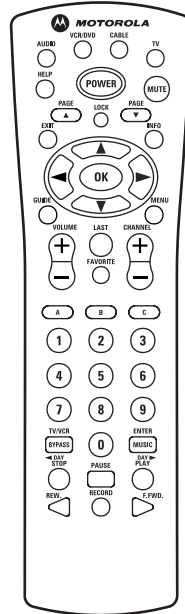


MOTOROLA
DRC450

UNIVERSAL REMOTE CONTROL



MADE IN INDONESIA

USER GUIDE

OVERVIEW

The Motorola DRC450 universal remote will control up to four devices, including Motorola's interactive digital terminals*, most TVs, VCRs, Amplifiers, DVD players, PVRs, Tuners, and CD players.

*NOTE: Digital models include the DCT1000, DCT1200, DCT1700, DCT2000, DCT2500, and DCT5100. The DRC450 can also control older Motorola analog models like the CT1900, CFT2100, CFT2200, and CFT3300.

The DRC450 requires two new AA alkaline batteries (included) and has easy programming to control your Motorola interactive digital terminal, as well as all of the basic functions of your other original remote controls. Moreover, the DRC450 helps eliminate the need to use multiple remote controls.

For best results, please read and perform all instructions listed herein. Also, keep these instructions for future reference.

FEATURES AND FUNCTIONS

Use the DRC450 mode keys (i.e., **AUDIO**, **VCR/DVD**, **CABLE**, or **TV**) to control a specific device. When pressed, the selected mode key will light, confirming your choice. Use the other keys to perform desired actions (see the following key chart).

NOTE: The selected mode will remain active until you press another mode key.

AUDIO **VCR/DVD** **CABLE** **TV**
Press **AUDIO**, **VCR/DVD**, **CABLE**, or **TV** once to control a device.

POWER
Press **POWER** once to turn on or off the selected home entertainment device.

HELP
Press **HELP** once to display the help screen.

MUTE
Press **MUTE** once to turn sound off or on.

PAGE **PAGE**
Use **PAGE** **▲** (or **PAGE** **▼**) to page up (or down) through menu screens and the electronic program guide.

LOCK
Use **LOCK**** to restrict viewing of selected programs (Parental Control).

EXIT
Use **EXIT** to exit menu or guide.

INFO
Use **INFO** to display current channel and program information.

Use these keys to move the cursor in the electronic program guide and menu screens.

OK
Use **OK**** to chose menu options, PPV events, and to tune programs from the electronic program guide.

GUIDE
Use **GUIDE** to display the electronic program guide.

MENU
Use **MENU** to display the main menu.

VOLUME
In **TV** or **CABLE** mode, use **VOLUME +** (or **VOLUME -**) to raise (or lower) sound volume.

CHANNEL
Use **CHANNEL +** (or **CHANNEL -**) to select the next higher (or lower) channel.

LAST
Use **LAST** to recall last channel or go back one screen in the menu.

FAVORITE
In the **CABLE** mode, press **FAVORITE** once to display programmed favorite cable channels.

OS **OS** **OS**
These functions are set by your cable system operator.

1 **2** **3**
4 **5** **6**
7 **8** **9**
0
Use the keypad (**0 ~ 9**) to directly select the channels (e.g., 09 or 031).

TV/VCR BYPASS
Press **TV/VCR BYPASS** once to switch VCR to view TV or tape (not supported by all applications).

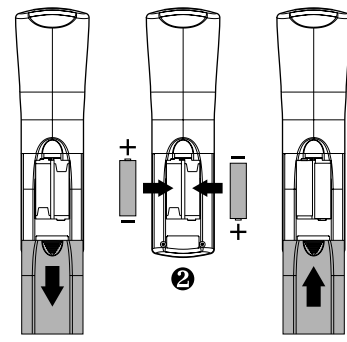
ENTER/MUSIC
Use **ENTER/MUSIC** to display menu of digital music channels, or to enter channels on some TV models.

