



VHF AND UHF TRANSCEIVERS

IC-F520

(25W VHF transceiver)

IC-F521

(50W VHF transceiver)

IC-F620

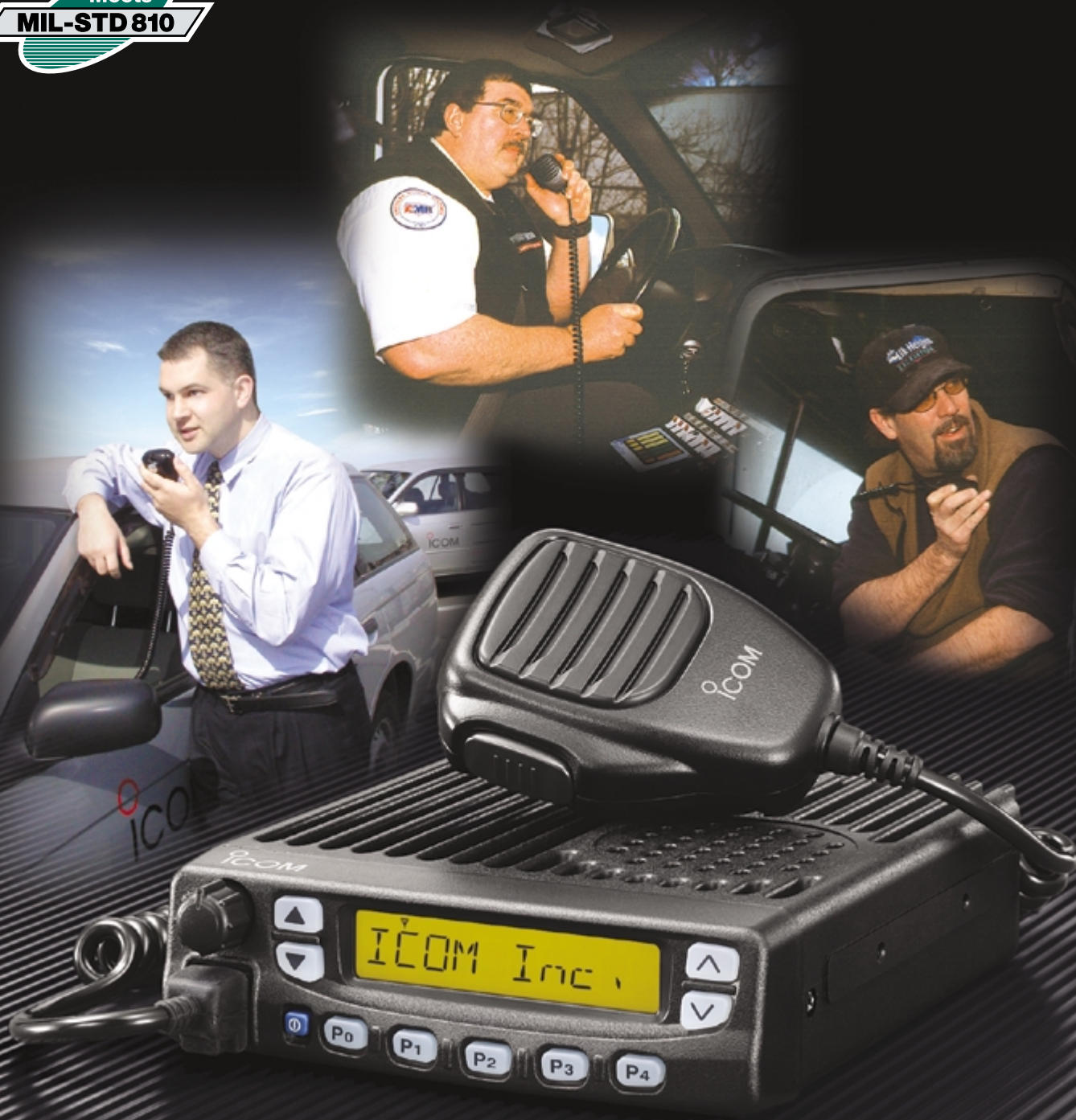
(25W UHF transceiver)

