



GLOBAL MICROWAVE SYSTEMS, INC.
RCU REMOTE CONTROL UNIT
OPERATING GUIDE

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GMS RCU REMOTE CONTROL UNIT OPERATING GUIDE

1.0 Introduction

The GMS RCU is a versatile small remote control unit designed for use with a variety of GMS transmitters, receivers and repeaters. It allows remote access to all features of those products over distances up to 100 feet through a simple two-wire (Belden 8723 with 35 pf/ft or smaller capacitance) RS-232 connection. The unit will control both the transmitter and the receiver in a repeater configuration. The interface is a straightforward menu-driven back-lighted LCD display, featuring operating buttons that guide you through the multiple functions.

2.0 Preparation for Use

The RCU requires an external 12 V power supply. Make sure that you have attached the supplied connector to the side of the RCU and to the equipment to be controlled. Cable assemblies are specific to the equipment being controlled. (Refer to the Cable Cross-Reference Chart.)

When you first power the RCU, the screen displays:

RECEIVER

Using the ↑ and ↓ keys, you can scroll through the menu:

RECEIVER
TRANSMITTER

Then press ENTER to select the desired product to control. The unit then automatically loads the channel table of the product to be controlled.

3.0 Receiver Operation

This feature is active for the SR/LR and MR/LM series of products. After selecting this mode, the RCU attempts to connect to a receiver and displays the following message:

LOADING CHAN TBL.

If the connection is unsuccessful, the display indicates:

RCVR Not Found.

After successful connection to a receiver, the CTRL key selects the applicable receiver control mode. For example, for each press of the CTRL key the receiver control functions are selected as shown:

RX CH A #	CHANNEL DISPLAY
---------------------------------	------------------------

CTRL pressed

SS #	SIGNAL STRENGTH
--------------------------------------	------------------------

CTRL pressed

VI #	VIDEO GAIN SET
----------------------------------	-----------------------

CTRL pressed

A1 #	AUDIO 1 GAIN SET
--	-------------------------

CTRL pressed

A2 #	AUDIO 2 GAIN SET
--	-------------------------

CTRL pressed

END RCVR CONTROL

Blinks until press

CTRL Return to RCVR Channel Display

ENTER Return to main menu

3.1 Channel Display

In this mode, when the UP ↑ or DOWN ↓ key is pressed, the receiver will step through the channels. After key release the display will blink for ten seconds. If ENTER is pressed before ten seconds, the receiver frequency will be changed and stored in a non-volatile memory. If ENTER is not pressed before ten seconds, the display will stop blinking and the receiver will reset to the previous frequency. The channel display and control functions are shown below:

RX	CH A	#
----	------	---

CHANNEL DISPLAY

Where:

RX = PLL Locked (rx = PLL not locked)
 CH A = receiver channel designator or frequency
 # = signal strength
 UP ↑ Increment channel.
 DOWN ↓ Decrement channel.
 ENTER Save channel.
 CTRL Change to SIGNAL STRENGTH mode.

3.2 Signal Strength Display

The signal strength mode presents a bar graph and digital display of the RELATIVE receiver signal level TO AID IN PATH ALIGNMENT.

SS		#
----	--	---

UP ↑ No Operation
 DOWN ↓ No Operation
 ENTER No operation.
 CTRL Change to VIDEO LEVEL ADJUST mode.

3.3 Video Gain Set

The video gain can be adjusted from the front panel with the UP ↑ and DOWN ↓ keys. This control adjusts all three outputs simultaneously (the composite output is fixed). When adjusting the level, the VI on the left of the display will blink indicating that a change in gain is in progress. If ENTER is pressed, the new gain setting will be stored. If CTRL is pressed before ENTER, the video will be reset to the previous level. The video level is factory set for 1 V peak to peak into 75 ohms with the digital display indicating 80, therefore allowing the operator to easily reset the receiver to the industry standard video level. The video gain and control functions are shown

below:

VI		#
----	--	---

UP ↑	Increase video gain.
DOWN ↓	Decrease video gain.
ENTER	Save video gain.
CTRL	Change to A1 display mode and cancel video gain changes if VI flashing.

3.4 Audio Gain Set

A1		#
----	--	---

UP ↑	Toggle audio 1 level.
DOWN ↓	Toggle audio 1 level.
ENTER	Save audio 1 level.
CTRL	Change to A2 display mode and cancel audio level changes if A1 flashing.