STOP **PAUSE** **PLAY**
RECORD **REW.** **FWD.**
In the **VCR/DVD** and **TV** modes, use the **STOP**, **PAUSE**, **PLAY**, **REW.**, and **FWD.** keys to control a VCR (or DVD player). To record a program on a VCR, press **RECORD** once.

DAY **DAY**
In the **CABLE** mode, press **DAY>** (or **<DAY**) once to move the electronic program guide ahead (or back) 24 hours.

NOTE: Functionality of the **LOCK and **OK** keys are dependent on the software and the model of Motorola interactive digital terminal.

INSTALLING BATTERIES



- On the DRC450's back, pull back the battery cover and remove it.
- Use the two (2) supplied fully-charged AA alkaline batteries. Match their + and - marks to the battery case, then insert the batteries.
- Push the battery cover back into place.
- Test the unit by pressing **POWER** and any mode key (e.g., **AUDIO**, **VCR/DVD**, **CABLE**, or **TV**). If the batteries are inserted correctly, the selected mode key will be lit.

NOTE: When a selected mode key blinks two times with each key press, this indicates that the batteries are getting low. Replace them within 20 minutes; otherwise the DRC450 may lose its settings and require reprogramming.

PROGRAMMING A SPECIFIC DEVICE CONTROL

The DRC450 is preprogrammed at the factory to operate a RCA TV and VCR (or DVD player), a Motorola (General Instrument) interactive digital terminal, and a Pioneer audio device. To control devices other than the default brands, perform the following steps; otherwise skip this section:

NOTE: For programming TV/VCR Combo control, see the next section.

- Turn on a device (e.g., VCR) and, if applicable, insert media, (e.g., cassette or disc).
- On the DRC450, press and hold a mode key (i.e., **AUDIO**, **VCR/DVD**, **CABLE**, or **TV**) for at least 6 seconds, until you see the programming mode start. Each mode key light will turn off and on sequentially, starting with **AUDIO** on through **TV**, and the sequence will repeat twice. At this time, release the mode key and wait until it's lit continuously.

- Locate the code for your device in *Manufacturer's Codes* on the back of this user guide. Brands are listed in alphabetical order with the most popular codes listed first.
- Enter the first four-digit code for your device. If you perform this procedure correctly, the selected mode key will blink three times.

NOTE: If you enter an invalid code, the selected mode key will turn off. Repeat steps 2 through 4 with a valid code.

- Aim the DRC450 at your device and press **POWER** once. The device should turn off. If it does not respond, repeat steps 2-4, trying each code listed for your brand until you find one that works. If it still does not work, try *Searching For Your Code*.

NOTE: If the device does not have a **POWER** key, press the **▶ (Play)** key.

- For future reference, write your device code in the appropriate boxes below:

AUDIO Code:
[] [] [] []
Device Type: _____

VCR/DVD Code:
[] [] [] []
Device Type: _____

CABLE Code:
[] [] [] []

TV Code:
[] [] [] []

- Repeat steps 1 through 6 for each device you want to control.

PROGRAMMING TV/VCR COMBO CONTROL

- Turn on the TV/VCR Combo and insert a video cassette.

NOTE: Please read steps 2-4 completely before proceeding. Highlight or write down the codes and device you wish to program before moving on to step 2.

- On the DRC450, press and hold a mode key (i.e., **AUDIO**, **VCR/DVD**, **CABLE**, or **TV**) for at least 6 seconds, until you see the programming mode start. Each mode key light will turn off and on sequentially, starting with **AUDIO** on through **TV**, and the sequence will repeat twice. At this time, release **VCR/DVD** and wait until it's lit continuously.

- Locate the code for your device in *Setup Codes For TV/VCR Combos* on the back. Brands are listed in alphabetical order with the most popular codes listed first.
- Enter the first four-digit code for your device. If you perform this procedure correctly, **VCR/DVD** will blink three times.

NOTE: If you enter an invalid code, **VCR/DVD** will turn off. Repeat steps 2 through 4 with a valid code.

