ICOM

HF/50MHz TRANSCEIVER

IC-7700

Perfection

In its purest form...

To Amateurs That Share An Appreciation of Design and Value

Genuine Article

The IC-7700 For Operators With A Common Vision of Design and Value.

The essential elements for top-of-the-line HF transceiver performance begin with an exceptionally linear, low distortion design. Starting with electronic component selection, Icom integrates state-of-the-art analog performance with the latest digital technology to achieve superior receiver performance.

As a result, the IC-7700 achieves

- More than 110dB dynamic range
- More than +40dBm IP3
- More than +110dBm IP2 in the HF bands.

Those who choose the IC-7700 will know they have the best receiver performance available. The IC-7700 will change forever what you expect as the normal sound of the HF bands.

HF/50MHz TRANSCEIVER

IC-7700

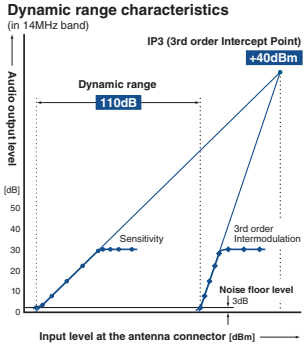
Receiver Performance

Serious ham operators always try to advance their communication and technical skill and to improve their station's capability to the limit. The IC-7700's astonishing +40dBm IP3 capability will give you further backup in these efforts. Contesting and DXing will be the absolute best with the IC-7700!

110dB Dynamic Range and +40dBm IP3

110dB dynamic range and +40dBm 3rd order Intercept Point (IP3)

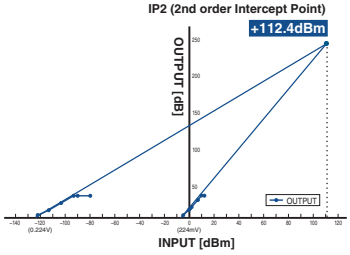
The IP3 performance of a radio can be improved by sacrificing sensitivity, but Icom considers this a poor choice. To achieve REAL high-performance, Icom reviewed all of the analog receiver circuitry. The IC-7700 employs mechanical relay BPF switching, a digitally tuned pre-selector, and three Hi-spec 1st IF filters (roofing filter) in a clean and simple double-conversion superheterodyne design. By balancing the analog and DSP functions, the IC-7700 provides superior sensitivity simultaneously with a superb dynamic range of 110 dB, and +40 dBm IP3 (even in USB mode with 2.4 kHz filter bandwidth).



Better than +110dBm 2nd order intercept point (IP2)

An IP2 point of more than +110 dBm* means the 2nd order distortion from strong broadcast stations will be completely eliminated. The endless pursuit of leading analog circuit engineering makes it possible to achieve this leading edge level of performance.

* Measurements were made using custom equipment, due to the limits of normal signal generators (SG) and duplexers to +85 dBm. The IP2 figure is a typical value.



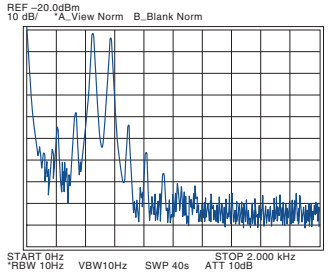
Double conversion superheterodyne system

While multiple IF stages can become a source of distortion products and spurious responses, the IC-7700 utilizes Icom's original image-rejection mixers in a simple double conversion superheterodyne. This reduces distortion and produces a much cleaner audio signal compared to triple or quadruple superheterodyne receivers.

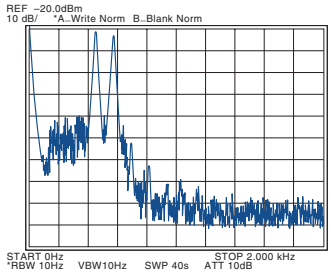
High specification inband IMD

In-band IMD (Intermodulation Distortion) creates undesired spurious signals as a consequence of non-linear processing of multiple signals. All (2nd, 3rd or even higher) orders of IMD performance are superior in the IC-7700. The improvement will be especially evident in CW mode. You'll notice the difference as you copy weak signals without internal distortion or noise.

