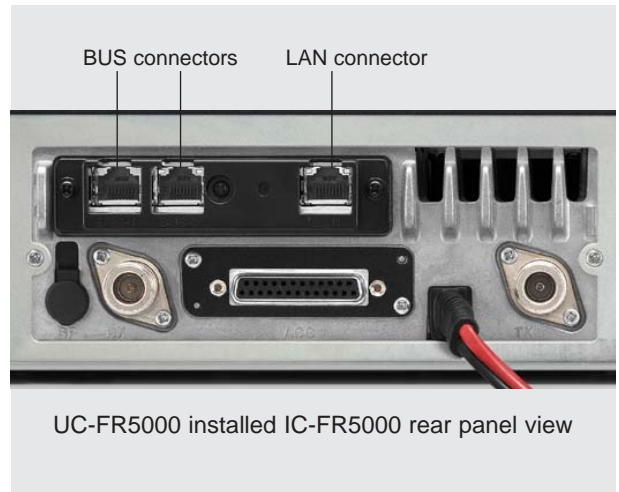
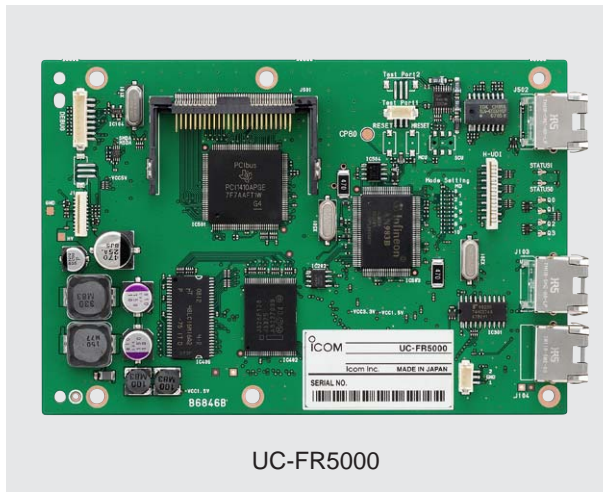


IDAS Trunking/Network Controller Board

UC-FR5000



Icom proudly announces the debut of the IDAS digital trunking and network controller board, UC-FR5000. The UC-FR5000 adds digital trunking features and IP repeater control capabilities to the IC-FR5000/FR6000 series IDAS repeater.

The IC-F3161D and IC-F5061D series (with UT-126H IDAS digital unit) have also been upgraded and have the IDAS trunking capability built-in.*

Please note: The UC-FR5000 is not available for EU countries as of November 2008.

** From October 2008 production.*

FEATURES

IDAS digital trunking features:

- **Distributed control channel**

The IDAS trunking system is a distributed system (similar to the analog LTR™ trunking) which does not use a dedicated control channel. The IDAS trunking services on any requested channel, and every channel can be used for voice communications, while the repeater is not required to transmit a control signal continuously.

- **Up to 30 repeaters in a system**

The IDAS Trunking system can have up to 30 repeaters (RF units) per site. All of the repeaters must be interconnected with a data bus* (Category 5 straight cable). All of the connected repeaters can be configured from a web browser.

* Cannot be used for multi-site connection at this time.

- **Number of unit ID and talkgroup ID**

In the IDAS trunking system, each subscriber unit must be registered to one of the repeaters designated as a home channel and given a unit ID code or talkgroup ID code. The combination of home repeater and identification codes is used as a unique identifier. The IDAS trunking system has a potential ability to handle up to 2,000 unit ID codes and 2,000 talkgroup ID codes per channel. The practical number of users in a system may vary from many factors, but the IDAS trunking system is designed to be used with up to 100 to 200 users (radios) per channel.

- **Secondary home channel**

If the home repeater fails, the system automatically switches to a secondary repeater/channel for backup operation.

- **Area bit setting**

If there are two IDAS trunk systems using the same frequency within a close area, the area bit setting allows the subscriber unit to identify its own repeater site.

FEATURES

Following features are also available in IDAS trunking mode as well as IDAS conventional mode:

- **Two RF modules in one unit**

The IC-FR5000 series uses only 2U height and has an internal space for installing another RF unit, the optional UR-FR5000 series. Two RF modules* can be installed in the chassis and saves installation space. For example, a 10 channel IDAS trunking system would use a 10U height, instead of a 20U height.

* For a two channel IDAS trunking repeater, two UC-FR5000s are required.



Two RF units can be installed in the unit.

