

PORTABLE RADIO Feature/Advantage

Choice of Models—Radius crystal portable radios are available in either P10, P50 or P50+ models. The P50 or P50+ portables offer 1 or 2 channel operation, with high or low power outputs, and are compatible with a variety of audio accessories. The P10 portable is designed for simplified communications needs, featuring single channel, low power operation in both UHF and VHF bands.

Whatever your needs, you'll find a Radius crystal portable designed to suit you.

Choice of Transmitter Power (P50 and P50+ models only)—The Radius P50 and P50+ portables are available in either 2 or 5-Watt models in VHF and 2 or 4-Watt models in UHF. **You can choose the Radius portable that will provide the coverage and "talk back" capabilities you'll need to communicate effectively.**

Coded Squelch Capability—You may choose a Radius portable with Private-Line (PL) or Digital Private-Line (DPL) coded squelch. P50 coded squelch models are switch programmable. **When you operate with coded squelch, only those users with the same code may hear a conversation.**

Small, Attractive Styling—These lightweight, and attractive compact radios measure only 5.6 by 2.5 by 1.2 inches in low power and 6.7 by 2.5 by 1.2 in high power, weigh less than a pound and have all controls (except Push-to-Talk) located on the top panel.

These portables fit comfortably in the palm of your hand, and are convenient-to-carry on a belt. With all controls on the top of the radio, they are easily seen and grasped, even through heavy work gloves.

Rugged Construction—The radio's housing is constructed of durable, high impact polycarbonate—the same lightweight, quality material used in the construction of many motorcycle and football helmets.

The sturdy Radius portables are designed to withstand years of heavy use and perform reliably for you, even under adverse outdoor conditions.

Full Support—Radius portable radios are backed by a limited 2-year warranty, protecting you against defects in material and workmanship under normal use and service.*

Radius radio's built-in reliability helps provide a feeling of assurance that your investment in quality communications products will work hard for you.

*See the Radius Limited Warranty (68-80900Z27) for specific details.

Battery Status/Transmit Indicator—A dual function light-emitting diode (LED) continuously lights when the radio is transmitting and turns off when the battery needs recharging.

Provides the operator with immediate feedback when transmitting or when the battery is low. It can also help eliminate channel tie-up by alerting operators that they are inadvertently keying the transmitter. It also helps provide assurance that the battery is properly charged, so that you'll know that your transmissions are getting through.

Audio Accessories Connector (P50 and P50+ models only)—All P50 and P50+ portables provide an audio accessories connector on the top of the radio that allow multi-function capabilities.

Expands the flexibility of your radio, letting you add useful accessories such as an external speaker/microphone, headset or earpiece.



Compact Charger—A single unit 110V AC charger with plug-in transformer provides a 16 hour charge rate for one radio with battery or one battery by itself.

This economical, attractively-styled, lightweight charger takes advantage of limited space in your work area.



Removable Belt Clip—A one-piece removable belt clip attaches to the back of the radio, letting you wear your Radius portable within easy reach for fast action.

Frees your hands and lets you carry your portable on a belt, yet within easy grasp.

Proven Superior Quality—During design of the Radius portables they are subjected to Accelerated Life Testing, which simulates 5 years of field stress. During production runs the radios are continually tested to quality assurance levels unparalleled in the radio industry.

You can be confident that the radio you receive will perform reliably for a long, long time.

CONVENIENT OPTIONAL ACCESSORIES Feature/Advantage



Remote Speaker/Microphone (P50 and P50+ models only)—Provides a separate speaker/microphone for high noise environments and frees up busy hands from having to constantly remove the radio from a belt or carry case.

Gives you a remote clothing-mounted speaker/microphone that is closer to the mouth and ear, so conversations can come through loud and clear, even under noisy conditions.



Earpiece (P50 and P50+ models only)—Provides a separate earpiece that fits comfortably and securely in the ear, and mutes the internal speaker while channeling the audio directly to your ear.

Lets you monitor radio transmissions clearly in high noise environments, or privately when you don't want others to overhear.



Headset (P50 and P50+ models only)—Provides an easy-to-wear headset that gives you full microphone and audio capabilities. Only one ear is covered, allowing you to hear surrounding noises such as conversation, instructions, horn blasts or other warning sounds for added safety.

Frees you from having to hand-carry the portable radio. Now you can talk and

listen clearly and safely in high noise environments with more mobility.



Quick-Rate Compact Charger—A single unit quick-rate 110V AC charger with plug-in transformer, provides a three hour charge rate for one radio with battery or one battery by itself.

