

- Remote control (see page 9)
- Batteries (AAA, R03, UM-4) x 2 (see page 9)
- Optimizer microphone (see page 21)
- AM loop antenna (see page 20)
- Indoor FM antenna (see page 20)
- Controls diagram

Part names and functions

Front panel



(A) MAIN ZONE ON/OFF

Turns this unit on and off (see page 20).

B PHONES jack

For connecting headphones (see page 26).

© ZONE2 ON/OFF

Switches Zone2 between on and off (see page 54).

(D) HDMI THROUGH

During standby, lights up under the following conditions:

- the HDMI control function is enabled (see page 50).
- an HDMI signal input to this unit passes through this unit and output (see page 50).

E ZONE2 CONTROL

Enables operation of a receiver set in Zone2, including input source switching, volume control and tuner operation, with the main amplifier or remote control after this key is pressed.

(F) INFO

Changes information on the front panel display, such as input source and sound field program name (see page 26).

G MEMORY

Registers FM/AM stations as preset stations (see page 32).

\oplus PRESET \lhd / \triangleright

Selects an FM/AM preset station (see page 32).

(I) FM/AM

Changes the tuner bands between FM and AM.

J TUNING <1/> ✓/ >

Changes FM/AM frequencies.

K Front panel display

Displays information on this unit (see page 6).

Controls the volume of this unit (see page 24).

M SCENE

Switches between linked sets of input sources and sound field programs (see page 24).

N TONE CONTROL

Adjusts high-frequency/low-frequency output of speakers/headphones (see page 24).

O PROGRAM selector

Changes sound field programs (see page 27).

(P) STRAIGHT

Toggles between the selected sound field program and straight decoding mode (see page 30).

Q PURE DIRECT

Changes mode to Pure Direct mode (see page 25). This key lights up when Pure Direct mode is on.

® INPUT selector

Selects an input source (see page 24).

© OPTIMIZER MIC jack

For connecting the supplied optimizer microphone and adjusting output characteristics of speakers (see page 21).

T VIDEO (VIDEO AUX) jack

For connecting the video output cable of a camcorder or game console (see page 19).

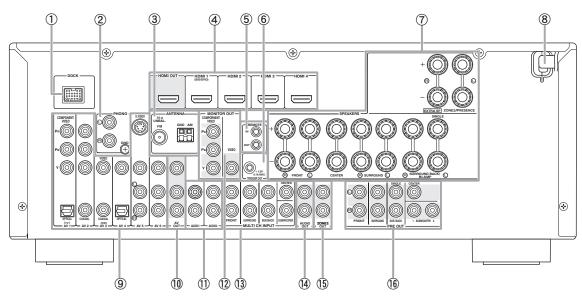
(U) AUDIO L/R (VIDEO AUX) jack

For connecting the audio output cable of a camcorder or game console (see page 19).

V PORTABLE (VIDEO AUX) jack

For connecting the audio output cable of a portable music player (see page 19).

Rear panel



① DOCK jack

For connecting a Yamaha iPod universal dock (YDS-11, sold separately) or a Bluetooth wireless audio receiver (YBA-10, sold separately) (see page 19).

2 PHONO jacks

For connecting a turntable (see page 17).

3 ANTENNA jacks

For connecting supplied FM and AM antennas (see page 20).

(4) HDMI OUT/HDMI 1-4 jacks

For connecting an HDMI-compatible video monitor or external components for HDMI inputs 1-4 (see page 16).

5 REMOTE IN/OUT jacks

For connecting an external component that supports the remote control function (see page 19).

6 TRIGGER OUT jack

For connecting an external terminal with a trigger input terminal to operate it linked with operation of this unit. For example, when an electric screen that supports a trigger input is connected, it opens and closes linked with operation of an input source selected in this unit.

7 SPEAKERS terminals

For connecting front right and left, center, surround and surround back speakers (see page 11). Connect the presence speakers (see page 12) or the speakers for Zone2 (see page 53) to the EXTRA SP jacks.

8 Power Cable

Connect this cable to an AC wall outlet (see page 20).

AV 1-6 iacks

For connecting external components for audio/video inputs 1-6 (see page 16).

(10) AV OUT jacks

Outputs audio/video signals from a selected analog input source to an external component (see page 17).

① AUDIO 1/2 jacks

For connecting external components for audio inputs 1-2 (see page 17).

12 MONITOR OUT terminals

Outputs video signals from this unit to a video monitor, such as a TV (see page 15).

MULTI CH INPUT terminals

For connecting a player that supports a multi-channel output (see page 18).

AUDIO OUT jacks

Outputs audio signals from a selected analog input source to an external component (see page 17).

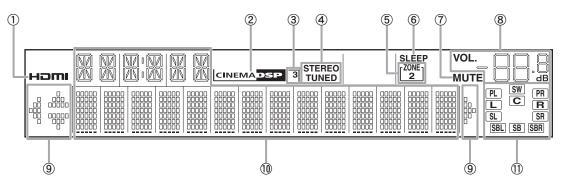
(5) ZONE2 OUT jacks

Outputs sound of this unit to an external amplifier set in a different zone.

PRE OUT terminals

For connecting a subwoofer with built-in amplifier (see page 11) or an external power amplifier (see page 18).

Front panel display



HDMI indicator

Lights up during normal communication when HDMI is selected as an input source.

2 CINEMA DSP indicator

Lights up when a sound field program that uses CINEMA DSP is selected.

3 CINEMA DSP 3D indicator

Lights up when CINEMA DSP 3D is activated.

4 Tuner indicator

Lights up during receiving radio broadcast signals from an FM/ AM station (see page 31).

(5) ZONE2 indicator

Lights up when Zone2 is turned on (see page 53).

6 SLEEP indicator

Lights up when the sleep timer is activated (see page 38).

7 MUTE indicator

Flashes when audio is muted.

8 VOLUME indicator

Displays volume levels.

9 Cursor indicators

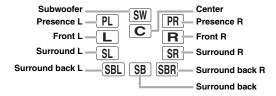
Light up when corresponding cursors on the remote control are available for operations.

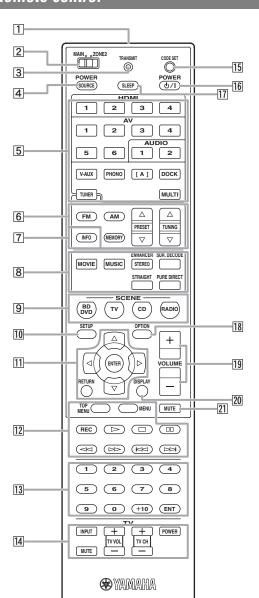
10 Multi information display

Displays menu items and settings for the current operation.

1) Speaker indicators

Indicate speaker terminals from which signals are currently output.





Remote control signal transmitter

Transmits infrared signals.

2 MAIN/ZONE2

Switches the zone to be operated by the remote control between the Main zone and Zone2 (see page 54).

3 TRANSMIT

Lights up when a signal is output from the remote control.

4 SOURCE POWER

Switches an external component on and off.

5 Input selection keys

HDMI 1-4 Select HDMI inputs 1 through 4.
AV 1-6 Select AV inputs 1 through 6.
AUDIO 1/2 Select AUDIO inputs 1 and 2.

V-AUX Selects the V-AUX jack on the front panel of this unit.

PHONO Selects a component such as a turntable that is connected to the PHONO jack on the rear panel

as an input source.

[A] To control external components using the

12 External component operation keys separately from operations of this unit

(see page 55).

DOCK Selects a Yamaha iPod universal dock/Bluetooth wireless audio receiver connected to the DOCK

iack.

TUNER Selects the FM/AM tuner.

MULTI Selects a signal input from the MULTI CH

INPUT jack on the rear panel as an input source.

6 Tuner keys

FM Select the FM band or AM band.

AM

MEMORYPresets radio stations.PRESET \triangle / ∇ Select a preset station.TUNING \triangle / ∇ Change tuning frequencies.

7 INFO

Changes information on the front panel display, such as input source and sound field program name (see page 26).

8 Sound selection keys

Selects sound field programs (see page 27).

9 SCENE

Switch between linked sets of input sources and sound field programs (see page 24).

10 SETUP

Displays the SETUP menu (see page 47).

Cursors ∆ / ♥ / < / > / ENTER/RETURN

Cursors $\triangle / \nabla / \triangleleft / \triangleright$ Select menu items displayed on the

front panel display or on a video monitor, or change settings.

ENTER Confirms a selected item.

RETURN Returns to the previous screen or

ends the menu display.

12 External component operation keys

Operate recording, playback etc. of external components (see page 55).

13 Numeric keys

Enter numbers.

14 TV control keys

Enable operations of a monitor such as a TV and a projector.

5 CODE SET

Sets remote control codes for external component operations (see page 55).

16 POWER

Switches this unit on and standby.

17 SLEEP

Switches the sleep timer operations (see page 38).

18 OPTION

Displays the OPTION menu (see page 39).

19 VOLUME +/-

Adjust the volume of this unit (see page 24).

20 DISPLAY

Changes the operation mode of the iPod connected to the Yamaha iPod universal dock (see page 35).

21 MUTE

Turns the mute function of the sound output on and off (see page 25).

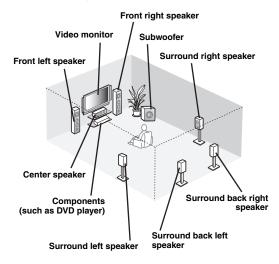
Quick start guide

When you use this product for the first time, perform the steps below. See the related pages for details of operations and settings.

Step 1: Prepare items for setup

Prepare speakers, DVD player, cables, and other items necessary for setup.

For example, prepare the following items for setting up a 7.1-channel sound system.



Front speaker Center speaker Surround speaker	2 1 2
<u> </u>	
Surround speaker	2
	_
Surround back speaker	2
	1
	5
	1
Reproduction component such as DVD player 1	
Video monitor such as TV	
Video cable or HDMI cable	
	2
	Surround back speaker nent such as DVD player s TV

`\o`:

- Prepare at least two (front) speakers. Speakers other than front speakers may be used in the following order of preference:
- 1 Two surround speakers
- 2 One center speaker
- 3 One or two surround back speakers
- If your video monitor is a CRT, we recommend that you use magnetically shielded speakers.
- An audio cable is not required when you use an HDMI cable.

Step 2: Set up your speakers

Place your speakers in the room and connect them to this unit.

Placing speakers	© P. 10
Connecting speakers	☞P. 11

`\o'`

 This unit has a YPAO (Yamaha Parametric Room Acoustic Optimizer) that automatically optimizes this unit based on room acoustic characteristics (audio characteristics of the speakers, speaker positions, and room acoustics, etc.).

You can enjoy good balanced sound without special knowledge by using the YPAO technology (see page 21).

Step 3: Connect your components

Connect your TV, DVD player, or other components.

Connecting a video monitor	☞P. 15
Connecting other components	₽ P. 16
Connecting a multi-format player or an external decoder	r∞P. 18
Connecting an external amplifier	₽ P. 18
Connecting a Yamaha iPod universal dock or Bluetooth wireless audio receiver	r≊P. 19
Connecting the FM and AM antennas	₽ P. 20

Step 4: Turn on the power

Connect the power cable and turn on this unit.

Connecting the power cable	₽ P. 20
• Turning this unit on and off	₽ P. 20

Step 5: Select the input source and start playback

Select the component connected in the step 3 as an input source and start playback.

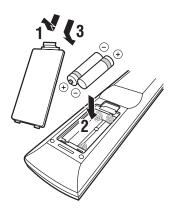
Basic procedure	₽ P. 24
Selecting sound field programs	™P. 27

`\o'`

 This unit supports the SCENE function that changes the input source and sound field program at one time. Four SCENE are preset for different purposes for Blu-ray disc, DVD and CD. You can select from a SCENE from those just by pressing a remote control key. See page 24 for details.

Preparing remote control

Installing batteries in the remote control



- 1 Take off the battery compartment cover.
- Insert the two supplied batteries (AAA, R03, UM-4) according to the polarity markings (+ and –) on the inside of the battery compartment.
- 3 Snap the battery compartment cover back into place.

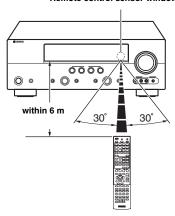
Notes

- Change all batteries if you notice the following conditions:
 - the operation range of the remote control narrows.
- the transmit indicator does not flash or is dim.
- Do not use old batteries together with new ones.
 This may shorten the life of the new batteries or cause old batteries to leak.
- Do not use different types of batteries (such as alkaline and manganese batteries) together. Specification of batteries may be different even though they look the same.
- If you find leaking batteries, discard the batteries immediately, taking care not to touch the leaked material. If the leaked material comes into contact with your skin or gets into your eyes or mouth, rinse it away immediately and consult a doctor. Clean the battery compartment thoroughly before installing new batteries.
- Dispose of the old batteries correctly in accordance with your local regulations.
- If the remote control is without batteries for more than 2 minutes, or if exhausted batteries remain in the remote control, the contents of the memory may be cleared. In such a case, install new batteries and set the remote control code.

Using the remote control

The remote control transmits a directional infrared ray. Be sure to aim the remote control directly at the remote control sensor on this unit during operation.

Remote control sensor window



Notes

- · Do not spill water or other liquids on the remote control.
- · Do not drop the remote control.
- Do not leave or store the remote control in the following conditions:
 - places of high humidity, such as near a bath
 - places of high temperatures, such as near a heater or stove
- places of extremely low temperatures
- dusty places

``@´=

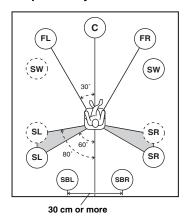
 You can operate external components with this remote control by setting the remote control code. See page 55 for details.

Connections

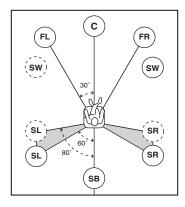
Placing speakers

This unit supports up to 7.1-channel surround playback. We recommend the following speaker layout in order to obtain the optimum surround effect.

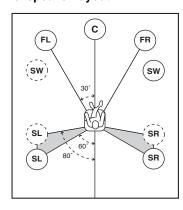
7.1-channel speaker layout



6.1-channel speaker layout



5.1-channel speaker layout



Speaker channels

■ Front left and right speakers (FL and FR)

The front speakers output the front channel sounds (stereo sound) and effect sounds. Place these speakers at an equal distance from the ideal listening position. When using a screen, the appropriate top positions of the speakers are about 1/4 of the screen from the bottom.

■ Center speaker (C)

The center speaker outputs the center channel sounds (dialog, vocals, etc.). Place it halfway between the left and right speakers. When using a TV, place the speaker just above or just under the center of the TV with the front surfaces of the TV and the speaker aligned. When using a screen, place it just under the center of the screen.

Surround left and right speakers (SL and SR)

The surround speakers output effect sounds and surround sounds. Place them at the rear left and rear right facing the listening position.

To obtain a natural sound flow in the 5.1-channel speaker layout, place them slightly further back than in the 7.1-channel speaker layout.

Surround back left and right speakers (SBL and SBR) / Surround back speaker (SB)

The surround back left and right speakers output rear effect sounds. Place them at the rear of the room facing the listening position at least 30 cm away from each other, ideally at the same distance as that between the front left and right speakers.

In the 6.1-channel speaker layout, surround back left and right channel sound signals are mixed down and output from the single surround back speaker.

In the 5.1-channel speaker layout, surround back left and right channel sound signals are output from the surround left and right speakers.

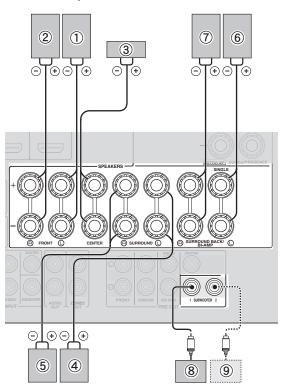
■ Subwoofer (SW)

The subwoofer speaker outputs bass sounds and low-frequency effect (LFE) sounds included in Dolby Digital and DTS signals. Use a subwoofer with a built-in amplifier, such as the Yamaha Active Servo Processing Subwoofer System. Place it exterior to the front left and right speakers facing slightly inward to reduce reflections from a wall.

Connecting speakers

When you connect speakers, connect them to the respective jacks as follows, according to your speaker layout.

รู้ค่ะ • You can connect up to two subwoofers. When two subwoofers are connected, the same sound is output from them.



7.1-channel

Speakers	Jacks on this unit
① Front speaker L	FRONT (L)
② Front speaker R	FRONT (R)
3 Center speaker	CENTER
Surround speaker L	SURROUND (L)
Surround speaker R	SURROUND (R)
6 Surround back speaker L	SURROUND BACK/BI-AMP (L)
Surround back speaker R	SURROUND BACK/BI-AMP (R)
8 Subwoofer 1	SUBWOOFER 1
Subwoofer 2 (optional)	SUBWOOFER 2

6.1-channel

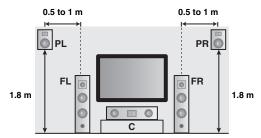
Speakers	Jacks on this unit
① Front speaker L	FRONT (L)
② Front speaker R	FRONT (R)
3 Center speaker	CENTER
Surround speaker L	SURROUND (L)
Surround speaker R	SURROUND (R)
Surround back speaker	SURROUND BACK/BI-AMP (SINGLE)
8 Subwoofer 1	SUBWOOFER 1
Subwoofer 2 (optional)	SUBWOOFER 2

5.1-channel

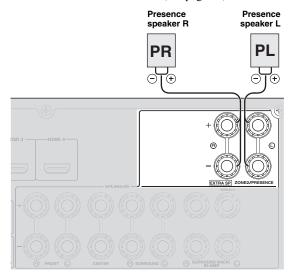
Speakers	Jacks on this unit
① Front speaker L	FRONT (L)
② Front speaker R	FRONT (R)
3 Center speaker	CENTER
Surround speaker L	SURROUND (L)
Surround speaker R	SURROUND (R)
8 Subwoofer 1	SUBWOOFER 1
Subwoofer 2 (optional)	SUBWOOFER 2

Presence speakers

You can connect presence speakers (PL/PR) that output front effect sounds to this unit. With CINEMA DSP sound field programs (see page 27) and their CINEMA DSP 3D functions, a sound with a richer and more spacial presence can be created. You can adjust the vertical position of center sound such as a dialog (see page 47).



To use the presence speakers, connect them to the EXTRA SP jacks and set "Extra SP Assign" in "Speaker Setup" in the SETUP menu to "Presence" (see page 47).



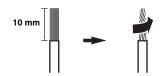
`\oʻ′-

- Although you can connect both surround back speakers and presence speakers to this unit, you cannot output sounds from those speakers at the same time. This unit automatically selects speakers to output sounds according to the selected input source and sound field program.
- You can connect Zone2 speakers with a multi-zone function to the EXTRA SP jacks. For details, see page 53.

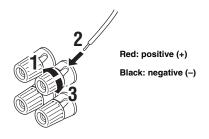
Connecting the speaker cable

Caution

- A speaker cable is a pair of insulated cables running side by side in general. One of the cables is colored differently or striped to indicate a polarity. Connect one end of the colored/striped cable to the "+" (red) terminal of this unit and the other end to that of your speaker, and connect one end of the other cable to the "-" (black) terminal of this unit and the other end to that of your speaker.
- Before connecting the speakers, be sure to disconnect the power cable.
- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit and/or speakers. If the circuit shorts out, "CHECK SP WIRES!" appears on the front panel display when this unit is turned on
- If your video monitor is a CRT, use magnetically shielded speakers. If images on the monitor are still distorted even when you use the magnetically shielded speakers, place the speakers away from the monitor.
- Use speakers with an impedance of 6-ohm or larger. Set speaker impedance in "ADVANCED SETUP" before
 connecting the speakers. You can also use 4-ohm speakers as the front speakers when you set "SP IMP." to
 "6ΩMIN" (see page 58).
- 1 Remove approximately 10 mm of insulation from the end of each speaker cable and then twist bare wires of the cable together so that they will not cause a short circuits.



2 Loosen the knob, insert the twisted bare wires into the hole, and then tighten the knob.

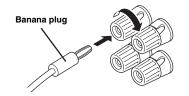


`\\\

• You can connect the presence speakers (see page 12) or the speakers in the second zone (Zone2) (see page 53) to the EXTRA SP jacks.

Connecting the banana plug (Except U.K., Europe, Russian, Asia and Korea models)

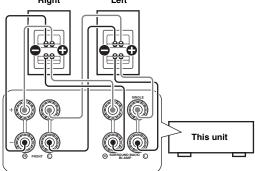
Tighten the knob, and then insert the banana plug into the end of the terminal.



Using bi-amplification connections

You can connect speakers that support bi-amplification connections to this unit. To connect the speakers via a bi-amp connection, connect them to the FRONT jacks and SURROUND BACK/BI-AMP jacks as illustrated. To enable the bi-amp connection, connect the power cable to the wall outlet, display the ADVANCED SETUP menu and set "BI AMP" to "ON" (see page 58).

Front speakers Right Left



Caution

Before making bi-amplification connections, remove any brackets or cables that connect a woofer with a tweeter. Refer to the instruction manuals of speakers for details.

When not making bi-amplification connections, make sure that the brackets or cables are connected before connecting the speaker cables.

Note

• You cannot use surround back speakers or extra speakers (presence and Zone2 speakers) when bi-amplification connections are made.

Information on jacks and cable plugs

This unit has the following input and output jacks. Use jacks and cables appropriate for components that you are connecting.

Audio jacks

·	
Jack and cables	Description
AUDIO jacks (white) OOO ← L OOO ← R	To transmit conventional analog (stereo) signals. Use stereo pin cables. Connect red plugs to red jacks (R) and white plugs to white jacks (L).
COAXIAL jacks (orange) COAXIAL	To transmit coaxial digital audio signals. Use pin cables for digital audio signals.
OPTICAL jacks	To transmit optical digital audio signals. Use optical fiber cables for optical digital audio signals.

■ Video jacks

Jack and cables	Description	
VIDEO jacks VIDEO (yellow)	To transmit conventional composite video signals. Use video pin cables.	
S VIDEO jack S VIDEO (S)	To transmit S-video signals that include luminance (Y) and Cameroonians (C) components. Use S-video cables.	
COMPONENT VIDEO jacks COMPONENT VIDEO (red) Pa (blue) Y (green)	To transmit component video signals that include luminance (Y), chrominance blue (PB) and chrominance red (PR) components. Use component video cables.	

■ Video/audio jacks

Jack and cables	Description
HDMI jacks	To transmit digital video and digital audio signals. Use HDMI cables.

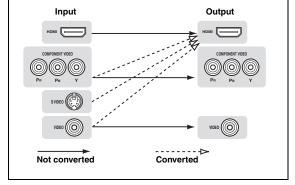
`\@\<u>`</u>

- We recommend that you use a commercially available 19-pin HDMI cable no longer than 5 meters (16 feet) with the HDMI logo printed on it.
- If you connect this unit to a component that has a DVI jack, an HDMI/ DVI-D cable is required.
- You can check error information on HDMI connections (see page 71).

A video signal input to this unit is output from the jacks in MONITOR OUT for the same kind of signal as the input signal.

For example, if a VCR with a composite output signal and a DVD player with a component video output signal are connected, connect both VIDEO jack and COMPONENT VIDEO jack in MONITOR OUT to the video monitor.

If an HDMI input compatible monitor is connected, this unit automatically converts an analog signal that is input from a video input jack to a digital video signal, and then outputs it from the HDMI OUT jack.

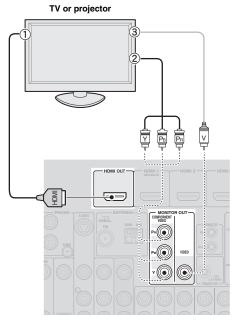


Connecting a video monitor

Connect a video monitor such as a TV or projector to an output jack of this unit. You can select one of the following three types according to the input signal format supported by the video monitor: HDMI OUT, COMPONENT VIDEO and VIDEO (composite video).

Note

· Make sure that this unit and video monitor are unplugged from the AC wall outlets.



■ To connect an HDMI video monitor

Jacks on components	Jacks on this unit
① HDMI input	HDMI OUT

``⊚′≤

 This unit supports the HDMI control function. By connecting a TV that supports the HDMI control, operations of this unit can be controlled with the remote control of the TV. For details, see page 38.

■ To connect component video monitor

Note

 Only video signals input from this unit via the COMPONENT VIDEO jack are output from the COMPONENT VIDEO jack.

Jacks on components	Jacks on this unit
② Component video output	MONITOR OUT (COMPONENT VIDEO)

■ To connect composite video monitor

Note

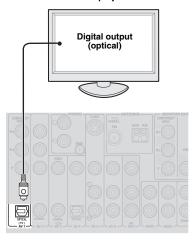
 Only video signals input from this unit via the VIDEO jacks are output from the VIDEO jacks.

Jacks on components	Jacks on this unit
③ Video input (composite)	MONITOR OUT (VIDEO)

Outputting sound of a TV from this unit

To output sound of a TV from this unit, connect an audio output terminal of the TV to any of the AV 1-6 jacks. If the TV supports an optical digital output, we recommend that you use the AV 1. Connecting to the AV 1 allows you to switch an input source to the AV input 1 with a just a single key operation using the SCENE function (see page 24).

TV or projector



Note

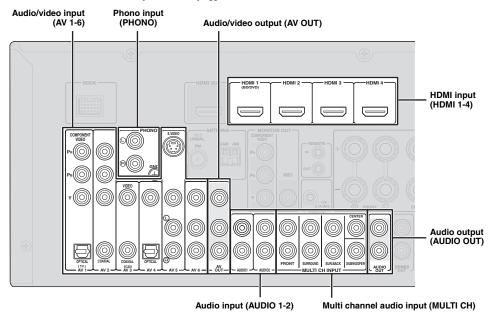
• If the video monitor connected to this unit supports the HDMI control function, we recommend that you connect its audio output jack to the OPTICAL jack of the AVI jacks of this unit. By doing so, this unit automatically turns on and "TV" of SCENE is automatically selected when you turn on the video monitor. You can obtain the same result even if you connect the audio output jacks to the AV2-6, AUDIO1-2 or V-AUX jacks by assigning those jacks to TV in advance (see page 24).

Connecting other components

This unit has input and output jacks for respective input and output sources. You can reproduce sound and movies from input sources selected with the front panel display or remote control.

Note

• Make sure that this unit and other components are unplugged from the AC wall outlets.



Audio and video player/Set-top box

Output jacks on the connected external component				
External components	Signals	Output jacks	Inpu	t sources/jacks of this unit
External component	Audio/Video	HDMI output	HDMI1 (BD/DVD)	HDMI 1
with HDMI output			HDMI2	HDMI 2
			HDMI3	HDMI 3
			HDMI4	HDMI 4
External component	Audio	Optical digital output	AV1 (TV)	OPTICAL
with component video	Video	Component video output		COMPONENT VIDEO
output	Audio	Coaxial digital output	AV2	COAXIAL
	Video	Component video output		COMPONENT VIDEO
External component	Audio	Analog audio output	AV5	AUDIO
with S-video output	Video	S-video output		S VIDEO
External component	Audio	Coaxial digital output	AV3 (CD)	COAXIAL
with composite video	Video	Composite video output		VIDEO
output	Audio	Optical digital output	AV4	OPTICAL
	Video	Composite video output		VIDEO
	Audio	Analog audio output	AV5	AUDIO
	Video	Composite video output		VIDEO
	Audio	Analog audio output	AV6	AUDIO
	Video	Composite video output		VIDEO

• Input sources in parentheses are recommended to connect to the respective jacks. If a component is compatible with the SCENE function, you can switch the input source to that component with a single key operation using the SCENE function (see page 24).

• You can change the name of the input source displayed on the front panel display or the video monitor as necessary (see page 52).

See page 53 on how to use ZONE2 OUT jack.

Audio player

Output jacks on the connected external component		Input courses/iseks of this unit	
External components Output jacks		Input sources/jacks of this unit	
External component with optical digital	Optical digital output	AV 1 (TV)	OPTICAL
output		AV 4	OPTICAL
External component with coaxial digital	Coaxial digital output	AV 2	COAXIAL
output		AV 3 (CD)	COAXIAL
External component with analog audio	Analog audio output	AV 5	AUDIO
output		AV 6	AUDIO
		AUDIO 1	AUDIO
		AUDIO 2	AUDIO
Turntable	Analog audio output	PHONO	PHONO

- When connecting a turntable with a low-output MC cartridge to the PHONO jack, use an in-line boosting transformer or MC-head amplifier.
- Connect your turntable to the GND terminal of this unit to reduce noise in the signal.
- We recommend connecting the coaxial digital output terminal of a CD player to the AV3 jack.

About audio/video output jacks

Among the analog audio and analog video signals input to this unit via input terminals, the audio/video signals of the selected input sources are output from the AV OUT jack and AUDIO OUT jack. An HDMI input signal,

COMPONENT VIDEO input signal or digital audio input signal cannot be output. When using the AV OUT jacks or AUDIO OUT jacks, connect them as follows:

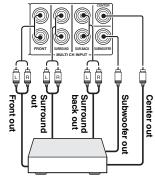
When using the AV OUT jacks: connect them to composite video and analog audio input jacks of an external

component.

When using the AUDIO OUT jacks: connect them to analog audio jacks of an external component.

Connecting a multi-format player or an external decoder

This unit has 8 sets of input jacks (FRONT L/R, CENTER, SURROUND L/R, SUR. BACK and SUBWOOFER) to input multi-channel analog sound signals. If your playback component, such as a DVD player or SACD player, has multi-channel analog output capability, you can enjoy up to 7.1-channel multi-channel sound. To output multi-channel sound, connect the audio output jacks of your playback component to the MULTI CH INPUT jacks of this unit, and set the input source of this unit to "MULTI CH." For details on how to change input sources, see page 24.



Multi-format player/External decoder (7.1-channel output)

Notes

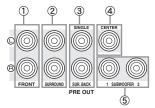
- When you select "MULTI CH" as the input source, the digital sound field processor is automatically disabled.
- Since this unit does not redirect signals input at the MULTI CH INPUT jacks to accommodate for missing speakers, connect at least a 5.1channel speaker system when using this feature.
- When the input source is switched to "MULTI CH," images input from a component connected to "AV1-6" or "V-AUX" can be displayed on a video monitor (see page 41). If your DVD player does not support multichannel digital output, connect it to these input jacks.

Connecting an external amplifier

The same channel signals are output from the jacks of the PRE OUT terminals as from their corresponding SPEAKERS terminals. When connecting an external power amplifier (pre-main amplifier) to enhance speaker output, connect the input terminals of the power amplifier to the PRE OUT terminals of this unit.

Note

 When a component is connected to the PRE OUT terminals, do not connect speakers to the SPEAKERS terminals corresponding to those PRE OUT terminals.



FRONT (PRE OUT) jacks

Front channel output jacks.

- ② SURROUND (PRE OUT) jacks Surround channel output jacks.
- 3 SUR. BACK (PRE OUT) jacks

Surround back output jacks. When you only connect one external amplifier for the surround back channel, connect it to the SUR. BACK (SINGLE) jack.

``@´:

- To output surround back channel signals through these jacks, set "Sur.B L/R SP" to any parameter except for "None" in "Speaker Setup" (see page 48).
- CENTER (PRE OUT) jack

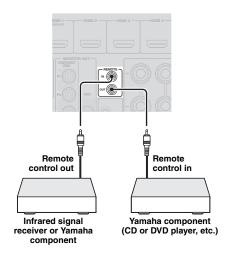
Center channel output jack.

5 SUBWOOFER (PRE OUT) 1/2 jack

Connect a subwoofer with a built-in amplifier. When two subwoofers are connected, the same sound is output from them.

Using REMOTE IN/OUT jacks

When the components are the Yamaha products and have the capability of the transmission of the remote control signals, connect the REMOTE IN and REMOTE OUT jacks to the remote control input and output jack with the monaural analog mini cable as follows.



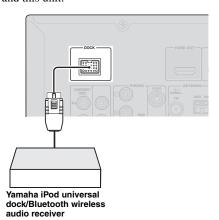
`\o':

- If your Yamaha component supports the SCENE link playback function, remote connection automatically starts playback when you press
 MSCENE (or SCENE) to select a SCENE.
- If the component connected to the REMOTE OUT jack is not a Yamaha product, set "SCENE IR" in the ADVANCED SETUP menu to "OFF" (see page 58).

Connecting a Yamaha iPod universal dock or Bluetooth™ wireless audio receiver

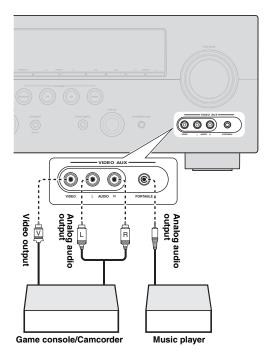
This unit has the DOCK jack, to which you can connect a Yamaha iPod universal dock (YDS-11, sold separately) or a Bluetooth wireless audio receiver (YBA-10, sold separately). You can play an iPod or a Bluetooth component with this unit by connecting it to the DOCK jack.

Use a dedicated cable for connection between the dock/ receiver and this unit.



Connecting a camcorder or portable audio player

The V-AUX terminals on the front panel are useful for connecting a camcorder, a game console or a portable music player to this unit. Be sure to turn down the volume of this unit and other components before making connections.

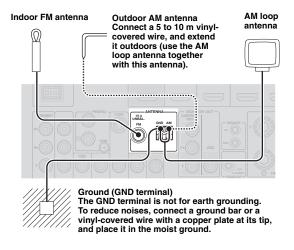


`\\\

- To connect a component to the PORTABLE jack, use a 3.5 mm stereo mini plug cable.
- When external components are connected both the PORTABLE jack and AUDIO jack, sound input from the PORTABLE jack is output.

Connecting the FM and AM antennas

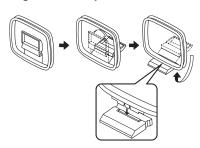
An indoor FM antenna and an AM loop antenna are supplied with this unit. Connect these antennas properly to the respective jacks.



`\\\\

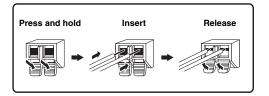
- The supplied antennas are normally sensitive enough to obtain good reception.
- · Position the AM loop antenna away from this unit.
- If you cannot get good reception, we recommend that you use an outdoor antenna. For more details, consult the nearest authorized Yamaha dealer or service center.
- Always use the AM loop antenna even when the outdoor antenna is connected.

Assembling the AM loop antenna



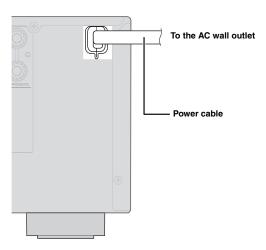
Connecting the AM loop antenna

The wires of the AM loop antenna have no polarity. You can connect either wire to the AM terminal and the other to the GND terminal.



Connecting the power cable

After all connections are complete, plug the AC power cable of this unit into an AC wall outlet.



Turning this unit on and off

- 1 Press (AMAIN ZONE ON/OFF (or 16 POWER) to turn on this unit.
- 2 Press (AMAIN ZONE ON/OFF (or 16 POWER) again to turn off this unit (standby).

`\\\

- · This unit needs a few seconds until ready to play back.
- You can also turn on this unit by pressing MSCENE (or 9SCENE).
- This unit consumes a small amount of electricity even during standby.
 We recommend disconnecting the power cable from the AC wall outlet.

Caution

Do not unplug this unit while it is turned on. Doing so may damage this unit or cause the settings of this unit to be saved incorrectly.

Optimizing the speaker setting for your listening room (YPAO)

This unit has a Yamaha Parametric Room Acoustic Optimizer (YPAO). With the YPAO, this unit automatically adjusts the output characteristics of your speakers based on speaker position, speaker performance, and the acoustic characteristics of the room. We recommend that you first adjust the output characteristics with the YPAO when you use this unit.

Notes

- Loud test tones may be output during the automatic setup procedure. Do not allow small children to enter the room during the procedure.
- To achieve the best results, make sure the room is as quiet as possible while the automatic setup procedure is in progress. If there is too much ambient noise, the results may not be satisfactory.



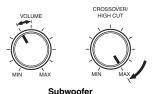
 You can manually adjust the output characteristics of your speakers with "2 Manual Setup" in the SETUP menu. For details, see page 47.

Using Auto Setup

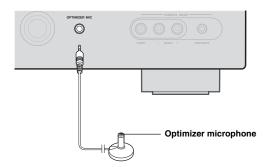
1 Check the following points.

Before starting the automatic setup, check the following.

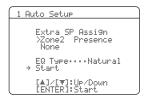
- All speakers and subwoofer are connected properly.
- Headphones are disconnected from this unit.
- The video monitor is connected properly.
- This unit and the video monitor are turned on.
- This unit is selected as the video input source of the video monitor.
- The connected subwoofer is turned on and the volume level is set to about half way (or slightly less).
- The crossover frequency controls of the connected subwoofer are set to the maximum.



Connect the supplied optimizer microphone to the OPTIMIZER MIC jack on the front panel.

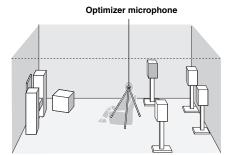


"MIC ON. View OSD MENU" appears on the front panel display. The following menu screen appears on the video monitor.



``@´=

- You can bring up the above menu screen from the SETUP menu (see page 47).
- 3 Place the optimizer microphone at your normal listening position on a flat level surface with the omni-directional microphone heading upward.



`\\\

- It is recommended that you use a tripod or something similar to fix the
 optimizer microphone at the same height as your ears would be when
 seated in your listening position. You can fix the optimizer microphone to
 the tripod with the attaching screw of the tripod.
- 4 When the speakers are connected to EXTRA SP jacks, press □Cursor △ repeatedly to select "Extra SP Assign," and then press □Cursor
 □Cursor
 / > to select how to use EXTRA SP jacks from "Zone2," "Presence" or "None."

If this unit does not work when you press **①Cursor**, press **②SETUP** once and then operate this unit.

5 To select a sound character for adjustment, press **□Cursor** ∇ to select "EQ Type" and then press **□Cursor** \triangleleft $/\triangleright$.

If this unit does not work when you press **Toursor**, press **Toursor** once and then operate this unit. This unit has a parametric equalizer that adjusts the output levels for each frequency range. The equalizer is adjusted to produce a cohesive sound field based on automatically measured speaker characteristics. In "EQ Type," you can select the following parametric equalizer characteristics suitable for the desired sound characteristics.

Natural

Adjusts all speakers to achieve natural sound. Select this if sounds in the high frequency range seem too strong when "EQ Type" is set to "Flat."

Adjusts each speaker to obtain the same characteristics. Select this if your speakers have similar qualities.

Front

Adjusts each speaker to obtain the same characteristics as the front left and right speakers. Select this if your front left and right speakers have significantly better qualities than the other speakers.

6 Press **□Cursor** \forall to select "Start" and then press **□ENTER** to start the setup procedure.

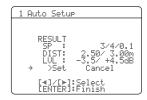
A countdown starts and a measurement starts in 10 seconds. A loud test tone is output during measurement.

Notes

- During the automatic setup procedure, do not perform any operation on this unit.
- To cancel the automatic setup procedure, press ☐Cursor △.

