



Pre-release Product Information

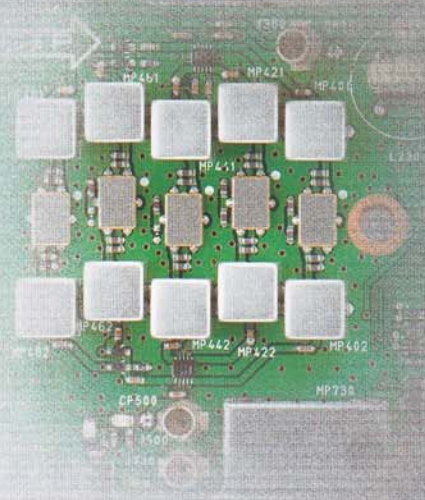
COMMUNICATIONS RECEIVER

IC-R9500

Roofing Filter



DSP Unit



Professional Communications Receiver

Super performance, multiple functions

+40dBm IP3 and

110dB wide dynamic range

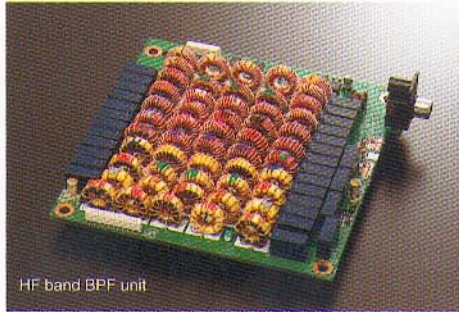
Only Icom's wideband receiver technology can achieve this high specification with 0.005–3335MHz coverage. In HF bands, it has 110dB wide dynamic range and +40dBm IP3. Even in 144/430(440) MHz and above 2GHz band, it has +5dBm IP3 capability. This high specification means the IC-R9500 allows you to listen to weak signals between strong adjacent signals.

"Measuring" class accuracy

The IC-R9500 uses an OXCO (Oven Control Crystal Oscillator) unit which is stable to within $\pm 0.05\text{ppm}$ at 0°C to 50°C. A 10MHz reference frequency can be input and output allowing you to connect with external equipment. Signal strength indication can be selectable from "dB μ " and "dBm" unit.

Superior BPF unit

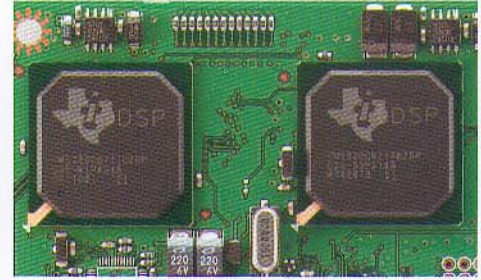
For the BPF (Band pass filter) unit, the IC-R9500 uses stable mechanical relays and large inductors instead of switching diodes and small coils which can cause distortion. This combination reduces distortions at the primary stage of signal processing.



