ICOM

IC-F7000

Rugged
MIL-STD 810

ICOM
IC-F7000
Icom Inc.
MADE IN JAPAN
SERIAL NO.

TUNER   CONTROLLER   ACC
GND   EXT SP
DC 13.8V   ANT   GPS   REMOTE   REF IN   AF/MOD

HF TRANSCEIVER   IC-F7000

IC-F7000
USB
1600   HI
RX 18.000.0   V
11:01

I/O   EMG   MUTE   TUNE   SCAN   CALL

Icom Inc.

Advanced selective call and ALE make HF communication easier than ever!

The IC-F7000 is an HF land mobile transceiver especially designed for long distance communications. Such communications used to require specially skilled operators, but the IC-F7000 makes HF LMR operation simple and efficient with the following advanced functions and features.
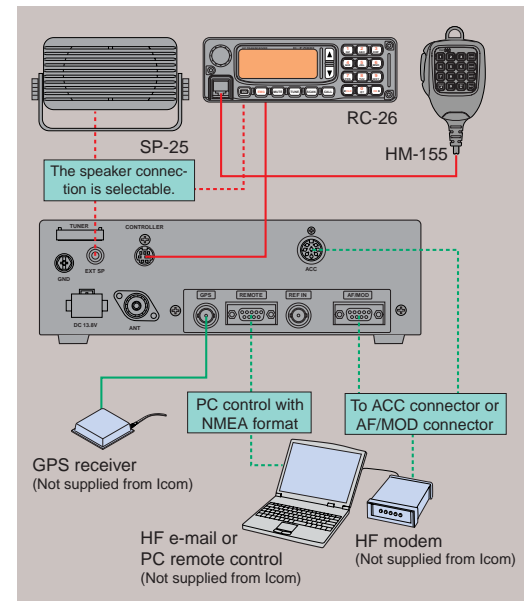
❏ *Selective call*

Uses a unique calling address like a telephone number and allows you to make a call directly to a desired station or group. Compatible with other brands of radios.

❏ *ALE (Automatic Link Establishment) function*

This function will check frequency propagation and strength to automatically select the highest quality signal for the best communication possible.

❏ *Versatile configuration*

The controller and speaker are separated from the main unit. Also, the size of the main unit in particular has been reduced, so that the IC-F7000 can be installed almost anywhere.

SP-25
RC-26
HM-155
The speaker connection is selectable.
PC control with NMEA format
To ACC connector or AF/MOD connector
GPS receiver (Not supplied from Icom)
HF e-mail or PC remote control (Not supplied from Icom)
HF modem (Not supplied from Icom)

Other capabilities available with selective call and ALE

Selcall	Make an individual/group call using a unique 4-digit (or 6-digit) address. The receiving station sends back an acknowledge (ACK) signal and the scanning stops to allow you to communicate.
Selective beacon call	Selective beacon call allows you to check the propagation before an individual/ group call. The receiving station sends back an ACK signal and continues scanning.
GPS beacon call	GPS beacon call[1] allows you to request the intended ID station to send position information. The receiving station automatically sends back position information.
GPS position call	GPS position call[1] allows you to send your own position information to the intended ID station.
Status call	Status call[1] requests to send radio status information including power supply voltage, output power and VSWR. This allows you to monitor the radio station from a remote location.
Pagecall	Pagecall[1] allows you to send and receive up to 64-character text messages with the intended ID station. Received messages are recorded in the memory of the radio.
Telcall	Telcall[2] allows you to make a telephone call through a telephone interconnect service provider. Up to a 16-digit telephone number can be programmed.
Emergency selcall	Allows you to broadcast an emergency signal with own position information.
RFDS emergency call*	The RFDS (Royal Flying Doctor Service) emergency call uses a 2-Tone signal for an emergency call. (* Australia version only)
ALE sounding	Automatically sends a sounding signal at a certain interval (0.5–16 hours) to check the channel propagation and stores the data in a table.
ALE individual/net call	Automatically selects the best available channel using the ALE table and establishes a connection. The ALE system complies with the basic requirements of MIL-STD 188-141-B (Appendix A).
ALE AMD (Automatic Message Display)	Allows you to send and receive up to a 90-character text message using the ALE function. Received messages are stored in the memory of the radio.

[1] GPS position call, GPS beacon call, Pagecall and Status call use Icom original commands. These calls may not be compatible with other brands.
[2] Please consult with a telephone interconnect service provider for details.

