

# HT600 Series "HANDIE-TALKIE" FM Radio

Performance Specifications  
All Specifications Are Per (EIA) RS 316B Procedures

Model Series:	H33SVU, H43SVU		H34SVU, H44SVU	
Frequency:	136-150.8 or 146-162 or 157-174 MHz		403-433 or 438-470 or 470-500** or 488-520** MHz	
Power Supply:	One rechargeable nickel cadmium battery			
Dimensions: Less Antenna & Knobs H x W x D In Inches	3.89 x 2.7 x 1.38" (98 x 66 x 35mm)			
Battery Height/Wt.:	Height:	Weight:	Height:	Weight:
Ni-Cd Batteries: Medium Capacity: High Capacity:	2.45" (62.2mm) 3.36" (85.3mm)	w/Radio 612g/21.6 oz. 686g/24.2 oz.	2.45" (62.2mm) 3.36" (85.3mm)	w/Radio 612g/21.6 oz. 686g/24.2 oz.
Battery Life (Hrs):*	Low Power	High Power	Low Power	High Power
Ni-Cd Batteries: Medium Capacity: High Capacity:	8 hours 14 hours	5 hours 8 hours	8 hours 13 hours	5 hours 8 hours
Sealing:	O-ring design to withstand rain testing per Mil Std. 810C/D			
Shock & Vibration:	Impact resistant polycarbonate housing exceeding EIA RS-316B			
Dust & Humidity:	Weather resistant housing exceeding EIA RS-316B.			

\*5-5-90 Duty Cycle with Battery Saver

Transmitter	VHF		UHF	
	High 5W	Low 2W	High 4W	Low 2W
RF Output NI-CD @ 10.0V:	6 MHz No Deg.	8 MHz No Deg.	8 MHz No Deg.	8 MHz No Deg.
Frequency Separation: Allowable Separation (w/ degradation):	16 MHz*	16 MHz*	16 MHz*	16 MHz*
Frequency Stability -30° to +60°C: 25°C Ref.	+/- .0005%	+/- .0005%	+/- .0005%	+/- .0005%
Modulation:	20KOF2D, 20KOF3E			
Spurs/Harmonics:	-60 dB	-53 dB	-53 dB	-53 dB
FM Noise:	-45 dB	-45 dB	-45 dB	-45 dB
Audio Response: (From a 6 dB/Oct. Pre-Emphasis; 300 to 3000 Hz)	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
Audio Distortion: (@ 1000 Hz, 60% Rated Max. Dev.)	5%	5%	5%	5%
FCC Designation: Low Power High Power	AZ489FT3699 AZ489FT3700	AZ489FT4700 AZ489FT4701	AZ489FT4700 AZ489FT4701	AZ489FT4701

\*Constrained by Sub-Band Limitations.  
\*\*470-500 MHz and 488-520 MHz available only on 4 Watt models.

Receiver	VHF	UHF
	30KHz (25KHz Int.)	25 KHz
Channel Spacing:	30KHz (25KHz Int.)	25 KHz
Modulation Acceptance:	>7.5 KHz	>7.5 KHz
Frequency Separation: Allowable Separation (w/ degradation):	6 MHz No Deg. 16 MHz*	8 MHz No Deg. 16 MHz*
Sensitivity 20 dB Quietling: 12 dB Sinad: Squelch:	.35µV .25µV .18µV	.50µV .35µV .22µV
Selectivity: (EIA Sinad)	-70dB (-68dB@25KHz)	-70 dB
Intermodulation:	-70dB (-68dB@25KHz)	-68 dB
Frequency Stability -30° to +60°C Ref.	+/- .0005%	+/- .0005%
Spur Rejection: Image Rejection:	-70 dB -65 dB	-70 dB -65 dB
Audio Output: (@ Less Than 5% Dist.)	500 mW	500 mW
EIA Usable Bandwidth	6 KHz min.	5 KHz min.
Low Power High Power	AZ489FT3699 AZ489FT3700	AZ489FT4700 AZ489FT4701

Applicable MIL-STD.	810C Methods/Procedures	810D Methods/Procedures
Low Pressure	Method 500.1	Method 500.2
High Temperature	Method 501.1	Method 501.2
Low Temperature	Method 502.1	Method 502.2
Temperature Shock	Method 503.1	Method 503.2
Solar Radiation	Method 505.1	Method 505.2
Rain	Method 506.1	Method 506.2
Humidity	Method 507.1	Method 507.2
Salt Fog	Method 509.1	Method 509.2
Dust	Method 510.1	Method 510.2
Vibration	Method 514.2	Method 514.3
Shock	Method 516.2	Method 516.3
	Procedure 1	Procedure 1
	Procedure 1, 2	Procedure 1 & 2
	Procedure 1	Procedure 1 & 2
	Procedure 1	Procedure 1
	Procedure 1	Procedure 1
	Procedure 2	Procedure 2
	Procedure 2	Procedure 2
	Procedure 1	Procedure 1
	Procedure 1	Procedure 1
	Procedure 1	Procedure 1
	Procedure 8, 10	Procedure 1
	Procedure 1, 2, 5	Procedure 1, 4

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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.