HF band BPF unit

Dual DSP

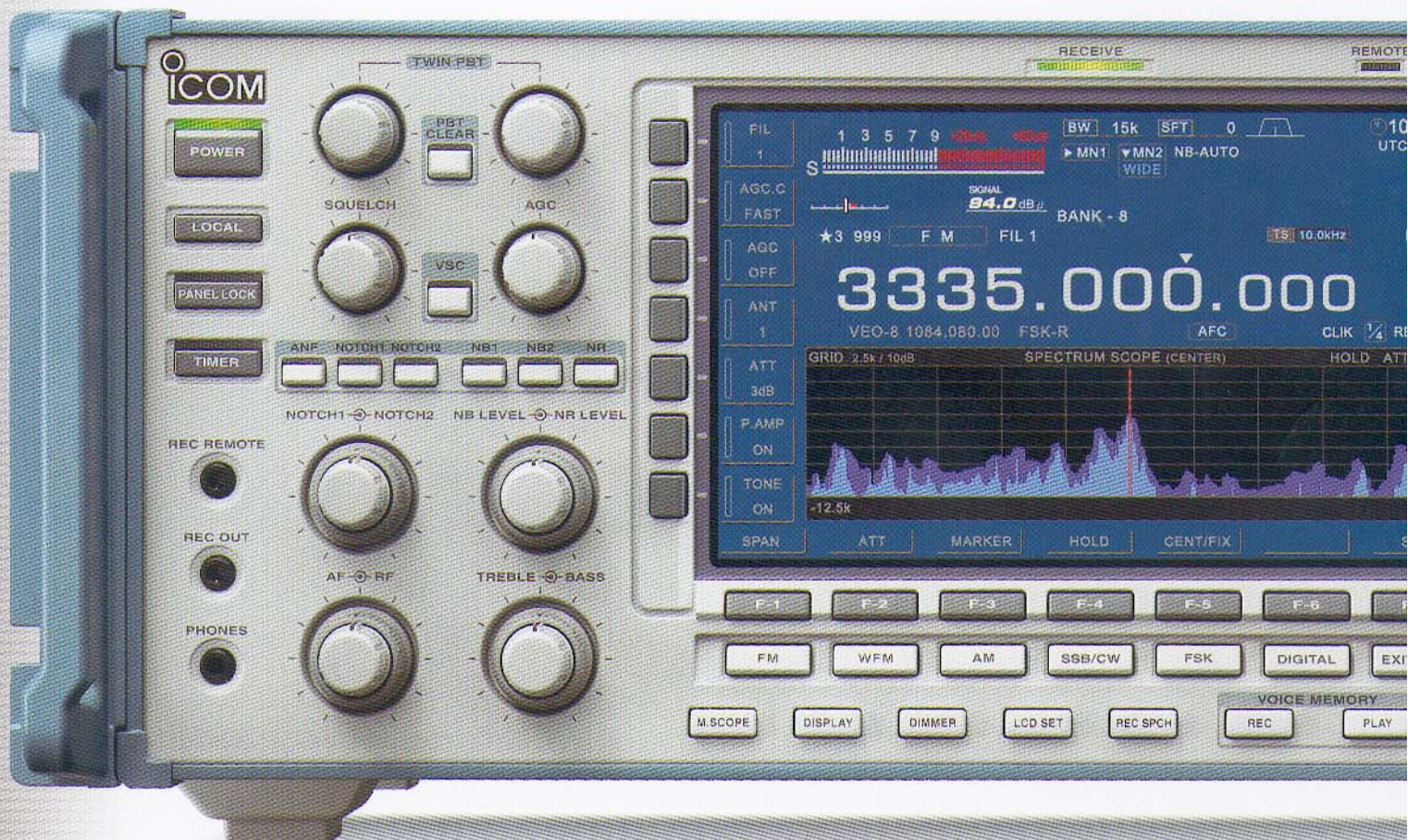
The IC-R9500 incorporates two independent, 32-bit floating point DSP units, one for receiver and the other for the spectrum scope. By having two independent DSP units, the radio will respond to operator changes in an instant, as each DSP unit has a dedicated function.



7-inch wide color TFT LCD

The large 7-inch wide (800 × 480 pixels) active matrix display delivers quick response time, high resolution and wide viewing angle. The multi-function spectrum scope is displayed in vivid color. In addition, the IC-R9500 has a VGA connector allowing you to connect an external monitor.

COMMUNICATIONS RECEIVER IC-R9500



on wideband "measuring" receiver

High resolution spectrum scope

The IC-R9500 will have normal and wide spectrum scope functions. The normal spectrum scope covers a range from $\pm 2.5\text{kHz}$ to $\pm 5\text{MHz}$, while the wide spectrum scope* will cover a wider frequency range still to be decided. When using the normal spectrum scope, the digital scope filter width is selectable from 200Hz to 20kHz allowing you to find a weak signal right next to strong ones. The sweep speed is also selectable.

Also, there is a setting to allow for specific scope edges or center the span on the receiving frequency. The peak search function automatically moves the marker to the peak point on the scope screen. In addition to these features, the scope has 3 levels of attenuator (10dB, 20dB, 30dB).

