


ICOM

HF TRANSCEIVER

IC-F8100



A New Dimension for HF Land Mobile Radio



- Three types for 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 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-F8100 offers CCIR493 based 4 and 6 digit open selcall which is commonly used in HF network and 4 and 6 digit Icom F7000 compatible selcall system. Selcall allows you to make selective calling, phone call, message call, position call, status call, emergency call and channel test call.

Fanless, enclosed structure and compact body

The IC-F8100 has a fanless, enclosed structure securely sealed from intrusion by all potential elements and visibly more compact than the previous models. The IC-F8100, CFU-F8100 and AD-119 have been tested to MIL-STD-810-G and IP54 ratings. Also, most of 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 at data mode operation (Max. 5 minutes of continuous transmission). However, when used with an optional external cooling fan unit, CFU-F8100, the IC-F8100 ensures full duty cycle data and voice mode operations to absolutely 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-F8100 is designed for simple, straight forward operation. According to the operating status, the function (P1-P3) buttons change the assigned functions and show the assigned functions at the bottom line of the display.



Function button menus change as operated

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 installation or where space is at a premium.

* For detached controller type and Command microphone type, optio

and Convenience:

Clear talk function

The clear talk function automatically reduces the noise and eliminates the need to be an expert operator at the touch of a button.

Mute functions

The IC-F8100 has 3 types of mute functions, call squelch, S-meter squelch and voice squelch. The call squelch function opens the squelch on when received a selcall or ALE call intended to the station and provides quiet standby.

Digital signal processor (DSP)

The DSP allows flexible filter width setting from wide, middle and narrow without an optional filter.



field station



Command microphone type*

Increases the user's ability to operate more features of the radio safely, especially during mobile operation.

Optional separation cable is required separately.

Various Accessories:

The IC-F8100 allows you to connect with various accessories such as PC, HF data modem, GPS and antenna tuner.

GPS receiver connection

When connected an external GPS receiver*, the IC-F8100 can send current position data to other station and shows position information, time, altitude and heading of movement on the display.

* Either optional OPC-2205 Antenna tuner/GPS cable or AD-119 Junction box is required for connection with a GPS receiver.

Data communications

The optional Junction Box, AD-119, 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 connected via RS-232C cable (9-pin).

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

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 memory channels
- AT230 automatic tuning antenna available
- ± 0.3 ppm frequency stability (-30°C to $+60^{\circ}\text{C}$)
- RFDS (Royal Flying Doctor Service) emergency call* (* Australia version only)
- TX Power protection (PA unit high temperature, high SWR, low battery) and BITE capability (Built-in Test Equipment)
- Built-in SWR meter (while antenna tune mode is ON)



Optional CFU-F8100 fitted to the rear panel.

REAR PANEL VIEW



HF TRANSCEIVER

IC-F8100

SPECIFICATIONS

GENERAL	
• Frequency coverage	0.5–29.9999MHz
Receive	1.6–29.9999MHz
Transmit	
• Type of emission	J3E, A3E (RX only) (Australia versions) J3E, A3E, A1A, F1B (EXP versions)
• Number of channels	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 (10.8–15.6V) Negative ground
• Antenna impedance	50Ω (SO-239)
• Current drain	
Receive (Max. audio)	Less than 3A
Transmit (Max. output)	Less than 28A
• Dimensions (W×H×D)	174×62×259 mm; 6.85×2.44×10.2 in
(Projections not included)	(Controller attached type)
• Weight (approx.)	3.8kg; 8.38lb (Controller attached type)
TRANSMITTER	
• Output power	J3E 100, 50, 10W PEP (typical) (Australia versions) J3E/A1A 125, 50, 10W PEP (typical) (EXP versions) A3E 30, 12.5, 3W (typical) F1B 75, 50, 10W PEP (typical)
• Spurious emissions	64dB typ. below PEP
• Carrier suppression	50dB below PEP
• Unwanted sideband	400Hz 55dB below PEP 1kHz 65dB below PEP
• 3rd IMD	25dB below PEP
• Duty cycle	
Normal conversation	100% (at –30°C to +60°C)
Data mode	25%* (at –30°C to +30°C)
All modes with CFU-F8100	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	
J3E (at 13.5MHz)	Threshold Less than +20dBμV
A3E (at 1.000MHz)	Tight Less than +90dBμV Less than +30dBμV Less than +110dBμV
• Selectivity	
J3E	2.4kHz/–6dB 3.8kHz/–60dB
A3E	6kHz/–6dB 15kHz/–60dB
• Spurious responses	More than 70dB
• Audio output power (at 13.8V DC)	4.0W at 10% distortion with a 4Ω load
• Clarifire	±200Hz

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

Applicable U.S. Military Specifications & IP Rating

Tested to IC-F8100, AD-119, 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-F8100, AD-119 and CFU-F8100.

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

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OPTIONS

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

COMMAND MICROPHONE



HM-192*1

SEPARATION KIT



RMK-6*2

SEPARATION CABLES*3



OPC-609: 1.9m; 6.2ft
OPC-607: 3m; 9.8ft
OPC-726: 5m; 16.4ft
OPC-608: 8m; 26.2ft

HAND MICROPHONE



HM-193*4

MOUNTING BRACKET



MB-126

COOLING FAN UNIT



CFU-F8100

EXTERNAL SPEAKERS




SP-30 SP-25*5 SP-10

AUTOMATIC ANTENNA TUNER



AT-140*6

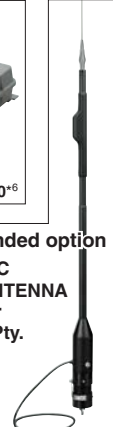
SHIELDED CONTROL CABLES



OPC-2142 Tuner cable from OPC-2205 or AD-119 to AT-140. 10m (32.8ft)
OPC-2143 Tuner cable from AD-119 to AT230. 5m (16.4ft)
OPC-2205*6 Adapter cable from RF unit to AT-140 (OPC-2142) and GPS


Recommended option

AUTOMATIC TUNING ANTENNA (Moonraker Australia Pty. Limited)



AT230*7

JUNCTION BOX



AD-119

OPC-2204: USB cloning cable for connection with RF unit and PC for data cloning.

RapidM TC4 HF Data Modem Module can be installed in the AD-119.

RapidM RM6 HF Data Modem can be connected to the AD-119.

(Ask your dealer for details on obtaining these modems)

*1 Same as supplied with command mic type. *2 Same as supplied with detached controller type.
*3 One of these cables are required for use with detached controller and command mic types.
*4 Same as supplied with controller attached/detached types. *5 Same as supplied with IC-F8100.
*6 OPC-2142 and OPC-2205 are required for connection with RF unit and AT-140.
*7 Continuous CW transmission at high power is not guaranteed with AT230.

IC-F8100 contents

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
 • Extension Mic. connector

• External speaker, SP-25 • DC power cable • Spare fuses are supplied to all types.

Your local distributor/dealer: