McIntosh

CR12

AUDIO\VIDEO
MULTIZONE REMOTE CONTROL SYSTEM

(Information derived from Owner's manual)

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MS–1204

INTRODUCTION

McIntosh Laboratory has a tradition of manufacturing sophisticated high quality audio equipment since 1949. McIntosh products are engineered for superior performance and a long trouble free operating life. The technical excellence and reliability of McIntosh audio electronics is acknowledged, world wide.

McIntosh philosophy has never deviated from the policy of designing only the finest possible audio equipment for musical reproduction. A continual program of technical design improvements and product innovations has occurred over the years since 1949. The best of these product advancements and innovations are included in every new McIntosh product. Each individual McIntosh model is subjected to many rigorous tests and evaluations at every step in the production process to insure it will meet or exceed the demanding McIntosh performance specifications. Every new McIntosh model is created with the same performance excellence and quality that you expect from McIntosh. McIntosh products are designed and manufactured by a highly skilled and dedicated workforce in Binghamton, New York, USA.

CR12 AUDIO/VIDEO REMOTE CONTROL SYSTEM

Now you can take advantage of traditional McIntosh standards of excellence in an advanced design Audio/Video Multizone Control System. You only need to push a button on a remote controller or a keypad to enjoy music and video programs throughout your home with McIntosh quality and reliability.

With the assistance of your McIntosh dealer, your Multizone System can be programmed to perform many additional functions which are both useful as well as entertaining. A number of accessories are available to customize your McIntosh Audio/Video multizone system to your ultimate needs. There are McIntosh keypads that allow easy access to all audio/video signal sources in each remote zone with just a push of a button. There is even a deluxe keypad with a built-in clock timer that allows you to program timed events, wakeup times and sleep times. Other accessories allow you to control lights, motor driven drapes or screen motors etc. with a push of a button. You also can interconnect a full featured McIntosh Home Theater System with your CR12 A/V Multizone System. You can experience the excitement of your favorite movie reproduced through McIntosh electronics and loudspeakers in your home theater or media room and at the same time, others can be enjoying their choice of different music or video programs in any of several remote zones.

All McIntosh Audio/Video products in your home entertainment system will also reproduce any 2 channel stereo audio program signal sources such as compact discs, with traditional McIntosh quality.

CONSULT YOUR McINTOSH DEALER

The long term success of McIntosh Laboratory has been reinforced by the outstanding professionalism of its retail dealer organization. A typical McIntosh dealer has all the resources necessary for creating and installing a McIntosh Audio/Video system that will match your listening environment and life style. The expertise and after sale service provided by these dealers have been a critical component of McIntosh's legendary customer satisfaction.

Your CR12 A/V System can be installed and setup with a wide range of feature and performance options. The ultimate configuration of your system will depend on your needs, and will be determined by consulting with your McIntosh dealer. Some of the performance setup procedures will be best handled by your McIntosh dealer. Other features such as zone programming can be easily done by the user.

WHAT YOUR CR12 CAN DO FOR YOU

#. Turn the entire CR12 System on or off. *(Front panel nomenclature illuminates when any zone is activated.)*

#. Turn on any of the four zones for normal operating.

#. Turn on Programming for any of the four zones.

#. Select from four separate audio-only input signal sources for any zone.

#. Select from four separate Audio/Video input signal sources for any zone.

.Each of the four zones can accommodate a signal source such as a tuner, CD player or Laser Video Disc player dedicated only to that specific zone.

#. Select the desired listening volume level for each zone.

#. Select which zones require telephone muting and the muting configuration.

#. Select a CD player or Laser Video Disc player and have it automatically turn on and start playing.

#. Accessory Control priority lock a zone so operating features of a specific accessory signal source cannot be changed, nor can System Off be activated from that zone.

#. Reset the main CR12 microprocessors in case the˙system locks up.

#.Mute audio in any zone.

#.Front panel display shows which zones are on and which signal source is selected for each specific zone.

#.Perform the following programming functions for each zone.

> #. Select zone turn on defaults (wakeup) for signal source and volume level.
>
> > Option 1: Turn on every time with same programed signal source and volume.
> >
> > Option 2: Turn on with last used signal source and volume.
>
> #. Select zone accessory turn on and performance options.
>
> #. Establish accessory priority control for a zone to limit control options.
>
> #. Select desired zone telephone muting options.

All programming is stored in non volatile memory and is permanently retained until changed, even in the event of a power interruption.

HAND HELD REMOTE CONTROLLER OPERATIONS

In Zone 1, the controller transmits IR signals to the CR12 front panel sensor. In a remote zone, the controller transmits IR signals to a wall sensor or keypad sensor.

#. Turn zone on or off. *(Zone power status ON is indicated by illumination of the POWER pushbutton on a WK-3 or WK-4 keypad, or a Red LED in an R649 wall IR sensor.)*

#. Select any audio or audio/video signal source.

#. Program zone for wakeup signal source and volume level.

#. Select the HC-1 Home Controller to control accessories such as lights, screen motors or other appliances

#. Turn accessories on or off.

#. Adjust zone volume level.

#. Mute zone audio.

(The following operations are not possible in a zone that has been programmed for priority Accessory Control lockout).

#. Turn entire system off.

#. Select a specific accessory component operating function.

#. Operate McIntosh CD players or Laser Disc players.

#. Perform operating functions of a McIntosh tuner.

   #. Select AM or FM stations.

   #. Seek up or down the broadcast bands.

   #. Review AM and FM station presets.

#. Use 10 numbered pushbuttons to operate compatible accessories and the HC-1 Home Controller.

KEYPAD OPERATIONS

Keypads are usually used only in remote zones. If the CR12 is installed in a Zone 1 location where the front panel IR sensor is blocked, a keypad or wall sensor can be used, connected to the Zone 1 rear panel SENSOR coaxial connector to restore normal remote operation from a Hand Held Remote Controller.

WK-3
DECORA STYLE KEYPAD / 12 PUSHBUTTONS

(As many as four keypads can be connected, hard wired in parallel, on each specific zone cable.)

   #. Turn zone power on or off. The POWER pushbutton illuminates when the zone is turned on, and blinks on and off when the Zone is muted.

   #. Select CD, TV, Tuner, Tape or Aux signal sources. *(The selected signal source keypad pushbutton will illuminate.)*

   #. Adjust zone volume level.

   #. Accept control signals at built-in IR sensor, transmitted from a hand held remote controller.

(The following operations are not possible in a zone that has been programmed for priority Accessory Control lockout).

   #. Turn entire system off.

   #. Select CD Player operating functions.

   #. Select Review to listen to station presets when McIntosh tuner is selected.

WK-4
DELUXE KEYPAD WITH CLOCK TIMER

(As many as four WK-4 keypads can be connected, hard wired in parallel, on each specific zone cable.)

#. Turn zone power on or off. (*The POWER pushbutton illuminates when the Zone is turned on*).

#. Mute audio in the zone. (The POWER pushbutton blinks on and off when the Zone is muted).

#. Select any of the eight audio or audio/video signal sources. (*The pushbutton for the selected signal source will illuminate.*)

#. Adjust zone volume level.

#. Set built-in clock to correct time

#. Program wakeup for time, signal source and volume level.

#. Program turn off or sleep time.

Program a timed event.

(The following operations are not possible in a zone that has been programmed for priority Accessory Control lockout).

#. Turn entire system off.

#. Perform operating functions on a McIntosh CD player or Laser Disc Player.

#. Use CHANNEL pushbuttons to scan up or down on the AM or FM bands on a McIntosh tuner.

#. Select AM or FM bands on a McIntosh tuner.

#. Select REVIEW to listen to station presets when a McIntosh tuner is selected.

#. Control accessory components such as lights, screen motors, etc. when the optional HC-1 Home Controller is added to the system.

#. Turn accessory components on or off.

#. Use 10 numbered pushbuttons for direct key access to operate CD players Laser Video Disc players, the HC-1 Home Controller and other compatible accessories.

(An accessory component connected to the DEDICATED inputs for a zone is not affected by the ACCESSORY CONTROL OFF priority lockout.)

DESCRIPTIONS AND OPERATING FUNCTIONS

CR12 FRONT PANEL
REMOTE CONTROLLER
WK-3 KEYPAD
WK-4 KEYPAD

FRONT PANEL FUNCTIONS

Any zone can be turned on by pressing a zone POWER pushbutton. A variety of operating functions can be programmed for any zone by pressing a zone PROGRAM pushbutton prior to turning on the zone. During the programming procedure, all the programming pushbuttons are assigned to that zone for 10 seconds. Each time a program function is performed, you must perform the next function within 10 seconds. 10 seconds after the last programming function has been performed, the programming mode turns off.

The next time the zone is turned on, all the programmed functions will be active.

Drawings of the CR12 front panel, the hand held remote controller and the keypads are found on pages further back in this manual. The following information refers to the numbers on the drawings.

1. ACCESSORY CONTROL OFF (For programming only)

Allows you to enable or disable control operations of accessory components from any zone. During programming, press ACCESSORY CONTROL OFF to prevent accessory control in that specific zone. The ACCESSORY CONTROL OFF Red LED turns ON to indicate control is initiated. When ACCESSORY CONTROL OFF is active, you can only select the signal source, change volume and mute the audio from any zone. No other accessory operating functions are possible in remote zones using this programmed operating mode.

ACCESSORY CONTROL OFF programming is only possible on the CR12 front panel. If the ACCESSORY CONTROL OFF Red LED is OFF, full control functions are active in that zone.

(An accessory component connected to the DEDICATED inputs for a zone is not affected by the ACCESSORY CONTROL OFF priority lockout.)