HF TRANSCEIVER IC-F7000

Versatile configuration

The controller and speaker are separated from the main (RF) unit for flexible installation. A 6m separation cable is attached to the controller. The main unit is only 72mm ($2^{27}/_{32}$ in) in height, so there is almost no limit to the places where the IC-F7000 can be set-up. The supplied hand microphone, HM-146, allows you to control most of the IC-F7000 functions.

Large and clear indication with the dot-matrix LCD

All operational and status information is easily viewed on the full dot-matrix LCD. Editing a message or reading a received message are made easy. Also 10 levels of LCD backlighting are available for clear and bright illumination.

125W of powerful RF output

A full 125W* of output power is available for reliable long distance communication. An effective cooling mechanism allows continuous transmission at full output power.

* 100W only for Australia version and for 4MHz bands and above for General version.

Ample memory channels

The IC-F7000 stores 400 channels, 100 ALE channels, 100 telephone numbers, 100 Selcall IDs and 120 ALE IDs. 20 page-call with up to 64-character messages and 20 ALE, including up to 90-character ALE AMD messages are stored.

General coverage receiver

Wide band, general coverage receive capability is available from 0.5 to 29.999MHz.

Automatic tuning antenna

The AT230 automatic tuning antenna is recommended for use with the IC-F7000. The AT230 fully covers 2–30MHz. It is also easily installed to a vehicle.

Digital Signal Processor (DSP)

The DSP allows flexible filter setting for J2B (AFSK), F1B (FSK) communication. Optional filters are not required for improved filter performance.

Other features

- GPS input (NMEA0183 version 3.01)
- External 32MHz reference input for accurate tuning
- Voice, S-meter and Call mute
- Optional antenna tuner, AT-140 available with antenna element, AH-2b

SPECIFICATIONS

GENERAL

- Frequency coverage (Unit : MHz):
  - Rx   0.5– 29.9999 (continuous)
  - Tx   1.6–29.9999*
  - * Some frequency ranges are not guaranteed.
- Type of emission* : J3E (USB, LSB), J2B (AFSK), F1B (FSK), A1A (CW), A3E (AM)
  - * J3E and A3E only at factory default for Australia version.
- Number of channels : 400 regular channels, 100 ALE channels
- Antenna impedance : 50Ω (SO-239)
- Power supply requirement : 13.8V DC (10.8–15.6V)
- Current drain (at 13.8V DC):

		Tx		Rx
		2-Tone	Voice	Max. Audio
Australia	1.6–29.9MHz	15A	10A	3.0A
General	1.6–3.9MHz	17A	12A	3.0A
General	4.0–29.9MHz	16A	11A	3.0A

- Operating temp. range : –10°C to +60°C
- Frequency stability : ±50Hz (at –10°C to +60°C)
- Dimensions (W×H×D; projections not included):
  - Main unit   240×72×239mm; 9⁷⁄₁₆×2²⁷⁄₃₂×9¹³⁄₃₂ in
  - Controller   150×50×51mm; 5²⁹⁄₃₂×1³¹⁄₃₂×2 in
  - Speaker   106×62×46mm; 4³⁄₁₆×2⁷⁄₁₆×1¹³⁄₁₆ in
- Weight :
  - Main unit   4.6kg; 10.1lb
  - Controller   220g; 7.7oz
  - Speaker   370g; 13oz

All stated specifications are subject to change without notice or obligation. Measurements made in accordance with AS/NZS4770-2000. (Australia version only)

TRANSMITTER

- Output power (Selectable) :
  - Australia   1.6–29.9MHz   100, 50, 10W PEP
  - General   1.6–3.9MHz   125, 50, 10W PEP
  -   4.0–29.9MHz   100, 50, 10W PEP
- Spurious emissions : –43dB below peak output power
  - (General version 3.5–3.99MHz: –40dB)
- Carrier suppression : 40dB below peak output power
- Unwanted sideband : 50dB below peak output power
  - (with 1500Hz AF Input)
- Microphone impedance : 600Ω

RECEIVER

- Sensitivity (pre-amp. ON) :

	J3E (at 20dB SINAD)	A3E (at 20dB SINAD)
0.5 – 1.5999MHz	25.1µV emf 12.6µV	200µV emf 100µV
1.6 – 29.9999MHz	1.0µV emf 0.5µV	—