Measurement takes about 3 minutes. To obtain precise results, stay where you will not disturb the measurement, such as to the side of or behind the speakers or outside the room.

When measurement is successfully completed, "YPAO Complete" appears on the front panel display and the results appear on the video monitor.



ςp

Displays the number of speakers connected to this unit in the following order:

Total of Front, Center, and Presence/Total of Surround and Surround Back/Subwoofer

DIST

Displays the speaker distance from the listening position in the following order:

Closest speaker distance/Farthest speaker distance

LVL

Displays the speaker output levels in the following order: Lowest speaker output level/Highest speaker output level

Notes

- If "ERROR" appears on the video monitor during the automatic setup procedure, measurement is canceled and the type of error is displayed.
 For details, see "When an error message is displayed during measurement" (see page 23).
- If problems occur during measurement, "WARNING (XX)" (xx indicates the number of warning) appears above "RESULT" (see page 23).

7 Press TENTER.

The speaker characteristics are adjusted according to measurement results.

To cancel the operation, press $\boxed{1}$ Cursor \checkmark / \triangleright to select "Cancel" and press $\boxed{1}$ ENTER.

When the following screen appears, remove the optimizer microphone. The automatic setup procedure is now complete.



The optimizer microphone is sensitive to heat. Store it in a cool place and away from direct sunlight after measurement. Do not leave it in a place where it will be subjected to high temperatures such on an AV component.

_``@′≤

- If you do not want to apply the measurement results, select "Cancel."
- Perform the automatic setup procedure again if you change the number or positions of speakers.
- If you press TIENTER before removing the optimizer microphone,
 "1 Auto Setup" of "Speaker Setup" in the SETUP menu (see page 47) is displayed.

When an error message is displayed during measurement

Press \blacksquare Cursor \triangledown once, and select "Retry" or "Exit" using \blacksquare Cursor \vartriangleleft / \triangleright and then press \blacksquare ENTER.



Retry

Performs the automatic setup procedure again.

Exit

Terminates the measurement and the automatic setup procedure.

`\o'_

- · See page 66 for details on error messages.
- When "E-5:NOISY" appears, you can continue measurement. To continue measurement, select "Proceed." However, we recommend that you solve the problem first and then perform measurement again.

When a warning message is displayed after measurement

If a problem occurs during measurement, "WARNING" is displayed on the result display screen. Check the error and solve the problems.



`\o'_

- · See page 67 for details on warning messages.
- Optimization will not be performed while a warning message is displayed. We recommend that you solve the problem and perform the automatic setup procedure again.
- 1 If "→" is displayed on the left of "WARNING" on the result display screen, press
 □ ENTER.

Details of the warning message are displayed. If there are multiple warning messages, you can display the next message using **[I]Cursor**.

To return to the top result display, press
| II ENTER again.

BASIC OPERATION

Playback

Basic procedure

- 1 Turn on external components (TV, DVD player, etc.) connected to this unit.
- 2 Rotate the **®INPUT selector** (or press the **5Input selection keys**) to select an input source.

The name of the selected input source is displayed for a few seconds.





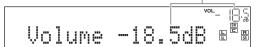
`\\\

- You can change the input source name displayed on the front panel display or on the video monitor as necessary (see page 52).
- 3 Play the external component that you have selected as the source input, or select a radio station on the tuner.

Refer to the instruction manuals provided with the external component for details on playback. For selecting radio stations or playback of an iPod or Bluetooth component using this unit, see the following.

- Using iPod (see page 35)
- Using Bluetooth components (see page 37)
- 4 Turn the **VOLUME** control to adjust the volume (or press **19 VOLUME** +/-).

Volume



Note

When you play back a DTS-CD, noise may be output in some conditions, which may cause a speaker malfunction. Make sure that the volume is set to low before starting playback. If noise is output, do the following.

1) When only noise is output

If a DTS bitstream signal is not properly input to this unit, only noise is output. Connect the playback component to this unit by digital connection and play back the DTS-CD. If the condition is not improved, the problem may results from the playback component. Consult the manufacturer of the playback component.

2) When noise is output during playback or skip operation Before playing back the DTS-CD, display the OPTION menu after selecting the input source and set "Decoder Mode" to "DTS" (see page 40).

Using the SCENE function

This unit has four SCENE keys that allow you to change input sources and sound field programs with one key. A set of input source and sound program suitable for a certain situation, such as playing back movies or music, is assigned to each key by default.

	Input source	Sound field program
BD/DVD	HDMI1	Straight
TV	AV1	Straight
CD	AV3	Straight
RADIO	TUNER	7ch Enhancer

`\\\`:

- This unit turns on when MSCENE (or 9SCENE) is pressed during standby.
- If a Yamaha DVD player that can receive SCENE control signals is connected to the REMOTE OUT jack of this unit, the DVD player automatically turns on and starts playback when MSCENE (or SCENE) is pressed (see page 19). For details, refer to the instruction manual of the DVD player.

Selecting a SCENE

Press MSCENE (or 9SCENE).

Registering input source/sound field program

Select the desired input source/sound field program, and press down MSCENE (or 9SCENE) until "SET Complete" appears on the front panel display.

When the OSD is displayed on the video monitor, "SCENE Setting Complete" appears on the video monitor.

If you are using the remote control for an external component, set that
external component too whenever SCENE setting is performed. For more
details, see the next section.

Switching remotely controlled external components linked to SCENE selections

You can operate an external component with the remote control of this unit by setting a remote control code for the external component for each input source. Setting remote control codes for desired input sources allows you to switch between external components linked to SCENE selections.

When you change the SCENE key settings, change settings of the external component as well by following the steps below.

1 Register the remote control code of an external component to the desired input source (see page 55).

Note

- Remote control codes cannot be registered to TUNER input sources.
- Press 5 input selection keys on the remote control for the input source whose remote control code was registered in step 1 for about 3 seconds while pressing down 9 SCENE key whose assignment you want to change.

The external component can now be controlled remotely just by selecting the **9SCENE** key.

Muting audio output temporarily (MUTE)

1 Press **MUTE** on the remote control to mute the audio output.

The MUTE indicator on the front panel display flashes while audio output is muted.

2 Press **MUTE** again to resume audio output.

Adjusting high/low frequency sound (tone control)

You can adjust the balance of the high frequency range (Treble) and low frequency range (Bass) of sounds output from the front left and right speakers to obtain desired tone.

`\\\

- The tone control of the speakers or headphones can be set separately. Set the headphone tone control with the headphones connected.
- 1 Press NTONE CONTROL on the front panel repeatedly to select "Treble" or "Bass."

The current setting is displayed on the front panel display.

Treble 0.0dB

2 Rotate the **PROGRAM** selector to adjust the output level in those frequency ranges.

Adjustable range: -10.0 dB to +10.0 dB The display returns to the previous screen soon after you release the selector.

Notes

- The tone control settings are not effective during playback in Pure Direct mode.
- If you set the balance extremely off, sounds may not match those from other channels well.

Enjoying pure hi-fi sound (Pure Direct mode)

Use Pure Direct mode to enjoy the pure high fidelity sound of the selected source. When Pure Direct mode is activated, this unit plays back the selected source with the least circuitry.

Press **OPURE DIRECT** (or **3PURE DIRECT**) to turn the Pure Direct mode on or off.

The following features are disabled in Pure Direct mode.

- sound field program and tone control
- display and operation of the OPTION menu and SETUP menu
- multi-zone function

`\oʻ:

• The front panel display turns off in Pure Direct mode. It turns on again when Pure Direct mode is turned off.

Using your headphones

Plug your headphones in the **PHONES** jack on the front panel.

When you select a sound field program while using the headphones, the mode is automatically set to SILENT CINEMA mode.

Notes

- When you connect headphones, no signals are output from the SPEAKERS terminals.
- When multi-channel signals are processed, sounds in all channels are divided to left and right channels. When the input source is set to "MULTI CH," only front L/R sound is output from the headphones.

Displaying input signal information

When HDMI1-4 or AV1-4 is selected as the input source, you can display audio/video signal information.

`\o'_

 Input signal information is displayed on both a video monitor and the front panel display.

1 Select the desired input source, and press **BOPTION**.

The OPTION menu for the selected input source is displayed (see page 39).

2 Press **□Cursor** △ / ▽ to select "Signal Info," and press **□ENTER**.

Information on input signals is displayed. See page 40 on information displayed on the screen.

``⊚′≤

- You can change items of information displayed on the front panel display using □□Cursor ∧ / ∇.
- If an HDMI related error occurs, error information is displayed at the bottom of the screen.
- To end the information display, press 18 **OPTION**.

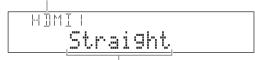
Changing information on the front panel display

You can display information on the front panel display such as the names of the currently selected sound field program and surround decoders on the front panel display. To change the display, press (FINFO) (or (TINFO)) repeatedly. The following information can be displayed on the front panel display.

- Currently selected input source name (Input)
- Currently selected sound field program name (DSP Program)
- Currently selected surround decoder (Audio Decoder)
- Currently set FM/AM tuner frequency (Frequency)
- FM Radio Data System information (Program Service, Program Type, Radio Text, Clock Time)
- iPod playback information (Song, Album, Artist, List)

For example, if you select HDMI1 and display "DSP Program," the following screen appears on the front panel display.

Input source



Sound field program (DSP program)

The information on each input source that can be displayed is shown in the table below.

Input source	Items
HDMI1-4	Input
AV1-6	DSP Program
AUDIO1-2	Audio Decoder
V-AUX	
PHONO	
MULTI CH	Input
FM/AM	Frequency
	DSP Program
	Audio Decoder
	Program Service*
	Program Type*
	Radio Text*
	Clock Time*
iPod	Input
(Simple remote mode)	DSP Program
	Audio Decoder
iPod	(Play information display)
(Menu browse mode)	Artist
	Album
	Song
	DSP Program
	Audio Decoder
	(Play menu display)
	List
Bluetooth	Input
	DSP Program
	Audio Decoder

^{*: &}quot;Program Service," "Program Type," "Radio Text" and "Clock Type" do not appear when the radio station does not provide the Radio Data System service.

This unit is also equipped with a Yamaha digital sound field processing (DSP) chip. You can enjoy multi-channel sounds for almost all input sources using various sound field programs stored on the chip and a variety of surround decoders.

Selecting sound field programs

Selecting a sound field program on the front panel

Rotate the **OPROGRAM selector** to select a desired sound field program.

■ Selecting a sound field program with the remote control

Perform the following operations depending on the category of the sound field programs.

Sound field programs for movies/TV programs. Press **BMOVIE** repeatedly.

Sound field programs for music Press **BMUSIC** repeatedly.

Stereo reproduction Press **BSTEREO** repeatedly.

Multi-channel stereo reproduction Press **BSTEREO** repeatedly.

Compressed Music Enhancer Press **BSTEREO** repeatedly.

Surround decoder Press **BSUR. DECODE** repeatedly.

For example, if you select "Sci-Fi" in "MOVIE," the following screen appears on the front panel display.

Sound field program category



Notes

- Sound field programs are stored for each input source. When you change the input source, the sound field program previously selected for that input source is applied again
- When you play back the Dolby Digital Plus, Dolby TrueHD, DTS Express, DTS-HD Master Audio, or DTS-HD High Resolution Audio sources, sound is
 reproduced in straight decode mode.
- · If the sampling frequency of an input source is higher than 96 kHz, this unit does not apply any sound field programs.

Sound field program descriptions

This unit provides sound field programs for multiple categories including music, movies and stereo reproduction. Select a sound field program based on your listening preference, not merely on the name of the program, etc.

`\\\\

- You can check what speakers are currently outputting signals with the speaker indicators on the front panel display (see page 6).
- Each program can adjust sound field elements (sound field parameters). For details, see page 42.
- | CINEMA DSP in the table indicates the sound field program with CINEMA DSP.

For movie/TV program sources (MOVIE) CINEMADS

Program	Descriptions
Standard	Creates a sound field that emphasizes the surrounding feeling without disturbing the original acoustic positioning of multi-channel audio such as Dolby Digital and DTS. The design concept of this sound field is "an ideal movie theater," in which the audience is surrounded by beautiful reverberations from the left, right and rear.
Spectacle	Creates a spectacular sound field that produces a sense of magnificent scale. This sound field program features a wide dynamic range that reproduces a broad theater sound field matching cinemascope and wider-screen movies, from tiny sound effects to big acoustics.
Sci-Fi	Creates a clear sound field that allows you to enjoy the finely elaborated sound design of the latest science fiction and SFX movies. Different atmospheres can be vividly reproduced while dialog, sound effects and background music are clearly separated.
Adventure	Creates a sound field ideal for action and adventure movies, reproducing a sense of power by reducing reverberations and emphasizing a horizontal soundscape. A clear and powerful atmosphere is reproduced while maintaining separation of audio channels and sound clarity with a shallower depth of feeling.

Program	Descriptions
Drama	Creates a calm sound field suitable for different genres of movies, from serious dramas to musicals and comedies. Sound is produced with discreet reverberation yet with a three-dimensional feeling. Spatial sound effects and background music are reproduced with soft reverberations around the center position, which reduces fatigue from watching movies for a long time.
Mono Movie	Creates a sound field that allows you to enjoy old monaural movies in an atmosphere of a movie theater of those days. A comfortable space with a feeling of depth is reproduced by adding soundscape and reasonable reverberation to the original sound.
Sports	Creates a lively sound field suitable for stereo sports broadcasts and TV studio shows. In sports broadcasts, the voices of sports commentators and analysts are output from the center while the crowd's cheers and other sounds are suitably spread out, creating a realistic stadium atmosphere that makes you feel as if you are really there.
Action Game	Creates a sound field designed for action games such as car racing and FPS games. The presence of various sound effects is enhanced while maintaining a clear feeling of direction by limiting each channel's sound effect range using reflection data, which produces a realistic and powerful playing environment.
Roleplaying Game	Creates a sound field designed for roleplaying games and adventure games. Depth and a three-dimensional feel to the game are produced by combining movie sound field effects and the sound design used in "Action Game." In movie scenes, movie-like surround effects are produced.

For audio music sources (MUSIC)

Program	Descriptions
Hall in Munich	Creates a sound field designed by simulating a concert hall with about 2,500 seat in Munich, which is a typical European concert venue with elegant wooden interior walls. A rich, delicate and beautiful sound is produced, creating a relaxing atmosphere. The seat setting is a left center orchestra seat.
Hall in Vienna	Creates a sound field designed by simulating a concert hall with about 1,700 seats in Vienna, which is a traditional middle-size shoebox type concert venue. In this hall, complex omnidirectional reflections bounce off pillars and carvings to produce a characteristically rich sound.
Chamber	Creates a sound field designed by simulating a relatively large room with a high ceiling such as a palace chamber. It produces pleasant reverberations suitable for court music and chamber music.
Cellar Club	Creates a realistic live sound field designed by simulating a live house with a low ceiling and intimate atmosphere. It features a powerful sound that makes you feel as if you are right in front of a small stage.
The Roxy Theatre	Creates a sound field designed by simulating a rock music live house with up to about 460 seats in Los Angeles. The seat setting is a left center seat.
The Bottom Line	Creates a sound field designed by simulating "The Bottom Line," a famous New York jazz club which has a floor occupied by 300 wide seats. It produces clear reverberations. The seat setting is in front of the stage.
Music Video	Creates a sound field designed by simulating a concert venue where live performances of pop, rock and jazz music take place. You can indulge yourself in a hot live atmosphere created by a presence sound field that emphasizes the vividness of vocals and solos and the beat of the drums, and by a surround sound field that reproduces a big live venue atmosphere.

For stereo reproduction (STEREO)

Descriptions
Produces front stereo sound. This is standard playback mode.
F

• When multi-channel signals are input, they are downmixed to 2 channels and output from the front left and right speakers.

For multi-channel stereo reproduction (STEREO)

Program	Descriptions
7ch Stereo	Produces front and rear sound for a large area. This playback mode is suitable for BGM at a house party. Sound is output from a maximum of seven speakers.

The Compressed Music Enhancer (ENHNCR)

Program	Descriptions
Straight Enhancer	Dynamically reproduces sound from 2-channel or multi-channel compressed sound data with the same number of channels as its source sound.
7ch Enhancer	Dynamically reproduces sound from compressed sound data in 7 channels regardless of the source sound channels.

Surround decode mode (SUR.DEC)

Reproduces sound from 2-channel sound sources in up to 7 channels using a surround decoder.

Decoder	Descriptions
Pro Logic	Reproduces sound using the Dolby Pro Logic decoder. This is suitable for all kinds of sound sources.
PLIIx Movie / PLII Movie	Reproduces sound using the Dolby Pro Logic IIx (or Dolby Pro Logic II) decoder. This is suitable for movies. You cannot select the Dolby Pro Logic IIx decoder in the following conditions: • When no surround back speakers are connected • When headphones are connected
PLIIx Music / PLII Music	Reproduces sound using the Dolby Pro Logic IIx (or Dolby Pro Logic II) decoder. This is suitable for music. You cannot select the Dolby Pro Logic IIx decoder in the following conditions: • When no surround back speakers are connected • When headphones are connected
PLIIx Game / PLII Game	Reproduces sound using the Dolby Pro Logic IIx (or Dolby Pro Logic II) decoder. This is suitable for games. You cannot select the Dolby Pro Logic IIx decoder in the following conditions: • When no surround back speakers are connected • When headphones are connected
Neo:6 Cinema	Reproduces sound using the DTS Neo:6 decoder. This is suitable for movies.
Neo:6 Music	Reproduces sound using the DTS Neo:6 decoder. This is suitable for music.

`\ó\'_

[•] When multi-channel sound is input, sound is reproduced in straight decoding mode (see page 30).

Enjoying unprocessed input sources (Straight decoding mode)

In straight decoding mode, sounds are reproduced without sound field effect. 2-channel stereo sources are output from only the front left and right speakers. Multi-channel input sources are decoded straight into the appropriate channels and multi-channel sounds are reproduced without a sound field effect.

- To enable straight decoding mode, press

 STRAIGHT (or STRAIGHT).
 - "Straight" appears on the front panel display.
- 2 To cancel straight decoding mode, press (PSTRAIGHT (or (SSTRAIGHT) again.)

A sound field program name appears on the front panel display, and sound is reproduced with that sound field effect.

Enjoying sound field programs without surround speakers (Virtual CINEMA DSP)

Virtual CINEMA DSP allows you to enjoy DSP sound field surround effects even without any surround speakers by using virtual surround speakers. You can even enjoy Virtual CINEMA DSP using a minimal two-speaker system that does not include a center speaker. When "Sur. L/R SP" in the SETUP menu is set to "None" (see page 48), this unit operates in Virtual CINEMA DSP mode.

Note

- Virtual CINEMA DSP is not available in the following conditions even if you set "Sur. L/R SP" to "None" (see page 48).
 - headphone plug is connected to the PHONES jack.
 - 7ch Stereo of the field sound program is selected.
 - Pure Direct mode or straight decoding mode is used.

Enjoy sound field programs with headphones (SILENT CINEMATM)

SILENT CINEMA allows you to enjoy multi-channel sources with your headphones. SILENT CINEMA mode is automatically selected when you connect the headphone plug to the PHONES jack.

Note

- SILENT CINEMA mode is not available in the following conditions.
 - 2ch Stereo of the sound field program is selected.
 - Pure Direct mode or straight decoding mode is selected.

Enjoying more spatial sound fields (CINEMA DSP 3D mode)

CINEMA DSP 3D mode creates an intensive and accurate stereoscopic sound field in the listening room.

To use this unit in CINEMA DSP 3D mode, presence speakers are required. Do the following steps and then select a CINEMA DSP sound field program. When a sound field program runs in CINEMA DSP 3D mode, the CINEMA DSP 3D indicator on the front panel lights up.

- Connect the presence speakers to the EXTRA SP jacks (see page 12).
- Set "Extra SP Assign" to "Presence" (see page 47).
- Enable CINEMA DSP 3D in the SETUP menu (see page 42).

Note

 If headphones are connected to this unit, this unit plays back in SILENT CINEMA mode so CINEMA DSP 3D mode cannot be enabled.

FM/AM tuning

The FM/AM tuner of this unit provides the following two modes for tuning.

■ Frequency tuning mode

You can tune into a desired FM/AM station by searching or specifying its frequency.

■ Preset tuning mode

You can preset the frequencies of FM/AM stations by registering them to specific numbers, and later just select those numbers to tune in.

Note

· Adjust the FM/AM antennas connected to this unit for the best reception.

Tuning into the desired FM/AM station (Frequency tuning mode)

- 1 Rotate the **(RINPUT selector** (or press **5TUNER**) to switch the input source to "TUNER."
- 2 Press ()FM (6FM) or ()AM (6AM) to select a band.

"FM" or "AM" appears on the front panel display according to the band that you have selected.

3 Press ①**TUNING** \lhd / \triangleright (or **⑤TUNING** \triangle / ∇) to specify the frequency.

To adjust the frequency to a higher range, press \triangleright (or \triangle). To adjust it to the lower range, press \triangleleft (or ∇). The TUNED indicator on the front panel display lights up when the tuner is tuned into a station. The STEREO indicator also lights up if the program being broadcasted is in stereo.

TIMED STEREO TUNED STEREO TUNED

The frequency changes in the following manner according to how you press ①**TUNING** \triangleleft / \triangleright (or **6TUNING** \triangle / \triangleright).

When you press the key more than 1 second

The tuner searches the frequency of a station that is detectable around the current frequency. This is effective when the tuner can receive strong signals without any interference. Once the search starts, release the key.

When you press and release the key

The tuner increases or decreases the frequency in steps. Use this method when the tuner cannot receive strong signals and stations are skipped during the search.

``⊚′≤

 You can switch between stereo and monaural for FM broadcast in the OPTION menu (see page 41).

4 To tune in by direct frequency tuning, enter the frequency of the desired station using 13 Numeric keys on the remote control.

Enter only integers. For example, if you want to set the frequency to 88.90 MHz, enter "8890" using [3] Numeric keys.

Notes

- When you press **③Numeric keys** during preset tuning, a preset number is selected. Set tuning mode to frequency tuning mode using **④TUNING** <1/p>
 ✓ / ▷ (or **⑥TUNING** △ / ▽) prior to the operation.
- "Wrong Station!" appears on the front panel display when you
 enter a frequency that is out of receivable range. Make sure that the
 entered frequency is correct.
- You do not need enter zero if it comes at the end of a decimal number. For example, enter "925" for "92.50 MHz" or "940" for "94.00 MHz."

Registering FM/AM stations and tuning in (Preset tuning mode)

You can register up to 40 FM/AM stations (Preset) using the automatic station preset feature or manual station preset feature.

Registering stations by automatic station preset

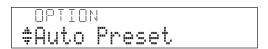
The tuner automatically detects FM stations with strong signals and registers up to 40 stations. AM stations cannot be automatically registered. Use manual station preset.

- 1 Rotate the **®INPUT selector** (or press **5TUNER**) to switch the input source to "TUNER."
- 2 Press 18 OPTION on the remote control.

The OPTION menu screen for setting options of tuner input appears on the front panel display.

`\o'`

- For details on the OPTION menu, see page 39.
- The OPTION menu is displayed on the video monitor.
- 3 Select "Auto Preset," using \Box Cursor \triangle / ∇ and press \Box ENTER.

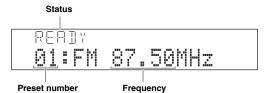


Automatic station preset starts about 5 seconds later from the lowest frequency upwards.

FM/AM tuning

``@´:

- You can select the preset number at which the preset starts by pressing **(©IPRESET** △ / ∇ or **(□I)Cursor** △ / ∇ on the remote control while "READY" is displayed on the front panel display.
- To cancel registration, press **IIRETURN** on the remote control.



During the automatic station preset, the upper area of the screen changes as follows: SEARCH → MEMORY each time a station is registered. When registration is complete, "FINISH" appears and the OPTION menu screen automatically reappears. When you press **18 OPTION** on the remote control, the screen returns to the original state.

Note

 Only Radio Data System broadcasting station are stored automatically by automatic preset tuning.

Registering stations by manual station preset

You can manually register AM stations or FM stations with weak signals.

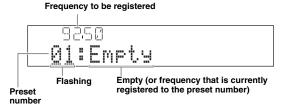
- Tune into a station referring to "Tuning into the desired FM/AM station (Frequency tuning mode)" (see page 31).
- 2 Press @MEMORY (or 6MEMORY).

"Manual Preset" appears on the front panel display, followed soon by the preset number to which the station will be registered.

`\oʻ:

- By pressing down (GMEMORY) (or (6) MEMORY) for more than 2 seconds, you can skip step 3. The station is registered to the lowest empty preset number or a preset number one higher than the last preset number.
- 3 Press ⊕PRESET <1 / > (or ⑥PRESET △ / ▽) to select the preset number to which the station will be registered.

When you select a preset number to which no station is registered, "Empty" appears on the display. When you select a registered preset number, a registered frequency is displayed on the right of the preset number.



``⊚′≤

• You can select a preset number using the 13 Numeric keys.

4 Press **©MEMORY** (or **©MEMORY**) again to register.

When registration is complete, the screen returns to the original state.

`\o`

 To cancel registration, press **IIRETURN** on the remote control or leave the tuner without any operations for about 30 seconds.

Calling a preset station (Preset tuning)

You can call preset stations registered by automatic station preset or manual station preset.

Press \bigoplus PRESET \triangleleft / \triangleright (or \bigcirc PRESET \triangle / \triangledown) to select a preset number.

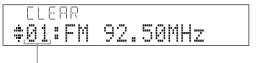
`\o'`

- Preset numbers to which no stations are registered will be skipped.
- If no stations are registered, "No Presets" or "No Presets in Memory" appears on the display. See page 31 and register stations.
- You can directly select a preset number by pressing a landal Numeric keys while calling a preset station. "Empty" appears on the display if you enter a preset number to which no station is registered. "Wrong Num." appears if you enter an invalid number.

Clearing the preset station

- 1 Rotate the **®INPUT selector** (or press **5TUNER**) to switch the input source to "TUNER."
- 2 Press **BOPTION** on the remote control. The OPTION menu screen for setting options of tuner input appears on the front panel display.
- 3 Display "Clear Preset" using the □Cursor \(\triangle \triangle \) and press □ENTER.

The following screen appears on the display.



Preset number of the registered station you want to clear.

.`∳′<u>:</u>

- You can cancel the operation and return to the OPTION menu screen by pressing **IIRETURN** on the remote control.
- 4 Select the preset number of the registered station you want to clear using the ¹¹Cursor ∧ / ∇ and press ¹¹ENTER.

The preset station registered to the selected preset number is cleared. To clear the registration of multiple preset numbers, repeat the above steps. To end the operation, press **BOPTION**.

Radio Data System is a data transmission system used by FM stations in many countries. This unit can receive various Radio Data System data such as "Program Service," "Program Type," "Radio Text," "Clock Time," and "EON" (enhanced other networks) when receiving Radio Data System broadcasting stations.

Note

• The Radio Data System reception feature is only available in U.K., Europe and Russia models.

Displaying the Radio Data System information

You can display the 4 types of the Radio Data System information: "Program Service," "Program Type," "Radio Text," "Clock Time."

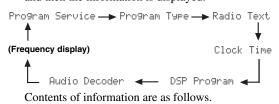
1 Tune into the desired Radio Data System broadcasting station.

`\o`:

- We recommend that you use the automatic preset tuning to tune into the Radio Data System broadcasting stations (see page 31).
- You can also use PTY Seek mode to tune into the desired Radio Data System broadcasting station from the preset ones.

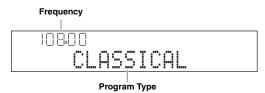
Press FINFO on the front panel (or TINFO on the remote control) repeatedly until the desired information is displayed.

Information on the display changes as you press the key. The kind of information is displayed for a while and then the information is displayed.



Type of information	Description
Program Service	Displays the name of the Radio Data System program service currently being received.
Program Type	Displays the type of the Radio Data System program currently being received.
Radio Text	Displays the information on the Radio Data System program currently being received.
Clock Time	Displays the current time.
DSP Program	Displays the currently selected sound field program.
Audio Decoder	Displays the currently selected surround decoder.

Front Panel Display (When "Program Type" selected)



Note

 "Program Service," "Program Type," "Radio Text" and "Clock Type" do not appear when the radio station does not provide the Radio Data System service.

Selecting the Radio Data System program type (PTY Seek mode)

You can select the desired radio program by program type from the all preset Radio Data System broadcasting stations.

`\o'_

- You must preset stations prior to using PTY Seek. When "No Presets" or "No Presets in Memory" is displayed, it means that no stations are registered. See page 32 and register stations.
- You can do operation of PTY Seek while looking at the video monitor
 Corporation
- 1 Press 5TUNER on the remote control to select "TUNER" as the input source.
- 2 Press 18 OPTION on the remote control.

 The tuner option menu appears. See page 39 for details of the option menu.
- **3** Press \square Cursor \triangle / ∇ on the remote control to select "PTY Seek," and press \square ENTER.



4 Press **□Cursor** < / > / > on the remote control to select a program type for search.

You can select a program type from the following.

Program type	Description
NEWS	News
AFFAIRS	Current affairs
INFO	General information
SPORT	Sports
EDUCATE	Education
DRAMA	Drama
CULTURE	Culture
SCIENCE	Science
VARIED	Light entertainment
POP M	Popular music
ROCK M	Rock music
M.O.R. M	Middle-of-the-road music
	(easylistening)
LIGHT M	Light classics
CLASSICS	Serious classics
OTHER M	Other music

5 To search a station, press $\square Cursor \land / \lor on$ the remote control.

If you press \square **Cursor** ∇ , this unit searches downward from the current frequency. If you press \square **Cursor** \triangle , it searches upward from the current preset station.

When a station is detected, the search stops. If the station is not the desired one, Press the same key to continue the search.

To end the search, press **18 OPTION**.

Note

 If "Not found" is displayed, no station applicable for the selected program type is detected.

Using the enhanced other networks (EON) data service

You can receive the EON (enhanced other networks) data service of the Radio Data System station network. If you are receiving Radio Data System broadcasting when an affiliate station starts broadcasting a program you have selected, this unit automatically switches station.

To use this feature, select one of the 4 Radio Data System program types (NEWS, AFFAIRS, INFO or SPORT) while receiving Radio Data System broadcasting. When an affiliate station starts broadcasting a selected program, this unit automatically tunes into that station, and returns to the previous station when the selected program ends.

Notes

- To use the EON data service, you must first register the Radio Data
- System stations and their affiliate stations as preset stations.

 EON data service settings are reset when you turn the power off.
- `ò':
- You can operate EON while looking at the video monitor screen.

1 Tune into the desired Radio Data System broadcasting station.

2 Press **18 OPTION** on the remote control.

The tuner option menu appears. For details on the option menu, see page 39.

3 Press \square Cursor \triangle / ∇ on the remote control to select "EON," and press \square ENTER.

"EON:OFF" appears on the front panel display.

Current frequency



``@´:

- If no stations are registered, "No Presets" or "No Presets in Memory" appears on the display. See page 32 and register stations.
- If the affiliate station of the selected preset station or the EON data service is not available, "Not Available" appears.

4 Press **□Cursor** < / > to select a program type.



5 After selecting a program type, press **8OPTION** to end the option menu.

When an affiliate station starts broadcasting the selected program, this unit automatically tunes in to that station. When the program ends, it automatically switches back to the previous station.

The EON is turned off in the following cases:

- when the EON is activated once
- when this unit is set to standby before EON is activated
- when another station is selected before EON is activated

`\\\

 To cancel the EON, do steps 1 through 5 again and select "EON:OFF." Once you have stationed your iPod in a Yamaha iPod universal dock (such as the YDS-11, sold separately) connected to the DOCK jack on the rear panel of this unit (see page 19), you can operate your iPod with the remote control of this unit using a menu displayed on the video monitor. You can also use the Compressed Music Enhancer mode of this unit to improve the sound quality of the compression artifacts (such as MP3 format) stored on your iPod (see page 29).

Notes

- · iPod touch, iPod (Click and Wheel including iPod classic), iPod nano, and iPod mini are supported.
- Some features may not be compatible depending on the model or the software version of your iPod.
- Some features may not be available depending on the model of Yamaha iPod universal dock. The following sections describe the procedure when using the YDS-11.

`\\\

- Once the connection between your iPod and this unit is complete, "iPod connected" appears on the front panel display.
- For a complete list of status messages that appear on the front panel display and video monitor, see the "iPod" section on page 65.

Controlling iPod™

You can control your iPod when you set it in the iPod universal dock and switch the input source to DOCK. The operations of your iPod can be done with the aid of the video monitor (menu browse mode) or without it (simple remote mode).

When you connect your iPod to this unit, you can perform the following operations with the remote control.

	Key	Function
	ENTER	Subsequent menu
11	Δ	Menu up
	∇	Menu down
	abla	Previous menu
	\triangleright	Subsequent menu
	$\triangleleft \triangleleft$	Search backward (Press and hold)
	$\triangleright \triangleright$	Search forward (Press and hold)
	M	Skip forward
_	\bowtie	Skip backward
	Stop	
	00	Pause (Menu browse mode) Play/Pause (Simple remote mode)
	\triangleright	Play (Menu browse mode) Play/Pause (Simple remote mode)
20	DISPLAY	Switch between Menu browse mode and Simple remote mode

Controlling iPod in simple remote mode

You can perform basic iPod operations (play, stop, skip, etc.) using the supplied remote control without displaying the menu on the video monitor. You can also directly control your iPod in this mode.

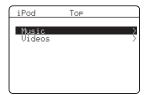
Controlling iPod in menu browse mode

You can perform advanced iPod operations using the remote control while looking at the menu displayed on the video monitor. You can browse the song files or video files stored on your iPod and displayed on the monitor. You cannot directly control your iPod in this mode.

`\o':

- "_"(underscore) is displayed for characters that this unit cannot display.
- 1 Rotate the **®INPUT selector** (or press **5DOCK** repeatedly) to select "iPod (DOCK)" as the input source.
- 2 Press 20 DISPLAY on the remote control.

The following screen appears on the video monitor.



- 3 Press **□Cursor** ∆ / ∇ to select "Music" or "Videos" and press **□Cursor** ▷.
 - Select "Music" to browse music files.
 - Select "Videos" to browse video files.

Note

 "Videos" will not be displayed when your iPod or Yamaha iPod universal dock do not support the browser function for browsing video files.

4 Press **□Cursor** △ / ▽ / △ / ▷ to select a menu item and then **□ENTER** to start playback.

Menu items of "Music"

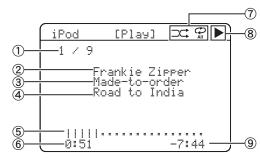
Playlists, Artists, Albums, Songs, Genres, Composers

- Playlists > Songs
- Artists > Albums > Songs
- Albums > Songs
- Songs
- Genres > Artists > Albums > Songs
- Composers > Albums > Songs

Menu items of "Videos"

Menu items vary depending on the files stored on your iPod.

Description of the play information display



- 1 Track number/total tracks
- 2 Artist name
- (3) Album title
- 4 Song title
- ⑤ Progress bar
- © Elapsed time⑦ Shuffle and repeat icons
- (8) ► (playback), II (pause), ► (search forward) and(4) (search backward)
- Remaining time

`\ó′-

You can change information screens on the front panel display using
 (FINFO) (see page 26). Items displayed on the front panel display vary depending on mode that is currently selected.

Shuffle/repeat playback

You can use a special playback function such as shuffle playback and repeat playback by setting the OPTION menu.

1 Press **DISPLAY** to switch to menu browse mode while "iPod (DOCK)" is selected as the input source.

To use the shuffle or repeat playback function in simple remote mode, set your iPod from its menu.

2 Press **18 OPTION**.

The OPTION menu is displayed.

3 Press **IICursor** △ / ▽ to select the desired playback function, "Shuffle" or "Repeat," then press **IIENTER**.

The following playback styles are available depending on the playback function selected.

Shuffle: Plays back songs or albums in random order (Choices: Off, Songs, Albums).

- Select "Off" if you do not want to play back in random order.
- Select "Songs" to play back songs in random order.
- Select "Albums" to play back albums in random order.

Repeat: Plays back songs or albums repeatedly (Choices: Off, One, All).

- Select "Off" if you do not want to play back repeatedly.
- · Select "One" to repeat each song.
- Select "All" to repeat all songs.

4 Select the desired style using **□Cursor** <1/>

The style is selected. Playback starts with the function selected in step 3.

To return to the previous screen, press **TRETURN**. To return to the previous playback function, redo the above steps.

`\o':

- \bullet When the shuffle function is on, " $\neg \neg$ " appears on the video monitor.
- When "Repeat" is set to "One" or "All," "\$\tilde{\Pi}\$" or "\$\tilde{\Pi}\$" appears on the video monitor.

Using Bluetooth™ components

This unit supports A2DP (Advanced Audio Distribution Profile) of the Bluetooth profile. You can connect a Yamaha Bluetooth wireless audio receiver (such as YBA-10, sold separately) to the DOCK jack of this unit and enjoy the music contents stored in your Bluetooth component (such as a portable music player) without wiring between this unit and the Bluetooth component. You need to perform "Pairing" the connected Bluetooth wireless audio receiver and your Bluetooth component in advance.

Pairing the Bluetooth™ wireless audio receiver and your Bluetooth™ component

"Pairing" refers to the operation of registering a Bluetooth component for Bluetooth communications. Pairing must be performed when using a Bluetooth component with the Bluetooth wireless audio receiver connected to this unit for the first time or if the pairing data has been deleted.

- You only need the pairing operation for the first time that you use the Bluetooth component with the Bluetooth wireless audio receiver.
- Pairing requires operations on this unit and on the other component with which Bluetooth communications are to be established. If necessary, refer to the instruction manuals provided with other component.

Pairing the Bluetooth wireless audio receiver and your Bluetooth component

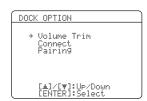
To ensure security, a time limit of 8 minutes is set for the pairing operation. We recommend that you read the instructions so that you fully understand them before starting.

- 1 Rotate the **®INPUT selector** (or press **5DOCK** repeatedly) to select "Bluetooth (DOCK)" as the input source.
- 2 Turn on the Bluetooth component you want to pair with and set it to pairing mode.

For details on operation of the Bluetooth component, refer to its instruction manuals.

3 Press 18 OPTION.

The OPTION menu for DOCK input appears on the video monitor.



4 Press **□Cursor** ∇ to select "Pairing" and press **□ENTER**.

"Searching" appears on the front panel display and the pairing operation starts.

`@´

- To cancel pairing, press IIRETURN.
- You can also start pairing operation by pressing and holding (MEMORY on the front panel.

Make sure the Bluetooth component recognizes the Bluetooth wireless audio receiver.

If the Bluetooth have recognized the Bluetooth wireless audio receiver, "YBA-10 YAMAHA," for instance, is displayed in the Bluetooth device list.

Select the Bluetooth wireless audio receiver from the Bluetooth device list, and enter a path key "0000" into the Bluetooth component.

When pairing is complete, "Completed" appears on the front panel display.

`\o':

 The Yamaha Bluetooth wireless audio receiver can be paired with up to eight Bluetooth components. When pairing is conducted successfully with a ninth component and the pairing data is registered, the pairing data for the least recently used other component is cleared.