A2		#
----	--	---

UP ↑	Toggle audio 2 level.
DOWN ↓	Toggle audio 2 level.
ENTER	Save audio 2 level.
CTRL	Change to END RCVR CONTROL mode and cancel audio level changes if A2 flashing.

END RCVR CONTROL

Blinks until press

CTRL	Return to RCVR Channel Display
ENTER	Return to Main Menu

4.0 Transmitter Operation

This feature is active for the ST series of products. After selecting this mode, the RCU attempts to connect to a transmitter and displays the following message:

TX	CH A	HI
----	------	----

Where:

TX = transmitter PLL locked (tx = not locked)
 CH A = transmitter channel designator or frequency
 HI = transmitter output power level; ST, LO, HI

4.1 Front Panel Controls and Displays

The CTRL key selects the applicable transmitter control. For example, for each press of the CTRL key the transmitter control functions are selected as shown:

TX	CH A	HI
----	------	----

CHANNEL DISPLAY

CTRL pressed

PA	POWER	HI
----	-------	----

POWER OUTPUT

CTRL pressed

A1	LEVEL	MIC
----	-------	-----

AUDIO 1 LEVEL SELECT

CTRL pressed

A2	LEVEL	MIC
----	-------	-----

AUDIO 2 LEVEL SELECT

CTRL pressed

END	XMTR	CONTROL
-----	------	---------

Blinks until press

CTRL Return to XMTR channel display

ENTER Return to Main Menu

4.2 Channel Display

In this mode, when the UP ↑ or DOWN ↓ key is pressed, the transmitter will step through the channels. On key release the display will blink for ten seconds. If ENTER is pressed before ten seconds, the transmitter frequency will be changed and stored in nonvolatile memory. If ENTER is not pressed before ten seconds, the display will stop blinking and the transmitter will reset to the previous frequency. The channel display and control functions are shown below:

TX	CH A	HI
----	------	----

UP ↑ Increment channel.
 DOWN ↓ Decrement channel.
 ENTER Save channel.
 CTRL Change to POWER OUTPUT mode.

4.3 Power Output Display

The RF power output is selectable between three discrete levels, Standby (ST), Low (LO), or High (HI).

The power output display and control functions are shown below:

PA	POWER	HI
----	-------	----

UP ↑ Toggle output level.
 DOWN ↓ Toggle output level.
 ENTER Save power level.
 CTRL Change to A1 ADJUST mode.

4.4 Audio Source Level Select

A1	LEVEL	LINE
----	-------	------

UP ↑ Toggle audio 1 level.
 DOWN ↓ Toggle audio 1 level.
 ENTER Save audio 1 level.
 CTRL Change to A2 ADJUST mode and cancel audio level changes if A1 flashing.

The audio source level is also selected from the front panel with the UP ↑ and DOWN ↓ keys. This control adjusts each input independently. When adjusting the level, the A1/A2 on the left of the display will blink indicating that a change in level is in progress. If ENTER is pressed, the new level will be stored. If CTRL is pressed before ENTER, the audio will be reset to the previous level.

A2	LEVEL	LINE
----	-------	------

UP ↑	Toggle audio 2 level.
DOWN ↓	Toggle audio 2 level.
ENTER	Save audio 2 level.
CTRL	Change to END XMTR CONTROL mode and cancel audio level changes if A2 flashing.

The audio source level is selectable from three discrete levels, OFF (no audio subcarrier), MIC (microphone audio source), or LINE (line level audio source).

END XMTR CONTROL

Blinks until press

ENTER	Return to main menu (if desired)
CTRL	Return to XMTR Channel Display

5.0 Specifications

Voltage	+11 to 15 V DC
Current	110 ma max.
Temperature	-20 C to 70 C
Humidity	0 to 100% non-condensing
Size	3.25" x 4.25" x 0.75"/ 8.25 cm x 10.8 cm x 1.90 cm
Weight	8 oz/222 g

Following is pin-out information for RS-232 connections:

SR/ST PIN #	DESCRIPTION	DB-9M	COLOR
B	Ground	5	Black
G	TX (radio out)	3	Green
H	RX (radio in)	2	White
A	12 V DC Power	1	Red