- Squelch sensitivity (at S-meter) :
  - J3E (at 13.800MHz)   Less than 10µV (threshold)
  -   Less than 32mV (tight)
  - A3E (at 1.000MHz)   Less than 32µV (threshold)
  -   Less than 320mV (tight)
- Spurious response rejection ratio:
  - (1.6–29.9999MHz)   More than 70dB
- Audio output power : 4.0W typical at 10% distortion
  - (at 13.8V DC)   with a 4Ω load
- Clarity variable range : ±150Hz
- Speaker connector : 2-conductor 3.5 (d) mm (⅛")/4Ω

DIMENSIONS

239.3 (9¹³⁄₃₂)
19 (³⁄₄)
240 (9⁷⁄₁₆)
260 (10¹⁄₄)
72 (2 ²⁷⁄₃₂)
6 (¹⁄₄)
Unit: mm (inches)
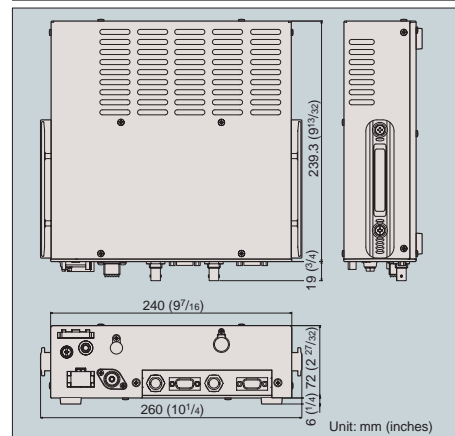
Applicable U.S. Military Specifications
Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and strict environmental standards.

Standard	MIL 810 C		MIL 810 D		MIL 810 E		MIL 810 F	
	Method	Proc.	Method	Proc.	Method	Proc.	Method	Proc.
High Temp.	501.1	I	501.2	I, II	501.3	I, II	501.4	I, II
Low Temp.	502.1	I	502.2	I, II	502.3	I, II	502.4-3	I, II
Vibration	514.2	VIII, X	514.3	I	514.4	I	514.5	I
Shock	516.2	I	516.3	I	516.4	I	516.5	I

Supplied accessories:
- ● Hand microphone, HM-155
- ● External speaker, SP-25
- ● Remote controller, RC-26
- ● Microphone hanger
- ● DC power cable
- ● ACC plugs (8-pin DIN)
- ● Tuner connector kit
- ● Spare fuses
- ● Mounting bracket kits for main unit and remote controller

OPTIONS

AT-140
HF AUTOMATIC ANTENNA TUNER
Covers 1.6–30MHz with a 7m (23 ft) or longer wire antenna.
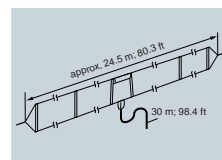**AT-130/E** is also available.

AH-2b ANTENNA ELEMENT
For mobile operation with the AT-140 or AT-130/E. All bands between 7–30MHz can be matched.

MN-100 ANTENNA MATCHER
Match the transceiver to a dipole antenna without applying DC power. 8m×2 antenna wires come attached.

MN-100L ANTENNA MATCHER
Match the transceiver to a long-wire antenna without applying DC power. 15m×1 antenna wire comes attached.

approx. 24.5 m; 80.3 ft
30 m; 98.4 ft

AH-710 FOLDED DIPOLE ANTENNA
Covers from 1.9 to 30MHz. Has an SO-239 connector. Easy to assemble (non-kink construction).

Recommended option

AT230 AUTOMATIC TUNING ANTENNA

(Moonraker Australia Pty. Limited) 2.6m (8.5ft) length mobile mount whip antenna covers 2–30MHz with automatic tuning function. Continuous CW transmission at high power not guaranteed with AT230.

HM-155 HAND MICROPHONE
RC-26 REMOTE CONTROLLER
Remote function microphone and remote controller head. Same as supplied.

SP-25 EXTERNAL SPEAKER
External speaker. Same as supplied. Input impedance: 4Ω. Max. input power: 7W.

OPC-1286/OPC-1286N
SHIELDED CONTROL CABLE
10m (32.8ft) shielded control cable connects between AT-140 and transceiver. OPC-1286N is for use with AT-140 (Version 36).

OPC-1287
SHIELDED CONTROL CABLE
5m (16.4ft) shielded control cable connects between Moonraker AT230 and transceiver.