



VHF AND UHF DIGITAL/ANALOG TRANSCEIVERS

IC-F5121D

VHF transceiver

IC-F6121D

UHF transceiver

**Everything you'd expect in a business radio
... Plus Digital!**



IDASTM
ICOM DIGITAL ADVANCED SYSTEM

IDASTM conventional & IDASTM single-site trunking

Digital/Analog mixed mode operation

**Built-in 2-Tone, 5-Tone,
CTCSS and DTCS**

MDC 1200 compatible

**MIL-STD-810 F
rugged construction**

**4W (typ.) front
mounted speaker**



Limited functions.

More than Just Smooth Digital Migration!

128 channels with 8 zones

Ample 128 channel capacity allows most companies plenty of room to grow. Up to 8 zones lets you group together channels in logical fashion.

Built military rugged!

The tough aluminum die-cast chassis and polycarbonate front panel have been tested to the MIL standard 810 F.

Compact hand microphone

Select from 4 levels of mic gain, for clearer transmission.

GPS receiver connection

With optional D-SUB 25-pin ACC cable OPC-2078, an external GPS receiver or PC can be connected.

* No digital modulation "IN" using accessory cables.



Photo includes optional OPC-2078.



8-character LCD

An 8-character alphanumeric LCD with user-friendly icons shows a variety of information and operating status such as caller's name, received message, etc.

Large programmable buttons

For easy access to often used functions, P0-P3 buttons are programmable to meet specific needs. Buttons and LCD display are backlit for night time operation.

Powerful, front-facing speaker

4 watts (typ.) front facing speaker delivers clear and loud audio throughout a vehicle's cabin. Digital modulation adds distinct clarity to received voices.

IDAS™ digital mode operation

The IC-F5121D series provides NXDN™ CAI-based IDAS digital mode operation. It is also compatible with IDAS multi-site conventional and IDAS single-site trunking. The following IDAS features are programmable.

- PTT ID
- Individual/Talkgroup list (Max. 500)
- RAN (Radio Access Number)
- Status
- Call alert
- Stun/kill/revive (RX)
- Digital voice scrambler
- GPS data (PC and software required to show received position data)
- SDM (Short Data Message)
- Radio check (RX)
- Remote monitor
- Emergency (No ACK)

Built-in 2-Tone and 5-Tone (Analog mode)

2-Tone and 5-Tone signalings give you selective calling, quiet stand-by and other convenient functions with programming. The stun/kill functions disable a radio over the air and the revive function restores the stunned radio.

MDC 1200 compatible (Analog mode)

The following MDC features are available with the built-in MDC signaling.

- PTT ID
- Emergency (No ACK)
- 500 alias table (Max.)
- Radio check (RX)
- Stun/Revive (RX)

Scan features

The priority scan allows you to monitor one or two priority channels while scanning other non-priority channels. The TX channel and talk back functions allow you to make a quick response while scanning.

Lone worker function

When the radio is not operated for a preset period, a warning beep will sound, alerting the radio user to check in. If the radio user does not check in before the preset time runs out, then the radio automatically sends out an emergency signal.

Other features (* = analog only)

- CTCSS/DTCS encoder/decoder*
- 8 DTMF autodial memories
- Microphone hanger action programmable
- Optional DTMF microphone (HM-152T)
- PC programmable
- Power-on password function
- Time out timer
- Talk around function
- Nuisance delete function*
- Forced narrow function*

TX: Transmit, RX: Receive

VHF & UHF DIGITAL/ANALOG TRANSCEIVERS

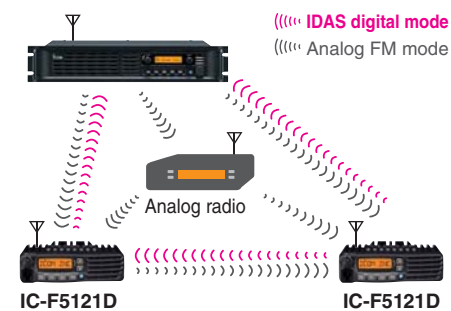
IC-F5121D IC-F6121D



The IC-F5121D series : A multitude of advantages because it's IDAS™

Advantage 1

Digital/analog mixed mode



The IC-F5121D series can receive both analog mode and digital mode signals on a single channel and automatically selects the received mode to reply to the received call, while the talk back timer remains. It's a smart way to grow into digital radio – at your own pace, as your budget and comfort allow.

Advantage 2

Digital and analog individual/group call



The IC-F5121D series allows you to call individual or group users. The radio automatically sends own ID number when the PTT button is held down. The alias name or individual/group ID is displayed on the LCD while receiving a message allowing you to identify who is calling.

Advantage 3

Status message and short data message

Status message example



Short data message example



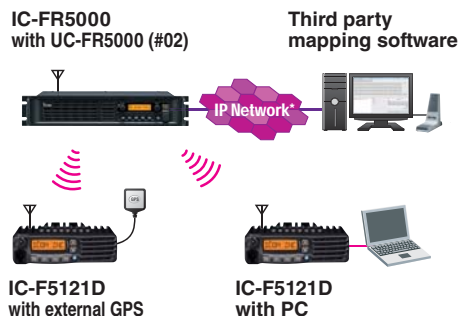
The display shows longer messages by automatic vertical scrolling.

Up to 100 status conditions can be set and sent with voice call. Also, you can request another IDAS radio to send their status and receive it.

Up to 100-character of short data message can be sent and received. To send more than 9-character short data message, PC connection is required.