2. PROGRAM

Press a PROGRAM pushbutton for the zone you wish to select and configure. The front panel LED indicators illuminate to show which zone, which signal source, and what volume level has been selected. Programming is normally done when the zone is turned OFF. If the zone is turned on, it will mute as soon as programming is initiated. **All programmed options will take effect the next time the zone is turned on.**

3. POWER

Press a POWER pushbutton to turn on a specific zone. The front panel is active for 10 seconds to perform input selections for that zone. 10 seconds after the last pushbutton operation, the front panel control reverts to Zone 1.

4. ACCESSORY PWR ON (For programming only)

Used to program instructions for an accessory component to turn on its AC power whenever it is selected. ACCESSORY POWER ON programming is only possible on the CR12 front panel and cannot be changed from other zones. Programming ACCESSORY PWR ON in combination with TRANSPORT PLAY adds a 2 second time delay.. (*This programming function is only possible with accessory components that automatically cycle their power switch to OFF when the AC power source is turned off.*)

5. SYSTEM OFF

Press SYSTEM OFF to turn off the entire CR12 system.

6. TELEPHONE MUTE

Used in programming telephone muting functions for each zone. Telephone muting has three options. Option Number 3, (mute on both ring and handset pickup), is operational when the CR12 is shipped from the factory. Six seconds after the last ring, or six seconds after the handset has been returned to its cradle, normal audio will be restored, (unmuted).

Telephone zone muting can be programmed only at the CR12 front panel. Telephone

muting OPTIONS can be changed, *only*, by your McIntosh dealer.

(If you are not using the Telephone Mute feature and the CR12 is not interconnected to your telephone line, always leave the TELEPHONE MUTE in the OFF setting.)

7. RESET
Press the RESET button to reactivate all CR12 microprocessors in case of lock up.

8. MUTE
Press MUTE to mute audio in any zone that has been turned on. The MUTE LED will turn ON to indicate the audio is muted. To Unmute, press MUTE a second time or adjust the main volume. MUTE must be performed in Zones 2, 3 and 4 within 10 seconds after turn on.

9. SIGNAL SOURCE
Select any one of four Audio or four Audio/Video signal sources for use in any zone, or for zone programming.

10. % VOLUME
The digital VOLUME display reads from 0 to 99 and reflects the % (Percent) of the maximum available. The volume display will indicate levels in Zones 2, 3 and 4, when POWER is turned on in that zone by a CR12 zone POWER pushbutton. After 10 seconds the display will return to the volume setting for Zone 1.

11. AC (Power)
The Red AC Power LED turns on and stays on, as long as the CR12 AC power cord is connected to a live AC outlet, and the rear panel POWER switch is turned to ON. When the Red AC LED is illuminated, the CR12 is ready for use. The POWER switch is normally left on at all times, and is only turned off when the system will not be used for an extended period.

12. ▼ VOLUME ▲
Press the UP (▲) or DOWN (▼) VOLUME pushbutton to adjust the volume level for listening or programming in any zone.

The volume display will indicate levels for Zones 2, 3 and 4 when the CR12 front panel POWER is turned on for that zone. After 10 seconds, the display will return to the volume setting for Zone 1.

13. TRANSPORT PLAY (For programming only)
Used in programing a player of any type, (CD, Tape or Laser Video Disc), to start playing at zone turn on.

HAND HELD REMOTE CONTROLLER
The following information refers to the numbers on the drawing of the Hand Held Remote Controller.

The pushbuttons BLANKED OUT on the drawing do not perform CR12 functions. The CR12 Remote Controller is multi-purpose. These pushbuttons are active with other McIntosh products.

1. VIDEO

Press any of the four video signal source pushbuttons to turn the zone on and select the video signal source for use. If you press a video signal source pushbutton and hold it for 5 seconds, that signal source will be programmed to appear every time the zone is turned on, (wakeup) and at the last used volume setting. This signal source change will erase any previously programed wakeup signal sources and volume levels performed at the CR12 front panel.

2. CD/TAPE

When a CD Player or Tape Recorder is selected, the following operations are possible with these four pushbuttons. **STOP, BACK TRACK (◄◄), NEXT TRACK (►►), and PLAY.** The ten number keys also can be used for direct track access on a McIntosh MCD7009 CD Player or MLD7020 Laser Disc player. *(If you wish to use a McIntosh MCD7008 CD changer, it must be interconnected to the CR12 with the RCT-1 Remote Control Translator. This will allow the above four operations plus direct key access to change discs and tracks. (You may also connect the MCD7008 with the MSI-1 to perform the basic four functions, plus changing discs in STOP mode).*

3. HOME

Press the HOME pushbutton, and within 5 seconds,.the appropriate number pushbuttons (0 through 9) to operate the optional HC-1 Home Controller which in turn will control accessories.

4. SYS OFF

Press SYS OFF (SYSTEM OFF), to turn off the entire CR12 system. *(This function is not possible in a zone that has been programmed for a priority Accessory Control lockout.)*

5 POWER

Press POWER to turn the zone on.

6. ACC ON / ACC OFF

Press either of these pushbuttons to turn power on and off of an accessory component connected to the CR12 System and programmed with the RCT-1 Remote Control Translator.

If a Turn-On command has **not** been programmed for a McIntosh MLD7020 Laser Video Disc Player, press ACC ON to turn on the player when it is selected.

7. CD2, TUNER, PH/AUX and TAPE 1

Press any of these pushbuttons to select the desired audio signal source. If you press a signal source pushbutton and hold it for 5 seconds, that signal source will be programmed to appear every time the zone is turned on, (wakeup) and at the last used volume setting. This signal source change will erase any previously programed wakeup signal sources and volume levels performed at the CR12 front panel.

8. (0 through 9 Pushbuttons)

Press one or more numbered pushbuttons for any function requiring direct number key access. This could be operating the HC-1 Home Controller, accessing tuner station presets, accessing CD tracks on a McIntosh MCD7009 CD Player, MLD7020 Laser Video Disc Player, or

any similar function requiring direct key access.

These pushbuttons also can be used to operate accessory components interconnected with The RCT-1 Remote Control Translator.

9. AM, FM, REVIEW, SEEK ▲ (UP), ▼ (DOWN)

(Operate a McIntosh tuner.)

Press AM or FM to select the desired broadcast band.

Press REVIEW to review the station presets.

Press SEEK UP or SEEK DOWN to move up or down the AM or FM broadcast band.

10. E (ENTER)

Press E (ENTER) to activate a programming process required by an accessory component interconnected to the CR12 with the RCT-1 Remote Control Translator.

11. MUTE

Press MUTE to silence or mute audio in any zone where the Remote Controller is being used. Press MUTE again, adjust the main volume or switch to a different signal source to unmute.

12. VOLUME ▲ (UP) or ▼ (DOWN)

Press these pushbuttons to raise or lower volume in any zone where the remote controller is being used.

ALTERNATE·CR12 REMOTE CONTROLLER PUSHBUTTON FUNCTIONS

	CR12 PUSHBUTTON	MCD7009 FUNCTION
MCD7009 CD Player:	REVIEW	+10
	SEEK ▼ (Down)	REVerse
	SEEK ▲ (Up)	FF (Fast Forward)
	E (Enter)	PAUSE

	CR12 PUSHBUTTON	MLD7020 FUNCTION
MLD7020 LD PLAYER	REVIEW	+10
	AM	SIDE A
	FM	SIDE B
	SEEK (Down)	REVerse
	SEEK ▲ (Up)	FF (Fast Forward)
	E (Enter)	PAUSE
	ACC ON	POWER

WK-3 KEYPAD

The keypad pushbuttons are used to make selections in the zone where the keypad is located. The pushbuttons are also used for selected zone programming functions..

The WK-3 installs in a single gang wall switch box, behind a Decora style mounting plate and connects to the CR12 with a 4 conductor shielded cable. Up to four WK-3 keypads can be

hard wired in parallel on a single Zone cable.
The following information refers to the numbers on the keypad drawing.

1. IR sensor that accepts commands transmitted from a Hand Held Remote Controller.

2. Pushbuttons to select any of five signal sources. The zone power turns on and the selected signal source pushbutton illuminates.

3. Select PLAY or STOP functions of a CD player, Laser Video Disc player or a Tape recorder.

4. Press SYS OFF to turn off the entire CR12 System. *(SYS OFF is inoperative if the zone has been locked out by priority Accessory Control programming.)*

5. Press POWER to turn the Zone on and off. *(When the zone power is turned on, the pushbutton illuminates. If the zone has been muted, the pushbutton illumination will blink on and off.)*

6. A. When a Tuner is selected, press (NEXT) **REVIEW** to audition AM or FM station presets on a McIntosh tuner interconnected with the CR12.

B: When a Player is selected, (CD, Laser or Tape), press **NEXT** (REVIEW) to change to the next track. When a McIntosh MCD7008 CD Changer is connected to the CR12 or interconnected through a McIntosh A/V Control Center, press **STOP** and then **NEXT** one or more times to cycle through six discs stored in the changer. Refer to the WK-4 information on how to connect the MCD7008 to a CR12 system.

(NEXT/REVIEW is inoperative if the zone has been locked out by priority Accessory Control programming.)

7. Press Up (▲) or Down (▼) VOLUME to change the volume level.

WK-4 KEYPAD

The keypad pushbuttons are used to perform operations in the zone where the keypad is located. The pushbuttons are also used for selected zone programming and Clock/Timer functions.

The WK-4 fits in a 3 gang wall switch box and connects to the CR12 with a four conductor shielded cable. Up to four WK-4 keypads can be hard wired in parallel on a single Zone cable.
The following information refers to the numbers on the keypad drawing

1. AM or PM illuminates to indicate the present time of day, or time of event programming.

2. TIMER illuminates to indicate a timed event has been programmed and the timer is on.

3. ON - OFF indicates whether a timed event has been programmed.

4. Digital time display shows present time of day. Time of programmed events is also indicated during programming.

5. SLEEP Illuminates to indicate that a timed on-off sleep event has been programmed.

6. IR sensor that accepts commands transmitted from a Hand Held Remote Controller.

7. Pushbuttons to select any of eight signal sources. When a signal source pushbutton is pressed, the pushbutton illuminates and the zone turns on..