- **Increase spectrum efficiency**

The IDAS trunking system utilizes NXDN™ 6.25kHz narrow channel technology. You can increase spectrum efficiency further with the 6.25kHz channel spacing and the efficiencies trunking operation offers.

- **Digital voice for clear audio**

The IDAS trunking radio uses the AMBE+2™ codec providing crisp and clear communication and simultaneous data communication.

- **Selective call, group call and talk group ID (Subscriber units only)**

The IDAS system allows you to call individual or group users. The talk group ID shows group ID, unit ID or alias name on the display while receiving* a message.

* This function is similar to the analog mode PTT ID function, however, the IDAS radio can keep sending ID information during a voice transmission, so the receiving IDAS radio can decode the ID even when breaking into a conversation. (Late entry is possible)

- **Digital voice scrambler (Subscriber units only)**

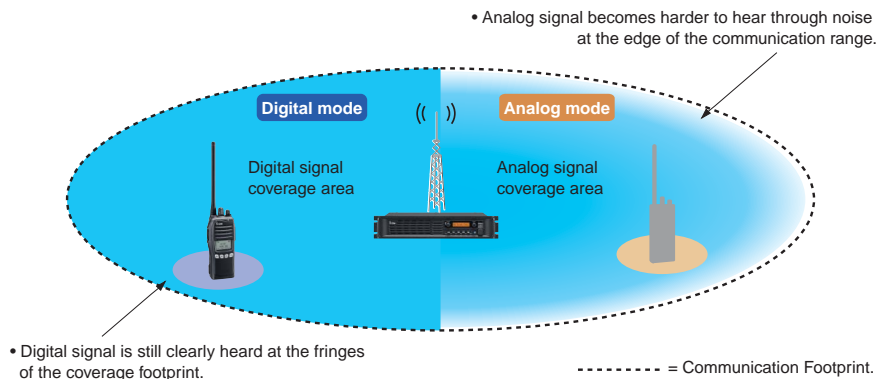
The IDAS trunking system provides a secure communication using 15-bit key (about 32,000 keys) voice scrambler.

- **Other functions (Subscriber units only)**

- Status call/request
- Remote radio stun/kill/revive
- Remote radio monitor ... Remotely turns on the PTT and transmits anything the microphone hears for a pre-programmed time period, if in an emergency situation
- GPS position data ... Send and receive GPS position information data with status message
- Short Data Message ... Send and receive up to a 12-character short data message
- Radio check
- Emergency call/Priority call
- Call alert
- Call log

Improved coverage in digital mode

Icom engineers observed the same increase in coverage while beta testing the IDAS digital trunking that has been observed in digital conventional mode.

