ICOM

HF TRANSCEIVER

IC-F8101

AUTOMATIC TUNING ANTENNAS

AH-760 AH-740
Wide frequency type   Compact type

Your Professional HF Needs Catered to in One Complete Package

IP54

Rugged
MIL-STD 810

IC-F8101
2013 Jan 30 10:20:30
Address | Call In | Call Out

Rock Solid Basics:

ALE (Automatic Link Establishment)

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

Selcall (Selective Calling)

The IC-F8101 provides CCIR493 based 4/6 digit open standards Selcalls, commonly used in HF networks and calls based on 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.

Compact and Durable

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 the CFU-F8100 cooling fan unit has

IC-F8101 with optional MB-126.

been tested to MIL-STD-810-G and IP54 ratings. Also, connection cables and connectors are IP54 water resistant.

125W* of Powerful RF Output

A full 125W* output power at full duty cycle voice mode operation is possible with the fanless design. A 25% duty cycle operation is possible in the data mode (Maximum 5 minutes of continuous transmission). When used with the CFU-F8100 optional external cooling fan unit, 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.

Optional CFU-F8100 fitted to the rear panel.

Optional CFU-F8100.

BITE (Built-in Test Equipment) Function

You can check the transceiver's condition by using the BITE capability. Auto, logic, receiver, and transmitter are selectable.

Actual Size

HF TRANSCEIVER **IC–F8101**

A Benchmark for Ease and Convenience:

User Friendly Operation

The IC-F8101 is designed for simple, straight forward operation. The Administrator/User access feature limits the functions that can be accessed by the user. The Administrator can enter the operating frequency and assign memory channels from the front panel or the remote control microphone.

The following functions can be assigned to the [I], [II], and [III] function buttons: Main menu, Manager menu, Set mode, Selcall address list, RX history, and TX history.

Function button menus are shown at the bottom of the display

Clear Talk Function

The clear talk function separates signals from noise using the DSP, and gives you clearer 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 sent intentionally to this station, and provides quiet standby.

Digital Signal Processor (DSP)

The latest DSP technology improves both the transmitter and receiver performance. The digital IF filter provides flexible filter settings for narrow band signals.

Various Accessories:

GPS Receiver Connection

When connected to an external GPS receiver*, the IC-F8101 can send current position data to other stations, and show position information, time, elevation and course heading on the display.

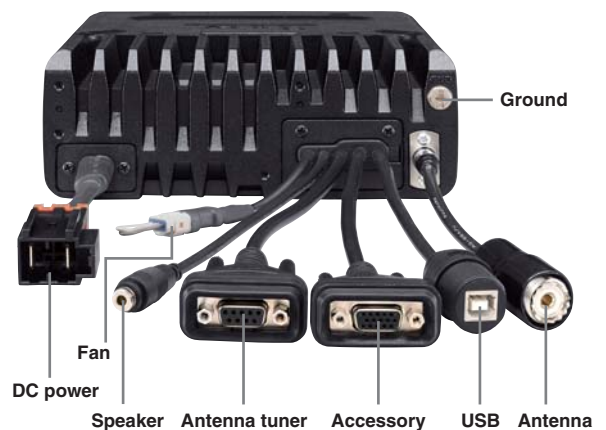* NMEA 0183 Version 3.01 compatible.

Data Communications

The IC-F8101 has the capability to install a RapidM TC4 HF Data Modem Module* internally. This allows you to send and receive HF e-mails using a PC.

* A third party product.

USB Port for PC Connection

The IC-F8101 can be connected to a PC through a USB port for HF e-mail and modulation input.

Rear Panel View

Many More 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 calls*
  (* Australia version only)
- TX Power protection (PA unit high temperature, high SWR, low battery)
- Display mode: SWR, voltage, clock, GPS position, direction and elevation
- FCC part 90 compliant (USA version)

Automatic Tuning Antennas

AH-760 AH-740
Wide frequency type **Compact type**

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

AH-760, Heavy-duty Moving Coil Antenna
• 200W PEP SSB, 125W PEP CW/DATA
• 1.6MHz–29.999MHz wide frequency coverage with the supplied whip antenna
• 350mS high speed tuning (while memory tuning)
• Tested to IP68 and MIL-STD-810G environmental standards

AH-740, Relay-Driven Compact Antenna
• Relay-driven compact automatic tuning antenna
• Compact and lightweight (3.5kg)
• 150mS typical high speed tuning (while memory tuning)
• Low power consumption (0.4A typical)
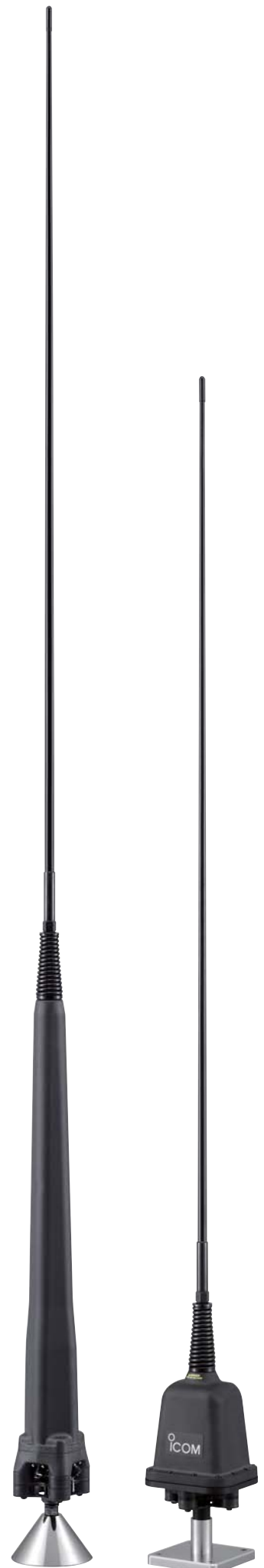
NVIS Kit (Option for AH-760 and AH-740)