8. Pushbuttons to set clock and program timed events during programming.
> *The RESET pushbutton has a dual function.*
> *1. Press momentarily to reset the WK-4 microprocessors in case of lockup.*
> *2. Press and hold for 3 seconds or more to reset ALL CLOCK functions to zero.*

9. Press SYS OFF to turn off the entire CR12 System. (You cannot turn the entire system off at a keypad if the zone has been locked out by Accessory Control programming.)

10. Press POWER to turn the zone on and off. The POWER pushbutton illuminates when the zone is turned on, and blinks on and off when the zone is muted.

11. Press ACC ON or ACC OFF to control AC power to an accessory component that is interconnected to the CR12 with the RCT-1 Remote Control Translator. Also use to turn on the McIntosh MLD7020 Laser Video Disc Player after it has been selected.

12. Press the HOME pushbutton, and within 5 seconds, press the appropriate number pushbuttons, (0 through 9) to operate the optional HC-1 Home Controller which in turn will control accessories.

13. ENTER is used to perform operating functions of an accessory component interconnected with the RCT-1 Remote Control Translator.

14. Press AM (DISC) or FM (TRACK) to select the desired broadcast band of a McIntosh Tuner connected to the CR12. (*The McIntosh MR7084 Tuner can be operated when interconnected to the CR12 with a Data cable. The MR7083 Tuner must be interconnected to the CR12 with an MSI-1 Multiple Unit Serial Interface).*
> The alternate functions of these two keypad pushbuttons operate in conjunction with the 0 through 9 pushbuttons when a CD player, CD changer or Laser Video Disc player is selected. Press **DISC** (AM) and one or more number pushbuttons to select a disc on a CD changer. Press **TRACK** (FM) and one or more number pushbuttons to select a track on a player.
> *(The McIntosh MCD7009 CD Player and MLD7020 Laser Video Disc Player can be operated when interconnected to the CR12 with a Data cable. The MCD7008 CD Changer must be interconnected to the CR12 with the RCT-1 Remote Control Translator or the MSI-1. Using the RCT-1 with the MCD7008 allows a greater range of player control functions.)*

15. Pushbuttons 0, through 9 are used to select AM or FM Tuner station presets, operate HC-1 Home Controller relays, or select tracks of a McIntosh CD player or Laser Video Disc Player.

16. When a CD Player, LV Player or Tape Recorder is selected, the following operations are possible with these four pushbuttons. STOP, BACK TRACK (◄◄), NEXT TRACK (►►), and

11

PLAY. The ten number keys can be used for direct track access on a McIntosh MCD7009 CD Player, MLD7020 LV Player or direct disc and track access on an MCD7008 CD Changer interconnected to the CR12 with the RCT-1. *(The McIntosh MCD7008 CD changer can also be interconnected to the CR12 through an MSI-1. This allows you to change discs in STOP mode. Press NEXT TRACK up to six times to cycle through the first six discs. Press BACK TRACK to select the Single disc.)*

17. Press REVIEW to audition AM or FM station presets on a McIntosh tuner interconnected with the CR12.

18. Press Up (▲) or Down (▼) CHANNEL to change station channels on a McIntosh tuner connected to the CR12, change channels on a TV tuner connected using an RCT-1, or perform alternate functions on an MCD7009 CD player or MLD7020 laser video disc player.

19. Press Up (▲) or Down (▼) VOLUME to change the volume level.

20. Press MUTE to mute the audio in the zone where the keypad is located. Press MUTE again, adjust the main volume or switch to another signal source to Unmute.

ALTERNATE WK-4 PUSHBUTTON FUNCTIONS

	WK-4 PUSHBUTTON	MCD7009 FUNCTION
MCD7009 CD Player:	REVIEW	+10
	CHANNEL ▼ (Down)	REVerse
	CHANNEL ▲ (Up)	FF (Fast Forward)
	ENTER	PAUSE

	WK-4 PUSHBUTTON	MLD7020 FUNCTION
MLD7020 LD PLAYER	REVIEW	+10
	CHANNEL ▼ (Down)	REVerse
	CHANNEL ▲ (Up)	FF (Fast Forward
	AM	SIDE A
	FM	SIDE B
	ENTER	PAUSE
	ACC ON	POWER

HOW TO CONNECT AND SETUP
CABLE REQUIREMENTS
The listings below refer to the numbers on the rear panel drawing.

1. KEYPAD
Four conductor shielded, or two shielded twisted pairs connected to a removable terminal block that plugs into the KEYPAD socket for each of the four zones on the CR12 rear panel. The other end of the cable connects to matching numbered terminals on the keypad.

2. BALANCED OUTPUTS / FIXED-VARIable
Use two shielded twisted pair cables to the 7 pin DIN plug. Follow the

connecting details listed for the chassis connector.

3. UNBALanced OUTPUTS
Shielded audio cables with RCA type connectors.

4. SENSOR
RG6, RG59U or similar coaxial cable.

5. VIDEO OUT TO MONitor
Use RG6, RG59U or equivalent coaxial cable. Use a Female "F"-to-Male RCA adaptor to connect to the coaxial cable.

(6, 7, and 8). ZONE AUX IN

VIDEO (6)
Use shielded video cables with RCA Composite connectors.

DATA (7)
Single conductor shielded cable with a 1/8 inch mini phone plug on each end. Connections are to the tip (+) and sleeve (-) of the plug.
(McIntosh Part No. 170-202)

L and R (8)
Shielded cables with RCA type connectors.

(14 and 15). POWER CONTROL and MULTI CHANNEL AMP
7 Pin DIN connectors on each end.
(McIntosh Part No. 170-147)

16. MULTI-CHANNEL AMP
25 conductor, (DB25), shielded, straight through, male-to-female cable.

(17 and 18). PWR CNTL and DATA PORTS
Single conductor shielded cable with a 1/8 inch mini phone plug on each end. Connections are to the tip (+) and sleeve (-) of the plug.
(McIntosh Part No. 170-202).

20. CONTROLLER INPUT B / TO NEXT CONTROLLER
37 conductor, (DB37), shielded, straight through, male-to-male cable.
(McIntosh Part No. 170-430)

21. CONTROLLER INPUT A
25 conductor, (DB25), shielded, straight through, male-to-male cable.
(McIntosh Part No. 170-203)

22. RS232 ADAPTOR
(RS232, DB9), 9 conductor shielded cable.

23. PHONE
>Standard 4 conductor telephone connector and cable.

CR12 REAR PANEL CONNECTIONS AND CONTROLS
The following information refers to the numbers on the rear panel drawing.

CONNECTIONS AND SETUP FOR EACH INDIVIDUAL ZONE
(The four individual zone inputs and outputs are identical, so only one zone is described.)
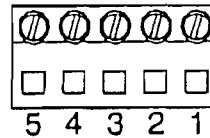
1. KEYPAD
Four plug-in keypad terminal blocks are included with every CR12. Connect the shield and four leads of a shielded 4 conductor cable to a terminal block according to the numbers listed below. Insert the terminal block into the desired zone keypad socket on the CR12 rear panel. There is a similar numbered connector built-in to each keypad. Two cable leads carry data signals, and two leads supply voltage to operate the keypad and illuminate the pushbuttons. Using a removable keypad connector facilitates installation.
(Removeable keypad terminal block, McIntosh Part No. 117-634)
Up to four keypads can be hard wired in parallel on each specific zone cable.

CONNECTIONS:
>1. Plus (+) Supply Voltage
>2. Supply Voltage Ground
>3. Shield
>4. Keypad Data
>5. Data Ground

5 4 3 2 1

When the CR12 is being used in conjunction with McIntosh MX130 or C39 Home Theater System, a WK-3 or Wk-4 can be used to control the MX130/C39. Connect the Keypad Plus Supply Voltage and Supply Voltage ground cable leads to the CR12 Zone 1 supply voltage connections "1", (+ Voltage) and "2", (Supply Voltage Ground). This connection will supply the 12 volts necessary to operate the Keypad and illuminate the appropriate pushbuttons. Connect the two keypad data terminal cables to the Control System coaxial Sensor.

**2. BALANCED OUTPUTS / FIXED - VARI, BALANCED (Fixed-Variable Switch)**
Connect one end of a pair of balanced cables to a 7 pin DIN connector according to the pin number listings. Connect the other ends to the Balanced audio Inputs of a power amplifier dedicated to sending audio signals to this specific zone. The BALANCED output volume levels can be fixed or variable, depending on the setting of the FIXED-VARIable switch. The VARIable setting includes the BASS, TREBLE and LEVEL controls, which are bypassed in the FIXED setting. The FIXED-VARIable switch affects only the BALANCED OUTPUTS. (The UNBALANCED OUTPUTS are always variable.)
(Use two shielded twisted pair cables for the BALANCED connections.)

DIN CONNECTIONS for
BALANCED OUTPUTS

DIN CONNECTOR
PIN LAYOUT

1. Left Channel (-)
2. (Not used)
3. Right Channel(-)
4. Left Channel Ground
5. Right Channel Ground
6. Left Channel (+)
7. Right Channel (+)
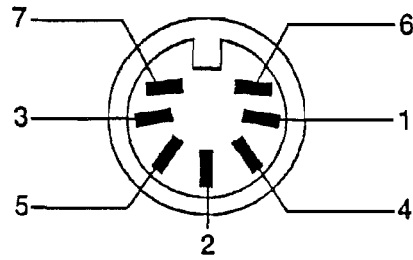
3. UNBALANCED OUTPUTS (Audio)

Connect cables from the UNBALANCED OUTPUTS to the inputs of a power amplifier dedicated to driving loudspeakers in this specific zone. The UNBALANCED OUTPUTS are always variable, and are affected by the BASS, TREBLE and LEVEL controls.

