



VHF AND UHF TRANSCEIVERS

IC-F31GT
(VHF transceiver with keypad)

IC-F41GT
(UHF transceiver with keypad)

IC-F31GS
(VHF transceiver without keypad)

IC-F41GS
(UHF transceiver without keypad)

Rugged
MIL-STD 810

BIIS 1200
Compatible



Icom Inc.

The answer to 2

If you want a durable, versatile, reliable and easy-to-operate portable communications tool, the IC-F31G & IC-F41G series is efficient for you. This series is designed for commercial communication or professional use with a host of built-in features, such as multiple tone-signalings, Flash ROM, high speed PLL*¹, Componder function and more. Not only for conventional operation, but also compatible with Trunking systems*², this series is useful for small systems to large wide networks. Icom's technologies guarantee to satisfy your needs.

*¹ Except for IC-F31GT-L/F31GS-L. *² Optional unit is required.



▲ IC-F41GT

▲ IC-F41GS

VHF AND UHF TRANSCEIVERS

VHF transceiver with keypad

IC-F31GT

VHF transceiver without keypad

IC-F31GS

UHF transceiver with keypad

IC-F41GT

UHF transceiver without keypad

IC-F41GS

OPTIONS

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

BP-208N AA (R6) batteries × 6
BP-209N Ni-Cd 7.2 V/1100 mAh
BP-210N Ni-MH 7.2 V/1650 mAh
BP-211N Li-Ion 7.4 V/1800 mAh
BP-222N Ni-Cd 7.2 V/600 mAh

BATTERY CHARGER
BC-146 + BC-147A/E

RAPID CHARGER
BC-121N+AD-101 × (6 pcs.) + **BC-157**

BC-144+BC-145A/E/V

SPEAKER-MICROPHONES

HM-131SC **EM-80**

Approx. output power and battery life (Tx (Hi); Rx: standby=5:5:90)

BATTERY PACK	OUTPUT POWER		BATTERY LIFE (approx.)
	IC-F31GT/GS	IC-F41GT/GS	
BP-208N	1 W typ.	1 W typ.	—
BP-209N	5 W typ.	4 W typ.	6.5 hours
BP-210N	5 W typ.	4 W typ.	10 hours
BP-211N	5 W typ.	4 W typ.	12 hours
BP-222N	5 W typ.	4 W typ.	3.5 hours

BC-146 DESKTOP CHARGER + BC-147A/E AC ADAPTER
 Charges the battery pack, BP-209N, BP-210N or BP-222N with/without transceiver in 12, 18.5, 6.5 hours (approx.), respectively. An AC adapter, BC-147, is additionally required. Cannot charge Li-Ion battery pack, BP-211N.

BC-144 DESKTOP CHARGER + BC-145A/E/V AC ADAPTER
 For rapid charging of battery pack, BP-209N, BP-210N or BP-222N. An AC adapter, BC-145, is supplied with the charger depending on version. Charging time: 1.5 to 2 hours. Cannot charge Li-Ion battery pack, BP-211N.
BC-119N+AD-101+BC-145A/E/V rapidly charges BP-211N as well as other battery packs.
BC-121N MULTI-CHARGER + AD-101 CHARGER ADAPTER + BC-157 AC ADAPTER
 For rapid charging of up to 6 battery packs (Six AD-101s are required), BP-209N, BP-210N, BP-211N or BP-222N. An AC adapter, BC-157, may be supplied, depending on version. Charging time: 1.5 to 2 hours.
OPC-656 DC POWER CABLE: For use the BC-121N with a DC power supply (12-20V DC).

HM-131SC: Compact and durable body, phone jack and a revolving microphone.
EM-80: Durable, full-sized microphone.
EM-89: Slim dimensions. Equipped with a microphone.

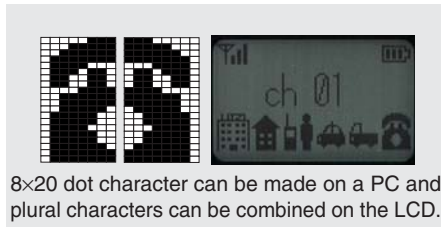
21st Century business communication is here!

Full built-in tone-signalings

All tone-signalings are built-in such as CTCSS, DTCS, 2-tone/5-tone and DTMF encode/decode, so you don't need to install an optional tone-signaling board. And a wide variety of selective calling systems are available to call specific station(s) or control a repeater. In addition, ANI (Automatic Number Indication) function is available with 2-tone/5-tone and DTMF.

Largest LCD in its class

With the large LCD, a simple sentence of up to 24 full-dot matrix characters provides more smooth communication than previous one word indication. Operational icons, such as antenna (S-meter) or battery life, show various operating status at a glance. Further more, original characters can be made and indicated on the LCD.



8x20 dot character can be made on a PC and plural characters can be combined on the LCD.

