ICOM

IC-F8101

A New Dimension for HF Land Mobile Radio

Rugged MIL-STD 810

IP54

- Three types of versatile configuration
- 125W* of output power with high duty cycle operation (*100W for Australia versions)
- Fanless, enclosed structure and compact body
- ALE and selcall capabilities
- Tested to IP54 and MIL-STD-810 G

Rock Solid Basics:

ALE (Automatic Link Establishment)

ALE is a system which automatically selects the most suitable channel and establishes a communication link. The ALE provides interoperability with other 2G ALE manufactures compliant with the FED-STD-1045A ALE. ALE individual call, net call, sounding and AMD (Automatic message display) are available.

Selcall (Selective calling)

The IC-F8101 offers CCIR493 based 4/6 digit open selcall standards commonly used in HF networks and the 4/6 digit scheme used in the Icom IC-F7000. Selcall types: selective calling, phone call, message call, position call, status call, emergency call and channel test call. Stun command remotely disables radio operation.

Durable, enclosed structure and compact body

The IC-F8101 has a durable, enclosed structure securely sealed from intrusion by all potential elements and is a visibly compact package. The IC-F8101 and CFU-F8100 cooling fan unit has been tested to MIL-STD-810-G and IP54 ratings. Also, connection cables and connectors employ IP54 water resistant sealing.

125W* of powerful RF output

A full 125W* output power at full duty cycle voice mode operation is possible with the fanless design. 25% duty cycle operation is possible in data mode operation (Max. 5 minutes of continuous transmission). When used with an optional external cooling fan unit, CFU-F8100, the IC-F8101 ensures full duty cycle data and voice mode operations for absolute reliability during long continuous transmit cycles or for operation in hot climates.
* 100W for Australia versions.

A Benchmark for Ease a

User friendly operation

Despite the multitude of features, the IC-F8101 is designed for simple, straight forward operation. The Administrator/User access feature allows for the limiting of what functions can be accessed by the user. The Administrator can enter operating frequency and assign a memory channel from front panel or Commandmic.

Function button menus are shown on the bottom of the display

Three types of controller configurations

Three types of controller configurations are selectable to suit almost any way of use/installation that may be required.

Controller attached type

Ideal for standard desktop use or quick set-up in a

Detached controller type*

Stow the RF unit in a place of convenience during in-vehicle use or where space is at a premium.

* For detached controller type and Command microphone type, optio

nd Convenience:

Clear talk function
The clear talk function automatically separates intended signal from noise and gives you increased clarity of audio at the touch of a button.

Mute functions
The IC-F8101 has 3 types of mute functions, call squelch, S-meter squelch and voice squelch. The call squelch function opens the squelch only when receiving a selcall or ALE call intended to the station and provides quiet standby.

Digital signal processor (DSP)
The latest DSP technology improves both the transmit and receiver performance. The digital IF filter provides flexible filter settings for narrow band signals.

field station

Command microphone type*

For even more convenient use of the radio, especially during mobile operation.

onal separation cable is required separately.

Various Accessories:

GPS receiver connection
When connected an external GPS receiver*, the IC-F8101 can send current position data to other stations and shows position information, time, altitude and heading of movement on the display.

* NMEA 0183 Version 3.01 compatible.

Data communications
The IC-F8101 has the capability to fit the RapidM TC4 HF Data Modem Module* internally or to connect to the external RapidM RM6 HF Data Modem.* This allows HF e-mail operation using a PC.

* Third party products. Not all the modem functions available in the TC4 and RM6 modems. Ask your dealer for details.

Optional autotuning antennas
Two types of high-speed, high performance automatic tuning antennas are available.

USB port for PC connection
The IC-F8101 can be connected to a PC via a USB port.

So Many Features:

- Multiple operating modes (SSB, AM, CW and Data mode)*
  (* SSB and AM (RX only) for Australia versions)
- 500kHz to 29.999MHz general coverage receiver (TX: 1.6MHz to 29.999MHz) and VFO mode operation
- 500 Selcall, 500 ALE address memories
- ±0.3ppm frequency stability (−30°C to +60°C)
- RFDS (Royal Flying Doctor Service) emergency call*
  (* Australia version only)
- TX Power protection (PA unit high temperature, high SWR, low battery) and BITE (Built-in Test Equipment) capability (Auto, logic, receiver and transmitter)
- Display mode: SWR, voltage, clock, GPS position, direction and elevation
- FCC part 90 compliant (USA version)

Optional CFU-F8100 fitted to the rear panel.

REAR PANEL VIEW

HF TRANSCEIVER   **IC-F8101**

SPECIFICATIONS

GENERAL

• Frequency coverage	Receive: 0.5–29.9999MHz, Transmit: 1.6–29.9999MHz
• Type of emission	J3E, A3E (RX only) (Australia versions) J3E, A3E, A1A, F1B, J2B (EXP/USA versions)
• Number of channels	500 channels
• Number of addresses	Selcall 500 channels, ALE 500 channels
• Operating temperature	–30°C to +60°C; –22°F to +140°F
• Frequency stability	±0.3ppm (at –30°C to +60°C)
• Power supply requirement	13.8V DC Negative ground 10.8–15.6V (Australia versions) 11.73–15.87V (EXP/USA versions)
• Antenna impedance	50Ω (SO-239)
• Current drain Receive Transmit	Less than 3A (Max. audio), 1.0A (Stand-by) Less than 28A (Max. output)
• Dimensions (W×H×D) (Projections not included)	174×62×259 mm; 6.85×2.44×10.2 in (Controller attached type)
• Weight (approx.)	3.9kg; 8.6lb (Controller attached type)

TRANSMITTER

• Output power   J3E
                        J3E/A1A
                        A3E
                        F1B/J2B
	100, 50, 10W PEP (typical) (Australia versions)
	125, 50, 10W PEP (typical) (EXP/USA versions)
	30, 12.5, 3W (typical) (EXP/USA versions)
	75, 50, 10W PEP (typical) (EXP/USA versions)

• Spurious emissions	64dB typ. below PEP
• Carrier suppression	50dB below PEP
• Unwanted 400Hz sideband 1kHz	55dB below PEP 65dB below PEP
• 3rd IMD	25dB below PEP

• Duty cycle
  Normal conversation
  Data mode
  All modes with CFU-F8100
	(at 14.1MHz, 25°C)
	100% (at –30°C to +60°C)
	25%* (at –30°C to +30°C)
	100% (at –30°C to +45°C)
	* Max. 5 minutes continuous transmission.

RECEIVER

• Sensitivity (at 10dB S/N)	0.5–1.5999MHz	1.6–29.9999MHz
J3E (Pre-amp. ON)	14dBμV	–14dBμV
A3E	22dBμV	6dBμV
• Squelch sensitivity	Threshold	Tight
J3E (at 13.5MHz)	Less than +20dBμV	Less than +90dBμV
A3E (at 1.000MHz)	Less than +30dBμV	Less than +110dBμV
• Selectivity J3E A3E	 2.4kHz/–6dB 6kHz/–6dB	 3.8kHz/–60dB 15kHz/–60dB
• Spurious responses	More than 70dB	
• Audio output power	4.0W at 10% distortion with a 4Ω load	
• Clarifier	±200Hz	

All stated specifications are subject to change without notice or obligation.

Applicable U.S. Military Specifications & IP Rating

Tested to IC-F8101, CFU-F8100 and MB-126.

Standard	MIL 810 G	
	Method	Procedure
Low Pressure	500.5	I, II
High Temperature	501.5	I, II
Low Temperature	502.5	I, II
Temperature Shock	503.5	I-C
Solar Radiation	505.5	I
Rain	506.5	I, III
Humidity	507.5	II
Salt Fog	509.5	–
Dust	510.5	I
Vibration	514.6	I
Shock	516.6	I, IV

Also meets equivalent MIL-STD-810-C, -D, -E and -F.

Tested to IC-F8101 and CFU-F8100.

Ingress Protection Standard	
Dust & Water	IP54 (Dust-protection and water resistant)

OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

AUTOMATIC TUNING ANTENNAS

AH-760

AH-740
Compact
type

Above photo includes mounting base for photo shooting.

		AH-760	AH-740
• Frequency coverage		1.6–30MHz	2.5–30MHz
	With AH-5NV	1.6–16MHz	2.2–30MHz
• Output power rating		SSB: 200W PEP*, CW/RTTY/DATA: 125W PEP*	125W PEP
• VSWR		1.3:1 typical	1.5:1 typical
	With AH-5NV	1.5:1 typical	

• Tuning speed
  New channel
  Memory tune
		
		Less than 1.8 S
		Less than 350 mS
			
			2–3 S
			150 mS

• IP Rating		IP 68 dust-tight and waterproof	–

* Max. 6 minutes continuous transmission at 35°C.

NVIS Kit

AH-5NV

AH-5NV NVIS kit
Fiberglass antenna element for use with AH-760 or AH-740.

Other options

HM-192*[1]: Command microphone
HM-193*[2]: Hand microphone
RMK-6*[3]: Separation kit
OPC-609*[4]: Separation cable (1.9m)
OPC-607*[4]: Separation cable (3m)
OPC-726*[4]: Separation cable (5m)
OPC-608*[4]: Separation cable (8m)

MB-126: One-touch mounting bracket
SP-35*[5]: External speaker (2m cable)
SP-35L: External speaker (6m cable)
AT-140*[6]: Automatic antenna tuner
OPC-2308: GPS/external modem cable (10cm)
OPC-2309: Antenna tuner cable (10m)
CFU-F8100: Cooling fan unit

*[1] Same as supplied with command mic type. *[2] Same as supplied with controller attached/detached types.
*[3] Same as supplied with detached controller type. *[4] One of these cables are required for use with detached controller and command mic types. *[5] Same as supplied with IC-F8101. *[6] OPC-2309 is required.

Third party products

RapidM TC4 HF Data Modem Module with RC50 Software
RapidM RM6 HF Data Modem with RC50 Software

(Not all the modem functions in the TC4 and RM6 modems available.)

SCS PACTOR III Data Modems
HAL Communications Clover 2000 Data Modems

IC-F8101 included

Controller attached type: • RF unit with controller head • Microphone, HM-193 • Mic. hanger kit
Detached controller type: • RF unit • Remote controller head • Separation kit, RMK-6
                                          • Microphone, HM-193 • Mic. hanger kit
Command microphone type: • RF unit • Command microphone, HM-192 • Mic. hanger kit for HM-192
                                          • Extension Mic. connector
• External speaker, SP-35 • DC power cable • Spare fuses are included with all types.