- Aim the DRC450 at the TV/VCR combo and press **POWER** once. The device should turn off. If it does not respond, repeat steps 2-4, trying each code listed for your brand until you find one that works. If it still does not work, try *Searching For Your Code*.

NOTE: If the device does not have a **POWER** key, press the **▶ (Play)** key.

- For future reference, write your device code in the appropriate boxes below:

TV/VCR Combo Code:
[] [] [] []

TV Code (if used):
[] [] [] []

SEARCHING FOR YOUR CODE

If your home entertainment device does not respond to the DRC450 after trying all of the codes listed for your brand, or if your brand is not listed at all, try searching for your code.

For example, after trying all of the codes for your TV, you still cannot get the DRC450 to operate your TV, then:

- Turn on your TV.
- On the DRC450, press and hold **TV** (at least 6 seconds) until you see the programming mode start. Each of the mode key lights will turn off and on sequentially, starting with **AUDIO** on through **TV**, and the sequence will repeat twice. During this time, release **TV** and wait until it's lit continuously.

- Press the **▲ (Up)** cursor key once to start the search mode.
- Repeat step 4 three more times for each successive digit by pressing and releasing **2**, **3**, and then **4**. Finish writing down the TV code in the remaining TV code boxes.

NOTE: In the search mode, the DRC450 will send IR codes from its library to the selected component, starting with the most popular codes first. When the device responds to a subsequent key command (e.g., **POWER**), the correct device code will be found.

- Press **POWER** once. The **TV** key will light on and off, showing that an IR code has been sent.
- If your television does not turn off, press the **▲ (Up)** cursor key once again to call up the next IR code and press **POWER** once again.
- If your television still does not turn off, repeat step 5 as many times as needed until your TV turns off.
- When your television does turn off, a working code has been found. Press **OK** once to save the code and the **TV** key will blink three times, confirming the selection.
- To search for the codes of your other devices, repeat steps 1 through 7, but substitute the appropriate mode key (i.e., **VCR/DVD**, **CABLE**, or **AUDIO**) for the device you are searching for.

CHECKING THE CODES

If you have set up the DRC450 using the *Searching For Your Code* procedure, you may need to find out which four-digit code is operating your equipment.

Perform the following procedure after you have set up your devices to find out which four-digit code is operating your equipment. For example, to find out which code is operating your TV:

- Turn on your TV.

- On the DRC450, press and hold **TV** (at least 6 seconds) until you see the mode light sequence start. Each of the mode key lights will turn off and on sequentially, starting with **AUDIO** on through **TV**, and will repeat twice. During the sequence, release the **TV** key and wait until it stays lit continually.

- Press **9 - 9 - 0**. The **TV** key will blink three times.
- To view the code for the first digit, press and release **1**. Count the number of **TV** key blinks (e.g., 3 blinks = 3) and write down the number in the leftmost TV code box in step 6 of *Programming Device Control*.

NOTE: The mode key will not blink if the code digit is a "0".

- Repeat step 4 three more times for each successive digit by pressing and releasing **2**, **3**, and then **4**. Finish writing down the TV code in the remaining TV code boxes.
- To check for the codes of your other devices, repeat steps 1 through 5, only substitute the appropriate mode key (i.e., **VCR/DVD**, **CABLE**, or **AUDIO**) for the device you are checking. Write down the codes in the appropriate device code boxes (see step 6 of *Programming Device Control*).

CHANGING VOLUME LOCK

Your new DRC450 is set to control the volume of a device through its associated mode (i.e., through the *Motorola interactive digital terminal* in the Cable mode, through the *TV* in the TV mode, through the *VCR or DVD player* in the VCR/DVD mode, and through the *audio device* in the Audio mode). If your TV is not remote controllable, or if you would like the volume to be controlled by a different device, you can change the Volume Lock setting to control a volume through a non-associated mode (e.g., through the *Motorola interactive digital terminal* in the TV mode).

