



**MOTOROLA**



## **Factory Mutual Approval**

**(For Use in Hazardous  
[Classified] Locations)**

**Manual Supplement  
For Conventional and Privacy Plus® Models**



APPROVED

### **FMRC Approved Equipment**

Anyone intending to use a radio in a location where hazardous concentrations of flammable material exist (hazardous atmosphere) is advised to become familiar with the subject of intrinsic safety and with the National Electric Code NFPA 70 (National Fire Protection Association) Article 500 (hazardous [classified] locations).

An Approval Guide, issued by Factory Mutual Research Corporation (FMRC), lists manufacturers and the products approved by FMRC for use in such locations. FMRC has also issued a voluntary approval standard for repair service ("Class Number 3605"). FMRC Approval labels are attached to the radio to identify the unit as being FM Approved for specified hazardous atmospheres. This label specifies the hazardous Class/Division/Group along with the part number of the battery that must be used. Their Approval mark is shown above.

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**68P81073C69-D**



## WARNING

- Do not operate radio communications equipment in a hazardous atmosphere unless it is a type especially qualified (for example, FMRC Approved) for such use. An explosion or fire may result.
- Do not operate the FMRC Approved Product in a hazardous atmosphere if it has been physically damaged (for example, the housing is cracked). An explosion or fire may result.
- Do not replace or charge batteries in a hazardous atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion or fire.
- Do not replace or charge accessories in a hazardous atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion or fire.

Radios must ship from the Motorola manufacturing facility with the hazardous atmosphere capability and FM Approval labeling. Radios will not be “upgraded” to this capability and labeled in the field.

A modification changes the unit’s hardware from its original design configuration.

Modifications can only be done by the original product manufacturer at one of its FMRC audited manufacturing facilities.



## WARNING

- Failure to use an FMRC Approved Product unit with an FMRC Approved battery or FMRC Approved accessories specifically approved for that product may result in the dangerously unsafe condition of an unapproved radio combination being used in a hazardous location.
- Unauthorized or incorrect modification of an FMRC Approved Product unit will negate the Approval rating for that product.

## Repair of FMRC Approved Products

**REPAIRS FOR MOTOROLA FMRC APPROVED PRODUCTS ARE THE RESPONSIBILITY OF THE USER.**

You should not repair or relabel any Motorola manufactured communication equipment bearing the FMRC Approval label (“FMRC Approved Product”) unless you are familiar with the current FMRC Approval Standard for repair service (“Class Number 3605”).

You may want to consider using a repair facility that operates under 3605 repair service approval.



## WARNING

- **Incorrect repair or relabeling of any FMRC Approved Product unit could adversely affect the Approval rating of the unit.**
- **Use of a radio that is not intrinsically safe in a hazardous atmosphere could result in serious injury or death.**

FMRC's Approval Standard Class Number 3605 is subject to change at any time without notice to you, so you may want to obtain a current copy of 3605 from FMRC. Per the December 1995 publication of 3605, some key definitions and service requirements are as follows:

### **Repair**

A repair constitutes something done internally to the unit that would bring it back to its original condition Approved by FMRC. A repair should be done in a FMRC Approved facility.

Items not considered as repairs are those in which an action is performed on a unit which does not require the outer casing of the unit to be opened in a manner which exposes the internal electrical circuits of the unit. You do not have to be an FMRC Approved Repair Facility to perform these actions.

### **Relabeling**

The repair facility shall have a method by which the replacement of FMRC Approval labels are controlled to ensure that any relabeling is limited to units that were originally shipped from the manufacturer with an FM Approval label in place. FMRC Approval labels shall not be stocked by the repair facility. An FMRC Approval label shall be ordered from the original manufacturer as needed to repair a specific unit. Replacement labels may be obtained and applied by the repair facility providing satisfactory evidence that the unit being relabeled was originally an FMRC Approved unit. Verification may include, but is not limited to, a unit with a damaged Approval label, a unit with a defective housing displaying an Approval label, or a customer invoice indicating the serial number of the unit and purchase of an FMRC Approved model.

### **Do Not Substitute Options or Accessories**

The communications equipment package that Motorola submits to FMRC for testing and approval is tested as a system that consists of the communications unit itself and the battery, antenna, and other options or accessories that make up the rest of the package to be approved. This approved package must be strictly observed and there must be no substitution of items, even if the substitute you wanted to consider appears as an approved accessory elsewhere in the Guide for some other communications equipment unit. Approved configurations are listed by FMRC Approved Product in the annual Approval

Guide published by FMRC. That guide, and the Approval Standard Class Number 3605 document, can be ordered from the following address:

Training Resource Center, Publications-Order Processing Dept.  
 Factory Mutual Engineering and Research  
 1151 Boston-Providence Turnpike  
 PO Box 9102  
 Norwood, MA, 02062  
 Telephone (617) 762-4300; extension 2152

The VISAR™ portable radio when properly equipped with the H753/H236 Option is Approved by Factory Mutual Research Corporation (FMRC) as intrinsically safe for use in Classes I, II, and III, Division 1, Groups D, F, and G. It is also Approved for non-incendive use in Class I, Division 2, Groups A, B, C, and D.

