

Radius®  
GR1225  
REPEATER  
TWO-WAY RADIOS



*The GR1225 Repeater relays both 12.5 kHz and 25 kHz, and Motorola made it hard to hear a difference.*

**Desk Microphone**

This optional accessory provides transmit and monitor capabilities for dispatch operations.

**Controller Slot**

Location for inserting optional repeater controllers to provide enhanced features.

**2-Character Numeric LED Display**

Green light illuminates the channel that's in use.

**Monitor/Volume Set**

This base station feature lets you hear other transmissions by disabling the PL/DPL code so you don't inadvertently jump in on conversations already in progress.

**Volume Set**

Lets you do just that.



10"H x 14"D x 8"H

**On/Off Volume Control**

Turns unit on or off and adjusts volume level.

**Channel Selector**

Allows you to select from 16 channels.

**LEDs**

Indicate transmitting, receiving, channel monitoring and option board status.

**Repeater Enable/Disable**

Temporarily enables or disables repeater operation from the front panel to allow use as a base station for dispatch operation.

This latest innovation in design not only eliminates one of the internal mobile radios and the basic repeater controller that modular repeaters require, it cuts the cost to build a repeater by nearly a third. This more stylish, compact, desktop unit relies on a single, full duplex transceiver to transmit and receive.

**STANDARD FEATURES**

Attractive Housing with Temperature Controlled Fan

R1225 Radio Transceiver with 16 Programmable Channels

Power Supply Cables for Standard Connections

Operator Manual Kit

WITH THE FCC SYSTEMATICALLY RESTRICTING TWO-WAY RADIOS TO 12.5 kHz, MOTOROLA'S NEWLY DESIGNED X-PAND TECHNOLOGY PROVIDES THE KIND OF AUDIO QUALITY YOU EXPECT FROM MOTOROLA'S 25 kHz.



**X-PAND 12.5 OR 25 kHz**

- Compresses your voice at one end
- Expands it at the other
- Significantly reduces noise level in the process



**COMPACT STYLING MAKES IT IDEAL FOR DESKTOP USE.** The GR1225 accommodates a built-in power supply as well as numerous internally-housed accessories. With the capacity to house options like duplexers, battery revert and an enhanced controller within, the modest space it occupies is even more impressive.

**THIS REPEATER COMES STANDARD WITH TWO PL OR DPL SQUELCH CODES PER CHANNEL.** With both a transmit and receive code per channel, the GR1225 prevents transmissions over your repeater without proper I.D. or "squelch codes".

**POWER IS ADJUSTABLE BY CHANNEL.** Each channel can be programmed to a different power level, either 1-10W or 25-45W (UHF) and 1-10W or 25-50W (VHF) to meet your coverage needs.

**YOU SET THE TIME OUT TIMER TO 1-255 SECONDS OR OFF, IF DESIRED.** This automatic shut-off feature prevents a user from monopolizing the repeater with a single transmission. This equitable feature governs the unit itself when used as a base station.

**RELAY DELAY KEEPS THE REPEATER TRANSMITTER KEYED A SHORT TIME AFTER A RADIO USER RELEASES THE PTT SWITCH.** This allows a user group to conduct a normal conversation without delays from re-activating the repeater. This "polite pause" or Relay Delay can be set from 0 to 7 seconds.

**BECAUSE OF CWID, YOU DON'T HAVE TO I.D. YOURSELF.** International Morse Code is used to automatically send out the station ID periodically to identify the owner of the transmitting repeater. This satisfies the requirements of FCC.

**COURTESY BEEP SIGNIFIES WHEN A PERSON IS THROUGH TALKING.** You don't have to say "over" to complete your transmission—the other people in the group are now cleared to talk or respond.

**THE BATTERY BACK-UP TONE SENDS A WARNING.** When the battery revert kit is installed, this heads-up alert notifies users during conversations that they're using the back-up battery supply for the GR1225.

**THE ADVANTAGEPORT ALLOWS EXPANSION OF THE REPEATER'S CAPABILITIES UNDER FULL PROTECTION OF ITS ORIGINAL WARRANTY.** Your dealer can quickly and safely install a wide range of capabilities from scrambling to signaling—which-ever features you designate.

*The GR1225 is ideal for desktop use in an office setting. It can also become a base station allowing a dispatch operator to communicate with other radios in the field. It has built-in basic repeater capabilities. Optional controllers can be added for enhanced features such as telephone interconnect, multiple PL/DPL codes and signaling.*

## General

	VHF		UHF	
Programmable Power:	1-10W	25-50W	1-10W	25-45W
Model Series:	M03GRC H5165	M43GRC H5158	M04GRC H5164	M44GRC H5157
Frequency Bandwidth:	146-174 MHz		444-474 MHz	
Channel Spacing:	Switchable 12.5 / 20 / 25 / 30 kHz			
Frequency Separation:	28 MHz		30 MHz	
Channel Capacity:	16 Channels			
Dimensions:	8"H x 10"W x 14"D (203 x 254 x 356 mm)			
Weight:	35 lbs. (15.9 Kilos)			
Duty Cycle:	Continuous @ 25 W and 1-10W 50% @ 45 / 50 W (5 min. on / 5 min. standby)			
Input Voltage:				
Repeater:	115 / 230 Vac $\pm$ 10%			
Transceiver:	13.8 Vdc $\pm$ 10%			
Input Current:				
Repeater:	2.6 Aac (maximum) @ 115 Vac 1.3 Aac (maximum) @ 230 Vac			
Transceiver (@13.8 Vdc)				
Standby:	0.45 Adc			
RX @ 7.5 W:	1.5 Adc			
TX @ 50 / 45 W:	14.0 Adc		12.5 Adc	
Squelch Code Capabilities:	TPL / DPL / CSQ			

## Transmitter

	VHF		UHF	
RF Output:	1-10W	25-50W	1-10W	25-45W
Frequency Stability:	$\pm$ 2.5 ppm (-30C to +60C)		$\pm$ 1.5 ppm (-30C to +60C)	
Spurs/Harmonics:	-23 dBm	-23 dBm	-23 dBm	-23 dBm
Audio Response:	T <sub>A</sub> 603 (From a 6 dB/Octave Pre-emphasis 300 to 3000 Hz)			
Audio Distortion:	< 3% E <sub>A</sub> (@ 1000 Hz 60% rated Maximum Deviation)			
Modulation Sensitivity:	80 mV (rms for 60% deviation @1000 Hz)			
FM Noise:	12.5kHz -40 dB	20 / 25 / 30 kHz -45 dB	12.5 kHz -40 dB	20 / 25 / 30 kHz -45 dB
FM Modulation:	11KOF3E	16KOF3E	11KOF3E	16KOF3E
FCC Designation:	ABZ99FT3024	ABZ99FT3023	ABZ99FT4024	ABZ99FT4023

## Receiver

	VHF		UHF	
Sensitivity -12dB SINAD:	.35 $\mu$ V (-116.1 dBm)			
Internal Squelch (SINAD):	10 dB nominal setting; Adjustable from off to 20 db			
Selectivity:	12.5 kHz -65 dB	20 / 25 / 30 kHz -85 dB	12.5 kHz -65 dB	20 / 25 / 30 kHz -80 dB
Intermodulation:	-80 dB	-80 dB	-80 dB	-80 dB
Usable Bandwidth:	1.2 kHz	2.0 kHz	1.2 kHz	2.0 kHz
Spur Rejection:	-85 dB			
Image Rejection:	-80 dB			
Audio Output:				
Internal Speaker:	3 Watts			
External Speaker:	7.5 Watts with 8 $\Omega$ speaker			
Audio Response:	T <sub>A</sub> 603 (From a 6dB/Octave De-emphasis 300 to 3000 Hz)			
Input Impedance:	50 $\Omega$			

Typical specifications. All measurements per T<sub>A</sub>/E<sub>A</sub>-603.

## For more information, please contact

**CONVERSION KIT FOR GR400/500** Allows you to use the R1225 transceiver to create a 12.5/25 kHz switchable repeater for rack mount or wall mount applications.



### OPTIONAL ACCESSORIES

**DUPLEXER** Can be internally installed to allow a single antenna to be used instead of two separate antennas to transmit and receive simultaneously.



**DESK MICROPHONE**  
This converts a desktop repeater into a dispatch radio for office personnel use.

**PORTABLE CARRY CASE**  
Allows easy transport for use as a back-up or emergency repeater.



**ONE OF THE FOLLOWING CONTROLLERS CAN BE INSTALLED INSIDE THE REPEATER TO PROVIDE ENHANCED FEATURES:**

**I20R ONSITE REPEATER CONTROLLER** Provides up to 10 PL/DPL single code or cross code combinations for multiple group repeater operations, remote knock-down/set-up, uni/bi-directional capabilities and Continuous Wave Identification (CWID).

**ZR310 MULTIPLE TONE COMMUNITY REPEATER CONTROLLER** Provides up to

50 PL and 20 DPL single code or cross code combinations for multiple group repeater operations with CWID and enhanced community repeater operation capabilities.

**ZR340 ADVANCED INTERCONNECT CONTROLLER** Provides advanced telephone interconnect capability with stored telephone numbers, access/override codes,

### DESKSETS

*DC or Tone Remote* model allows user to control a remotely located repeater. *Extended Local* model provides base station control for dispatch operations. *RapidCall* model provides the dispatcher with features such as Push-to-Talk ID, Emergency Alarm Decode, Call Alert, Radio Check and Voice Selective Call.

### BATTERY REVERT

Automatic back-up power allows continued use when power goes down. Also includes float maintenance charger to keep battery charged when not in use.



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