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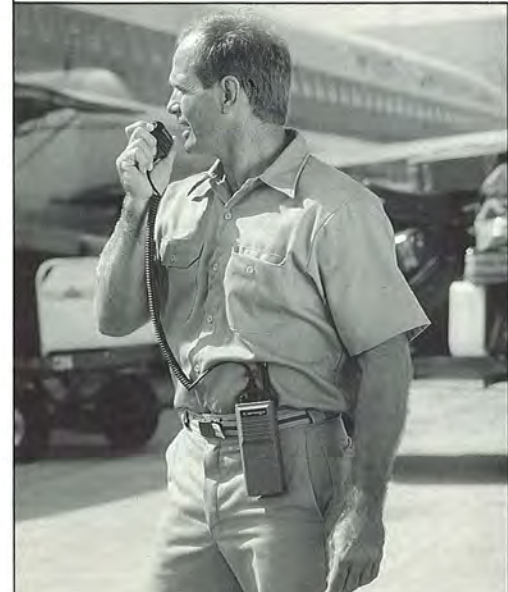
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# HT600 SERIES "HANDIE-TALKIE" Synthesized FM Portable Radio

2/6 Channels  
136-150.8 MHz 2 or 5 Watts; 146-162 MHz 2 or 5 Watts;  
157-174 MHz 2 or 5 Watts; 403-433 MHz 2 or 4 Watts;  
438-470 MHz 2 or 4 Watts; 470-500 MHz 4 Watts;  
488-520 MHz 4 Watts

- Features:**
- Small Size and Weight
  - Proven Rugged Construction
  - Choice of Power Levels
  - Battery Saver
  - Up to Six Frequency Operation
  - Microcomputer Controlled Synthesizer
  - Power Up Alert
  - Field Programmability
  - Universal Capability
  - Radio Cloning
  - Multiple PRIVATE-LINE Tone Coded Squelch
  - Multiple DIGITAL PRIVATE-LINE Coded Squelch
  - Touch-Code Signalling (DTMF)
  - DTMF Auto Dialing
  - Time-Out Timer
  - Choice of Batteries
  - Variety of Accessories
  - PAC-RT/PAC-PL Operation
  - QUIK CALL II Decode



## HT600 Synthesized Portable Radio



### RADIOS DESIGNED WITH VALUE IN MIND

The HT600 HANDIE-TALKIE portable radio is designed to meet the demands of your tough environments while providing cost effective, reliable communications. It exceeds 11 of the U.S. Government's Military Standards 810C and D, including Method 506.1, procedure II for rain. It also meets all EIA RS316B specifications. The design incorporates radial side loaded O-ring gaskets; providing protection from water and dust intrusion, and resistance to shock and vibration.

The HT600 radio is manufactured to provide product integrity combined with proven electronic technology. All to help provide a greater communications value to you.

## Systems Advances/ADVANTAGES



**Up to Six Channel Operation** — The HT600 radio is available with up to six channels.

**The HT600 provides the capability and flexibility to work in a wide variety of small and medium sized systems.**

**Wide Spaced Transmit and Receive** — In VHF, Transmitter and/or Receiver frequencies can be separated by up to 6 MHz with no degradation of performance. In UHF they can be separated by up to 8 MHz.

**Users with multiple channels or with a need for multiple system access can now get the flexibility of wider bandwidth with the assurance of full performance.**

**Multiple DIGITAL PRIVATE-LINE and PRIVATE-LINE Coded Squelch** — Coded squelch allows only those calls with your particular code to be heard and can be enabled on a per channel basis. Up to three codes are available per radio. You can choose from 80 DIGITAL PRIVATE-LINE codes and 28 of the industry's standard PRIVATE-LINE tone codes.

**Coded squelch signalling minimizes annoying message receptions from co-channel users. Your personnel hear only those calls having your system's code, which can help reduce operator fatigue and missed or misunderstood messages. Multi-code capability provides compatibility with multiple radio systems.**

**Radio Cloning** — Each HT600 radio has a unique data stored 'personality' with frequencies, squelch codes, and other operating characteristics. Using a simple cloning cable you can duplicate one radio's characteristics into another HT600 of the same sub-band.