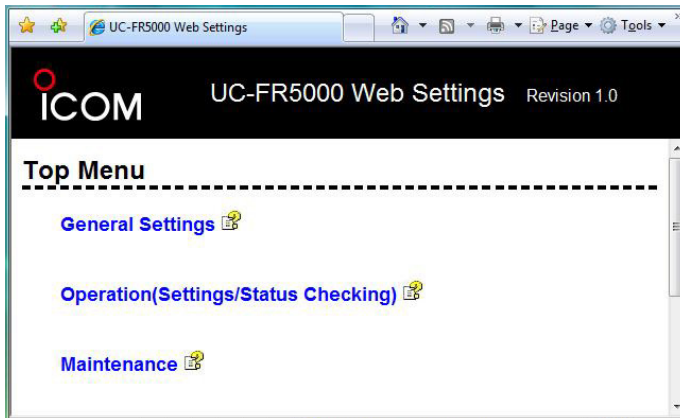


FEATURES

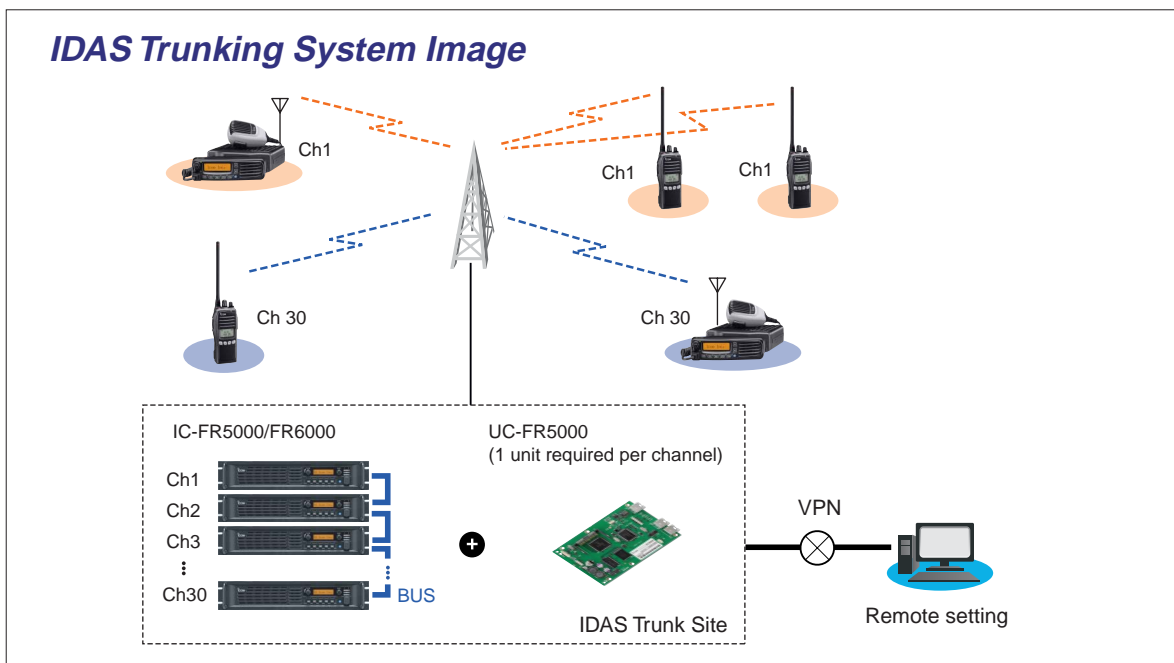
IP Repeater Control features:

- **10/100 Base-T Ethernet Compatible**
- **Web based interface**

Most of the UC-FR5000 configurations can be made via a web browser.



UC-FR5000 Web Setting screen.



SPECIFICATIONS

Specifications describes below are target values. They may be subject to change.

Specification for IC-FR5000/FR6000 (U.S.A. and Export versions)

■ GENERAL

- Frequency coverage :
 - IC-FR5000 136–174MHz
 - IC-FR6000 400–470MHz, 450–520MHz
- Channel spacing : 6.25/12.5/25kHz
- PLL channel step : 2.5, 3.125kHz
- Number of channels : Max. 32 channels
- Antenna connector : Type-N × 2 (50Ω)
- Operating Temp. range : –30°C to +60°C; –22°F to +140°F
 - UC-FR5000 : –10°C to +60°C; +14°F to +140°F
- Power supply requirements : 13.6V DC
- Current drain (approx.) :
 - Receive Standby 500mA
 - 400mA (FAN off)
 - Max. audio 1.9A
 - Transmit 50W 15.0A
 - When using with UC-FR5000 adds 150mA.
- Dimensions (W×H×D) : 483×88×260 mm; 19¹/₃₂×3¹⁵/₃₂×10¹/₄ in
- Weight (approx.) : 5.6kg; 12.3lb
 - UC-FR5000 90g; 3.2 oz

■ TRANSMITTER

- Output power : 50W (adjustable to 5W)
- Modulation system : Variable reactance frequency modulation
- Maximum deviation : ±5.0/2.5kHz (W/N)
- Frequency error : ±0.5ppm
- Spurious emissions : 80dB typ.
- Adjacent channel power : 73dB min. (Wide), 67dB min. (Narrow)
- Audio harmonic distortion : +2dB to –8dB of 6dB/Octave
from 300Hz to 2550Hz (N), from 300Hz to 3000Hz (W)
- FM Hum and Noise : 50/45dB typ. (Wide/Narrow)
- Audio harmonic distortion : 1% typ. (40% deviation)

■ RECEIVER

- Sensitivity :
 - FM (Wide, Narrow) 0.30μV typ. at 12dB SINAD
 - Digital 0.25μV typ. at 5% BER
- Squelch sensitivity : 0.25μV typ. (threshold, W, N)
- Adjacent channel selectivity : 78/56dB typ. (Wide/Narrow)
- Spurious response : 90dB typ. (Wide/Narrow)
- Intermodulation : 78dB typ. (Wide/Narrow)
- Hum and noise : 50/45dB typ. (Wide/Narrow)
- Audio output power : 4.0W typ. at 5% distortion with a 4Ω load

Measurements made in accordance with TIA-603-B (analog) for USA version.

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