4. SENSOR

Connect an RG59U, or RG6 coaxial cable to the SENSOR connector. Connect the other end of the cable to an R649 IR wall sensor or a WK 2 keypad in this specific remote zone. Zone control is activated by WK-2 keypad pushbuttons, or by transmitting IR signals from a hand held remote controller to the wall sensor or the sensor in the keypad.

Up to four sensors or keypads can be hardwired in parallel on a single zone coaxial cable.

5. VIDEO OUT TO MONitor

Connect a Female "F"-to-Male RCA adaptor to an RG6 or RG59U coaxial cable to feed video signals to the specific remote zone.

(Numbers 6, 7 and 8)
DEDICATED ZONE SIGNAL SOURCES

CONNECTORS 6, 7 and 8 are for use with an auxiliary audio or audio/video accessory component dedicated for use in that specific zone.

The A/V signals used in a dedicated zone replace the front panel AUX signal source selection. The switching from AUX to DEDICATED in a specific zone is activated when a DATA cable from the dedicated accessory component is connected to the CR12 DATA port for that specific zone.

If the accessory component does not have or require a DATA connection, activate the switching by inserting a 1/8 inch mini phone plug, (with a lead connected from the tip to the ring), into the CR12 zone DATA port.

6. VIDEO INput

Connect the video output from an auxiliary accessory video component that will be dedicated to this specific zone.

7. DATA
Connect a Data cable from the DATA port to a matching Data port on an auxiliary accessory video component dedicated to this specific zone. This allows the CR12 to operate the accessory component from any zone.

8. L and R (INput)
Connect left and right audio outputs from the accessory component dedicated to this specific zone.

9. BASS - TREBLE
Adjust the bass and treble response in this specific zone to accommodate listener preferences or to correct for loudspeaker and room acoustic variations. Each control can boost or cut 12dB. The UNBALANCED (always variable), and VARIABLE BALANCED OUTPUTS are affected by the BASS and TREBLE controls.

10. LEVEL
Adjust the LEVEL control for the volume level desired for this specific zone. The control has a level; range of ± 6dB from the center detent position.

CONNECTIONS COMMON TO ALL ZONES

11. POWER (switch)
The POWER switch is normally left in the ON position with the CR12 power cord connected to a live AC outlet. With the switch ON, the front panel Red AC power indicator will stay ON to indicate the CR12 is ready for use. Turn off the POWER switch only when the system is not going to be used for an extended period.

12. VIDEO INPUTS
Connect cables from the video outputs of accessory A\V components that are to be used with the CR12 to the appropriate VIDEO INPUTS. V-AUX is for any accessory video component, VCR1 for a VCR, LV for a Laser Video Disc player and TV for a television receiver or tuner.

13. VIDEO OUTPUTS
Important information concerning the use of a CR12 in conjunction with a McIntosh C39, MX130 or MX118 in a Home Theater System.
If the CR12 is being used in conjunction with a McIntosh Home Theater System incorporating a C39, MX130 or MX118, connect cables from the CR12 VIDEO OUTPUTS to the matching VIDEO INPUTS on the A/V Control Center. These connections feed video signals back to the A/V Control Center to allow accessory A/V components to be selected and have video available both in the Home Theater System as well as in all four remote zones of the CR12.
If more than one CR12 is connected in cascade, connect the VIDEO OUTPUTS of the first CR12 to the VIDEO INPUTS of the next CR12. Connect the VIDEO OUTPUTS of the last CR12 in the string back to the VIDEO INPUTS of the A/V Control Center.

14. POWER CONTROL
　　　Connect a DIN cable from a PC1 Power Control Relay to the POWER CONTROL connector. Connect the PC-1 heavy duty cable to a live AC wall outlet. The PC1 includes five switched AC outlets for audio accessories, two outlets for video accessories, four outlets for four individual zone power amplifiers and three unswitched, (on all the time) outlets. The five switched audio outlets turn on whenever any zone is turned on and can be used to supply AC power to accessory components. The two video outlets turn on whenever a zone selects a video source. A zone power amplifier outlet turns on only when that specific zone is turned on. *(A DIN cable is included with every PC-1)*

15. MULTI CHANNEL AMP, (7 Pin DIN Connector)
　　　Connect a cable from this DIN connector to a matching MULTI-ROOM IN connector on an MC7104, 4 channel power amplifier. The amplifier will receive control signals from this connector that turn on amplifier AC power and speaker relays for Zone 1 or Zone 2, when that specific zone is turned on. Connect a second DIN cable from the first MC7104 MULTI-ROOM OUT to the MULTI-ROOM IN connector on a second MC7104, which will receive control signals to turn on AC power and the speaker relays for Zone 3 or Zone 4, when that specific zone is turned on.
　　　Separate audio cables are required to feed audio signals to each MC7104.
　　　(For the AC power Turn On to operate, the MC7104 must have its power cord connected to a live AC outlet, and the Power Switch set to OFF/REMOTE.)

FIRST MC7104   SECOND MC7104
Zone 1: Channels 1 and 2   Zone 3: Channels 1 and 2
Zone 2: Channels 3 and 4   Zone 4: Channels 3 and 4

16. MULTI-CHANNEL AMP
　　　Connect a 25 conductor, shielded, Subminiature "D" (DB25), male-to-female, straight through cable, from the 25 pin MULTI-CHANNEL AMP connector to a matching connector on a McIntosh MC7108, 8 channel amplifier. The amplifier will receive Turn On control signals and stereo audio signals for all four zones. Whenever a zone is turned on, the MC7108 AC power turns on and speaker relays for the pair of amplifier channels dedicated to that specific zone will turn on. The MC7108 channel pairs listed below will be assigned to the zones indicated when the MULTI-CHANNEL AMP connection is used.

　　　(For the AC power Turn On to operate, the MC7108 must have its power cord connected to a live AC outlet, and the Power Switch set to OFF/REMOTE.)

Zone 1: Channels 1 and 2
Zone 2: Channels 3 and 4
Zone 3: Channels 5 and 6
Zone 4: Channels 7 and 8

17. PWR CTL, (POWER CONTROL)
　　　Connect a Data cable from the PWR CTL jack to the Power Control Input of a compatible accessory component to turn AC power on and off. The accessory component AC power cord must be connected to a live AC outlet. If the accessory is a compatible McIntosh power amplifier,

(one with a Power Control connector), the power switch on the amplifier must be in the OFF-REMOTE setting. *(A Power Control Data cable uses 1/8 inch mini phone plugs connected to single conductor shielded cable. Connections are to the tip (+) and sleeve (-) of the plugs.)*

18. AUDIO INPUTS

Connect cables from the audio outputs of four audio-only, and four audio/video accessory components to the AUDIO INPUTS. These signals will be available for all four zones.

19. DATA PORTS

Connect Data cables to Data Inputs of eight compatible audio or audio/video accessory components. This allows the accessory to be controlled by transmitting IR signals from the accessory hand held remote controller to a CR12 sensor in any zone.

The SUM DATA PORT connects to the DATA IN on a McIntosh RCT-1 Remote Control translator. The RCT-1 is a learning device that allows you to control other brands of compatible accessory components with the CR12 Remote Controller or keypad.

The HOME DATA PORT connects to the McIntosh HC1 Home Controller. This allows you to control accessories such as lights, screen motors or motorized drapes with the CR12 Remote Controller or WK-4 KEYPAD.

20. TO NEXT CONTROLLER and CONTROLLER INPUT B

As many as six CR12 systems can be cascaded to supply audio and video to a maximum of 24 zones. Connect a shielded 37 conductor Subminiature "D" (DB37), male-to-male, straight through cable from the TO NEXT CONTROLLER socket of the first CR12, to the CONTROLLER INPUT B of the second CR12. Repeat the connections in and out of each CR12. All Audio signals connected to the first CR12 will be sent down the cable to each succeeding CR12 to allow all remote zones to receive audio from all the A/V accessories. Dedicated zone accessory signals will not be affected by this connection.

Send Video signals to the second CR12 by connecting cables from the four VIDEO OUTPUTS on the first CR12 to the VIDEO INPUTS on the second CR12.

(If two or more CR12 units are used in conjunction with a McIntosh A/V Control Center, feed the VIDEO OUTPUTS of the last CR12 in the string back to the VIDEO INPUTS of the Control Center.)

CONTROLLER INPUT B will also accept the A/V signals from a Master Control Center, which will be a McIntosh product of the future

(DB37 cable assembly , McIntosh Part No. 170-430)

21. CONTROLLER INPUT A

Connect a 25 conductor shielded Subminiature "D" (DB25), straight through, male-to-male cable assembly from the TO MULTI-ROOM CONTROLLER output connector of a McIntosh C38, C39, MX130 or MX118, to the CR12 TO CONTROLLER INPUT A. This allows the CR12 to receive CD2, TUNER, TAPE 1 and AUX audio signals from audio and audio/video accessories connected to these Control Centers in their home areas. Data signals including SYS OFF and POWER ON are also sent on the cable. *(McIntosh Part No. 170-203)*

22. RS 232 ADAPTER

This connector provides power and data that will allow the CR12 to connect to a computer interface.

23. PHONE
The phone connector allows the CR12 to interface with your telephone line for purposes of programming telephone muting in any of the four zones.

ZONE SETUP OPTIONS USING REAR PANEL SETTINGS
Each of the four zones can be configured individually for the following performance options. Refer to the rear panel drawing.

