

# MAGNUM M-257

30W AM/FM/SSB 10-11 Meter Mobile Transceiver

Price: US\$ 250.00 ex stock Jakarta (Arriving 2<sup>nd</sup> week in March)



## SPECIFICATIONS

Frequency Coverage 25.165 - 29.699 MHz  
RF Power Output 30W SSB / 9W AM/ 30W FM  
Dual Finals on Heat Sink  
Modes AM, FM, USB, LSB  
Microprocessor Controlled  
    5 memories  
    Last Channel Recall  
    Frequency Scan  
    10khz or 1khz steps  
Variable RF Output Power  
Variable Mic Gain  
Built in Speech Processor  
5 Digit LCD Frequency Display  
Scanning Microphone  
Night Illuminated Display  
Surface Mount Technology throughout  
Dimensions 2(H) x 6(W) x 9.5(D) in

**GENERAL SPECIFICATIONS:**

<b>Frequency Coverage</b>	28.000 to 29.699
<b>Frequency Coverage Expanded</b>	25.165 – 29.699
<b>Antenna Impedance</b>	50 ohm unbalanced
<b>Frequency Control</b>	Digital Phase-Lock Loop(PLL)Frequency Accuracy Better than +10ppm from 0-40° C after 15 min warm up.
<b>Power Requirement</b>	10.5 - 15VDC ~ Negative Ground
<b>Current Consumption</b>	6.0 amps maximum
<b>Dimensions</b>	6 x 2 x 9.5 in (W x H x D)
<b>Weight</b>	2.9 lbs.

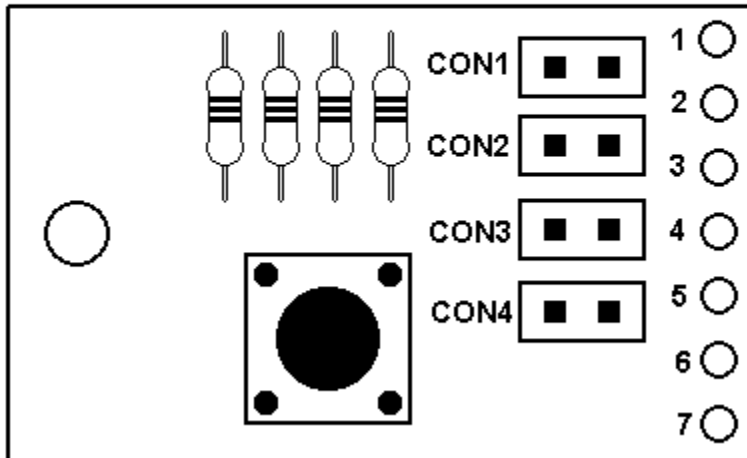
**TRANSMITTER SPECIFICATIONS:**

<b>Power Output</b>	SSB / FM ~ 30 Watts AM ~ 9 Watts Average / 30 Watts PEP
<b>Tuning Steps</b>	1kHz / 10kHz / 100kHz
<b>Final Transistors</b>	2SC1969 (x2)
<b>Spurious Emissions</b>	More than 50dB below peak output power
<b>Carrier Suppression</b>	More than 40dB below peak output power
<b>FM Deviation</b>	+/- 2kHz maximum
<b>Audio Response</b>	More than 30dB below peak output power
<b>Frequency Response</b>	400 to 2800Hz
<b>Microphone Impedance</b>	ECM 600 to 1K ohms

**RECEIVER SPECIFICATIONS:**

<b>Circuit Type</b>	Dual Conversion Superheterodyne
<b>Intermediate Frequencies</b>	1st IF / SSB IF ~ 10.695 MHz ~ 2nd IF ~ 455 kHz
<b>Sensitivity</b>	SSB 0.25 V at 10dB S + N/N / AM ~ 1.0uV at 10dB S + N/N / FM ~ 0.3 uV at 12dB SINAD
<b>Selectivity</b>	<b>AM/FM</b> 6.0kHz (-6dB) / 18kHz (-60dB) / <b>SSB</b> 4.2kHz (-6dB) / 8.5 kHz (-60dB)
<b>Clarifier Range</b>	+/- 1.5 kHz
<b>Adjacent Channel Rejection</b>	Better than 70dB
<b>IF Rejection</b>	Better than 80dB for all frequencies
<b>Frequency Response</b>	250 to 3000 Hz
<b>Audio Output Power</b>	2 watts minimum at 10% THD with an 8 ohm load

## FREQUENCY MODIFICATION:



**Step #1:** Make sure Magnum 257 is turned off and disconnected from power source!

**Step #2:** Take off speaker-side cabinet.

**Step #3:** Find the CPU Reset Board located near the Front panel of the radio located behind the Microphone Connector.

**Step #4:** On the CPU Reset Board there are 4 jumper positions (CON-1 / CON-2 / CON-3 / CON-4).

Each jumper position will provide a different frequency range and configuration.

From the list below, select the desired frequency range and configuration, and move the jumper shunt to the corresponding CON #.

**CON1:** ~ 10 Meter Only (28.000 - 29.699 MHz)

\*Default mode

\*All functions operate normally

**CON2:** ~ 10 Meter & Expanded Mode

\*At turn on, the radio defaults to 10 Meter mode.