Changing the Volume Lock setting to the Cable, VCR/DVD, or TV mode will change the volume control for all modes except Audio, which will continue to control its own volume. If you change the Volume Lock setting to the Audio mode, all modes (i.e., Audio, Cable, VCR/DVD, and TV) will be controlled by the Audio mode.

To Change The Volume Lock Setting To Another Mode:

- On the DRC450, press and hold a mode key (i.e., **AUDIO**, **VCR/DVD**, **CABLE**, or **TV**) for at least 6 seconds, until you see the programming mode start. Each mode key light will turn off and on sequentially, starting with **AUDIO** on through **TV**, and the sequence will repeat twice. At this time, release the mode key and wait until it's lit continuously.
- Press and release **VOLUME +**.
- The mode key's light will blink three times, indicating volume has been locked to the selected mode.
- Now, whenever you press **VOLUME +**, **VOLUME -**, or **MUTE** on the DRC450, volume will be controlled by selected mode, independent of the current mode.

To Unlock Volume Lock:

- On the DRC450, press and hold a mode key (at least 6 seconds) until you see the programming mode start. Each mode key light will turn off and on sequentially, starting with **AUDIO** on through **TV**, and the sequence will repeat twice. During this time, release the mode key and wait until it's lit continuously.
- Press and release **VOLUME -**.
- The mode key light will blink three times, indicating volume has been unlocked for the selected mode.
- Now, whenever you press **VOLUME +**, **VOLUME -**, or **MUTE** on the DRC450, the volume controls will reset to their original device.

TROUBLESHOOTING

PROBLEM: A mode key does not blink or blinks 2 times when you press a key.

SOLUTION: Replace the batteries with two (2) new AA alkaline batteries.

PROBLEM: A mode key blinks when you press a key, but home entertainment component does not respond.

SOLUTION: Make sure the DRC450 is aimed at your home entertainment device and is not farther than 15 feet away.

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TROUBLESHOOTING (continued)

PROBLEM: DRC450 does not control home entertainment devices or commands are not working properly.

SOLUTION: Try all listed codes for the device brands being set up. Make sure they can be operated with an infrared remote control.

PROBLEM: TV/VCR combo does not respond properly.

SOLUTION: Use the VCR codes for your brand. Some combo units may require both a TV code and a VCR code for full operation.

PROBLEM: CHANNEL+ , CHANNEL- , and LAST do not work for your RCA TV.

SOLUTION: Due to RCA design (1983-1987), only the original remote control will operate these functions.

PROBLEM: Changing channels does not work properly.

SOLUTION: If original remote control required pressing Enter to change channels, press ENTER on the DRC450 after entering the channel number.

MANUFACTURER'S CODES

Setup Codes For Audio Amplifiers

Table with 2 columns: Brand, Code. Includes Aiwa, Carver, Curtis Mathes, Denon, GE, Harman/Kardon, JVC, Left Coast, Linn, Magnavox, Marantz, Nakamichi, Optimus, Panasonic, Philips, Pioneer, Proscan, Yamaha, Yorc, Zenith.

Table with 2 columns: Brand, Code. Includes Carver, Casio, Clarinette, Curtis Mathes, Denon, Emerson, Fisher, Garrard, Harman/Kardon, Hewlett Packard, JBL, JVC, Kenwood, Koss, LXI, Linn, Lloyd's, MCS, Magnavox, Marantz, Modulaire, Motorola, Musicmagic, Nakamichi, Onkyo, Optimus, Panasonic, Penney, Philips, Pioneer, Polk Audio, Proscan, Quasar, RCA, Realistic, Sansui, Sharp, Sherwood, Sony, Stereophonics, Sunfire, Teac, Technics, Thorens, Victor, Wards, Yamaha, Yorc, Zenith.

Table with 2 columns: Brand, Code. Includes Realistic, Sansui, Sharp, Sherwood, Sony, Stereophonics, Sunfire, Teac, Technics, Thorens, Victor, Wards, Yamaha, Yorc, Zenith.

