

# MICOM-2EF *Front Mount*

**HF-SSB ALE Front Mount Digital Signal Processing Radio**  
**125 watt PEP/Average 1.6-30 MHz**



## Features

- Enhanced features for better communications
- Ruggedized Mobile / Fixed Transceiver
- Front panel programming
- Advanced digital technology
- Conforms to MIL-STD 810 and EIA Specifications
- ALE per FED-STD-1045 and MIL-STD-188/141A
- High MTBF
- Complies with ISO 9001 Requirements
- Security access code
- Variable Bandwidth for optimal signal processing
- Voice activated digital squelch
- Programmable channel scan
- Digital noise blanking and clarifier
- Guard and Priority Channels
- Continuous duty operation (optional)
- Multi-language Liquid Crystal Display
- BITE(Built-in Test)
- Meets FCC and EMC standards
- Selectable front-end Attenuator
- Enhanced Voice Quality
- Excellent frequency stability
- Selectable Power Output
- Small Size, Light Weight
- Variable notch filter
- Sub-octave pre-selector
- Adaptable internal configuration options

**M**ICOM-2EF is an advanced Ruggedized Digital Signal Processing transceiver, intended for very wide area radio communications. It provides, Voice, Data, Fax and E-mail solutions with a high degree of sophistication, signal quality and reliability, while being very simple to operate.

MICOM-2EF with its compact size provides maximum ease of installation. The Automatic Link Establishment-ALE (per FED-STD 1045 and MIL-STD 188/141A) is a STANDARD FEATURE of every MICOM-2EF.



Communications

**MICOM-2EF** *Front Mount*

# MICOM-2EF Front Mount

## HF-SSB ALE Trunk Mount Mobile Digital Signal Processing radio 125 watt PEP/Average 1.6-30 MHz

| GENERAL                                    |  |                  |                  |                 |        |
|--|--|------------------|------------------|-----------------|--------|
| Model Number:                              | M80AMN0KV5-K   |                  |                  |                 |        |
| Frequency Range:                           | 1.6 MHz Tx, 100 kHz-30 MHz Rx  |                  |                  |                 |        |
| Number of Channels:                        | 200: User programmable; Simplex or Half Duplex   |                  |                  |                 |        |
| Scanning:                                  | 5 groups with up to 100 channels per group   |                  |                  |                 |        |
| Frequency Stability:                       | 0.6 PPM, (0.1 PPM optional)  |                  |                  |                 |        |
| Frequency Drift (Aging):                   | 1 PPM per year   |                  |                  |                 |        |
| Synthesizer Lock Time:                     | 10 msec max.   |                  |                  |                 |        |
| Frequency Resolution:                      | 10 Hz  |                  |                  |                 |        |
| Audio Bandwidths @ -6dB:                   | Voice: 350 to 2700 Hz<br>CW: 650 to 1150 Hz<br>Low speed data: 1450 to 1950 Hz<br>High speed data*: 350 to 3300 Hz |                  |                  |                 |        |
| Operating Temp. Range:                     | -30° to +60°C  |                  |                  |                 |        |
| Humidity:                                  | 95% @ 50°C   |                  |                  |                 |        |
| Operating Voltage:                         | 13.8V DC ± 20% Neg. Ground   |                  |                  |                 |        |
| ALE: Per FED-STD 1045 and MIL-STD 188/141A |  |                  |                  |                 |        |
| Current Drain<br>@ 13.8 VDC                | Receive  |                  | Transmit         |                 |        |
|  | Squelched  | Full Audio       | Voice            | 2 Tone          | 1 Tone |
|  | 2.2A   | 3A               | 14A              | 23A             | 28A    |
| Dimensions<br>and Weights                  | Height<br>mm/inch  | Width<br>mm/inch | Depth<br>mm/inch | Weight<br>Kg Lb |        |
|  | 92 / 3.7   | 302 /11.9        | 270 /10.7        | 5.7             | 12.5   |

\*Optional, for authorized users only.

