



# IC-F5130D IC-F6130D

VHF AND UHF DIGITAL TRANSCEIVERS

## New Generation Entry Level Mobile Utilizing the Latest Design Platform

The IC-F5130D/F6130D series is a simple single-body IDAS™ mobile radio utilizing the latest Icom design platform and improved visibility with a high contrast and wide viewing angle black background LCD. Supporting critical and industry communication users, and offering an affordable digital and/or analog solution. The IC-F5130D/F6130D series can interconnect with other radio system via the VE-PG4, versatile RoIP gateway unit.

**Improved Visibility with High Contrast and Wide Viewing Angle Black Background LCD**

**Input / Output Interface for External Devices with Optional D-SUB Accessory Cable**

**Dual Mode Operation – IDAS™ Digital Mode and Analog FM Mode**

**400 – 520 MHz Wide Frequency Coverage (UHF version)**

**Interconnection with VE-PG4 through D-SUB Accessory Cable**

**Compact Single-body**



IC-F5130D

**IDAS™**  
ICOM DIGITAL ADVANCED SYSTEM

**NXDN™**

## General Features

- 136–174, 400–520 MHz versions
- RF Output power 50 W/45 W for USA, and EXP, 25 W for EXP
- 128 Channels / 8 Zones
- High contrast and wide viewing angle black background LCD
- Eight character alphanumeric display
- 4 W (typical) front mounted speaker
- MIL-STD-810 G shock, vibration, temperature and more
- DTMF autodial memories capability
- Microphone hanger action programmable
- Four programmable buttons
- GPS position display and Auto-Timed GPS send (External GPS required)

## Operating Mode

- NXDN™ conventional
- NXDN™ Type-D single-site trunking
- NXDN™ simulcast
- NXDN™ multi-site conventional over IP network
- Analog mode

## Digital Functions (Voice and Data)

- PTT ID and ANI
- Over-the-Air Alias (OAA) displays the caller's name without programming
- Individual, Group and All call
- Late entry for Group call
- Status call and Polling call
- Short data messages
- Call alert
- Radio check (RX only)
- Call log
- Talk back timer

## Analog Functions

- CTCSS and DTCS tone
- 2-Tone and 5-Tone
- MDC functions; PTT ID, Emergency (TX/RX), Radio check (RX), Stun (RX), Revive (RX)
- BIIS PTT ID transmission

## Security and Safety

- Digital voice scrambler
- Emergency call and Lone worker
- Remote monitor (RX)
- Radio Kill, Stun and Revive (RX)
- Power ON password

## Scan Functions

- Up to 17 scan lists programmable
- Priority scan monitors one or two priority channels while scanning non-priority channels
- Voting scan automatically selects the optimal repeater site

## Hardware Features

- GPS receiver connection with optional ACC cable
- Optional D-SUB connector, OPC-2078/OPC-1939, for external PTT, channel, horn, ignition switch, and dimmer control, according to programming