Playback of the Bluetooth™ component

- 1 Rotate the **(BINPUT selector** (or press **5DOCK** repeatedly) to select "Bluetooth (DOCK)" as the input source.
- 2 Press **BOPTION**.
- 3 Press **II**Cursor ∇ repeatedly to select "Connect" and press **II**ENTER.

After you execute "Connect," communication with the Bluetooth component is established. When the connected Bluetooth wireless audio receiver recognizes the Bluetooth component, "BT Connected" appears on the front panel display.

`@ʻ

- When you press [] ENTER on the remote control, the connected Bluetooth wireless audio receiver searches and connects to the last connected Bluetooth component. If the Bluetooth wireless audio receiver cannot find the Bluetooth component, "Not found" appears on the front panel display.
- To disconnect the Bluetooth wireless audio receiver from the Bluetooth component, display the OPTION menu again, select "Disconnect," and press **IIENTER**.
- 4 Start playback of the Bluetooth component.

Other functions

Using the sleep timer

You can set this unit to automatically return to standby after a set time has passed.

The sleep timer is useful if you want to go to sleep while this unit is playing or recording a source.

Press | SLEEP repeatedly to set the amount of time

Each time you press the key, the front panel display changes as shown below.

```
Sleep 120min. Sleep 90min. Sleep 0ff ← Sleep 30min. ← Sleep 60min. ← Sleep 60min
```

When the sleep timer is set, the SLEEP indicator on the front panel display lights up.

Press **[7]SLEEP** on the remote control repeatedly until "Sleep Off" appears on the front panel display.

Using the HDMI™ control function

This unit supports the HDMI control function. When a TV that supports the HDMI control function is connected with this unit via the HDMI connection, the following operations of this unit can be controlled with the TV remote control (except for some TVs).

- Switching between on and standby (linked to the TV)
- Volume control (up/down, mute)
- Switching the sound output between a TV and this unit

When you use the HDMI control function, do the following referring to the instruction manuals of the TV.

- Turn on the HDMI control function on the TV.
- Connect the TV to this unit following the instructions for connecting the TV to an AV amplifier.

`\ó\′_

- The HDMI control-compatible components include Panasonic VIERA Link compatible TV, DVD player/recorder and Blu-ray Disc player.
- When a DVD recorder/Blu-ray recorder/HD DVD recorder that supports the HDMI control function is connected via the HDMI connection, its operations are also linked to those of this unit. For details, refer to its instruction manuals.
- We recommend that you use a TV, DVD recorder, Blu-ray recorder and HD DVD recorder of the same manufacturer.

Connect a TV that supports the HDMI control function to this unit via the HDMI connection.

2 Turn on all components connected to this unit via the HDMI connection.

For details on operations of external components, refer to instruction manuals provided with them.

3 Check the settings of those components and enable the HDMI control function.

This unit: Set "Control (SETUP menu \rightarrow Function Setup \rightarrow 1 HDMI)" to "On" in the SETUP menu (see page 50).

External components: Refer to their instruction manuals.

4 Turn off the TV.

All external components that support the HDMI control function turn off linked to the TV being turns off. If any component does not turn off, turn it off manually.

5 Turn on the TV.

Make sure that this unit turns on linked to the TV being turned on. If it does not turn on, turn it on manually.

6 Set the input of the TV according to the component connected to this unit such as [HDMI].

If a DVD recorder or Blu-ray recorder that supports the HDMI control function is connected to this unit, turn it on.

This unit: Make sure that the input source to which the DVD recorder or Blu-ray recorder is connected is selected. If another input source is selected, select the input source manually.

External component: Make sure that you can see images properly on the video monitor.

`\o':

• You do not need to do step 1 through 7 from the second time.

8 Perform the following operations with the TV remote control to check the link.

- · Turning on and off
- Adjusting volume
- Switching sound output components

Notes

- If this unit does not work linked with the TV, turn the TV off and back on or unplug the AC power plug and plug back in. Doing so may solve the problem.
- If the problem still persists, check the following:
- This unit: Is the HDMI control function set to "On"? (see page 50)
- TV: Is the HDMI control function is enabled?

`\o'`

If the TV connected to this unit supports the HDMI control function, you
only need to connect its audio output jacks to the AV1 jacks of this unit,
which are optical digital input jacks, and turn on the video monitor. TV
of SCENE is automatically selected when you turn on the TV, and you
can enjoy TV sound right away. When connecting the audio output jacks
to the AV2-6, AUDIO1-2 or V-AUX jacks, assign those jacks to the TV
beforehand (see page 24).

ADVANCED OPERATION

Setting the option menu for each input source (OPTION menu)

This unit has the OPTION menu of frequently used menu items for input sources compatible with this unit. The procedure for setting the OPTION menu items is described below.

- 1 Select an input source using the ®INPUT selector (or 5 Input selection keys).
- 2 Press **BOPTION** on the remote control.

The OPTION menu appears. The displayed OPTION menu items differ depending on the input source. For details, see next section.



- 3 Select the desired menu item using ☐Cursor △ / ▽, and press ☐ENTER.

 Parameters of the selected menu item are displayed.
- 4 Change the setting of the selected menu item (or enable a function) using □Cursor △ / ▽ / → and □ENTER.

Details of the selected menu item are displayed. Parameters you can set differ depending on the menu items.

5 To close the OPTION menu, press **18 OPTION**.

You can also use **IIRETURN** to return to the previous screen or close the OPTION menu.

\\\\

 If [i]Cursor or other keys do not work after closing the OPTION menu, select the input source again using the [5]Input selection keys.

OPTION menu items

The following menu items are provided for each input source.

Input Source	Menu item			
HDMI1-4	Volume Trim	Decoder Mode	Extended Surround	Signal Info
AV1-4	Volume Trim	Decoder Mode	Extended Surround	Signal Info
AV5-6	Volume Trim			
AUDIO1-2	Volume Trim			
V-AUX	Volume Trim			
PHONO	Volume Trim			
iPod (DOCK)	Volume Trim	Shuffle	Repeat	
Bluetooth (DOCK)	Volume Trim	Connect/ Disconnect	Pairing	
TUNER	Volume Trim	FM Mode	Auto Preset	Clear Preset
	PTY Seek	EON		
MULTI CH	Volume Trim	Video Out		

Below is a detailed explanation of the menu items in this table.

`\\\

• The default settings are marked with "*."

■ Volume Trim

Input source:

Adjustable range: -6.0 dB to 0.0 dB* to +6.0 dB

(in 0.5 dB steps)

Reduces any change in volume when switching input sources by correcting volume differences between input sources.

You can set this parameter for each input source.

■ Decoder Mode

Input source: HDMI1-4, AV1-4 Choices: Auto*/DTS

Selects DTS digital audio signals for reproduction.

Automatically selects audio input signals.

DTS Selects DTS signals only. Other input signals

are not reproduced.

Extended Surround

Input source: HDMI1-4, AV1-4

Choices: Auto*/PLIIx Movie/PLIIx Music/EX/ES/

Off

Selects whether to reproduce multi-channel input signals in 6.1- or 7.1-channel when surround back speakers are used.

Automatically selects the most suitable decoder according to whether a flag for reproducing surround back channel is present, and reproduces the signals in 6.1- or 7.1- channel.

PLIIX Always reproduces signals in 6.1- or 7.1Movie channel using the PLIIx Movie decoder
whether or not surround back channel signals
are contained. You can select this parameter
when two surround back speakers are
connected.

PLIIX Always reproduces signals in 6.1- or 7.1Music channel using the PLIIx Music decoder
whether or not surround back channel signals
are contained. You can select this parameter
when one or two surround back speakers are
connected.

EX/ES Automatically selects the most suitable decoder for input signals whether or not the flag for reproducing surround back channel is present, and always reproduces signals in 6.1-channel.

Off Always reproduces signals in 5.1-channel when 5.1-channel sound is input, whether or not the flag for reproducing surround back channel is present.

■ Si9nal Info

Input source: HDMI1-4, AV1-4

Displays information on audio and video signals on the video monitor and front panel display. You can change items to be displayed using $\square \text{Cursor} \land I \lor \nabla$.

Signal Info parameters

Audio information

- Addio illiorillation		
Information	Description	
Format	Format of digital audio signals.	
Channel	The number of input signal channels (front/surround/LFE). For example, if input signal channels are 3 front channels, 2 surrounds and LFE, "3/2/0.1" is displayed. If a channel that cannot be expressed as the above, a total number of channels such as "5.1ch" may be displayed.	
Samplin9	The sampling frequency of digital input signal.	
Bitrate	The bit rate of input signal per second.	

Notes

- "No Signal" is displayed when no signals are input and "---" is displayed when signals that this unit cannot recognize are input.
- The bit rate may vary during playback.

Video information

Information	Description
In	Format and resolution of video input signal.
Out	Format and resolution of video output signal.
Message	Error messages about HDMI signals and HDMI components. See the following for details of the error messages.

HDMI error message (appears only when an error has occurred)

HDCP Error Device Over	HDCP authentication failed. The number of HDMI components connected is
Out of Res.	over the limit. The connected monitor is not compatible with the video input signal.

■ FM Mode

Input source: TUNER
Choices: Stereo*/Mono

Sets FM broadcasting receiving mode.

Stereo Receives in stereo mode.

Mono Receives in monaural mode. You can get a

better reception in monaural mode.

■ Auto Preset Input source: TUNER

Automatically detects radio stations in the FM frequency band and registers them as preset stations (see page 31).

■ Clear Preset Input source: TUNER

Clears the preset stations (see page 32).

■ PTY Seek

Input source: TUNER

Searches a station that is broadcasting a program under the desired category from the preset stations while using the Radio Data System (see page 33).

EON

Input source: TUNER

Enables you to receive the EON (enhanced other network) data service of the Radio Data System (see page 33).

■ Shuffle

Input source: iPod (DOCK)
Choices: 0ff*/Songs/Albums

Changes the shuffle playback style (see page 36).

■ Repeat

Input source: iPod (DOCK)
Choices: 0ff*/0ne/All

Changes the repeat playback style (see page 36).

■ Connect/Disconnect

Input source: Bluetooth (DOCK)

Switches communication with a Bluetooth component on and off (see page 37).

■ Pairin9

Input source: Bluetooth (DOCK)

Performs pairing of this unit and a Bluetooth component (see page 37).

Video Out

Input source: MULTI CH

Choices: AV1 to 6/V-AUX/Off*

When the multi-channel input is selected, outputs a signal input from another terminal to the video monitor. See "Outputting a video signal input from another input source during reproducing a multi-channel audio signal" on this page.

Outputting a video signal input from another input source during reproducing a multi-channel audio signal

When "MULTI CH" is selected as the input source, a video signal input from another terminal can be output to the video monitor. For example, even if an audio and video component such as a DVD player that does not support a multi-channel digital audio output, the video signal can be output to the video monitor while reproducing a multi-channel analog audio signal.

- 1 Rotate the **®INPUT selector** (or press **5MULTI**) to change the input source to "MULTI CH."
- Press **BOPTION** on the remote control. The OPTION menu appears.
- **3** Press \Box Cursor \triangle / ∇ to display "Video Out," and press \Box ENTER.

The following screen appears.



- 4 Press
 ☐Cursor < / >
 / > to select a video input jack to which a component to be used as a video input source is connected.
 - AV1-2 (COMPONENT VIDEO jacks)
 - AV3-6 (VIDEO jack)
 - V-AUX (VIDEO jack)
 - Off (no video input)
- 5 To end the setting, press **BOPTION**.

Editing surround decoders/sound field programs

Setting sound field parameters

Although the sound field programs would satisfy you as they are with the default parameters, you can arrange sound effect or decoders suitable for acoustical conditions of sources or rooms by setting the parameters (sound field elements).

`\oʻ:

- You can protect the sound field against the changes of parameters the sound filed parameters when "Memory Guard" of the SETUP menu is set to "On" (see page 52). To change the parameters, set it to "Off."
- 1 Turn on the video monitor connected to this unit.
- 2 Press **10SETUP** on the remote control.

The SETUP menu appears on the monitor.

3 Press **□Cursor** △ / ▽ to select "DSP Parameter" and press **□ENTER**.

The screen changes as follows.

- 4 Press **□Cursor** ∆ / ∇ to move "→" to the sound field program and press **□Cursor** \triangleleft / \triangleright to select the sound field program.
- Fress ①Cursor △ / ▽ to select the parameter that you want to change, and press ①Cursor
 / ▷ to change the parameter.

An asterisk (*) appears on the left of the sound field parameter name displayed on the monitor when you change the parameter from its default setting. For details on functions and adjustable ranges of the sound field parameters, see "Sound field parameters" on this page.

_`ທ໌:

- Repeat steps 4 and 5 to change other sound field program parameters.
- A complete list of the parameters of some sound field programs may exceed one page. In this case, press **□Cursor** △ / ∇ to scroll through pages.

6 To end the edit, press 10 SETUP.

To initialize the parameters of the selected sound field program, $\boxed{11}$ Cursor $\boxed{7}$ repeatedly to select "Initialize" and then press, $\boxed{11}$ Cursor $\boxed{5}$. When the confirmation screen appears on the monitor, press $\boxed{11}$ Cursor $\boxed{5}$ to confirm the initialization or $\boxed{11}$ Cursor $\boxed{5}$ to cancel it.

Sound field parameters

\\\\\

• The default settings are marked with "*."

CINEMA DSP basic parameters

SUR.

Choices: PLIIx Movie*/Neo:6 Cinema

Selects a surround decoder to be used with a sound field program in the MOVIE category.

PLIIx Movie: Selects the Dolby Pro Logic IIx (Movie)

decoder.

Neo:6 Cinema: Selects the Neo:6 (Cinema) decoder.

Note

- Surround decoders cannot be changed when used with the following MOVIE sound field programs.
 - Mono Movie
 - Sports
- Action Game
- Roleplaying Game

3D DSP

Choices: On*/Off

When CINEMA DSP 3D is enabled, sets whether to use sound field programs in CINEMA DSP 3D mode.

Note

 When the presence speakers are not used, the 3D DSP parameters are not displayed.

DSP Level

Adjustable range: -6 dB to 0 dB* to +3 dB

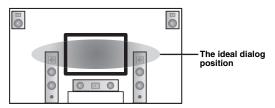
Fine adjusts an effect level (level of the sound field effect to be added). You can adjust the level of the sound field effect while checking sound levels. Adjust "DSP Level" as follows.

- The effect sound is too soft.
- There is no difference in effects between the sound field programs.
 - →Increase the effect level.
- The sound is dull.
- The sound field effect is added too much.
 - →Reduce the effect level.

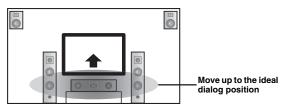
Dialog Lift

Choices: 0* to 5

Adjusts the vertical position of center sound such as dialogues when presence speakers are used. Increasing this parameter raises the position.



If the dialog seems to come out from a lower position than the video monitor screen, increase this parameter.



"0" (default) corresponds to the lowest position and "5" to the highest position.

Notes

- "Dialog Lift" is displayed only when the presence speakers are available.
- You cannot move the dialog position lower than the default setting.

Sound field parameters for the advanced configurations

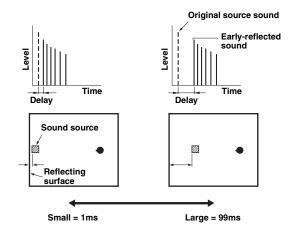
`\\ `\\

- Some sound field programs have parameters for adjusting specific sound fields. The following letters are displayed next to the names of those parameters.
 - P (presence sound field)
 - S (surround sound field)
 - SB (surround back sound field)

Parameters for adjusting early-reflected sound

Parameter	Adjustable range
Init.Dl9	1 to 99ms
P.Init.Dl9	1 to 99ms
S.Init.Dly	1 to 49ms
SB Init.Dl9	1 to 49ms

Adjust attenuation characteristics of early-reflected sound. You can create a lively sound field (with a high reverberant sound level) as you increase the value, and a dead sound field (with a low reverberant sound level) as you decrease the value. Creating either a lively sound field or a dead sound field in an actual music hall is determined by the acoustic absorption characteristics of reflection surfaces. A dead sound field is created when the attenuation time is short while a lively sound field is created when the attenuation time is long.



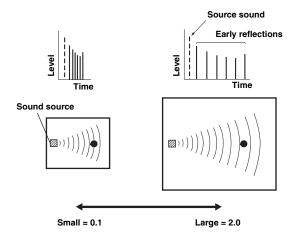
``⊚′≤

 We recommend that you adjust the size of corresponding sound field when you adjust the delay time.

Parameters for specifying room size

Parameter	Adjustable range
Room Size P.Room Size S.Room Size SB Room Size	0.1 to 2.0

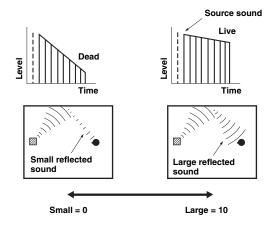
Produce different senses of sound expansion according to room sizes specified. In a large size room such as a music hall, the duration from when reflected sound is heard until when the next reflected sound is heard is long. Thus, different senses of sound expansion can be created by changing the duration. 1.0 is the original room size. When this parameter is set to 2.0, each side of the room is defined as twice larger than the original room size.



Parameters for defining attenuation characteristics of early-reflected sound

Parameter	Adjustable range
Liveness	Ø to 10
S.Liveness	Ø to 10
SB Liveness	Ø to 1Ø

Adjust the attenuation of reflected sound. You can create a lively sound field (with a high reverberant sound level) as you increase the value, and a dead sound field (with a low reverberant sound level) as you decrease the value. Creating either a lively sound field or a dead sound field in an actual music hall is determined by the acoustic absorption characteristics of reflection surfaces. A dead sound field is created when the attenuation time is short while a lively sound field is created when the attenuation time is long.

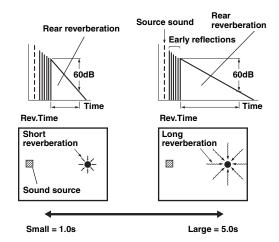


Parameters for adjusting reverberant sound

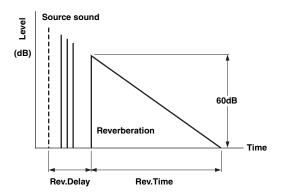
Parameter	Adjustable range
Rev.Time	1.0 to 5.0s
Rev.Delay	0 to 250ms
Rev.Level	0 to 100%

Rev.Time parameter adjusts the attenuation time of the rear reverberant sound based on the time that about 1kHz reverberant sound takes for 60dB of attenuation.

Reverberant sound attenuates faster as you decrease the value. Rev.Time adjustment allows you to create a natural reverberant sound, by setting the attenuation time longer for a sound source or room with less echo, or shorter for a sound source or room with more echo.

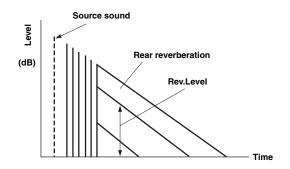


Rev.Delay parameter adjusts the time difference between the beginning of the direct sound and the beginning of the reverberation sound. The larger the value, the later the reverberation sound begins. Increasing the value of Rev.Delay allows you to create a reverberant sound in a wider area for the same Rev.Time.



Englis

Rev.Level parameter adjusts the reverberation sound level. Increasing the value of Rev.Level makes the reverbration sound level higher, which allows you to create more echo.



Parameters only usable in certain sound field programs

2ch Stereo only

Direct

Choices: Auto*/Off

Automatically bypasses the DSP circuit and tone control circuit when an analog sound source is selected as the input source. This creates a higher quality sound.

Fig. 0 Outputs sound by bypassing the DSP circuit and tone control circuit when the "Bass" and "Treble" tone controls are both set to 0 dB.

Off Does not bypass the circuits.

`\o

• See page 49 for equalizers that can be used with this unit.

7ch Stereo only

CT Level/SL Level/SR Level/ SB Level/PL Level/PR Level

Adjustable range: 0 to 100%

Adjusts the volume of the center (CT), surround L (SL), surround R (SR), surround back (SB), presence L (PL) and presence R (PR) channels in the 7ch Stereo program. The available parameters differ depending on the setting of the speakers.

Straight Enhancer/7ch Enhancer only

Effect Level

Choices: Hi9h*/Low

Adjusts the Compressed Music Enhancer effect level. To reduce the effect, set this parameter to "Low."

Decoder parameters

You can customize decoder effects by setting the following parameters. For kinds of decoders, see page 29.

When PLIIx Music/PLII Music is selected

Panorama

Choices: Off*/On

Adjusts the soundscape of the front sound field. A small value increases the soundscape and a large value narrows it (makes the center more dominant).

Dimension

Adjustable range: -3 to STD* to +3

Adjusts the difference in level between the front sound field and the surround sound field. You can adjust the difference in level created by the software being played back to obtain the preferred sound balance. The surround sound gets stronger as you make the value more negative and the front sound gets stronger as you make the value more positive.

Center Width

Adjustable range: Ø to 3* to 7

Spreads the center sound toward left and right according to your preference. Set this parameter to 0 for outputting the center sound from the center speaker only, or to 7 for outputting it from the front left/right speaker.

When Neo:6 Music is selected

C.Ima9e

Adjustable range: 0.0 to 0.3* to 1.0

Adjusts the front left and right channel output relative to the center channel to make the center channel more or less dominant as necessary.

Changing various settings of this unit (SETUP menu)

You can change various settings of this unit using the SETUP menu. See "Basic operation of the SETUP menu" on the next page, and other respective pages to change the settings.

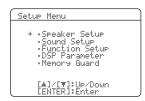
■ List of SETUP menu items

Menu/Submenu	Function	Page
Speaker Setup	Sets items for speakers.	47
1 Auto Setup (YPAO)	Automatically adjusts output characteristics of speakers.	47
2 Manual Setup	Manually adjusts output characteristics of speakers.	47
A)Config	Sets speaker configurations, such as connection status of speaker and a size of the	47
	connected speaker (sound reproduction capacity), suitable for the listening	
	environment.	
B)Level	Separately adjusts volume of each speaker.	49
C)Distance	Adjusts timing at which each speaker outputs sound based on distances between speakers and the listening position.	49
D)Equalizer	Selects an equalizer that adjusts speaker output characteristics.	49
E)Test Tone	Generates test tones.	49
Sound Setup	Sets various items for sound outputs.	49
1 Dynamic Range	Adjusts dynamic ranges of speakers and headphones.	49
2 Lipsync	Adjusts delay in output timing between video signals and audio signals.	50
HDMI Auto	Sets on or off of automatic adjustments for delay between output timing between	50
TIDIVII Auto	video signals input from the HDMI jack and audio signals.	30
Auto Delay	Fine adjusts a delay time of HDMI Auto.	50
Manual Delay	Manually fine adjusts the delay of audio and video output.	50
Function Setup	Sets various items for HDMI and display.	50
1 HDMI	Sets various items for input sources.	50
Control	Selects on or off of HDMI control functions.	50
Standby Through	Selects on or off of output of HDMI signals input from the HDMI 1-4 jacks to the	50
Standby Through	HDMI OUT jack when this unit is on standby.	30
Audio Output	Selects this unit or a component connected to this unit via the HDMI OUT jack of	50
	this unit for reproducing sound signals input from the HDMI 1-4 jacks.	
Resolution	Sets resolution of the HDMI output that is converted from analogy video input signals.	50
Aspect	Sets an aspect ratio of images reproduced by HDMI signals converted from analog	51
	video input signals.	
2 Display	Sets items for a monitor or the front panel display.	51
Dimmer	Sets brightness of the front panel display.	51
FL Scroll	Selects the way to display characters on the front panel display.	51
OSD Shift	Adjusts top and bottom positions of the OSD (on-screen display) menus.	51
3 Volume	Sets items for volumes.	51
Adaptive DRC	Adjusts the dynamic range (difference between the maximum volume and the minimum volume) in conjunction with the volume level.	51
Max Volume	Sets the maximum volume level so that the volume will not be accidentally increased.	51
Init. Volume	Sets the volume at the time this unit is turned on.	51
4 Input Rename	Changes input source names to be displayed on a video monitor or the front panel display.	52
5 Zone2	Sets the maximum volume level and initial volume level of Zone2.	52
Max Volume	Sets the maximum volume level so that the volume will not be accidentally increased.	52
Init. Volume	Sets the volume at the time this unit is turned on.	52
DSP Parameter	Sets parameters for the sound field programs.	52
Memory Guard	Protects some settings against accidental alteration.	52

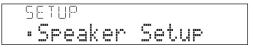
Basic operation of the SETUP menu

The SETUP menu screen appears on both video display (OSD) and front panel display.

Video display (OSD)



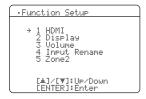
Front panel display



In this section, procedures of setting menus displayed on the video monitor are described.

- 1 Press 10 SETUP on the remote control.
 The SETUP menu screen appears.
- 2 Select a menu using $\square Cursor \triangle / \nabla$, and press $\square ENTER$.

Items of the selected menu are displayed. For example, the following screen appears when you select "Function Setup."



`\@'<u>-</u>

You can return to the previous screen by pressing IIRETURN.

3 To display submenus, select a menu that you want to set using $\square Cursor \triangle / \nabla$, and press $\square ENTER$.

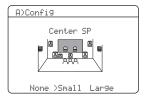
For example, the following screen appears when you select "2 Display."



4 Select an item using **□Cursor** △ / ▽, and change the setting of the item using **□Cursor** ⊲ / ▷.

Some items in the Manual Setup menu of Speaker Setup take up a full screen. To display other items in the Manual Setup menu, press \square Cursor $\triangle I \nabla$.

Example: A)Config



`\<u>\</u>'

· You can change other items by repeating step 4.

5 To finish setting, press 10 SETUP.

`\o':

 If III Cursor or other keys do not work after exiting the SETUP menu, select the input source again using Input selection keys.

Speaker Setup

You can set various items for speakers. Two kinds of adjustments are available. One is "1 Auto Setup (YPAO)" for automatic adjustment and another is "2 Manual Setup" for manual adjustment.

``@′<u>·</u>

· The default settings are marked with "*."

1 Auto Setup

Automatically adjusts output characteristics of speakers to obtain optimum balance for the output sound based on positions and performances of the speakers and acoustic characteristics or the room, which are automatically measured. For details on operations, see page 21.

2 Manual Setup

Adjusts output characteristics of speakers based on manually set parameters.

After Auto Setup (YPAO) is performed, you can check automatically adjusted parameters in the Manual Setup menu. Fine adjust the parameters for your preference if necessary.

■ A)Config

Sets speaker configurations, such as connection status of speaker and a size of the connected speaker (sound reproduction capacity), suitable for the listening environment.

`\o':

The speaker configuration includes items for defining a speaker size:
 Large or Small. Large and Small refer to speakers with woofer diameters
 16 cm or larger and smaller than 16 cm, respectively.

Extra SP Assign

Choices: Zone2*/Presence/None

Selects the application for EXTRA SP jacks.

Zone2 Assigns the EXTRA SP jacks for the speakers in the second zone.

Presence Assigns the EXTRA SP jacks for the

Presence speaker.

None Disables the EXTRA SP jacks.

Note

 When setting "Extra SP Assign" to "Zone2" or "Presence," the surround back channel signals for main output is separately output from other channels.

Changing various settings of this unit (SETUP menu)

LFE/Bass Out

Choices: SWFR/Front/Both*

Selects speaker(s) for outputting low-frequency components of the LFE (low-frequency effect sound) channel or other channels. The output status is as follows.

LFE channel signals

Parameter	Subwoofer	Front speakers	Other speakers
Both	Output	Not output	Not output
SWFR	Output	Not output	Not output
Front	Not output	Output	Not output

Low-frequency components of other channel signals

Parameter	Subwoofer	Front speakers	Other speakers
Both	[1]	[2]	[3]
SWFR	[4]	[3]	[3]
Front	Not output	[1]	[3]

- Outputs low-frequency components of the front left and right channels and the channel of speaker, the size of which is set to "Small."
- Outputs low-frequency components of the front left and right channels.
- [3] Outputs low frequency components when the sizes of speakers are set to "Large."
- [4] Outputs low-frequency components of the channel of speaker, the size of which is set to "Small."

Front SP

Choices: Small/Large*

Sets the sizes of front left and right speakers.

Small Select this when small speakers are

connected. Low-frequency components of the front left and right channels are output from a

subwoofer.

Lange Select this when large speakers are

connected.

Note

 When "LFE/Bass Out" is set to "Front," you can only select "Large." If "LFE/Bass Out" is changed to "Front," this parameter automatically switches to "Large" even when it is set to "Small." Center SP

Choices: None/Small*/Large Sets the size of center speaker.

None Select this when no center speaker is

connected. Center channel signals are spread

to front left and right speakers.

Small Select this when a small center speaker is

connected. Low-frequency components of center channel are output from a subwoofer. If a subwoofer is not connected they are

output from front speakers.

Large Select this when a large center speaker is

connected.

Sur. L/R SP

Choices: None/Small*/Large

Sets sizes of left and right surround speakers.

None Select this when no surround speakers are connected. Surround channel signals are

spread to front left and right speakers. "Sur.B L/R SP" automatically switches to "None"

when this is selected.

Small Select this when small surround speakers are

connected. Low-frequency components of surround channels are output from a subwoofer. If a subwoofer is not connected they are output from front speakers.

Lange Select this when large surround speakers are

connected.

`@´:

 When "None" is selected, the sound field programs automatically enter the Virtual CINEMA DSP mode.

Sur.B L/R SP

Choices: None/SML×1/SML×2*/LRG×1/LRG×2

Sets sizes of left and right surround back speakers.

None Select this when no surround back speaker

are connected. Surround back channel signals are output from the surround L/R speakers and subwoofer. If the subwoofer is disabled,

they are output from the surround L/R speakers and front speakers.

SML×1 Select this when one small surround back speaker is connected.

SML×2 Select this when two small surround back speakers are connected.

LRG×1 Select this when one large surround back speaker is connected.

LRGx2 Select this when two large surround back speakers are connected.

Note

 When "None" is selected, "PLIIx Movie," "PLIIx Music," and "PLIIx Game" cannot be selected.

Crossover Freq.

Choices: 40Hz/60Hz/80Hz*/90Hz/100Hz/110Hz/120Hz/

160Hz/200Hz

Sets the lower limit of the low frequency component output from a speaker with a size set to "Small (SMLx1/SMLx2)." Sound with a frequency below that limit is output from a subwoofer or front speakers.

`\<u>\</u>'

 If your subwoofer has a volume control or a crossover frequency control, set the volume to half or the crossover frequency at the maximum.

Subwoofer Phase

Choices: Normal*/Reverse

Sets the phase of your subwoofer if bass sounds are lacking or unclear.

Normal Select this not to change the phase of your

subwoofer.

Reverse Select this to reverse the phase of your

subwoofer.

B)Level

 Adjustable range:
 -10.0dB to +10.0dB (0.5 dB steps)

 Defaults:
 "FR.L/FR.R/SWFR/PR.L/PR.R" 0dB

"CNTR/SUR.L/SUR.R/SBL/SBR"-1.0dB

Separately adjusts volume of each speaker so that the sounds from speakers are at the same volume at the listening position. Items to be displayed vary depending on the number of speakers connected.

`\o`:

- When only one surround back speaker is connected, "SB" appears instead of "SBL" and "SBR."
- You can adjust the volume listening to test tones when you set "E)Test Tone" to "On" (see page 49).
- If your subwoofer has a volume control or a crossover frequency control, set the volume to half or the crossover frequency at the maximum.

■ C)Distance

Adjusts timing at which each speaker outputs sound so that sounds from speakers reach the listening position at the same time. Set the unit (Unit) first and then the distance of each speaker.

Unit

Choices: meters (m)*/feet (ft)

meters (m) Displays the speaker distance in meters. feet (ft) Displays the speaker distance in feet.

Front L/Front R/Center/Sur. L/ Sur. R/Sur.B L/Sur.B R/SWFR/ PRNS L/PRNS R

 Adjustable range:
 0.30m to 24.00m (1.0ft to 80.0ft)

 Defaults:
 3.00m (10.0ft) "Front L/Front R/

3.00m(10.0ft) "Front L/Front R/ SWFR/PRNS L/PRNS R" 2.60m(8.5ft) "Center"

> 2.40m(8.0ft)"Sur. L/Sur. R/ Sur.B L/Sur.B R/PRNS L/PRNS R"

`\o':

- Different items are displayed depending on settings of "A)Config" (see page 47).
- When only one surround back speaker is connected, "Sur.B" appears instead of "Sur.B L" and "Sur.B R."

■ D)Equalizer

Adjusts sound quality and tone using a parametric graphic equalizer.

EQ Type Select

Choices: Auto PEQ/GEQ*/Off Selects an equalizer type.

Auto PEQ Uses a parametric equalizer selected in

"1 Auto Setup." Characteristics of the currently used parametric equalizer (see page 21) are displayed below "Auto

PEQ."

If Auto Setup is not executed, this parameter is not displayed.

GEQ Adjusts tone using a graphic equalizer. To

display the adjustment menu, press

II ENTER.

Off Not use a graphic equalizer.

GEQ

Choices: 63Hz/160Hz/400Hz/1kHz/2.5kHz/

6.3kHz/16kHz

Adjustable range: -6.0dB to 0dB* to +6.0dB (0.5 dB steps) Adjusts sound quality of each speaker using a graphic equalizer. The graphic equalizer of this unit can adjust

signal levels in 7 frequency ranges.

To adjust the signal level within each range, select the desired speaker with \square Cursor \triangleleft / \triangleright while " \rightarrow " is displayed next to "Channel," then the desired frequency band with \square Cursor \triangle / ∇ , and adjust the signal level with \square Cursor \triangleleft / \triangleright .

■ E)Test Tone

Choices: Off*/On

Switches test tones on and off. To generate test tones select "On" using **□Cursor** < / D>. When "On" is selected, you can adjust the settings of "2 Manual Setup" while listening to a test tone.

Off Does not generate test tones.
On Generates test tones.

Sound Setup

You can set various items for sound outputs.

``@′≤

• The default settings are marked with "*."

■ 1 Dynamic Ran9e

Choices: Min/Auto/STD/Max*

Selects the dynamic range adjustment method for reproducing bitstream signals.

Min/Auto (Min) Sets the dynamic range suitable for

low volume or a quiet environment, such as at night, for bitstream signals except for

Dolby TrueHD signals.

(Auto) Adjusts the dynamic range for Dolby TrueHD signals based on input signal

information.

Sets the standard dynamic range

recommended for regular home use.

Max Outputs sound without adjusting the dynamic range of the input signals.

Changing various settings of this unit (SETUP menu)

■ 2 Lipsync

Adjusts delay between video output and audio output.

HDMI Auto
Choices: Off*/On

Automatically adjusts output timing of audio and video signals when a monitor that supports an automatic lipsync function is connected to this unit.

Off Select this when the connected monitor does

not support the automatic lip-sync function or that function is not to be used. Set the correction time in "Manual Delay."

On Select this when the connected monitor supports the automatic lip-sync function. Fine

adjust the correction time in "Auto Delay."

Auto Delay

Adjustable range: 0* to 240ms (1 ms steps)

Fine adjusts the correction time when "HDMI Auto" is set to "On." The actual correction time is displayed under in "Auto Delay" field and an offset time set by the user in "offset" field.

Manual Delay

Adjustable range: 0* to 240ms (1 ms steps)

Manually fine adjusts the correction time. Select this when the connected monitor does not support the automatic lipsync function or you set "HDMI Auto" to "Off."

Function Setup

You can set various items for HDMI and display.

`\o':

· The default settings are marked with "*."

1 HDMI

You can set items for HDMI.

■ Control

Choices: On/Off*

Selects on or off of HDMI control functions when a component that supports the HDMI control functions is connected with this unit.

When this is set to "On," signals input from the HDMI 1-4 jacks are output to a monitor component even when this unit is on standby.

Un Enables the HDMI control function.
Uff Disables the HDMI control function.

■ Standby Through

Choices: On/Off*

Selects on or off of output of HDMI signals input from the HDMI 1-4 jacks to the HDMI OUT jack when this unit is on standby. When this parameter is set to "On" signals input from the HDMI 1-4 jacks can be output to a monitor component.

This item is not displayed when "Control" is set to "On."

Outputs the HDMI signals to the HDMI OUT

jack.

Off Does not output the HDMI signals to the

HDMI OUT jack.

\\\\

- To enables pass-through output, any one of the input sources connected to the HDMI 1-4 jacks must be selected before switching to standby.
- During pass-through output, the HDMI THROUGH indicator on the front panel display lights up. While the indicator lights up, it consumes 1 to 3W of power depending on a condition of an HDMI signal passing through this unit.

■ Audio Out⊧ut

Choices: Amp*/TU/Amp+TU

Selects this unit or a component connected to this unit via the HDMI OUT jack of this unit for reproducing sound signals input from the HDMI 1-4 jacks.

This item is not displayed when "Control" is set to "On."

AMP Outputs HDMI sound signals form the

speakers connected to this unit.

TU Outputs HDMI sound signals from the speakers of a TV connected to this unit.

Sound output from the speakers connected to

this unit is muted.

AMP+TU Outputs HDMI sound signals from the

speakers connected to this unit and the speakers of a TV connected to this unit.

Note

 When "TV" or "Amp+TV" is selected, signal formats of audio and video signals output from this unit to the monitor vary depending on specifications of the monitor.

Resolution

Choices: Through*/576p/720p/1080i/1080p

Upscales the resolution of HDMI output that is converted from analog video input signals and output from the HDMI OUT jack.

Notes

- Resolution of the HDMI output converted from 720p or 1080i video signals cannot be upscaled.
- When a video monitor is connected to this unit via the HDMI jack, this
 unit automatically detects a resolution that the monitor supports. An
 asterisk (*) appears on the left of the detected resolution.
- If this unit cannot detect the resolution that the monitor supports, set "MON.CHK" in the ADVANCED SETUP menu to "SKIP" (see page 58) and try it again.

Aspect

Choices: Thr9h*/16:9/Smart

Sets a horizontal to vertical ratio (aspect ratio) of images reproduced by HDMI signals output from the HDMI OUT jack when the HDMI signals are converted from analog video input signals by a video conversion function.

Thr 9h Outputs the video signals without changing

the aspect ratio.

Outputs the video signals that displays 4:3 images on a 16:9 monitor with black bands on the right and left sides of the monitor

screen.

Smart Outputs the video signals that displays 4:3 images on a 16:9 monitor by stretching right and left of images to fit on the monitor screen.

Notes

- You cannot change the aspect ratio of the screen when "Resolution" is set to "Through."
- The setting is not effective for inputs with the aspect ratio other than 4:3.
- You cannot obtain an effect of the aspect ratio when video signals are input from the HDMI 1-4 jacks or 720p, 1080i or 1080p signals are input.

2 Display

You can change some parameters for a monitor or the front panel display.

Dimmer

Adjustable range: -4 to Ø*

Sets brightness of the front panel display. As the value is lowered, the brightness of the front panel display is darkened.

Note

 The brightness of display does not become bright in Pure Direct mode even if the value is increased.

■ FL Scroll

Choices: Continue*/Once

Selects the way to scroll the screen when a total number of characters exceed a display area of the front panel display.

Continue Repeatedly displays all characters by

scrolling.

Once Displays all characters by scrolling once,

halts scrolling, and then displays first 14

characters.

