

# RADAR COMMUNICATOR

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**NOTICE:** A valid Technicians, or above, Amateur operators license must be secured before using this device. If no such license is possessed before use, this will result in illegal operation, and the owner will be open to penalties as perscribed by the FEDERAL COMMUNICATIONS COMMISSION.

The MS-1 is a sophisticated microwave (RADAR) transmitter designed for the Amateur radio service between the frequencies of 10.400 to 10.500 GHZ ("X" band).

The transmitter has a power output of over 100 milliwatts, and may be used for C.W., A.M., or PULSED transmissions. A highly efficient GUNN oscillator is used in a mechanically tuned enclosure to insure for dependable, long life. The attached cast metal horn antenna is rectangularly polarized with a gain factor of 17 db, and an extremely narrow beam width, for high efficiency with compact size.

The control head contains circuitry for modulating the transmitter, and a six position rotary switch to allow for a wide selection of encoding tones. A.M. and C.W. signals may be easily sent, providing the control head is properly modified for such activity. (SEE "MODIFICATIONS" SECTION)

## tone encoder use:

The six tone positions are as follows- 643 hz (20mph), 957 hz (30 mph), 1271 hz (40mph), 1742 hz (55mph), 1899 hz (60mph), and 2527 hz (noise test - 80mph). The MPH designations are on the control head to remind operators to be alert when using the MS-1 on or around public highways.

## TECHNICAL NOTICE:

BECAUSE OF THE DEFECTS IN DESIGN OF LAW ENFORCEMENT RADAR, THE MS-1 WILL LOCK UP POLICE RADAR COMPUTORS, WHEN AIMED IN THEIR GENERAL DIRECTION.

This is not the fault of the MS-1, but rather the blundering oversight of speed radar manufacturers. The speed radar units on the market today are built with broad-banded diode receive which receive the surrounding Amateur frequencies, as well as their own designated 10.525 GHZ.

WHILE THE QUESTION OF MORALITY IN PURPOSELY DOING SUCH A THING ARISES, THIS ACION WOULD CERTAINLY NOT BE ILLEGAL, FROM THE TECHNICAL STANDPOINT. (Assuming the MS-1s operating frequency was between 10.400 to 10.500 GHZ, and the owner owns a valid Amateur license.)

## NOTICE TO OWNER/OPERATORS WITHIN THE STATE OF VIRGINIA:

The Virginia state law against radar receivers EXCLUDES the MS-1 because it is an Amateur radio transmitter. The VIRGINIA statute is aimed against radar detectors, and is quite specific. However, there is absolutely no mention of radar transmitters in the state law.

If there is any conflict over the unit, simply remind the official that your unit is a duly licensed Amateur transmitter, and the FEDERAL COMMUNICATIONS COMMISSION removed all rights from the states to regulate radio transmitters in the COMMUNICATIONS ACT OF 1934. ANY attempt to regulate, or confiscate, the MS-1 from a properly licensed Amateur operator by a state, or local, authority, will be a direct violation of FEDERAL LAW!!!

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## What is the "Radar Communicator?"

The MS-1 is an Amateur Band radio (microwave) transmitter designed for communication to RADAR-frequency receiving devices. The microwave section is nearly identical to common speed radar units, utilizing the same sophisticated and expensive electronics. The transmitter is controlled by the "control head" which modulates or encodes the signal for positive communication to radar-frequency receivers. Transmission is directional and line-of-sight, with a range of up to two miles depending largely on receiver sensitivity. Unlike radar which determines information from a reflected signal, MS-1 is a one-way communicator, more like a microwave relay station. Because it continually transmits the signal to the receiver, coded reception is **DIRECT AND INSTANTANEOUS.**

## SPECIFICATIONS

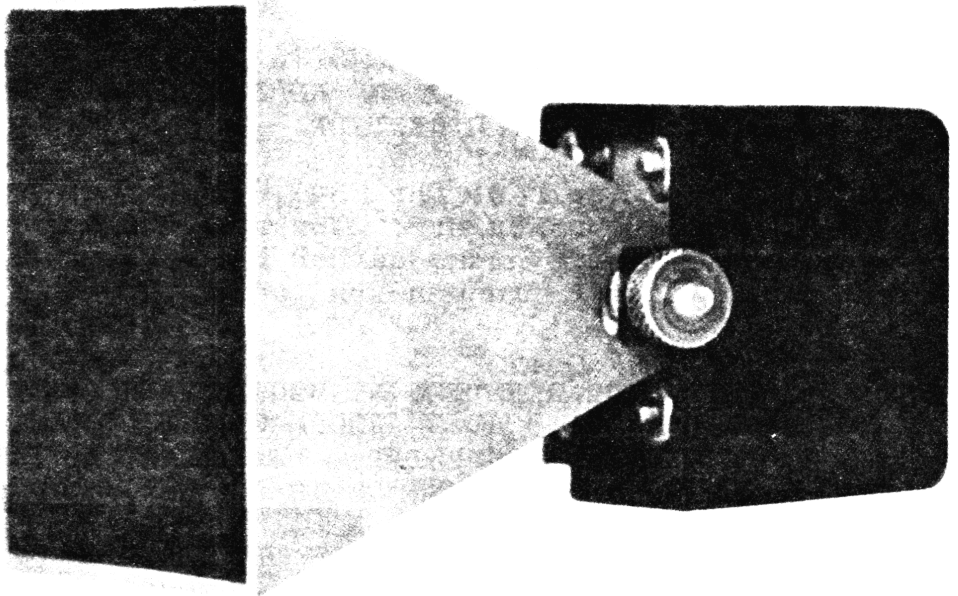
Frequency Range: .... 10.450 GHz  $\pm$  50 MHz  
Generated R. F. Power:.. 100 Milliwatts min.  
Generated Waveform: ..... Sawtooth  
Transmission Modes: ..... AM; continuous  
Beam Width: ... 28° half-power (double axis)  
Antenna Gain: ..... 17 db; rect. polarized  
Tone Encoding: vco with integrated circuitry  
Operating Voltage: ...12-18 vdc, floating gnd.  
Operating Temperature: ...-20° F to + 150° F

## What can receive the MS-1?

The "radar communicator" is an experimental device which allows ham operators many new avenues of amateur communication. Because all common radar-frequency detection or reception equipment uses broad-banded diode receiving techniques, effective communication to a wide variety of such gear is possible. Since absolute frequency isolation does not exist, operators are urged to guard against interfering with other X-band users. The receiver sections of police radar units are very broad-banded, and are extraordinary receivers for MS-1 communication. Older speed radars are sometimes available at reasonable cost from county and municipal agencies. The recent explosion of inexpensive police radar detectors also provides amateurs with access to good, basic receivers for the MS-1.



Use discretion in mobile configuration.



**3-1/2" W x 3" H x 4-1/2" D**

**ACTUAL SIZE**

**4" W x 2" H x 3-3/8" D**

**Suggested**

**\$589**

**List Price**