2. BALANCED OUTPUTS / FIXED-VARIable BALANCED, (Switch)
The BALANCED (Audio) OUTPUTS can be configured for Fixed or Variable. The Variable configuration is affected by the BASS, TREBLE and LEVEL controls.

3. UNBALanced OUTPUTS
The UNBALanced OUTPUTS are always variable and always affected by the BASS, TREBLE and LEVEL controls.
(The BALANCED and UNBALANCED OUTPUTS can be used separately, or both simultaneously.)

9. BASS / TREBLE
The BASS and TREBLE controls for each zone can be set to the desired tonal balance. The tone controls can compensate for room characteristics, variations in speaker response or user needs. Each control provides 12dB boost or 12dB cut. The tone controls are only operational with the VARIABLE outputs.

10. LEVEL
Adjust the LEVEL control for the volume level desired in this specific zone. The level can be increased or decreased from the center detent position by 6dB.

###

CAUTION!
HAZARDOUS VOLTAGES INSIDE.
ALL INTERNAL SETUP OPTIONS *MUST* BE PERFORMED
ONLY BY YOUR AUTHORIZED McINTOSH DEALER.

INTERNAL SETUP OPTIONS
Remove the top cover of the CR12 to perform the following setup options.

CR12 FRONT PANEL SENSOR DISABLING
If the CR12 is interconnected with a McIntosh C39 or MX130 A/V Control Center, and

both components are located together in the Zone 1 area, the CR12 front panel IR sensor must be disabled. This avoids interference problems caused by sending IR commands simultaneously to the front panel sensors of BOTH units.

Near the top of the right backside of the front panel, just above the POWER switches, is a switch which turns the front panel IR sensor ON or OFF. Move the switch to the RIGHT, (looking at the front panel), to turn the sensor OFF. Move the switch to the LEFT to turn the sensor ON.

TELEPHONE MUTING OPTIONS

A Zone can be programmed for telephone muting with three different options. To allow phone muting, the residence telephone line must be connected to the CR12 rear panel PHONE connector.

Option 1: Zone MUTES when the phone rings.
Option 2: Zone MUTES when the handset is lifted off the cradle.
Option 3: Zone MUTES both when the phone rings and when the handset is lifted off
the cradle.
When a CR12 is shipped from the factory, OPTION 3 is operational.

OPTION 1 SETTING

Remove the jumper plug nearest the rear panel, on the left rear of the third circuit board down from the top cover.

OPTION 2 SETTING

Remove the jumper plug, second from the rear panel, on the left rear of the third circuit board down from the top.

OPTION 3 SETTING

Leave both jumper plugs in place.
###

FRONT PANEL PROGRAMMING

All programming is stored in non volatile memory and is permanently retained until changed, even in the event of a power interruption.

PROGRAM PUSHBUTTONS

Use the following sequence to program a zone for a desired operating configuration. All programmed operations take effect the next time a programmed zone is turned on.

1. Press a PROGRAM pushbutton for any of the four zones to start the programing process for that specific zone. The front panel LED next to the selected zone program pushbutton will turn on and the front panel nomenclature will illuminate. *(If the zone is turned on when programming is initiated, the zone will MUTE.)*

(After pressing a PROGRAM pushbutton, you must make further programming selections, each within 10 seconds. If no further selection is made within 10 seconds, the

zone programming will turn off and the CR12 front panel reverts to Zone 1. The new program will be active the next time the zone is turned on.)

2. Select a signal source for the zone by pressing any of the eight signal source pushbuttons. *The selected signal source front panel LED will turn on for the zone being programmed.*

3. (Optional) If the selected signal source component requires a power turn on command, press ACCESSORY POWER ON to program a turn on signal. The LED next to the pushbutton will turn ON. The accessory component must have a Data cable interconnected with the CR12.
(Programmed turn on function is possible only on components that automatically cycle off when the AC power source is removed. This function is not needed with most accessory· components that have power switches that can be left on, and are connected to switched AC outlets on a PC-1. These components will turn on whenever any CR12 zone is turned on.)
Programming an ACCESSORY ON command will add an additional 2 second time delay after a zone is turned on and AC current has been applied to the accessory components.

4. (Optional) If the selected signal source is a component with a PLAY function, such as a CD player, or tape recorder, a TRANSPORT PLAY command can be programmed to have the player start in PLAY mode after its power turns on).
·   After step 3 is performed, Press TRANSPORT PLAY to program the PLAY command. *The LED next to the pushbutton turns on to indicate programming has occurred.*

SPECIAL INFORMATION WHEN USING A McINTOSH MLD7020 LASER VIDEO DISC PLAYER
If the MLD7020 LV Player has been programed to turn on and play in a given zone, and is actively playing a disc, perform the following steps to enjoy the A/V program in a second zone simultaneously. If the second zone has also been programmed for an Accessory On command, first press TUNER for that zone you wish to add, and after 5 seconds, press LV. The A/V program will now appear in the second zone. If LV was pressed first in the second zone, it would send a second Turn ON command, which would turn the player off.
When going from PLAY to STOP mode, press and release the STOP pushbutton. To stop PLAY and open the disc drawer, press STOP and hold it for 3 or more seconds, or press and release STOP twice.

5. Press an UP (▲) or DOWN (▼) VOLUME pushbutton to select the desired volume level in the zone being programmed. *The front panel %VOLUME display will indicate the selected level.*

6. Press PROGRAM again or wait 10 seconds, to exit the program mode.

7. The next time the zone is turned on, all the programmed functions will be active.

ZONE TURN ON PROGRAMMING OPTION
Turn on with last used signal source and volume level

1. Press PROGRAM for the zone to wish convert.

2. Press the pushbutton for the signal source originally programmed to be selected at Turn On for that zone.
(The entire row of front panel signal source LED's for that zone turn off).

3. Press PROGRAM again or wait 10 seconds to exit the programming mode.

3. The next time the zone is turned on with the POWER pushbutton, it will come on with the last used signal source and volume level instead of the previously programmed signal source.

(This operation can be performed when the zone is on or off. If the zone is on, it will be muted during the programming process. When a zone is programmed with this turn on option, all signal source volume levels will initially appear at a default setting of 20 on the volume display.)

ACCESSORY CONTROL OFF
Press the ACCESSORY CONTROL OFF pushbutton in Programming Mode to prevent a zone from performing any operations on an accessory component other than signal source selection, volume level and muting. The Red LED to the right of the ACCESSORY CONTROL OFF pushbutton will turn ON to indicate that the Control function is OFF and accessory control is prevented in the zone being programmed.

TELEPHONE MUTING
Telephone muting can be programmed along with other programming operations, or done separately. Muting can be programmed for any or all zones. Every zone programmed for TELEPHONE MUTE will mute audio and blank out video simultaneously, whenever an incoming call causes the phone to ring, or whenever ANY handset on that phone line is lifted off its cradle, Telephone muting is available with three options. *(Option number 3, Muting both on ring and handset pickup is active when the CR12 leaves the factory.)*

PROGRAMMING TELEPHONE MUTING
1. Press PROGRAM for the zone you want to have telephone muting active.
2. Within 10 seconds, press TELEPHONE MUTE. The Red LED to the right of the pushbutton will turn on to indicate TELEPHONE MUTE is active.
3. Press PROGRAM again, or wait 10 seconds.
4. The next time the zone is turned on, TELEPHONE MUTE will be active.
5. Whenever the telephone rings, or the handset is lifted off the cradle, muting will occur in the zone where TELEPHONE MUTE is programmed.
6. The zone will unmute six seconds after the handset is replaced on the cradle, or six seconds after the last ring.

INDICATIONS OF ACTIVE MUTING

CR12 Front Panel:
Red LED to the left of the MUTE pushbutton turns ON when Zone 1 is muted.

WK-3 and WK-4 Keypad:
POWER pushbutton blinks ON and OFF.

R649 IR Sensor and WK-2 Keypad:
POWER LED blinks ON and OFF.

TEMPORARY TELEPHONE MUTING
TELEPHONE MUTING can be temporarily activated or deactivated in a zone without affecting previous TELEPHONE MUTE programming This Muting is only effective as long as the zone is turned on. The next time the zone is turned on, previously programmed TELEPHONE MUTE functions will still be in effect.

(To activate temporary TELEPHONE MUTE in Zones 2, 3 and 4, the TELEPHONE MUTE pushbutton must be pressed within 10 seconds after the zone is turned on at the CR12 front panel.),

TO TEMPORARILY ACTIVATE WHEN MUTING HAS NOT BEEN PROGRAMMED

1. Press POWER on the CR12 front panel to turn on the desired zone.
2. Press TELEPHONE MUTE in Zone 1 or in Zones 2, 3 or 4 within 10 seconds after turn on. The TELEPHONE MUTE Red LED will turn ON to indicate that Muting is active.
3. The next time the zone is turned on, TELEPHONE MUTE will not be activated.

TO TEMPORARILY DEACTIVATE WHEN MUTING HAS BEEN PROGRAMMED

1. Press POWER on the CR12 front panel to turn on the desired zone.
2. Press TELEPHONE MUTE in Zone 1, or in Zones 2, 3 or 4 within 10 seconds after turn on. The TELEPHONE MUTE Red LED will turn OFF to indicate that Muting is no longer activated.
3. The next time the zone is turned on, TELEPHONE MUTE will be active as programmed previously.

TEMPORARY UNMUTING
In cases where more than one zone has been programmed for Telephone Muting, it may be desirable to unmute the audio in a zone where the telephone is not actually being used. Perform the following operation with either a Keypad or a Remote Controller, **after Telephone Muting has occurred.**

1. To unmute temporarily, press the Mute pushbutton, press a signal source pushbutton or press a Volume pushbutton.
2. The zone will stay unmuted until the phone rings again or the handset is lifted off the cradle again.

