



IC-F7510
IC-F7520
IC-F7540

VHF / UHF / 700/800 MHZ P25 DIGITAL MOBILE TRANSCEIVERS

CONNECT P25 Mission-Critical Communications

Icom's IC-F7500 series P25 mobile radios are purpose-built and built to last. With proven interoperability and advanced security features, public service and safety agencies stay connected for safe and productive operations. This series offers uncompromising durability and reliability in a rugged, compact design.

Upgrade with a Phase 1 or Phase 2 license or use our CONNECT RoIP gateway to bridge together groups operating on different protocols. The F7500 series mobiles are the perfect companion to the IC-F7000 series P25 portables. Trust Icom with your mission-critical communications.

P25 conventional, Phase 1 and Phase 2 trunking-capable*

Optional FIPS 140-2 validated AES encryption unit*

P25 voting scan* (P25 conventional)

Up to 1024-channel capacity with 128 zones

High-contrast color TFT LCD for easy viewing

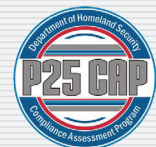
Built-in Bluetooth®, GPS location, voice recording, and P25 packet data functions*

IP55 dust and water jet resistant protection

Enhanced dual-rate AMBE+2™ Vocoder

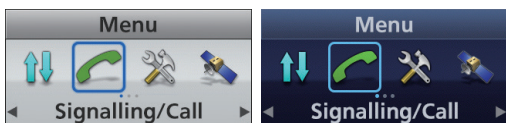
Optional detached head, dual head and CommandMic™ configurations

* License required



General Features

- 136–174, 380–470, 450–512 MHz versions
- 769–805 and 806–869 (700/800) MHz versions
- 1024 channels / 128 zones
- High-resolution color TFT display and intuitive user interface
- Large sized functions and four-direction buttons



- Day and night mode display settings
- Functions and menu items can be set in a language other than English
- MIL-STD-810 G such as shock, vibration and temperature
- IP55, dust and water jet resistant protection
- Front panel programming option (ISL-P25FP license required)
- DTMF autodial

Operating Mode

- P25 CAI conventional
- P25 Phase 1 trunking (ISL-P25TR license required)
- P25 Phase 2 trunking (ISL-P25P2 and ISL-P25TR license required)
- Analog mode
- Analog / digital mixed operation

Digital Functions (Voice and Data)

- Over-the-air programming (OTAP) function (CS-OTPM2 manager software required)
- Individual, group call
- Unit ID and talkgroup display on receive
- Status update and status query
- Short data messages (Up to 100 characters)
- GPS position and transparent data transmission (ISL-P25DS license and UX-241 GPS antenna required)
- Call alert
- Phone number list
- Call log

Analog Functions

- CTCSS and DTCS tone
- 2-tone
- MDC functions

Security and Safety

- Optional UT-125 FIPS-2 FIPS 140-2 validated AES / DES encryption unit and UT-134 non-FIPS AES / DES unit (ISL-P25AES license required for AES encryption)
- Over-the-air rekeying (OTAR)
- Analog inversion voice scrambler (16 codes)
- Power ON password / custom boot image
- Tactical group temporarily reconfigures user groups
- Radio Stun / Kill / Revive
- Remote monitor
- Radio check
- Power OFF emergency
- Emergency button
- Lone Worker function
- Advanced System Key (ASK) protects the radio from unauthorized programming (trunking system)



UT-125 FIPS-2

Scan Functions

- Priority scan
- Talkgroup scan
- Voting scan for automatically selecting optimal repeater site (ISL-P25VS license required)

Voice / Audio Functions

- Voice announcement (channel number and zone)
- VOX function for hands-free operation
- Voice recording / playback is saved to a microSD card (Up to 500 hours with a 32 GB card, user-supplied)
- TX/RX active noise cancelling
- TX/RX audio equalizer (flat, high/mid/low boost, low cut)
- AF volume equalizing function adds high-pass filter to provide clear, intelligible audio
- Adjustable analog and digital volume level
- Programmable ringer beep