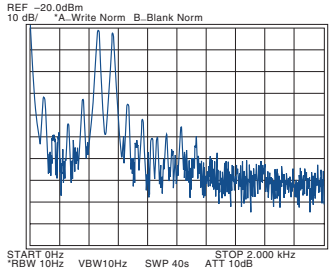
Inband IMD characteristics



S9 equivalent signal input



S1 equivalent signal input



S9 +60dB equivalent signal input

Band pass filter

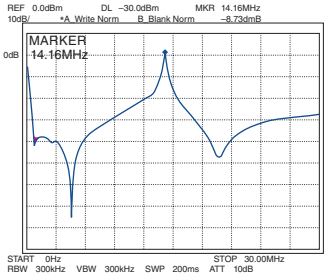
While some may lead you to believe that coils and capacitors are all created equal, at Icom we know design excellence. Rather than using switching diodes that can introduce distortion, the IC-7700 design utilizes high-grade mechanical relays along with large capacitors and toroidal coils; resistant to magnetic saturation, providing superior linearity, and greatly reducing distortion.

DIGI-SEL (Digital pre-selector)

The DIGI-SEL (digital pre-selector) is a very narrow, user adjustable, pass band filter designed to automatically track the operating frequency, attenuating interference from out-of-band signals. While the pre-selector's pass-band remains centered on the operating frequency, on the fly adjustments are possible via front panel controls. The DIGI-SEL is especially useful for multi-transmitter operation and near strong broadcast stations by reducing the 2nd, 3rd, and even higher order IMD components from other stations.

DIGI-SEL unit

DIGI-SEL Characteristics in 14MHz band



Pre-amplifiers

The IC-7700 has a total of 4 pre-amplifiers, two for the HF bands and two for the 50MHz band. The purpose of pre-amplifiers is to improve receiver sensitivity for the pursuit of higher gain and a better noise figure.
The IC-7700 employs a noiseless feedback design with push-pull amplifiers. Using feedback transformers, the pre-amplifiers provide a high IP3 while keeping a low noise figure.

1st mixer

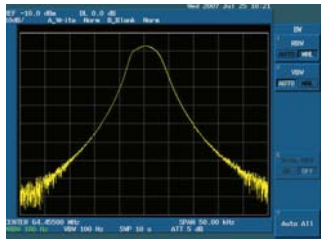
The 1st mixer stage is driven with a signal from the high-drive Local Oscillator with excellent C/N. A 16V p-p of high-level LO signal is applied to the mixer to improve intermodulation characteristics while avoiding a parasitic oscillation or noise.

Three Hi-Spec 1st IF filters (Roofing Filter)*1

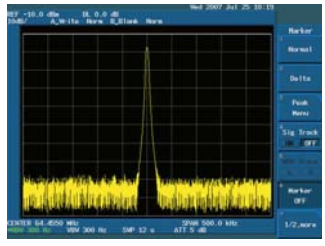
The IC-7700 employs three Hi-Spec 1st IF filters (roofing filters) of 15kHz, 6kHz and 3kHz before the 1st IF amplifier. Icom ordered special customized high specification devices to improve IMD and achieve better impedance characteristics. As a result, the 3kHz 1st IF filter provides approximately 134dB*2 of blocking dynamic range and allows you to pull out a weak signal in the presence of strong adjacent signals.

*1 Icom calls the roofing filters "Hi-spec 1st IF filters", because their performance is much better than regular IF filters.

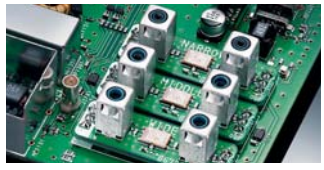
*2 At 14.1MHz receive, with 5kHz separation of interference signal.



3kHz filter characteristics (50kHz span)



3kHz filter characteristics (500kHz span)



Hi-Spec 1st IF filters (Roofing filter)

2nd-stage image rejection mixer

The 2nd-stage image rejection mixer processes signals to reject spurious image responses. In conjunction with the Hi-spec 1st IF filters (roofing filters), image rejection of greater than 100dB is realized. The analog image rejection mixer's linearity makes it possible to use a simplified receiver design. This improves the distortion performance of the receiver.

