IC-F52D
IC-F62D

VHF AND UHF DIGITAL TRANSCEIVERS

A New Legacy: Slimmer, Smaller and Infinitely Better

IC-F52D IC-F62D

The IC-F52D series is a next generation IDAS™ handheld radio. It not only inherits technical design advantages from the IC-F3400D series, but also offers state-of-the-art improvements, while applying size and usability from the hugely popular IC-F50V/IC-F50 series analog models. The IC-F52D series is a true mixture of legacy and modern technology in one of the most compact packages available today.

Small, light and feature packed

Multiple operating modes
- Analog FM
- NXDN™/dPMR™ conventional
- Upgradable to NXDN™ Type-D trunking
- Upgradable to dPMR™ Mode 3 trunking*

* Not available in all regions.

Full dot-matrix display, rotary channel and volume knob for simple every-day operation

Built-in Bluetooth®, voice recording, active noise cancelling functions

Motion/stationary detection, man down and lone worker functions

OTAP (Over-the-Air Programming) function easily reconfigures in-the-field radios

Intelligent battery management helps to extend the battery life

iDAS™ ICOM DIGITAL ADVANCED SYSTEM NXDN™ dPMR digital™

General Features

- 136–174, 350–400, 400–470, 450–512, 450–520 MHz versions
- 512 Channels / 128 Zones
- 14 character dot-matrix display with status icons
- Improved user interface
- Programmable functions and menu items in a language other than English (For example French, Spanish, German, Russian and Turkish)
- Backlit LCD and buttons
- Continuous rotary knob and ON/OFF volume knob
- 1300 mW loud and intelligible internal speaker audio
- MIL-STD-810 G shock, vibration, temperature and more
- IP67/66/55/54 waterproof & dust-tight protection
- 29 mm (1.1 inch) slim dimensions (with BP-290 battery pack)
- Battery information display
- License key upgrade (trunking)

Operating Mode

- NXDN or dPMR mode 1/2 conventional
- NXDN or dPMR multi-site conventional over IP network
- NXDN Type-D single/multi-site trunking*
  * License key (ISL-UGMTR) required.
- dPMR Mode 3 trunking*
  * License key (ISL-UGMD3) required. Not available in all regions.
- 12.5 kHz digital mode (NXDN conventional)
- Analog mode
- Analog/digital mixed operation

Digital Functions (Voice and Data)

- AMBE+2™ vocoder
- Over-the-Air Programming (OTAP) function*
  * OTAP manager (CS-OTPM1) required.
- Over-the-Air Alias (OAA) sends own name with a call
- Over-the-Air Update (OTAU) changes the repeater channel data and site code over the air (NXDN Type-D trunking)
- Individual, group and all call
- Late entry for group call
- Status call and polling
- Short data messages
- Call alert (NXDN)
- GPS position data (Optional HM-233GP required)
- Transparent data mode

6.25 kHz FDMA True RF Efficiency

Check our web site to know more about 6.25 kHz FDMA narrow band.
www.icom.co.jp/world/fdma/

Analog Functions

- CTCSS and DTCS tone
- 2-Tone and 5-Tone
- MDC functions (depending on version)
- BIIS 1200 (MSK)
- LTR™ trunking (depending on version)
- DTMF autodial

Security and Safety

- Digital voice scrambler (Low level encryption)
- Analog voice scrambler (Inversion)
- Power ON password
- Tactical group temporarily reconfigures user talkgroups
- Radio Stun/Revive/Kill
- Remote monitor (NXDN)/ambience listening (dPMR)
- Emergency key for emergency call
- Man down function
- Lone worker function
- Motion/stationary detection

Scan Functions

- Priority scan
- Voting scan for site roaming

Voice/Audio Functions

- Voice announcement (Channel number and zone)
- VOX function for hands-free operation
- Voice recording/playback (Up to 8 minutes)
- TX/RX active noise canceller
- TX/RX audio equalizer
- Audio compander (Analog mode)

Hardware Features

- Programmable vibration alert
- Built-in Bluetooth® for wireless audio and data
- Variety of optional audio accessories including speaker-microphones, headsets and earphones
- Optional HM-233GP GPS speaker-microphone
- 14-pin accessory connector
- Wireless radio programming over Bluetooth®
- Optional BC-225 intelligent charger and RS-BC225 reader software for BC-225 for battery life cycle management.