IC-F621

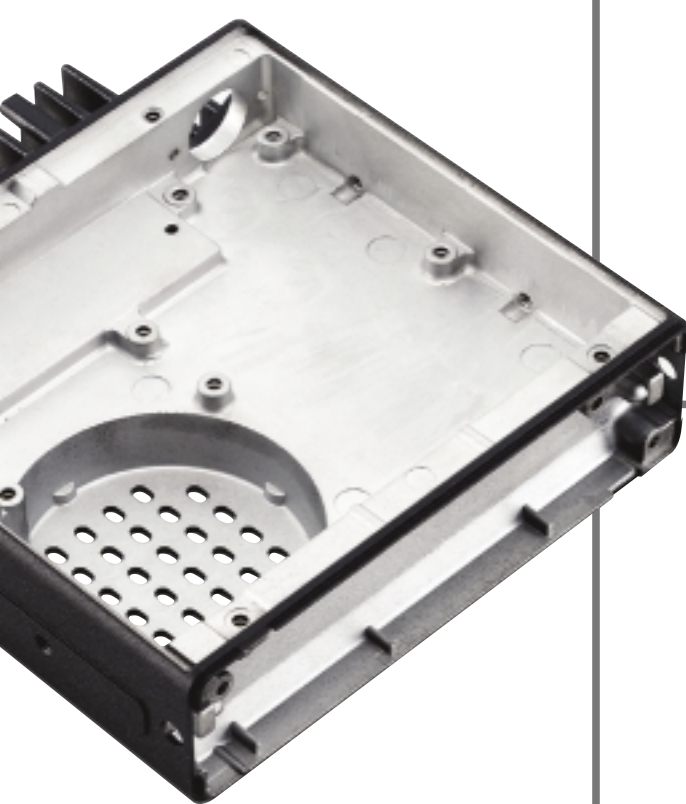
(45W UHF transceiver)



Meets
MIL-STD 810



Icom Inc.



THE MOBILE OF TODAY'S PROFESSIONALS

The IC-F520/F620 series mobiles meet the demanding needs of today's professionals. With 256 channel capacity and built-in flexible tone signalings, cross-regional public safety coverage is a reality. Business and industrial users will appreciate the flexible, yet simple design of these MIL SPEC rugged mobiles — from conventional to expanded trunking operation.

VHF TRANSCEIVER

IC-F520 25W

VHF TRANSCEIVER

IC-F521 50W

UHF TRANSCEIVER

IC-F620 25W

UHF TRANSCEIVER

IC-F621 45W

Full built-in tone-signalings

All tone-signalings are built-in such as CTCSS, DTCSS, 2-tone and 5-tone encode/decode and DTMF encode. A wide variety of selective calling systems are available to call specific station(s) or control a repeater. In addition, ANI (Automatic Number Identification) function is available with 2-tone/5-tone and DTMF decoder*.

* Optional UT-108 is required.

Face the speaker in the direction you need

Some people install their radios under the dashboard. Others, on the ceiling. Facing the speaker in the right direction is important for clear audio. The IC-F520/ F620 series lets you simply rotate the chassis to face the speaker in the direction you need while the control head remains right side up.

MIL standard rugged construction

The tough aluminum die-cast chassis and polycarbonate front panel meet MIL standards for shock, vibration etc. With this heavy-duty construction, the IC-F520/F620 series provides reliable operation over the long term, even with use in rugged vehicle environments.

256 memory channels

With 256 channels separated into 16 memory banks and identifiable by a 10-character alphanumeric LCD, you can quickly access pre-programmed contingency frequency plans — ideal for regional-wide, cross-municipality communications!

9 programmable buttons

2 pairs of up/down buttons and P0-P4 function assignable buttons allow you to customize functions to meet specific needs. The following items are programmable in conventional mode or SmarTrunk mode respectively.

- Channel down
- Scan start/stop A, B
- Scan add/delete (Tag)
- Priority rewrite A
- Memory channel 1-4
- High/Low output power
- C. Tone channel enter
- Wide/narrow channel
- DTMF autodial
- Emergency signal
- Emergency repeat
- User set mode
- Trunking group switch
- Turbo Speedial A-D
- Option out momentary 1-3
- Special function 1-2
- Channel up
- Bank
- Priority A, B
- Monitor
- Public Address
- Rx speaker
- Lock
- Talk around
- Re-dial
- Scrambler
- Compander
- Call
- Null
- #
- Option out 1-3

Trunking capability

Compatible with SmarTrunk II™ with the optional UT-105, or the LTR® trunking system with the optional UT-111 installed.

Independent AF volume knob

An independent volume knob offers simple, convenient operation. There is no need to take your eyes off the road to turn up the volume. Key backlighting is convenient for operation at night.



OF CHOICE FOR PROFESSIONAL



Higher power version

Higher power versions are also available for reliable long distance communications. (VHF : 50W, UHF : 45W)

Optional Voice Scrambler

Optional voice scrambler units UT-109 or UT-110 provide secure private communications.

Built-in audio compander

The built-in compander compresses the audio before the transmission and expands it at the receiver side. As a result, the signal to noise ratio improves to provide clear audio. This function is compatible with the IC-F30G series.

Stun and Power-on password function

The stun function disables a lost or stolen radio over the air, eliminating security threats from undesired listeners. The power-on password prevents unauthorized people turning on the radio.

Compatible with IC-F30G/F40G series handheld

The IC-F520/F620 series is designed to be a companion to our handheld transceiver, IC-F30G/F40G series. The number of channels and banks, signalling formats, audio compander, trunking capability and voice scrambler are completely compatible. Take advantage of the shared functionality to complete your communications requirements.



Flash CPU advantage

The IC-F520/F620 series uses a flash CPU and high speed PLL. Flash ROM allows future system upgrade and future compatibility with other protocols. Fractional-N system provides faster lockup time, efficient for trunking use.