Hardware Features

- Built-in Bluetooth® (Version 2.1 + EDR) for wireless audio and data
- Third-party wireless Bluetooth® headset (Like a 3M™ Peltor™ WS™ 5) can be used
- Wireless radio programming over Bluetooth®
- USB connector for data transfer or microSD card reader mode
- Programmable D-SUB connector for external PTT, channel, horn, PA/RX speaker, ignition switch and dimmer control
- Internal clock with time auto adjustment
- Low voltage alert
- Optional detached controller, dual-head controller, or CommandMic™ configurations
- Intercom function between dual-head controller or CommandMic™

| | | IC-F7510 | IC-F7520 | IC-F7540 |
|--|-------------------------|--|--|---|
| GENERAL | | | | |
| Frequency coverage* (* Depending on version) | | 136–174 MHz | 380–470 MHz, 450–512 MHz, 450–520 MHz | 769–775 MHz (RX/TX), 799–805 MHz (TX), 806–824 MHz (TX), 851–869 MHz (RX/TX) |
| Number of channels | | 1024 channels /128 zones | | |
| Type of emission* (* Depending on version) | | 16K0F3E*1, 11K0F3E, 8K50F3E, 8K10F1E/F1D, 8K10F1W | | |
| Power supply requirement | | 13.6 V DC nominal | | |
| Current drain (approx.) | TX | 14.0 A (at 50 W) | 14.0 A (at 45 W) | 14.0 A (at 35 W) |
| | RX | 1.2 A /400 mA (Max. audio (external SP)/Standby) | | |
| Antenna impedance | | 50 Ω | | |
| Operating temperature range | | –30 °C to +60 °C, –22 °F to +140 °F | | |
| Dimensions (W × H × D; Projections not included) | | 174 × 55 × 150 mm, 6.9 × 2.2 × 5.9 in | | |
| Weight (approx.) | | 1500 g, 3.3 lb | | |
| TRANSMITTER | | | | |
| Output power (Hi, L2, L1) | | 50 W, 25 W, 5 W | 45 W, 25 W, 5 W | 30 W, 15 W, 2 W (769–775, 799–805 MHz), 35 W, 15 W, 2 W (806–824, 851–869 MHz) |
| Frequency stability | | ±1.0 ppm | | |
| Spurious emissions | | 80 dB typ. | | |
| FSK error | | 1% typ. (C4FM), 3% typ. (H-CPM) | | |
| Maximum frequency deviation | | ±5.0 kHz (@25 kHz), ±2.5 kHz (@12.5 kHz) | | |
| FM hum and noise | | 55 dB typ. (@25 kHz), 55 dB typ. (@12.5 kHz) | | |
| Audio harmonic distortion | | 0.5% typ. (AF 1kHz 40% deviation) | | |
| RECEIVER | | | | |
| Sensitivity | Digital (5% BER) | 0.22 μV typ. (@C4FM, H-DQPSK) | | |
| | Analog (12 dB SINAD) | 0.22 μV typ. (@25/12.5 kHz) | | |
| Adjacent channel selectivity | Digital | 63 dB typ. (@C4FM, TIA-102) 63 dB typ. (@H-DQPSK, TIA-102) | 63 dB typ. (@C4FM, TIA-102) 60 dB typ. (@H-DQPSK, TIA-102) | 65 dB typ. (@C4FM, TIA-102) 63 dB typ. (@H-DQPSK, TIA-102) 75/70/57 dB typ. (25/20/12.5 kHz, TIA-603B) |
| | Analog | 80/57 dB typ. (@25/12.5 kHz, TIA-603B), 80/76 dB typ. (@25/12.5 kHz, TIA-603) | 75/57 dB typ. (@25/12.5 kHz, TIA-603B), 75/75 dB typ. (@25/12.5 kHz, TIA-603) | 75/70/68 dB typ. (25/20/12.5 kHz, TIA-603) |
| Spurious response rejection | | 80 dB typ. | | |
| Intermodulation rejection | Digital | 77 dB typ. | 75 dB typ. | 75 dB typical (C4FM/H-DQPSK) |
| | Analog | 77 dB typ. | 75 dB typ. | |
| Audio output power | Internal SP | 4.0 W typ. (at 5% distortion with 4 Ω load) | | |
| | External SP | 4.0 W typ. (at 5% distortion with 4 Ω load) | | |

Measurements made in accordance with TIA-102 (P25), TIA-603 (FM Wide/narrow).

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

* ISL-P25W is required for 25 kHz bandwidth operation for USA versions.

