COMMUNICATIONS RECEIVER
IC-R8600

HIGH PERFORMANCE SOFTWARE DEFINED RECEIVER

- 10 kHz – 3.0 GHz Super Wideband
- P25, NXDN™, dPMR™, D-STAR Mode
- Real-time Spectrum Scope with Waterfall
- Software Demodulation by FPGA Processing
The IC-R8600 is a super wideband 10 kHz to 3 GHz communication receiver that enables you to hear and see a wide variety of signals in various ways. Not only does it decode diverse digital communication signals, but the advanced FPGA processing technologies implemented provide clarity and accuracy of received signals. With the optional remote control software for a Windows® PC, received audio and spectrum scope data can be transferred through an IP network for monitoring from remote locations.

### Superior Performance

- **10 kHz to 3 GHz Super Wideband Coverage**
  - The IC-R8600 decodes various digital protocol signals including P25 (Phase 1), NXDN™, dPMR™, D-STAR, Japanese DCR (Digital Convergence Radio) as well as receives conventional analog signals such as USB, LSB, FSK, CW, AM, S-AM (Synchronous-AM), FM and WFM modes, covering 10 kHz to 3 GHz wideband in 1 Hz steps.

### Absolute Value of RSSI (Received Signal Strength Indicator)

The IC-R8600 shows S-meter, dBB, dBlu (emf) and dBm meter types in the RSSI. The dBB, dBlu (emf) and dBm meter has a high ±3 dB accuracy* (between 0.5–1100 MHz) that can be used for measuring signal strength level.

* Less than ±6 dB between 1100–3000 MHz.

### Software Demodulation in FPGA Processing

The IC-R8600 utilizes FPGA (Field Programmable Gate Array) and DSP units for demodulation, decoding and most of signal processing. Direct-HF signals and intermediate frequency signals, which are converted from VHF/UHF signals, are digitized in a 14-bit A/D converter and transferred to the FPGA and DSP for optimal processing. The high-rate 122.88 MHz sampling frequency used for the A/D converter results in superior aliasing and image reception reduction.

### Superb Receiver Performance

- **11 discrete RF bandpass filters** in the HF bands and 13 bandpass filters in the VHF/UHF bands.
  - The IC-R8600 has up to 2000 regular memory channels assignable to 100 groups. In addition to the regular memory channels, up to 100 scan skip channels and 50 pairs of program scan edges can be set. The auto memory write scan automatically stores busy frequencies in the auto memory write channels (up to 200 channels). These memory channels and various settings can be edited with the optional CS-R8600 programming software on a Windows® PC.

### Quick, Smooth and Intuitive Operation

- **Variety of Scan Functions**
  - A variety of scan functions effectively and thoroughly search for desired stations. The IC-R8600 scans up to 100 channels per second in the memory scan mode.
    - Program scan/Fine program scan
    - CIB scan
    - Priority scan
    - Memory scan
    - Selected memory scan
    - Selected mode memory scan
    - Auto memory write scan

### Real-time Spectrum Scope with Waterfall Function

- **14-bit A/D converter** provides +30 dBm IP3 and 105 dB dynamic range at 14.1 MHz. IP3 performance is +10 dBm at 144 MHz and 0 dBm at 440 MHz.

### Intuitive Operation

- **4.3-inch color display**, with touch screen function, is configured to collect operating information. By tapping indications and icons on the screen, the setting menu will pop up and parameters can easily be adjusted. When either the DIAL A, B or C multi-function control knobs is pushed, various functions, such as scan speed, RF gain, audio tone, display backlight or other menus will pop up in the display.

### Varieties of Scan Functions

- **SD Card Slot for Receiver Recorder**
  - The recorder function can record received audio onto an SD card in WAV format. The recorded voice audio can be played back on the receiver or a PC. When a 32 GB SD card is used, up to 270 hours of recording is possible. In addition, the screen capture function saves a snapshot of the screen in PNG or BMP format on the SD card.