50MHz band preamplifier and mixer

The IC-7700 was designed with the 6m aficionado in mind. Rather than sharing circuits used for HF, a separate preamplifier and mixer was designed especially for 6m. This greatly improves the receiver sensitivity by reducing intermodulation characteristics, enabling weak signal works without distortion or interference from strong signals in the band.

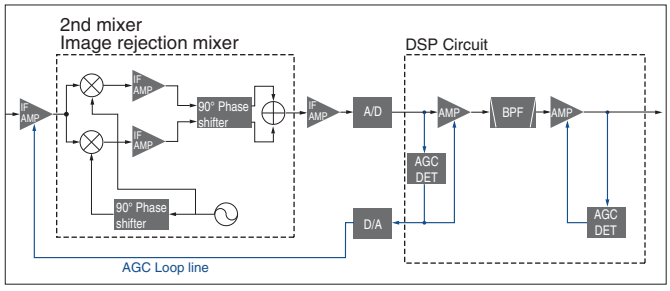
Two 32-bit floating point units

Two independent DSP units are built-in: One for the transmitter and receiver; and one for the spectrum scope. The IC-7700 expands on the phenomenal performance of the 32-bit DSP that Icom introduced to the amateur world.

Receiver Performance

Two AGC Loops

The IC-7700 has two AGC loops. The AGC voltages detected in front of and behind the digital IF filter in the DSP unit. The first AGC loop prevents the saturation of the 1st IF amplifier from strong signals outside the pass-band filter, and improves the dynamic range in the presence of strong adjacent signals. The other AGC loop detects the AGC voltage at the digital IF filter output which has only passed the intended signal and draws the full potential from the digital IF filter.



The IC-7700 accommodates both the “on-the-fly” operator as well as the most avid “tweaker” operator by providing tunable AGC preset and manual AGC level controls. The AGC time constants can be set in the 3 presets (slow, medium and fast), adjustable from 0.1–6 sec. (0.3–8 sec. in AM) delay. Then the addition of the AGC VR control enables the user to “tweak” or fine tune the AGC reaction time.

High stability OCXO unit

Frequency control of the IC-7700 is maintained by the high stability Oven Controlled Crystal Oscillator. The OCXO achieves frequency stability of ±0.05ppm across the specified temperature range, meaning that the frequency will deviate only 5Hz out of every 100 MHz! This specification is equivalent to that of specialized measuring equipment such as signal generators or spectrum analyzers.
Also, a 10MHz reference signal can be input to the IC-7700 or output for use by external equipment.

OCXO unit

The well-selected components provide premium performance

Mechanical relays

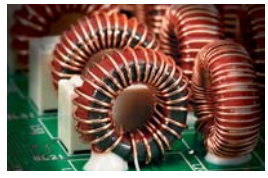
Mechanical relays using gold contacts have excellent deterioration resistance and superior conductivity.

Hi-spec 1st IF filter

The IC-7700 uses custom made Hi-spec 1st IF filters (roofing filters), selected especially for excellent IMD characteristics.

Large coils

To reduce secondary distortion, large coils and capacitors are used in the high-amplitude filter switching circuits. The use of non-linear semiconductors is minimized.



DSP

The transmitter and receiver use a 32-bit floating point DSP, offering the high performance of 1800 MFLOPS processing. Also, the spectrum scope DSP achieves 1200 MFLOPS of peak performance.

Tx/Rx DSP: TMS320C6727
Internal Clock: 250MHz
32-bit floating point
Floating point calculation: 1800MFLOPS

Power amplifier

The STAC2942 power amplifier is used in a push-pull design providing reliability in ultra professional communications. This device generates a stable 200W of output power from HF to 54MHz.

Operation

It means nothing to have multiple functions or high specifications if you cannot effectively use the functions. The IC-7700 centralized all the operating information on a 7-inch wide TFT display offering superior operation.