Applicable U.S. Military Specifications & IP Rating

| Standard | MIL 810G | |
|-------------------|----------|-----------|
| | 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 Blowing/Drip | 506.5 | I, III |
| Humidity | 507.5 | II |
| Salt Fog | 509.5 | – |
| Dust Blowing | 510.5 | I |
| Vibration | 514.6 | I |
| Shock | 516.6 | I, IV |

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

| Ingress Protection Standard | |
|-----------------------------|---|
| Dust & Water | IP55 (Dust-protection and water jet resistance) |

Supplied accessories: (May differ depending on the transceiver version)

- Hand microphone, HM-220 • DC power cable • Mounting bracket kit • Microphone hanger



Detached Controller
Optional RMK-5 and separation cable required.



Dual-Head Controller
Optional RMK-7, hand microphone and separation cables required.



CommandMic™ and Detached Controller
Optional RMK-5, CommandMic™, HM-218 and separation cables required.

OPTIONS

■ HAND MICROPHONES AND DESKTOP MICROPHONE

- HM-220:** Heavy-duty microphone. IP54 protection.
HM-220T: Heavy-duty microphone with DTMF keypad. IP54 protection.
HM-221: Hand microphone with emergency button. IP55 protection.
HM-221T: Hand microphone with DTMF keypad and emergency button. IP55 protection.
SM-29: Desktop microphone with monitor and monitor lock buttons.



■ CommandMic™ AND SEPARATION KITS

- HM-218:** CommandMic™ for use with the RMK-5. IP55 protection.
RMK-5: Separation kit. For detached controller configuration.
RMK-7: Dual-head separation kit. Separation kit and secondary controller for dual-head configuration.



■ SEPARATION CABLES

- OPC-2364:** 1.9m, 6.2 ft separation cable for RMK-5 or RMK-7.
OPC-2365: 3m, 9.8 ft separation cable for RMK-5 or RMK-7.
OPC-2366: 5m, 16.4 ft separation cable for RMK-5 or RMK-7.
OPC-2367: 8m, 26.2 ft separation cable for RMK-5 or RMK-7.
OPC-2373: 1.9m, 6.2 ft separation cable for HM-218, CommandMic™.
OPC-2374: 8m, 26.2 ft separation cable for HM-218, CommandMic™.
IAPS12: Power supply with cover for control station (120VAC; 20A).



■ HEADSET

- VS-3:** Bluetooth headset.



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■ EXTERNAL SPEAKERS

- SP-30:** External speaker.
 Cable length 2.6m, 8.5 ft.
SP-35/L: Compact external speaker.
 SP-35 cable length: 2m, 6.6 ft.
 SP-35L cable length: 6m, 19.7 ft.



■ GPS ANTENNA

- UX-241:** External GPS antenna.
 Cable length 5m, 16.4 ft.



■ AES/DES ENCRYPTION UNITS

- UT-134:** AES/DES encryption unit.
UT-125 FIPS-2: AES/DES encryption unit (FIPS validated). ISL-P25AES is additionally required for AES encryption. No additional software is needed for DES encryption.



■ ZONE COPY, PROGRAMMING, AND DC POWER CABLES

- OPC-2362:** Portable to mobile zone copy cable.
OPC-2363: Programming cable.
OPC-1132: DC power cable. Cable length 3m, 9.8 ft.
OPC-347: DC power cable. Cable length 7m, 23 ft.
OPC-1534: P25 keyloader cable to use with Motorola® KVL3000/4000 keyloaders. Requires RJ45 female to RJ45 female, & part 8920001690.



■ SOFTWARE AND LICENSES

- CS-F7510:** Programming software.
CS-OTPM2: OTAP manager software.
ISL-P25VS: P25 conventional voting scan license.
ISL-P25TR: P25 Phase 1 trunking license.
ISL-P25P2: P25 Phase 2 trunking license. ISL-P25TR P25 Phase 1 license is also required.
ISL-P25DS: P25 packet data service (GPS and transparent data) license.
ISL-P25AES/ARC4: AES/ARC4 encryption upgrade license (ADP compatible). Either UT-134 or UT-125 FIPS-2 is required.
ISL-P25FP: Front panel programming license.
ISL-P25W: 25 kHz activation license.

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