0SD Shift

Adjustable range: -5 to 0* to +5

Adjusts top and bottom positions of the OSD (on-screen display) menus. To move up the screen, set this value larger. To move down the screen, set it smaller.

3 Volume

You can change some parameters for volumes.

Adaptive DRC

Choices: Auto/Off*

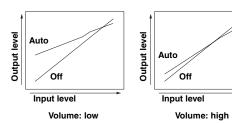
Adjusts the dynamic range in conjunction with the volume level. This function is useful when you are listening at lower volumes or at night. When this function is enabled, the dynamic range is adjusted as follows.

If the volume setting is low:

the dynamic range is narrow

If the volume setting is high:

the dynamic range is wide



Adjusts the dynamic range automatically.

Off

Does not adjust the dynamic range automatically.

`\o':

• The "Adaptive DRC" setting is effective for headphones.

■ Max Volume

Adjustable range: -30.0dB to +15.0dB/+16.5dB* (5.0 dB steps)

Sets the maximum volume level so that the volume will not be accidentally increased. For example, you can adjust the volume between –80.0 dB and –5.0 dB or mute when you set this parameter to "–5.0dB." The volume increases to the maximum level when this parameter is set to +16.5 dB (default).

Init. Volume

Choices: Off*/Mute/-80.0dB to +16.5dB (0.5 dB steps)
Sets the volume at the time this unit is turned on. When this parameter is set to "Off," the volume is set to a level that last time this unit is set to standby.

Note

If the setting of "Max Volume" is lower than the setting of "Init. Volume," the setting of "Max Volume" becomes effective. For example, when you set "Max Volume" to "-30.0dB" and "Init. Volume" to "0.0dB," the volume is automatically set to "-30.0dB" at the next time this unit is turned on.

4 Input Rename

You can change input source names to be displayed on the front panel display.

You can select an input source that you want to change the name to be displayed using **①Cursor**.

Selecting a name to be displayed from templates

Select an input source that you want to change the name, and select a name from the following templates using [II]Cursor.

-Blu-ray	- Satellite
-DVD	- VCR
- SetTopBox	- Tape
-Game	-MD
-TV	-PC
-DVR	- iPod
-CD	- HD DVD
-CD-R	- "blank"

``⊚′≤

 If you change the display name of an input source to your original one and select the input source, the current input source name and the template name are displayed. This is convenient if you want to cancel name change operation.

Entering an original name

Select an input source that you want to name, and press [1] **ENTER**. You can enter up to 9 characters by selecting one character at a time with the following keys according to the following operation.

 \Box Cursor \lhd / \triangleright For selecting characters that you

want to change

11 Cursor \wedge / ∇ For selecting characters to be

entered

IIENTER For entering the selected characters

The following characters are available for input. A to Z, 0 to 9, a to z, symbols (#, *, -, +, etc.) and space

5 Zone2

You can set the maximum volume level and initial volume level of Zone2.

`\o`:

• This item is displayed only when "Extra SP Assign" is set to "Zone2."

■ Max Volume

Adjustable range: -30.0dB to +15.0dB / +16.5dB* (5.0 dB steps)

Sets the maximum volume level of Zone2 so that the volume will not be accidentally increased. For example, you can adjust the volume between -80.0 dB and -5.0 dB or mute when you set this parameter to "-5.0dB."

■ Init. Volume

Choices: Off*/Mute/-80.0dB to +16.5dB (0.5 dB steps)
Sets the volume level of Zone2 when the power of Zone2 unit is turned on.

Note

If the setting of "Max Volume" is lower than the setting of "Init.
Volume," the setting of "Max Volume" becomes effective. For example,
when you set "Max Volume" to "-30.0dB" and "Init. Volume" to
"0.0dB," the volume is automatically set to "-30.0dB" at the next time
this unit is turned on.

DSP Parameter

You can change some parameters for the sound field programs. For details, see page 42.

Memory Guard

`\\\

• The default settings are marked with "*."

Choices: Off*/On

Protects settings of SETUP menu against accidental alteration.

Off Does not protect settings.

On Protects the settings of the SETUP menu (except for the Memory Guard setting).

Note

 When this parameter is switched to "On," "G" appears while the SETUP menu is displayed on the video monitor.

Using multi-zone configuration

This unit allows you to configure a multi-zone audio system. The Zone2 feature allows you to set this unit to reproduce separate input sources in the main zone and the second zone (Zone2). You can control this unit from the second zone using the supplied remote control.

Only analog signal can be sent to Zone2. If you want to output sound from Zone2, connect an external component to AV5-6 or AUDIO1-2 by analog connection. For example, if you want to output sound from an HDMI DVD player in Zone2, you must connect the component to this unit by both HDMI and analog connections.

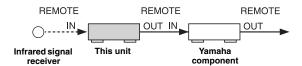
Connecting Zone2

You need the following additional equipment to use the multi-zone functions of this unit:

- An infrared signal receiver in the second zone.
- An infrared signal emitter in the main zone. This emitter transmits infrared signals from the remote control to a CD player or a DVD player, etc. in the main zone via the infrared signal receiver in the second zone.
- An amplifier and speakers in the second zone.

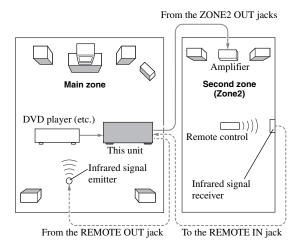
`\o':

- Since there are many possible ways to connect and use this unit in a multi-zone configuration, we recommend that you consult with your nearest authorized Yamaha dealer or service center about the Zone2 connections that best meet your requirements.
- Some Yamaha models can be directly connected to the REMOTE jacks
 of this unit. These models may not require an infrared signal emitter. Up
 to 6 Yamaha components can be connected as shown below.



Using the external amplifier

You can connect the amplifier/receiver in the second zone and other components to this unit as follows.



Note

 To avoid unexpected noise, DO NOT USE the Zone2 feature with CDs encoded in DTS.

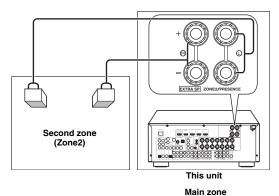
Using the internal amplifier of this unit

Important safety notice

The EXTRA SP jacks of this unit should not be connected to a Passive Loudspeaker Selector Box or more than one loudspeaker per channel.

Connection to a Passive Loudspeaker Selector Box or multiple speakers per channel could create an abnormally low impedance load resulting in amplifier damage. See this owner's manual for correct usage. Compliance with minimum speaker impedance information for all channels must be maintained at all times. This information is found on the back panel of this unit.

Connect the speakers in the second zone to the EXTRA SP jacks and then set the "Extra SP Assign" to "Zone2" (see page 47).



``⊚′≤

- You can use the speakers connected to the EXTRA SP jacks as the front speaker system of another zone. Set "Extra SP Assign" to "Zone2" (see page 47).
- When you use the internal amplifiers for the Zone2 speakers, you can adjust the volume level and set the initial volume and maximum volume of the Zone2 speakers (see page 52).

Controlling Zone2

You can select and control Zone2 by using the control keys on the front panel or on the remote control. The available operations are as follows:

- Selecting the input source (AV5-6, AUDIO1-2, V-AUX) of Zone2.
- Adjusting the volume of Zone2 (when a Zone2 speaker is connected to the EXTRA SP jack).
- Tuning into FM or AM when "TUNER" is selected as the input source of Zone2 (see page 31).
- Playing back music stored on your iPod stationed in a Yamaha iPod universal dock (such as YDS-11 sold separately) connected to the DOCK jack.
- You can play back music stored on a Bluetooth component via a Bluetooth wireless audio receiver (sold separately) connected to the DOCK jack (see page 37).

Note

 You must complete each step while the ZONE2 indicator is flashing on the front panel display. Otherwise, the Zone2 mode is automatically canceled and this unit returns to the normal operation mode. In this case, repeat the Zone2 selection procedure.

Controlling Zone2 with the front panel

■ Turning on Zone2

Press ©ZONE2 ON/OFF to turn on Zone2.

Activating the Zone2 operation mode

Press EZONE2 CONTROL to control Zone2.

The ZONE2 indicator flashes on the front panel display for approximately 10 seconds.



■ Operating Zone2

Rotate the **®INPUT selector** to select the desired input source while the ZONE2 indicator on the front panel display is flashing.

- When AV5-6, AUDIO1-2 or V-AUX is selected, you can listening to the input source in Zone2.
- Select "TUNER" as the input source to use the TUNER features in Zone2. For details about the TUNER operations, see "FM/AM tuning" on page 31.
- Select "DOCK" as the input source to use iPod features in Zone2. For details about the iPod operations, see "Using iPod" on page 35.
- Select "DOCK" as the input source to use Bluetooth component features in Zone2. For details about the Bluetooth component operations, see "Using Bluetooth components" on page 37.

■ Setting Zone2 to standby

Press ©ZONE2 ON/OFF to set Zone2 to standby.

Controlling Zone2 with the remote control

■ Turning on Zone2

Set **2MAIN/ZONE2** to the ZONE2 position, and press **16POWER**.

Operating Zone2

Set **2**MAIN/ZONE2 to the ZONE2 position, and press one of the input selection keys to select the desired input source of Zone2.

Note

- 21MUTE and 19VOLUME +/- are available to control Zone2 with same procedure as mentioned above.
- Setting Zone2 to standby

Set **2MAIN/ZONE2** to the ZONE2 position, and press **16POWER**, then set ZONE2 to standby.

Controlling other components with the remote control

You can control external components for a selected input source with the remote control. The keys available for controlling external components are as follows:

4 SOURCE POWER

Turns on and off an external component.

111Cursor, ENTER, RETURN

Operates the menus of external components.

20 DISPLAY

Switches between the screens of external components.

12 External component operation keys

Function as a recording or playback key of an external component, or a menu display key.

13 Numeric keys

Function as numeric keys of an external component.

14TV control keys

INPUT Switches video inputs of TV

MUTE Mute audio of TV

TV VOL +/- Controls the volume of TV
TV CH +/- Switches channels of TV
POWER Turns on and off TV

`\o':

- You need to set the remote control code first to control external components.
- The remote control keys for controlling external components are available only when the external components have corresponding control keys.

The following remote control codes are assigned to input sources as factory default settings. For a complete list of available remote control codes, refer to "List of remote control codes" at the end of this manual.

■ Default remote control code settings

Input source	Category	Manufacturer	Default code
[HDMI1]	Blu-ray Disc	Yamaha	2018
[HDMI2]	_	_	_
[HDMI3]	_	_	=
[HDMI4]	_	_	_
[AV1]	_	_	_
[AV2]	_	_	=
[AV3]	CD	Yamaha	5013
[AV4]	_	_	_
[AV5]	_	_	_
[AV6]	_	_	_
[AUDIO1]	_	_	_
[AUDIO2]	_	_	_
[V-AUX]			
[PHONO]	=	_	_
[A]	_	_	_

Input source	Category	Manufacturer	Default code
[DOCK]	DOCK	Yamaha	5011
[TUNER]	Tuner	Yamaha	5007
[MULTI CH]	_	_	_

[&]quot;-" indicates no assignment

`\o':

Setting remote control codes

You can control other components by setting the appropriate remote control codes. For a complete list of available remote control codes, refer to "List of remote control codes" at the end of this manual.

\\\\

- Each of the steps described in this section should be performed within
 one minute. Setting operation is automatically canceled when one minute
 has passed since the last step. If the operation is cancelled, start again
 from the beginning.
- 1 Press **5 CODE SET** on the remote control using a pointed object such as the tip of a ballpoint pen.

3TRANSMIT on the remote control blinks twice.

- 2 Press 5 Input selection keys corresponding to the input source whose remote control code you want to register.
- 3 Enter a remote control code using 13 Numeric keys.

Once the remote control code is registered, **3TRANSMIT** on the remote control blinks twice. If it fails, **3TRANSMIT** blinks six times. Repeat from step 1.

Programming from other remote controls

The remote control of this unit can receive remote control signals from other remote controls and learn the remote control operation. If a key on the remote control does not work after being assigned with an external component's function or if the remote control code for that function is not provided, use this learning feature to make the function operable with the remote control.

``@′≤

• Each of the steps described in this section should be performed within one minute. Setting operation is automatically canceled when one minute has passed since the last step. If the operation is cancelled, start again from the beginning.

Programming the remote control of this unit

You can program the remote control to make functions of an external component operable with the following keys. You can assign functions to these keys for each input source as with remote control codes.

4 SOURCE POWER

12 External component operation keys

13 Numeric keys

`\\\\

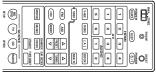
- The remote control transmits infrared rays. If the remote control of the external component also uses infrared rays, this remote control can learn most of its functions. The remote control may not recognize special or consecutive signals.
- The keys may not operate the assigned functions depending on operating conditions of this unit.
- 1 Press **IDCODE SET** on the remote control using a pointed object such as the tip of a ballpoint pen.
 - **3TRANSMIT** on the remote control blinks twice.
- 2 Press **5Input selection keys** to select the input source whose function you want to assign to the remote control.
- 3 Enter "9990" using BNumeric keys.
- 4 Press a key to which you want to assign the function.

3TRANSMIT lights up and this unit enters a wait state to receive remote control signals. Do steps 5 and 6 within 10 seconds.

Note

 If 10 seconds pass after this unit enters the wait state, a timeout error occurs and 3TRANSMIT turns off. If this occurs, repeat from step 4. Place the remote control about 5 to 10 cm apart from the remote control of the external component on a flat surface so that their infrared transmitters are aimed at each other.

Remote control of external component







Note

- If 10 seconds pass after step 4 is performed, an error occurs and this unit cannot receive remote control signals. If 3TRANSMIT turns off before you do step 6, repeat from step 4.
- 6 Press the key on the remote control of the external component.

The function assigned to the selected key is also assigned to the key that you have selected in step 4. When the function is assigned to the key successfully, **3TRANSMIT** on the remote control blinks twice. If it fails, **3TRANSMIT** blinks six times. Repeat from step 4.

`\\\

- To continue assigning other functions, repeat steps 4 through 6.
- 7 To end programming, press **SCODE SET** on the remote control using a pointed object such as the tip of a ballpoint pen.
 - **3 TRANSMIT** on the remote control blinks once.

nglish

Clearing the assignment of each key

You can clear the assignment of each key.

- 1 Press **SCODE SET** on the remote control using a pointed object such as the tip of a ballpoint pen.
 - **3TRANSMIT** on the remote control blinks twice.
- Press 5 Input selection keys to select the input source whose assigned function you want to reset.
- 3 Enter "9991" using 13 Numeric keys.
- 4 Press the key that you want to reset.

The assignment to that key is cleared. When the assignment is cleared successfully, **3 TRANSMIT** on the remote control blinks twice.

If it fails, **3TRANSMIT** blinks six times. Repeat from step 1.

`\<u>\</u>'

- To continue resetting other keys, repeat step 4.
- To end the reset operation, press ISCODE
 SET on the remote control using a pointed object such as the tip of a ballpoint pen.
 3TRANSMIT on the remote control blinks once.

Clearing the assignments of all keys

You can clear the assignments of all the keys in one go.

- Press **ISCODE SET** on the remote control using a pointed object such as the tip of a ballpoint pen.
 - **3TRANSMIT** on the remote control blinks twice.
- Press 5 Input selection keys to select the input source, the function of which is assigned to the key that you want to reset.
- 3 Enter "9992" using Numeric keys.

 The assignments of all key are cleared. When the assignments are cleared successfully,

 3 TRANSMIT on the remote control blinks twice. If it fails, 3 TRANSMIT blinks six times. Repeat from step 1.

`\o':

 When you initialize the remote control code (see the next section), the assignments of all the keys are cleared.

Resetting all remote control codes

You can clear all the remote control codes previously set, and reset all of them to the initial factory settings.

_`@´:

- Each of the steps described in this section should be performed within
 one minute. Setting operation is automatically canceled when one minute
 has passed since the last step. If the operation is cancelled, start again
 from the beginning.
- 1 Press **5** CODE SET on the remote control using a pointed object such as a tip of a ballpoint pen.
 - **3 TRANSMIT** on the remote control blinks twice.
- 2 Press **10 SETUP** on the remote control.
- 3 Enter "9981" using 3Numeric keys.
 Once the initialization is complete, 3TRANSMIT on the remote control blinks twice. If it fails, 3TRANSMIT blinks six times. Repeat from step 1.

Advanced setup

The advanced setup includes more parameters for basic operation of this unit such as turning a bi-amp connection on and off and initializing user settings. This section describes what those parameters are and how to change them.

1 Set this unit to standby.

2 Press (AMAIN ZONE ON/OFF while pressing and holding (PSTRAIGHT on the front panel.

The ADVANCED SETUP menu appears on the front panel display.

ADVANCED SETUP

3 Rotate the **PROGRAM selector** to select the parameter you want to change.

`\\\

- Set values are placed in XXX of the following parameters on an actual display screen.
- The default setting are marked with "*."

SP IMP. -XXX

Choices: 60MIN/80MIN*

Selects output impedance of this unit according to connected speakers. When you connect 4-ohm speakers to the FRONT jacks of the SPEAKERS terminals, set "SP IMP." to " 6Ω MIN."

REMOTE ID -XXX

Choices: ID1*/ID2

Selects a remote control ID for this unit. When using multiple Yamaha AV receivers, you can operate them with a single remote control by setting them to have the same remote control ID. By setting the receivers to have different remote control IDs, you can operate them with their respective remote controls.

BI AMP - XXX

Choices: ON/OFF*

Switches on and off of bi-amp connection of main speakers. For bi-amp connection, see page 13.

SCENE IR -XXX

Choices: ON*/OFF

Selects whether or not to transmit the SCENE control signals to an external component connected to the REMOTE jacks on this unit when BD/DVD or CD SCENE function is selected. If "ON" is selected and a playback component that supports the SCENE link playback, such as a Yamaha DVD player, is connected to the REMOTE OUT jack of this unit, remote connection automatically starts playback when a different SCENE key is selected.

MON.CHK - XXXX

Choices: YES*/SKIP

Adds upscaling limitation on output signals to a video monitor connected to this unit via the HDMI OUT jack.

INIT-XXXXXXXXX

Choices: DSP PARAM/VIDEO/ALL/CANCEL*

Initializes various settings stored in this unit. You can select an initialization method from the following.

DSP PARAM Resets all parameters of sound field

programs.

VIDEO Resets video conversion settings

(resolution/aspect) in the SETUP menu and the OSD menus display

position.

ALL Resets this unit to initial factory

settings.

CANCEL Initialization.

4 Press **STRAIGHT** a few times to select the value you want to change.

The value selected here becomes effective when this unit is turned on the next time. You can change multiple settings by repeating steps 3 and 4.

5 Press (AMAIN ZONE ON/OFF, turns off this system, and press (AMAIN ZONE ON/OFF again.

The value set in step 4 becomes effective, and this unit turns on. When you select initialization in step 3, the initialization is performed.

Setting a remote control ID

Two IDs are provided for the remote control of this unit. If another Yamaha amplifier is in the same room, setting a different remote control ID to this unit prevents unwanted operation of the other amplifier.

ID1 is set for both remote control and amplifier by default.

When you change the remote control ID, display "ADVANCED SETUP" (see the previous section) and change the ID for the amplifier too.

``⊚′≤

- Each of the steps described in this section should be performed within
 one minute. Setting operation is automatically canceled when one minute
 has passed since the last step. If the operation is cancelled, start again
 from the beginning.
- 1 Press **SCODE SET** on the remote control using a pointed object such as the tip of a ballpoint pen.

3TRANSMIT blinks twice.

- 2 Press **10 SETUP** on the remote control.
- 3 Enter the desired remote control ID code.

To switch to ID1:

Enter "5019" using 13 Numeric keys.

To switch to ID2:

Enter "5020" using **13 Numeric keys**.

Once the remote control code is registered,

3TRANSMIT blinks twice.

If it fails, **3TRANSMIT** blinks six times. Repeat from step 1.

`\o':

• Initializing the remote control code (see page 57) returns it to ID1.

APPENDIX

Troubleshooting

Refer to the table below when this unit does not function properly. If the problem you are experiencing is not listed below or if the instruction below does not help, turn off this unit, disconnect the power cable, and contact the nearest authorized Yamaha dealer or service center.

General

Problem	Cause	Remedy	See page
This unit turns off soon after being	The power cable is not connected or the plug is not completely inserted.	Connect the power cable properly to an AC wall outlet.	_
turned on, or does not turn on after MAIN	The speaker impedance setting is incorrect.	Set the speaker impedance to match your speakers.	58
ZONE ON/OFF (or 16 POWER) is pressed.	(When this unit is turned back on and "CHECK SP WIRES!" is displayed.) The protection circuitry has been activated because this unit was turned on while a speaker cable was shorted.	Make sure that all speaker cables between this unit and speakers are connected properly.	13
This unit cannot be turned off or does not work properly.	The internal microcomputer is frozen due to an external electric shock (such as lightning or excessive static electricity) or by a drop in power supply voltage.	Disconnect the power cable from the AC wall outlet, wait about 30 seconds and then plug it in again.	_
This unit suddenly enters the standby mode.	The internal temperature becomes too high and the overheat protection circuitry has been activated.	Wait about 1 hour for this unit to cool down and then turn it back on.	_
Sound/images	The protection circuitry has been activated	Check that the speaker impedance setting is correct.	58
suddenly go off.	because of a short circuit, etc.	Check that the speaker wires are not touching each other and then turn this unit back on.	_
	The sleep timer has turned off this unit.	Turn on this unit, and play the source again.	_
"CHECK SP WIRES!" appears on the front panel display.	Speaker cables are short-circuited.	Make sure all speaker cables are connected correctly.	13
"Memory Guard!" is displayed on the front panel display and the setting cannot be changed.	"Memory Guard" in the SETUP menu is set to "On."	Set "Memory Guard" to "Off."	52
The picture is disturbed.	The video software is copy-protected.		

I	Ш
ı	ì
ľ	•
ı	
ľ	Ð
ı	-

Problem	Cause	Remedy	See page
No sound.	Incorrect input or output cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.	15-19
	Speaker connections are not secure.	Secure the connections.	11
	The HDMI components connected to this unit do not support the HDCP copy protection standards.	Connect HDMI components that support the HDCP copy protection standards.	71
	The HDMI audio output parameter in the SETUP menu (Function Setup → 1 HDMI → Audio Output) is set to "TV."	Set the parameter to an item other than "TV."	50
	No appropriate input source has been selected.	Select an appropriate input source with the (BINPUT selector (or 5Input selection keys).	24
	The volume is turned down or muted.	Turn up the volume.	_
	Signals that this unit cannot reproduce are being input from a source component, such as a CD-ROM.	Use an input source whose signals are reproducible on this unit.	_
	A proper audio decoder is not selected.	Display the OPTION menu and set "Decoder Mode" to "Auto."	40
No picture.	The video signal output from this unit is not supported by a monitor connected to	Displays the ADVANCED SETUP menu and select "VIDEO" in "INIT" to reset the video parameters.	58
	this unit via the HDMI OUT jack.	Displays the ADVANCED SETUP menu and set "MON.CHK" to "YES."	58
	The VIDEO jack is used to output a component video signal, or the COMPONENT VIDEO jacks are used to output a composite video signal.	If your video monitor does not support the HDMI connection, connect it to the COMPONENT VIDEO jacks and the VIDEO jack and select an appropriate video input on the monitor.	15
	Non-standard video signals are input.	Connect the monitor to this unit via the COMPONENT VIDEO jacks or the VIDEO jack.	15
	An appropriate video input is not selected on the video monitor.	Select an appropriate video input on the video monitor.	_

Problem	Cause	Remedy	See page
No sound is output from a specific speaker.	The speaker is in malfunction.	Check the Speaker indicators on the front panel display. If the corresponding indicator lights up, connect another speaker and check if sound is output. If sound is not output, this unit may be malfunction.	6, 10
	The playback component or speakers are not connected properly.	Connect the cables properly. If the problem persists, the cables may be defective.	11
	Output from that speaker is disabled.	Check the Speaker indicators on the front panel display. If the corresponding indicator is turned off, try the following. 1) Change the input source to another one. 2) With the selected sound field program, sound is not output from that speaker. Select another sound field program. 3) "None" may have been selected for that speaker on this unit. Display Speaker Setup in the SETUP menu and set respective parameters to enable output from that speaker (Speaker Setup → 2 Manual Setup → A)Config).	6, 24, 27 48
	The volume of that speaker is set to the minimum in Speaker Setup in the SETUP menu.	Display Speaker Setup in the SETUP menu and adjust the volume (2 Manual Setup \rightarrow B)Level).	49
	(If hardly any sound comes from one channel) Speaker output balance is not properly set.	Set the volume of each speaker to be balanced from "B)Level" in the SETUP menu (Speaker Setup → 2 Manual Setup → B)Level).	49
	Sound may not be output from certain channels depending on the input source or sound field program.	Try another sound field program.	27
Only the center speaker outputs substantial sound.	When a monaural source sound field program is applied, sound of all channels are output from the center speaker for some surround decoders.	Try another sound field program.	27
No sound is heard from the presence speakers.	This unit is in "STRAIGHT" mode.	Press (PSTRAIGHT (or (STRAIGHT) to exit "STRAIGHT" mode.	30
No sound is heard from the surround	This unit is in "STRAIGHT" mode and a monaural source is being played back.	Press (PSTRAIGHT (or (STRAIGHT) to exit "STRAIGHT" mode.	30
speakers.	Sound may not be output from certain channels depending on input sources or sound field programs.	Try another sound field program.	27
No sound is heard from the subwoofer.	A Dolby Digital or DTS signal is reproduced while the LFE channel setting (LFE/Bass Out) of the Speaker Setup in the SETUP menu is set to "Front."	Set "LFE/Bass Out" to "SWFR" or "Both."	48
	A 2-channel signal is reproduced while the LFE channel setting (LFE/Bass Out) of the Speaker Setup in the SETUP menu is set to "SWFR" or "Front."	Set "LFE/Bass Out" to "Both."	48
	The source does not contain LFE or low frequency signals.		

Problem	Cause	Remedy	See page
No sound is heard from the surround back speakers.	"Extended Surround" in the OPTION menu is set to "Off," or an input signal does not contain a surround back flag with "Extended Surround" set to "Auto."	Set "Extended Surround" other than "Off" or "Auto."	40
The audio input sources cannot be played in the desired digital audio signal format.	The connected component is not set to output the desired digital audio signals.	Set the playback component properly referring to its instruction manuals.	_
There is noise interference from digital or radio frequency equipment.	This unit is too close to other digital or radio frequency equipment.	Move this unit further away from such equipment.	_
Noise/hum noise is heard.	Incorrect cable connection.	Connect the audio cables properly. If the problem persists, the cables may be defective.	_
	No connection from the turntable to the GND terminal.	Connect the grounding cable of the turntable to the GND terminal of this unit.	17
	A DTS-CD is being played back.	1) When only noise is output If a DTS bitstream signal is not properly input to this unit, only noise is output. Connect the playback component to this unit by digital connection and play back the DTS-CD. If the condition is not improved, the problem may results from the playback component. Consult the manufacturer of the playback component. 2) When noise is output during playback or skip operation Before playing back the DTS-CD, display the OPTION menu after selecting the input source and set "Decoder Mode" to "DTS."	16, 40
The volume level is low while a record is being played.	The record is being played on a turntable with an MC cartridge.	Connect your turntable to this unit through an MC-head amplifier.	17
The volume cannot be increased or the sound is distorted.	The component connected to the output jacks of this unit is not turned on.	When the component connected to the output jacks of this unit is not turned on, the sound may be distorted or the volume may decrease due to the nature of AV receivers. Turn on all components connected to this unit.	_
	"Max Volume" is set to a low value.	Set it to a higher value.	51

HDMI™

Problem	Cause	Remedy	See page
No picture or sound.	The number of the connected HDMI components is over the limit.	Disconnect some of the HDMI components.	_
	The connected HDMI component does not support high-bandwidth digital copyright protection (HDCP).	Connect an HDMI component that supports HDCP.	16

Tuner (FM/AM)

	Problem	Cause	Remedy	See page
	FM stereo reception is		Check the antenna connections.	20
	noisy.	transmitter or the input from the antenna is weak.	Replace the outdoor antenna with a more sensitive multi-element antenna.	=
			Switch to monaural mode.	41
FM	There is distortion, and clear reception cannot be obtained even with a good FM antenna.	There is multi-path interference.	Adjust the antenna height or orientation, or place it in a different location.	=
	cannot be tuned into an input from the antenna is weak. sensitive multi element antenna.	Tou are in an area far from a station of	Replace an outdoor antenna with more sensitive multi element antenna.	_
		Tune in manually or by direct frequency tuning.	31	
	The desired station	The signal is weak or the antenna	Adjust the AM loop antenna orientation.	20
	cannot be tuned into with the automatic tuning method.	connections are loose.	Use the manual tuning method.	31
	Automatic station preset does not work.	Automatic station preset is not available for AM stations.	Use manual station preset.	32
	There are continuous crackling and hissing	Supplied AM loop antenna is not connected.	Connect the AM loop antenna correctly even if you use an outdoor antenna.	20
	noises.	The noises may be caused by lightning, fluorescent lamps, motors, thermostats and other electrical equipment.	It is difficult to completely eliminate noise, but it can be reduced by installing and properly grounding an outdoor AM antenna.	20
	There are buzzing and whining noises.	A TV set is being used nearby.	Move this unit away from the TV set.	_

Remote control

Problem	Cause	Remedy	See page
The remote control does not work or function properly.	Wrong distance or angle.	The remote control will function within a maximum range of 6 m and no more than 30 degrees offaxis from the front panel.	9
	Direct sunlight or lighting (from an inverter type of fluorescent lamp, strobe light, etc.) is striking the remote control sensor of this unit.	Adjust the lighting angle or reposition this unit.	-
	The batteries are weak.	Replace all batteries.	9
	The remote control ID of the remote control and this unit do not match.	Match the remote control ID of this unit and the remote control.	58

Problem	Cause	Remedy	
External components cannot be controlled	The remote control code is not correctly set.	Set the remote control code correctly using "List of remote control codes" at the end of this manual.	55
by the remote control.		Try setting another code of the same manufacturer using "List of remote control codes" at the end of this manual.	55
		If this unit does not work when you press [I]Cursor, do the following. When the key does not work during DVD disc menu operation: press the [5]Input selection keys on the remote control again. When the key does not work during OPTION menu/ SETUP menu operation: press the key applicable for the current menu operation again.	
	Even if the remote control code is correctly set, there are some models that do not respond to the remote control.		
The remote control does not learn new functions.	The batteries of this remote control and/or the other remote control are too weak.	Replace the batteries.	9
	The distance between the two remote controls is too long or too short.	Place the remote controls at a proper distance.	56
	The signal coding or modulation of the other remote control is not compatible with this remote control.	Learning is not possible.	_
	Memory capacity is full.	Delete unnecessary functions to free some memory space for the new functions.	57

iPod™

Note

• In case of a transmission error without a status message appearing on the front panel display and on the OSD, check the connection of your iPod (see page 19).

Problem	Cause	Remedy	See page
Loadin9	This unit is in the middle of recognizing the connection with your iPod.		
	This unit is in the middle of acquiring song lists from your iPod.		
Connect error	There is a problem with the signal path from your iPod to this unit.	Turn off this unit and reconnect the Yamaha iPod universal dock to the DOCK jack of this unit.	19
		Remove your iPod in the Yamaha iPod universal dock and then place it back in the dock.	19
Unknown iPod	The iPod being used is not supported by this unit.	Connect an iPod supported by this unit.	_
iPod Connected	Your iPod is properly placed in the Yamaha iPod universal dock.		
Disconnected	Your iPod is removed from the Yamaha iPod universal dock.		
Unable to play	This unit cannot play back the songs currently stored on your iPod.	Check that the songs currently stored on your iPod are playable.	_

Bluetooth™

Problem	Cause	Remedy	See page
Searching	The Bluetooth wireless audio receiver and the Bluetooth component are in the middle of the pairing.		
	The Bluetooth wireless audio receiver and the Bluetooth component are in the middle of establishing the connection.		
Completed	The pairing is completed.	_	
Canceled	The pairing is canceled.		
BT Connected	The connection between the Yamaha Bluetooth wireless audio receiver and the Bluetooth component is established.		
Disconnected	The Bluetooth component is disconnected from the Yamaha Bluetooth wireless audio receiver.	-	
Not found	The Bluetooth component is not found.	During pairing: - pairing must be performed on the Bluetooth component and this unit simultaneously. Check if the Bluetooth component is in pairing mode. During connecting: - check if the Bluetooth component is turned on. - check if the Bluetooth component is within 10 m of the Yamaha Bluetooth wireless audio receiver.	-

Auto Setup (YPAO)

Notes

- If an error or warning message is displayed, resolve the problem and run the automatic setup procedure again.
 Warning message "W-2" or "W-3" indicates that the adjusted settings may not be optimal.
 Depending on the speakers, warning message "W-1" may appears even if the speaker connections are correct.
 If error message "E-10" occurs repeatedly, contact a qualified Yamaha service center.

Before Auto Setup

Error message	Cause	Remedy	See page
Connect MIC!	Optimizer microphone is not connected.	Connect the supplied optimizer microphone to the OPTIMIZER MIC jack on the front panel.	21
Unplu9 HP!	Headphones are connected.	Unplug the headphones.	_
Memory Guard!	The parameters of this unit are protected.	Set "Memory Guard" to "Off."	52

During Auto Setup

Error message	Cause	Remedy	See page
E-1:NO FRONT SP	Front L/R channel signals are not detected.	Check the front L/R speaker connections.	11
E-2:NO SUR. SP	Only one surround channel signal is detected.	Check the surround L/R speaker connections.	11

Error message	Cause	Remedy	See page
E-3:NO PRNS SP	Only one presence channel signal is detected.	Check the presence L/R speaker connections.	11
E-4:SBR->SBL	Only right surround back channel signal is detected.	If you connect only one surround back speaker, connect it to the L-side (SINGLE) jack.	11
E-5:NOISY	Measurement cannot be performed accurately due to loud ambient noise.	Run the automatic setup procedure again during a time when the environment is quiet.	_
		Turn off noisy electric equipment like air conditioners or move them away from the optimizer microphone.	_
E-6:CHECK SUR.	Surround back speakers are connected, though surround L/R speakers are not.	When using surround back speakers, you need to connect surround L/R speakers.	11
E-7:NO MIC	The optimizer microphone was unplugged during the "Auto Setup" procedure.	Do not touch the optimizer microphone during the automatic setup procedure.	
E-8:NO SIGNAL	The optimizer microphone does not	Check whether the microphone is properly placed.	21
	detect test tones.	Check whether the speakers are properly placed and connected.	11
		The optimizer microphone or OPTIMIZER MIC jack may be defective. Contact the nearest Yamaha dealer or service center.	21
		If a monitor such as a TV is connected to this unit via HDMI connection, sound may not be output from this unit due to the HDMI control function. In such a case, change the monitor setting, for example, change the sound output setting to an amplifier so that sound is output from this unit.	_
E-9:USER CANCEL	The automatic setup procedure was cancelled due to an inappropriate user operation.	Run the automatic setup procedure. Do not adjust the volume or do other operations during the procedure.	21
E-10:INTERNAL ERROR	An internal error occurred.	Run the automatic setup procedure again.	21

After Auto Setup

Error message	Error message Cause Remedy		See page	
W-1:OUT OF PHASE	Speaker polarity is not correct. This message may appear depending on the speakers even when the speakers are connected correctly.			
W-2:OVER 24m (80ft)	The distance between the speaker and the listening position is over 24 m (80 ft).	Bring the speaker within 24 m (80 ft.) area around the listening position.	_	
W-3:LEVEL ERROR	The difference of volume level among speakers is excessive.	Recheck the speaker positions and make sure all speakers are placed in a similar environment.	=	
		Check the polarities (+, -) of the speakers.	11	
		We recommend that you use speakers with the same or similar specifications.	=	
		Adjust the output volume of the subwoofer.	_	

Troubl	leshoo	ting

Error message	Cause	Remedy	See page
W-4:CHECK PRNS	Presence speakers were not detected during measurement with "Extra SP Assign" set to "Presence."	Check the presence speaker connections and perform measurement again. If presence speakers are not connected, set the "Extra SP Assign" to other than "Presence."	47
		If presence speakers are connected, set the "Extra SP Assign" to "Presence," and retry the automatic setup procedure.	47

Glossary

■ Audio and video synchronization (lip sync)

Lip sync, an abbreviation for lip synchronization, is a technical term that involves both a problem and a capability of maintaining audio and video signals synchronized during post-production and transmission. Whereas the audio and video latency requires complex end-user adjustments, HDMI version 1.3 incorporates an automatic audio and video syncing capability that allows devices to perform this synchronization automatically and accurately without user interaction.

Bi-amplification connection

A bi-amplification connection uses two amplifiers for a speaker. One amplifier is connected to the woofer section of a loudspeaker while the other is connected to the combined mid and tweeter section. With this arrangement each amplifier operates over a restricted frequency range. This restricted range presents each amplifier with a much simpler job and each amplifier is less likely to influence the sound in some way.

Component video signal

With the component video signal system, the video signal is separated into the Y signal for the luminance and the PB and PR signals for the chrominance. Color can be reproduced more faithfully with this system because each of these signals is independent. The component signal is also called the "color difference signal" because the luminance signal is subtracted from the color signal. A monitor with component input jacks is required in order to output component signals.

Composite video signal

With the composite video signal system, the video signal is composed of three basic elements of a video picture: color, brightness and synchronization data. A composite video jack on a video component transmits these three elements combined.

Deep Color

Deep Color refers to the use of various color depths in displays, up from the 24-bit depths in previous versions of the HDMI specification. This extra bit depth allows HDTVs and other displays go from millions of colors to billions of colors and eliminate on-screen color banding for smooth tonal transitions and subtle gradations between colors. The increased contrast ratio can represent many times more shades of gray between black and white. Also Deep Color increases the number of available colors within the boundaries defined by the RGB or YCbCr color space.

Dolby Digital

Dolby Digital is a digital surround sound system that gives you completely independent multi-channel audio. With 3 front channels (front L/R and center), and 2 surround stereo channels, Dolby Digital provides 5 full-range audio channels. With an additional channel especially for bass effects, called LFE (Low Frequency Effect), the system has a total of 5.1-channels (LFE is counted as 0.1 channel). By using 2-channel stereo for the surround speakers, more accurate moving sound effects and surround sound environment are possible than with Dolby Surround. The wide dynamic range from maximum to minimum volume reproduced by the 5 full-range channels and the precise sound orientation generated using digital sound processing provide listeners with unprecedented excitement and realism. With this unit, any sound environment from monaural up to a 5.1-channel configuration can be freely selected for your enjoyment.

Dolby Digital Surround EX

Dolby Digital EX creates 6 full-bandwidth output channels from 5.1-channel sources.

For the best results, Dolby Digital EX should be used with movie sound tracks recorded with Dolby Digital Surround EX. With this additional channel, you can experience more dynamic and realistic moving sound especially with scenes with "fly-over" and "fly-around" effects.