Assess the Situation and Respond Instantly

7-inch wide color TFT LCD

While Icom's RF engineering team reviewed receiver designs for how the IC-7700 hears a signal, close attention was also paid to how the operator sees a signal. Details such as response time, color, resolution, and visibility were extremely important. Thus, an active matrix 7-inch (800 × 480 pixels) TFT color display was selected as the IC-7700's display. The display provides superior performance in response time, color, resolution, visibility and more. The large display shows operating frequencies, various settings and operating conditions as well as the spectrum scope, S-meter and RTTY/PSK31 decoded messages. The S-meter shows an analog-like swinging needle that is smooth and accurate. In addition to the analog like-style meter, the IC-7700 has a digital multi-function graphic meter and edgewise meter - chose your favorite style! Further more, the IC-7700 has a VGA connector for an external monitor and an S-meter connector for an external analog S-meter.

USB ports on the front panel

Two USB ports on the front panel allows you to easily connect a USB type keyboard or USB memory stick to save transceiver settings, update firmware, or transfer settings to other IC-7700. Making big scores means keeping your team fresh on those long DX-peditions or Multi-Operators contests. Swapping out operators usually involves time-wasting radio tweaks, because each operator has their own favorite settings to best match their operating style. This all changes with the USB drives! Prior to a contest, operators may record their preferred IC-7700 settings such as filter, Digital Voice Recorder (DVR) memories, antenna settings, etc. When it's their turn to operate, simply insert their USB Drive into the IC-7700. In a flash, the IC-7700 is now "their rig", and there's nearly zero down time!

Two USB ports

RTTY /PSK31 operation without PC connection

The IC-7700 has a built-in RTTY and PSK31 modulator/demodulator. By simply connecting a USB key-board, you can immediately start enjoying these modes. In addition, you can preprogram transmit messages in the internal message memory or a USB memory stick and transmit them even without typing a message from a USB keyboard. Also, received messages can be stored to a USB memory stick and transferred to your PC.

4 antenna connectors

The IC-7700 has 4 antenna connectors (ANT1 to ANT4) with an automatic antenna selector. Once you program the operating bands in each antenna memory, the IC-7700 will automatically select the antenna as you change the operating band. The usage type for each antenna can be set for Tx/Rx use, Rx only* use and off line. The antenna switch button allows you to change the operating antenna temporarily.

* Rx setting is available for ANT4 only.

Functions

The latest digital software technology provides useful functions allowing you to customize detailed settings. The real time spectrum scope, digital IF filter and manual/auto notch filter - all functions are engineered to the highest standards of quality and performance.

Advanced Functions for Skillful Operators

Real time spectrum scope

With a dedicated DSP unit, the IC-7700 spectrum scope achieves 80dB of dynamic range at the signal input level. It also improves the scope response time and signal resolution, so that it is possible to accurately tune to the intended signal as you see it on the spectrum scope screen.
The spectrum scope range can be set independently from the receiving frequency. You can monitor band conditions between the selected sweep edges (Fixed mode), as well as sweep a selected band width centered on the receiving frequency (Center mode).
In addition, the scope has useful functions including scope attenuator (10dB/20dB/30dB), 2 types of marker (Transmit, Receiver) and Max hold function. The mini scope function is convenient for continuous monitoring even while adjusting the set mode.

Center mode setting screen

Mini scope function example
- Frequency (top)
- Mini scope (middle)
- Memory keyer setting (Bottom)

Digital twin PBT

The digital twin PBT eliminates interference and noise from signals above and below your frequency by changing the IF filter bandwidth. The IF shift function allows you to shift or move the IF passband to either side to more accurately receive the signal. The passband width, shift direction and steps (50Hz) are graphically displayed on the LCD. You can reproduce the signal as you like to hear it.