\*For Expanded mode, press FUNC and then press CALL for 3 seconds.

\*To return to 10 Meter mode, repeat above steps.

for information on Expanded mode operation, see CON3

**CON3:** ~ Expanded Mode Only (25.165 - 29.699 MHz)

**In the Expanded mode, the frequency range is divided into 10 Bands of 40 Channels each.**

The Bands are shown on LCD display by letters (A through J) - Band E is regular 40 channel CB. To switch bands, press the CALL button (do not hold down for 3 seconds).

In the Expanded mode, either the frequency or channel can be displayed on the LCD. To switch between frequency display and channel display, press the FUNC button and then press the CALL button (do not hold down for 3 seconds).

On the channel display, the small number (0 - 9) to the right of the Band letter is the 1 kHz frequency display.

**Example:** If the frequency is 27.405, then the channel display will indicate 40 E5. (40) being the channel, (E) being the Band, and (5) being the 1 kHz position of 27.405.

**Note!**

In the Expanded mode, the RPT and SHIFT functions Will Not Operate.

**CON4:** ~ 40 Channel CB Only (26.965 - 27.405 MHz) (Only operates on the regular 40 CB channels.)

**Step #5** After selecting the desired frequency range and configuration, press the CPU Reset Switch (SW1) for 5 - 10 seconds.

**Step #6** Reassemble the radio, turn on and test.

**TUNE – UP / POWER TWEAKS**

#1 ~ Remove bottom cover

#2 ~ Locate RV16. (AM Power)

#3 ~ Adjust RV16 for a carrier of 10 watts on AM mode with the RF Power knob turned fully clockwise. With the RF Power knob turned fully counter-clockwise, the AM carrier should be 1 watt.

#4 ~ Locate RV4. (Modulation)

Adjust RV4 for maximum modulation.

#5 ~ Locate RV9. (SSB Power)

Adjust RV9 for maximum forward power in SSB mode.

#6 ~ Locate RV8. (RF Meter)

With RF Output power knob adjusted to show a 5 watt carrier, adjust RV8 just until the 3rd RF power bar lights up.

You should now see a PEP output of around 25 Watts on AM and around 35 Watts on SSB. 🤖

## FRONT PANEL CONTROLS



### #1 ~ MICROPHONE INPUT

Pin #1 ~ Microphone Audio

Pin #2 ~ Receive

Pin #3 ~ Transmit

Pin #4 ~ Down(Up w/22K Ohm Resistor)

Pin #5 ~ Ground

Pin #6 ~ +13.8VDC

### #2 ~ MIC GAIN

### #3 ~ RF GAIN

### #4 ~ STEP BUTTON \ NB \ 1 STEP

Controls tuning steps in either 1 kHz, 10 kHz, or 100 kHz as well as activates the Noise Blanker circuitry when used with the FUNCTION button. This button is also used to program and recall Memory Channel #1.

### #5 ~ LCR \ RPT \ 4 LCR

Allows you to tune into the last channel you transmitted on. Also used to activate repeater splits when used in conjunction with the FUNCTION button. This button is also used to program and recall Memory Channel #4.

### #6 ~ CALL \ 2

CALL The default call frequency is 29.300 MHz FM. Press this button to go to that frequency.

This button is also used to program and recall Memory Channel #2.

### #7 ~ MODE \ T. LOW \ 5 MODE

Allows you to change the mode of transmission and receive AM/FM/USB/LSB. When using the FUNCTION button you can also activate the Tone Low circuitry which acts as a roll-off for high frequency or "white noise". This button is also used to program and recall Memory Channel #5.

### #8 ~ SCAN \ SHIFT \ 3 SCAN

Scans in increments 10 kHz steps. Also used to program repeater pairs\splits for FM repeater use. This button is also used to program and recall Memory Channel #3.

### **#9 ~ M. SAVE \ M. LOAD**

Memory Save and Memory Load (Recall)

### **#10 ~ CLAR \ FUNC**

Clarifier shifts both the TX and RX frequency 1.5 kHz each side of the center frequency.

### **#11 ~ FREQ**

Rotate clockwise or counterclockwise to select desired frequency.

### **#12 ~ OFF \ VOLUME**

Turns the power to the radio on and off.

### **#13 ~ NONE!**

THE FACTORY FELT THE NUMBER 13 WAS UNLUCKY!

**(You will not find a Number 13 listed in the Owners Manual)**

### **#14 ~ SQ**

Squelch, Used to eliminate background or white noise and also used to activate the Scan feature (refer to #8).

### **#15 ~ PWR**

Variable RF Output Power.

### **#16 ~ Push to Talk Switch (PTT) SWITCH**

Push to talk, Release to receive.

### **#17 ~ UP \ DN**

Allows for Up and Down Frequency Control from the Microphone.

## **OTHER FEATURES:**

### **#1 ~ PROGRAMING TONE**

This tone sounds each time the CPU is being programmed. It is helpful, in the beginning so you can be sure the command has been entered. You may eliminate the tone by simply pressing the PTT switch on the microphone and turning on the ON/OFF POWER switch at the same time.

### **#2 ~ MEMORY BACK UP**

The 257 features a super-capacitor back up for the 5 memory channels. The 257 can be disconnected from a power source for approximately 4 or 5 days before the memory is lost.