



2016 Edition

HAM RADIO PRODUCTS



Mobile
Transceivers



Multi-Band
Transceivers



Handheld
Transceivers



Base Station
Transceivers

RMDR (Reciprocal Mixing Dynamic Range) of 110 dB*

High-speed, High-resolution Spectrum Waterfall Scope

Crystal Clean, High-purity Local Oscillator

Dual Scope for Watching Both Receivers Separately

1.2 kHz Optimum Roofing Filter Greatly Improves In-band Adjacent Signal Performance

Audio Scope and Oscilloscope for Watching Receive and Transmit Audio

* At a 1kHz offset frequency. Receiving frequency: 14.2 MHz Mode: CW, IF BW: 500 Hz, Roofing Filter: 1.2 kHz

Experience in video

http://www.icom.co.jp/r/ic-7851_me/



HF/50MHz TRANSCEIVER IC-7851

RMDR: 110dB Raising the Bar

Design advances developed by the Icom HF engineers for the Local Oscillator (LO) enable the IC-7851 to set a new benchmark for amateur radio receivers. The goal was to dramatically reduce the phase noise that degrades the target signal due to the sum of the entire signal present. The result was a RMDR of 110dB*. Below is a comparison of the improvement over the IC-7800.

* At a 1kHz offset frequency

Receiving frequency: 14.2 MHz Mode: CW, IF BW: 500 Hz
Roofing Filter IC-7800 = 3 kHz, IC-7851 = 1.2 kHz

RMDR Comparison

	RMDR(dB)			
	1kHz	2kHz	10kHz	20kHz
IC-7851	110	116	121	124
IC-7800	78	87	106	112

RMDR

RMDR (Reciprocal Mixing Dynamic Range) is the relative level of an undesired signal, offset "n" kHz from the RX passband, which will raise noise floor by 3 dB. The local oscillator phase noise will mix with strong unwanted signals and unavoidably generate noise which masks a wanted signal.

1.2kHz Optimum Roofing Filter

Despite the trend to switch to a down conversion or a hybrid conversion receive design, Icom believes in the solid performance of the up-conversion design. The IC-7851 introduces a new 1.2kHz Optimum Roofing Filter, greatly improving the in-band adjacent signal performance. This newly developed filter overcomes the gap of a narrower roofing filter in an up-conversion receiver.



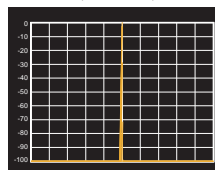
Optimum Roofing Filter

Crystal Clear LO Design

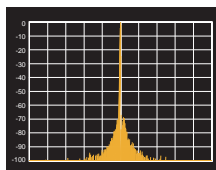
Breaking the boundaries of traditional designs, the IC-7851 employs a Direct Digital Synthesizer (DDS) along with a Phase Locked Oscillator for the LO (Local Oscillator). The C/N ratio excels beyond the IC-7800 and other similar class HF transceivers. This design significantly reduces noise components in both receive and transmit signals.

LO C/N Characteristics Comparisons

Receiving Frequency: 14.2 MHz Mode: CW 1st LO frequency: 78.655 MHz
SPAN = 20 kHz, RBW = 30 Hz, VBW = 10 Hz



IC-7851



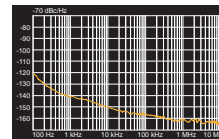
IC-7800

Improved Phase Noise Characteristics

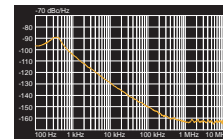
Phase noise is coherent in radio circuit design and the new LO design introduced in the IC-7851 makes some major breakthroughs while utilizing the 64MHz, up-conversion receiver design introduced in the IC-7800. An impressive 20dB improvement is seen with the IC-7851's 10 kHz measurement and more than 30dB improvement at a 1 kHz measurement in comparison to the IC-7800.

Phase Noise Characteristics Comparisons

Receiving Frequency: 14.2 MHz Mode: CW 1st LO frequency: 78.655 MHz



IC-7851



IC-7800

Improved Spectrum Scope

Following the design lineage of the IC-7800, the IC-7851 uses a dedicated DSP unit for the Fast Fourier Transform (FFT) spectrum. The 2250 MFLOPS DSP processor enables a new dual scope function and significantly faster sweep speeds and better accuracy than in the IC-7800.

Scope Comparison

	IC-7851	IC-7800
Span Width	5kHz-1000kHz	5kHz-500kHz
Resolution **	1 pixel minimum **	20 pixels minimum **
Sweep Speed	29.3 frames/Sec **	4 frames/Sec **
Display Dynamic Range	100dB	80dB
Noise Floor Level	-30dBμ	-19dBμ

** Number of dots shown at the 60 dB level, when receiving a signal.

** SPAN = More than 20 kHz, SPEED = Slow

** SPAN = Less than 20 kHz, SPEED = Fast

** SPAN = 500 kHz, SPEED = Slow

Base Station Transceivers



+40dBm IP3 (3rd Order Intercept Point)

The IC-7851 continues the +40dBm, 3rd order intercept point and 110dB receiver dynamic range benchmark set by the IC-7800. To achieve this superb receiver performance, the entire analog circuitry and components have been re-engineered to match the DSP units. A newly designed LO amplifier generates high output while keeping flat frequency characteristics over a 60MHz wide range.