PROGRAMMING EXAMPLES

PROGRAMMING EXAMPLE 1
(How to program Zone 2 for a McIntosh MCD7009 CD player)

1. Press Zone 2 PROGRAM.

2. Press CD.

3. Press TRANSPORT PLAY.

4. Press VOLUME Up until %VOLUME display reads 25. (Only a simulated volume setting).

5. Press Zone 2 PROGRAM again, or wait 10 seconds to exit programming mode.

6. Press CD or Zone 2 POWER. Zone 2 will turn on and the CD starts to play at the selected volume.

PROGRAMMING EXAMPLE 2
(How to program Zone 4 for a McIntosh MR7084 tuner.)

1. Press Zone 4 PROGRAM.

2. Press TUNER. (The tuner power switch must be left ON at all times for this function to operate).

3. Press TELEPHONE MUTE to have this function in Zone 4.

4. Press VOLUME UP until the %VOLUME display reads 25. (Only a simulated volume setting).

5. Press Zone 4 PROGRAM again, or wait 10 seconds to exit programming mode.

6. Press TUNER or Zone 4 POWER. Zone 4 will turn on and the tuner starts to operate at the selected volume. Telephone Muting will also be active.

PROGRAMMING EXAMPLE NUMBER 3
(How to program a McIntosh MLD7020 Laser Video Disc Player for Zone 3).

1. Press Zone 3 PROGRAM.

2. Press LV.

3. Press ACCESSORY POWER ON. (The MLD7020 AC power automatically cycles off

whenever AC power supplied to it is turned off).

4. Press VOLUME UP until the %VOLUME display reads 25. (Only a simulated volume setting).

5. Press TRANSPORT PLAY.

6. Press Zone 3 PROGRAM again, or wait 10 seconds to exit the program mode.

7. Press LV or Zone 3 POWER. Zone 3 will turn on and the Laser Disc player will start to play at the selected volume.

WK-4 KEYPAD SETUP

(The cycling speed of the hours and minutes during any time setting programming will increase after holding a pushbutton down for 3 seconds.)

HOW TO SET KEY PAD CLOCK TIME
      1. Press and Hold the CLOCK pushbutton for the entire time setting procedure.
      2. Press and Hold the HOURS pushbutton and the display will cycle forward.
      3. Release the HOURS pushbutton when the display indicates the correct AM, or PM hour.
      4. Press and Hold the MINUTES pushbutton and the display will cycle forward.
      5. Release Minutes pushbutton when the display indicates the correct minute.
      6. Release the CLOCK pushbutton. The time is set and the clock will be running.

If you wish to cancel the clock setting and start over, press RESET and hold for 3 seconds or more. (A momentary press of the RESET pushbutton resets the WK-4 microprocessors.)

HOW TO SET SLEEP TIME
(SLEEP times can be programed from a maximum of one hour, to a minimum of 10 minutes, in 10 minute intervals.)
      1. Press the SLEEP pushbutton once. The display will read 60 minutes. *(As soon as you press SLEEP, the zone will turn on.)*
      2. Press the SLEEP pushbutton a second time (within 3 seconds) and the display will read 50 minutes. Each additional time you press SLEEP, the minutes display will indicate a time reduction of 10 minutes..
      3. When the desired SLEEP time is reached, do not press SLEEP again. The SLEEP indicator on the WK-4 display will turn on to indicate that a SLEEP time has been programmed. The system will now stay on for the programmed time and then turn off. The signal source last being used will be active for the SLEEP function.
      4. If at any time you wish to cancel the SLEEP function, press SLEEP again, after the clock display has returned to the normal time indication. The zone will then turn off.

HOW TO PROGRAM A TIMED ON-OFF EVENT
      1. Press and Hold the SET ON pushbutton until the ON time has been programed for

both hours and minutes. The ON indicator at the top center of the clock display will turn on.

2. Press and Hold the HOURS pushbutton and the display will cycle forward.

3. Release the HOURS pushbutton when the display indicates the desired AM or PM hour for the timed event to start.

4. Press and Hold the MINUTES pushbutton and the display will cycle forward.

5. Release Minutes pushbutton when the display indicates the correct minute for the timed event to start.

6. Release the SET ON pushbutton. The ON indicator turns off. The starting time is now set.

7. Press and Hold the SET OFF pushbutton until the OFF time has been programmed for both hours and minutes. The OFF indicator at the top center of the clock display will turn on.

8. Press and Hold the HOURS pushbutton and the display will cycle forward.

9. Release the HOURS pushbutton when the display indicates the desired AM or PM hour for the timed event to end.

10. Press and Hold the MINUTES pushbutton and the display will cycle forward.

11. Release Minutes pushbutton when the display indicates the correct minute for the timed event to end.

12. Release the SET OFF pushbutton. The OFF indicator turns off and the ending or OFF time is now set.

13. Press the TIMER pushbutton to activate the ON/OFF timed event function and the TIMER indicator will turn on. The programed source will turn on and off at the programmed times. Proper operation of the TIMER function is valid only on a complete ON - OFF cycle. The TIMER must first turn ON, before the turn OFF will function.

(If you wish to disable the timer action, but still retain the programmed on and off times, press TIMER again and the TIMER indicator will turn off.)

REMOTE ZONE PROGRAMMING
WITH A KEYPAD OR REMOTE CONTROLLER

In a remote zone, it is possible to change the previously programmed wakeup or turn on signal source and volume level, using a Keypad or Remote Controller.

1. Press a pushbutton for the desired new signal source.
2. Adjust the volume to the desired level.
3. Press and hold the new signal source pushbutton for 3 seconds.
4. The zone audio will mute, indicating that the change has occurred. Release the pushbutton to unmute.
5. The next time that zone is turned on, the new signal source and volume level will be in effect.

COMBINE THE CR12 WITH A McINTOSH HOME THEATER SYSTEM

The CR12 will interconnect with a McIntosh Home Theater System to provide an Audio/Video Entertainment System that can be enjoyed throughout your home. There are installation setup configurations that are necessary to insure proper integration of both systems. The following information refers to interconnecting a CR12 to a McIntosh C39, MX130 or MX118. A few variations in connecting will exist between the three A/V Control Systems. The primary information in this manual is based on a system using the MX130.

1. Only AUDIO and Data signals from CD2, TUNER, TAPE 1, and PHONO/AUX come down the 25 conductor. cable from the MX130 MULTI-ROOM CONTROLLer connector to the CR12. There are no video signals on the cable.

2. Connect the Video outputs of four A/V accessory components to the CR12 Video Inputs. The convenient CR12 built-in video amplifiers will send the four video signals back out the CR12 Video Outputs, which should be connected to the appropriate MX130 Video Inputs.

3. All accessory component audio outputs should be connected to the MX130 inputs. The four signals listed above will travel through the 25 conductor cable to the CR12. For audio signal sources not fed through the 25 conductor cable, "Y" connect at the Control Center inputs and feed discrete audio cables to the CR12 inputs so both units are receiving the audio signals..

4. Data cables for accessory components other than those fed through the 25 Conductor cable should be "Y" connected between Data inputs on both the Control Center and the CR12.

5. An RCT-1 Remote Control Translator can be connected to the SUM DATA OUT of either the Control Center or CR12, SUM Data is fed through the 25 conductor cable.

6. If the 25 conductor cable is used to connect the Control Center to the CR12, the HOME Data signals are fed down the 25 conductor cable along with the other data and audio signals. You can then connect the HC-1 Home Controller to the HOME Data port on either the Control Center or the CR12.

CONNECTING ADDITIONAL CR12 UNITS

As many as six CR12 units can be connected in series, (daisy chained) in a single installation. Each CR12 will add four more A/V zones that can use the same A/V accessory signal sources.

More than one CR12 can be connected and used with a McIntosh Home Theater System which incorporates a McIntosh A/V Control Center.

ADDING A CR12 TO AN EXISTING CR12 SYSTEM

1. Connect one end of a 37 Conductor, (DB37), male-to-male shielded computer type cable from the original CR12 rear panel **TO NEXT CONTROLLER** connector. Connect the other end of the cable to the next CR12 rear panel **CONTROLLER INPUT B** connector.

All audio and Data signals will feed from the first CR12 to the second CR12 through the DB37 cable.

(DB37 cable, McIntosh Part No. 170-430)

2. Connect video cables from the **VIDEO OUTPUTS** of the first CR12 to the corresponding **VIDEO INPUTS** of the second CR12. This will feed all video signals to the second CR12.

ADDING A CR12 TO AN EXISTING CR12 USED IN A HOME THEATER SYSTEM

1. Connect one end of a 37 Conductor, (DB37), male-to-male shielded computer type cable from the original CR12 rear panel **TO NEXT CONTROLLER** connector. Connect the other end of the cable to the next CR12 rear panel **CONTROLLER INPUT B** connector.

All audio and Data signals will feed from the first CR12 to the second CR12 through the DB37 cable.

(DB37 cable, McIntosh Part No. 170-430)

2. Remove from the Control Center Video Inputs, the video cables coming from the first CR12, **VIDEO OUTPUTS**, and reconnect them to the **VIDEO INPUTS** of the second CR12. This will feed all video signals from the first CR12 to the second CR12.

3. Connect cables from the second CR12, **VIDEO OUTPUTS** to the appropriate Video Inputs on the Control Center. This will feed the video signals back to the Control Center.

ADDING A CR12 TO A CR10 MULTIZONE SYSTEM

One or more CR12 units can be added to a CR10 Multizone system. Each CR12 will add four additional zones of audio and video.

1. Connect a DB25, 25 conductor, Male-To-Male computer type cable from the rear panel CR10, **TO NEXT CONTROLLER** connector to a CR12, **CONTROLLER INPUT A** connector. This will feed audio and data signals from CD2, TAPE 1, TUNER and AUX to the CR12.