Provides a quick and efficient charging operation for

your radios with a battery, or a battery alone. Red, yellow and green indicator lights help keep you informed on the status of the charge.

Carry Cases—High quality leather or nylon carry cases hold your radio securely.

You can choose the case that will most suit your particular needs or personal preferences.

P50+ Feature/Advantage

P50+ means, P50 plus more features and capabilities, such as PL and DPL codes, Time-out-Timer (T.O.T.), Quik Call II™, advanced Quik Call II and PTT Identification. All these features are programmable via a standard IBM XT/AT or Convertible computer.

Programmable Coded Squelch—With P50+ you can program PL and DPL codes in any combination of channel, transmit or receive frequencies.

Save time and money by programming your squelch codes as easily and quickly as you can in a synthesized radio.

Advanced Quik Call II—Provides the user with the talk back paging capability. When your radio is in this operating mode, only messages preceded by the individual radio's coded address will be received. The P50+ is capable of recognizing six paging addresses, four individual and two group call.

Since operators hear only messages intended for them, they are spared the distraction of channel traffic. Quik Call II decoding lets your radio double as a pager and helps you increase productivity.

Time-out-Timer—The Time-out-Timer (T.O.T) limits each transmission to 60 seconds. This period can be programmed from 15 to 60 seconds in 15 second increments. Five seconds before the T.O.T. period expires, the radio generates a series of warning beeps to alert the user his transmission will end. A continuous tone indicates the end of the transmission period.

The time-out-timer feature alerts the user if the transmitter is keyed for a long period. This feature also prevents channel tie-up in the event the transmitter is inadvertently keyed.

PTT Identification—This feature in P50+ provides the transmission of an identification code each time the PTT is pressed. The ID's are transmitted using one of the three signaling formats listed below.

- A series of up to 10 DTMF tones
- A series of up to 5 single tones
- A standard Quik Call II signal

This feature allows each radio in the system to identify themselves whenever the transmitter is keyed.



Touch-Code™—Provides a 3 by 4 DTMF keypad and encoder on the front of the portable. When used in conjunction with a properly-equipped base station or repeater, a touch code P50+ lets you access the Public Switched Telephone Network for simplex portable-to-telephone conversations.

You can access important business numbers, from the convenience of your hand-held portable. You won't have to waste time searching for a phone, because it can always be in the palm of your hand.

Radius crystal portable radios

Performance Specifications General

	VHF			UHF			LB
Model Series:	H23KNB/H23GNB	H33GNU	H43GNU	H24KNB/H24GNB	H24GNU	H44GNU	H41GNU
Radio:	P10	P50 & P50+		P10	P50 & P50+		P50LB
Power Output:	1 W	2 W	5 W	1 W	2 W	4 W	5.5 W
Frequency (MHz):	150.8-162			450-470			30-50
Channel Capability:	1	2		1	2		2
Dimensions (H x W x D):	5.6" x 2.5" x 1.2" (142 x 64 x 30mm)		6.7" x 2.5" x 1.2" (170 x 64 x 30mm)	5.6" x 2.5" x 1.2" (142 x 64 x 30mm)		6.7" x 2.5" x 1.2" (170 x 64 x 30mm)	
Weight:	12 oz. (341g)		15.5 oz. (440g)	12 oz. (341g)		15.5 oz. (440g)	
Power Supply:	one rechargeable Nickel-Cadmium battery						
Average Battery Life @ 5-5-90 Duty Cycle:	10.0 hours		8.0 hours	10.0 hours		8.0 hours	
FCC Designation:	AZ489FT3728		AZ489FT3729	AZ489FT4723		AZ489FT9724	AZ489FT1618

Transmitter

	VHF		UHF		LB	
Radio:	P10	P50 & P50+	P10	P50 & P50+	P50	
RF Power Output Ni-Cd Batteries @ 7.5 V:	1 W ¹	2 W ²	—	1 W ¹	2 W	—
@ 11.25 V:	—	—	5 W ⁴	—	—	4 W ³
Spurious & Harmonic Emissions:	-43 dB	-46 dB	-50 dB	-43 dB	-49 dB	-51 dB
Frequency Stability -30° to +50° C (25° C Ref.):	±0.0010%	±0.0005%	±0.0005%		0.002%	
Modulation:	16F3					
Maximum Frequency Separation:	3 MHz		8 MHz		0.5 MHz	
Audio Distortion (@ 1000 Hz dev.):	5%					
FM Noise:	-50 dB					
Audio Response (From a 6 dB/octave pre-emphasis 300-3000 Hz):	+1, -3 dB					