Optional OPC-1939 installation image



Optional OPC-2078 installation image

## Dimensions



|                                                    |                                          | IC-F5130D                                                                         | IC-F6130D                                                        |
|----------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|
| GENERAL                                            |                                          |                                                                                   |                                                                  |
| Frequency coverage                                 |                                          | 136–174 MHz                                                                       | 400–520 MHz                                                      |
| Number of channels                                 |                                          | 128 channels/8 zones                                                              |                                                                  |
| Type of emission                                   | USA, EXP 50 W/45 W                       | 16K0F3E (25 kHz)*/11K0F3E (15 kHz, 12.5 kHz)/<br>4K00F1E, F1D (7.5 kHz, 6.25 kHz) | 16K0F3E (25 kHz)*/11K0F3E (12.5 kHz)/<br>4K00F1E, F1D (6.25 kHz) |
|                                                    | EXP 25 W                                 | 16K0F3E (25 kHz)/14K0F3E (20 kHz)/8K50F3E (12.5 kHz)/4K00F1E, F1D (6.25 kHz)      |                                                                  |
| Power supply requirement                           | USA, EXP 50 W/45 W                       | 13.6 V DC nominal                                                                 |                                                                  |
|                                                    | EXP 25 W                                 | 13.2 V DC nominal                                                                 |                                                                  |
| Current drain (approximate)                        | Tx (High)                                | 8.6 A typ. (50 W)<br>4.6 A typ. (25 W)                                            | 7.9 A typ. (45 W)<br>4.8 A typ. (25 W)                           |
|                                                    | Rx (Max./Standby)                        | 0.8 A typ. / 150 mA typ.                                                          |                                                                  |
| Antenna impedance                                  | USA, EXP 50 W/45 W                       | 50 Ω (SO-239)                                                                     |                                                                  |
|                                                    | EXP 25 W                                 | 50 Ω (BNC)                                                                        |                                                                  |
| Operating temperature range                        |                                          | –30 °C to +60 °C, –22 °F to +140 °F                                               |                                                                  |
| Dimensions (W×H×D)<br>(Projections not included)   |                                          | 150 × 45 × 151.8 mm, 5.9 × 1.8 × 6.0 in                                           |                                                                  |
| Weight (approximate)                               |                                          | 1.23 kg, 2.7 lb                                                                   |                                                                  |
| TRANSMITTER                                        |                                          |                                                                                   |                                                                  |
| Output power (rated)                               | USA, EXP 50 W/45 W                       | 50 W, 25 W, 5 W (Hi, L2, L1)                                                      | 45 W, 25 W, 4.5 W (Hi, L2, L1)                                   |
|                                                    | EXP 25 W                                 | 25 W, 10 W, 5.8 W (Hi, L2, L1)                                                    | 25 W, 10 W, 5.8 W (Hi, L2, L1)                                   |
| Frequency stability                                |                                          | ±1.0 ppm                                                                          |                                                                  |
| Spurious emissions                                 | USA, EXP 50 W/45 W                       | 80 dB typ.                                                                        |                                                                  |
|                                                    | EXP 25 W                                 | 0.08 μW (typ.) (≤ 1 GHz)<br>0.03 μW (typ.) (> 1 GHz)                              |                                                                  |
| Audio harmonic distortion (AF 1 kHz 40% deviation) |                                          | 0.7% typ.                                                                         | 0.8% typ.                                                        |
| FM Hum and Noise (without CCITT filter)            |                                          | 82/77 dB typ. (W/N)                                                               | 76/70 dB typ. (W/N)                                              |
| FSK error                                          |                                          | 1.8% typ.                                                                         | 1.7% typ.                                                        |
| RECEIVER                                           |                                          |                                                                                   |                                                                  |
| Sensitivity                                        | Analog 12 dB SINAD<br>(USA, EXP 50/45 W) | 0.25 μV (–119 dBm) typ. (W)<br>0.22 μV (–120 dBm) typ. (N)                        | 0.22 μV (–120 dBm) typ. (W/N)                                    |
|                                                    | Analog 20 dB SINAD<br>(EXP 25 W)         | –4.9/–4.5/–1.8 dBμV emf typ. (W/M/N)                                              | –5.0/–5.0/–2.0 dBμV emf typ. (W/M/N)                             |
|                                                    | Digital 5% BER                           | –4.6 dBμV emf typ.                                                                | –5.0 dBμV emf typ.                                               |
| Adjacent channel selectivity                       | USA, EXP 50 W/45 W                       | 83/58/73 dB typ. (W/N/D)                                                          | 76/58/69 dB typ. (W/N/D)                                         |
|                                                    | EXP 25 W                                 | 83/82/80/73 dB typ. (W/M/N/D)                                                     | 76/76/74/69 dB typ. (W/M/N/D)                                    |
| Spurious response rejection                        |                                          | 80 dB typ.                                                                        | 75 dB typ.                                                       |
| Intermodulation rejection                          | Analog (USA, EXP 50/45 W)<br>(EXP 25 W)  | 76 dB typ.<br>69 dB typ.                                                          | 74 dB typ.<br>69 dB typ.                                         |
|                                                    | Digital                                  | 74 dBμV emf typ.                                                                  | 74 dBμV emf typ.                                                 |
| Hum and noise                                      |                                          | 62/52 dB typ. (W/N)                                                               | 64/53 dB typ. (W/N)                                              |
| AF output power                                    | External SP                              | 4 W typ. (at 5% distortion, 4 Ω load)                                             |                                                                  |

\* 25 kHz bandwidth is no longer available for FCC Part 90 licensees for USA versions.