2. Connect audio and video cables from any A/V accessories directly to the CR12 A/V inputs.

3. If the CR10 is being used as part of a McIntosh Home Theater System, connect cables from the CR12 VIDEO OUTPUTS back to the appropriate Video inputs on the Control Center. If audio signals from accessory components other than the four that appear on the DB25 cable are used, "Y" connect to both the CR12 inputs and Control Center Inputs. Data cables from these accessory components must also be "Y" connected between the CR12 and Control Center.

SPECIFICATIONS

FREQUENCY RESPONSE
+0, -0.5dB from 20Hz to 20,000Hz

TOTAL HARMONIC DISTORTION
0.01% maximum from 20Hz to 20,000Hz at rated output

SIGNAL TO NOISE RATIO, A WEIGHTED
90dB below rated output

RATED OUTPUT VOLTAGE
1.25V

MAXIMUM OUTPUT VOLTAGE
6V from 20Hz to 20,000Hz

SENSITIVITY
All inputs, 0.25V for 1.25V rated output

INPUT IMPEDANCE
22K ohms

MAXIMUM INPUT SIGNAL
8 V

VOLTAGE GAIN
Input to Variable Outputs, 14dB
Input to Fixed (Balanced) Outputs, 0dB

TONE CONTROLS
Bass and Treble, 12dB boost or cut, (Level controls at center detent)

POWER REQUIREMENTS
120V, 50/60Hz, 25 watts

DIMENSIONS
17-1/2 inches (44.5cm) W, 7-1/16 inches (17.9cm) H, 20 Inches (50.8cm) D

REMOTE CONTROL ACCESSORIES
Choose one or more of these McIntosh Remote Control Accessories to customize and enhance the operating features of your CR12 Audio/Video Multizone Control System.

R649 IR SENSOR
The R649 is a wall mounted IR sensor that fits in a single gang wall switch box. It includes a RED LED that indicates when the area is ON, and blinks when the area is muted. Send IR signals to the R649 with a McIntosh Hand Held Remote Controller to select signal sources and volume levels. Connect the R649 to the master control unit with a single RG6 or RG59U coax cable.

WK-2W (White), WK-2V (Ivory) WALL MOUNTED KEYPAD
The WK-2 is a wall mounted keypad that fits into a standard two gang wall switch box. This keypad was originally designed to be used with the CR10, C39, MX130 and MX118. It can also be used with the CR12. The WK-2 has a built-in IR sensor with a RED LED to indicate when the area is ON, and blinks when the area is muted. Program selections and functions can be controlled by either pushing the WK-2 pushbuttons, or aiming a McIntosh Remote Controller aimed toward the WK-2 built-in IR sensor. Connect the WK-2 to the master control unit with a single RG6 or RG59U coax cable.
The WK-2 pushbuttons can select only signal sources, CD2, TUNER, TAPE 1 and AUX.

HC-1 HOME CONTROLLER

The HC-1 Home Controller includes 13 relays that will switch low voltage control signals that can in turn operate accessory equipment used with a McIntosh Remote Control System. Examples could be lights or a viewing screen motor. Four of the relays turn on in a 1/4 second delay sequence.

MSI-1 MULTIPLE UNIT SERIAL INTERFACE

The MSI-1 allows a McIntosh MR7082 or MR7083 Tuner, MCD7000, MCD7005, or MCD7007 CD Player and MCD7008 CD Changer to be controlled by a McIntosh Remote Control System. Either the McIntosh hand held controller or a keypad can be used for the control functions. *(Connecting the MCD7008 with the MSI-1 allows only six operating functions)*

RCT-1 REMOTE CONTROL TRANSLATOR

The RCT-1 is a learning device that allows a McIntosh Remote Controller or Keypad to operate compatible accessory components. Programming is done by using both the McIntosh Remote Controller and the accessory controller transmitting IR data to the RCT-1 Input sensor. Each accessory component to be controlled must have an R826 Low Power IR Emitter placed in front of its IR sensor, and connected to the appropriate RCT-1 Data port. The RCT-1 can accommodate Eight separate accessory components, and 20 commands for each.

R826 LOW POWER IR EMITTER

The R826 is a low power emitter, (flasher), that accepts data from an RCT-1 Remote Control Translator and converts it to IR signals to send to a compatible remote control product. The emitter must be placed or fastened in front the IR sensor on the panel of the product to be controlled. This allows a McIntosh hand held remote controller programmed by the RCT-1 to control compatible products.

PC-1 POWER CONTROLLER

The PC-1 has 14 AC Outlets that are controlled by the CR12. Four outlets are for individual area power amplifiers, and turn on only when the specific area is turned on. Five switched outlets are for accessory audio equipment and turn on whenever a CR12 zone is turned on. Two switched outlets are for Video accessory equipment and turn on whenever VIDEO is selected for any area. Three unswitched outlets remain on as long as the main PC-1 AC power cord is connected to a live AC wall outlet. Built-in McIntosh Surge Protectors and RFI filtering protect any equipment connected to the PC-1.

PC-2 POWER CONTROLLER

The PC-2 has 14 AC outlets. Seven of the outlets are switched, and can be controlled by any McIntosh Control Center. The seven switched accessory outlets turn on first. Approximately ½ second later, each of the four Power Amplifier outlets turns on in ½ second delayed sequence. This prevents a large instantaneous current inrush that could occur if four power amplifiers were turned on simultaneously. Three unswitched outlets remain on as long as the PC-2 main AC power cord is connected to a live AC wall outlet. Control is achieved by connecting the PC-2 AC control cable to the switched AC outlet on an accessory component such as an A/C Control Center, with the heavy PC-2 AC cable connected to a live AC wall outlet.

Built-in McIntosh Surge Protectors and RFI filtering protect any equipment connected to the PC-2. LED power indicators are included for the switched outlets, the unswitched outlets and each of the four power amplifier outlets.
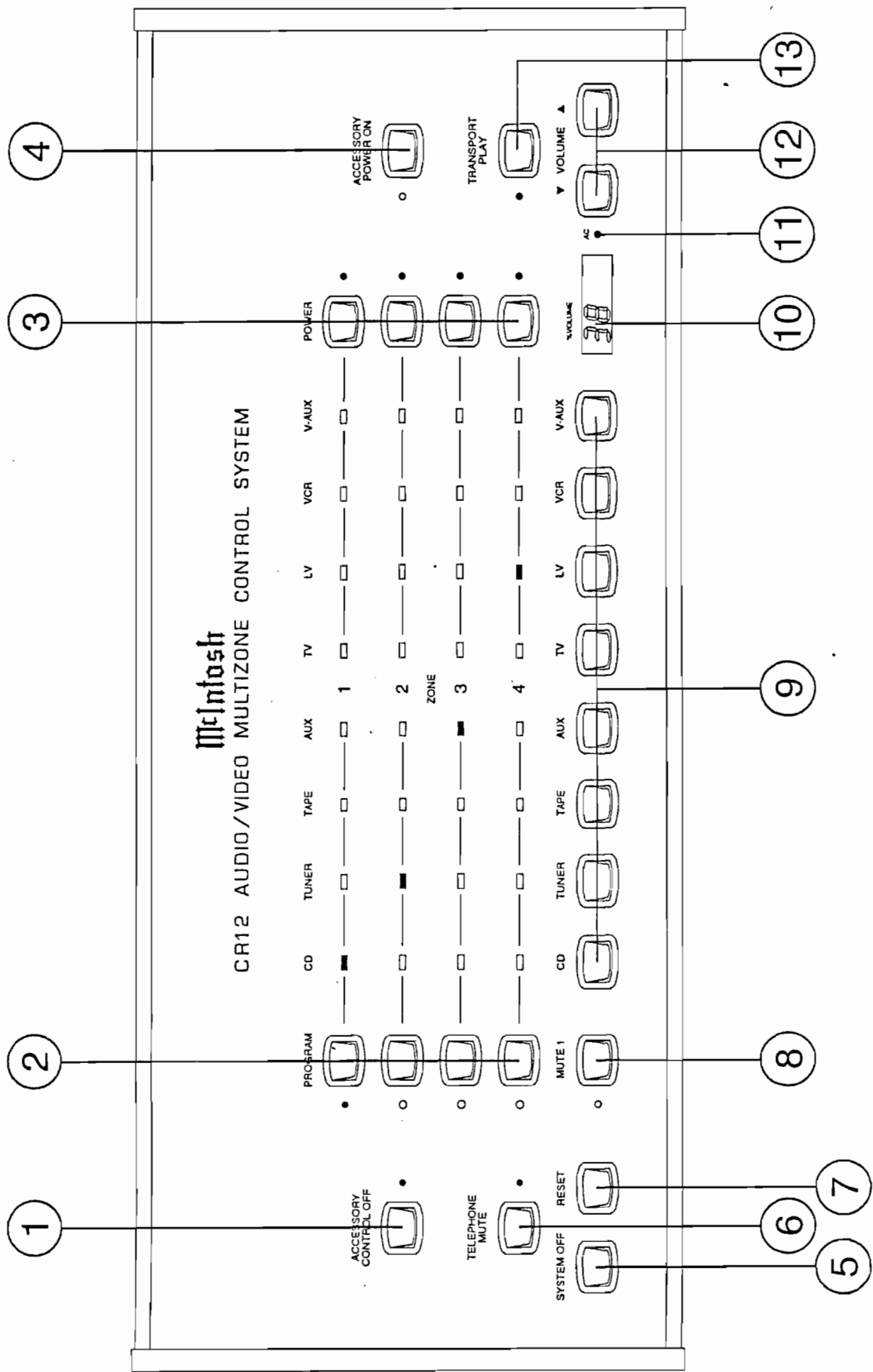
R650 CABLE GROUND ISOLATOR