Digital IF filter

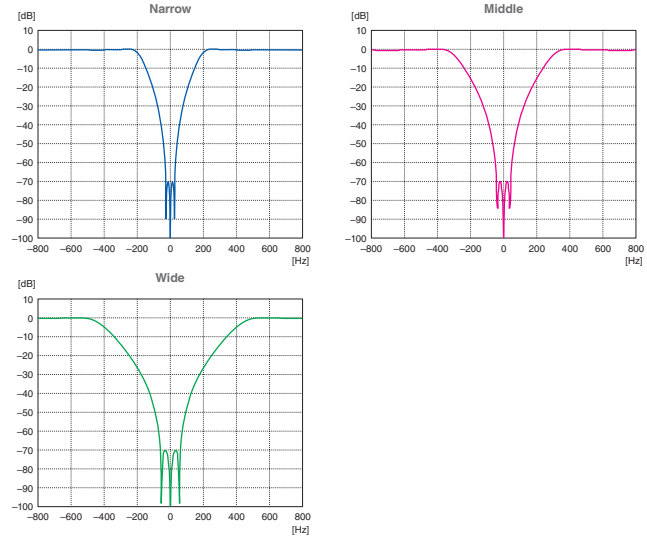
The DSP-based digital IF filter of the IC-7700 rejects signals out of the pass band, and keeps the desired signal free of any distortion or degradation of quality. Depending on the operating situation, for example handling a pile-up or receiving a very weak signal, you can flexibly change sharp and soft filter shapes or reduce or shift the filter width, even while receiving a signal.

Digital IF filter setting screen

Manual notch filter and auto notch filter

The manual notch filter controlled by the DSP has extremely sharp characteristics and provides more than 70dB of attenuation. The notch filter width is selectable from 3 types, allowing you to select the suitable filter width for the operating mode and band. It eliminates persistent beat tones without affecting the AGC loop function. In addition, the automatic notch filter tracks and eliminates two or more interfering signals such as beat signals and carriers or tones from digital signals.

Manual notch filter characteristics



Variable noise blanker

The noise blanker provides significant reduction of pulse-type noise. The noise blanker allows you to change the threshold level as well as blank duration parameter and attenuation level.

Noise reduction

The noise reduction separates the target signal from random noise components. By using the excellent performance of the 32-bit floating point DSP, this separation is made immediately without a delay and extracts signals from noise components. The noise reduction suppression level is variable in 16 steps to adjust the balance between the S/N ratio and clarity.

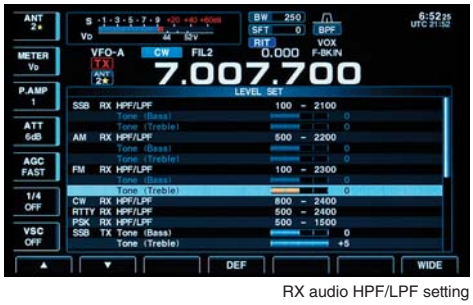
Digital voice recorder

The digital voice recorder (DVR) is a convenient function for contests, DX-peditions, portable operation and even regular operation. Record your callsign, CQ, or other station information into a memory. Easy-to-access independent “Record (REC)” and “Play” buttons are on the front panel.

Digital voice memory (Record and Play buttons)

RX audio HPF/LPF setting

The IC-7700 has a separate RX HPF/LPF setting for each mode. The high-pass filter and low-pass filter are adjustable for each mode.



RX audio HPF/LPF setting

S/P DIF interface

The IC-7700 has the S/P DIF optical digital interface for audio output and modulation input. By connecting an external digital device* through a connecting cable, flexible audio tuning is possible, while keeping good sound quality.

* Third party connecting cable, PC with sound card supporting S/P DIF, and software are required.

S/P DIF optical interface (Input/Output)

SSB data mode

When you narrow the IF filter passband to 500Hz or less in SSB mode or SSB-data mode operation, the IC-7700 automatically selects special band pass filters (BPF). The BPF has a very sharp edge like a CW filter for better rejection of interfering signals. Along with the BPF setting, the IC-7700 has a 1/4-tuning step function for easier tuning operation.

Firmware upgrade for maintaining the best performance

Icom will always provide the latest firmware for keeping the radio up to date. Just download the latest firmware from the Icom web site whenever a new version has been uploaded, and update your IC-7700 via the USB memory.
Please check;
http://www.icom.co.jp/world/support/download/firm/index.html

Transmit

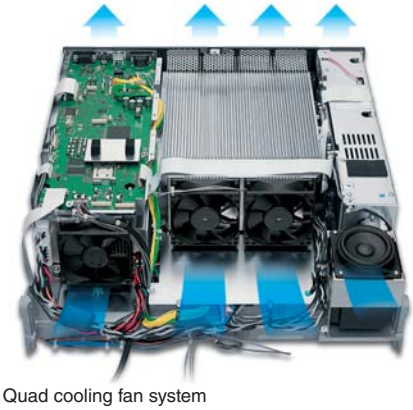
The IC-7700 has a tough, reliable transmitter generating stable output power even during high duty cycle operation. The IC-7700 creates pure waveforms and excellent sound quality by using the DSP unit.

Toughness, Reliability and Clean Signal

200W output power at full duty cycle, full power operation

The IC-7700 uses a STAC2942 power amplifier in push-pull configuration. The power amplifier provides a reliable 200W of output power up to 54MHz. The effective quad cooling fan system makes it possible to generate 200W full power output even during full duty cycle operation.
The digital PSN modulator using a DSP unit consistently reproduces an outstanding signal-to-noise ratio, providing clean and clear transmission. The PA amplifier uses a 48V DC supply to provide output power with low IMD on all bands.

PA unit and large heat sink



Quad cooling fan system

Microphone equalizer and adjustable transmit bandwidth

The built-in audio equalizer has separate bass and treble adjustments for a total of 121 combinations, so you can adjust the tonal quality of your voice as your want. In addition, the transmit bandwidth is selectable from 100, 200, 300, 500Hz at the low-pass edge, and 2500, 2700, 2800, 2900Hz at the high-pass edge, respectively. Three types of high and low combinations can be stored in the memory as favorite settings. With this flexibility of DSP-based waveform shaping, transmit audio quality is adjustable to your preference.

High speed automatic antenna tuner covering HF to 50MHz band

The high speed automatic antenna tuner automatically performs tuning operations and memorizes the setting in 100kHz steps. Once the tuner memorizes the setting depending on frequency, the tuner recalls the setting and matches the antenna instantly. In addition, high-voltage parts allow you reliable, continuous 200W operation even at high duty cycles.

High-speed antenna tuner

Memory keyer

The IC-7700's memory keyer has 4 channels with 55 characters for CW, 8 channels with 70 characters for RTTY and 8 channels with 70 characters for PSK31 operation. The memory keyer is convenient for programming station information, calling CQ and call sign for a DX-pedition or contest. Also, the CW memory keyer has other time saving functions such as automatic repeat, serial contest number auto-counter, and Morse cut number functions.

Memory keyer setting screen

Other Features

Other outstanding features

[Antenna line]
- BNC type RX IN/OUT connectors for receiver antenna or external attenuator

[Receiver]
- General coverage receiver covers from 30kHz to 60MHz
  (* Some frequency bands are not guaranteed, depending on version)
- 4-step attenuator (6/12/18dB and OFF)
- Twin peak audio filter for RTTY operation

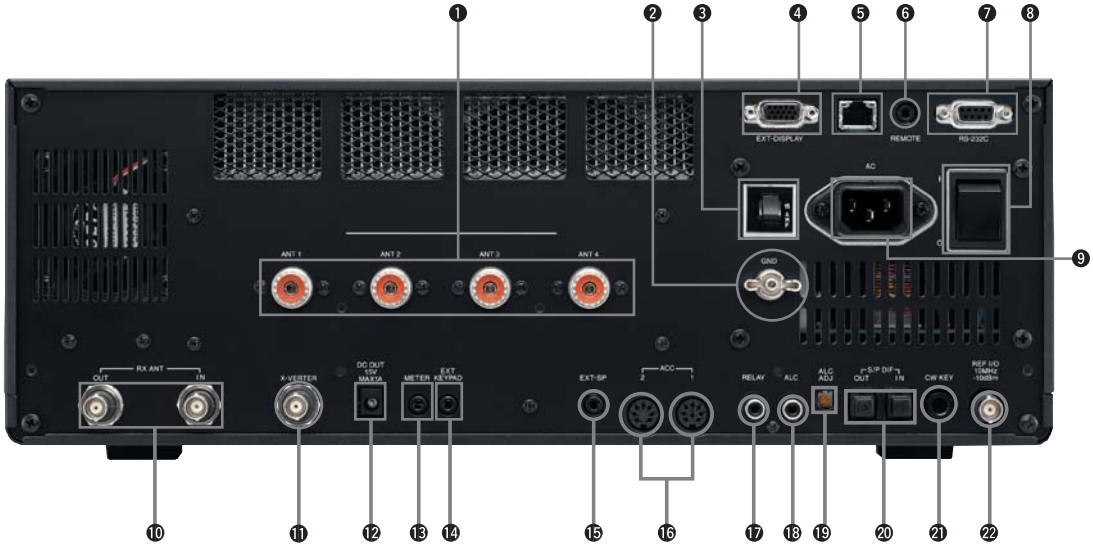
[Transmitter]
- Low distortion RF speech compressor • Tx monitor
- 50 CTCSS tone encoder and decoder • All mode power control
- VOX capability (Voice operated transmission)