AH-5NV

AH-5NV NVIS (Near Vertical Incidence Skywave) kit
• Fiberglass antenna element (4.5m; 14.8ft) for short range communication within approximately 500km* (* Depending on radio propagation conditions)

SPECIFICATIONS

	AH-760	AH-740
• Frequency coverage		
With 1.54m whip antenna	1.6–29.9999MHz	2.5–29.9999MHz
With AH-5NV	1.6–16.0000MHz	2.2–29.9999MHz
• Output power rating	SSB: 200W PEP*, CW/DATA: 125W PEP*	SSB/DATA: 125W PEP
• VSWR		
With 1.54m whip antenna	1.3:1 typical (50Ω)	1.5:1 typical (50Ω)
With AH-5NV	1.5:1 typical (50Ω)	1.5:1 typical (50Ω)
• Tuning speed		
New channel	Less than 1.8 S	2–3 S typical
Memory tune	Less than 350 mS	150 mS typical
• Number of memory channels	200 channels	45 channels
• Operating temperature	–40°C to +70°C; –40°F to +158°F	
• Power supply requirement	13.8V DC (10.8–15.87V)	
• Power consumption	1.87A typical (tuning)	0.4A typical
• Tune power	5–15W PEP, Rated 10W PEP	5–15W PEP, Rated 10W PEP
• Dimensions (W×H×D)	840×100×100 mm;	238×145×160 mm;
(Projections not included)	33.07×3.94×3.94 in (Base unit)	9.37×5.71×6.3 in (Base unit)
Height (with whip + spring)	2475 mm; 97.44 in	1909 mm; 75.16 in
• Weight (approx.)	5.2kg; 11.5lb	3.5kg; 7.7lb
• Mounting	M16×45mm	M16×45mm
• Environmental test	MIL-STD-810-G	MIL-STD-810-G
• IP Rating	IP 68 dust-tight and waterproof	IP 55 dust-protection and water jet resistance
• Supplied accessories	6m; 19.7ft control cable and 6m; 19.7ft coaxial cable	

* Maximum 6 minute continuous transmission at 35°C.

AH-760 **AH-740**

Above photos include mounting bases for photo shooting.

Three types of controller configurations

Three types of controller configurations are available
to suit almost any use or installation that may be required.

Controller attached type

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

Remote control microphone type*

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

Detached controller type*

Stow the RF unit in a convenient place for in-vehicle use or where space is at a premium.

* For the detached controller and remote control microphone types, an optional separation cable is required. (Purchase separately)

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 (Export/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 (Export/USA versions)
• Antenna impedance	50Ω (SO-239)
• Current drain Receive	Less than 3A (Max. audio), 1.0A (Stand-by)
Transmit	Less than 28A (Maximum 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	100, 50, 10W PEP (typical) (Australia versions)
J3E/A1A	125, 50, 10W PEP (typical) (EXP/USA versions)
A3E	30, 12.5, 3W (typical) (EXP/USA versions)
F1B/J2B	75, 50, 10W PEP (typical) (EXP/USA versions)
• Spurious emissions	64dB typical below PEP
• Carrier suppression	50dB below PEP
• Unwanted 400Hz	55dB below PEP
sideband 1kHz	65dB below PEP
• 3rd IMD	25dB below PEP
• Duty cycle	(at 14.1MHz, 25°C)
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)
	* Maximum 5 minute 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	2.4kHz/–6dB	3.8kHz/–60dB
A3E	6kHz/–6dB	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 on the 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 on the 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.

REMOTE CONTROL 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

EXTERNAL SPEAKERS
SP-30
SP-35 (2m cable)
SP-35L*5 (6m cable)

COOLING FAN UNIT
CFU-F8100

MOUNTING BRACKET
MB-126

AUTOMATIC ANTENNA TUNER
AT-140*6

TUNER CONTROL CABLE
OPC-2309 Shielded control cable between IC-F8101 and AT-140. 10m (32.8ft)

GPS/MODEM ADAPTER CABLE
OPC-2308

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

Third Party Products

RapidM internal TC4 Modem and Email Software
Please visit "http://www.rapidm.com/modules/icom" for details.

SCS PACTOR III Data Modems

IC-F8101 supplied accessories

Controller attached type:
• RF unit with controller head • HM-193 Microphone • Mic hanger kit

Detached controller type:
• RF unit • Remote controller head • RMK-6 Separation kit, • HM-193 Microphone • Mic hanger kit

Remote control microphone type:
• RF unit • HM-192 remote control microphone • Mic hanger kit for HM-192 • Extension Mic connector

• SP-35L External speaker • DC power cable • Spare fuses are included with all types.

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