The R650 is an RF coupling device that passes TV, FM and Cable signals, but blocks DC and 60Hz voltages. This prevents a possible audio ground loop that could produce hum when a coaxial cable installed in an existing system is also used to send McIntosh IR signals.
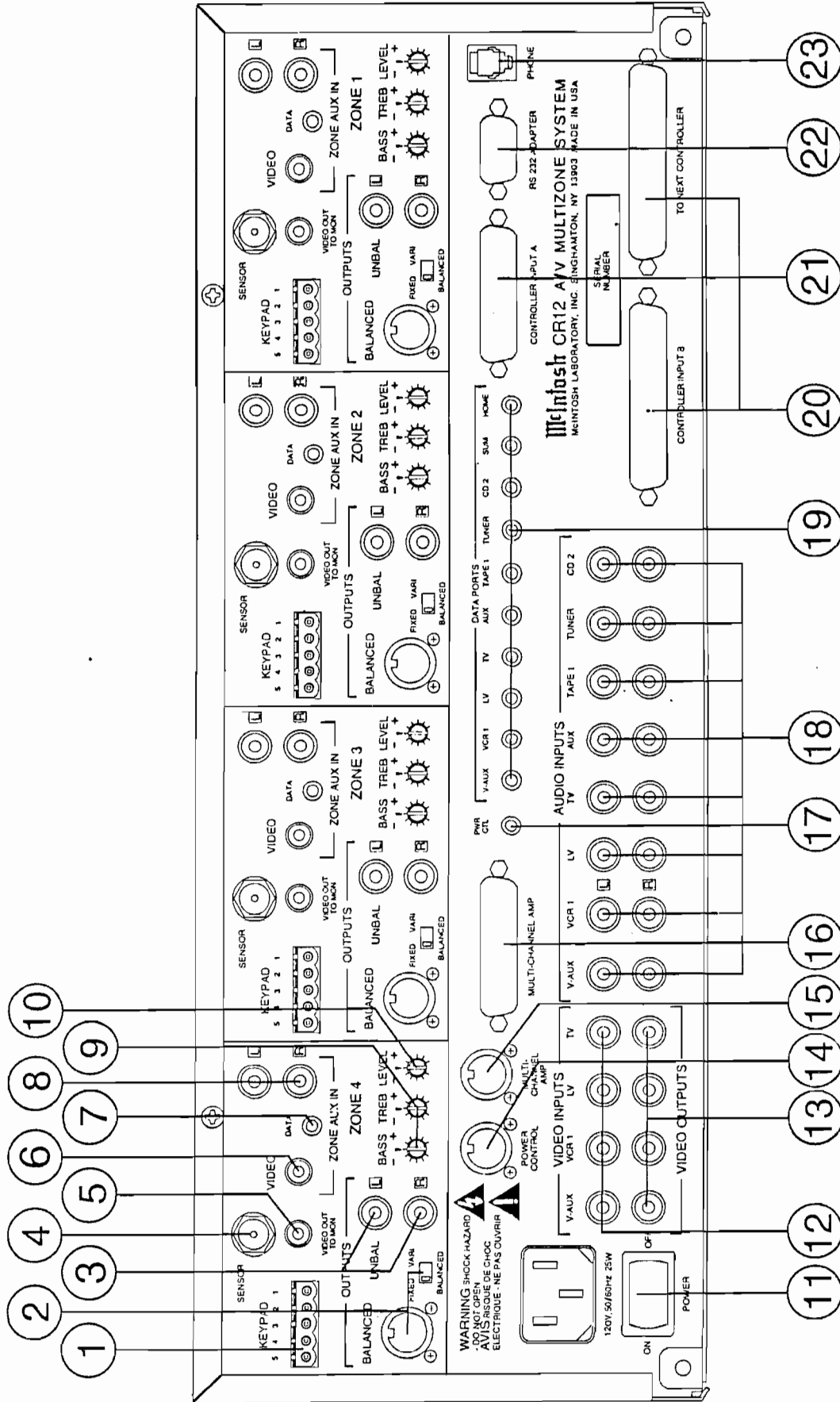
R615A TV SIGNAL AND DC CONTROL SPLITTER

The R615A allows an existing previously installed coax video distribution cable system to be used to transmit McIntosh system IR signals without interference. Two R615A units are required, one at each end of the existing cable.

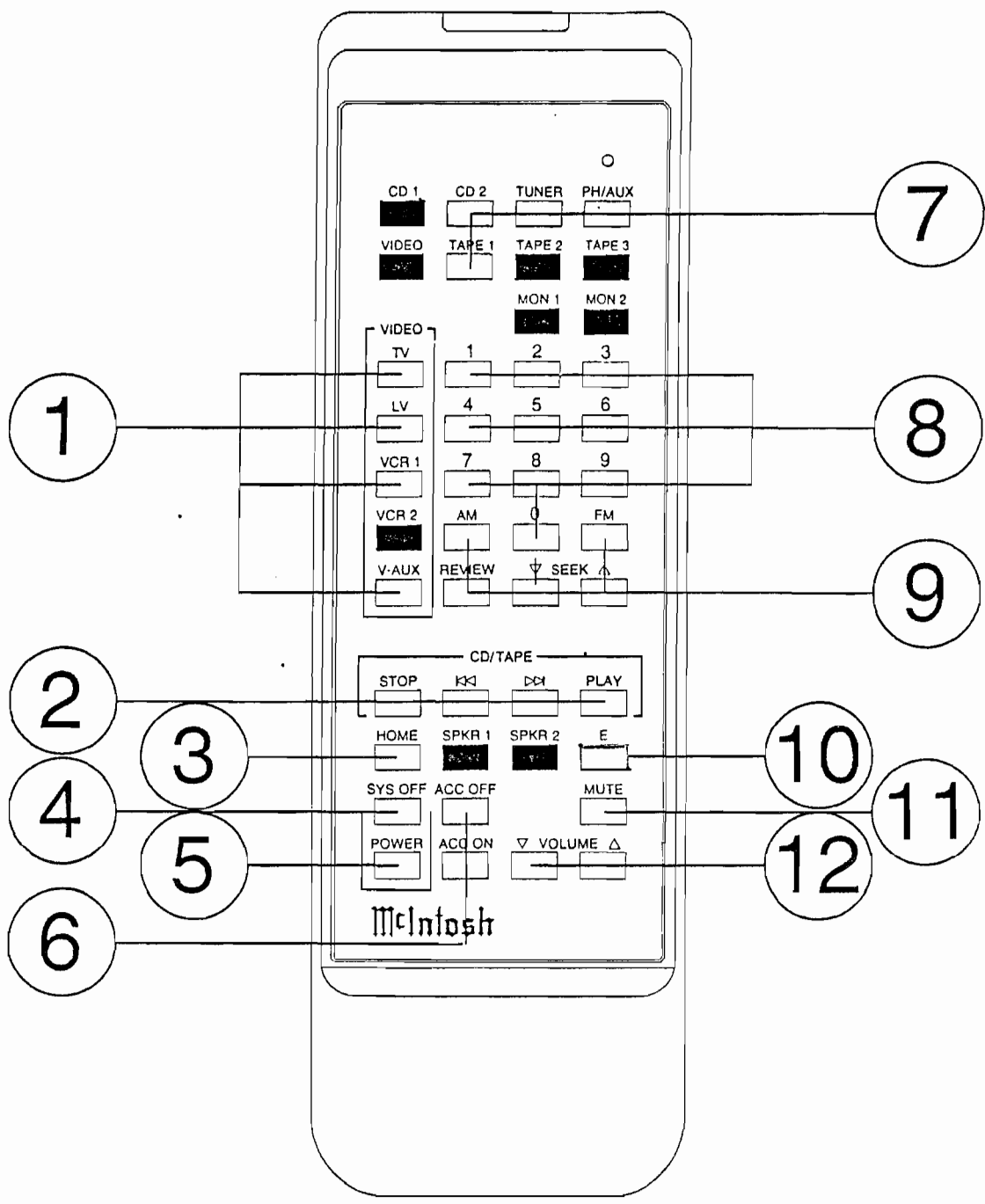The R615A isolates the DC IR control voltages from other equipment or antennas connected to the existing cable. The R615A has negligible insertion loss.

McIntosh

CR12 AUDIO/VIDEO MULTIZONE CONTROL SYSTEM

ACCESSORY CONTROL OFF

TELEPHONE MUTE

SYSTEM OFF

RESET

PROGRAM

POWER

ACCESSORY POWER ON

TRANSPORT PLAY

MUTE 1

CD TUNER TAPE AUX TV LV VCR V-AUX

ZONE 1 2 3 4

%VOLUME

AC

▼ VOLUME ▲

McIntosh CR12 A/V MULTIZONE SYSTEM
McINTOSH LABORATORY, INC. BINGHAMTON, NY 13903 MADE IN USA

WARNING SHOCK HAZARD - DO NOT OPEN
AVIS RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR

HAND HELD
REMOTE
CONTROLLER

McIntosh

WK-4 KEYPAD

① ② ③ ④ ⑤ ⑥ ⑦

[TIMER] ONOFF [SLEEP] McIntosh

CD TUNER TAPE AUX

AM
PM 88:88

TV LV VCR V-AUX

SET ON TIMER SLEEP HOUR 1 2 3 STOP BACK NEXT PLAY

⑧

SET OFF CLOCK RESET MIN 4 5 6 REVIEW MUTE ⑳

SYS OFF ACC OFF HOME 7 8 9

⑨

POWER ACC ON ENTER DISC 0 TRACK CHANNEL VOLUME

AM FM ▲ ▼

⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲

WK-3 KEYPAD

①

McIntosh

CD TV

② TUNER TAPE

AUX NEXT/REV ⑥

STOP PLAY

③

SYS OFF

④ ▲

POWER VOLUME ⑦

⑤ ▼