[CW]
- Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity and bug key function
- DSP controlled CW keying waveform shaping
- Frequency lock function for split operation
- The normal (default) CW carrier point is selectable from USB and LSB
- APF (audio peak filter) function with soft/sharp filter shape
- Double key jack system • Full break-in function
- CW pitch control from 300 to 900Hz • CW/AM auto tuning function

[Operation]
- Set mode function for flexible and speedy setting
- Memory pad stores up to 10 (or 5) operating frequencies
- Quick split function enables split operation with a single action
- SSB/CW synchronous tuning
- Single knob control from squelch volume to RF gain
- RIT and ⊿Tx variable up to ±9.999kHz
- Quick RIT/⊿TX clear function
- UTC/Local Clock and timer function
- 1Hz pitch tuning and 1Hz indication
- 101 memory channels with 10-character comment
- Built-in voice synthesizer announces operating frequency, mode and receiving signal strength
- Programmed scan, memory scan, select memory scan, VSC scan and ⊿F scan
- Auto tuning step function • Band edge beep
- Main dial tension control and dial lock
- CI-V interface capability and RS-232C connector for PC connection
- BNC type Transverter connector
- Triple band stacking register
- FFT scope wave averaging function
- Screen saver function

Rear Panel View

❶ **Antenna Connectors**
❷ **Ground Terminal**
❸ **Breaker Switch**
❹ **External Display Connector (D-SUB 15-pin, VGA)**
❺ **Ethernet Connector**
❻ **CI-V Remote Control Jack**
❼ **RS-232C Connector**
❽ **Main Switch**
❾ **AC Power Cord Receptacle**
❿ **Receive Antenna Connector**
⓫ **Transverter Jack**
⓬ **External DC Output Jack**
⓭ **S-meter Output Jack**
⓮ **External Memory Keypad Jack**
⓯ **External Speaker Jack**
⓰ **ACC Sockets A/B**
⓱ **Tx/Rx Control Jack (Relay)**
⓲ **ALC Input Jack**
⓳ **ALC Level Pot**
⓴ **S/P DIF In/Out Jacks**
㉑ **Key Jack**
㉒ **Reference Frequency In/Out Jack**



IC-7700

SPECIFICATIONS

GENERAL

- Frequency coverage*1 :
  U.S.A. Version
  Rx 0.030– 60.000MHz*2
  Tx 1.800– 1.999MHz 3.500– 3.999MHz
  5.255– 5.405MHz*2 7.000– 7.300MHz
  10.100– 10.150MHz 14.000–14.350MHz
  18.068– 18.168MHz 21.000– 21.450MHz
  24.890– 24.990MHz 28.000–29.700MHz
  50.000– 54.000MHz
  Europe, UK Version
  Rx 0.030– 60.000MHz*2
  Tx 1.810– 1.999MHz 3.500– 3.800MHz
  7.000– 7.100MHz (Europe version)
  7.000– 7.200MHz (UK version)
  10.100– 10.150MHz 14.000–14.350MHz
  18.068– 18.168MHz 21.000– 21.450MHz
  24.890– 24.990MHz 28.000–29.700MHz
  50.000– 52.000MHz
  *1 Frequency ranges vary depending on version.
  *2 Some frequency ranges are not guaranteed.
- Mode : USB, LSB, CW, RTTY, PSK31, AM, FM
- Number of channels : 101 (99 regular, 2 scan edges)
- Antenna impedance : 50Ω unbalanced (Tuner off)
- Antenna connector : SO-239×4 and BNC×1
- Power supply requirement: 85–265V AC
- 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)
- Frequency resolution : 1Hz (minimum)
- Power consumption : Tx Max. power 800VA
  Rx Stand-by 200VA (typ.)
  Max. audio 210VA (typ.)
- Dimensions (W×H×D) : 425×149×437 mm;
  (projections not included) 16.73×5.87×17.2 in
- Weight (approx.) : 22.5kg; 49.6lb