Durable construction

The body is compact, yet the polycarbonate panel and one-piece aluminum chassis provides durable construction to meet MIL STD grade C, D and E for shock and vibration. You can count on the unit to operate in challenging environments.

BIIS 1200 compatible

The following selective calling and data message features are available with the BIIS* version.

- 32 abbr. memories • 7 Group IDs
 - 12-character SDM (Short Data Message)
 - 24-status messages • RS-232C interface
 - Position data transmission with a GPS
- * Except IC-F31GT-L/F31GS-L.

Up to 8 dealer-programmable key assignments

The following functions can be programmed.

- Channel up/down • Bank up • Call • Beep
- Scan A/B start/stop • Scan Tag add/delete
- Priority A/B • Key lock • Monitor • Scrambler
- C. Tone CH enter • MR-CH 1/2/3/4 • High/Low
- Talk around • ID-MR select • Null (Light)
- Tx code enter • Re-dial • Wide/Narrow
- Tx code CH select • Emergency single/repeat
- DTMF autodial • Special function 1/2
- OPT 1/2/3 momentary • Compand

Advanced PC programming for Microsoft® Windows® 95/98

256 memory channels

Up to 256 memory channels with 12 character channel names can be stored with up to 16 banks. The rotary selector allows you to select each bank or memory channel.

Simultaneously work 2 optional internal units

2 optional units can be installed and will work simultaneously. You can select optional units to suit your needs and to provide versatile usage.

Combination of available internal units

Option slot 2	UT-109 Voice Scrambler Unit	UT-110 Voice Scrambler Unit	UT-124 Man Down Unit
Option slot 1			
UT-109 Voice Scrambler Unit			✓
UT-110 Voice Scrambler Unit			✓
UT-124 Man Down Unit	✓	✓	
UT-105 (2) SmarTrunk II™ Logic Board	✓	✓	①
UT-111 (2) LTR™ Trunking Board	✓	✓	①

✓ Available simultaneously

- ① UT-124 is available in conventional mode.
② UT-105 and the UT-111 have to be installed in slot 1.

* Same optional types, such as UT-109 and UT-110, can not be installed simultaneously.

Low band VHF version

The IC-F31GT-L/GS-L is available in low band VHF, 66–88 MHz, that extends the possibilities of communication. Optional antennas (FA-SC12L or FA-SC13L) are required.

Built-in compander function

Built-in compander function provides clear audio quality under noisy environments.

* Receiving party must have same function.

Smart design with easy operation

The rounded, compact* design fits comfortably in your palm, and is easy to carry around. The large keypad makes one-hand operation easy.

* Size: 54(W)×139(H)×38(D) mm

Multi connector for accessories

The 9-pin multi connector, which use the spring action for close contact, allows you reliable operation with accessories, such as a speaker-microphone or earphone.



Other features

- The red key on the top panel can be an emergency trigger
- Normal and priority scan functions
- Time-out timer capability
- Narrow/wide multi-band width and 2-step power save are supported
- Talk around function changes duplex channel to simplex
- VOX capability and more...



EM-89

HEADSETS and PTT/VOX UNIT



HS-94

HS-95

HS-97

VS-15C

Equipped with an ear-clip.
One with internal speaker.
with an earphone jack.

HS-94: Earhook headset with flexible boom microphone.
HS-95: Behind-the-head headset with flexible boom microphone.
HS-97: Throat microphone that fits comfortably around your neck.
VS-15C: PTT/VOX unit. Required when using these headsets with the transceiver.

OPTIONAL ANTENNAS



- ① FA-SC56VS for 150–162 MHz (Red)
② FA-SC57VS for 160–174 MHz (Green)
③ FA-SC73US for 450–490 MHz (Red)
④ FA-SC12L for 66–76 MHz (White)
⑤ FA-SC13L for 76–88 MHz (Red)

CUT ANTENNAS

FA-SC61VC for 136–174MHz
FA-SC61UC for 380–520MHz
Cut the antenna element to tune to a specific center frequency.

ANTENNAS (Standard type)

- FA-SC25V for 136–150 MHz
FA-SC55V for 150–174 MHz
FA-SC25U for 400–430 MHz
FA-SC57U for 430–470 MHz
FA-SC72U for 470–520 MHz

ANTENNA ADAPTER CONNECTOR

AD-98FSC : BNC-type antenna connector. (For maintenance use only)

BELT CLIPS

MB-103: Alligator type clip. MB-86: Swivel belt clip.

LEATHER BELT HANGERS

MB-96N: Swivel type belt hanger.
MB-96F: Fixed type belt hanger. For use with MB-103.

EARPHONE

SP-13 EARPHONE +AD-52 EARPHONE ADAPTER

INTERFACE CABLE

OPC-966: RS-232C interface cable for connecting with a PC.

INTERNAL UNITS

UT-105: SmarTrunk II™ BOARD:

UT-109: VOICE SCRAMBLER UNIT:

Up to 32 scrambling codes are available.