Other features

- Wide/narrow (25/30/12.5/15kHz) channel spacing is selectable per channel
- Wide band coverage of up to 50MHz (Depending on version)
- PC programming capability from Microsoft® Windows® 95/98/Me
- 10 scanning lists and normal and priority scan
- Microphone hanger function for priority channel, monitor channel and scanning
- Optional DTMF mic (HM-100TN)
- Ignition SW function with OPC-617
- Time-out-timer, Lock-out penalty timer and more



IC-F520/F620

SPECIFICATIONS

GENERAL

- Frequency range :
IC-F520/F521 136–174MHz
IC-F620/F621 400–430MHz 440–490MHz
480–512MHz
- Number of Channels : Max. 256 Ch/ 16 banks
- Channel spacing : 12.5/15kHz/25/30kHz
- Antenna impedance : 50Ω
- Frequency error : ±5.0ppm (VHF) ±2.5ppm (UHF)
- PLL channel step : 2.5kHz, 5 kHz and 6.25 kHz
- Power supply requirement : 13.6V DC
- Output power and current drain (approx) :

		IC-F520	IC-F521	IC-F620	IC-F621
Output power		25W	50W	25W	45W
Transmit	High	7A	14A	7A	13A
Receive	AF max.	1200mA	1200mA	1200mA	1200mA
	stand-by	300mA	300mA	300mA	300mA

- Operating temp. range : –30°C to +60°C; –22°F to +140°F
- Dimensions : 140(W)×40(H)×170(D) mm;
(projections not included)
5½(W)×1½(H)×6½(D) in
- Weight : 1.2kg; 2lb 10oz

TRANSMITTER

- Modulation system : Variable reactance frequency modulation
- Max. frequency deviation : ± 2.5kHz (narrow) ± 5kHz (wide)
- Modulation limiting : 70–100% (VHF) 60–100% (UHF)
- Audio harmonic distortion : 3% typ. (40% deviation)
- Spurious emissions : 70dB
- Adjacent channel power : 60dB (narrow) 70dB (wide)
- FM Hum and Noise : 40dB typ. (narrow) 46dB typ. (wide)
- External MIC impedance : 600Ω (8-pin modular)

RECEIVER

- Sensitivity : 0.25μV typ. (at 12 dB SINAD)
- Squelch sensitivity : 0.25μV typ. (at threshold)
- Adjacent channel selectivity : 65dB typ. (narrow) 75dB typ. (wide)
- Spurious response : 70dB
- Intermodulation : 75dB typ. (wide)
- Hum and noise ratio : 40dB typ. (narrow) 45dB typ. (wide)
- Audio output power : 4W typ. at 10% distortion with a 4Ω load
- External SP connector : 2-conductor 3.5 (d) mm (⅜"/4Ω)

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		MIL 810F	
	Method	Proc.	Method	Proc.	Method	Proc.	Method	Proc.
Low Pressure	500.1	I	500.2	I, II	500.3	I, II	500.4	I, II
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
Temp. Shock	503.1	I	503.2	I	503.3	I	503.4	I
Solar Radiation	505.1	I	505.2	I	505.3	I	505.4	I
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, II
Humidity	507.1	I, II	507.2	II, III	507.3	II, III	507.4	–
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	–
Dust	510.1	I	510.2	I	510.3	I	510.4	I
Vibration	514.2	VIII, X	514.3	I	514.4	I	514.5	I
Shock	516.2	I, II, V	516.3	I, IV	516.4	I, IV	516.5	I, IV

Supplied Accessories

- Hand mic. (HM-100N)
- DC power cable
- Mounting bracket kit
- Fuses
- Key assign stickers

Measurements made in accordance with EIA-152C/204D, TIA-603. All stated specifications are subject to change without notice or obligation.

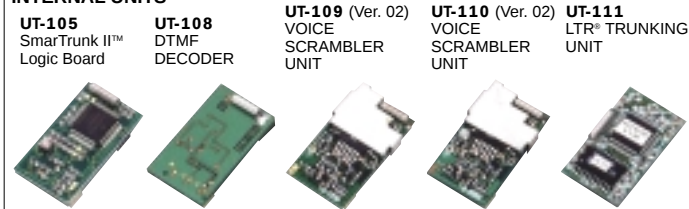
OPTIONS



EXTERNAL SPEAKERS



INTERNAL UNITS



UT-105 : Provides SmarTrunk II™ capabilities.

UT-108 : Provides DTMF decode and ANI capabilities.

UT-109 : Provides operating security. Up to 32 scrambling codes are available. (Ver. 02) The scrambling system is not compatible with the UT-110.

UT-110 : Provides higher operating security. Up to 1020 (255 codes × 4 groups) scrambling codes are available. The scrambling system is not compatible with the UT-109.

UT-111 : Provides LTR® trunking capabilities.

SmarTrunk II is a trademark of the SmarTrunk Systems, Inc. LTR is a registered trademark of the E.F. Johnson Company. Microsoft and Windows are registered trademarks of Microsoft Corporation in the U.S.A. and other countries.

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Certificate Number Q14190

Icom Inc. (Japan), is an ISO9001 certification acquired company.

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