■ Dolby Digital Plus

Dolby Digital Plus is an advanced audio technology developed for high-definition programming and media including HD broadcasts, and Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers multichannel sound with discrete channel output. Supporting bitrates up to 6.0 Mbps, Dolby Digital Plus can carry up to 7.1 discreet audio channels simultaneously. Supported by HDMI version 1.3 and designed for the optical disc players and AV receivers/amplifiers of the future, Dolby Digital Plus also remains fully compatible with the existing multichannel audio systems that incorporate Dolby Digital.

Dolby Pro Logic II

Dolby Pro Logic II is an improved technique used to decode vast numbers of existing Dolby Surround sources. This new technology enables a discrete 5-channel playback with 2 front left and right channels, 1 center channel, and 2 surround left and right channels instead of only 1 surround channel for conventional Pro Logic technology. There are three modes available: "Music mode" for music sources, "Movie mode" for movie sources and "Game mode" for game sources.

■ Dolby Pro Logic IIx

Dolby Pro Logic IIx is a new technology enabling discrete multichannel playback from 2-channel or multi-channel sources. There are three modes available: "Music mode" for music sources, "Movie mode" for movie sources (for 2-channel sources only) and "Game mode" for game sources.

Dolby Surround

Dolby Surround is widely used with nearly all video tapes and laser discs, and in many TV and cable broadcasts as well. Dolby Surround uses a 4-channel analog recording system to reproduce realistic and dynamic sound effects: 2 front left and right channels (stereo), a center channel for dialog (monaural), and a surround channel for special sound effects (monaural). The surround channel reproduces sound within a narrow frequency range. The Dolby Pro Logic decoder built into this unit employs a digital signal processing system that automatically stabilizes the volume on each channel to enhance moving sound effects and directionality.

■ Dolby TrueHD

Dolby TrueHD is an advanced lossless audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is bit-for-bit identical to the studio master, offering a high-definition home theater experience.

Supporting bitrates up to 18.0 Mbps, Dolby TrueHD can carry up to 8 discrete channels of 24-bit/96 kHz audio simultaneously.

Dolby TrueHD also remains fully compatible with the existing multichannel audio systems and retains the metadata capability of Dolby Digital, allowing dialog normalization and dynamic range control.

DSD

Direct Stream Digital (DSD) technology stores audio signals on digital storage media, such as Super Audio CDs. Using DSD, signals are stored as single bit values at a high-frequency sampling rate of 2.8224 MHz, while noise shaping and oversampling are used to reduce distortion, a common occurrence with very high quantization of audio signals. Due to the high sampling rate, better audio quality can be achieved than that offered by the PCM format used for normal audio CDs. The frequency is equal to or higher than 100 kHz and the dynamic range is 120 dB. This unit can transmit or receive DSD signals via the HDMI jack.

■ DTS 96/24

DTS 96/24 offers an unprecedented level of audio quality for multichannel sound on DVD video, and is fully backward-compatible with all DTS decoders. "96" refers to a 96 kHz sampling rate compared to the typical 48 kHz sampling rate. "24" refers to 24-bit word length. DTS 96/24 offers sound quality transparent to the original 96/24 master, and 96/24 5.1-channel sound with full-quality full-motion video for music programs and motion picture soundtracks on DVD video.

■ DTS Digital Surround

DTS Digital Surround was developed to replace the analog soundtracks of movies with a 5.1-channel digital sound track, and is now rapidly gaining popularity in movie theaters around the world. DTS, Inc. has developed a home theater system so that you can enjoy the depth of sound and natural spatial representation of DTS Digital Surround in your home. This system produces practically distortionfree 6-channel sound (technically, front left and right, center, surround left and right, and LFE 0.1 (subwoofer) channels for a total of 5.1 channels). This unit incorporates a DTS-ES decoder that enables 6.1-channel reproduction by adding the surround back channel to the existing 5.1-channel format.

■ DTS Express

This is an audio format for next-generation optical discs such as Bluray discs. It uses optimized low bit rate signals for network streaming. In the case of a Blu-ray disc, this format is used with secondary audio, enabling you to enjoy the commentary of the movie producer via the Internet while playing the main program.

■ DTS-HD High Resolution Audio

DTS-HD High Resolution Audio is a high resolution audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is virtually indistinguishable from the original, offering a high-definition home theater experience. Supporting bitrates up to 6.0 Mbps for Blu-ray Disc, DTS-HD High Resolution Audio can carry up to 7.1 discrete channels of 24-bit/96 kHz audio simultaneously.

DTS-HD High Resolution Audio also remains fully compatible with the existing multichannel audio systems that incorporate DTS Digital Surround.

■ DTS-HD Master Audio

DTS-HD Master Audio is an advanced lossless audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is bit-for-bit identical to the studio master, offering a high-definition home theater experience. Supporting bitrates up to 24.5 Mbps for Blu-ray Disc, DTS-HD Master Audio can carry up to 7.1 discrete channels of 24-bit/96 kHz audio simultaneously. Supported by HDMI version 1.3 and designed for the optical disc players and AV receivers/amplifiers of the future, DTS-HD Master Audio also remains fully compatible with the existing multichannel audio systems that incorporate DTS Digital Surround.

■ HDMI

HDMI (High-Definition Multimedia Interface) is the first industry-supported, uncompressed, all-digital audio/video interface. Providing an interface between any source (such as a set-top box or AV receiver) and an audio/video monitor (such as a digital television), HDMI supports standard, enhanced or high-definition video as well as multi-channel digital audio using a single cable. HDMI transmits all ATSC HDTV standards and supports 8-channel digital audio, with bandwidth to spare to accommodate future enhancements and requirements.

When used in combination with HDCP (High-bandwidth Digital Content Protection), HDMI provides a secure audio/video interface that meets the security requirements of content providers and system operators. For further information on HDMI, visit the HDMI website at "http://www.hdmi.org/."

■ LFE 0.1 channel

This channel reproduces low-frequency signals. The frequency range of this channel is from 20 Hz to 120 Hz. This channel is counted as 0.1 because it only enforces a low-frequency range compared to the full-range reproduced by the other 5/6 channels in Dolby Digital or DTS 5.1/6.1-channel systems.

■ Neo:6

Neo:6 decodes the conventional 2-channel sources for 6- channel playback by the specific decoder. It enables playback with the full-range channels with higher separation just like digital discrete signal playback. There are two modes available: "Music mode" for music sources and "Cinema mode" for movie sources.

■ PCM (Linear PCM)

Linear PCM is a signal format under which an analog audio signal is digitized, recorded and transmitted without using any compression. This is used as a method of recording CDs and DVD audio. The PCM system uses a technique for sampling the size of the analog signal per very small unit of time. Standing for "Pulse Code Modulation," the analog signal is encoded as pulses and then modulated for recording.

S-video signal

With the S-video signal system, the video signal normally transmitted using a pin cable is separated and transmitted as the Y signal for the luminance and the C signal for the Cameroonians through the S-video cable. Using the S VIDEO jack eliminates video signal transmission loss and allows recording and playback of even more beautiful images.

Sampling frequency and number of quantized bits

When digitizing an analog audio signal, the number of times the signal is sampled per second is called the sampling frequency, while the degree of fineness when converting the sound level into a numeric value is called the number of quantized bits. The range of rates that can be played back is determined based on the sampling rate, while the dynamic range representing the sound level difference is determined by the number of quantized bits. In principle, the higher the sampling frequency, the wider the range of frequencies that can be played back, and the higher the number of quantized bits, the more finely the sound level can be reproduced.

■ "x.v.Color"

A color space standard supported by HDMI version 1.3. It is a more extensive color space than sRGB, and allows the expression of colors that could not be expressed before. While remaining compatible with the color gamut of sRGB standards, "x.v.Color" expands the color space and can thus produce more vivid, natural images. It is particularly effective for still pictures and computer graphics.

Sound field program information

■ CINEMA DSP

Since the Dolby Surround and DTS systems were originally designed for use in movie theaters, their effect is best felt in a theater having many speakers designed for acoustic effects. Since home conditions, such as room size, wall material, number of speakers, and so on, can differ so widely, it is inevitable that there are differences in the sound heard.

Based on a wealth of actually measured data, Yamaha CINEMA DSP provides the audiovisual experience of a movie theater in the listening room of your own home by using the Yamaha original sound field technology combined with various digital audio systems.

■ CINEMA DSP 3D

The actually measured sound field data contain the information of the height of the sound images. CINEMA DSP 3D feature achieves the reproduction of the accurate height of the sound images so that it creates the accurate and intensive stereoscopic sound fields in a listening room.

■ SILENT CINEMA

Yamaha has developed a natural, realistic sound effect DSP algorithm for headphones. Parameters for headphones have been set for each sound field so that accurate representations of all the sound field programs can be enjoyed on headphones.

Virtual CINEMA DSP

Yamaha has developed a Virtual CINEMA DSP algorithm that allows you to enjoy DSP sound field surround effects even without any surround speakers by using virtual surround speakers. It is even possible to enjoy Virtual CINEMA DSP using a minimal two-speaker system that does not include a center speaker.

Compressed Music Enhancer

The Compressed Music Enhancer feature of this unit enhances your listening experience by regenerating the missing harmonics in a compression artifact. As a result, flattened complexity due to the loss of high-frequency fidelity as well as lack of bass due to the loss of low-frequency bass is compensated, providing improved performance of the overall sound system.

Information on HDMI™

■ HDMI signal compatibility

Audio signals

Audio signal types	Audio signal formats	Compatible media
2ch Linear PCM	2ch, 32-192 kHz, 16/20/24 bit	CD, DVD-Video, DVD-Audio, etc.
Multi-ch Linear PCM	8ch, 32-192 kHz, 16/20/24 bit	DVD-Audio, Blu-ray Disc, HD DVD, etc.
DSD	2/5.1ch, 2.8224 MHz, 1 bit	SACD, etc.
Bitstream	Dolby Digital, DTS	DVD-Video, etc.
Bitstream (High definition audio)	Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Express	Blu-ray Disc, HD DVD, etc.

\\\\

- If the input source component can decode the bitstream audio signals of audio commentaries, you can play back the audio sources with the audio commentaries mixed down by using the following connections:
 - multi-channel analog audio input (see page 18)DIGITAL INPUT OPTICAL (or COAXIAL)
- Refer to the supplied instruction manuals of the input source component, and set the component appropriately.

Notes

- · When CPPM copy-protected DVD-Audio is played back, video and audio signals may not be output depending on the type of the DVD player.
- This unit is not compatible with HDCP-incompatible HDMI or DVI components.
- To decode audio bitstream signals on this unit, set the input source component appropriately so that the component outputs the bitstream audio signals
 directly (does not decode the bitstream signals on the component). Refer to the supplied instruction manuals for details.
- This unit is not compatible with the audio commentary features (for example, the special audio contents downloaded via Internet) of Blu-ray Disc or HD DVD. This unit does not play back the audio commentaries of the Blu-ray Disc or HD DVD contents.

Video signals

This unit is compatible with the video signals of the following resolutions:

- 480i/60 Hz
- 576i/50 Hz
- 480p/60 Hz
- 576p/50 Hz
- 720p/60 Hz, 50 Hz
- 1080i/60 Hz, 50 Hz
- 1080p/60 Hz, 50 Hz, 24 Hz

Specifications

AUDIO SECTION	• Filter Characteristics (fc=40/60/80/90/100/110/120/160/200 Hz)
 Minimum RMS Output Power for Front, Center, Surround, 	H.P.F. (Front, Center, Surround, Surround back: Small)
Surround back	L.P.F. (Subwoofer) 12 dB/oct. 24 dB/oct.
20 Hz - 20 kHz, 0.08% THD, 8 Ω	L.F.F. (Subwoolel)24 dB/oct.
• Dynamic Power (IHF)	VIDEO SECTION
Front Speakers 8/6/4/2 Ω	 Video Signal Type (Gray Back)
 Maximum Useful Output Power (JEITA) [China, Korea, General and Asia models] 	[U.S.A., Canada, Korea and General models]NTSC
1 kHz, 10% THD, 8 Ω	[Other models]PAL
• Maximum Output Power	Signal Level
[U.K., Europe, Russia and Asia models]	Composite
1 kHz, 0.7% THD, 4 Ω	S-video [U.K., Europe and Russia models]
Dynamic Headroom [U.S.A. and Canada models]	1 Vp-p/75 Ω (Y), 0.286 Vp-p/75 Ω (C)
8 Ω	Component
• IEC Output Power [U.K., Europe, Russia and Asia models]	Maximum Input Level
Front Speakers 1 kHz, 0.08% THD, 8 Ω 105 W	Signal to Noise Ratio
Input Sensitivity/Input Impedance	• Frequency Response [MONITOR OUT]
PHONO	Component
[China, Korea, U.K., Europe, Russia, Australia,	FM SECTION
General and Asia models]	Tuning Range
AV5, etc. $200 \text{ mV/47 k}\Omega$	[U.S.A. and Canada models]
MULTI CH INPUT	[Asia and General models] 87.5/87.50 to 108.0/108.00 MHz
Maximum Input Voltage	[Other models]
PHONO (1 kHz, 0.1% THD)	• 50 dB Quieting Sensitivity (IHF)
[China, Korea, U.K., Europe, Russia, Australia,	Mono
General and Asia models]60 mV or more	Signal to Noise Ratio (IHF)
AV5, etc. (1 kHz, 0.5% THD)	Mono/Stereo
Rated Output Voltage/Output Impedance AMPIO OUT	Harmonic Distortion (1 kHz)
AUDIO OUT	Mono/Stereo
PRE OUT	• Antenna Input (unbalanced)
SUBWOOFER (2ch Stereo & FRONT: Small)	AM SECTION
	AW SECTION
Headphone Jack Rated Output/Impedance	Tuning Range
AV5, etc. (1 kHz, 50 mV, 8 Ω)	[U.S.A. and Canada models]530 to 1710 kHz
• Frequency Response	[Asia and General models]530/531 to 1710/1611 kHz
AV5, etc. to FRONT10 Hz to 100 kHz, +0/–3 dB	[Other models]531 to 1611 kHz
• RIAA Equalization Deviation	GENERAL
[China, Korea, U.K., Europe, Russia, Australia,	GENERAL
General and Asia models	Power Supply
PHONO	[U.S.A. and Canada models] AC 120 V, 60 Hz
Total Harmonic Distortion	[General model]AC 110/120/220/230-240 V, 50/60 Hz
PHONO to AUDIO OUT	[China model]
[China, Korea, U.K., Europe, Russia, Australia,	[Korea model]
General and Asia models]	[Australia model]AC 240 V, 50 Hz
(20 Hz to 20 kHz, 1 V)0.02% or less	[U.K., Europe and Russia models] AC 230 V, 50 Hz
AV5, etc. to FRONT, Pure Direct	[Asia model] AC 220/230–240 V, 50/60 Hz
(20 Hz to 20 kHz, 50 W, 8 Ω)	Power Consumption
Signal to Noise Ratio (IHF-A Network)	[U.S.A. and Canada models]400 W/500 VA
PHONO Input Shorted (5.0 mV to AUDIO OUT)	[Other models]
[China and General models]	• Standby Power Consumption
	HDMI control off/Standby through off
PHONO Input Shorted (5.0 mV to AUDIO OUT)	HDMI control on/Standby through on/No Repeat1.2 W or less
[Korea, U.K., Europe, Russia, Australia and Asia models]	HDMI control on/Standby through on/Repeat3 W or less
81 dB or more	Maximum Power Consumption Advisoral Consumption
AV5, etc. (Pure Direct) Input Shorted (250 mV to Front Speakers)	[Asia and General models]
	• Dimensions (W x H x D)
• Residual Noise (IHF-A Network)	• Weight
Front Speakers	
Channel Separation (1 kHz/10 kHz) PHONO (Input Shorted)	 * Specifications are subject to change without notice.
PHONO (Input Shorted) [China Marga LLV, Europa Bussia Australia	
[China, Korea, U.K., Europe, Russia, Australia,	
General and Asia models]	
AV5, etc. (5.1 k Ω shortened)	
• Volume Control	
• Tone Control (Front Speakers)	
BASS Boost/Cut±10 dB at 50 Hz	
BASS Turnover Frequency	
TREBLE Turnover Frequency±10 dB at 20 kHz	
INCIDED INTROVELETECTION 19 KHZ	

Index

■ Numerics	CODE SET, remote control7	Front panel4
1 Dynamic Range, sound setup49	COMPONENT VIDEO jack14	Front panel display
1 HDMI, function setup50	Connect, OPTION menu41	Front panel display, front panel
2 Display, function setup51	Connecting AM antenna	Front R, C)Distance, speaker setup
2 Lipsync, sound setup50	Connecting audio and video player16	Front right speaker
2ch Stereo, sound field program28	Connecting audio player	Front SP, A)Config, speaker setup
3 Volume, function setup51	Connecting Bluetooth wireless audio	Function Setup, SETUP menu50
3D DSP, sound field parameter42	Receiver	■ H
4 Input Rename, function setup52	Connecting external amplifier	
5.1-channel speaker layout10	Connecting FM antenna	Hall in Munich, sound field program 28
6.1-channel speaker layout10	Connecting iPod universal dock	Hall in Vienna, sound field program
7.1-channel speaker layout10	Connecting multi-format player	HDMI Auto, 2 Lipsync, sound setup 50
7ch Enhancer, sound field program29	Connecting power cable20	HDMI indicator, front panel display
7ch Stereo, sound field program28	Connecting projector	HDMI information71
	Connecting set-top box	HDMI jack
■ A	Connecting speaker11	HDMI OUT/HDMI 1-4 jacks, rear panel 5
A)Config, speaker setup47	Connecting speaker cable	HDMI THROUGH, front panel
Action Game, sound field program28	Connecting TV monitor15	HDMI, troubleshooting
Adaptive DRC, 3 Volume, function setup51	Connecting Zone253	Headphones using
Adjusting high frequency sound25	Connection10	High frequency sound adjustment
Adjusting low frequency sound25	Control, 1 HDMI, function setup50	riigii ricquency sound adjustment
ADVANCED SETUP58	Controlling other component,	■ I
Adventure, sound field program27	remote control55	- ·
AFFAIRS, Radio Data System	Controlling Zone254	INFO, front panel
program type33	Crossover Freq., A)Config, speaker setup49	INFO, Radio Data System program type 33
AM antenna connection20	CT Level, sound field parameter45	INFO, remote control
AM tuning31	CULTURE, Radio Data System	INIT, ADVANCED SETUP
ANTENNA jacks, rear panel5	program type33	Init. Volume, 3 Volume, function setup 51
Aspect, 1 HDMI, function setup51	Cursor indicator, front panel display6	Initialize setting, ADVANCED SETUP 58
AUDIO 1/2 jacks, rear panel5	Cursors $\triangle / \nabla / \triangleleft / \triangleright$, remote control7	Input selection key, remote control
Audio and video player connection		INPUT selector, front panel
AUDIO jack14	■ D	Input signal information displaying
Audio jack	D)Equalizer, speaker setup49	Input source registration
AUDIO L/R jack, front panel	Decoder Mode, OPTION menu40	iPod playback
AUDIO OUT jacks, rear panel	Decoder parameter45	iPod universal dock connection
Audio Output, 1 HDMI, function setup50	Dialog Lift, sound field parameter43	iPod, troubleshooting
Auto Dalay 2 Lineyne sound setup. 50	Dimension, decoder parameter45	ii od, troubleshooting
Auto Delay, 2 Lipsync, sound setup50 Auto Preset, OPTION menu41	Dimmer, 2 Display, function setup51	■ L
Auto Setup (YPAO), troubleshooting66	Direct, sound field parameter45	
Automatic setup21	Disconnect, OPTION menu41	LFE/Bass Out, A)Config, speaker setup 48
AV 1-6 jacks, rear panel5	DISPLAY, remote control7	LIGHT M, Radio Data System
AV OUT jacks, rear panel5	Displaying input signal information26	program type
717 OCT Jucks, rear paner	DOCK jack, rear panel5	Low frequency sound adjustment
■ B	DRAMA, Radio Data System	■ M
D) Level an astron setum	program type	
B)Level, speaker setup	Drama, sound field program	M.O.R. M, Radio Data System
Basic operation, SETUP menu47 BI-AMP connection switch.	DSP Level, sound field parameter	program type
ADVANCED SETUP58	DSP Parameter, SETUP menu52	MAIN ZONE ON/OFF, front panel 4
Bluetooth component playback	■ E	MAIN/ZONE2, remote control
Bluetooth wireless audio receiver		Manual Delay, 2 Lipsync, sound setup 50
connection	E)Test Tone, speaker setup49	Max Volume, 3 Volume, function setup 51
Bluetooth, troubleshooting	Editing sound field program42	Memory guard, SETUP menu
,,	Editing surround decoder	MEMORY, front panel4 MON.CHK, ADVANCED SETUP58
■ C	EDUCATE, Radio Data System	MONITOR OUT terminals, rear panel
C)Distance encelor setup	program type	Mono Movie, sound field program
C)Distance, speaker setup	Effect Level, sound field parameter45	MULTI CH INPUT terminals, rear panel 5
C.Image, decoder parameter	ENTER, remote control	Multi information display,
Center SP, A)Config, speaker setup48	EON data service, Radio Data System	front panel display6
Center speaker	tuning	Multi-zone configuration
Center width, decoder parameter45	EON, OPTION menu	Music Video, sound field program
Center, C)Distance, speaker setup49	EQ Type Select, D)Equalizer, speaker setup49	MUTE indicator, front panel display 6
Chamber, sound field program28	Extended Surround, OPTION menu40	MUTE, remote control
Changing information on the front panel	External component operation key,	
display26	remote control7	■ N
CINEMA DSP 3D indicator,	Extra SP Assign, A)Config, speaker setup47	News, Radio Data System program type 33
front panel display6		Numeric key, remote control
CINEMA DSP basic parameter42	■ F	rametre key, remote control
CINEMA DSP indicator,		■ 0
front panel display6	FL Scroll, 2 Display, function setup	-
CLASSICS, Radio Data System	FM antenna connection	OPTIMIZED MIC inch front monel
program type33	FM tuning	OPTIMIZER MIC jack, front panel
Clear Preset, OPTION menu41	FM/AM, front panel4	OPTION menu
Clock Time, Radio Data System	Frequency tuning mode	OSD Shift, 2 Display, function setup
information	Front L, C)Distance, speaker setup49	OTHER M, Radio Data System
COAXIAL jack14	Front left speaker10	program type
		r 0

■ P	
Pairing Bluetooth components	37
Pairing, OPTION menu	
Panorama, decoder parameter	
PHONES jack, front panel	
PHONO jacks, rear panel	
PL Level, sound field parameter Placing speaker	
POP M, Radio Data System program type	
PORTABLE jack, front panel	
Power cable connection	
Power Cable, rear panel	
POWER, remote control	
PR Level, sound field parameter PRE OUT terminals, rear panel	45
PRESET PRESE	
Preset tuning mode	
PRNS L, C)Distance, speaker setup	
PRNS R, C)Distance, speaker setup	49
PROGRAM selector, front panel	4
Program Service, Radio Data System	22
information Program Type, Radio Data System	33
information	33
Projector connection	
PTY Seek mode, Radio Data System	
tuning	
PTY Seek, OPTION menu	
PURE DIRECT, front panel	4
■ R	
Radio Data System tuning	22
Radio Text, Radio Data System	33
information	33
Registering input source	
Registering sound field program	
Remote control	
Remote control code resetting	
Remote control ID, ADVANCED SETUP	
Remote control signal transmitter,	50
remote control	7
Remote control, controlling other	
component	
Remote control, preparation	
Remote control, troubleshooting REMOTE ID, ADVANCED SETUP	
REMOTE IN/OUT jacks, rear panel	
Repeat playback, iPod	
Repeat, OPTION menu	
Resetting remote control code	
Resolution, 1 HDMI, function setup	
RETURN, remote control ROCK M, Radio Data System	/
program type	33
Roleplaying Game, sound field program	
■ S	
S VIDEO jack	14
SB Level, sound field parameter SCENE function	
SCENE IUIICIOIISCENE IR, ADVANCED SETUP	
SCENE, front panel	
SCENE, remote control	
SCIENCE, Radio Data System	
program type	
Sci-Fi, sound field program	
Selecting SCENE	
Set-top box connection	
SETUP menu	
SETUP menu basic operation	
SETUP, remote control	
Shuffle OPTION many	
Shuffle, OPTION menu Signal Info parameter	
Signal Info, OPTION menu	
SILENT CINEMA	30
SL Level, sound field parameter	45

SLEEP indicator, front panel display6
Sleep timer
Sound field parameter
Sound field program editing42
Sound field program registration
Sound selection key, remote control7 Sound Setup, SETUP menu49
SOURCE POWER, remote control7
SP IMP., ADVANCED SETUP58
Speaker cable connection
Speaker connection11 Speaker impedance, ADVANCED SETUP58
Speaker indicator, front panel display6
Speaker layout10
Speaker placement
Speaker setup
Specifications
Spectacle, sound field program27
SPORT, Radio Data System program type33
Sports, sound field program
SR Level, sound field parameter
Standby Through, 1 HDMI, function setup50
Straight decoding mode30
Straight Enhancer, sound field program29
STRAIGHT, front panel
Subwoofer Phase, A)Config, speaker setup49
Sur. L, C)Distance, speaker setup49
Sur. L/R SP, A)Config, speaker setup48
Sur. R, C)Distance, speaker setup
SUR., sound field parameter
Sur.B L/R SP, A)Config, speaker setup48
Sur.B R, C)Distance, speaker setup49
Surround back left speaker10
Surround back right speaker
Surround decoder editing
Surround decoder editing
Surround decoder editing42 Surround left speaker10
Surround decoder editing
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner indicator, front panel display 6 Tuner, troubleshooting 64 TUNING 1/□, front panel 4 Tuning, AM 31
Surround decoder editing
Surround decoder editing
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T T The Bottom Line, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner indicator, front panel display 66 Tuner, troubleshooting 64 TUNING / ▷, front panel 4 Tuning, AM 31 Tuning, FM 31 Turning off 20 Turning on 20
Surround decoder editing
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T T The Bottom Line, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Toubleshooting 60 Tuner key, remote control 7 Tuner, troubleshooting 64 TUNING ◁/▷, front panel 4 TUning, AM 31 Tuning, FM 31 Turning off 20 Turning on 20 TV control key, remote control 7 TV monitor connection 15
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner indicator, front panel display 60 Tuner, troubleshooting 64 TUNING <1/p> // Front panel 4 TUNING <1/p> // Front panel 4 Tuning, AM 31 Tuning, FM 31 Turning off 20 Turning on 20 TV control key, remote control 7 TV monitor connection 7 TV monitor connection 31 ■ U
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner indicator, front panel display 66 Tuner, troubleshooting 64 TUNING / ▷, front panel 4 Tuning, AM 31 Tuning, FM 31 Turning off 20 Turning off 20 TV control key, remote control 7 TV monitor connection 15 ■ U Using the enhanced other networks
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner indicator, front panel display 60 Tuner, troubleshooting 64 TUNING <1/p> // Front panel 4 TUNING <1/p> // Front panel 4 Tuning, AM 31 Tuning, FM 31 Turning off 20 Turning on 20 TV control key, remote control 7 TV monitor connection 7 TV monitor connection 31 ■ U
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel .5 Troubleshooting 60 Tuner indicator, front panel display 66 Tuner, troubleshooting 64 TUNING / I>, front panel 4 Tuning, AM 31 Tuning, FM 31 Turning off 20 Turning on 20 TV control key, remote control 7 TV monitor connection 15 ■ U Using the enhanced other networks data service 34
Surround decoder editing
Surround decoder editing
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner indicator, front panel display 66 Tuner, troubleshooting 64 TUNING / I>, front panel 4 Tuning, AM 31 Tuning, FM 31 Turning off 20 Turning on 20 TV control key, remote control 7 TV monitor connection 15 ■ U Using the enhanced other networks data service 34 Using the remote control 9 ■ V VARIED, Radio Data System program type 33 VIDEO jack 14 <
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner key, remote control 7 Tuner, troubleshooting 64 TUNING ⊲ / ▷, front panel 4 Tuning, AM 31 Turning off 20 Turning off 20 TV control key, remote control 20 TV ontrol key, remote control 15 ■ U Using the enhanced other networks data service 34 Using the remote control 9 ■ V VARIED, Radio Data System program type 33 VIDEO jack 14 Video jack 14
Surround decoder editing
Surround decoder editing 42 Surround left speaker 10 Surround right speaker 10 SWFR, C)Distance, speaker setup 49 ■ T The Bottom Line, sound field program 28 The Roxy Theatre, sound field program 28 Tone control 25 TONE CONTROL, front panel 4 TRANSMIT, remote control 7 TRIGGER OUT jack, rear panel 5 Troubleshooting 60 Tuner key, remote control 7 Tuner, troubleshooting 64 TUNING ⊲ / ▷, front panel 4 Tuning, AM 31 Turning off 20 Turning off 20 TV control key, remote control 20 TV ontrol key, remote control 15 ■ U Using the enhanced other networks data service 34 Using the remote control 9 ■ V VARIED, Radio Data System program type 33 VIDEO jack 14 Video jack 14

VOLUME +/-, remote control7

VOLUME control, front panel
■ Y
YPAO21 YPAO, troubleshooting66
■ Z
ZONE2 CONTROL, front panel4
ZONE2 indicator, front panel display 6
ZONE2 ON/OFF, front panel4
ZONE2 OUT jacks rear nanel 5

"AMAIN ZONE ON/OFF" or "IGPOWER" (example) indicates the name of the parts on the front panel or the remote control. Refer to "Controls diagram" or "Part names and functions" on page 4.

List of remote control codes

		Ausind	0249	Clatronic	0243, 0249, 0259,	Durabrand	0077, 0097, 0133,
TV		Autovox	0249, 0257, 0259,		0260, 0261, 0262,		0225
A.R. Systems	0274		0260, 0328		0268, 0269, 0273,	Dux	0271
Acme	0260	Aventura	0097		0274, 0328	Dwin	0224
Acura	0261, 0273	Awa	0327, 0328	CMS	0327	Dynatron	0268, 0271, 0274
ADC	0259	Axion	0206	CMS Hightec	0328	Dynex	0181, 0182
Admiral	0100, 0224, 0257,	Baird	0328	Coby	0151	Elbe	0243, 0250, 0274,
	0258, 0259, 0264,	Bang & Olufsen	0230, 0257	Colortyme	0072, 0090		0328
	0265	Basic Line	0261, 0262, 0268,	Commercial So		Elcit	0257
Advent	0204		0273, 0274, 0328	_	0071	Electa	0270
Adventura	0107	Bastide	0260, 0328	Concerto	0072, 0090	ELECTRO TECH	
Adyson	0260, 0327, 0328	Baur	0271, 0274	Concorde	0261, 0273	Electroband	0057, 0101
Agashi	0327, 0328	Bazin	0328	Condor	0243, 0260, 0268,	Electrograph	0226
Agazi	0259	Beko	0243, 0269, 0274,		0269, 0273, 0274,	Electrohome	0072, 0090, 0101,
Aiko	0260, 0261, 0273,		0282, 0351, 0357,	C	0327	F1	0102
A :	0274, 0327, 0328	Belcor	0372, 0380	Contec	0225, 0260, 0261,	Element Elin	0180
Aim Aiwa	0274	Bell & Howell	0090 0065, 0100	Contec/Cony	0266, 0273, 0327 0094, 0104	EIIII	0260, 0268, 0271, 0273, 0274, 0327
Akai	0028, 0297 0063, 0096, 0101,	Benq	0051, 0160, 0315	Continental Ed		Elite	0262, 0268, 0274
Akai	0205, 0231, 0261,	Beon	0268, 0271, 0274	Continental Ed	0267	Elman	0263
	0262, 0268, 0271,	Best	0243	Cosmel	0261, 0273	Elta	0261, 0273, 0327
	0273, 0274, 0327,	Bestar	0243, 0268, 0274	Craig	0104, 0225	Emerson	0065, 0072, 0077,
	0328	Binatone	0260, 0328	Crosley	0088, 0119, 0249,	Zillerson	0082, 0085, 0090,
Akiba	0262, 0274	Blue Sky	0262, 0274		0257		0094, 0095, 0097,
Akura	0259, 0262, 0273,	Blue Star	0270	Crown	0104, 0225, 0243,		0104, 0105, 0119,
	0274	Boots	0260, 0328		0249, 0261, 0268,		0225, 0243, 0257,
Alaron	0327	BPL	0270, 0274		0269, 0271, 0273,		0274
Alba	0243, 0260, 0261,	Bradford	0104, 0225		0274	Emprex	0200
	0262, 0266, 0269,	Brandt	0267, 0272	CS Electronics	0260, 0262, 0327	Envision	0072, 0090, 0096
	0271, 0273, 0274,	Brillian	0228	CTC Clatronic	0263	Epson	0156, 0201, 0309
	0294, 0300, 0327	Brinkmann	0274	CTX	0159	Erres	0268, 0271, 0274
Albatron	0222	Brionvega	0257, 0268, 0271,	Curtis Mathes	0065, 0071, 0072,	ESA	0097
Alcyon	0249		0274		0085, 0088, 0090,	ESC	0328
Alleron	0105	Britannia	0260, 0327, 0328		0096, 0099, 0224	Etron	0261
Allorgan	0328	Brockwood	0090	CXC	0104, 0225	Eurofeel	0328
Allstar	0268, 0274	Broksonic	0063, 0225	Cybertron	0262	Euro-Feel	0259
America Action	0225 0326	Bruns BTC	0257 0262	Cytron	0202	Euroline	0271
AMOi Amplivision	0243, 0260, 0275,	Bush	0261, 0262, 0264,	Daewoo	0072, 0085, 0090, 0103, 0119, 0245,	Euroman Euromann	0243, 0327, 0328 0259, 0260, 0268,
Amphivision	0328	Dusii	0266, 0268, 0270,		0260, 0261, 0268,	Luiomann	0274
Amstrad	0259, 0261, 0262,		0271, 0273, 0274,		0273, 0274, 0281,	Europhon	0260, 0263, 0268,
Timotrae	0273, 0274		0282, 0286, 0294,		0285, 0303, 0321,	Zuropnon	0274, 0327, 0328
Amtron	0104		0300, 0328, 0329,		0327, 0328, 0344,	Expert	0275
Anam	0225, 0261		0351, 0388, 0394,		0361, 0387	Exquisit	0274
Anam National	0102, 0104		0413	Dainichi	0262, 0327	Fenner	0261, 0273
Anglo	0261, 0273	Candle	0072, 0090, 0096,	Dansai	0259, 0268, 0271,	Ferguson	0267, 0271, 0272
Anitech	0249, 0259, 0261,		0107		0274, 0327, 0328	Fidelity	0260, 0264, 0274,
	0273, 0274	Capsonic	0259	Dantax	0243, 0271		0327
Ansonic	0243, 0250, 0261,	Carena	0274	Dawa	0274	Filsai	0328
	0263, 0273, 0274	Carnivale	0096	Daytron	0072, 0085, 0090,	Finlandia	0264
AOC	0072, 0090, 0096,	Carrefour	0266		0261, 0273	Finlux	0249, 0257, 0260,
	0103	Carver	0088	De Graaf	0264		0263, 0268, 0271,
Apex	0061, 0117, 0139	Cascade	0261, 0273, 0274	Decca	0260, 0268, 0271,	EIDCT LINE	0274, 0328
Arcam Delta	0327, 0328	Casio	0317 0268, 0271, 0274	Dell	0274, 0328	FIRST LINE Firstline	0260, 0261, 0268
Aristona	0260 0268, 0271, 0274	Cathay CCE	0229, 0328	Dell Denver	0167, 0195 0308, 0312	riistiille	0273, 0274, 0327, 0328
Arthur Martin	0208, 0271, 0274	Celebrity	0057, 0101	Desmet	0268, 0271, 0274	Fisher	0065, 0243, 0257,
ASA	0257, 0265	Celera	0117	Diamant	0274	1 isilci	0260, 0266, 0269,
Asberg	0249, 0268, 0274	Centurion	0268, 0271, 0274	Diamond	0327		0328
Astra	0261	Century	0257	DiamondVision	0213, 0221	Flint	0268, 0274
Asuka	0259, 0260, 0262,	CGE	0243, 0249	Dimensia	0099	Formenti	0249, 0257, 0258,
	0327, 0328	Changhong	0117	Disney	0137		0260, 0271, 0327
Atlantic	0260, 0268, 0271,	Chimei	0323	Dixi	0261, 0268, 0271,	Formenti/Phoenix	0327
	0274, 0327	Cimline	0261, 0273		0273, 0274, 0328	Fortress	0257, 0258
Atori	0261, 0273	Citizen	0072, 0085, 0090,	Dream Vision	0415, 0416	Fraba	0243, 0274
Auchan	0275		0096, 0104	DTS	0261, 0273	Friac	0243
Audiosonic	0243, 0260, 0261,	City	0261, 0273	Dual	0260, 0274, 0328	Frontech	0259, 0261, 0264,
	0262, 0268, 0271,	Clarion	0225	Dual-Tec	0260, 0261		0265, 0273, 0328
4 1' T	0274, 0328	Clarivox	0271	Dumont	0076, 0090, 0108,	Fujitsu	0023, 0024, 0025,
AudioTon	0243, 0260, 0328				0257, 0260, 0263,	Eniiton Canas-1	0105, 0328
Audiovox	0104, 0144, 0225				0328	Fujitsu General	0328