| TRANSMITTER                     |   |
|---------------------------------|---|
| Output Power:                   | 125W P.E.P. and average                       |
| Reduced Power Levels:           | 25W, 62W, 100W (RSS Programmable)             |
| Audio Bandwidth Ripple:         | 3 dB  |
| Intermodulation:                | -31 dB/P.E.P. (-35 dB/P.E.P. Typical. Note 1) |
| Harmonic Emissions:             | -64 dB/P.E.P. (-70 dB/P.E.P. Typical. Note 1) |
| Spurious Emissions:             | -64 dB/P.E.P. (-70 dB/P.E.P. Typical. Note 1) |
| Carrier Suppression:            | -50 dB/P.E.P.                                 |
| Undesired Sideband Suppression: | -55 dB/P.E.P.                                 |
| Audio Distortion:               | 2.5%  |
| 1/2 Power Mic. Sensitivity:     | 25 to 125 mV (RMS)/600 ohms                   |
| Hum & Ripple:                   | -50 dB  |
| Inband Noise:                   | -60 dB (30 Hz BW)                             |
| Tx/Rx Switching Time:           | 10 msec                                       |
| Tx Tuning Adjustments:          | None  |

Note 1: Values noted as typical are valid over 90% or more of the frequency range.

| RECEIVER                      |   |
|-------------------------------|---|
| Sensitivity (SINAD) SSB:      | 0.5 μv for 10 dB SINAD<br>(0.3 μv Typical. Note 1)<br>0.1-1.6 MHz – reduced performance |
| 1/2 Rated Power Sensitivity:  | 1 μv for 2.5W audio @ speaker   |
| Selectivity:                  | -6 dB @ 350 to 2700 Hz<br>-60 dB @ -1 kHz, +4 kHz                                       |
| Image Rejection:              | -80 dB  |
| IF Rejection:                 | -85 dB  |
| Undesired Sideband Rejection: | -55 dB @ -1 kHz   |
| Spurious Rejection:           | -80 dB  |
| Intermodulation Rejection:    | -80 dB  |
| Cross Modulation Rejection:   | -100 dB @ 100 kHz   |
| Desensitization:              | -100 dB @ 100 kHz   |
| Reciprocal Mixing:            | -100 dB @ 100 kHz   |
| Audio Power @ Speaker:        | 5W @ 2.5% distortion  |
| RGC Range:                    | 5μv 1V (2 dB change in output level)  |
| RGC Time Constants Voice:     | Attack time 10 msec<br>Release time 1500 msec   |
| Data:                         | Attack time 10 msec<br>Release time 10 msec   |
| Squelch:                      | Constant SINAD (digital)  |
| Clarifier Range:              | ± 200 Hz in 10 Hz steps   |
| Receiver Tuning Adjustments:  | None  |
| Preselector Sections:         | Sub-octave (1.6 MHz to 30 MHz range)  |
| Antenna Input Protection:     | 20 kV maximum transient,<br>100V RMS for 2 minutes                                      |

### MILITARY & INDUSTRIAL STANDARDS

MICOM-2EF meets the following US military and industrial standard requirements for adverse environmental conditions (without the need of external shock mounts)

| Environmental Condition | US Military STD 810C | US Military STD 810D | US Military STD 810E |
|-------------------------|----------------------|----------------------|----------------------|
| Vibration               | Method 514.2         | Method 514.3         | Method 514.4         |
| Shock                   | 516.2                | 516.3                | 516.4                |
| Rain                    | 506.1                | 506.2                | 506.3                |
| Dust                    | 510.1                | 510.2                | 510.3                |
| Salt Fog                | 509.1                | 509.2                | 509.3                |

The MICOM-2EF also meets the EIA-RS152B for shock, vibration and applicable test procedures, US FCC for channel occupancy, spurious, interference and frequency tolerance. It is manufactured according to the demanding standards of ISO 9000 and EMC (Electromagnetic Compatibility).

FCC Information: Emissions: J3E, R3E, H3E, J2A, J2B, B8C  
FCC Applicable Parts of Rules: 15, 80, 90  
FCC Type Acceptance Number: ABZ9QCC1635  
With High Stability Option: ABZ9QCC1634

| OPTIONS                         |                                      |
|---------------------------------|--------------------------------------|
| ● RS232 Remote Contol Interface | ● Interlink Interface                |
| ● Linear Amplifier Interface    | ● 24 VDC Operation                   |
| ● Phone Patch Interface         | ● RSS for PC (Radio and ALE)         |
| ● Data/Fax Modem interface      | ● High (0.1 PPM) Frequency stability |

| MAJOR ACCESSORIES                  |                              |
|------------------------------------|------------------------------|
| ● Phone Patch                      | ● 1 kW Amplifier             |
| ● Interlink (FM-HF repeater)       | ● 400 W Amplifier            |
| ● Automatic Antenna Tuner          | ● Antennas and Grounding kit |
| ● Continuous Duty Kit              | ● Data/Fax Modem             |
| ● AC Power Supply                  | ● CW Key & Headphones        |
| ● Automatic Telephone Interconnect |                              |

Specifications subject to change without notice.

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