Setup Codes For Cable Converters (Interactive Digital Terminals)

Table with 2 columns: Brand, Code. Includes Director, General Instrument, Jerrold, Motorola, Supercable.

Setup Codes For CD Players

Table with 2 columns: Brand, Code. Includes Aiwa, Burmester, California Audio Labs, Carver, Pioneer, Princeton, DKK, DMX Electronics, Denon, Emerson, Fisher, Garrard, Genexxa, Harman/Kardon, Hitachi, JVC, Kenwood, Krell, LXI, Linn.

Table with 2 columns: Brand, Code. Includes MGS, MTC, Magnavox, Marantz, Miros, Mission, NSM, Nikko, Onkyo, Optimus, Panasonic, Parasound, Philips, Pioneer, Polk Audio, Proton, QED, Quasar, RCA, Realistic, Rotel, SAE, Sansui, Sanyo, Scott, Sears, Sharp, Sherwood, Sonic Frontiers, Sony, Soundesign, Tascam, Teac, Technics, Victor, Wards, Yamaha, Yorc.

Setup Codes For DVD Players

Table with 2 columns: Brand, Code. Includes Aiwa, Apex, Blue Parade, Denon, Emerson, Enterprise, Fisher, GE, Go Video, Gradiente, Greenhill, Harman/Kardon, Hitachi, Hiteker, JVC, Kenwood, Konka, Magnavox, Marantz, Microsoft, Mitsubishi, NAD, Onkyo, Oriron, Panasonic, Philips, Pioneer, Princeton, Proscan, RCA, Samsung, Sanyo, Sharp, Sherwood, Sony, Technics, Techwood, Theta Digital, Toshiba, Urban Concepts, Yamaha, Zenith.

Setup Codes For TVs

Table with 2 columns: Brand, Code. Includes A-Mark, AOC, Abex, Admiral, Adventura, Aiko, Aiwa, Akai, Alaron, Ambassador, America Action, Ampro, Anam, Anam National, Archer, Audiovox, Baysonic, Belcor, Bell & Howell, Bradford, Brockwood, Broksonic, CCE, CXC, Candle, Carnivale, Carver, Celebrity, Cinerall, Citizen, Clairton, Concerto, Contec, Craig, Crosley, Crown, Curtis Mathes, Daewoo, Dayton, Denon, Dumont, Dwin, Electroband, Electrohome, Emerson, Envision, Fisher, Fujitsu, Funai, Futuretech, GE, Gibraltar, GoldStar, Gradiente, Grunpy, Hallmark, Harley Davidson, Harman/Kardon, Harvard, Havermy, Hitachi, Infinity, Inteq, JBL, JCB, JVC, Jancel, KEC, KTV, Kaypani, Kenwood, Kloss, Konka, LG, LXI, Logik, Luxman, MEI.

Table with 2 columns: Brand, Code. Includes MGA, MTC, Magnavox, Majestic, Marantz, Matsushita, Megatron, Memorex, Midland, Minutz, Mitsubishi, Motorola, Multitech, NAD, NEC, NTC, Nikko, Noshi, Onwa, Optimus, Optonica, Orion, Panasonic, Penney, Philco, Philips, Pilot, Pioneer, Portland, Princeton, Prism, Proscan, Proton, Pulsar, Quasar, RCA, RadioShack, Realistic, Rhapsody, Runco, SSS, Sampo, Samsung, Samsux, Sansai, Sansui, Sanyo, Scimitu, Scott, Sears, Semivox, Semp, Sharp, Shogun, Signature, Simpson, Sony, Soundesign, Spectricon, Squareview, Starlite, Supre-Macy, Supreme, Sylvania, Symphonic, TMK, TNCi, Tandy, Tatung, Technics, Technol Ace, Techwood, Teknika, Telefunken, Toshiba.