* While using the wide spectrum scope function, AF output is muted.

Two channel noise blanker

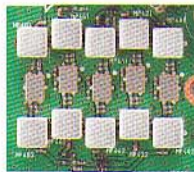
The DSP controlled noise blanker significantly reduces pulse type noise. The IC-R9500 has two noise blanker memories; you can set attenuation width, depth and blank time parameters by each channel and allows switching between channels depending on the operating mode.

Digital IF filter

The digital IF filter allows the operator to adjust the filter shaping (sharp or soft), filter bandwidth, and center frequency characteristics, without missing the received sound. The digital twin PBT narrows and shifts the IF passband, and efficiently eliminates interfering signals.

Five roofing filters

Before the 1st amplifier, the IC-R9500 has five roofing filters. You can select the filter widths from 240kHz/50kHz/15kHz/6kHz/3kHz, depending on operating mode. The 50kHz roofing filter allows you to receive NOAA weather satellite APT pictures in FM mode.



Two-point manual notch filter

The digital manual notch filter reduces more than 70dB at two points with adjustable filter width (wide, middle, narrow). It means two strong beat signals can be eliminated at once even while using the auto notch filter.

Synchronous AM detection

The synchronous AM (S-AM) detection provides less distorted audio than normal diode detection and it is useful when fading occurs or signal level is low. The R9500 can create exactly the same frequency as the carrier signal by using the DSP unit. In addition, upper or lower side for S-AM demodulation is selectable for eliminating interference from adjacent strong signals.

10 VFOs

The IC-R9500 has 10 VFO channels; you can tune and store operating frequency, mode, filter width and other settings. For example, in VFO-1 memories the 7MHz band, VFO-2 for VHF marine band, VFO-3 for 1200MHz band, etc, you can quickly change the operating bands by pushing the 10-keypad. When you change the VFO channel, the last setting is automatically stored to the channel used before.

Digital voice recorder

The IC-R9500 has an internal digital recorder capable of storing received communications. While the recording times vary depending on recording quality, even in HQ (high quality) mode it provides up to 60 minutes (approx.) of recorded audio.

1000 memory channels

1000 memory channels store frequencies, modes, filter width and tuning steps. Memory channels are grouped into memory banks. Independent memory and bank knobs are on the front panel. By connecting to a USB keyboard, you can directly edit channel names, etc.

Multi-scan functions

Numerous scanning functions searching desired stations are available to make operation easier than ever before. The IC-R9500 scans 40 channels per second in memory scan mode.

- Memory scan
- Program scan
- ΔF scan
- Priority scan
- Selected mode memory scan
- Selected memory scan
- Auto memory write scan

Additional outstanding features

- 4 antenna connectors: an SO-239 type and a phone (RCA) connector for below 30MHz, two type-N connector for above 30MHz
- Reverse power protection (HF band only)
- AFC function compensates for frequency shifts (FM mode only)
- CW/AM modes auto tuning function
- Optional P25 digital mode reception
- Optional CI-V interface and RS-232C for PC remote control
- VSC (Voice Squelch Control)
- S/PDIF out jack
- Analog TV reception (NTSC/PAL)
- Video input/output