### VISAR Portable Radio Models

<i>VHF Models</i>	<i>UHF Models</i>	<i>800 MHz Models</i>
H05KDD9AA4BN/DN	H05RDD9AA4BN/DN	H05UCD6AA4BN/DN
H05KDH9AA7BN/DN	H05RDH9AA7BN/DN	H05UCH6AA7BN/DN
H05KDH9AA4BN	H05SDD9AA4BN/DN	H05UCD6CB4BN
	H05SDH9AA7BN/DN	H05UCD6CB1BN
	H05SDH4AA4BN	H05UCD6CF1BN
	H05RDH9AA4BN	

### Audio Accessories

<i>Kit Number</i>	<i>Description</i>
BDN6664A	Earpiece w/standard earphone (beige)
BDN6726A	Earpiece w/standard earphone (black)
BDN6665A	Earpiece w/extra loud earphone (beige)
BDN6667A	Earpiece, microphone and PTT switch combined (beige)
BDN6668A	Earpiece, microphone and PTT switch separate (beige)
BDN6669A	Earpiece, microphone and PTT switch combined with extra loud earpiece (beige)

## Audio Accessories (Continued)

<b><i>Kit Number</i></b>	<b><i>Description</i></b>
BDN6727A	Earpiece w/extra loud earphone (black)
BDN6666A	Earpiece w/volume control (beige)
BN6728A	Earpiece w/volume control (black)
BDN6729A	Earpiece, microphone and PTT switch combined (black)
BDN6730A	Earpiece, microphone and PTT switch separate (black)
BDN6731A	Earpiece, microphone and PTT switch combined with extra loud earpiece (black)
BDN6670A	Earpiece, microphone and PTT switch separate
BDN6732A	Earpiece, microphone and PTT switch separate with extra loud earpiece (black)
NMN6196A	Speaker microphone
NMN6245A	Lite-weight Headset
NMN6245A	Ultra-lite Headset
BDN6772A	Adapter cable
BDN6645A	Standard boom microphone
BDN6635B	VOX
BDN6636B	Throat microphone

## Antennas

<b><i>Kit Number</i></b>	<b><i>Description</i></b>
NAD6569A	136-150.8MHz, helical
NAD6570A	150.8-162MHz, helical
NAD6571A	162-178MHz, helical
NAE6546A	403-435MHz, helical
NAE6547A	435-470MHz, helical
NAE6548A	470-520MHz, helical

## Antennas (Continued)

<b><i>Kit Number</i></b>	<b><i>Description</i></b>
NAE6549A	403-520MHz, UHF Whip
NAF5042A	VOX
BDN6636B	806-941MHz, 1/4 Wave

## Batteries

<b><i>Kit Number</i></b>	<b><i>Description</i></b>
NTN7398A	Factory Mutual Approved intrinsically safe battery (high capacity nickel-cadmium)
NTN7397B	Factory Mutual Approved intrinsically safe battery (ultra high capacity nickel-metal-hydride)
NTN7396A	Factory Mutual Approved nonincendive battery (medium capacity nickel-metal-hydride)
NTN7394B	Factory Mutual Approved nonincendive battery (medium capacity nickel-metal-hydride)

## Options

<b><i>Option</i></b>	<b><i>Description</i></b>
H128AC/AE	Add 136-150.8MHz, helical
H129AC/AE	Add 150.8-162MHz, helical
H65AC/AE	Add 162-178MHz, helical
H112DG/DY	Omit helical antenna altogether (VHF)
H125AD/AE	Add 403-435MHz helical antenna and delete whip
H126AD/AE	Add 435-470MHz helical antenna and delete whip
H127AD/AE	Add 470-520 helical antenna and delete whip
H112DH/DZ	Omit antenna altogether (UHF)
H112DJ/DX	Omit antenna altogether (800MHz)

## Options (Continued)

<i><b>Option</b></i>	<i><b>Description</b></i>
H226BC/BF	Delete NTN7396A, add NTN7394A (1500mAH NiMH)
H236BN	Delete NTN7396A, add NTN7397A (1500mAH NiMH IS)
H236BS/BT	Delete NTN7396A, add NTN7397A (1500mAH NiMH IS)
H765AB/AC	Delete NTN7396A, add NTN7395A (1200mAH NiCd)
H753EK	Delete NTN7396A, add NTN7398A (1200mAH NiCd IS)
H753EP/EQ	Delete NTN7396A, add NTN7398A (1200mAH NiCd IS)
H757CC	Add FMNI label
H207BT	Delete NTN7396A (700mAH battery)

## Software and Memory Options

<i><b>Option</b></i>	<i><b>Description</b></i>
H565AG	Low-power (2.5W) VHF and (2.0W) UHF programming (regulatory)
H477AD	Add factory programming, Private-Line®/Digital Private-Line® (PL/DPL) frequencies
H451AD	Software and memory option
H452AE	Software and memory option
H959BS	Software and memory option
H962DG	Software and memory option