UT-110: VOICE SCRAMBLER UNIT:

Up to 1020 (255 codes x 4 groups) scrambling codes are available.

UT-111: LTR™ TRUNKING BOARD: Provides LTR™ trunking capabilities.

UT-124: MAN DOWN UNIT:

Automatically sends an emergency signal when the transceiver is left in horizontal position.

SPECIFICATIONS

GENERAL

- Frequency range :
 - IC-F31GT-L/GS-L 66– 88MHz
 - IC-F31GT/GS 136–174MHz
 - IC-F41GT/GS 400–430MHz
 - 440–480MHz
- Number of Channels : Max. 256 Ch/ 16 banks
- Channel spacing : 12.5/25kHz, 12.5/20kHz
- Antenna impedance : 50Ω
- Frequency error : ±1.5kHz
- ±1.0kHz (IC-F31GT-L/GS-L)
- PLL channel step : 5kHz, 6.25kHz, 7.5kHz
- 5kHz, 6.25kHz (IC-F31GT-L/GS-L)
- Power supply requirement : 7.2V DC (Icom battery pack)
- Current drain (at 7.2V DC; approx):

		IC-F31GT-L/GS-L	IC-F31GT/GS	IC-F41GT/GS
Transmit	High	2.0A	1.7A typ.	1.7A typ.
	AF max.	300mA	300mA	300mA
Receive	stand-by	90mA	95mA	95mA

- Operating temp. range : –25°C to +55°C
- Dimensions : 54(W)×139(H)×38(D) mm (projections not included)
- Weight (with BP-210N) : 420g

TRANSMITTER

- Modulation system : Variable reactance frequency modulation
- Output power (nominal) : 5.0W (IC-F31GT-L/GS-L) 5.0W (IC-F31GT/GS) 4.0W (IC-F41GT/GS)
- Max. freq. deviation : ±2.5kHz (12.5kHz) ±4kHz (20kHz) ±5kHz (25kHz)
- Modulation limiting : 60–100%
- Audio harmonic distortion : 3% typ. (1kHz/40% dev.)
- Spurious emissions : Less than 0.25μW
- Adjacent channel power : 60dB (12.5kHz) 70dB (20/25kHz)
- Residual modulation : 43dB typ. (12.5kHz) 45dB typ. (20/25 kHz) 50dB typ. (IC-F31GT-L/GS-L)
- External MIC connector : 9-pin multi connector/ 2.2 kΩ

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SmarTrunk II is a trademark of the SmarTrunk System Corporation.

LTR is a registered trademark of the EFJohnson Radio Systems.

RECEIVER

- Sensitivity : 0.63μV typ. (at 20dB SINAD) emf
- Squelch sensitivity : 0.63μV typ. emf
- Adjacent channel selectivity : 63dB typ. (12.5kHz) 73dB typ. (25kHz) 70dB typ. (IC-F31GT-L/GS-L, 12.5kHz) 75dB typ. (IC-F31GT-L/GS-L, 20kHz) 80dB typ. (IC-F31GT-L/GS-L, 25kHz)
- Spurious response : 70dB
- Intermodulation : 70dB typ.
- Hum and noise ratio (with CCITT filter) : 43dB typ. (12.5kHz) 45dB typ. (20/25kHz) 50dB typ. (IC-F31GT-L/GS-L, 12.5kHz) 53dB typ. (IC-F31GT-L/GS-L, 20kHz) 55dB typ. (IC-F31GT-L/GS-L, 25kHz)
- Audio output power : 0.5W typ. (at 5% distortion with an 8 Ω load)
- External SP connector : 9-pin multi connector/ 8 Ω

Applicable U.S. Military Specifications

Icom makes rugged products that meet MIL-STD requirements and strict environmental standards as follows.

Standard	MIL 810C		MIL 810D		MIL 810E	
	Method	Procedure	Method	Procedure	Method	Procedure
Low Pressure	500.1	I	500.2	I, II	500.3	I, II
High Temp.	501.1	I	501.2	I, II	501.3	I, II
Low Temp.	502.1	I	502.2	I, II	502.3	I, II
Temp. Shock	503.1	I	503.2	I	503.3	I
Solar Radiation	505.1	I	505.2	I	505.3	I
Rain	506.1	I, II	506.2	I, II	506.3	I, II
Humidity	507.1	I, II	507.2	II, III	507.3	II, III
Salt Fog	509.1	I	509.2	I	509.3	I
Dust	510.1	I	510.2	I	510.3	I
Vibration	514.2	VIII, X	514.3	I	514.4	I
Shock	516.2	I, II, IV	516.3	I, IV	516.4	I, IV

Measurements made in accordance with ETS 300-086.

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

Supplied accessories:

- Antenna*



* May differ according to version.

Not supplied for the IC-F31GT-L/GS-L.

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