		IC-F52D NXDN Version	IC-F52D dPMR Version	IC-F62D NXDN Version	IC-F62D dPMR Version
GENERAL					
Frequency coverage* (* Depending on version)		136–174 MHz	136–174 MHz	350–400, 400–470, 450–512, 450–520 MHz	400–470 MHz
Number of channels		512 channels /128 zones			
Type of emission* (* Depending on version)		16K0F3E*1, 14K0F3E, 11K0F3E, 8K50F3E, 8K30F1E/D, 4K00F1E/D	16K0F3E*1, 14K0F3E, 8K50F3E, 4K00F1E/D	16K0F3E*1, 14K0F3E, 11K0F3E, 8K50F3E, 8K30F1E/D, 4K00F1E/D	16K0F3E*1, 14K0F3E, 8K50F3E, 4K00F1E/D
Power supply requirement		7.5 V DC nominal			
Current drain (approx.)	Tx	1.8 A			
	Rx	500 mA /170 mA (Max. audio (internal SP)/Standby)		600 mA /170 mA (Max. audio (internal SP)/Standby)	
Antenna impedance		50 Ω			
Operating temperature range		–30 °C to +60 °C; –22 °F to +140 °F (Radio specifications)			
Dimensions (W × H × D; Projections not included)		56 × 91.5 × 29 mm; 2.2 × 3.6 × 1.1 in (With BP-290)			
Weight (approx.)		125 g; 4.4 oz (main unit)			
		230 g; 8.1 oz (BP-290, MBB-3)			
TRANSMITTER					
Output power (Hi, L2, L1)		5 W, 2 W, 1 W		5 W, 2 W, 1 W	
Frequency stability		±1.0 ppm		±1.0 ppm	
Spurious emissions		80 dB typical. (USA)		80 dB typical. (USA)	
		0.25 µW (≤ 1 GHz), 1.0 µW (> 1 GHz) (EUR)		0.25 µW (≤ 1 GHz), 1.0 µW (> 1 GHz) (EUR)	
FM Hum and noise		57 dB typical. (@25 kHz), 55 dB typical. (@12.5 kHz) (USA)		57 dB typical. (@25 kHz), 56 dB typical. (@12.5 kHz) (USA)	
Audio harmonic distortion		0.4% typical. (AF 1 kHz 40% deviation)		0.4% typical. (AF 1 kHz 40% deviation)	
FSK error		1% typical. (@DVN/DN)		1% typical. (@DVN/DN)	
RECEIVER					
Sensitivity	Analog (12 dB SINAD)	0.23 µV typical.		0.23 µV typical.	
	Analog (20 dB SINAD)	–4.0 dBµV emf typical. (@25/20 kHz), –1.4 dBµV emf typical. (@12.5 kHz)		–4.0 dBµV emf typical. (@25/20 kHz), –1.1 dBµV emf typical. (@12.5 kHz)	
	Digital (1% BER)	–5.0 dBµV emf typical. (0.28 µV typical.) (@DVN), –3.0 dBµV emf typical. (0.35 µV typical.) (@DN)		–4.0 dBµV emf typical. (0.32 µV typical.) (@DVN), –3.0 dBµV emf typical. (0.35 µV typical.) (@DN)	
Adjacent channel selectivity	Analog	79 dB typical. (@25/20 kHz), 77 dB typical. (@12.5 kHz)		76 dB typical. (@25/20 kHz), 73 dB typical. (@12.5 kHz)	
	Digital	70 dB typical. (@DVN), 72 dB typical. (@DN)		66 dB typical. (@DVN), 68 dB typical. (@DN)	
Spurious response rejection		76 dB typical.		78 dB typical.	
Intermodulation rejection	Analog	76 dB typical. (USA) 68 dB typical. (EUR)		74 dB typical. (USA) 68 dB typical. (EUR)	
	Digital	73 dBµV emf typical. (@DVN), –40 dBm typical. (@DN)		73 dBµV emf typical. (@DVN), –40 dBm typical. (@DN)	
Audio output power	Internal SP	1300 mW typical. (at 5% distortion, 8 Ω load)			
	External SP	1000 mW typical. (at 5% distortion, 8 Ω load)			

Measurements made in accordance with TIA-603, EN300 086, EN301 166, EN300 113. All stated specifications are subject to change without notice or obligation.
*1 25 kHz bandwidth is no longer available for FCC Part 90 licensees for USA versions.
DVN: Digital Very Narrow (6.25 kHz), DN: Digital Narrow (12.5 kHz). DN is for NXDN version only.

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
Immersion	512.5	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	IP67/66/55/54

Battery Life

Battery pack	Type	Capacity	Operating time*
BP-290	Li-ion 7.2 V	2010 mAh (typ.), 1910 mAh (min.)	13 hours (Approx.)
BP-294	Li-ion 7.2 V	3150 mAh (typ.), 3050 mAh (min.)	18.5 hours (Approx.)

* Tx: Rx: standby = 5:5:90 duty cycle. Power save function ON.

Supplied accessories: (May differ depending on version)
• Battery pack, BP-290 • Belt clip, MBB-3

BATTERY PACK AND BATTERY CASE

BP-290: Rechargeable Li-ion 7.2 V/1910 mAh (min.), 2010 mAh (typ.). IP67 protection.
BP-294: Rechargeable Li-ion 7.2 V/3050 mAh (min.), 3150 mAh (typ.). IP67 protection.
BP-291: LR6 (AA) × 5 battery case. IP54 protection.