¹ 1 Watt typical, 75 Watts minimum at 7.5V
² 2 Watts typical, 1.75 Watts minimum at 7.5V
³ 4 Watts typical, 3.75 Watts minimum at 11.25V
⁴ 5 Watts typical, 4.75 Watts minimum at 11.25V
⁵ 5.5 Watts typical, 5.25 Watts minimum at 11.25V

Receiver

	VHF	UHF	LB
Channel Spacing:	30 kHz	25 kHz	20 kHz
Sensitivity 12 dB SINAD:	0.25 µV	0.45 Max.	0.25 µV
Selectivity EIA SINAD:	-60 dB		
Intermodulation EIA SINAD:	-55 dB		
Spurious & Image Rejection:	-55 dB		
Frequency Stability -30° to +50° C (25° C Ref.):	±0.0010%		0.003%
Modulation Acceptance:	±7.5 kHz		
Maximum Frequency Separation:	1 MHz	3 MHz	0.5 MHz
Audio Output 300-3000 Hz Average SPL @ Maximum Volume:	90 dB		



For further information contact:



Specifications subject to change without notice.
 ®, Motorola, Radius, Private-Line, Digital Private-Line and
 Touch-Code are trademarks of Motorola Inc. © 1988 by
 Motorola Inc. Printed in U.S.A. (8812) Merit.

R3-20-02A

Radius

crystal portable radios



Accessories

• Remote Speaker Microphone



• Head Set Speaker Microphone



Cases



• Swivel Carry Case



• Carry Case

HT50 Synthesized Portable Radio

General Specifications

	VHF		UHF	
	High Power	Low Power	High Power	Low Power
Model Series:	H43BEU	H23BEU	H44BEU	H24BEU
Frequency:	150.8-162.0 MHz		450-470 MHz	
Channel Capability:	2 or 6*			
Dimensions (H x W x D):	6.3" x 2.6" x 1.8" 158mm x 65mm x 45mm			
Weight:	24 oz. 672 g			
Power Supply:	One Rechargeable Nickel Cadmium Battery			
Average Battery Life @ 5-5-90 Duty Cycle:	8 hours	11 hours	8 hours	11 hours
FCC Designation-2 Freq.:	AZ489FT3710	AZ489FT3711	AZ489FT4711	AZ489FT4712

Transmitter

	VHF		UHF	
	High Power	Low Power	High Power	Low Power
RF Power Output NiCd Batteries @ 9.6V:	5W	1W	4W	1W
Spurious & Harmonic Emissions:	-50 dB			
Frequency Stability -30° to +60°C 25°C Ref.:	±0.0005%			
Modulation:	16F3			
Maximum Frequency Separation:	6 MHz		8 MHz	
Audio Distortion: (@ 1000 Hz dev)	5%			
FM Noise:	-40 dB			
Audio Response: (from a 6 dB/octave pre-emphasis 300-3000 Hz)	+1, -3 dB			

*6 Channel capable radios available only in High Power models.

Receiver

	VHF	UHF
Channel Spacing:	30 kHz	25 kHz
Sensitivity 12 dB SINAD:	0.25µV	0.35µV
Selectivity EIA SINAD:	-60 dB	
Intermodulation EIA SINAD:	-60 dB	
Spurious & Image Rejection:	-60 dB	
Frequency Stability -30° to +60°C 25° Ref.:	±0.0005%	
Modulation Acceptance:	> ±7 kHz	
Maximum Frequency Separation:	6 MHz	8 MHz
Audio Output (@ Less Than 10% Distortion):	500 mW	
Sensitivity 20 dB Quieting:	0.35µV	0.50µV
Useable Bandwidth:	±5 kHz	



Support Services

Wherever Motorola sells, our product is backed by service. In the U.S., we have 900 authorized or company-owned centers. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.

Motorola, Inc. is an Equal Employment Opportunity/Affirmative Action Employer.



MOTOROLA

1301 E. Algonquin Rd., Schaumburg, Illinois 60196
Telephone (312) 397-1000 or call Toll-Free
1-800-367-2346, Ext. 101

Specifications subject to change without notice.
Ⓜ Motorola HT50, Private-Line, Digital Private-Line and Quik-Call II are trademarks of Motorola, Inc. © 1988 by Motorola, Inc. □ Printed in U.S.A. (8809) C.P.

R3-4-115B