### IO Signal Output

- **I/Q Signal Output**
  - The I/Q signal output function* allows you to derive digital IF signals from the I/Q output jack. It can be used for analyzing spectrum or decoding signals.

### Other Features

- **3 antenna connectors**: an SO-239 type and a phono (RCA) connector for HF and a type-N connector
- **Clock and NTP function**
- **Remote control software** allows you to listen to received audio and control most of the receiver functions, including the spectrum scope, through an IP network or USB cable.
- **Remote Control Function through IP Network or USB Cable**
  - The optional RS-R6600 PC remote control software allows you to listen to received audio and control most of the receiver functions, including the spectrum scope, through an IP network or USB cable.

### Extensive Rich Features

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- **I/Q Signal Output**
- **Remote Control Function through IP Network or USB Cable**
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**SPECIFICATIONS**

**GENERAL**
- Frequency coverage:
  - USA: 0.010000–821.999999*, 851.000000–866.999999, 869.000000–3000.000000 MHz
  - EXP: 0.010000–3000.000000 MHz

- Calendar: 0.000000–32767 days

- Frequency resolution: 0.01 Hz

- Frequency stability: Less than ±0.5 ppm (at 25˚C after warm up)

- Number of channels: 2000 regular with 100 groups, 200 auto memory write, 1000 and 100 scan edge channels

- Scan types: Programmed, memory, selected memory, selected mode, auto memory write, priority scan and .1F scan

- Operating temperature range: -10 ℃ to +60 ℃; 14 ℉ to 140 ℉

- Power supply requirement: 13.8 V DC ±15%

- DC current drain:
  - Stand-by: 1.8 A
  - Maximum audio: 2.0 A

- Weight (approximately): 4.3 kg; 9.5 lb

**OPTIONS**
- DC power cable
- Fuses
- Plugs

**RECEIVER**

**Receiver system**
- Direct sampling
- Double superheterodyne (IF: 778.7, 46.35 MHz)
- Double superheterodyne (IF: 278.7, 46.35 MHz)
- Triple superheterodyne (IF: 900–500.0000001, 278.7, 46.35 MHz)

**Frequency coverage**
- 0.010–29.999 MHz
- 30.000–499.999 MHz
- 500.000–1099.999 MHz
- 1100.000–1499.999 MHz
- 1500.000–3000.000 MHz

**Sensitivity** (Preamp ON)
- 0.1–1.799 MHz: 0 dBµ
- 1.8–29.999 MHz: –6 dBµ
- 30.000–1099.999 MHz: –6 dBµ
- 1100.000–2499.999 MHz: –6 dBµ
- 2500.000–3000.000 MHz: –6 dBµ

**Spurious and image rejection** (Analog mode operation)
- 0.010–29.999 MHz:
  - More than 40 dB

- 30.000–1099.999 MHz:
  - More than 70 dB

- 1100.000–2499.999 MHz:
  - More than 40 dB

**Audio output power**
- More than 2.0 W (8 Ω load, 10% distortion)

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

**COMMUNICATIONS RECEIVER**

**IC-R8600**

**AH-8000 SUPER WIDEBAND OMNIDIRECTIONAL ANTENNA**
- Frequency coverage: 100–3335 MHz
- **MB-123 CARRYING HANDLE**
- **CS-R8600 PROGRAMMING SOFTWARE for Windows® PC**
- **RS-R8600 REMOTE CONTROL SOFTWARE for Windows® PC**

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

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**BJICOM Corporation**
500.000–1099.999 MHz
- Less than 3 dB
- Less than 5 dB
- Less than 10 dB
- Less than 15 dB
- Less than 20 dB
- Less than 25 dB
- Less than 30 dB
- Less than 35 dB
- Less than 40 dB
- Less than 45 dB
- Less than 50 dB
- Less than 55 dB
- Less than 60 dB
- Less than 65 dB
- Less than 70 dB
- Less than 75 dB
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- Less than 85 dB
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- Less than 170 dB
- Less than 175 dB
- Less than 180 dB
- Less than 185 dB
- Less than 190 dB
- Less than 195 dB
- Less than 200 dB

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