BATTERY CHARGERS

BC-226: Connectable type charger (connects up to six BC-226 units). Charges the BP-290 in 2.7 hours.
+ **BC-228**: AC adapter. One AC adapter is required for up to six charger units.

BC-225: Intelligent charger. Shows the charging information with the LED lighting. Charges the BP-290 in 2.5 hours (approx.).
+ BC-123SA/SE/SV: AC adapter.
RS-BC225: Intelligent charger software for Windows® PC.

BC-227: Compact type desktop charger. Charges the BP-290 in 2.7 hours.
+ BC-123SA/SE/SV: AC adapter.

BC-219N: Desktop charger. Charges the BP-290 in 2.5 hours.
+ BC-123SA/SE/SV: AC adapter.

BC-214: Multi-charger. Charges up to six BP-290 batteries in 2.8 hours (approx.).
+ **BC-157S**: AC adapter.
* AD-132N charger adapter is supplied with the BC-214, depending on version.

BC-228 BC-226 BC-123S BC-225 BC-219N BC-214 BC-157S

POWER SUPPLY CABLES

CP-23L: Vehicle charger cable for use with the BC-219N or BC-227.
OPC-515L: DC power cable for use with the BC-219N, BC-225 or BC-227.
OPC-656: DC power cable for use with the BC-214.

SPEAKER-MICROPHONES AND EARPHONES

HM-222: Speaker microphone with 3.5 mm earphone jack. IP68 protection.
HM-233GP: GPS speaker microphone. IP67 protection.
HM-163MC: Tie-clip microphone with 2.5 mm earphone jack.
EH-15B: Earphone with 2.5 mm plug for use with HM-163MC.
SP-26: Tube earphone with 2.5 mm plug for use with HM-163MC.
SP-28: Earhook type earphone with 2.5 mm plug for use with HM-163MC.
SP-32: Tube earphone adapter for use with EH-15B.
SP-27: Tube earphone with 3.5 mm plug. For use with HM-222 or AD-135.
SP-29: Earhook type earphone with 3.5 mm plug. For use with HM-222 or AD-135.
SP-40: Earphone with 3.5 mm plug. For use with HM-222 or AD-135.

HM-222 HM-233GP HM-163MC EH-15B SP-26 SP-28

SP-32 SP-27 SP-29 SP-40 AD-135

HEADSETS AND PTT SWITCH CABLE

HS-94: Earphone-headset (Use with VS-5MC).
HS-95: Behind-the-head headset (Use with VS-5MC).
HS-97: Throat microphone (Use with VS-5MC).
VS-3: Bluetooth headset.
VS-5MC: PTT switch cable with VOX function. VS-5MC is required when using any of HS-94, HS-95 or HS-97.

HS-94 HS-95 HS-97 VS-3 VS-5MC

BELT CLIPS, BELT HANGERS AND CARRYING CASES

MBB-3: Alligator belt clip. Same as supplied.
MB-136: Swivel belt clip.
MB-96N: Swivel type leather belt hanger.
MB-96F: Fixed type leather belt hanger. For use with the MBB-3.
MB-96FL: Long fixed type leather belt hanger. For use with the MBB-3.
LC-187: Hard type carrying case for BP-290. Charging is possible while the case is attached.
LC-190: Hard type carrying case for BP-294. Charging is possible while the case is attached.
LC-188: Hard type carrying case for BP-290.

LC-187 LC-190 LC-188

OTHER OPTIONS AND CABLES

AD-135: 3.5 mm earphone jack adapter for use with any of SP-27, SP-29 or SP-40 earphone.
AD-118: ACC adapter. For use with Hirose plug accessory.
OPC-2338: Programming cable. USB–14-pin type.
OPC-1870: Zone copy cable. Handheld to handheld type.

SOFTWARE AND ACTIVATION KEYS

CS-OTPM1: OTAP manager software.
CS-F52D: Programming software.
ISL-UGMTR: NXDN™ Type-D trunking upgrade key.
ISL-UGMD3: dPMR™ Mode 3 trunking upgrade key.

ANTENNAS

FA-SC25V: 136–150 MHz
FA-SC28V: 148–162 MHz
FA-SC29V: 160–174 MHz
FA-SC01U: 350–400 MHz
FA-SC25U: 400–430 MHz
FA-SC57U: 430–470 MHz
FA-SC72U: 470–520 MHz

STUBBY ANTENNAS

FA-SC26VS: 136–144 MHz
FA-SC27VS: 142–150 MHz
FA-SC56VS: 150–162 MHz
FA-SC57VS: 160–174 MHz
FA-SC26US: 400–450 MHz
FA-SC73US: 450–490 MHz

HIGH GAIN ANTENNAS

FA-SC62V: 150–160 MHz
FA-SC63V: 155–165 MHz

CUT-TYPE ANTENNAS

FA-SC61VC: 136–174 MHz
FA-SC61UC: 380–520 MHz

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

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