T	0.405 0.405 0.405	***	0061 0060 0066	**	0000 0001 0000		0072 0000 0000
Fujitsu Siemens	0425, 0426, 0427,	Hinari	0261, 0262, 0266,	Kaisui	0260, 0261, 0262,	Magnavox	0072, 0088, 0090,
	0428, 0429		0268, 0271, 0273,		0270, 0273, 0274,		0091, 0095, 0096,
Funai	0033, 0034, 0035,		0274		0327, 0328		0098, 0114, 0115,
	0036, 0037, 0097,	Hisawa	0262, 0270, 0275	Kamosonic	0260		0129, 0134, 0176,
	0104, 0105, 0225,	Hisense	0165	Kamp	0260, 0327		0178, 0189, 0210
	0259	Hitachi	0006, 0014, 0015,	Kapsch	0265	Magnum	0259, 0261
Futuretech	0104, 0225		0016, 0042, 0072,	Karcher	0243, 0260, 0261,	Majestic	0100
Galaxi	0269, 0274		0090, 0094, 0173,		0271, 0274	Mandor	0259
Galaxis	0243, 0274		0254, 0255, 0256,	Kawasho	0072, 0090, 0101,	Manesth	0259, 0260, 0268,
Gateway	0163, 0226, 0227		0260, 0264, 0265,		0327		0271, 0274, 0328
GBC	0261, 0266, 0273		0266, 0274, 0285,	KEC	0225	Marantz	0072, 0088, 0090,
GE	0069, 0071, 0072,		0300, 0319, 0328,	Kendo	0243, 0263, 0264,		0096, 0158, 0268,
	0073, 0077, 0090,		0348, 0349, 0385,		0274		0271, 0274
	0099, 0102, 0106,		0402, 0410	Kenwood	0072, 0090, 0096	Marelli	0257
	0112, 0131	Hornyphon	0268, 0274	KIC	0328	Mark	0268, 0271, 0273,
Geant Casino	0275	Hoshai	0262	Kingsley	0260, 0327		0274, 0327, 0328
GEC	0260, 0265, 0268,	Huanyu	0260, 0327	KLH	0117	Masuda	0328
	0271, 0274, 0328	Hygashi	0260, 0327, 0328	Kloss Novabeam	0104, 0107	Matsui	0260, 0261, 0264,
Geloso	0261, 0264, 0273	Hyper	0260, 0261, 0273,	Kneissel	0243, 0250, 0274		0266, 0268, 0271,
General Technic	0261, 0273		0327, 0328	Kolster	0268, 0274		0273, 0274, 0328,
Genexxa	0262, 0265, 0268,	Hypson	0259, 0260, 0268,	Konka	0262		0405
	0274		0270, 0271, 0274,	Korpel	0268, 0271, 0274	Matsushita	0067
GFM	0177, 0210		0275, 0328	Korting	0243, 0257	Maxent	0193, 0226
Giant	0328	Hyundai	0223	Kosmos	0274	Mediator	0268, 0271, 0274
Gibralter	0076, 0090, 0096,	Iberia	0274	Koyoda	0261	Medion	0259, 0261, 0274
	0108	ICE	0259, 0260, 0261,	KTV	0085, 0096, 0104,	Megapower	0222
GoldHand	0327		0262, 0268, 0273,		0225, 0229, 0260,	Megatron	0072, 0077
Goldline	0274		0274, 0327, 0328		0328	MElectronic	0273, 0274, 0327,
GoldStar	0072, 0077, 0085,	ICeS	0327	Kyoto	0327, 0328		0328
	0090, 0094, 0096,	Ilo	0198, 0203	Lasat	0243	Melvox	0275
	0103, 0243, 0260,	IMA	0104	Lenco	0261, 0273	Memorex	0065, 0072, 0077,
	0261, 0264, 0268,	Imperial	0243, 0249, 0265,	Lenoir	0260, 0261, 0273		0100, 0103, 0133,
	0271, 0273, 0274,		0268, 0269, 0274	Leyco	0259, 0268, 0271,		0219, 0261, 0273
	0327, 0328	Indiana	0268, 0271, 0274		0274	Memphis	0261, 0273
Goodmans	0164, 0259, 0261,	Infinity	0088	LG	0016, 0038, 0039,	Mercury	0273, 0274
	0266, 0268, 0271,	InFocus	0168, 0277, 0313,		0077, 0103, 0145,	Metz	0257
	0273, 0274, 0322,		0397, 0430		0222, 0243, 0246,	MGA	0072, 0077, 0090,
	0328, 0395, 0399,	Ingelen	0265		0253, 0260, 0261,		0096, 0103
	0412	Ingersol	0261, 0273		0264, 0268, 0271,	Micromaxx	0259, 0261
Gorenje	0243, 0269	Initial	0203		0273, 0274, 0282,	Microstar	0259, 0261
GPM	0262	Inno Hit	0249, 0260, 0261,		0290, 0299, 0316,	Midland	0069, 0071, 0073,
GPX	0211		0262, 0268, 0271,		0327, 0328, 0351,		0076, 0085, 0106,
Gradiente	0162		0273, 0274, 0328		0359, 0367, 0382,		0108
Graetz	0265	Innovation	0259, 0261		0384, 0389, 0396	Minerva	0249
Granada	0249, 0260, 0264,	Insignia	0182, 0188, 0190,	LG/GoldStar	0246	Minoka	0268, 0274
	0266, 0268, 0271,	_	0209	Liesenk	0271	Mintek	0203
	0274, 0275, 0328	Inteq	0076	Liesenkotter	0274	Mitsubishi	0006, 0015, 0016,
Grandin	0261, 0262, 0270,	Interactive	0243	Life	0259, 0261		0048, 0072, 0077,
	0271	Interbuy	0261, 0273	Lifetec	0259, 0261, 0273,		0090, 0103, 0196,
Gronic	0328	Interfunk	0243, 0257, 0265,		0274		0224, 0257, 0266,
Grundig	0242, 0243, 0249,		0268, 0271, 0274	Lloyds	0273		0268, 0274, 0298,
J	0274, 0356	International	0327	Loewe	0243, 0250, 0274,		0371
Grunpy	0104, 0105, 0225	Intervision	0243, 0259, 0260,		0280, 0306, 0347	Mivar	0243, 0249, 0250,
Haier	0187, 0207		0263, 0274, 0328	Loewe Opta	0257, 0268, 0271		0260, 0327, 0328
Halifax	0259, 0260, 0327,	Irradio	0249, 0261, 0262,	Logik	0100	Monivision	0222
	0328		0268, 0271, 0273,	Luma	0264, 0271, 0273,	Montgomery V	Vard
Hallmark	0072, 0077, 0090		0274		0274		0100
Hampton	0260, 0327, 0328	Isukai	0262, 0274	Lumatron	0264, 0268, 0271,	Motion	0249
Hanseatic	0243, 0250, 0260,	ITC	0260, 0328		0274, 0328	Motorola	0102, 0224
	0261, 0266, 0268,	ITS	0262, 0268, 0270,	Lux May	0268	MTC	0072, 0090, 0096,
	0271, 0273, 0274,		0274, 0327	Luxman	0072, 0090		0103, 0243, 0327
	0328	ITT	0261, 0265	Luxor	0260, 0264, 0328	Multi System	0271
Hantarex	0261, 0273, 0274	ITV	0261, 0271, 0274	LXI	0061, 0065, 0071,	Multitech	0104, 0225, 0229,
Hantor	0274	Janeil	0107		0072, 0073, 0077,		0243, 0260, 0261,
Harman/Kardon	0088	JBL	0088		0088, 0099		0263, 0264, 0266,
Harvard	0104, 0225	JC Penney	0072, 0073, 0085,	M Electronic	0260, 0261, 0265,		0271, 0273, 0274,
Harwood	0273, 0274	- 3	0090, 0099, 0103,		0267, 0268, 0271		0327, 0328
Havermy	0224		0106	MAG	0050	Murphy	0260, 0327
HCM	0259, 0260, 0261,	JCB	0057, 0101	Magnadyne	0257, 0263, 0271	NAD	0061, 0072, 0077
	0270, 0273, 0274,	Jensen	0072, 0090	Magnafon	0249, 0260, 0263,	Naonis	0264
	0328	JVC	0017, 0018, 0019,		0327	NEC	0026, 0053, 0072,
Hema	0273, 0328		0092, 0093, 0094,				0090, 0096, 0102,
Hewlett Packard	0146		0106, 0251, 0252,				0103, 0266, 0328
Higashi	0327		0266, 0268, 0293,				,,
HiLine	0274		0360, 0379				

Pool								
1964 1054, 105	Neckermann	0243, 0257, 0260,		0114, 0135, 0143,	RCA	0071, 0072, 0073,	SEI-Sinudyne	0257, 0263, 0265
1.00 1.00							-	
Net Net								
Nest	NEI							,
New Tech								
New					75 - 11 - 11			
New Nort					Realistic		Sharp	
New Teach 1978, 1978	New Tech	0261, 0268				0225		0072, 0080, 0081,
Nikata 1950, 9050, 9	New World	0262		0314, 0330, 0331,	Recor	0274		0082, 0083, 0085,
Kilkai 0599,0640,0262, 0250, 0250, 0260, 0260, 0274, 0273. 0345,0355,0363, 080, 0274, 0272, 0232, 0236, 0381,0385,0406, 040,0414 Card 0372,0328 Card 0372,0328,0329,0328 Card 0372,0328 Card 03	NewTech	0273, 0274, 0328		0333, 0337, 0338,	Redstar	0274		0090, 0094, 0110,
Siλbid 0259,0260,0262, 0250, 0250, 0345,0355,9363, 066,0871,0373 Rev 0243,0268,0271, 0273 0224,0247,0248, 0260,0288, 0304, 0270,0070,0070 Nikko 0270,0270,2028 0381,0383,0408, 040, 0414 Rev 0259,0264,0265 0304,0323,0328, 0303, 0383,0383,0408, 040, 0414 Rev 0259,0264,0265 0304,0323,0328, 0314, 0383,0328, 0408, 040, 0410, 0414 Rev 0259,0264,0265 0304,0323,0328, 0314, 032, 0327, 0328 0306,0388,0322, 0327, 0328 0306,0388,0322, 0327, 0328 0306,0388,0322, 0327, 0328 0306,0388,0322, 0327, 0328 0309,000,0006,0006 Rev 0327 0506,000,0007, 0327 0309,000,0006,0006 Rev 0327 0506,000,0007, 0327 0309,000,0006,0006 0327 0328 0327 0328 0327 0328 0327 0328 0327 0328 0329 </td <td>Nicamagic</td> <td>0260, 0327</td> <td></td> <td>0339, 0341, 0343,</td> <td>Reflex</td> <td>0274</td> <td></td> <td>0148, 0183, 0216,</td>	Nicamagic	0260, 0327		0339, 0341, 0343,	Reflex	0274		0148, 0183, 0216,
	-	0259, 0260, 0262,			Revox	0243, 0268, 0271,		
Nikko								
Nikbiliso 0972, 0971,0996 Holpilis Migracows (294) 0269, 0263, 0267, o268, o271, o274 Class (294) 0269, 0263, o267, o268, o271, o274 Class (294) 0269, 0263, o271, o274, o273 Class (294) 0269, 0263, o271, o274, o273 Class (294) 0269, o263, o271, o274, o273 Class (294) 0269, o274, o273 Class (294) 0274, o274,					Rev			
Notice	Nikko							
Nokisia Ozó5			DLIII M					
Note of Note of Note of Note of Note of 15 5 Phonola of 257, 1026, 2027, 2028, 2027, 2028, 2027, 2028, 2027, 2028, 2027, 2028, 2027, 2028, 2027, 2028, 2027, 2028, 2027, 2028, 2027, 2028, 2	Nobliko		1 0					
Noredice Nordice Nordice Nordice O328 0155 (0274, 0277 or Nordice O327 or Nordice O328) O274, 0237 or Nordice O327 or Nordice O328 or Nordice O329 o			Phoenix					
Nordimender Golz G. 257, 0255, 0256, 0257 Pilot on 0885, 0990, 0906 Rowar on 1927, 0257 Singun on 257, 0257, 0257, 0257, 0257, 0257, 0257 Singun on 257, 0257, 0257, 0257, 0257 Singun on 257, 0257, 0257, 0257, 0257 Singun on 258, 0274 Oz 327, 025, 0257, 0257, 0257, 0257 Singun on 258, 0274 Oz 327, 0256, 0274 Singun on 258, 0274 Oz 327, 0256, 0275 Singun on 258, 0274 Oz 327, 0256, 0275 Singun on 258, 0274 Oz 327, 0256, 0267 Silver on 258, 0274 Oz 327, 0256, 0267 Silver on 257, 0263, 0275 Oz 327, 0256, 0275 Silver on 257, 0263, 0275 Oz 327, 0256, 0275 Silver on 257, 0263, 0275 Oz 327, 0263, 0275 Oz 327, 0263, 0275 Silver on 257, 0263, 0275 Oz 327, 0263, 0275 Silver on 257, 0263, 0275 Oz 327, 0263, 0275 Silver on 257, 0263, 0275 Oz 327, 0263, 0275 Oz 327, 0263, 0275 Silver on 257, 0263, 0275 Oz 327, 0263, 0275 Oz 327, 0263, 0275 Oz 327, 0263, 0275 Silver on 257, 0263, 0275 Oz 327, 0263, 0275					Roadstar			
Northerior 0.257, 0.256, 0.265, 0.267, 0.260 Pioneer Pioneer Olo2, 0.013, 0.027, 0.004, 0.027, 0.004, 0.005, 0.006, 0.008, 0.007, 0.008, 0.007, 0.009, 0.008 Siarem O.288, 0.274 0.008, 0.007, 0.009, 0.008 0.268, 0.007, 0.009, 0.008 Siarem O.288, 0.007, 0.009, 0.008 0.008, 0.007, 0.009, 0.008 Siarem O.288, 0.007, 0.009, 0.008 0.008, 0.007, 0.009, 0.008 Siarem O.288, 0.007, 0.009, 0.008 0.008, 0.009, 0.009, 0.008 Siarem O.288, 0.007, 0.009, 0.008 0.008, 0.009, 0.009, 0.008 0.008, 0.009, 0.009, 0.009, 0.009, 0.009, 0.008 0.008, 0.009,	Norcent	0155	Phonola	0257, 0268, 0271,		0273	Sheng Chia	0224
Nordvision C974	Nordic	0328		0274, 0327	Robotron	0257	Shogun	0090
Nortwiston 0.271	Nordmende	0257, 0265, 0267,	Pilot	0085, 0090, 0096	Rowa	0327, 0328	Siarem	0257, 0263, 0274
Nortwiston 0.271		0268	Pioneer	0012, 0013, 0072,	Royal Lux	0243	Sierra	0268, 0274
Notacopic Oceanic 0274 (296, 2974) Plantron 0274, 0268, 0273, 0274 Quarron 0272, 0376, 0268, 0275, 0276, 0276, 0276, 0276, 0276 Silver 0250, 0268, 0276, 0276, 0276, 0276, 0277, 0277, 0276, 0277	Nordvision				•			
Oceanic Q265, Q275 Value Q274, Q408 Sab Q257, Q265, Q267, Q57, Silver Q37 Olsva Q424, Q269, Q244 Playsonic Q274 Saisho Q259, Q260, Q261, Q513, Silver Q257, Q263, Q275, Q274 ONCEAS Q260 Pelarsid Q117, Q152, Q184, Salora Q264, Q265 Stanidyne Q257, Q263, Q275, Q274 Onwa Q104, Q225 Poprato Q261, Q273 Sampen Q264, Q265 Skantic Q256 Opera Q274 Poppy Q261, Q273 Sampen Q072, Q085, Q090, Q0 Solation Q265 Opera Q276, Q050, Q07 Q086, Q071, Q073, Q071, Q0								
Okano 0243, 0269, 0274, 014, 0149 Planton 0229, 0268, 0273, 0235 Silver 0266, 0275, 0263, 0271, 0275, 0263, 0271, 0275, 0263, 0271, 0275, 0263, 0271, 0275, 0263, 0271, 0275, 0263, 0271, 0275, 0263, 0271, 0274, 0272, 0276, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274, 0272, 0274,							-	
Obs.			Dlantuan		Saba			
ONCEAS O 2060 Pollaysonic Olaty 0328 (2014) 02073 (0.028 (2015) 0257 (0.0263) (271) 0257 (0.0263) (271) 0257 (0.0263) 0257 (0.0263) 0257 (0.0263) 0258 (0.0263) 0268 (0.0263) 0200 (0.0263) 0200 (0.0263) 0200 (0.0053) 0200 (0.0053) 0200 (0.0053) 0200 (0.0053) 0200 (0.0053) 0200 (0.0053) 0200 (0.0054) 02			Piantion		0 : 1			
ONCEAS 0260 Polaroid 0117, 0152, 0184, 0180 Sambers 0244, 0263 Skantic 0265 Opera 0274 Poppy 0261, 0273 Sambers 0249, 0263 Schauto 0265 Opera 0274 Poppy 0261, 0273 Sambers 0208, 0900, 0900, 000 Schauto 0264, 0263 Optimia 005, 067 Pradioni-Prince 0249, 0264 Samsung 0029, 0030, 0031, 0031, 0000 0229, 0260, 0261, 0261, 0261, 0261 Optimia 0224 Presion 0260, 0328 0046, 0047, 0072, 005, 0000 0274, 0328, 0271, 0273, 0261, 0273 Orbin 02121, 0192, 0261, 0273, 0261, 0273, 0261, 0273, 0261, 0273, 0264, 0084, 0087, 0090, 006, 003, 0074, 0082, 0274 0225, 0274 0069, 0066, 0074, 0086, 0087, 0090, 006, 0074, 0082, 0274 0074, 0082, 0074, 0074, 0082, 0074, 0082, 0074, 0074, 00	Olevia				Saisho		U	
Onewale Opera O104 (O225) C90pys O224 (O273 (O273) Sambers (O272 (O885, 0096) C90pol (O220 (O885, 0096) C90pol (O820 (O885, 0096) C90pol (O885, 0096) C90pol (O885, 0096) C90pol (O886, 0097) C90pol (O890, 0096) C90pol (O890, 0096)							Sinudyne	
Openal Oppo 0274 Poppy O208 Cold, 0273 Sampo O096, 0208 Ocopo O208 Cold, 3 0.328 Optimus 005, 0067 Fandin-Pirics 0249, 0264 Cold, 0264 Ocopo O208, 0031, 0000, 0031, 0000, 0024, 0026, 0027, 0027, 0028, 0006, 0007, 0008, 0006, 0007, 0008, 0006, 0007, 0008, 0006, 0007, 0008, 0006, 0007, 0008, 0006, 0007, 0008, 0006, 0007, 0008, 0006, 0007, 0008, 0006, 0008, 0006, 0008, 0007, 0008, 0006, 0008, 0006, 0008, 0008, 0006, 0008, 0008, 0009, 0006, 0008, 0008, 0008, 0009, 0009, 0006, 0008, 0008, 0009, 0009, 0009, 0009, 0006, 0008, 0008, 0009, 00	ONCEAS	0260	Polaroid	0117, 0152, 0184,	Salora	0264, 0265		0274
Oppino CORRADITION Portland OPT2, ORNS, ORD9, CORD10 CORRADITION CORPA, ORD9, ORD0, ORD0, ORD0, ORD9, ORD0, ORD9, ORD9, ORD9, ORD9, ORD0, ORD9,	Onwa	0104, 0225		0220	Sambers	0249, 0263	Skantic	0265
Optimus 005, 0067 — 0013 Samsung 0002, 0030, 0031, 0030, 0030, 0058, 0259, 0260, 0261, 0274, 0273, 0274, 0273, 0274, 0283, 0274, 0283, 0274 00260, 0274 0280, 0274 Prima 00161, 0207, 0261, 0270, 0261, 0270, 0264, 0085, 0087, 0086, 0087, 0090, 0086, 0087, 0090, 0086, 0087, 0090, 0086, 0087, 0090, 0074, 0283, 0283, 0284, 0274, 0283, 0283, 0284, 0284, 0283, 0283, 0284, 0283, 0284, 0284, 0283, 0283, 0284, 0284, 0283, 0284, 0284, 0284, 0283, 0284, 0284, 0284, 0283, 0284, 0284, 0284, 0284, 0283, 0284,	Opera	0274	Poppy	0261, 0273	Sampo	0072, 0085, 0090,	Solavox	0265
Optimus Optimu	Oppo	0208	Portland	0072, 0085, 0090,		0096, 0226	Sonitron	0243, 0328
Optomical Op		0065, 0067			Samsung	0029, 0030, 0031,	Sonoko	0259, 0260, 0261.
Optionical Obtion 0224 Pricision Pricision (0260, 0328) OO4, 0047, 0072, 0077, 0072, 0072, 0077, 0084, 0085, 0086, 0075, 0084, 0085, 0075, 0084, 0085, 0075, 0084, 0085, 0075, 0084, 0077, 0084, 0085, 0071, 0072, 0086, 0077, 0084, 0086, 0077, 0084, 0086, 0077, 0084, 0086, 0077, 0084, 0086, 0077, 0084, 0086, 0071, 00724, 0282, 0329 Princeton (0226, 0273) 0086, 0087, 0090, 0090, 0014, 0057, 0058, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0086, 0074, 0088, 0086, 0074, 0086, 0074, 0088, 0086, 0074, 0088, 0086, 0074, 0088, 0086, 0074, 0088, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089, 0086, 0074, 0088, 0089,	-		Prandoni-Prince		B			
Orbite QSA, Q274 Prima 0161, 0207, 0261, 0263 concept of 2268, 0271, 0273, 0263, 0268, 0273 Sonote 0256, 0275, 0275, 0263, 0263, 0263, 0268, 0271, 0274, 0282, 0269, 0261, 0273 Concept of 2268, 0271, 0273, 0268, 0274 Concept of 2274, 0282, 0329 Prime on 0069, 0106 0118, 0217, 0229, 0260, 023, 0009, 0000, 0101, 0073, 0088, 0234 Sony 0041, 0075, 0088, 0274 Orline 0274, 0282, 0260, 0262, 0261, 0274, 0284, 0259, 0260, 0264, 0274, 0284, 0259, 0260, 0264, 0274, 0284, 0259, 0260, 0264, 0274, 0284, 0259, 0260, 0264, 0268, 0274 0284, 0295, 0237, 0274,	•							
Orion 0121, 0192, 0261, 0273, Princeton 0226, 0273, Princeton 0222 0094, 0096, 0103, 0103 0274, 0282, 0329 274 mirecton 0222 0094, 0096, 0103, 013, 0274 0094, 0096, 0103, 0274 0094, 0096, 0103, 0274 0094, 0096, 0103, 0274 0094, 0096, 0103, 0274 0094, 0096, 0103, 0274 0095, 0060, 0101, 0125, 0126, 0274 0095, 0060, 0101, 0125, 0126, 0274 0095, 0060, 0101, 0125, 0126, 0274 0095, 0060, 01015, 0125, 0126, 0274, 0328 0094, 0096, 0243, 0250, 0250, 0274, 0328 0094, 0096, 0237, 0274, 0328 0243, 0250, 0260, 0261, 071, 0173, 0099 02243, 0250, 0260, 0264, 0271, 0170, 10172, 0172, 0174, 0171, 0172, 0174, 0174, 0174, 0171, 0172, 0174, 0274, 0327, 0328 0092, 0093, 0111, 0172, 0174, 0174, 0174, 0174, 0171, 0172, 0174, 0274, 0328 0092, 0093, 0111, 0172, 0174, 0274, 0328, 0336, 0346, 0292, 0393, 0111 0093, 0011, 0172, 0174, 0274, 0328, 0393, 0314, 0328, 0363, 0346, 0364, 036							Comolon	
Ord (a) (a) (b) (b) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c			riilia					
Orline 0.74, 0.282, 0.329 Prism 0.069, 0.106 0.118, 0.217, 0.229, 0.200 Sony 0.041, 0.057, 0.058, 0.006, 0.010, 0.005, 0.006, 0.010, 0.006, 0.010, 0.006, 0.010, 0.006, 0.010, 0.006, 0.010, 0.006, 0.010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.0010, 0.006, 0.00100, 0.00100, 0.00100, 0.0010, 0.0010, 0.0010, 0.0010, 0.0010, 0.0010, 0.00100, 0.0010, 0.0	Orion						Sontec	
Orline 0.74 Profex 0.261, 0.273 0.235, 0.235, 0.235, 0.237, 0.29 0.009, 0.060, 0.101, 0.25, 0.126, 0.274 Osaki 0.259, 0.260, 0.262, 0.274 Profine 0.268, 0.274 0.243, 0.259, 0.260, 0.26 0.117, 0.142, 0.169, 0.274 Otto Versand 0.258, 0.200, 0.266, 0.276, 0.201, 0.243, 0.260, 0.271, 0.273, 0.0274 0.274, 0.032, 0.274, 0.232, 0.274, 0.227, 0.274, 0.228, 0.205, 0.327, 0.228 0.328, 0.336, 0.346, 0.346, 0.266, 0.276, 0.289, 0.274, 0.328 0.266, 0.276, 0.289, 0.295, 0.327, 0.328 0.303, 0.340, 0.346, 0.327, 0.328 0.0063, 0.121, 0.268, 0.3046, 0.327, 0.328 0.0063, 0.121, 0.268, 0.3046, 0.304, 0.292, 0.393, 0.411 Palladim 0.264, 0.0269, 0.261, 0.274, 0.328 Proton 0.072, 0.077, 0.090, 0.274, 0.327, 0.328 0.0063, 0.121, 0.268, 0.3046, 0.0269, 0.0261, 0.0274, 0.328 0.0044 0.004, 0.005, 0.006, 0.004, 0.006, 0.006, 0.006, 0.0064, 0.006,		0268, 0271, 0273,				0094, 0096, 0103,		
Osaki 0259, 0260, 0262, 0274, 0328 Profirem 0268, 0274 Section (1), 0172, 0126, 0268, 0269, 0269, 0260, 0261, 0268, 0269, 0269, 0260, 0261, 0268, 0269, 0260, 0261, 0274, 0327, 0328, 0260, 0271, 0273, 0328, 0260, 0276, 0270, 0271, 0274, 0327, 0328, 0274, 0327, 0328, 0274, 0327, 0328, 0274, 0327, 0328, 0274, 0327, 0328, 0274, 0327, 0328, 0260, 0261, 0260, 0260, 0260, 0260, 0260, 0260, 0260, 0260, 0260, 0260, 0260, 0261, 0260, 0260, 0260, 0260, 0261, 0260, 0260, 0260, 0261, 0260, 0260, 0261, 0260, 0260, 0260, 0261, 0260, 0260, 0261, 0260, 0260, 0260, 0261, 0260, 026		0274, 0282, 0329	Prism	0069, 0106		0118, 0217, 0229,	Sony	0041, 0057, 0058,
OSO 0274, 0328 Proline 0268, 0274 Cost 0261, 0268, 0279, 0271, 0273, 0274, 0177, 0142, 0169, 0171, 0172, 0174, 0171, 0172, 0174, 0234, 0261, 0268, 0270, 0271, 0238 0271, 0273, 0274, 0232, 0274, 0271, 0284, 0295, 0327, 0274, 0261, 0266, 0276, 0289, 0270, 0274, 0328 0274, 0328 Protech 0238, 0260, 0261, 0328, 0360, 0346, 0407 0266, 0276, 0289, 0290, 0274, 0327, 0328 0308, 0308, 0346, 0407 02620, 0327, 0292, 0393, 0491, 0292, 0393, 0491 Palladium 0243, 0260, 0269, 0274 0259, 0260, 0261, 0273, 0328 Sansui 0063, 0121, 0268, 0004, 0002	Orline	0274	Profex	0261, 0273		0235, 0236, 0237,		0059, 0060, 0101,
Obto Versand Otto Ve	Osaki	0259, 0260, 0262,	Profi-Tronic	0268, 0274		0243, 0259, 0260,		0116, 0125, 0126,
Obto Versand Otto Ve		0274, 0328	Proline	0268, 0274		0261, 0268, 0269,		0127, 0142, 0169,
Otto Versand (0258, 0260, 0266, 0266, 0266, 0270, 0271, 0268, 0270, 0271, 0274, 0327, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0260, 0261, 0260	Oso		Proscan					
Pael 0268, 0270, 0271, 0274, 0328 Protech 0274, 0327, 0328, 0260, 0261, 0260, 0261, 0390, 0407 0320, 0373, 0292, 0392, 0411 Pael 0260, 0327, 0328 Protech 0263, 0268, 0271, 0384 0320, 0327, 0328 Sound & Vision 0292, 0393, 0411 Palladium 0243, 0260, 0269, 0269, 0261, 0274, 0328 Proton 0072, 0077, 0090, 0274 0274, 0328 Soundesign 0072, 0077, 0090, 0104, 0105, 0225 Palsonic 0328 Proton 0150 0049, 0065, 0090, 030, 034, 0358, 0370, 0090, 0097 Soundeware 0268, 0271, 0274 Panama 0259, 0260, 0261, Protron 0150 0049, 0065, 0090, Squareview 0099, 0060, 0071, 0060, 0071, 0060, 0071, 0077 0274, 0327, 0274, 0327, 0274 SSS 0090, 0104, 0225, 0271, 0274 Panasonic 0006, 0007, 0066, Provision 0271, 0274 0273, 0291, 0327, 0373, 0373, 0373, 0060, 0060, 0070, 0060, 0070, 0066, 0070, 0060, 0072, 0073, 0073, 0374 SSB 0090, 0104, 0225, 0274, 0328 0271, 0274 Standard 0266, 0262, 0268, Standard 0266, 0263, 0274, 027								
Pael 0274, 0328 Protech 0259, 0260, 0261, 263, 268, 0271, 2026, 0327, 3032, 3032, 304 & Vision 0292, 0393, 0411 Palladium 0243, 0260, 0269, 269, 260, 0269, 260, 0261, 274, 0328 Nansui 0060, 0327, 0328, 300 & Vision 0072, 0077, 0090, 072, 0077, 0090, 072, 0077, 0090, 072, 0077, 0090, 072, 0077, 0090, 072, 0077, 0090, 072, 0073, 0072, 0073, 0072, 0073, 0074, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0274, 0274, 0274, 0273, 0274, 0328, 0090, 0104, 0225, 0260, 0260, 0266, 0266, 0260	Otto versuna		110501110					
Pael 0260, 0327 U243, 0260, 0269 U263, 0268, 0271 Sandra 0260, 0327, 0328 Sounde Vision 0262, 0263 Palladium 0243, 0260, 0269 U243, 0250, 0260 Proton 0072, 0077, 0090, 0274 0074 0071, 0077, 0090, 0274 0014, 0105, 0225 Palsonic 0328 Protron 0150 0020, 0021, 0022, 0065, 0090, 50090, 50090, 0244, 0327, 0274 Sanyo 0020, 0021, 0022, 0202, 0204, 0268, 0271, 0274 0099, 0104, 0125 Panaman 0259, 0260, 0261, 0261, 0273 PROVIEW 0050, 0164 10141, 0191, 0243, 0258 SSC 00990, 0104, 0225 Panasonic 0066, 0007, 0066, 0069, 0706, 090, 0108 0073, 0274, 0327, 0274 0250, 0260, 0266, 0266, 0266, 0268, 0268, 0273, 0274, 0274, 0067, 0068, 0069, 090, 0064, 0268, 0273, 0274 0241, 0265, 0274, 0274, 0274, 0274, 0274, 0273, 0274 0238, 0370, 0373, 0373, 0388, 0374 0328 0391 Starlite 0104, 0225, 0271, 0274			Drotoch					
Palladium 0243, 0260, 0269, 0269, 0274, 0328 Proton 0072, 0077, 0090, 0274 Sansui 0063, 0121, 0268, 0274 Soundesign 0104, 0105, 0225 Palsonic 0328 0094 Sanyo 0020, 0021, 0022, 0202, 0204 Soundwave 0268, 0271, 0274 Panama 0259, 0260, 0261, 0273, 0274, 0327, 074, 0327, 073, 074, 0327, 074, 0328 Protrision 0350, 0164 040, 0050, 0065, 0090, 0250, 0260, 0266, 0260, 0266, 0260,	D1		Protecti		C 1		C1 0 X7:-:	
Palsonic 0328 Proton 0072, 0077, 0090, 0090, 0090, 0021, 0022, 0021, 0022, 0080, 0061, 0072, 0074 0094 0080, 0070, 0021, 0022, 0080, 0061, 0097 00104, 0105, 0225 Panama 0259, 0260, 0261, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0327, 0274, 0328 PROVIEW 0050, 0164 0141, 0191, 0243, 088 SSS 0090, 0104, 0225 Panasonic 0006, 0007, 0066, 0069, 0066, 0067, 0068, 0069, 0164 0070, 0068, 0069, 0104, 0225, 0274, 0067, 0068, 0076, 0090, 0108 0273, 0291, 0327, 0274 0268, 0273, 0274, 0274, 0076, 0090, 0108 0273, 0291, 0327, 0373, 0328 038 0391 Starlite 014, 0225, 0271, 0274, 0328, 0391, 0374, 0274, 0279, 0310, 0332, 0274, 0274, 0279, 0310, 0332, 0274, 0274, 0279, 0310, 0332, 024, 0266, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0262, 0268, 0262, 0262, 0262, 0268, 0262,								
Palsonic 0328 0094 Sanyo 0020, 0021, 0022, 0020, 0021, 0022, 0090, 0097 Soundwave 0268, 0271, 0274 Panama 0259, 0260, 0261, 0261, 0261, 0259, 0260, 0260, 0266, 0273, 0274, 0327, 0328 PROVIEW 0050, 0164 0141, 0191, 0243, 025 SSS 0090, 0104, 0225 Journal Panasonic 0006, 0007, 0066, 069, 069, 0700, 006, 0090, 0108, 0070, 0102, 0106, 0070, 0102, 0106, 0090, 0104, 0106, 0090, 0104, 0106, 0090, 0104, 0106, 0090, 0104, 0106, 0090, 0104, 0106, 0090, 0104, 0106, 0090, 0104, 0106, 0102, 0103, 0102, 0102, 0103, 0102, 0103, 0102	Palladium				Sansui		Soundesign	
Panama 0259, 0260, 0261, 0273, 0274, 0327, PROVIEW 0150 0049, 0065, 0090, 0104, 0265, 0090, 0273, 0274, 0274 SSS 0090, 0104, 0225 Panasonic 0060, 007, 0066, 0069, 0069, 0060, 0070, 0066, 0069,		0274, 0328	Proton	0072, 0077, 0090,		0274		0104, 0105, 0225
Panasonic 0273, 0274, 0327, PROVIEW 0050, 0164 0141, 0191, 0243, SSS 0090, 0104, 0225 0260, 0266, Standard 0260, 0261, 0262, 0260, 026	Palsonic	0328		0094	Sanyo	0020, 0021, 0022,	Soundwave	0268, 0271, 0274
Panasonic 0328 Provision 0271, 0274 0250, 0260, 0266, 0266, 0266, 0260, 0262, 0261, 0262, 0273, 0274, 0268, 0273, 0274, 0268, 0273, 0274, 0268, 0273, 0274, 0268, 0270, 0268, 0271, 0274, 0328, 0370, 0373, 0328, 0370, 0373, 0328, 0370, 0313, 0113, 0147, 0215, 0241, 0265, 0274, 0274, 0287, 0274, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0274, 0274, 0274, 0287, 0274,	Panama	0259, 0260, 0261,	Protron	0150		0049, 0065, 0090,	Squareview	0097
Panasonic 0328 Provision 0271, 0274 0250, 0260, 0266, 0266, 0266, 0260, 0262, 0261, 0262, 0273, 0274, 0268, 0273, 0274, 0268, 0273, 0274, 0268, 0273, 0274, 0268, 0270, 0268, 0271, 0274, 0328, 0370, 0373, 0328, 0370, 0373, 0328, 0370, 0313, 0113, 0147, 0215, 0241, 0265, 0274, 0274, 0287, 0274, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0274, 0274, 0274, 0287, 0274,		0273, 0274, 0327,	PROVIEW	0050, 0164		0141, 0191, 0243,	SSS	0090, 0104, 0225
Panasonic 0006, 0007, 0066, 0069, 0066, 0066, 0069, 0067, 0068, 0069, 0067, 0068, 0069, 0067, 0068, 0069, 0067, 0068, 0069, 0069, 0069, 0070, 00102, 0106, 0070, 0020, 0106, 0113, 0147, 0215, 0214, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0261, 0273, 0274 SBR 0271, 0274 Sternway 0270 Panavision 0274 Quelle 0259, 0260, 0268, 0268, 0268, 0260, 0268, 0260, 0268, 0271, 0274, 0287, 0287, 0288, 0290, 0274, 0288, 0290, 0274, 0288, 0290, 0274, 0288, 0290, 0274, 0288, 0290, 0274, 0288, 0290, 0274, 0288, 0290, 0274, 0288, 0290, 0274, 0288, 0290, 0288, 0289, 0284, 0287, 0274, 0288, 0289, 0284, 0288, 0289, 0284, 0								
Moord, 0068, 0069, 0069, 0070, 0102, 0106, 0070, 0102, 0106, 0296, 0338 Pye 0268, 0271, 0274, 0296, 0338 0391 Starlite 0104, 0225, 0271, 0274, 0113, 0147, 0215, 0271, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0241, 0265, 0274, 0273, 0275 SER 0271, 0274 0273, 0274 Panavision 0279, 0310, 0332, 0248 Quasar 0067, 0069, 0102, 0260, 0268, 0260, 0268, 0271, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0275, 0327 Schaub Lorenz 0266, 0260, 0262, 0268, 0271, 0274, 0287, 0274, 0287, 0274, 0287, 0275, 0327 Strato 0273, 0274 Panavision 0274 Quelle 0259, 0260, 0268, 0266, 0268, 0271, 0274, 0328 0300, 0328, 0364, 0364, 0368, 0374 Stylandia 0328 Pathe Cinema 0243, 0250, 0260, 0260, 0263, 0271, 0274, 0328 0366 Sunstar 0273, 0274 Pausa 0261, 0273 Radialva 0274 Scotch 0072, 0077 Sunwood 0261, 0268, 0273, 0274 Penney 0061, 0069, 0071, 036, 0079, 0096, 0225, 0274 Scotth 0072, 0077, 0090, 0072, 0077, 0090, 0274 Scotth 0072, 0077, 0090, 0274 Superla 0260, 0327, 0328 Perfickt 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 O094, 0094, 0096, 0091, 0094, 0096, 0091, 0094, 0099, 0104 0072, 0073, 0077, 0090, 0097, 0097, 0097, 0097, 0097, 0097, 0097, 0097, 0097, 0097, 0097, 0099, 0104 Supere Macy 0261, 0273	Panasonic							
0070, 0102, 0106,								
Name			- 50				Starlite	
Panavision 0241, 0265, 0274, 0279, 0310, 0332, 024sar Quandra Vision 0067, 0069, 0102, 0069, 0102, 0265 Stern 0264, 0265 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0262, 0268, 0264, 0267, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0061, 0069, 0071, 0274, 0274, 0287, 0061, 0069, 0071, 0274, 0287, 0064, 0072, 0077, 0096, 0274, 0287, 0077, 0096, 0274, 0287, 0077, 0096, 0274, 0287, 0074, 0287, 0274, 0274 Scotch 0072, 0077, 0090, 0077, 0090, 0274, 0274 Superscan 0095, 0224, 0266, 0274, 0287, 0274, 0328 Perfekt 0274 0072, 0088, 0090, 0072, 0088, 0090, 0091, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0094, 0097, 0091, 0094, 0096, 0243, 0328 Sears 0061, 0065, 0071, 0077,			Dryma:		CDD		Starrite	
Panavision 0279, 0310, 0332, Quasar 0067, 0069, 0102, Schaub Lorenz 0265 Stern 0264, 0265 0334, 0368, 0374 0106 Schneider 0260, 0262, 0268, Strato 0273, 0274 O273, 0274 O274, 0287 O271, 0274, 0287 O271, 0274, 0287 O271, 0274, 0287 O271, 0274, 0287 O300, 0328, 0364 Sunstar 0261, 0275, 0327 Questa 0266 O366 Sunstar 0273, 0274 O366 O366 O366 O366 O366, 0273, 0274 O366 O366 O366 O366, 0273, 0274 O366 O366 O366, 0273, 0274 O366 O366 O366, 0273, 0274 O366 O366 O366 O366, 0273, 0274 O377, 0096 O366, 0275, 0274 O372, 0077, 0096 O366, 0275, 0274 O372, 0077, 0096 O374, 0287 O374, 0287 O374, 0287 O374, 0327 O374 O374, 0327 O374, 03			•				C.	
Panavision 0274 Quelle 0259, 0260, 0268, 0271, 0274, 0287, 0274, 0274, 0287, 0274, 0274, 0287, 0072, 0077, 0090, 0274, 0077, 0090, 0077, 0096, 0096, 0225, 0274, 0096, 0225, 0274, 0094, 0104, 0105, 0274, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0274, 0287, 0287, 0			•				•	
Panavision 0274 Quelle 0259, 0260, 0268, 0269, 0260, 0268, 0271, 0274, 0287, 0300, 0328, 0364, 0275, 0327 Stylandia 0328 Pathe Cinema 0243, 0250, 0260, 0260, 0269, 0275, 0327 Questa 0266 0366 Sunstar 0273, 0274 Pausa 0261, 0273 Radialva 0274 Scotch 0072, 0077, 0090, 0274 Sunwood 0261, 0268, 0273, 0274 Penney 0061, 0069, 0071, 0096, 0077, 0096, 0077, 0096, 0096, 0225, 0274 Scott 0072, 0077, 0090, 0274 0274 0274 Perfido 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 Perfekt 0274 0072, 0085, 0090, 0094, 0099, 0104 0072, 0073, 0077, 0097, 00			Quasar			0265		
Pathe Cinema 0243, 0250, 0260, 0250, 0260, 0275, 0327 Questa 0266 0300, 0328, 0364, 0366 Sunkai 0261 Pausa 0261, 0273 Radialva 0274 Scotch 0072, 0077 Sunwood 0261, 0268, 0273, 0274 Penney 0061, 0069, 0071, 0069, 0071, 0077, 0069, 0077, 0		0334, 0368, 0374		0106	Schneider	0260, 0262, 0268,	Strato	0273, 0274
Pausa 0275, 0327 Questa 0266 0366 Sunstar 0273, 0274 Pausa 0261, 0273 Radialva 0274 Scotch 0072, 0077 Sunwood 0261, 0268, 0273, 0274 Penney 0061, 0069, 0071, RadioShack 0065, 0071, 0077, 0077, Scott 0072, 0077, 0090, 0274 Superla 0260, 0327, 0328 Perdio 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 Perfekt 0274 0072, 0085, 0090, 090, 0091, 0065, 0071, 0065, 0071, 0072, 0073, 0077, 0097, 0073, 0077, 0072, 0073, 0077, 0073, 0073, 0077, 0073, 0073, 0073, 0073, 0073, 0073, 0073, 0073, 0073, 0074, 0073, 0073, 0073, 0073, 0073, 0074, 0073, 0073, 0074, 0073, 0073, 0074, 0073, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 0073, 0074, 007	Panavision	0274	Quelle	0259, 0260, 0268,		0271, 0274, 0287,	Stylandia	0328
Pausa 0261, 0273 Radialva 0274 Scotch 0072, 0077, 0090, Sunwood 0261, 0268, 0273, 0274 Penney 0061, 0069, 0071, 0096 0096, 0225, 0274 0094, 0104, 0105, Superla 0260, 0327, 0328 Perdio 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 Perfekt 0274 0072, 0085, 0090, Sears 0061, 0065, 0071, SuperTech 0273, 0274, 0327 Philco 0072, 0088, 0090, 0094, 0099, 0104 0072, 0073, 0077, Supra 0261, 0273 0091, 0094, 0096, Radiola 0268, 0271, 0274, 0088, 0090, 0097, Supre-Macy 0107 0102, 0103, 0243, 0328 0328 0259, 0260, 0263, Susumu 0262 Phillarmonic 0260, 0328 Radiotone 0243, 0268, 0273, 0266, 0271, 0273, Sutron 0261, 0273 Phillps 0040, 0088, 0089, 0274 0266 0274, 0300, 0327, SVA 0197 0090, 0091, 0094, Rank 0266 0328 Sydney 0260, 0327, 0328 <td>Pathe Cinema</td> <td>0243, 0250, 0260,</td> <td></td> <td>0271, 0274, 0328</td> <td></td> <td>0300, 0328, 0364,</td> <td>Sunkai</td> <td>0261</td>	Pathe Cinema	0243, 0250, 0260,		0271, 0274, 0328		0300, 0328, 0364,	Sunkai	0261
Pausa 0261, 0273 Radialva 0274 Scotch 0072, 0077, 0090, Sunwood 0261, 0268, 0273, 0274 Penney 0061, 0069, 0071, 0096 0096, 0225, 0274 0094, 0104, 0105, Superla 0260, 0327, 0328 Perdio 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 Perfekt 0274 0072, 0085, 0090, Sears 0061, 0065, 0071, SuperTech 0273, 0274, 0327 Philco 0072, 0088, 0090, 0094, 0099, 0104 0072, 0073, 0077, Supra 0261, 0273 0091, 0094, 0096, Radiola 0268, 0271, 0274, 0088, 0090, 0097, Supre-Macy 0107 0102, 0103, 0243, 0328 0328 0259, 0260, 0263, Susumu 0262 Phillarmonic 0260, 0328 Radiotone 0243, 0268, 0273, 0266, 0271, 0273, Sutron 0261, 0273 Phillps 0040, 0088, 0089, 0274 0266 0274, 0300, 0327, SVA 0197 0090, 0091, 0094, Rank 0266 0328 Sydney 0260, 0327, 0328 <td></td> <td>0275, 0327</td> <td>Ouesta</td> <td>0266</td> <td></td> <td>0366</td> <td>Sunstar</td> <td>0273, 0274</td>		0275, 0327	Ouesta	0266		0366	Sunstar	0273, 0274
Penney 0061, 0069, 0071, 0096, 0071, 0096, 0077, 0096, 0096, 0225, 0274 Scott 0072, 0077, 0090, 0094, 0104, 0105, 0094, 0104, 0105, 0094, 0104, 0105, 0094, 0104, 0105, 0094, 0104, 0105, 0094, 0104, 0105, 0109, 0225 Superla 0260, 0327, 0328 Perdio 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 Perfekt 0274 0072, 0085, 0090, 0094, 0099, 0104 0072, 0073, 0077, 0073, 0077, 007	Pausa		-		Scotch			
Perdio 0077, 0096 0096, 0225, 0274 0094, 0104, 0105, 0104, 0105, 0104, 0105, 0104, 0105, 0104, 0105, 0104, 0105, 01024 Superla 0260, 0327, 0328 Perfickt 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 Philco 0072, 0088, 0090, 0072, 0088, 0090, 0094, 0099, 0104 0072, 0073, 0077,							Bunwood	
Perdio 0274, 0327 RadioShack/Realistic 0199, 0225 Superscan 0095, 0224 Perfekt 0274 0072, 0085, 0090, 0094, 0099, 0104 0061, 0065, 0071, 0097, 0073, 0077, 0073, 0077, 0073, 0077, 0099, 0099, 0091, 0094, 0099, 0091, 0094, 0099, 0091, 0094, 0099, 0105 Supra 0261, 0273 Pollco 0091, 0094, 0096, 0094, 0096, 0103, 0243, 0102, 0103, 0243, 0102, 0103, 0243, 0244, 0257, 0274 0099, 0105 Supre-Macy 0057, 0101 Philharmonic 0260, 0328 Radiotone 0243, 0268, 0273, 0266, 0271, 0273, 0266, 0271, 0273, 0274, 0300, 0327, 0264, 0264, 0273, 0264, 0274, 0300, 0327, 0274, 0300, 0327, 0264, 0328 Sydney 0260, 0327, 0328, 0266, 0327, 0328	1 chiley		Rudioonack		Scott		Superlo	
Perfekt 0274 0072, 0085, 0090, 0094, 0099, 0104 Sears 0061, 0065, 0071, 0065, 0071, 0273, 0274, 0327 SuperTech 0273, 0274, 0327 Philco 0072, 0088, 0090, 0091, 0094, 0096, 0094, 0099, 0104 00972, 0073, 0077, 0077, 0077, 0077, 0077, 0077 Supra 0261, 0273 0091, 0094, 0096, 0096, 0105, 0102, 0103, 0243, 0249, 0257, 0274 0328 0099, 0105 Supreme 0057, 0101 0249, 0257, 0274 Radiomarelli 0257, 0274 SEG 0259, 0260, 0263, 0263, 0264, 0273, 0266, 0271, 0273, 0274 Sutron 0261, 0273 Phillps 0040, 0088, 0089, 0091, 0094, 0094, 0094, 0094, 0094, 0266 0274, 0300, 0327, 0328 SVA 0197 0090, 0091, 0094, 0094, 0094, 0094, 0094, 0096, 0097, 0096, 0097, 0096, 0097, 0096, 0097, 0096, 0097, 0096, 0097, 0096, 0097, 0097, 0096, 0097, 0096, 0097	Dandia		D-41-01 172				•	
Philco 0072, 0088, 0090, 0091, 0094, 0099, 0104 0072, 0073, 0077, 0073, 0077, 0094, 0096, 0091, 0094, 0096, 0091, 0094, 0096, 0107 Supra 0261, 0273 0102, 0103, 0243, 0243, 0243, 0249, 0257, 0274 0328 0099, 0105 Supreme 0057, 0101 0249, 0257, 0274 Radiomarelli 0257, 0274 SEG 0259, 0260, 0263, 0263, 0264, 0273, 0266, 0271, 0273, 0266, 0271, 0273, 0266, 0271, 0273, 0274 Sutron 0261, 0273 Phillps 0040, 0088, 0089, 0090, 0091, 0094,			RadioSnack/Re		~			
0091, 0094, 0096, Radiola 0268, 0271, 0274, 0088, 0090, 0097, Supre-Macy 0107					Sears		•	
0102, 0103, 0243, 0328 0099, 0105 Supreme 0057, 0101	Philco						•	
Philharmonic 0249, 0257, 0274 Radiomarelli 0257, 0274 SEG 0259, 0260, 0263, Susumu 0262		0091, 0094, 0096,	Radiola	0268, 0271, 0274,		0088, 0090, 0097,	Supre-Macy	0107
Philharmonic 0249, 0257, 0274 Radiomarelli 0257, 0274 SEG 0259, 0260, 0263, Susumu 0262		0102, 0103, 0243,		0328		0099, 0105	Supreme	0057, 0101
Philharmonic 0260, 0328 Radiotone 0243, 0268, 0273, 0266, 0271, 0273, Sutron 0261, 0273 Philips 0040, 0088, 0089, 0274 0274, 0300, 0327, SVA 0197 0090, 0091, 0094, Rank 0266 0328 Sydney 0260, 0327, 0328		0249, 0257, 0274	Radiomarelli	0257, 0274	SEG	0259, 0260, 0263,	Susumu	0262
Philips 0040, 0088, 0089, 0274 0274, 0300, 0327, SVA 0197 0090, 0091, 0094, Rank 0266 0328 Sydney 0260, 0327, 0328	Philharmonic							
0090, 0091, 0094, Rank 0266 0328 Sydney 0260, 0327, 0328								
	r "		Rank					
5075, 5077, 5172, SEI U274				-200	SEI		o j ano j	5200, 0527, 0520
		3070, 0077, 0102,			JL1	J217		