SPECIFICATIONS

GENERAL

- Frequency coverage (Unit: MHz) : 0.005–3335.000000*
 * Cellular bands are included in the U.S.A. version.
 France version : 0.005–29.999999 50.200–51.200000
 87.500–108.000000 144.000–146.000000
 430.000–440.000000 1240.000–1300.000000
- Mode : USB, LSB, CW, FSK, AM, FM, WFM, P25*
 * Optional UT-122 required.
- Number of memory channels : 1020 (1000 regular and 20 scan edges)
- Antenna connector : SO-239 (50Ω for HF),
 Phono [RCA] (500Ω for HF),
 Type-N x2 (50Ω, one each for
 30–1149.99999MHz, 1150–3335MHz)
- Temperature range : 0°C to +50°C; +32°F to +122°F
- Frequency stability : Less than ±0.05ppm (0°C to +50°C)
 after warm up (5 minutes)
- Frequency resolution : 1Hz
- Power supply requirement : 100V/120V/230V/240V AC
- Power consumption : Standby 70VA typ.
 Max. audio 70VA typ.
- Dimensions (W×H×D) : 424 × 149 × 340 mm;
 (projections not included)
 16¹/₁₆ × 5⁷/₈ × 13³/₈ in
- Weight : 18kg; 39.7lb (approx.)
- PHONES connector : 3-conductor 3.5 (d) mm (1/8")
- External speaker connectors : 2-conductor 3.5 (d) mm (1/8")/8Ω

RECEIVER

- Intermediate frequencies : 1st 58.7/278.7/778.7MHz
 2nd 10.7/58.7MHz
 3rd 48k/10.7MHz
 4th None/48kHz

Sensitivity

	SSB, CW, FSK	AM	FM	WFM
0.100–1.799MHz*1	0.5μV	6.3μV	–	–
1.800–29.999MHz*1	0.16μV	1μV	0.5μV*3	–
30.0–3335.000MHz*2	0.32μV	1.4μV	0.5μV	1.4μV

*1 Pre-amp1 ON *2 Pre-amp ON *3 28–29.999MHz
 SSB, FSK=2.4kHz, CW=0.5kHz, AM=6.0kHz at 10dB S/N
 FM=12kHz, WFM=150kHz at 12dB SINAD

- Squelch sensitivity (Pre-amp: OFF) :
 USB, LSB, CW, FSK, FM, AM : Less than 5.6μV
 WFM : Less than 1μV
- Selectivity (representative value) :
 USB, LSB, FSK (BW= 2.4kHz) : More than 2.4kHz/–3dB
 Less than 3.6kHz/–60dB
 CW (BW= 500Hz) : More than 500Hz/–3dB
 Less than 700Hz/–60dB
 AM (BW= 6kHz) : More than 6.0kHz/–3dB
 Less than 15.0kHz/–60dB
 FM (BW= 15kHz) : More than 12.0kHz/–6dB
 Less than 20.0kHz/–60dB
 WFM (BW= 150kHz) : More than 150kHz/–6dB
- Spurious and image rejection ratio : 0.1–30.0MHz : More than 70dB
 30.0–3335MHz : More than 50dB
- AF output power : More than 2.6W at 10% distortion
 with an 8Ω load
- Internal modulation distortion : 110dB dynamic range at 14.1MHz 100kHz
 separation, pre-amp OFF

OPTIONS



CT-17 CI-V LEVEL CONVERTER

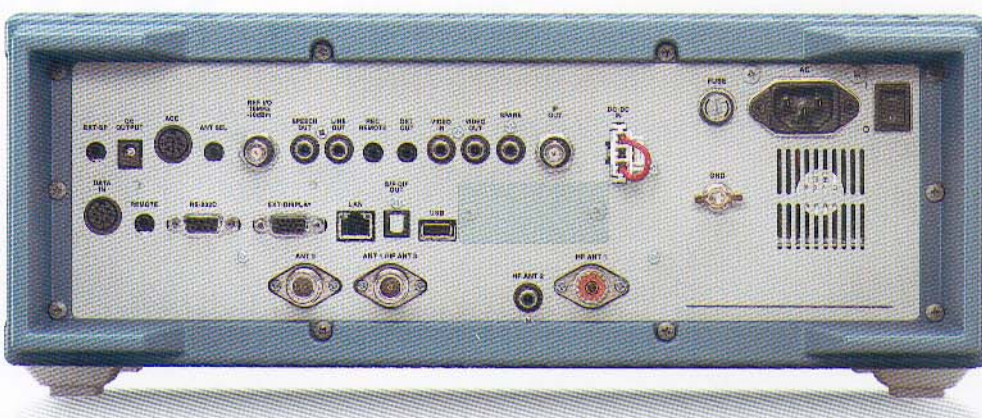
For remote receiver control using a PC with an RS-232C.



