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Installation and Operation KI-1845C

# MRR7800 Remote Receiver Module



**Rauland-Borg Corporation**

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# General Information

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## Description



The MRR7800 Remote Receiver Module is part of the Telecenter<sup>®</sup> MR and Rauland Ranger<sup>®</sup> series of products. It is compatible with the Telecenter IV+, Telecenter V (V308), Telecenter System 21, and Ranger systems.

Note: For systems using the MR100 media controller, use version 7.1 or later software.

The MRR7800 receives infrared commands from the MRH7700 Hand-Held Remote Controller or RANBARC Bar Code Reader. It then translates the commands into DTMF signals and sends them to a media device controller (such as an MR100 or RANDTMF).

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## Revision History



In addition to bearing a new format, this manual revision includes new mounting procedures when using the product under high efficiency fluorescent lighting conditions (see Chapter 2).

# 2

## Installation

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### Mounting

Select a position on or near the television set to mount the MRR7800. You may need to “shade” the unit from direct exposure to ambient light (depending on the room conditions). Point the module so that it will be able to receive signals from all parts of the room where the remote control is likely to be used. Attach the MRR7800 to the location by using the supplied Velcro® adhesive strip.

### Power Connection

Supplied with the MRR7800 is a calculator-style 9 VDC power supply which plugs into an AC outlet. Plug the other end of the cable into the back of the receiver.

If you are installing multiple MRR7800 units, a regulated 12 VDC “Class 2” power supply can be used to remotely power all receivers. Each unit requires 50mA DC. Make external power supply connections to terminals 1 and 4 of the RJ11 “Line” jack located on the rear panel, noting proper polarity (refer to figure 1.)

#### Important:



Many telephones provide a contact closure on terminals 1 and 4 of the RJ11 jack when the telephone handset is taken off-hook. When using a remote 12V power source, be sure to isolate the telephone terminals from the MRR7800 terminals. Otherwise, the phone will short the power supply when it is taken off-hook.

### Telephone Connection

The MRR7800 directly connects to a Telecenter or Ranger system across the classroom telephone line. When connecting to a Telecenter IV or Telecenter V system, the *Tip and Ring* connection is not polarity sensitive. However, you must observe proper polarity when connecting to a Telecenter System 21. Otherwise, the

MRR7800 receiver will not work. Figure 1 shows the proper connection to Tip and Ring.

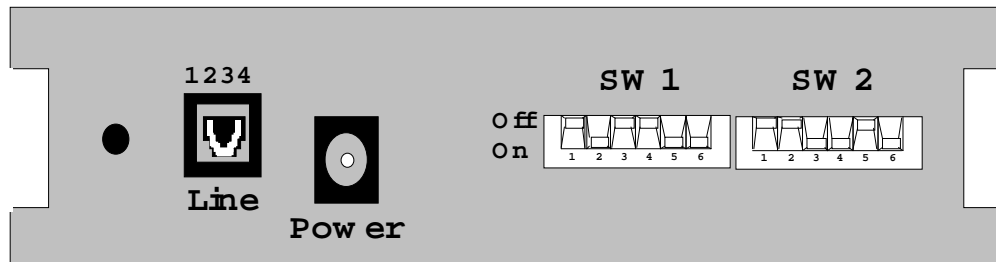


Figure 2. Tip and Ring Connection

### RJ11 Jack Pin Out

	Description
1	External +12VDC
2	Ring (Negative)
3	Tip (Positive)
4	External Ground

## DIP Switch Settings

The unit has 12 DIP switches accessible from the rear panel. They are arranged in two groups of six switches: SW1 and SW2. The switch settings may be changed at any time, even while the power is on.

### SW1

**Position 1:** Unused.

**Position 2** (12 or 48 VDC Interface): Set to “On” for 12V telephone line interfaces (typical Telecenter systems), “Off” for 48V interfaces.

**Position 3** ( System 21): Set to “On” for Telecenter System 21, “Off” for Telecenter IV and Telecenter V.

**Position 4** (Auto-disconnect Time): Selects the time interval that the MRR7800 stays connected to the telephone line in between receiving commands. Set to “On” for 15 minutes, “Off” for 10 seconds. Note that the connection time is restarted each time a command key on the MRH7700 is pressed.

**Position 5:** Unused.

**Position 6** ( Ranger): Set to “On” for Ranger systems, “Off” for all other systems.

## SW2

### Position 1 and 2: Stored Access Code Length

Set the switches according to the table below. If “2,” “3,” or “4” is chosen, any attempt to store a code of another length will be rejected by the receiver, and the red “Error” LED will flash. If “Any” is chosen, the access code may be from one to four digits in length.

Access Code Length	Position 1	Position 2
Any	On	Off
2	Off	On
3	On	On
4	Off	Off

### Position 3: Call Progress Detection (CPD)

This switch determines how the unit gains access to the media controller. Set this switch to “Off” for Ranger applications and “On” for all other (Telecenter) applications. When set to “On,” the unit monitors the line for dial tone, busy, ring-back, and reorder signals. If access to the media controller has failed, the red “Error” LED on the front panel will flash. This might occur if there is a lack of dial tone or a media device has not been pre-assigned.

With the switch in the “Off” position, the unit waits a fixed time before dialing. It attempts to gain access whether or not the system is ready. The red “Error” LED is not applicable in this mode.

### Position 4, 5, and 6: Single-Digit Access

The DIP switch settings shown in the table below determine which DTMF tone is used by the MRR7800 to connect to the media controller. Using the MRH7700 Hand-Held Remote to select the access code will override these settings. If the stored access code is cleared, the unit reverts to the code setting of the SW2 switch.

DTMF Tone	Position 4	Position 5	Position 6
5	On	Off	On
6	Off	On	On
7	On	On	On
8	Off	Off	Off
None	On	Off	Off



# 3

## Operation

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### Power On

When turning the system on, the green “Active” LED will flash a specific number of times, indicating the software version number (e.g., five flashes for Version 5). The flashing will then stop until media access is initiated by the user.

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### Media Device Access

The access mode is determined by the DIP switch setting. Refer to “DIP Switch Settings” in the “Installation” section of this manual.

To access a media device, press a command key on the remote control or send a bar code command. The unit will go off-hook, dial the access digit(s), and then send the command digit(s).

While the MRR7800 is connecting to the media controller, the green “Active” LED will flash rapidly. If connection is successful, the LED will either light steadily (10 second access mode) or flash once every two seconds (15 minute access mode). If the unit detects a problem, the red “Error” LED will flash. If this happens, make sure that the classroom has been pre-assigned to the media device and that the media device is not busy.

### Initialization Tones

Initialization tones are media commands that are automatically sent to the media controller by the MR100 in a Telecenter system every time “Access” is initiated. Use the asterisk (\*) initialization command for laser Disc players. This ensures that the media device is in the command mode (not the numeric mode).

### Single-Digit Access Mode

From the Media Center telephone with display, dial **#24** to pre-assign the media device to the classroom. When a single-digit access code is set, the MRR7800 dials the corresponding DTMF tone to gain access to the media device. Single-digit codes



are set via DIP switches on the rear of the MRR7800. DTMF Tones 5 through 8 may be selected (refer to the table on page 10).

## Stored Access Mode

The Stored Access Mode is an alternative to the Single-Digit Access Mode. The teacher stores the extension of the media controller using the hand-held remote control. The MRR7800 automatically dials the extension whenever a command key is pressed. Unlike the single-digit mode, the classroom does not have to be pre-assigned (if the MR100 has previously been released).

Before using a stored access code, you must first program the dialing sequence using the following procedure:

The stored code may be reprogrammed at any time.

1. Point the remote at the receiver.
2. Press *Store*.
3. Press the access sequence.
4. Press *Enter*.

➤ The stored access code will be lost if power to the MRR7800 is interrupted.

For example, to access a device at extension 706, the user would enter *Store*, 7, 0, 6, *Enter*.

The stored sequence may be from 1 to 4 digits in length. The length may be fixed or variable, as controlled by the DIP switches on the rear of the unit (see the “Installation” section for details). When the length is fixed, the receiver will not accept an alternative length, and the red “Error” LED will flash. The DIP switches may be set appropriately for any length.

A stored access code will override the single-digit access code setting. To restore single-digit access, press *Store*, and then *Clear*.

## Call Progress Detection Mode

The unit has a Call Progress Detection feature which examines the call progress tones (e.g. dial tone and busy signal) to verify connection to the media controller. If access fails, the red “Error” LED flashes. The Call Progress Detection feature should normally be left on, but it may be turned off via a DIP switch on the rear of the unit. When off, call progress tones are ignored and the connection is assumed to be good.

## Duration of Access

The MRR7800 automatically disconnects the telephone line if it does not receive a new command during the auto-disconnect time. Each time a key is pressed, the timer is restored to the full amount. If the unit times out, the media controller is

disconnected. However, the media device is still reserved, and the viewed program is not interrupted. The length of time before disconnect is programmable through a DIP switch for either 10 seconds or 15 minutes. While in the 10 second mode, the green “Active” LED is steadily lit. In the 15 minute mode, the light flashes every 2 seconds.

If access is set for 10 seconds, you may extend it to 15 minutes by pressing the “Keep Ctrl” key. The MRR7800 must be actively connected to the media device at the time the key is pressed (check that the green “Active” LED is steadily lit). Once extended, the timer will remain in the 15 minute mode until the connection is lost. Subsequent connections will revert to the 10 second mode.

## Access while Phone is Ringing

All key presses are ignored while the phone is ringing. This prevents the MRR7800 from accidentally answering an in-bound call.

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# Releasing the Media Device Connection

There are four methods of terminating the connection between the MRR7800 and the media controller. The green “Active” LED will turn off to indicate the lost connection.

The first termination method is by timing out. If a key has not been pressed recently, the receiver times out and disconnects the line. The media device is still reserved however, and the program is not interrupted. To reconnect, simply press any command key.