C1:-	0072 0000 0000	T-:	0274	A 1	1022	Downsont	1072 1079
Sylvania	0072, 0088, 0089,	Triumph	0274	Adventura	1023 1090	Dumont Dumohamad	1072, 1078
	0090, 0091, 0095,	Uher	0243, 0249, 0265,	Adyson	1023, 1072, 1073,	Durabrand	1032
	0096, 0097, 0098, 0175, 0177, 0210	Liltrovov	0268, 0274	Aiwa	1023, 1072, 1073,	Dynatech	1023
C1:-		Ultravox	0257, 0260, 0263,	A 1:		Echostar	1064
Symphonic	0097, 0104, 0108,	TT T t	0274, 0327	Akai	1071, 1073	Elbe	1091
Crimtori	0133, 0210, 0225	Unic Line	0274	Akiba	1079, 1090	Eleatrohama	1090
Syntax	0149	United	0271	Akura	1073, 1079, 1090	Electrohome	1021
Syntax-Brillian	0149	Universum	0243, 0249, 0259,	Alba	1074, 1075, 1076,	Electrophonic	1021
Sysline	0271		0268, 0269, 0271,	4.1.	1079, 1090, 1091	Elsay	1090
Sytong	0327	** .	0274, 0328	Alienware	1066	Elta	1079, 1090, 1091
Tandy	0224, 0258, 0260,	Univox	0274	Ambassador	1076	Emerson	1021, 1022, 1023,
TP1-11	0262, 0265, 0328	Vector Research	0096	American High	1022	ECC	1070, 1090
Tashiko	0260, 0264, 0266,	Vestel	0264, 0265, 0268,	Amstrad	1072, 1090, 1091	ESC	1075, 1091
	0327, 0328		0269, 0271, 0274,	Anitech	1079, 1090	Etzuko	1079, 1090
Tatung	0102, 0227, 0260,	***	0328	Apex	1010	Expressvu	1064
	0268, 0271, 0274,	Vexa	0261, 0271, 0273,	ASA	1077, 1078	Ferguson	1073
TICL 4	0328	X.77	0274	Asha	1020	Fidelity	1072, 1090
TCM	0259, 0261	Victor	0093, 0266, 0268	Asuka	1072, 1077, 1078,	Finlandia	1078
Teac	0274, 0328	VIDEOLOGIC	0327	4 1: D :	1079, 1090	Finlux	1072, 1073, 1078
Tec	0260, 0261, 0273,	Videologique	0260, 0262, 0327,	Audio Dynamics	1018	Firstline	1074, 1077, 1079,
The standard	0328	V: 1 C	0328	Audiosonic	1091	F2:-1	1090
Technics	0067, 0069, 0106	VideoSystem	0268, 0274	Audiovox	1021	Fisher	1019
TechniSat	0320, 0417, 0418,	Videotechnic	0327, 0328	Baird	1072, 1073, 1075,	Flint	1074
m 1 1	0419	Vidikron	0088	D 0.01.0	1091	Formenti/Phoenix	1078
Techwood	0069, 0072, 0090,	Vidtech	0072, 0077, 0090,	Bang & Olufsen	1067	Frontech	1076
meder er	0106	***	0103	Basic Line	1074, 1075, 1076,	Fuji	1022
TEDELEX	0328	Viewsonic	0153, 0186, 0226,		1079, 1090, 1091	Fujitsu	1072
Teknika	0072, 0085, 0088,	* ***	0318	Baur	1078	Funai	1023, 1072
	0090, 0094, 0100,	Viking	0107	Beaumark	1020	Galaxy	1072
	0103, 0104, 0105,	Viore	0198	Bell & Howell	1019	Garrard	1023
m	0225	Visiola	0260, 0327	Bestar	1075, 1076, 1091	Gateway	1066
Teleavia	0267	Vision	0268, 0274, 0328	Black Panther l		GBC	1076, 1079
Telecor	0274, 0328	Vizio	0090, 0136, 0160,	D1 1.	1075, 1091	GE	1020, 1022
Telefunken	0267, 0268, 0272,		0227, 0420, 0421,	Blaupunkt	1078	GEC	1078
m	0274	**	0422, 0423, 0424	Bondstec	1076, 1090	Geloso	1079
Telegazi	0274	Vortec	0268, 0271, 0274	Broksonic	1054	General	1076
Telemeister	0274	Voxson	0249, 0257, 0264,	Bush	1074, 1075, 1079,	General Technic	
Telesonic	0274	XX7 1.1	0265, 0268, 0274		1090, 1091, 1097,	GOI	1064
Telestar	0274	Waltham	0260, 0274, 0328	C-1:	1099, 1109, 1139	GoldHand	1079, 1090
Teletech	0261, 0271, 0273,	Wards	0072, 0077, 0088,	Calix	1021	Goldstar	1018, 1021, 1072,
m 1 .	0274		0090, 0091, 0096,	Candle	1020, 1021	G 1	1077
Teleton	0260, 0328		0098, 0099, 0100,	Canon	1022	Goodmans	1072, 1075, 1076,
Televideon	0327	XX7 .	0103, 0105	Cathay	1091		1077, 1079, 1090,
Televiso	0275	Watson	0268, 0271, 0274	Catron	1076	C II .	1091
Tensai	0261, 0262, 0268,	Watt Radio	0260, 0263, 0327	CGE	1072, 1073	Gradiente	1023
T	0273, 0274, 0328	Waycon	0061	Cimline	1074, 1079, 1090	Graetz	1073
Tesmet Tevion	0268	Wega	0257, 0266, 0274	CineVision	1058	Granada	1078
	0259, 0261	Wegavox Weltblick	0273	Citizen	1020, 1021	Grandin	1072, 1075, 1076,
Texet	0260, 0273, 0327,	Wellblick	0268, 0271, 0274,	Clatronic	1076, 1090		1077, 1079, 1090,
Thomson	0328	W	0328	Colortyme	1018	C 1: -	1091 1078, 1079
Homson	0238, 0239, 0240,	Westinghouse White Westing	0057, 0138, 0142	Condor	1075, 1076, 1091	Grundig	,
	0260, 0267, 0268, 0272, 0274, 0335	winte westing		Craig	1020, 1021	Hanseatic	1077, 1078, 1091
Thorn	0272, 0274, 0333		0008, 0119, 0260, 0263, 0271, 0274,	Crown	1075, 1076, 1079, 1090, 1091	Harley Davidson Harman/Kardon	1023 1018
TMK	0072, 0077, 0090		0327	Curtis Mathes	1018, 1020, 1022	Harwood	1090
TNCi	0076	Wincom	0055, 0056	Cybernex	1020, 1020, 1022	HCM	1079, 1090
Tokai	0268, 0274, 0328	Xrypton	0274	CyberPower	1066	Headquarter	1019
Tokyo	0260, 0327	Yamaha	0000, 0001, 0002,	Daewoo	1023, 1075, 1076,	Hewlett Packard	1019
Tomashi	0270	Tamana	0003, 0004, 0005,	Dacwoo	1091, 1116, 1141	Hinari	1074, 1079, 1090,
Toshiba	0027, 0043, 0053,		0072, 0090, 0096,	Dansai	1079, 1090, 1091	Hillan	1074, 1079, 1090,
Tosinoa	0054, 0061, 0062,		0103	Dantax	1074	Hisawa	1074
	0063, 0064, 0065,	Yamishi	0274, 0328	Daytron	1074	Hitachi	
	0122, 0123, 0124,	Yokan	0274, 0328	DBX	1073, 1091	maciii	1072, 1073, 1078, 1089, 1108, 1124
	0128, 0130, 0132,	Yoko	0243, 0259, 0260,	De Graaf	1078	HNS	1060
	0139, 0214, 0244,	10.00	0261, 0262, 0268,	Decca	1073, 1073, 1078	Howard Compu	
	0266, 0283, 0305,		0271, 0273, 0274,	Dell	1066	110 mara Compt	1066
	0328, 0329, 0342,		0327, 0328	Denko	1090	HP	1066
	0350, 0352, 0353,	Yorx	0262	DiamondVision	1050	HTS	1064
	0354, 0375, 0404	Zanussi	0264, 0328	DigiFusion	1092	Hughes	1035, 1040, 1061
Totevision	0085	Zenith	0076, 0077, 0078,	DIRECTV	1035, 1038, 1040,	Hughes Networ	
Towada	0265, 0328		0079, 0090, 0100,	J	1059, 1060, 1061,	-1051100 1101 WOI	1038, 1060
Trakton	0328		0108, 0111		1065	Humax	1035, 1060, 1094
Trans Continens	0274, 0328		5100, 5111	Dish Network	1064	Hush	1066
Transtec	0327	VCR		Dishpro	1064	Hypson	1074, 1079, 1090,
Trident	0328	ABS	1066	Dual	1073, 1078, 1091	-1, 10011	1074, 1075, 1050,
					, 10/0, 10/1		~~ -

iBUYPOWER	1066	Multitech	1020, 1023, 1072,	Ricavision	1066	Telefunken	1073
Impego	1076		1076, 1078, 1079,	Roadstar	1075, 1077, 1079,	Teletech	1090, 1091
Imperial	1072		1090		1090, 1091	Tenosal	1079, 1090
Inno Hit	1075, 1076, 1078,	Murphy	1072	Royal	1090	Tensai	1072, 1077, 1079,
	1079, 1090, 1091	NEC	1018, 1019, 1073	Runco	1032		1090
Innovation	1074	Neckermann	1073, 1078	Saba	1073	Tevion	1074
Instant Replay	1022	NEI	1078	Saisho	1074, 1079	Thomson	1073, 1087
Interbuy	1077, 1090	Nesco	1079, 1090	Samsung	1006, 1020, 1038,	Thorn	1073
Interfunk	1077, 1090	Nikkai	1076, 1090, 1091	Samsung	1040, 1046, 1060,	Tivo	1035, 1036, 1037,
Intervision		Nikko				1100	
	1072, 1091		1021		1080, 1107, 1110,		1039, 1040, 1060,
Irradio	1077, 1079, 1090	Niveus Media	1066		1112, 1121, 1123,	TD ATZ	1061, 1062
ITT	1073	Noblex	1020	~ .	1140, 1142	TMK	1020
ITV	1075, 1077, 1091	Nokia	1073, 1091	Samurai	1076, 1090	Tokai	1077, 1079, 1090
JC Penney	1018, 1019, 1020,	Nordmende	1073	Sanky	1032	Tonsai	1079
	1021, 1022	Northgate	1066	Sansui	1033, 1056, 1069,	Toshiba	1004, 1005, 1034,
JCL	1022	Oceanic	1072, 1073		1073		1051, 1063, 1066,
JVC	1011, 1012, 1013,	Okano	1074, 1090, 1091	Sanyo	1019, 1020, 1114		1073, 1078, 1086,
	1014, 1015, 1016,	Olympus	1022	Saville	1091		1099, 1102, 1119,
	1017, 1018, 1019,	Optimus	1021	SBR	1078		1144
	1028, 1035, 1064,	Orion	1033, 1069, 1074,	Schaub Lorenz	1072, 1073	Totevision	1020, 1021
	1073, 1085, 1117,		1097, 1139	Schneider	1072, 1074, 1075,	Touch	1066
	1130, 1131, 1133,	Orson	1072		1076, 1077, 1078,	Towada	1079, 1090
	1134, 1135, 1136	Osaki	1072, 1077, 1079,		1079, 1090, 1091	Towika	1079, 1090
Kaisui	1079, 1090	Ostaci	1090	Sears	1019, 1021, 1022	TVA	1076
Karcher	1078	Otto Versand	1078	SEG	1079, 1090, 1091	Uher	1077
Karcher		Palladium				UltimateTV	1065
Kendo	1074, 1075, 1076,	Panadium	1073, 1077, 1079,	SEI-Sinudyne	1078		
77 1	1090	ъ .	1090	Seleco	1073	Ultravox	1091
Kenwood	1018, 1019, 1073	Panasonic	1007, 1008, 1009,	Sentra	1076, 1090	Unitech	1020
Kodak	1021, 1022		1022, 1026, 1042,	Sentron	1079, 1090	United Quick Star	1075, 1091
Korpel	1079, 1090		1043, 1068, 1082,	Sharp	1031, 1045, 1057,	Universum	1072, 1077, 1078
Kyoto	1090		1101, 1126, 1132		1081, 1115, 1137	Vector Research	
Lenco	1075	Pathe Marconi	1073	Shintom	1079, 1090	Video Concepts	1018
Leyco	1079, 1090	Perdio	1072	Shivaki	1077	Videon	1074
LG	1021, 1053, 1072,	Philco	1022, 1090	Shogun	1020	Videosonic	1020
	1077, 1088, 1100,	Philips	1022, 1030, 1035,	Siemens	1077	Viewsonic	1066
	1106, 1125, 1143		1038, 1039, 1040,	Silva	1077	Voodoo	1066
Lifetec	1074		1044, 1055, 1060,	Silver	1091	Wards	1020, 1021, 1022,
Linksys	1066		1078, 1084, 1095,	Singer	1022		1023
Lloyd's	1023		1096, 1104, 1105,	Sinudyne	1078	Weltblick	1077
Loewe Opta	1077, 1078		1111, 1113, 1122,	Solavox	1076	XR-1000	1022, 1023
Logik	1079, 1090		1124, 1127, 1128,	Sonic Blue	1041, 1068	Yamaha	1018, 1019
Lumatron	1075, 1090		1129, 1127, 1120,	Sonneclair	1090	Yamishi	1079, 1090
Luxor		Dhiling Magnayay	1030	Sonoko		Yokan	
	1090	Philips Magnavox			1075, 1091		1079, 1090
LXI M.Flastonovia	1021	Phonola	1078	Sontec	1077	Yoko	1076, 1077, 1079,
M Electronic	1072	Pilot	1021	Sony	1000, 1001, 1002,	7 11	1090
Magnavox	1022, 1032, 1044,	Pioneer	101/8 1118		1003, 1024, 1027,	Zenith	
			1078, 1118				1032
Magnin	1070	Polaroid	1010, 1049		1036, 1062, 1066,	ZT Group	1066
Magnin	1021	Polaroid Portland	1010, 1049 1075, 1076, 1091		1036, 1062, 1066, 1083, 1098, 1103,	ZT Group	
Manesth		Polaroid	1010, 1049		1036, 1062, 1066,		
	1021	Polaroid Portland	1010, 1049 1075, 1076, 1091	Stack	1036, 1062, 1066, 1083, 1098, 1103,	ZT Group	
Manesth	1021 1079, 1090	Polaroid Portland Prinz	1010, 1049 1075, 1076, 1091 1072	Stack Stack 9	1036, 1062, 1066, 1083, 1098, 1103, 1138	ZT Group DVD	1066
Manesth	1021 1079, 1090 1018, 1019, 1022,	Polaroid Portland Prinz Profex	1010, 1049 1075, 1076, 1091 1072 1079		1036, 1062, 1066, 1083, 1098, 1103, 1138 1066	ZT Group DVD 4Kus	2097
Manesth Marantz	1021 1079, 1090 1018, 1019, 1022, 1078	Polaroid Portland Prinz Profex Proline	1010, 1049 1075, 1076, 1091 1072 1079 1072	Stack 9	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066	ZT Group DVD 4Kus Accurian	2097 2220
Manesth Marantz Mark	1021 1079, 1090 1018, 1019, 1022, 1078 1091	Polaroid Portland Prinz Profex Proline Proscan	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065	Stack 9 Standard Stern	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091	DVD 4Kus Accurian Advent	2097 2220 2169, 2201 2312
Manesth Marantz Mark Marta	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032	Stack 9 Standard Stern STS	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091	DVD 4Kus Accurian Advent AEG Airis	2097 2220 2169, 2201
Manesth Marantz Mark Marta Matsui Matsushita	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078	Stack 9 Standard Stern STS Sunkai	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074	DVD 4Kus Accurian Advent AEG Airis Aiwa	2097 2220 2169, 2201 2312 2318 2272
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019	Stack 9 Standard Stern STS Sunkai Sunstar	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072	DVD 4Kus Accurian Advent AEG Airis	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225,
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quasar	1010, 1049 1075, 1076, 1091 1072 1079 1065 1074, 1091 1032 1052, 1078 1019 1019	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1075, 1091 1091 1022 1074 1072 1072 1079, 1090	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1074	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quasar Quelle	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1075, 1091 1091 1022 1074 1072 1072 1079, 1090 1070	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247,
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021,	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quasar Quelle Radialva	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1072 1079, 1090 1070 1022, 1023, 1044,	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032,	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quasar Quelle Radialva RadioShack	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1092 1074 1072 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072,	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quasar Quelle Radialva	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1092 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1090	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072,	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quasar Quelle Radialva RadioShack	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 1021 1021 1021 1021 1021 1021	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1090 1066	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quasar Quelle Radialva RadioShack/Res	1010, 1049 1075, 1076, 1091 1072 1079 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1090 1066 1066	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quasar Quelle Radialva RadioShack RadioShack/Res	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1090 1066 1066 1074	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quartz Quasar Quelle Radialva RadioShack RadioShack/Rea	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1091	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1091 1066 1074 1091	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks 2145
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx Microsoft	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1066	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quastar Quelle Radialva RadioShack RadioShack/Rea	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1078	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1090 1066 1066 1074 1091 1019	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quartz Quasar Quelle Radialva RadioShack RadioShack/Rea	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1091	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy Tashiko	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1091 1066 1074 1091	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks 2145
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx Microsoft Microstar Migros	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1066	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quastar Quelle Radialva RadioShack RadioShack/Rea	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1078	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1090 1066 1066 1074 1091 1019	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 2312 2312 2318
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx Microsoft Microstar	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1066	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quastar Quelle Radialva RadioShack RadioShack/Rea	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1078 1078	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy Tashiko	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1092 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1090 1066 1066 1074 1091 1019 1021, 1072	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 24Works 2145, 2313 2044, 2045, 2046,
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx Microsoft Microstar Migros	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1076 1074 1072	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quastar Quelle Radialva RadioShack RadioShack/Rea	1010, 1049 1075, 1076, 1091 1072 1079 1079 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1021 1021 1021 1021 1021 1021, 1024, 1025, 1035, 1040, 1047,	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy Tashiko Tatung	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1092 1072 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1066 1066 1074 1091 1019 1021, 1072 1079 1070 1070 1070 1070 1070 1070 1070	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks 2145 2145, 2313 2044, 2045, 2046, 2047, 2076, 2208,
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx Microsoft Microstar Migros Mind	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1066	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quartz Qualle Radialva RadioShack RadioShack/ReadioShac	1010, 1049 1075, 1076, 1091 1072 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1021 1021 1021 1021 1021 1020, 1022, 1025, 1035, 1040, 1047, 1060, 1065	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy Tashiko Tatung TCM	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1092 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1066 1066 1074 1091 1019 1019 1019 1019 1021, 1072 1072, 1073, 1074, 1091 1019 1021, 1072 1073, 1078 1074, 1093, 1120	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2315 2312 aWorks 2145 2145, 2313 2044, 2045, 2046, 2047, 2076, 2208, 2209
Manesth Marantz Mark Marta Matsus Matsushita Media Center PC Mediator Mediator Melion MEI Memorex Memphis MGN Technology Micromaxx Microsoft Microstar Migros Mind Mitsubishi	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1066 1074 1066 1074 1072 1066 1072, 1072, 1078	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quartz Qualle Radialva RadioShack RadioShack/ReadioShac	1010, 1049 1075, 1076, 1091 1072 1079 1079 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1021 1021 1021 1021 1021 1021, 1022, 1025, 1035, 1040, 1047, 1060, 1065 1019, 1020, 1021, 1020, 1021, 1021, 1022, 1023	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy Tashiko Tatung TCM Teac	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1090 1066 1066 1074 1091 1019 1021, 1072 1072, 1073, 1078 1074, 1093, 1078 1074, 1093, 1091	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media AMW Apex	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks 2145, 2313 2044, 2045, 2046, 2047, 2076, 2208, 2209 2163
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx Microsoft Microstar Migros Mind Mitsubishi Motorola	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1066 1074 1072 1066 1074 1072 1066 1074 1072 1066 1074 1072 1066 1079, 1072, 1078 1022	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quartz Quasar Quelle Radialva RadioShack RadioShack/Rea RadioLa Radix Randex RCA	1010, 1049 1075, 1076, 1091 1072 1079 1079 1072 1065 1074, 1091 1032 1052, 1078 1019 1019 1019 1021 21072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1021 1021, 1020, 1021, 1022, 1023 1041, 1068	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy Tashiko Tatung TCM Teac Tec	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1091 1019 1021, 1072 1072 1072 1074 1091 1019 1021, 1072 1072, 1073, 1078 1074, 1093, 1120 1023, 1091 1076, 1090, 1091 1022	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media AMW Apex Apple Arrgo Asono	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks 2145, 2313 2044, 2045, 2046, 2047, 2076, 2208, 2209 2163 2216 2318
Manesth Marantz Mark Marta Matsui Matsushita Media Center PC Mediator Medion MEI Memorex Memphis MGN Technology Micromaxx Microsoft Microstar Migros Mind Mitsubishi Motorola	1021 1079, 1090 1018, 1019, 1022, 1078 1091 1021 1074, 1077 1022 1066 1078 1074 1022 1019, 1020, 1021, 1022, 1023, 1032, 1048, 1069, 1072, 1077 1079, 1090 1020 1074 1066 1074 1072 1066 1074 1072 1066 1074 1072 1066 1074 1072 1066 1079, 1072, 1078 1022	Polaroid Portland Prinz Profex Proline Proscan Prosonic Pulsar Pye Quarter Quarter Quartz Quelle Radialva RadioShack RadioShack/Rea Radiola Radix Randex RCA	1010, 1049 1075, 1076, 1091 1072 1079 1079 1065 1074, 1091 1032 1052, 1078 1019 1019 1022 1072, 1078 1090 1021 alistic 1019, 1020, 1021, 1022, 1023 1078 1021 1021 1020, 1022, 1025, 1035, 1040, 1047, 1060, 1065 1019, 1020, 1021, 1022, 1023	Stack 9 Standard Stern STS Sunkai Sunstar Suntronic Sunwood Superscan Sylvania Symphonic Systemax Tagar Systems Taisho Tandberg Tandy Tashiko Tatung TCM Teac Tec Technics	1036, 1062, 1066, 1083, 1098, 1103, 1138 1066 1066 1075, 1091 1091 1022 1074 1072 1079, 1090 1070 1022, 1023, 1044, 1052, 1070 1023, 1044, 1091 1019 1021, 1072 1072 1074 1091 1019 1021, 1072 1072, 1073, 1078 1074, 1093, 1120 1023, 1091 1076, 1090, 1091	DVD 4Kus Accurian Advent AEG Airis Aiwa Akai Akura Alba Alco Alize Allegro Amitech Amphion Media AMW Apex Apple Arrgo	2097 2220 2169, 2201 2312 2318 2272 2170, 2195, 2225, 2227 2310 2018, 2232, 2247, 2259, 2264 2199 2315 2215 2312 aWorks 2145, 2313 2044, 2045, 2046, 2047, 2076, 2208, 2209 2163 2216