UT-122

P25 DIGITAL UNIT
 Provides APCO P25 digital mode reception.

REAR VIEW



This device has not been approved by the appropriate authorities in each country. This device may not be sold or leased, or be offered for sale or lease, until approval has been obtained. All stated features, appearances, screen shots and specifications may be subject to change without notice. All screens show simulated pictures.

Icom Inc. 1-1-32, Kamiminami, Hirano-ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 URL: <http://www.icom.co.jp/world/index.html>

Count on us!

Icom America Inc.

2380 116th Avenue NE,
 Bellevue, WA 98004, U.S.A.
 Phone : +1 (425) 454-8155
 Fax : +1 (425) 454-1509
 E-mail : sales@icomamerica.com
 URL : <http://www.icomamerica.com>

Icom Canada

Glenwood Centre #150-6165 Highway 17,
 Delta, B.C., V4K 5B8, Canada
 Phone : +1 (604) 952-4266
 Fax : +1 (604) 952-0090
 E-mail : info@icomcanada.com
 URL : <http://www.icomcanada.com>

Icom (Australia) Pty. Ltd.

Unit 1 / 103 Garden Road,
 Clayton, VIC 3168 Australia
 Phone : +61 (03) 9549 7500
 Fax : +61 (03) 9549 7505
 E-mail : sales@icom.net.au
 URL : <http://www.icom.net.au>

Icom New Zealand

146A Harris Road, East Tamaki,
 Auckland, New Zealand
 Phone: +64 (09) 274 4062
 Fax : +64 (09) 274 4708
 E-mail : inquiries@icom.co.nz
 URL : <http://www.icom.co.nz>

Icom (Europe) GmbH

Communication Equipment
 Himmelfahrt Str. 100,
 D-40225 Düsseldorf, Germany
 Phone: +49 (0211) 346047
 Fax : +49 (0211) 333639
 E-mail : info@icom-europe.com
 URL : <http://www.icomeurope.com>

Icom Spain S.L.

Ctra. Ruti, No. 88 "Edificio Can Castanyer"
 08190, Sant Cugat del Valles, Barcelona, Spain
 Phone : +34 (93) 580 26 70
 Fax : +34 (93) 589 04 48
 E-mail : icom@icomspain.com
 URL : <http://www.icomspain.com>

Icom (UK) Ltd.

Unit 9, Sea St., Heme Bay,
 Kent, CT6 8LD, U.K.
 Phone : +44 (01227) 741741
 Fax : +44 (01227) 741742
 E-mail : info@icomuk.co.uk
 URL : <http://www.icomuk.co.uk>

Icom France S.a

Zac de la Plaine, 1,
 Rue Brindejonc des Moulinais BP 5804,
 31505 Toulouse Cedex, France
 Phone : +33 (5) 61 36 03 03
 Fax : +33 (5) 61 36 03 00
 E-mail : icom@icom-france.com
 URL : <http://www.icom-france.com>

Icom Polska

Sopot, 3 maja 54, Poland
 Phone : +48 (58) 550 7135
 Fax : +48 (58) 551 0484
 E-mail : icom.polska@icom.polska.com.pl
 URL : <http://www.icompolska.com.pl>

Asia Icom Inc.

6F No. 66, Sec. 1 Cheng-Teh Road,
 Taipei, Taiwan, R.O.C.
 Phone : +886 (02) 2559 1899
 Fax : +886 (02) 2559 1874
 E-mail : sales@asia-icom.com
 URL : <http://www.asia-icom.com>

Beijing Icom Ltd.

10007, Long Silver Mansion, No.88, Yong Ding
 Road, Haidian District, Beijing, 100038, China
 Phone : +86 (010) 5889 5391/5392/5393
 Fax : +86 (010) 5889 5395
 E-mail : bjicom@bjicom.com
 URL : <http://www.bjicom.com>

Your local distributor/dealer: