

MOXITM MATE

MEDIA CENTER EXTENSION



Hardware Manual

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Regulatory Information

Federal Communications Commission Radio and Television Interface Statement for a Class 'B' Device

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in the residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

The remote control device referred to in this manual complies with part 15 of the FCC Rules Operation and is subject to the following two Conditions: 1) This remote control device may not cause harmful interference, and 2) This remote control device must accept any interference received, including interference that may cause undesired operation.

If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Declaration of Conformity

According to 47 CFR, Parts 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers, Digeo, Inc., 8815 122nd Avenue NE, Kirkland, WA 98033, declares under sole responsibility that the product identifies with 47 CFR Part 2 and 15 of the FCC Rules as a Class B digital device. Each product marketed is identical to the representative unit tested and founded to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47 CFR 2.909. Operation is subject to the following condition: This device must accept any interference received, including interference that may cause undesired operation. The above named party is responsible for ensuring that the equipment complies with the standards of 47 CFR, Paragraphs 15.107 to 15.109.

Canadian Compliance

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

IMPORTANT INFORMATION

WARNING

- **To prevent fire or shock hazard**, do not expose the Moxi Media Center Extension (Moxi Mate) to rain or moisture. Do not insert the Moxi Mate plug into an extension cord, receptacle, or outlet unless the blades can be fully inserted.
- **To prevent overheating**, situate the product away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
- **To repair or replace the Moxi Mate** if necessary, contact your cable system operator. The Moxi Mate contains no user-serviceable parts. Do not remove cover or back.

The following warning label appears on the bottom of the Moxi Mate.



This symbol is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note to CATV system installer

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

USAGE WARNING

Warning About Photosensitive Seizures

Exposure to certain visual images, including flashing lights or patterns that may appear in online video games and other functions or applications, can cause a very small percentage of people to experience a seizure. Even people without a history of seizures or epilepsy may have an undiagnosed condition that can cause photosensitive epileptic seizures while watching or using video games. These seizures may have a variety of symptoms, such as eye or face twitching, lightheadedness, altered vision, shaking or jerking of arms or legs, confusion or disorientation, or momentary loss of awareness. Seizures may also cause a loss of consciousness or convulsions that can lead to injury from falling down or striking nearby objects. If you experience any of these symptoms, immediately stop using the service and consult a doctor.

Parents should watch for and ask their children about the above symptoms because children and teenagers are more likely than adults to experience these seizures.

Taking the following precautions may reduce the risk of photosensitive epileptic seizures:

- Avoid using any such iTV features/services on large television screens
- View your television in a well-lit room
- Sit farther from the television screen
- Do not use any such iTV features/services when drowsy or tired

If you or any of your relatives have a history of seizures or epilepsy, consult a doctor before using the interactive television services.

Avoid Damaging Your Television or Other Audio/Video Equipment

- Certain interactive television services or functions, such as tickers and online video games that remain static on the screen, can damage some televisions by "burning" the image into the screen. This results in a permanent shadow of the image, even when the service or feature is not used. Consult the owner's manual for your television, the television dealer, or the manufacturer to determine if such features and functions can be used safely on your set.
- Before connecting or disconnecting any audio/video device, make sure that you turn off power to the Moxi Mate and to the device. This reduces the risk of electrical damage.
- To avoid damage to audio/video equipment or to the Moxi Mate, do not touch the audio/video cord's terminals or the Moxi Mate's audio/video ports with your fingers or allow metal parts to touch them.

SAFETY PRECAUTIONS

Safety

- Read and follow all instructions and safety information carefully. Save the instructions for future reference.
- Do not place liquid-filled containers, such as coffee cups or vases, on or near the Moxi Mate.
- Do not use the Moxi Mate near wet or water-filled areas, such as a bathtub, sink, wet basement, or swimming pool.
- Do not overload wall outlets and extension cords.
- Do not defeat the safety purpose of the polarized plug on the Moxi Mate cord. It has one blade wider than the other, which allows it to fit into a power outlet only one way. If you cannot insert the plug fully, try reversing it. If that fails, contact your electrician to replace the outlet.

Moxi Mate Placement

- Place the Moxi Mate on a stable platform. If you mount the Moxi Mate on a bracket or stand, follow the manufacturer's instructions and use mounting accessories recommended by the manufacturer.
- Do not place the Moxi Mate near a heat source, such as a radiator or heat register.
- Do not run the power cord so it is likely to be walked on, run over, or pinched by items placed on or against it.
- To prevent overheating, place the Moxi Mate in an area that allows adequate ventilation. Never place it on a soft surface, such as a bed or sofa that might block the ventilation holes in the cabinet.
- If you place the Moxi Mate in a bookcase or rack, make sure you allow proper ventilation. See "Ventilation Requirements" in Chapter 2 for more information.

Power Sources

- CAUTION: Operate the Moxi Mate only from the Digeo external power adapter provided with the product.
- For equipment intended to operate from battery power or other sources refer to the operating instructions for that equipment.

Attachments

- Use only attachments recommended by the Moxi Mate manufacturer. Other attachments may cause hazards.

Care and Maintenance

- Unplug the Moxi Mate from the wall outlet before cleaning it. Wipe with a damp cloth only. Do not use liquid cleaners or aerosol cleaners.
- During a lightning storm or when leaving the Moxi Mate unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage caused by lightning and power line surges.
- Never place or spill liquid of any kind on the Moxi Mate.
- Never push objects of any kind into the Moxi Mate through openings in the cabinet. The objects may touch dangerous voltage points or cause a short circuit that could result in a fire or electrical shock.
- Do not attempt to service this equipment yourself. Opening or removing covers might expose you to dangerous voltage or other hazards. Refer all servicing to your cable operator.
- If the Moxi Mate requires repair, contact your cable system operator.

Battery Use and Disposal

- Notwithstanding any information provided by Digeo in this manual regarding the use of batteries, the end user assumes all responsibility and liability for the use and disposal of batteries in accordance with all applicable laws, rules, and regulations. Digeo will not be liable to anyone for the end user's failure to use and/or dispose of batteries in the proper manner and in accordance with such laws, rules, and regulations, or for any defect contained in batteries that may cause injury damage to persons or property.

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Chapter 1

Introduction

The Moxi Media Center Extension (Moxi Mate) extends the features of the multi-room enabled Motorola Broadband Media Center to a second TV in the home. It delivers digital video and audio, plus a whole new experience in interactive cable television to the second TV. Finding what you want to watch and watching it when you want, no matter what room you're in, has never been easier. The Moxi Mate is simple to set up and easy to operate.

This guide introduces you to the features and setup of your Moxi Mate. Refer to the *Moxi Viewer's Guide* to learn more about operating the Media Center and Moxi Mate, plus some of the advanced features they provide.

Moxi Mate Features

Standard Features of the Moxi Mate

- Shared dual cable tuners and Digital Video Recorder (DVR) with multi-room enabled Media Center
- Shared CD/DVD drive with multi-room enabled Media Center
- High quality interactive graphics
- Standard RF and Audio/Video outputs
- Clock display
- Front panel control buttons

Specifications of the Moxi Mate

- Power supply: line input voltage 95V - 125V AC; frequency 57Hz - 63Hz
- Operating temperature: 15°C - 40°C
- Dimensions (W x H x D): 10.3" x 2" x 6"
- Weight: approximately three pounds

Power Modes

If the second TV uses coaxial cable to connect to the Moxi Mate (an RF connection, explained on page 6), the Moxi Mate has two modes—On and Passthrough—which you control by pressing the **Power** button on the Moxi Mate. If the second TV uses composite cable to connect, the Moxi Mate does not have Passthrough mode.

On mode—In On mode, the Moxi Mate is fully functional. It provides the second TV with access to all the features of the Media Center and any recordings on it.

Passthrough mode—Passthrough mode allows basic analog cable feeds to pass through it to the second TV. In Passthrough mode you can watch analog cable on the second TV, but you cannot access any of the features or recordings on the Media Center.

In most cases, the Moxi Mate should remain in On mode. However, if you want to watch a show on live TV at the same time you are recording two other shows, change the Moxi Mate to Passthrough

mode. This allows you to use your TV's tuner to watch the show on live TV at the same time the two other shows are recording. In Passthrough mode, you do not have access to the Moxi Menu and will not be able to pause the show. Remember to change back to On mode when you finish watching the show.

NOTE The Moxi Mate depends on the multi-room enabled Media Center to operate. If you turn off the Media Center, the Moxi Mate will not work.

Moxi Mate Diagrams

The following illustrations identify the controls on the Moxi Mate. Slight variations may exist between these illustrations and your Moxi Mate.

Front View



Figure 1: Moxi Mate Front

Back View

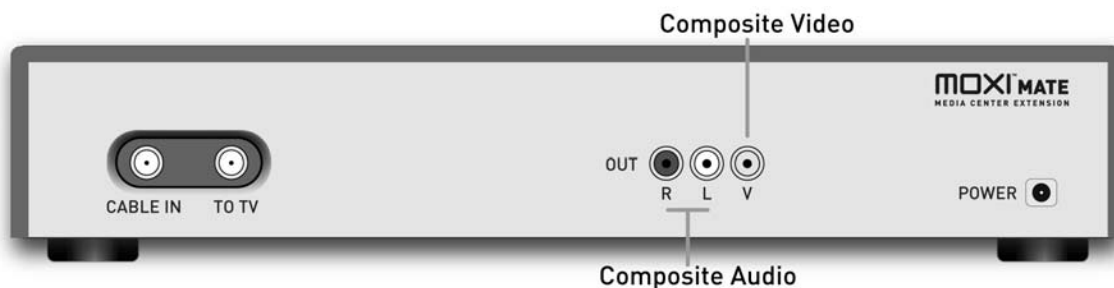


Figure 2: Moxi Mate Back

Chapter 2

Installation

This chapter describes how to install the Moxi Mate and verify the installation. The chapter also contains information to help you successfully disconnect, move, and reconnect the cable connections between the Moxi Mate and the TV.

When connecting the Moxi Mate, make sure all coaxial connections are "finger-tight"—secure, but not so tight they cannot be undone with your fingers. You do not need any special tools to disconnect the Moxi Mate, although you may need a wrench to loosen any tight connections.

IMPORTANT Make sure your Media Center is installed before installing the Moxi Mate.

Warnings



- Do not connect the Moxi Mate unit to any switched power source.
- Use only the power cord supplied with the Moxi Mate and use that cord only for the Moxi Mate.
- Keep the Moxi Mate on, unless moving or servicing the unit.
- Keep the multi-room enabled Media Center turned on. If power is removed, or a power outage occurs, the Moxi Mate will not operate.

Ventilation Requirements

Allow adequate ventilation and airflow around the Moxi Mate to prevent overheating.

Warnings



- Cabinet installations must have open airflow or no doors.
- Vents must be unobstructed and open to surrounding air.
- Ensure top, side, and back clearance of at least two inches.
- Keep away from other heat-generating devices.
- Do not place the Moxi Mate on top of the TV.

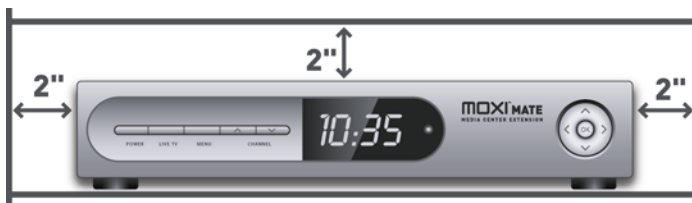


Figure 3: Moxi Mate Ventilation

Equipment Required

- Three RCA male/male cables
- One RF coaxial cable

See the wiring diagrams starting on page 6 for reference.

Moxi Mate Connection Procedure

This section describes the possible installation scenarios for the Moxi Mate. Use the information in this section and the accompanying wiring diagrams to install the Moxi Mate.

The Moxi Mate allows multiple types of audio and video connections. We recommend you use the best connection that your TV and audio system supports. Refer to the documentation that came with your TV or audio device for specific information on what the device supports.

1. Before you begin, make sure both the second TV and the Moxi Mate are turned off and all connections are unplugged. Leave the multi-room enabled Media Center plugged in and turned on.
2. Position the Moxi Mate in a well-ventilated open area near, but not on top of, the second TV.
3. Connect the incoming cable supply to the Moxi Mate. Attach one end of the coaxial cable to the wall port and the other end to the **Cable In** port of the Moxi Mate.
4. To connect audio and video cables, refer to the diagram and instructions listed below that apply to your installation.

To integrate additional devices into your configuration, such as a DVD player or VCR, refer to the manufacturer's documentation for each device.

IMPORTANT Do not attach the Moxi Mate to the TV that has the Media Center attached.

Composite Video/Audio Connection

1. Attach one end of a composite cable to the video (**V**) output of the Moxi Mate and the other end to the **Video In** port of the second TV or receiver.
2. Attach one end of the composite audio cables to the Left (**L**) and Right (**R**) audio outputs of the Moxi Mate and the other end to the respective **L** and **R** inputs of the TV or receiver.
3. Follow the instructions under "Installation Wrap-Up," starting on page 7.

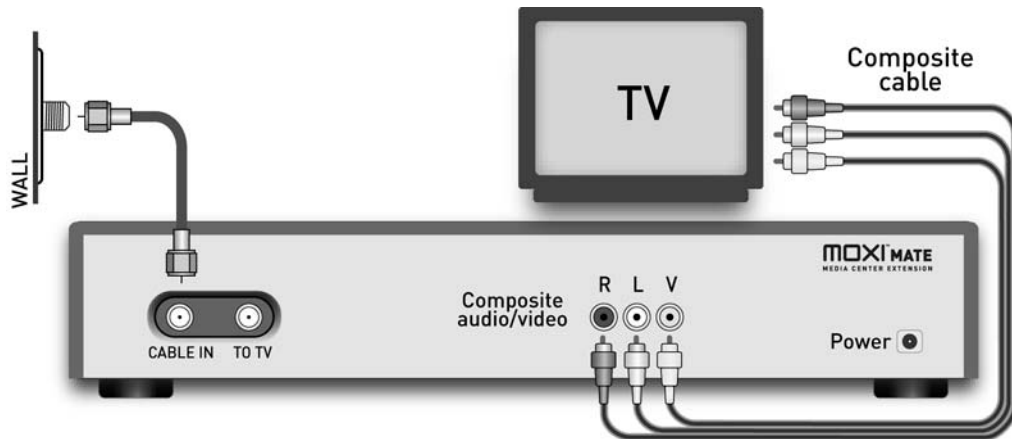


Figure 4: Composite video/audio

Basic RF Coaxial Video/Audio Connection

1. Attach one end of the coaxial cable to the **To TV** port on the Moxi Mate and the other end to the **Cable/Antenna In** port of the second TV. This connection provides both audio and video signals.
2. Follow the instructions under "Installation Wrap-Up," starting on page 7.

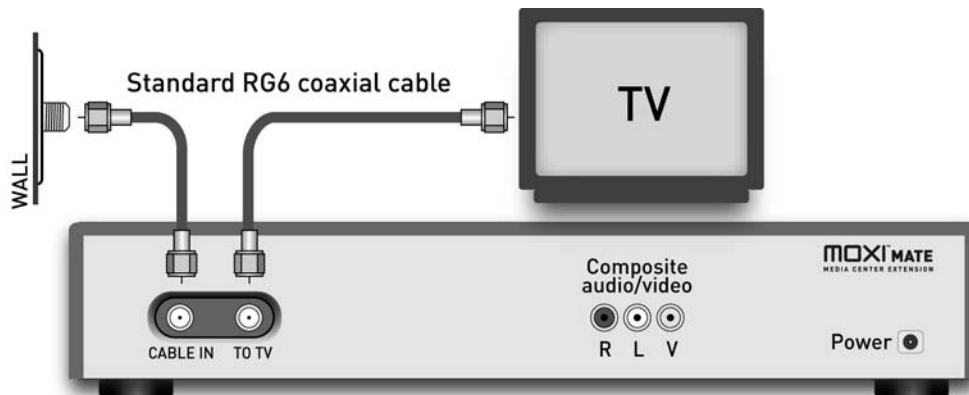


Figure 5: Basic RF coaxial connection

Installation Wrap-Up

1. Verify that all cable connections are tight and secure, all coaxial connections are finger-tight and properly seated, and that all RCA-style plugs are fully seated.
2. Ensure that nothing blocks the vents of the Moxi Mate or other equipment.
3. Plug the TV power cord into the wall outlet.
4. Attach one end of the power cable to the Moxi Mate **Power** port and plug the other end into the wall outlet.
5. Turn on the Moxi Mate and verify that the correct time appears on the clock on the front panel. This indicates it is operating correctly.

NOTE The multi-room enabled Media Center connected to the main TV must be turned on before the Moxi Mate can operate.

Depending on the type of TV and connection used, you may need to tune the TV to the proper channel or set the video input source. Refer to your TV user manual for details.

When you first turn on the Moxi Mate, it must register itself with the Media Center. This may result in a slight delay before the Moxi Menu appears on the second TV.

Once the Moxi Mate is turned on, you do not need to press the Power button again. Unless you are moving the Moxi Mate, having it serviced, or if you want to watch a show on live TV at the same time you are recording two other shows, you should leave the Moxi Mate in On mode. If you put the Moxi Mate in Passthrough mode, you will not have access to the Moxi Menu and will not be able to pause the show you are watching. For more information on Passthrough and On modes, see "Power Modes" on page 2.

Chapter 3

Moxi Remote

The Moxi remote allows you to access, control, and enjoy the many features of your Moxi Mate. You can also use this remote as the primary one for many brands of TVs and audio devices. Instructions in this chapter show you how. Refer to the *Moxi Viewer's Guide* for explanations of the buttons.

Your cable operator may provide a different remote. If your remote does not look like the one pictured here, refer to the manual your cable operator provided with the remote.

NOTE When replacing batteries, use only high quality, non-corrosive batteries designed for use in electronic equipment.

Programming Procedure

The Moxi remote will operate the Moxi Mate, and—once programmed—will simultaneously control the *power*, *volume*, and *mute* functions of your TV or audio receiver. Use the following instructions to program the remote.

From the tables on the following pages, find the codes for your brand of TV or audio receiver and use this information with the "Programming by Code" procedure below. If your brand is not listed or if the given codes do not work, follow the instructions in the "Programming by Search" procedure on page 9.

Programming by Code

1. Turn on the TV or receiver you want the remote to control.
2. On the Moxi remote, press and hold the **MOXI** and **OK** buttons simultaneously until the LED light on the top of the remote blinks twice.
3. Using the number buttons on the remote, enter one of the codes for your device from the reference tables starting on page 9. When you enter the correct code, the LED blinks twice. (If it blinks once, the code was invalid—try again.)
4. Press the **Power** or **Mute** button on the remote. If the TV or receiver does not respond, repeat steps 2 and 3, using another listed code. Repeat until successful, or use the Programming by Search procedure.

NOTE To reset the remote to the original factory setting, enter code **9 9 9 9**, and then press **OK** in **step 3** above.



Figure 6: Moxi remote

Programming by Search

1. Turn on the TV or receiver you want the remote to control.
2. On the Moxi remote, press and hold the **MOXI** and **OK** buttons simultaneously, until the LED light on the top of the remote blinks twice.
3. Using the number buttons on the remote, press **9 9 1 0** for TV, or **9 9 1 1** for audio receiver. The LED light blinks twice.
4. Press the **Mute** button.
 - If this mutes the device, go to step 5.
 - If this does not mute the device, press the **Up** arrow to advance to the next code, and then press **Mute** again. Repeat until the device responds.
5. Press **OK** to set the current code and finish.

NOTE Some older devices may not be supported. If the device still fails to respond, use its original remote to control it. Contact your cable provider's customer service for additional assistance.

Television Codes

TV Brand	Manufacturer Code	TV Brand	Manufacturer Code
3M	0737	A-Mark	0003
AOC	0030, 0003, 0052, 0137, 0185	Abex	0032
Admiral	0093, 0463	Advent	0761
Adventura	0046	Aiko	0092
Aiwa	0701	Akai	0030, 0098, 0591
Alaron	0179, 0183, 0216	Ambassador	0177
America Action	0180	Ampro	0751
Anam	0180, 0004, 0009, 0068	Anam National	0055, 0161
Apex Digital	0748, 0765, 0767	Archer	0003
Audinac	0391	Audiovox	0451, 0180, 0003, 0092, 0623, 0713
Baysonic	0180	Broksonic	0236, 0463, 0003, 0426, 0642
Bush	0355	CCE	0037, 0217, 0329
CXC	0180	Candle	0030, 0056, 0046, 0186
Carnivale	0030	Carver	0054, 0170
Casio	0611	Bell & Howell	0154, 0016
Bradford	0180	Celebrity	0000
Changhong	0765	Cineral	0451, 0092
Citizen	0060, 0030, 0056, 0039, 0046, 0092, 0186, 0280, 0561	Clairtone	0185
Compaq	0749	Concerto	0056
Contec	0180, 0157, 0158, 0185	Craig	0180, 0161
Crosley	0054	Crown	0180, 0039, 0672
Curtis Mathes	0047, 0054, 0154, 0451, 0093, 0060, 0030, 0145, 0056, 0016, 0039, 0166, 0415, 0466, 0702, 0747, 1147, 1347	Daewoo	0451, 0039, 0066, 0067, 0091, 0092, 0623
Denon	0145, 0511	Dumont	0017
Dwin	0720, 0774	Dynatech	0049
Ectec	0391	Eiki	0735
Electroband	0000, 0185	Electrohome	0381, 0389, 0409
Emerson	0154, 0236, 0463, 0180, 0282, 0178, 0179, 0039, 0038, 0158, 0177, 0181, 0182, 0183, 0185, 0270, 0280, 0623	Envision	0030

TV Brand	Manufacturer Code	TV Brand	Manufacturer Code
Fisher	0154, 0159	FlexVision	0713
Fujitsu	0179, 0683	Funai	0180, 0179, 0171
Futuretech	0180	GE	0047, 0051, 0451, 0282, 0178, 0021, 0055, 0027, 0029, 0135, 0279, 0747, 1147, 1347
Gibraltar	0017, 0030	GoldStar	0030, 0178, 0001, 0002, 0032, 0106, 0409
Goodmans	0360	Gradiente	0053, 0056, 0170, 0392
Grundig	0037	Grunpy	0180, 0179
Haier	0768	Hallmark	0178
Harley Davidson	0179, 0043	Harman/Kardon	0054, 0078
Harvard	0180, 0068	Hauppauge	0693
Havermy	0093	Hitachi	0145, 0056, 0016, 0032, 0038, 0095, 0097, 0151, 0173, 0227, 0279, 0409, 0413, 0576, 0577, 0583, 0723, 0770, 1145
InFocus	0736, 0738, 0741, 0752	Infinity	0054
Innova	0037	Inteq	0017
JBL	0054	JCB	0000
JVC	0053, 0036, 0069, 0160, 0169, 0182	Janeil	0046
Jensen	0050	KEC	0180
KMC	0106	KTV	0180, 0030, 0039, 0183, 0185, 0217, 0280
Kamp	0216	Kawasho	0158, 0216, 0308
Kaypani	0052	Kenwood	0030
Kloss	0024, 0046, 0078	Konka	0628, 0632, 0638, 0703, 0707
LG	0056, 0442	LXI	0047, 0054, 0154, 0156, 0178, 0148, 0747
Loewe	0136, 0633, 0693, 0694	Logik	0016
Luxman	0056	MEI	0185
MGA	0150, 0030, 0178, 0155	MTC	0060, 0030, 0056, 0049, 0091, 0185, 0216
Magnavox	0054, 0030, 0179, 0020, 0024, 0028, 0036, 0096, 0186, 0187, 0230, 0386, 1254, 1454	Majestic	0016, 0015
Marantz	0054, 0030, 0037, 0444, 1554	Matsushita	0250, 0650
Megatron	0178, 0145, 0003	Memorex	0154, 0250, 0463, 0150, 0178, 0179, 0016, 0106, 1037
Mercury	0001	Midland	0047, 0017, 0051, 0039, 0032, 0135, 0747
Minutz	0021	Mitsubishi	0093, 0150, 0178, 0014, 0098, 0155, 0331, 0358, 0592
Motorola	0093, 0055	Multitech	0180, 0049, 0217
NAD	0156, 0178, 0166	NEC	0030, 0056, 0036, 0170, 0434, 0455, 0704
NTC	0092	Nesa	0763
Netsat	0037	Nikko	0030, 0178, 0092, 0317
Nisato	0391	Noblex	0430
Noshi	0018	On Command	0531
Onwa	0180	Optimus	0154, 0250, 0166, 0650
Optiview	0756	Optonica	0093, 0165
Orion	0236, 0463, 0179	Ovation	0734
Panasonic	0250, 0051, 0055, 0162, 0226, 0650	Penney	0047, 0156, 0051, 0060, 0030, 0178, 0021, 0018, 0039, 0002, 0003, 0027, 0032, 0110, 0135, 0149, 0309, 0747, 1347

TV Brand	Manufacturer Code	TV Brand	Manufacturer Code
Philco	0054, 0463, 0030, 0145, 0020, 0028, 0096, 0302	Philips	0054, 0037, 1354, 1454
Pilot	0030, 0039	Pioneer	0038, 0166, 0172, 0679
Portland	0039, 0092	Princeton	0685, 0700, 0717
Prism	0051	Proscan	0047, 0747
Proton	0178, 0003, 0031, 0052, 0466	Proxima	0734, 0735, 0737, 0742, 0743
Pulsar	0017	Quasar	0250, 0051, 0165, 0055, 0219, 0650
RCA	0047, 0018, 0029, 0038, 0090, 0135, 0254, 0278, 0679, 0747, 1047, 1147, 1247, 1347, 1447, 1547	RadioShack	0047, 0154, 0165, 0180, 0030, 0178, 0056, 0039, 0032, 0409, 0747
Realistic	0154, 0165, 0180, 0030, 0178, 0056, 0039, 0032	Rhapsody	0183, 0185, 0216
Rosen	0756	Runco	0017, 0030, 0612
SKY	0037	SSS	0180
Sampo	0030, 0039, 0032, 0052, 0100, 0110	Samsung	0060, 0030, 0178, 0056, 0032, 0037, 0329, 0408, 0427, 0482, 0702, 0766
Samsux	0039	Sansei	0451
Sansui	0463	Sanyo	0154, 0088, 0107, 0146, 0159, 0232, 0484
Scotch	0178	Scott	0236, 0180, 0178, 0179, 0309
Sears	0047, 0054, 0154, 0156, 0178, 0179, 0056, 0015, 0146, 0148, 0149, 0159, 0168, 0171, 0281, 0747	Semivox	0180
Semp	0156	Sharp	0093, 0165, 0039, 0153, 0157, 0281, 0386, 0398, 0491, 0688
Signature	0016	Simpson	0186, 0187
Sinudyne	0347	Sony	0000, 0011, 0080, 0111, 0273, 0353, 1100
Soundesign	0180, 0178, 0179, 0186	Spectricon	0003, 0137
Squareview	0171	Starlite	0180
Supre-Macy	0046	Supreme	0000
Sylvania	0054, 0030, 0020, 0028, 0065, 0096, 0171, 0381	Symphonic	0180, 0171
TMK	0178, 0056, 0177	TNCi	0017
Tandy	0093	Tashiko	0588
Tatung	0055, 0003, 0049, 0396	Technics	0250, 0051
Technol Ace	0179	Techwood	0051, 0056, 0003
Teknika	0054, 0180, 0150, 0060, 0179, 0056, 0016, 0039, 0092, 0175, 0186, 0312	Telefunken	0056, 0101, 0702
Telemagic	0735	Tera	0031
Thomson	0209, 0210	Toshiba	0154, 0156, 0060, 0036, 0149, 0650, 1256, 1356
Tosonic	0185	Totevision	0039
Trical	0157	Ultra	0391
Universal	0027	Vector Research	0030
Victor	0053	Video Concepts	0098
Vidikron	0054, 0242	Vidtech	0178, 0036
ViewSonic	0724, 0775	Viking	0046, 0312
Wards	0054, 0165, 0030, 0178, 0021, 0179, 0056, 0016, 0020, 0027, 0028, 0029, 0080, 0096, 0111, 0202	Waycon	0156
White Westinghouse	0463, 0623	Yamaha	0030
Zenith	0017, 0463, 0016, 0092	Zonda	0003

Audio/Video Receiver Codes

Receiver Brand	Manufacturer Code	Receiver Brand	Manufacturer Code
ADC	3531	ADS	3375, 4157
Adcom	3002, 3304, 3319, 3616	Admiral	3182
Aiwa	4089, 4405, 3121, 3125, 3158, 3162, 3189, 3249, 3284, 3301, 3361, 3544, 3601, 3745, 4188, 4243, 4321, 4388, 4641	Akai	3076, 3115, 3151, 3224, 3450, 4255
Alco	4390	Arcam	4120, 4212, 4214, 4216
Audio Access	3403	Audio Authority	4256
AudioSource	3687	Audiotronic	4189
Audiovox	4390	B & K	3701, 3820, 3840
BK	3702	Bang & Olufsen	3898, 4040
Bondstec	3049	Bose	4229, 3238, 3639
Capetronic	3531, 3690	Carver	4089, 4189, 3008, 3042, 3189, 3270, 3360
Casio	3195, 3201	Celestion	4264
Clarinet	3195	Creek	3792
Counterpoint	3253	Curtis Mathes	3201
Daewoo	4250	Delphi	4201
Denon	4104, 3004, 3273, 3386, 3771, 4142, 4311, 4360, 4660	EAD	4045, 4046, 4047, 4048
Eclipse	4061	Emerson	3020, 3255, 3424, 3495
Enlightened Audio Designs	4045, 4046, 4047, 4048	Eroica	3051
Fisher	3042, 3219, 3360, 4801	GE	3260, 3649
GPX	3744, 4299	Garrard	3146, 3281, 3286, 3407, 3424, 3440, 3463, 3640, 3644, 3744
Glory Horse	4263	GoldStar	3057
Gradiente	3557	Hafler	3146
Hanwah	3741	Harman/Kardon	3110, 3189, 3891, 4004, 4005
Hitachi	3228, 3386, 3659, 4273	Inkel	3062, 3066
JBL	3110, 3794, 4002	JVC	3074, 3464, 4263, 4282, 4374
Jensen	3705, 3713, 3754	KLH	4138, 4390
Kansai	3440	Kenwood	4313, 4027, 4570, 4569, 3027, 3042, 3077, 3186, 3313, 3314, 3337, 4032, 4051, 4670
Koss	3255, 3424, 3495, 3624, 3636, 3744, 4366	LXI	3181, 3744, 3755
Lexicon	4076	Linn	3189
Lloyd's	3195	Luxman	3149, 3267, 3329, 3330, 3429, 3431
MCS	3039, 3044, 3201, 3346	Magnavox	4089, 4189, 3189, 3195, 3204, 3222, 3364, 3391, 3531
Marantz	4089, 4189, 3006, 3039, 3189, 3200, 3352, 3455, 4289, 4892	McIntosh	3258, 3619
McSilver	3466	Memorex	3335
Modulaire	3195	Museatex	3476
Musicmagic	4089	NAD	3320
NTDE Geniesom	3744	Nakamichi	3075, 3097, 3347, 3876
Nikko	3215, 3407, 3466, 3467, 3542, 3543, 3609	Niles	3413, 4173, 4174