#### Applicable U.S. Military Specifications

| 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         |
| Humidity          | 507.5    | II        |
| Vibration         | 514.6    | I         |
| Shock             | 516.6    | I, IV     |

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

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

#### Supplied accessories

- HM-152 Hand microphone
- DC power cable
- Mounting bracket kit
- Microphone hanger

## HAND MICROPHONES AND DESKTOP MICROPHONE

- HM-148G:** Heavy duty microphone. IP54 protection.  
**HM-148T:** Heavy duty microphone with DTMF keypad. IP54 protection.  
**HM-152:** Hand microphone  
**HM-152T:** Hand microphone with DTMF keypad.  
**HM-211:** Active Noise Cancelling microphone.  
**HM-239T:** Hand microphone with DTMF keypad.  
**SM-26:** Desktop microphone with monitor and monitor lock buttons.



HM-148G HM-148T HM-152 HM-152T HM-211 HM-239T SM-26

## EXTERNAL SPEAKERS

- SP-30:** External speaker. 20 W rated input power  
**SP-35/L:** Compact external speaker  
 SP-35 cable length: 2 m, 6.6 ft  
 SP-35L cable length: 6 m, 19.7 ft



SP-30

SP-35/L

## ACC CABLES

- OPC-2078:** D-SUB 25-pin accessory cable  
**OPC-1939:** D-SUB 15-pin accessory cable  
 Note: No Digital Modulation "IN" when using an accessory cable.



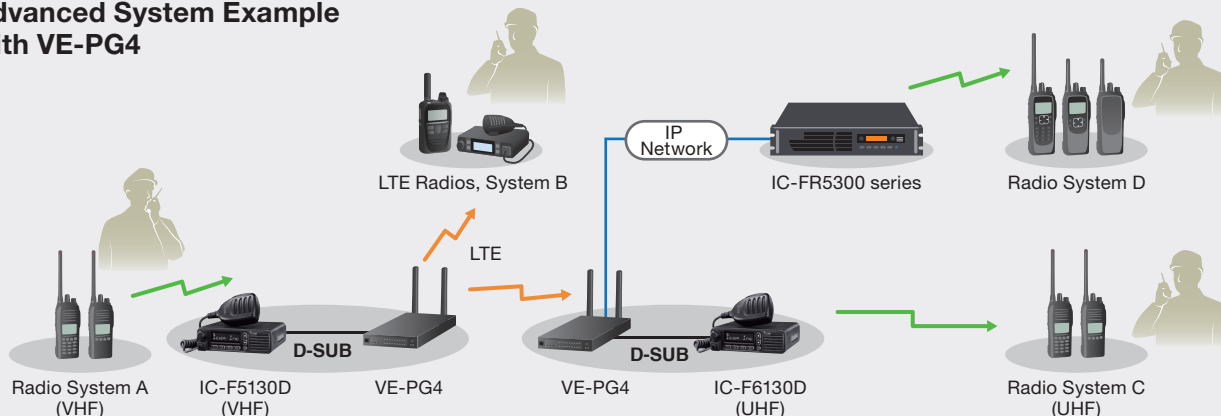
OPC-2078

OPC-1939

## DC POWER CABLES

- OPC-2478:** DC power cable (20 A, 3 m for 45/50 W version)  
**OPC-2479:** DC power cable (10 A, 3 m for 25 W version)

## Advanced System Example with VE-PG4



The VE-PG4 is a versatile RoIP (Radio over IP network) gateway unit, which interconnects the IC-F5130D series with other radio systems, even when the systems are using different bands\*.

As shown in the example, any transmission from the "Radio System A" is bridged to other radio systems, so the radio user in the "Radio System A" can talk to all connected radio users in the figure.

\* Cross band operation may be prohibited in some countries.

Please check the legal requirements in your country before installation.

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