**Independent work groups operating on different frequencies will appreciate the ease with which a radio can be moved from one group to another. With cloning the process is faster, easier and less expensive than ever before.**

**Field Programmable** — The HT600 radio utilizes a reprogrammable EEPROM codeplug, which permits operating characteristics to be changed within the sub-band without opening the radio. Programming is done via a programming cable interface to an IBM PC.

**Frequency and operating characteristics can be changed quickly and inexpensively, saving time and money. A radio can be changed with a minimum of down time, enabling you to easily move the radio from one work group to another.**

## Operator Features/ADVANTAGES

**Power Up Alert** — The microcomputer performs an internal self-check and gives an alert tone to signal the user that the radio is working properly each time it is turned on.

**The user knows the radio is working each time it is turned on. This reduces the possibility of personnel unknowingly putting non-working equipment into use.**

**Universal Capability** — The HT600 portable radio has a top mounted Universal connector for attaching a variety of audio accessories.

**The use of audio accessories provides the user added convenience by allowing talk and listen operation without removing the radio from its carry case or belt.**



**Easy Channel Selection** — One easy-to-grip knob selects both channel and squelch code.

**Operation is fast, easy and dependable.**



**Channel Busy Light** — The dual function LED glows with a flashing green light when there is channel activity on a PL or DPL protected channel.

**Adds to user convenience, allowing a quick glance at the radio control top to determine if a channel is free.**

**Battery Status/Transmit Indicator** — The red/orange dual function light emitting diode (LED) activates when transmitting and glows steadily. When the battery requires charging the LED blinks.

**Users know when the battery is low, allowing them to charge or replace the existing battery. This can help avoid the potentially hazardous situation of your personnel inadvertently being left without communications.**

**Monitor Button** — The monitor button is conveniently located on the side panel of the radio, for quick and easy one-handed activation. It allows the user to monitor the channel for activity before transmitting.

**The location of the monitor button allows the user to monitor a channel using only one hand, leaving a hand free for other activities.**

## Reliability and Performance Improvements/ADVANTAGES

**Small Size and Lightweight** — The HT600 housing ranges in size from approximately 23.6 to 27 cubic inches. Weight ranges from approx. 21.6 to 24.2 ounces. Both depending on battery size.

Users will have communications without cumbersome equipment. The size allows the user to perform his or her job with a full range of motion. The light weight can be less fatiguing in a work shift.

**Proven Superior Reliability** — The Motorola Accelerated Life Test (ALT) was used in the design of the HT600. It simulates five years of field stress in a few weeks; helping identify possible failures brought on by field stress and abuse. Once identified they are designed out of the radio before it reaches your hands.

Motorola radios are designed to minimize the possibility of costly repairs and inconvenient down time.

**Choice of Power Levels** — HT600 is available in 2 or 5 watts in VHF and 2 or 4 watts in UHF.

A choice of power levels allows you to design the system that meets your specific coverage needs.

**Improved Audio Design** — Advanced technology has been implemented in the HT600 audio system to provide improved audio performance.

The HT600 is designed to provide more natural and pleasant sounding audio in low noise environments and clear, easy to understand audio in high noise environments.

**Battery Saver** — The battery saver technology increases the length of operations between charges by reducing current drain. The advanced microcomputer is able to temporarily 'shut off' non-required radio components during periods of inactivity.

The battery saver can provide longer duty cycles. By operating the radio at a lower level of current drain, personnel are less likely to have the inconvenience of battery switching during their shift.

**Rugged Design** — The housing is constructed of highly durable, impact resistant, molded polycarbonate compound. O-rings and seals are utilized to provide extra resistance against dirt, dust and water intrusion.

HT600 is designed to take a beating on the job and keep talking. A durable radio can help save money on replacement and repairs.

## Options/ADVANTAGES



**DTMF Encoding** — Optional 3 × 4 keypad encoder DTMF tones quickly and easily for access to the land-line phone network and for remote control. DTMF encoding is available in manual dial or timed tone (auto-dial) versions.

You can use the HT600 portable for radio, telephone, and remote control communications. It was designed with a variety of capabilities to meet your applications.

**Choice of Manual Dial or User-Programmable Auto-Dial** — In manual mode simply hold the push-to-talk while depressing the keypad buttons to make a phone call. With auto-dial, you can store up to nine telephone numbers or remote control codes that you use most frequently. Last number redial is also included.

Enables fast, effective and easy operation of the unit. As compact as the radio is, it is still easy to operate and use. With auto-dial, stored numbers can be quickly recalled and automatically dialed.