Receiver Brand	Manufacturer Code	Receiver Brand	Manufacturer Code
Onkyo	3100, 3119, 3135, 3137, 3144, 3380, 3838, 3842, 4298	Optimus	4023, 3042, 3177, 3181, 3186, 3219, 3229, 3286, 3440, 3531, 3622, 3670, 3690, 3738, 3744, 3754, 3797, 3801, 3803, 3849, 4074
Orient Power	3744	Outlaw Audio	4109
Panasonic	4518, 3039, 3309, 3367, 3389, 4288, 4316, 4763, 4764	Panor	3350
Parasound	3549, 3895, 4124, 4238	Penney	3044, 3195, 3201, 3449
Philco	3479	Philips	4089, 4189, 4269, 3189, 3391, 3620, 3642, 4120, 4268, 4283, 4368
Pioneer	4023, 3150, 3244, 3289, 3531, 3630, 4084, 4123, 4184, 4343, 4384	Polk Audio	3189, 4289
Proscan	4254	Proton	3026, 3047
Quasar	3039	RCA	4023, 4254, 3054, 3346, 3360, 3530, 3531, 3649, 4074, 4123, 4154, 4300, 4390, 4609
RDS	3242	RadioShack	3744, 4263
Realistic	3001, 3025, 3163, 3178, 3181, 3182, 3195, 3534	Rotel	3007, 3852
Revox	3140	SII	3355
STS	3217	Samsung	3069, 3070, 3112, 4295
Sansui	4089, 3148, 3189, 3193, 3323, 3346, 3593	Sanyo	3219, 3448, 3801, 4251
Schneider	3364	Scott	3105, 3163, 3322, 3390, 3396, 3418, 3449, 3495
Sears	3201	Semivox	3255
Sharp	3186, 3262, 4286, 4386	Sherwood	3062, 3066, 3324, 3475, 3491, 3502, 3565, 3653, 4066, 4077, 4653
Sonic	3281	Sontec	3068
Sony	4058, 4258, 4158, 3158, 3168, 3415, 3474, 3776, 4458, 4558, 4658, 4758	Soundesign	3670
Soundstream	3090	Stereophonics	4023
Sunfire	4313, 3313, 3314	Sylvania	3222
Symphonic	3182	Tandberg	3204, 3205
Teac	3112, 3163, 3298, 3387, 3463, 3870, 4074	Technics	4308, 4309, 4518, 3039, 3208, 3309
Techwood	3281, 3344, 3364, 3609	Thorens	4189
Topline	3767	Ultrix	3333, 3427
Vector Research	3218, 3352	Venturer	3849, 4390
Victor	3074	Wards	3054, 3158, 3189
Welton	3344	Yamaha	3081, 3082, 3176, 3186, 3293, 3545, 3712, 4176, 4276, 4376
Yorx	3195	Zenith	3281, 3511, 3622, 3705, 3736, 3744, 3857