TRANSMITTER

- Output power (continuously adjustable) :
  SSB, CW, RTTY, PSK31, FM 5–200W
  AM 5–50W
- Modulation system :
  SSB DPSN modulation
  AM Digital low power modulation
  FM Digital phase modulation
- Spurious emission (U.S.A. Version) :
  Harmonics More than 60dB (HF bands)
  More than 70dB (50MHz band)
  Unwanted emissions More than 50dB (HF bands)
  (Except harmonics) More than 66dB (50MHz band)
- Carrier suppression : More than 63dB
- Unwanted sideband suppression:
  More than 80dB
- ⊿TX variable range : ±9.999kHz
- Microphone impedance : 600Ω (8-pin connector)

RECEIVER

- Receive system : Double conversion
  super-heterodyne system
- Intermediate frequencies :
  1st 64.455MHz
  2nd 36kHz
- Sensitivity (typical) :
  SSB, CW, RTTY (BW: 2.4kHz at 10dB S/N)
  0.1–1.799MHz 0.5μV (Pre-amp 1 ON)
  1.8–29.999MHz 0.16μV (Pre-amp 1 ON)
  50.0–54.0MHz 0.13μV (Pre-amp 2 ON)
  AM (BW: 6kHz at 10dB S/N)
  0.1–1.799MHz 6.3μV (Pre-amp 1 ON)
  1.8–29.999MHz 2μV (Pre-amp 1 ON)
  50.0–54.0MHz 1μV (Pre-amp 2 ON)
  FM (BW: 15kHz at 12dB SINAD)
  28–29.990MHz 0.5μV (Pre-amp 1 ON)
  50.0–54.0MHz 0.32μV (Pre-amp 2 ON)
- Squelch sensitivity (Pre-amp: OFF):
  SSB, CW, RTTY, PSK31 Less than 5.6μV
  FM Less than 1μV
- Selectivity (representative value):
  SSB, RTTY More than 2.4kHz/–3dB
  (BW: 2.4kHz) 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
- Spurious and image rejection ratio : More than 70dB
- Audio output power : More than 2.6W at 10% distortion with an 8Ω load
- RIT variable range : ±9.999kHz
- PHONES connector : 3-conductor 6.35 (d) mm (1/4″)
- EXT SP connector : 2-conductor 3.5 (d) mm (1/8″) /8Ω

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

The LCD display may have cosmetic imperfections that appear as small or dark spots. This is not a malfunction or defect, but a normal characteristic of LCD displays.

OPTIONS

IC-PW1/EURO HF+50MHz 1kW LINEAR AMPLIFIER
Covers all HF and 50MHz bands, provides clean, stable 1kW output. Automatic antenna tuner and compact detachable controller are standard. 2 exciter inputs and 4 antenna connectors are available.

SP-33 EXTERNAL SPEAKER
Have a flat frequency response. Style and size are matched to the IC-7700.
Input impedance: 8Ω
Max. power: 5W

SM-50 DESKTOP MICROPHONE
Dynamic microphone. Includes [UP/DOWN] switches and a low cut function.

SM-30 DESKTOP MICROPHONE
Compact, lightweight electret microphone.

HM-36 HAND MICROPHONE
Hand microphone with [UP/DOWN] switches.

CT-17 CI-V LEVEL CONVERTER
For remote transceiver control in the remote jack using a PC equipped with an RS-232C port.

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