Advantage 4

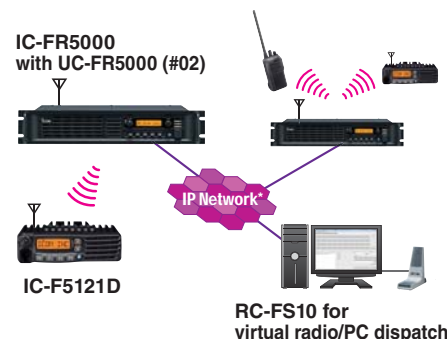
GPS capability



When used with an external GPS receiver, the IC-F5121D series can transmit accurate position data for use with vehicle management applications.

Advantage 5

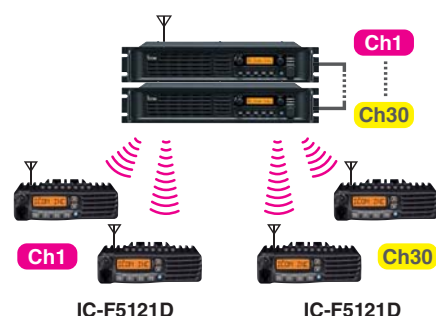
Multi-site conventional mode



When using the IC-F5121D series in IDAS multi-site conventional mode, the IC-F5121D can communicate with other IDAS radio users working with other repeater sites and/or virtual radio/PC dispatch stations on the IDAS network.

Advantage 6

IDAS single-site trunking



The IC-F5121D series can be used in an IDAS single-site trunking system. The IDAS trunking system is a distributed system with no dedicated control channel, so more voice traffic channels are available for increased system capacity.

All advantages shown represent possible system configurations. Ask your Icom dealer to configure an IDAS system that works best for you.

*Note: Private IP Network or VPN Tunnels through the Internet with static endpoints.

SPECIFICATIONS

	IC-F5121D	IC-F6121D
GENERAL		
Frequency coverage	136–174MHz	400–470MHz 450–512MHz
Number of channels	128 channels (8 zones)	
Type of emission	16K0F3E, 11K0F3E, 4K00F1E/F1D	11K0F3E, 4K00F1E/F1D
Channel spacing	6.25/15/30, 6.25/12.5/25kHz	6.25/12.5kHz
PLL channel step	2.5/3.125kHz	
Power supply requirement	13.6V DC	
Current drain (approx.)		
Tx High (50W/45W)	10A	11A
Rx Max. audio	1.2A	1.2A
Standby	300mA	300mA
Antenna impedance	50Ω (SO-239)	
Operating temperature range	–30°C to +60°C ; –22°F to +140°F	
Dimensions (W×H×D) (Projections not included)	150×40×167.5mm; 5.91×1.57×6.59in	
Weight (approx.)	1.1kg; 2.4lb	
TRANSMITTER		
Output power (at 13.6V DC)	50W, 25W, 5W (Hi, L2, L1)	45W, 25W, 4.5W (Hi, L2, L1)
Max. frequency deviation	±5.0kHz/±2.5kHz (W/N)	±2.5kHz (Narrow)
Frequency stability	±1.0ppm	
Spurious emissions	72dB min.	
FM Hum and noise	46/40dB typ. (Wide/Narrow)	40dB typ. (Narrow)
Audio harmonic distortion	3% typ. (AF 1kHz 40% deviation)	
FSK error	5% Max. (Digital)	
Ext. microphone impedance	600Ω (8-pin modular)	

Measurements made in accordance with TIA-603 (analog), EN301 166 (digital).
 All stated specifications are subject to change without notice or obligation.
 * 25kHz bandwidth will not be available for FCC Part 90 licensees for USA versions going forward.
 Ask your dealer if you need 25kHz bandwidth for T band.

	IC-F5121D	IC-F6121D
RECEIVER		
Sensitivity (at 12dB SINAD) (at 5% BER)	0.25μV typ. 0.18μV typ.	
Adjacent channel selectivity	80/70dB typ. (Wide/Narrow), 65dB typ. (Digital)	70dB typ. (Narrow), 60dB typ. (Digital)
Spurious response rejection	70dB min.	
Intermodulation rejection	75dB typ. (Wide/Narrow), 70dBμV emf typ. (Digital)	75dB typ. (Narrow), 70dBμV emf typ. (Digital)
Hum and noise	45/40dB typ. (Wide/Narrow)	40dB typ. (Narrow)
Audio output power (at 5% distortion, 4Ω load)	4W typ.	
Ext. speaker connector	2-conductor 3.5 (d) mm (1/8")/4Ω	

Applicable U.S. Military Specifications

Standard	MIL 810F	
	Method	Procedure
Low Pressure	500.4	I, II
High Temperature	501.4	I, II
Low Temperature	502.4	I, II
Temperature Shock	503.4	I
Solar Radiation	505.4	I
Humidity	507.4	–
Settling Dust	510.4	III
Vibration	514.5	I
Shock	516.5	I, IV

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

Supplied Accessories

- Hand microphone (HM-152)
- DC power cable
- Mounting bracket kit
- Microphone hanger
- Key assign stickers

OPTIONS

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

HAND MICROPHONES

HM-152 HM-152T DTMF microphone HM-148G Heavy duty microphone HM-148T Heavy duty microphone with DTMF keypad

DESKTOP MICROPHONE

SM-26

EXTERNAL SPEAKERS

SP-30 SP-35

ACC CABLES

OPC-2078 25-pin type OPC-1939 15-pin type

Note: No digital modulation "IN" using accessory cables.

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