Access may also be terminated by pressing the “Hang Up” key. This has the same effect as timing out. Reconnect by pressing any function key.

The third termination method is to press the “Quit” key. In Ranger systems, this is identical to “Hang Up.” In Telecenter systems, pressing *Quit* causes the media reservation to be dropped, as well as the connection to the media controller. If ending tones (signals which cause the video to stop) are programmed, they are sent out at this point.

To reconnect using single-digit access, call the media center and ask that the media device be assigned. Now press any function key. Pre-assignment of a media device is not required to reconnect using a stored access code.

For the last termination method, simply lift the telephone handset. Termination automatically occurs. The connection is dropped by the MRR7800, but maintained and transferred to the phone. Hook-flash the switch to ring the media center. To restore dial tone, hang up for a few seconds before picking up the handset. This method of termination reserves the media device and leaves the program uninterrupted. To reconnect, hang up the telephone handset and press any function key on the remote control.

## Classroom Telephone

The classroom telephone shares the telephone connection of the MRR7800 to the Telecenter system. While the media controller is “Active,” the telephone line is in use, and no calls can come into the room.

If the handset is lifted off the cradle while the MRR7800 is active, the connection to the media device is dropped and the phone will be connected directly to the media controller. On a Ranger system, you will hear silence in the handset. On Telecenter systems, you will hear periodic beeps from the MR100. To receive system dial tone, hold the hook-switch down for two seconds, then release. Hook-flash to ring the Media Center for changes in courseware.

Once the conversation is over and the handset is replaced on the cradle, reconnect to the media controller by pressing any function key on the MRH7700 Hand-Held Remote.

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## VCR Functions

Valid commands include Play, Stop, Fast Forward, Fast Reverse, Step Forward, Step Reverse, and Pause.

When in the “Play” mode, press Fast Forward to advance the video as you watch it. In a similar manner, Fast Reverse rewinds the video tape as you watch. When the machine is stopped, press Fast Forward to quickly advance the video tape forward to the end of the tape. Similarly, Fast Reverse rewinds the tape.

Play, Stop, Step Forward, and Step Reverse perform standard VCR functions.

Versions 7.1 and later of the MR100 software allows the VCR to be stopped while reserving the media controller. Earlier versions do not.

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## Laser Disc and Bar Code Functions



### **Important:**

Use the asterisk (\*) initialization tone for laser disc players.

The Pioneer laser disc player models LD-V2200, CLD-V2600, and LD-V2400 (Rauland part number RANLASER or RANLASER24) are supported by the MRR7800. The Pioneer bar code reader model UC-V108BC and UC-V104BC (Rauland part numbers RANBARC and RANBC) has limited support by the MRR7800. For example, the MRR7800 will not support “<frame #> play until <frame #>” commands. Only the types of bar codes shown in Figure 3 are supported. Also refer to Figure 3 for

frame and chapter search commands. Ranger systems support other manufacturer laser disc players and bar code readers.

The bar code reader (RANBC) function keys *Play*, *Pause*, *Scan Forward*, *Scan Reverse*, *Step Forward*, and *Step Reverse* perform standard bar code reader functions. The “Skip” keys perform the same functions as the “Scan” keys. The “Display” and “Audio” keys are described below.

The extended 15-minute access mode is recommended for control of a laser disc. This access mode reduces the system response time to key presses.

The MRH7700 remote control function keys *Play*, *Stop*, *Fast Forward*, *Fast Reverse*, *Step Forward*, *Step Reverse*, and *Pause* perform normal functions. The following describes unique remote control commands.

- Source** Only used in Ranger systems, this function causes the system to cycle between multiple media sources that are connected to a single classroom.
- Run** Only used in Ranger systems, this operates the same as the “Play” key.
- Display** Toggles the frame and chapter message on and off the screen.
- Audio** Toggles between audio channel 1, channel 2, and both (stereo).

### Important:



Due to an operational inconsistency in the MR100, setting an automatic stop location also causes both audio channels to be turned on (i.e. stereo mode). Press the “Audio” key to restore the desired audio channel.

## Frame and Chapter

These commands may be used to access a specific location on a laser disc, or to specify an automatic stop location. To access a specific frame, press *Frame*, enter the frame number, then press *Enter*. If you make a mistake, press *Clear* and start over. The frame number may be up to seven digits in length. To access a specific chapter, press *Chapter*, enter the chapter number, then press *Enter*. Press *Clear* to abort the sequence. Note that chapter access is only supported by CAV laser discs.

To set an automatic stop location, press *Frame* (or *Chapter*), enter the ending frame (or chapter) number, then press *Stop*. Press *Clear* to abort the sequence.

To use a “Play Until” command (or automatic stop location) on the Ranger system, enter the beginning frame number, the ending frame number, then press *Play*.

*Note:* The frame and chapter bar code commands take about two seconds to transmit. Be sure to keep the bar code reader trained on the receiver until the confirmation is heard.

Figure 3. Bar Codes