Table with 2 columns: Brand, Code. Includes Tersonic, Totevision, Trical, Universal, Vector Research, Victor, Vidikron, Vidtech, Viking, Wards, Waycon, White Westinghouse, Yamaha, Zenith, Zonda, Broksonic, Citizen, Colt, Curtis Mathes, Daewoo, Emerson, Funai, GE, GoldStar, Harley Davidson, Hitachi, JVC, Lloyd's, Magnasonic, Magnavox, Magnin, Memorex, MGA, Mitsubishi, Optimus, Orion, Panasonic, Penney, RadioShack, Realistic, Rhapsody, Runco, SSS, Sampo, Samsung, Samsux, Sansai, Sansui, Sanyo, Scimitu, Scott, Sears, Semivox, Semp, Sharp, Shogun, Signature, Simpson, Sony, Soundesign, Spectricon, Squareview, Starlite, Supre-Macy, Supreme, Sylvania, Symphonic, TMK, TNCi, Tandy, Tatung, Technics, Technol Ace, Techwood, Teknika, Telefunken, Toshiba.

Setup Codes for TV/VCR Combos:

Table with 2 columns: Brand, Code. Includes Broksonic, Citizen, Colt, Curtis Mathes, Daewoo, Emerson, Funai, GE, GoldStar, Harley Davidson, Hitachi, JVC, Lloyd's, Magnasonic, Magnavox, Magnin, Memorex, MGA, Mitsubishi, Optimus, Orion, Panasonic, Penney, RadioShack, Realistic, Rhapsody, Runco, SSS, Sampo, Samsung, Samsux, Sansai, Sansui, Sanyo, Scimitu, Scott, Sears, Semivox, Semp, Sharp, Shogun, Signature, Simpson, Sony, Soundesign, Spectricon, Squareview, Starlite, Supre-Macy, Supreme, Sylvania, Symphonic, TMK, TNCi, Tandy, Tatung, Technics, Technol Ace, Techwood, Teknika, Telefunken, Toshiba.

Table with 2 columns: Brand, Code. Includes Cinerall, Citizen, Colt, Craig, Curtis Mathes, Daewoo, Denon, Dynatech, Electrohome, Electrophonic, Emerex, Emerson, Fisher, Fuji, Funai, GE, Garrard, Go Video, GoldStar, Gradiente, HI-Q, Harley Davidson, Harman/Kardon, Harwood, Hitachi, Hughes Network Sys., JVC, Jensen, KEC, KLH, Kenwood, Kodak, LXI, Lloyd's, Logik, MEI, MGA, MGN Technology, MTC, Magnasonic, Magnavox, Magnin, Marantz, Marta, Matsushita, Memorex, Minolta, Mitsubishi, Motorola, Multitech, NEC, Nikko, Noblex, Olympus, Optimus, Orion, Panasonic, Penney, Pentax, Philco, Philips, Pilot, Pioneer, Polk Audio, Profitronic, Proscan, Protec, Pulsar, Quasar, RCA, RadioShack, Radix, Randex, Realistic, ReplayTV, Runco, SSTS, Samsung, Sanky, Sansui.

Table with 2 columns: Brand, Code. Includes Sanyo, Scott, Sears, Semp, Sharp, Shintom, Shogun, Singer, Sony, Sylvania, Symphonic, TMK, Tatung, Teac, Technics, Teknika, Thomas, Tiwo, Toshiba, Totevision, Unitech, Vector, Video Concepts, Videomagic, Videosonic, Villain, Wards, White Westinghouse, XR-1000, Yamaha, Zenith.

ADDITIONAL INFORMATION

The Motorola DRC450 does not have any user serviceable parts. Opening the case, except for the battery cover, may cause permanent damage to your Motorola remote control.

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Table with 2 columns: Brand, Code. Includes Pioneer, Philips, Profitronic, Proscan, Protec, Pulsar, Quasar, RCA, RadioShack, Radix, Randex, Realistic, ReplayTV, Runco, SSTS, Samsung, Sanky, Sansui.