ATACOM	2318	Enzer	2302	LG	2080, 2107, 2115,		2252, 2256, 2260,
Audiovox	2111, 2199	Epson	2165	LO	2116, 2141, 2188,		2268, 2282, 2332,
Avious	2317	ESA	2219		2211, 2215, 2237,		2333, 2343, 2344,
Awa	2313	Finlux	2304, 2312, 2317		2239, 2285, 2293,		2345, 2367, 2371,
Axion	2171	Fintec	2299		2295, 2348, 2370		2373, 2380, 2382,
Bang & Olufsen	2210	Fisher	2212	Life	2228		2385
Baze	2317	Funai	2219	Lifetec	2228	Phonotrend	2317
BBK	2318	Gateway	2097	Limit	2305	Pioneer	2012, 2013, 2014,
Bellagio	2313	GE	2079, 2206, 2209	Liquid Video	2204		2063, 2064, 2065,
Best Buy	2309	Gericom	2269	Liteon	2097, 2121, 2220		2066, 2067, 2113,
Blaupunkt	2209	GFM	2176	Loewe	2274		2134, 2207, 2230,
Blue Parade	2207	Giec	2300	LogicLab	2305		2236, 2265, 2266,
Boghe	2300	Global Solutions	2305	Magnavox	2075, 2096, 2178,		2267, 2297, 2322,
Brainwave	2312	Global Sphere	2305	Ü	2180, 2196, 2205,		2351, 2352, 2353,
Brandt	2198, 2238	Go Video	2135, 2215		2219, 2308		2354, 2355, 2356,
Broksonic	2192, 2195	Goodmans	2247, 2289, 2298,	Magnex	2317		2357, 2358, 2359,
Bush	2018, 2060, 2248,		2300, 2308, 2330,	Majestic	2314		2377
	2264, 2301, 2308,		2369	Marantz	2282	Pointer	2312
	2317, 2350, 2368	GPX	2177	Marquant	2312	Polaroid	2047, 2133, 2185
California Aud		Gradiente	2197	Matsui	2198, 2296	Portland	2312
	2197	Graetz	2302	McIntosh	2149	Powerpoint	2313
Cambridge Audio	2304	Greenhill	2209	Mecotek	2312	Prima	2174
CAT	2306, 2307	Grundig	2271	Medion	2228	Proceed	2208
CAVS	2146	Grunkel	2312, 2316	Memorex	2078, 2184, 2195	Proscan	2206
Centrum	2307	GVG	2299	MiCO	2300, 2304	Prosonic	2299, 2314
CGV	2304, 2312	H&B	2308	Micromaxx	2228	Protron	2152
Changhong	2222	H_her	2318	Microsoft	2206	Provision	2308
Cinetec	2313	Haaz	2304, 2305	Microstar	2228	Pye	2194
CineVision	2191, 2215	Haier	2172	Minoka	2312	Qwestar	2198
Clatronic	2308, 2317	Harman/Kardon	2125, 2213	Minowa	2317	Raite	2302
Coby	2077, 2124, 2314	HiMAX	2309	Mintek	2167, 2209	RCA	2058, 2059, 2071,
Conia	2301	Hitachi	2008, 2033, 2108,	Mitsubishi	2081		2079, 2183, 2199,
Continental Ed	ison		2302, 2309, 2320,	Mizuda	2308, 2309		2206, 2207, 2209
	2313		2366	Monyka	2302	RedStar	2310, 2312, 2314
Crown	2312	Hiteker	2208	Mustek	2232	Regent	2203
C-Tech	2305	Home Tech Ind	lustries	Mx Onda	2304	Reoc	2305
Curtis Mathes	2217		2318	Mystral	2316	Rimax	2315
CVG	2299	Hyundai	2316	Naiko	2312	Rio	2215
CyberHome	2048, 2068, 2216,	Ilo	2167	Nesa	2209	Roadstar	2281, 2308
	2233, 2258	Initial	2167, 2209	Neufunk	2302	Ronin	2313
Cytron	2166	Innovation	2228	Nevir	2312	Rotel	2153
Daenyx	2313	Insignia	2080, 2175, 2219	Next Base	2221	Rowa	2200, 2301
Daewoo	2083, 2215, 2280,	Integra	2207	Nexxtech	2161	Rownsonic	2307
	2299, 2312, 2313,	Irradio	2103	NU-TEC	2301	Saba	2198, 2238
	2326, 2376	iSymphony	2164	Onkyo	2205, 2290	Sabaki	2305
Daewoo Interna	ational	JBL	2213	Oomlo			
	2313			Oopla	2097	Saivod	2312
Dalton		JVC	2049, 2050, 2051,	Oppo	2150, 2173	Saivod Sampo	2312 2223
D :	2311	JVC		Oppo Optim	2150, 2173 2303		
Dansai	2311 2303, 2312	JVC	2049, 2050, 2051,	Oppo	2150, 2173	Sampo	2223
Daytek	2303, 2312 2145, 2234, 2313	JVC	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261,	Oppo Optim Optimus Orava	2150, 2173 2303 2230 2308	Sampo	2223 2031, 2032, 2033,
Daytek Dayton	2303, 2312 2145, 2234, 2313 2313	JVC	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277,	Oppo Optim Optimus Orava Orbit	2150, 2173 2303 2230 2308 2313	Sampo	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197,
Daytek	2303, 2312 2145, 2234, 2313	JVC	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261,	Oppo Optim Optimus Orava	2150, 2173 2303 2230 2308	Sampo	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138,
Daytek Dayton DEC Decca	2303, 2312 2145, 2234, 2313 2313 2308 2312	JVC	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386,	Oppo Optim Optimus Orava Orbit Orion Oritron	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204	Sampo	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349,
Daytek Dayton DEC	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197,	JVC	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390,	Oppo Optim Optimus Orava Orbit Orion Oritron P&B	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308	Sampo Samsung	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381
Daytek Dayton DEC Decca Denon	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286		2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305	Sampo	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304,
Daytek Dayton DEC Decca	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310,	Jwin	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2239, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148	Oppo Optim Optimus Orava Orbit Orion Oritron P&B	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017,	Sampo Samsung Sansui	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312
Daytek Dayton DEC Decca Denon	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314	Jwin Kansai	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038,	Sampo Samsung	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212,
Daytek Dayton DEC Decca Denon Denver Denzel	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302	Jwin Kansai Kawasaki	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041,	Sampo Samsung Sansui Sanyo	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374
Daytek Dayton DEC Decca Denon Denver Denzel Desay	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159	Jwin Kansai Kawasaki Kennex	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074,	Sampo Samsung Sansui Sanyo ScanMagic	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305	Jwin Kansai Kawasaki Kennex Kenwood	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2379, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2312	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131, 2132, 2197, 2205,	Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2312 2308	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246,	Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2379, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 23314 2199 2312 2123, 2197, 2270 2312 2123, 2197, 2270 2312 2308 2302	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255,	Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2379, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2312 2312 2308 2302 2199, 2209	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324,	Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305,
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2312 2308 2308 2308	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2329,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2302	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2308 2302 2199, 2209 2308 2095, 2198, 2204	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2329, 2331, 2383, 2388	Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084,
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX Easy Home	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2305 2309	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss KXD	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2308 2302 2199, 2209 2308 2095, 2198, 2204 2309	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2102, 2108, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2329, 2331, 2388, 2151	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084, 2122, 2142, 2143,
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX Easy Home Eclipse	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2305 2309 2304	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss KXD Landel	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2312 2308 2302 2199, 2209 2308 2095, 2198, 2204 2309 2221	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2329, 2331, 2388, 2151 2318	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084, 2122, 2143, 2144, 2181, 2190,
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX Easy Home Eclipse E-Dem	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2305 2309 2304 2318	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss KXD Landel Lasonic	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2277, 2278, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2312 2308 2302 2199, 2209 2308 2095, 2198, 2204 2309 2221	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2331, 2388, 2151 2318 2026, 2061, 2062,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG Sharp	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2311 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084, 2122, 2142, 2143, 2144, 2181, 2190, 2228, 2262, 2375
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX Easy Home Eclipse E-Dem Electrohome	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2305 2309 2304 2318 2312	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss KXD Landel Lasonic Lawson	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2312 2308 2302 2199, 2209 2308 2095, 2198, 2204 2309 2221 2214 2305	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2329, 2331, 2383, 2388 2151 2318 2026, 2061, 2062, 2075, 2090, 2094,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG Sharp Shinsonic	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084, 2122, 2142, 2143, 2144, 2181, 2190, 2228, 2262, 2375 2167
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX Easy Home Eclipse E-Dem Electrohome Elin	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2305 2309 2304 2318 2312 2312	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss KXD Landel Lasonic Lawson Lecson	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 21199 2312 2123, 2197, 2270 2312 2312 2308 2309 2209, 2308 2095, 2198, 2204 2309 2221 2214 2305 2303	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2329, 2331, 2388 2151 2318 2026, 2061, 2062, 2075, 2090, 2094, 2096, 2097, 2103,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG Sharp Shinsonic Sigmatek	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084, 2122, 2142, 2143, 2144, 2181, 2190, 2228, 2262, 2375 2167 2309, 2318
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX Easy Home Eclipse E-Dem Electrohome Elin Elta	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2305 2309 2304 2318 2312 2312 2312 2263, 2312, 2315	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss KXD Landel Lasonic Lawson Lecson Lenco	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 2199 2312 2123, 2197, 2270 2312 2308 2095, 2198, 2204 2309 2221 2214 2305 2303 2308, 2312, 2317	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2108, 2112, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2255, 2292, 2321, 2324, 2327, 2328, 2329, 2331, 2383, 2388 2151 2318 2026, 2061, 2062, 2075, 2090, 2094, 2096, 2097, 2103, 2110, 2126, 2180,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG Sharp Shinsonic Sigmatek Silva	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084, 2122, 2142, 2143, 2144, 2181, 2190, 2228, 2262, 2375 2167 2309, 2318 2310
Daytek Dayton DEC Decca Denon Denver Denzel Desay Diamond DiamondVision Disney DK Digital Dmtech Dual Durabrand DVX Easy Home Eclipse E-Dem Electrohome Elin	2303, 2312 2145, 2234, 2313 2313 2308 2312 2105, 2147, 2197, 2286 2288, 2308, 2310, 2314 2302 2159 2304, 2305 2179, 2186 2078, 2088 2257 2226 2302 2218 2305 2309 2304 2318 2312 2312	Jwin Kansai Kawasaki Kennex Kenwood KeyPlug Kiiro Kingavon Kiss KLH Koda Koss KXD Landel Lasonic Lawson Lecson	2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2070, 2242, 2261, 2275, 2276, 2339, 2340, 2341, 2342, 2386, 2387, 2389, 2390, 2391 2148 2314 21199 2312 2123, 2197, 2270 2312 2312 2308 2309 2209, 2308 2095, 2198, 2204 2309 2221 2214 2305 2303	Oppo Optim Optimus Orava Orbit Orion Oritron P&B Pacific Panasonic	2150, 2173 2303 2230 2308 2313 2027, 2060 2198, 2204 2308 2305 2015, 2016, 2017, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2074, 2089, 2104, 2120, 2131, 2132, 2197, 2205, 2244, 2245, 2246, 2253, 2254, 2255, 2292, 2321, 2324, 2327, 2328, 2329, 2331, 2388 2151 2318 2026, 2061, 2062, 2075, 2090, 2094, 2096, 2097, 2103,	Sampo Samsung Sansui Sanyo ScanMagic Schaub Lorenz Schneider Scientific Labs Scott Seeltech SEG Sharp Shinsonic Sigmatek	2223 2031, 2032, 2033, 2034, 2035, 2082, 2127, 2137, 2138, 2154, 2182, 2197, 2283, 2319, 2325, 2346, 2347, 2349, 2372, 2381 2027, 2195, 2304, 2305, 2312 2139, 2195, 2212, 2374 2232 2312 2226 2305 2243, 2311 2318 2240, 2302, 2305, 2313 2009, 2010, 2084, 2122, 2142, 2143, 2144, 2181, 2190, 2228, 2262, 2375 2167 2309, 2318

Skyworth							
Dity worth	2310	Woxter	2315, 2318	Alcatel	3066	Movie Time	3031, 3063
Slim Art	2312	Xbox	2206, 2229	Americast	3046	Mr Zapp	3055
SM Electronic	2305	Xlogic	2305, 2312	Amstrad	3048, 3068	Multichoice	3057
Sonic Blue	2215	XMS	2312	Antronix	3019, 3020	Multitech	3045
Sontech	2316	Xoro	2300	Archer	3020	NEC	3018
						NET Brazil	3007
Sony	2005, 2006, 2007,	Yamada	2097, 2313, 2315	Arcon	3048		
	2020, 2021, 2022,	Yamaha	2000, 2001, 2002,	AT&T	3013	Nokia	3051
	2023, 2024, 2025,		2003, 2011, 2018,	Axis	3048	Noos	3055
	2069, 2072, 2073,		2019, 2036, 2106,	Bell South	3046	NSC	3031
	2085, 2086, 2087,		2197, 2273	Cable Vision	3014	Oak	3024
	2091, 2092, 2093,	Yamakawa	2302, 2313	Cabletenna	3019	Pace	3011, 3043, 3084
	2102, 2128, 2129,	Yukai	2232	Cabletime	3058	Palladium	3049
	2130, 2249, 2250,	Zenith	2080, 2141, 2205,	Cableview	3005	Panasonic	3034, 3036, 3040
		Zemui					
	2323, 2334, 2335,		2211, 2215	Clearmaster	3045	Paragon	3040
	2336, 2360, 2361,	Blu-ray D	iec	ClearMax	3045	Philips	3021, 3022, 3029,
	2362, 2363, 2364,	-		Clyde Cablevis			3049, 3053, 3054,
	2365, 2384	LG	2115		3059		3055
Soundmaster	2305	Panasonic	2089, 2131, 2132	Colour Voice	3022	Pioneer	3012, 3032, 3038,
Soundmax	2305	Pioneer	2134	Comcast	3006, 3010, 3039		3042, 3048, 3083,
Spectra	2313	Samsung	2035, 2127	Comcrypt	3057		3084
Spectroniq	2155	Sharp	2142, 2143, 2144	Comtronics	3023	Popular Mecha	
Standard	2305	•		Contec		i opulai Meena	3044
		Sony	2025		3024		
Star Cluster	2305	Yamaha	2018	Coolmax	3045	Proscan	3015, 3016
Starmedia	2308, 2318	DVR		COX	3006	Pulsar	3040
Sungale	2158	שעם		Cryptovision	3060	PVP Stereo Vis	sual Matrix
Sunkai	2312	Bush	2060	Director	3006		3064
Superscan	2196	Panasonic	2037, 2038, 2039,	Eastern	3025	Quasar	3040
Supervision	2305		2040, 2041, 2042	Everquest	3041	RadioShack	3041, 3045
Sylvania	2094, 2180, 2189,	Philips	2061, 2062	Fidelity	3048	RCA	3005, 3036, 3076,
Syrvaina	2196, 2219, 2224	Pioneer		Filmnet	3057	ICH	3077
C1		FIORECI	2063, 2064, 2065,			D11-41-	
Symphonic	2062, 2180		2066, 2067	Filmnet Cablec		Realistic	3020
Synn	2305	RCA	2059		3061	Recoton	3044
T.D.E. Systems	2316	Samsung	2035	Filmnet Comer		Regal	3028
Tatung	2083, 2312	Yamaha	2036		3061	Regency	3025
TCM	2228, 2379	DVD D		Finlux	3051	Rembrandt	3016
Teac	2199, 2287, 2301,	DVD Reco	oraer	Focus	3044	Runco	3040
	2305	Aspire	2140	Foxtel	3068	Sagem	3055
Tec	2310	Astar	2162	France Telecom	3054, 3055	Samsung	3011, 3023, 3032,
Technics		Broksonic	2192	Freebox	3069	Sumsung	3042
	2197					SAT	
Technika	2312, 2317	Go Video	2135	GC Electronics	3020		3048
Telefunken	2307	Hitachi	2108	GE	3015, 3016	Scientific Atlanta	3003, 3004, 3011,
				GE GEC			
Telefunken	2307	Hitachi	2108	GE	3015, 3016		3003, 3004, 3011,
Telefunken Tensai	2307 2312	Hitachi Insignia	2108 2080	GE GEC	3015, 3016 3059 3026, 3041		3003, 3004, 3011, 3012, 3013, 3062,
Telefunken Tensai Tevion Theta Digital	2307 2312 2228, 2305, 2311 2207	Hitachi Insignia Irradio	2108 2080 2103 2054, 2055, 2056,	GE GEC Gemini	3015, 3016 3059 3026, 3041 nent		3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083,
Telefunken Tensai Tevion	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284,	Hitachi Insignia Irradio JVC	2108 2080 2103 2054, 2055, 2056, 2057	GE GEC Gemini	3015, 3016 3059 3026, 3041 nent 3006, 3008, 3016,	Scientific Atlanta	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084
Telefunken Tensai Tevion Theta Digital Thomson	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294	Hitachi Insignia Irradio	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141,	GE GEC Gemini	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067,	Scientific Atlanta Signal	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041
Telefunken Tensai Tevion Theta Digital Thomson	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310	Hitachi Insignia Irradio JVC LG	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188	GE GEC Gemini General Instrur	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075	Scientific Atlanta Signal Signature	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318	Hitachi Insignia Irradio JVC LG Liteon	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121	GE GEC Gemini General Instrur	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042	Scientific Atlanta Signal Signature Sony	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047
Telefunken Tensai Tevion Theta Digital Thomson	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027,	Hitachi Insignia Irradio JVC LG	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039,	GE GEC Gemini General Instrur Goldstar Gooding	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049	Signal Signature Sony Sprucer	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030,	Hitachi Insignia Irradio JVC LG Liteon	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043,	GE GEC Gemini General Instrur Goldstar Gooding Grundig	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049	Scientific Atlanta Signal Signature Sony	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 conent
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027,	Hitachi Insignia Irradio JVC LG Liteon	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108,	GE GEC Gemini General Instrur Goldstar Gooding	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028	Signal Signature Sony Sprucer	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 conent 3033
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117,	Hitachi Insignia Irradio JVC LG Liteon	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112	GE GEC Gemini General Instrur Goldstar Gooding Grundig	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049	Signal Signature Sony Sprucer	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100,	Hitachi Insignia Irradio JVC LG Liteon	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 conent 3033
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117,	Hitachi Insignia Irradio JVC LG Liteon Panasonic	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 soonent 3033 3026, 3037, 3041,
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205,	Hitachi Insignia Irradio JVC LG Liteon Panasonic	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338,	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 ponent 3033 3026, 3037, 3041, 3067 3026, 3041 3026, 3041
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051	Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 conent 3033 3026, 3037, 3041, 3067 3026, 3041 3026, 3041 3008
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 20011 3026, 3037, 3041, 3067 3026, 3041 3026, 3041 3028, 3041 3008 3045
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313, 2317	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3051 3041 306, 3008, 3016,	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 conent 3033 3026, 3037, 3041, 3067 3026, 3041 3026, 3041 3026, 3041 3026, 3041 3008 3045 3057, 3061
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313, 2317	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3024, 3029 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3060, 3008, 3016, 3026, 3037, 3041,	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 ents 2313, 2317 2317	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3049, 3041, 3061, 3071 3051	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3006, 3041 3006, 3045 3057, 3061 3057 3000, 3009
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313, 2317	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3066, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 ents 2313, 2317 2317	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3006, 3041 3006, 3045 3057, 3061 3057 3000, 3009
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 ents 2313, 2317 2317 2312 2160	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Superrax Tele+1 Telepiu Thomson TIME WARNER	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313, 2317 2317 2317 2312 2160 2309	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3016, 3014, 3016, 3014, 3047, 3036, 3081, 3067, 3026, 3041, 3026, 3041, 3026, 3041, 3026, 3041, 3008, 3045, 3057, 3061, 3057, 3061, 3057, 3060, 3009, 3006, 3017
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313 2317 2317 2317 2317 2317 2312 2160 2309 2318 2315	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 3043, 3073, 3074	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 conent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006 3017 3067 3040
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313, 2317 2317 2312 2160 2309 2318 2315 2317	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 306, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200ent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 ents 2313, 2317 2317 2317 2317 2318 2318 2318 2317 2317 2317 2317 2317 2317 2317 2317	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3066, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074 3055 3029	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045 3052
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 ents 2313, 2317 2312 2160 2309 2318 2315 2317 2205 2167	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3066, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074 3055 3029 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Superrax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045 3052 3026, 3041
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2317 2317 2312 2160 2309 2318 2315 2317 2205 2167 2199	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117,	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041, 3016, 3014, 3047, 3036, 3081, 3087, 3041, 3067, 3026, 3041, 3067, 3026, 3041, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3061, 3057, 3067, 3040, 3045, 3052, 3026, 3041, 3031
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer Viewmaster	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2318 2313, 2317 2317 2312 2160 2309 2318 2315 2317 2205 2317 2205 2167 2199 2318	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui MegaCable	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 3049 3049 3049 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86 Unika	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 conent 3033 3026, 3041, 3067 3026, 3041 3026, 3041 3057, 3061 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045 3052 3026, 3041 3031 3019, 3020
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer Viewmaster Vocopro	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313 2317 2317 2312 2160 2309 2318 2315 2317 2205 2167 2199 2318 2156	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba Yamaha Cable	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119 2106	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui MegaCable Memorex	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 306, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074 3055 3029 3049 3049 3049 3039 3030, 3040	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86 Unika United Cable	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 conent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045 3052 3026, 3041 3052 3026, 3041 3052 3026, 3041 3057 3040 3045 3057 3040 3045 3057 3040 3045 3057 3040 3045 3057 3040 3045 3052 3026, 3041 3031 3019, 3020 3037, 3064
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer Viewmaster Vocopro VocoStar	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2318 2313, 2317 2317 2312 2160 2309 2318 2315 2317 2205 2317 2205 2167 2199 2318	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui MegaCable	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 3049 3049 3049 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86 Unika	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 conent 3033 3026, 3041, 3067 3026, 3041 3026, 3041 3057, 3061 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045 3052 3026, 3041 3031 3019, 3020
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer Viewmaster Vocopro	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313 2317 2317 2312 2160 2309 2318 2315 2317 2205 2167 2199 2318 2156	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba Yamaha Cable	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119 2106	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui MegaCable Memorex	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 306, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074 3055 3029 3049 3049 3049 3039 3030, 3040	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86 Unika United Cable	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041 3016 3014, 3047 3036 conent 3033 3026, 3037, 3041, 3067 3026, 3041 3008 3045 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045 3052 3026, 3041 3052 3026, 3041 3052 3026, 3041 3057 3040 3045 3057 3040 3045 3057 3040 3045 3057 3040 3045 3057 3040 3045 3052 3026, 3041 3031 3019, 3020 3037, 3064
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer Viewmaster Vocopro VocoStar	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313, 2317 2312 2160 2309 2318 2315 2317 2205 2167 2199 2318 2156 2157	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba Yamaha Cable	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119 2106	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui MegaCable Memorex Minerva	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3064, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074 3055 3029 3049 3049 3039 3030, 3040 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86 Unika United Cable Universal	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3016, 3014, 3016, 3014, 3047, 3036, 3081, 3086, 3087, 3041, 3067, 3026, 3041, 3008, 3045, 3057, 3061, 3057, 3060, 3017, 3067, 3067, 3067, 3067, 3067, 3067, 3067, 3067, 3077,
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer Viewmaster Vocopro VocoStar Waitec Welltech	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2317 2317 2312 2160 2309 2318 2315 2317 2205 2167 2199 2318 2156 2157 2318 2300	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba Yamaha Cable ABC	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119 2106	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui MegaCable Memorex Minerva Mnet	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074 3055 3049 3049 3049 3049 3049 3049 3049 3049	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TiME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86 Unika United Cable Universal Universum V2	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084, 3026, 3041, 3016, 3014, 3047, 3036, 3081, 3086, 3037, 3041, 3067, 3026, 3041, 3067, 3026, 3041, 3057, 3061, 3051, 3052, 3026, 3041, 3031, 3019, 3020, 3037, 3064, 3019, 3020, 3045, 3051, 3045
Telefunken Tensai Tevion Theta Digital Thomson Tokai Top Suxess Toshiba TRANScontine Transonic Trio Trutech TruVision TSM Umax United Urban Concepts US Logic Venturer Viewmaster Vocopro VocoStar Waitec	2307 2312 2228, 2305, 2311 2207 2229, 2238, 2284, 2294 2302, 2310 2318 2004, 2026, 2027, 2028, 2029, 2030, 2098, 2099, 2100, 2101, 2114, 2117, 2118, 2119, 2136, 2187, 2195, 2205, 2291, 2337, 2338, 2378 2313, 2317 2317 2312 2160 2309 2318 2315 2317 2205 2167 2199 2318 2156 2157 2318	Hitachi Insignia Irradio JVC LG Liteon Panasonic Philips Pioneer Pye Samsung Sansui Sanyo Sony Sylvania Toshiba Yamaha Cable	2108 2080 2103 2054, 2055, 2056, 2057 2107, 2115, 2141, 2188 2121 2037, 2038, 2039, 2041, 2042, 2043, 2089, 2104, 2108, 2112 2090, 2096, 2097, 2126, 2193 2067, 2113 2194 2034, 2082, 2138 2027 2139 2022, 2023, 2024, 2085, 2086, 2087, 2102, 2128, 2129, 2130 2189 2030, 2099, 2100, 2101, 2114, 2117, 2118, 2119 2106	GE GEC Gemini General Instrur Goldstar Gooding Grundig Hamlin Hirschmann Hitachi HomeChoice Humax ITT Nokia Jasco Jerrold JVC Kabel Deutschl Macab Magnavox Maspro Matsui MegaCable Memorex Minerva Mnet	3015, 3016 3059 3026, 3041 ment 3006, 3008, 3016, 3039, 3050, 3067, 3075 3042 3049 3048, 3049 3027, 3028 3051 3016 3056 3001, 3002, 3071 3051 3041 3006, 3008, 3016, 3026, 3037, 3041, 3050, 3064, 3067, 3075 3049 land 3043, 3073, 3074 3055 3029 3049 3049 3049 3030, 3040 3049 3030, 3040 3049 3030, 3040	Scientific Atlanta Signal Signature Sony Sprucer Standard Comp Starcom Stargate Starquest Supercable Supermax Tele+1 Telepiu Thomson TIME WARNER Tocom Torx Toshiba Tristar Tudi Tusa TV86 Unika United Cable Universal Universum	3003, 3004, 3011, 3012, 3013, 3062, 3078, 3079, 3080, 3081, 3082, 3083, 3084 3026, 3041 3016 3014, 3047 3036 200nent 3033 3026, 3037, 3041, 3067 3026, 3041 3026, 3041 3057, 3061 3057, 3061 3057 3000, 3009 3006 3017 3067 3040 3045 3052 3026, 3041 3031 3019, 3020 3037, 3064 3019, 3020 3049, 3051

Viewmaster	3045	Condor	4074, 4090, 4137	Fuba	4074, 4083, 4090,	Lasat	4074, 4088, 4090,
Vision	3045	Connexions	4074, 4092		4092, 4093, 4101,		4100, 4133, 4134,
Visiopass	3051, 3054, 3055	Conrad	4074, 4133, 4136,		4133		4137
Vortex View	3045		4137	Galaxis	4074, 4087, 4090,	Lasonic	4062
Wittenberg	3048	Conrad Electronic	4137, 4139		4091, 4096, 4098,	Lenco	4074, 4083, 4099,
Zenith Zentek	3035, 3040, 3046 3044	Contec Coolsat	4096 4050	GE	4133, 4140	Long	4133, 4137, 4139 4095
	3044	Cosat	4098	GE	4015, 4016, 4061, 4151	Leng Lennox	4098
Sattelite		Coship	4063	General Instrum		Lenson	4136
AB Sat	4138, 4139	Crown	4089		4027, 4065	Lexus	4103
AccessHD	4058	Daeryung	4092	GMI	4089	LG	4053, 4057, 4099
ADB	4142	Daewoo	4107, 4139	GOI	4039	Lifesat	4074, 4090, 4134,
AGS	4138	DDC	4085	Goldbox	4135		4139
Akai	4101, 4103	Delega	4085	GoldStar	4099	Lifetec	4090
Alba	4083, 4084, 4085,	Dew	4096	Goodmans	4079, 4080, 4084	Lorenzen	4137
Aldes	4086, 4108, 4139 4085, 4087, 4088	Diamond Digiality	4097 4137	Goodmind Grandin	4061 4077	Lorraine Lupus	4099 4074, 4090
Allsat	4098, 4101, 4103	Digital Stream	4059	Grothusen	4083, 4099	Luxor	4136
Allsonic	4074, 4087, 4090	DIRECTV	4017, 4018, 4020,	Grundig	4084, 4086, 4093,	Lyonnaise	4102
Alltech	4139		4021, 4022, 4024,		4113, 4129, 4136,	Macab	4102
Alpha	4103		4037, 4038, 4040,		4140	Magnavox	4045, 4055
Alpha Digital	4058		4041, 4043, 4045,	Hänsel & Gretel	4137	Manata	4077, 4138, 4139
Alphastar	4031		4057, 4106, 4143,	Hantor	4083, 4095	Manhattan	4084, 4088, 4098,
Amitronica	4139		4144, 4145, 4146,	Hanuri	4088		4138
Amstrad	4089, 4113, 4136,		4147, 4148, 4149,	Hauppauge	4126	Marantz	4101
Amala	4139		4150, 4151, 4152,	Heliocom	4137	Mascom	4088
Anglo Ankaro	4139 4074, 4087, 4090,		4153, 4154, 4155, 4156, 4157	Helium Hinari	4137 4085	Maspro Matsui	4084, 4139 4138
Alikalo	4139	Discoverer	4134	Hirschmann	4074, 4093, 4128,	Max	4137
Anttron	4083, 4086	Discovery	4138	Timseimiaim	4136, 4137, 4138	Mediabox	4135
Apollo	4083	Diseqc	4138	Hisawa	4095	Mediamarkt	4089
Armstrong	4089, 4103	Dish Network	4011, 4012, 4013,	Hisense	4066	Mediasat	4091, 4135, 4136
Artec	4054		4014, 4019, 4039,	Hitachi	4032, 4084, 4149,	Medion	4074, 4090, 4139
Asat	4101, 4103		4064		4153	Medison	4139
ASLF	4139	Dishpro	4039, 4064	Homecast	4005, 4006, 4007	Mega	4101, 4103
Astacom	4138	Distrisat	4103	Houston	4098	Memorex	4045
Astra	4089, 4091, 4100,	Ditristrad	4098	HTS	4039	Metronic	4077, 4078, 4083,
A -4	4137, 4139	DNT	4092, 4101, 4103	Hughes	4018, 4022, 4144,		4086, 4087, 4088,
Astro	4074, 4086, 4088, 4090, 4093, 4135,	Drake DStv	4026 4140	Hughes Networ	4146, 4150, 4152	Metz	4139 4093
	4136, 4137	Dune	4074	Trugiles Networ	4021		4136, 4137, 4139
AudioTon	4086, 4098	Echostar	4011, 4019, 4039,	Humax	4051, 4075, 4076,	Micro Technology	4139
Aurora	4140	Zenostai	4064, 4092, 4139	114111411	4110	MicroGem	4056
Austar	4140	Einhell	4083, 4087, 4089,	Huth	4087, 4089, 4094,	Micromaxx	4074, 4090
Axiel	4138		4136, 4139		4095, 4096, 4098,	Microstar	4090
Axis	4074, 4090, 4091,	Elap	4138, 4139		4137, 4141	Microtec	4139
_	4096	Elekta	4088	Hypson	4077	Minerva	4093
Best	4074, 4090	Elsat	4139	Ilo	4066	Mitsubishi	4084, 4093, 4152
Blaupunkt Blue Sky	4093 4139	Elta	4074, 4083, 4090, 4098, 4101, 4103	Imex	4077	Mitsumi	4100
Boca	4089, 4100, 4105,	Emanon	4083	Innovation Insignia	4090 4057	Morgan's	4089, 4100, 4101, 4103, 4139
Воса	4139	Emme Esse	4074, 4090	Intertronic	4089	Motorola	4008, 4009, 4010,
Boston	4138	Engel	4139	Intervision	4098, 4137		4065
Brain Wave	4095	Ep Sat	4084	ITT Nokia	4084	Multichoice	4140
Broadcast	4094	EURIEULT	4077	Jerrold	4065	Multitec	4134
Broco	4139	Eurodec	4102	Johansson	4095	Muratto	4099
BSkyB	4113, 4123	Europa	4103, 4136, 4137	JOK	4138	Mysat	4139
BT	4138	Europhon	4137	JSR	4098	Navex	4095
Bubu Sat	4139	Eurosat	4089	JVC	4011, 4019, 4039,	Neuhaus	4091, 4098, 4136,
Bush Cambridge	4084, 4127	Eurosky	4074, 4089, 4090, 4133, 4136, 4137	Vamm	4079 4139	Managet	4137, 4139
Canal Satellite	4136 4135	Eurostar	4089, 4133, 4137	Kamm Kathrein	4093, 4101, 4103,	Neusat Next Level	4139 4065
Canal+	4135	Eutelsat	4139	Kaunem	4109, 4112, 4120,	NextWave	4141
CaptiveWorks	4049	Exator	4083, 4086		4133, 4138, 4139	Nikko	4089, 4139
Channel Master	4060, 4085	Expressvu	4039	Kathrein Eurostar	4133	Nokia	4084, 4122
Chaparral	4025	Fenner	4074, 4134, 4139	Klap	4138	Nordmende	4083, 4084, 4085,
CHEROKEE	4138	Ferguson	4084, 4102, 4132	Konig	4137		4088, 4102
Chess	4134, 4139	Fidelity	4136	Kosmos	4099	Nova	4140
CityCom	4084, 4133, 4137	Finlandia	4084	KR	4086	Novis	4095
Clatronic	4095	Finlux	4084	Kreiselmeyer	4093	Oceanic	4097
CNT	4088	FinnSat	4096, 4102	K-SAT	4139	Octagon	4083, 4086, 4096
Comag	4000, 4001, 4002, 4003, 4004	Flair Mate Foxtel	4139 4140	Kyostar L&S Electronic	4083 4074	Okano Optex	4089 4098
Commlink	4003, 4004	Freecom	4083, 4099, 4136	LOCA EXECUTORIC	TU/#	Optus	4135, 4140, 4141
Comtech	4096	FTEmaximal	4074, 4139			Spius	.155, 1110, 7171
			. ,				

Orbitech	1002 1121 1125	Satcom	4004 4127	Tivov	4058
Orbitecii	4083, 4134, 4135, 4136	Satec	4094, 4137 4139	Tivax Tivo	4150
OSat	4086	Satelco	4074	Tokai	4103
Otto Versand	4093	Satford	4094	Tonna	4084, 4094, 4098,
Pace	4084, 4093, 4113,	Satmaster	4094		4136, 4139
	4121, 4125, 4138	Satplus	4134	Toshiba	4144, 4152, 4153
Pacific	4097	Schneider	4090, 4134, 4138	Triad	4099
Packsat	4138	Schwaiger	4097, 4134, 4137	Triasat	4136
Palcom	4085	SCS	4133	Triax	4093, 4133, 4136,
Palladium	4089, 4136	Seemann	4089, 4091, 4092	_	4139
Palsat	4134, 4136	SEG	4074, 4083, 4090,	Turnsat	4139
Panasat	4140	C-1	4095	Tvonics	4132
Panasonic	4043, 4044, 4046, 4084, 4113, 4118,	Seleco Servi Sat	4098	Twinner UEC	4077, 4139 4140
	4143, 4148	Siemens	4077, 4139 4093	Uher	4134
Panda	4084, 4137	Silva	4099	UltimateTV	4020
Pansat	4047	Skantin	4139	Uniden	4029, 4045
Patriot	4138	Skardin	4091	Unisat	4089, 4096, 4103
Paysat	4045	Skinsat	4136	Unitor	4095
PCT	4060	SKR	4139	Universum	4093, 4133, 4137
Philco	4055	Skymaster	4067, 4068, 4087,	US Digital	4066
Philips	4021, 4022, 4045,		4134, 4139	Variosat	4093
	4084, 4101, 4103,	Skymax	4101, 4103	Vega	4074
	4111, 4115, 4135,	SkySat	4134, 4136, 4137,	Ventana	4101, 4103
	4138, 4150, 4152,	G1 ::	4139	Viewsat	4048
DI :	4153, 4155, 4156	Skyvision SM Electronic	4098	Visiosat	4095, 4098, 4138,
Phoenix Phonotrend	4096 4084, 4087, 4098	Smart	4134, 4139 4133, 4139	Voom	4139 4065
Pioneer	4124, 4135	Sony	4017, 4020, 4135	Vortec	4083
Polsat	4102	SR	4089, 4100	Welltech	4134
Predki	4095	Star Choice	4065	WeTeKom	4134, 4136
Premiere	4098, 4135	Starland	4139	Wevasat	4084
Priesner	4089	Starring	4095	Wewa	4084
Primestar	4030	Start Trak	4083	Winersat	4095
Profile	4138	Strong	4074, 4083, 4086,	Wisi	4084, 4092, 4093,
Promax	4084		4090, 4099, 4140		4136, 4137
Prosat	4085, 4087	STS	4033	Woorisat	4088
Proscan	4015, 4016, 4040,	STVI	4077	Worldsat	4138
D	4151	Sumida	4089	Xrypton	4074
Protek Proton	4097 4066	Sunny Sound Sunsat	4074 4139	XSat Zehnder	4139
Provision	4088	Sunstar	4074, 4089, 4100	Zeillider	4074, 4088, 4090,
Onadral				Z enith	4131, 4133 4052 4057 4145
Quadral	4074, 4085, 4087,	Supermax	4141	Zenith Zodiac	4052, 4057, 4145
Quadral Quelle	4074, 4085, 4087, 4090, 4138			Zodiac	
	4074, 4085, 4087,	Supermax Tandberg	4141 4102		4052, 4057, 4145
Quelle	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137	Supermax Tandberg Tandy	4141 4102 4086	Zodiac	4052, 4057, 4145
Quelle Quiero	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102	Supermax Tandberg Tandy Tantec TCM Techniland	4141 4102 4086 4084	Zodiac CD Yamaha	4052, 4057, 4145 4086 5000, 5013
Quelle Quiero RadioShack Radiola Radix	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065	Supermax Tandberg Tandy Tantec TCM	4141 4102 4086 4084 4090 4094 4071, 4072, 4073,	Zodiac CD Yamaha CD Recod	4052, 4057, 4145 4086 5000, 5013
Quelle Quiero RadioShack Radiola Radix Rainbow	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086	Supermax Tandberg Tandy Tantec TCM Techniland	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116,	Zodiac CD Yamaha	4052, 4057, 4145 4086 5000, 5013
Quelle Quiero RadioShack Radiola Radix	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034,	Supermax Tandberg Tandy Tantec TCM Techniland	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135,	Zodiac CD Yamaha CD Recod Yamaha	4052, 4057, 4145 4086 5000, 5013
Quelle Quiero RadioShack Radiola Radix Rainbow	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037,	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136	Zodiac CD Yamaha CD Recod Yamaha MD	4052, 4057, 4145 4086 5000, 5013 ler 5001
Quelle Quiero RadioShack Radiola Radix Rainbow	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151,	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140	Zodiac CD Yamaha CD Recod Yamaha	4052, 4057, 4145 4086 5000, 5013
Quelle Quiero RadioShack Radiola Radix Rainbow RCA	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157	Supermax Tandberg Tandy Tantee TCM Techniland TechniSat	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141	Zodiac CD Yamaha CD Recod Yamaha MD	4052, 4057, 4145 4086 5000, 5013 ler 5001
Quelle Quiero RadioShack Radiola Radix Rainbow RCA	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape	4052, 4057, 4145 4086 5000, 5013 Jer 5001 5002, 5003, 5004
Quelle Quiero RadioShack Radiola Radix Rainbow RCA	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157	Supermax Tandberg Tandy Tantee TCM Techniland TechniSat	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha	4052, 4057, 4145 4086 5000, 5013 ler 5001
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape	4052, 4057, 4145 4086 5000, 5013 Jer 5001 5002, 5003, 5004
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha	4052, 4057, 4145 4086 5000, 5013 Jer 5001 5002, 5003, 5004
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103	Supermax Tandberg Tandy Tantee TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner	4052, 4057, 4145 4086 5000, 5013 [er 5001 5002, 5003, 5004 5005, 5006
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092,	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner	4052, 4057, 4145 4086 5000, 5013 ler 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009,
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137,	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015,
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088	Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4084	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088 4137	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015,
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4084 4069, 4102	Supermax Tandberg Tandy Tantee TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat Telesat Telesat Telesat	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4089, 4092, 4136, 4137 4089, 4103 4087, 4138 4087, 4138 4088, 4138 4088, 4138 4089, 4138 4139 4134, 4135, 4136	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem Sakura	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4089, 4102 4096	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasor Telasor Telefunken Teleka Telemaster Telesat Telesat Telestar Televes	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088 4134, 4135, 4136 4084, 4136	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018 5012, 5021
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4084 4069, 4102 4096 4018, 4021, 4023,	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat Telesat Telesat Televes Telewire	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088 4137 4084, 4135, 4136 4084, 4136 4098	Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK Yamaha	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem Sakura	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4089, 4102 4096	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasor Telasor Telefunken Teleka Telemaster Telesat Telesat Telestar Televes	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088 4134, 4135, 4136 4084, 4136	Zodiac CD Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018 5012, 5021
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem Sakura	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4084 4069, 4102 4096 4018, 4021, 4023, 4041, 4042, 4081,	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat Telesat Telesat Telestar Telestar Televes Telewire Tempo	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088 4137 4084, 4136 4098 4141	Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK Yamaha	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018 5012, 5021
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem Sakura	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4074, 4139 4088, 4133, 4137, 4138 4084 4069, 4102 4096 4018, 4021, 4023, 4041, 4042, 4081, 4082, 4083, 4114,	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat Telestar Telestar Televes Telewire Tempo Tevion	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088 4137 4134, 4135, 4136 4084, 4136 4098 4141 4090, 4139	Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK Yamaha LD	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018 5012, 5021 5011, 5022
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem Sakura Samsung	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4084 4069, 4102 4096 4018, 4021, 4023, 4041, 4042, 4081, 4082, 4083, 4114, 4150, 4154	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat Telestar Telestar Televes Telewire Tempo Tevion	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4134, 4135, 4136 4084, 4136 4090, 4139 4070, 4084, 4102,	Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK Yamaha LD	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018 5012, 5021 5011, 5022
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem Sakura Samsung	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4084 4069, 4102 4096 4018, 4021, 4023, 4041, 4042, 4081, 4082, 4083, 4114, 4150, 4154 4085, 4136 4141 4083, 4086, 4088,	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat Telestar Telestar Televes Telewire Tempo Tevion	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4088 4137 4084, 4135, 4136 4084, 4136 4098 4141 4090, 4139 4070, 4084, 4102, 4104, 4130, 4133, 4135, 4137, 4138, 4139	Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK Yamaha LD	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018 5012, 5021 5011, 5022
Quelle Quiero RadioShack Radiola Radix Rainbow RCA Realistic Redpoint Redstar RFT Roadstar Roch Rover Saba Sabre Sagem Sakura Samsung	4074, 4085, 4087, 4090, 4138 4093, 4133, 4137 4102 4065 4101, 4103 4092, 4119 4086 4015, 4016, 4034, 4035, 4036, 4037, 4038, 4040, 4151, 4157 4028 4091 4074, 4090 4087, 4101, 4103 4139 4077 4074, 4139 4088, 4133, 4137, 4138 4069, 4102 4096 4018, 4021, 4023, 4041, 4042, 4081, 4082, 4083, 4114, 4150, 4154 4085, 4136 4141	Supermax Tandberg Tandy Tantec TCM Techniland TechniSat Technology Technosat Technowelt Teco Telanor Telasat Telecom Telefunken Teleka Telemaster Telesat Telestar Telestar Televes Telewire Tempo Tevion	4141 4102 4086 4084 4090 4094 4071, 4072, 4073, 4092, 4103, 4116, 4117, 4134, 4135, 4136 4140 4141 4137 4089, 4100 4085 4133, 4137 4139 4067, 4083, 4138 4067, 4083, 4138 4086, 4089, 4092, 4136, 4137 4134, 4135, 4136 4084, 4136 4098 4141 4090, 4139 4070, 4084, 4102, 4104, 4130, 4133, 4135, 4137, 4138,	Yamaha CD Recod Yamaha MD Yamaha Tape Yamaha Tuner Yamaha USB Yamaha DOCK Yamaha LD	4052, 4057, 4145 4086 5000, 5013 Ier 5001 5002, 5003, 5004 5005, 5006 5007, 5008, 5009, 5010, 5014, 5015, 5016, 5017, 5018 5012, 5021 5011, 5022