**Approvals for Operation in Hazardous Atmospheres** — For those applications requiring the use of portable radios in hazardous atmospheres, both low and high powered HT600 Radios are approved by Factory Mutual as intrinsically safe for use in Class I, Groups C and D, and Class II, Groups E, F and G. In addition, all models of the HT600 line are approved as non-incendive for use in Class I, Groups A, B, C, and D atmospheres.

**Time-Out Timer** — Transmission is limited to a 60 second duration. The transmission is automatically terminated after 60 seconds and an audible alert tone is emitted to signal this condition to the operator. After de-keying, the operator can again key-up for the next transmission.

Prevents inadvertent or prolonged transmitter keying which ties up a repeater or a channel for all co-channel users.

**QUIK-CALL II Decode (Selective Call Signalling/Portable Paging)** — With a QUIK-CALL decoder, the HT600 radio, when placed in the QUIK-CALL mode, will only receive messages preceded by the individual radio's coded signal. When the correct signal is received an audible alert tone is generated to help assure that the user is aware of the transmission. After the alert tone the radio operates in the normal talk and listen mode until reset to the QUIK-CALL mode. A two-tone paging encoder system is required for operation.

With QUIK-CALL II decoding, the HT600 HANDIE-TALKIE radio can operate as a two-way radio, pager or as a 'Talk back' pager with the new Motorola People Finder System. This provides you with system flexibility and keeps your personnel out of the communications flow until you want them. Since operators hear only messages intended for them, they are spared the distraction of channel traffic, which can help increase productivity.

**PAC-RT/PAC-PL Vehicular Repeater Operation** — Low power HT600 models can interface with PAC-RT or PAC-PL vehicular repeaters. Just order the H804 option. PAC-RT or PAC-PL repeater access enables portable communications that utilize the power of a mobile radio.

**PAC-RT compatibility** means that the operator can leave the vehicle to perform a job and still maintain contact with other mobiles, portables or the base via the mobile repeater.

## Accessories

### Choice of Carrying Accessories

A variety of carry accessories are available for your comfort and convenience. Our radio cases are made of top quality leather and are available in sizes designed to fit your radio and battery. Cases are available with standard belt loop or swivel back covers, with a restraining T-strap. The HT600 radio is also available with a simple and economical belt clip carry holder or with the convenient belt clip, which comes with every package model HT600 radio.



### Choice of Batteries

Nickel-Cadmium rechargeable batteries are available in dual charge rates. Choice of size is medium or high capacity. All batteries are easy-to-change, slide-on type that lock securely. Battery choices are available to provide your personnel the optimal combination of power and duty cycle with a minimum size and weight increase to the radio.



**Battery housings are ultrasonically welded and separate from the radio compartment providing protection against shocks and drops.**

### CHOICE OF CHARGERS:



**Rapid/Regular Rate Desktop Chargers**—A variety of chargers are available to fit the charging capabilities of your batteries.

Choose rapid or regular rate, single unit chargers; available in 117V, 220V or 240V configurations. Rapid rate six unit chargers are available in 117V or 220V/240V AC configurations. The rapid chargers are equipped with red and green lights to indicate: 1) Rapid charging; 2) Charge complete. All desktop units will accept any of the battery sizes, with or without radio attached.

### Compact Charger

The 117V and 220V AC compact charger, provides a 16 hour charge rate. When there is little available space, the compact charger's small size is the answer. The money saving low price and convenient size and weight make it ideal for users who occasionally charge their radio at home.



### Speaker/Microphone/Antenna (SMA) (UHF Only)

A special public safety remote speaker microphone accessory has a top mounted antenna, providing additional antenna height for better radiation.



### Remote Speaker Microphone

A speaker microphone is available to provide remote talk and listen capability. By attaching the microphone to the Universal connector, located on the top of the radio, you can use the remote speaker 'mic' to transmit or receive while the radio remains comfortably on the belt or in the case.



### Motorola Vehicular Adapter (MVA)

This rugged console features a convenient connection to the HT600 portable via the universal connector on the top of the radio to a fixed connector on the MVA unit. The portable simply slides into the pocket of the MVA and then snaps down into the unit for a secure connection. This unit provides a three hour charging rate (dual charge battery) and includes a remote microphone, external 12-watt speaker, and an optional mobile antenna.



**This all new MVA provides a perfect complement to your HT600 portable radio. The new fixed connector block means improved reliability of radio to MVA connection. Easy connection, quick charge rate and various options combine to provide the user with benefits of vehicular communications while maintaining the flexibility of a portable radio.**

### Vehicular Charger

The Vehicular Charger allows an HT600, MT1000, MTX800 and MTX-900 portable to charge at a 16 hour charge rate in a vehicle. The Vehicular Charger system works with a PAC-RT system or by itself. An external antenna kit is available to be used with the charger.