Dual Spectrum Scope with Waterfall Function

The IC-7851 introduces the new dual scope – the ability of watching both receivers in separate spectrum scopes. The dual scope function is vital for watching for multipliers or band openings in contests, or working all bands/modes on a DXpedition. The waterfall display captures signal strengths over time. This allows you to see signals that may not be apparent on a normal scope.



Dual scope example (Horizontally aligned)

Full Duty 200W Output Power

The push-pull power amplifiers using power MOS-FETs work on 48V DC. They provide a powerful 200W output power at full duty cycle. An effective cooling system maintains internal temperatures within a safe range and prevents thermal runaway.

Digital IF Filter

Icom's digital IF filters give you performance that is not possible with crystal or mechanical filters. They allow the operator to adjust filter shape (sharp or soft), filter bandwidth, and center frequency characteristics, without missing the action.

Other Outstanding Features

[Antenna and receiver] • Two completely independent receivers • 15kHz, 6kHz, 3kHz and 1.2kHz four 1st IF Roofing filters • Four antenna connectors with automatic antenna

selector • Automatic antenna tuner • 50MHz special preamp and mixer circuit • Digital manual notch • Digital twin PBT eliminates interference from adjacent signals • New auto digital noise blanker • ± 0.05 ppm High Stability OCOXO Unit

[CW mode] • DSP-controlled CW keying waveform shaping • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • Audio Peak Filter selection (soft/sharp)

[Operation] • High-quality digital voice recorder memory • Built-in RTTY, PSK31 and PSK63 without the use of a computer • Message memory for CW, RTTY and PSK31/63 • Digital video interface (DVI-I) • SD memory card slot • Audio scope function • Click control spectrum scope • AGC control • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Screen saver function



+40dBm Third-order Intercept Point (in the HF Bands)

2nd Order Intercept Point Higher than +110dBm

Excellent Inband IMD Specifications

Three Hi-spec 1st IF Filters (Roofing Filters)

Spectrum Waterfall Display

Audio Scope Function

200W Output Power and High-stability Transmitter

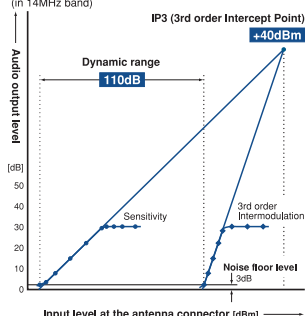


HF/50MHz TRANSCEIVER IC-7700

+40dBm IP3 (3rd order Intercept Point) and 110dB Dynamic Range

The IC-7700 employs mechanical relay BPF switching, a digitally tuned pre-selector, and three hi-spec 1st IF filters (roofing filters) 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 110dB, and +40dBm IP3 (even in USB mode with 2.4kHz filter bandwidth).

Dynamic range characteristics
(in 14MHz band)



DIGI-SEL unit



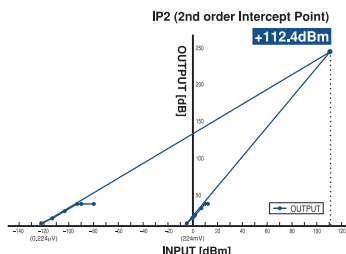
BPF unit

More than +110dBm IP2 (2nd order Intercept Point)

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

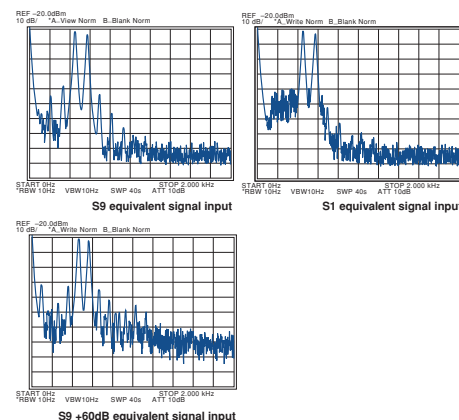
* The IP2 figure is a typical value.

** Measurements were made using custom equipment, due to the limits of normal signal generators (SG) and duplexers to +85dBm.



High Specification Inband IMD

Inband 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.



Three Hi-spec 1st IF Filters (Roofing Filters)

Now a proven formula, the IC-7700 employs custom three hi-spec 1st IF filters (roofing filters) to achieve approximately 134dB*1 of blocking dynamic range.

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



Hi-spec 1st IF filters (Roofing filters)

USB Connectors on the Front Panel

Two USB connectors on the front panel allows you to easily connect a USB keyboard or USB flash drive to save transceiver settings, update firmware, or transfer settings to another IC-7700.

Base Station Transceivers



Other Outstanding Features

[Antenna and receiver] • 4 antenna connectors with automatic antenna selector • BNC type RX IN/OUT connectors • Automatic antenna tuner • Preamp for 50MHz band • 3-step manual notch filter • Digital twin PBT eliminates interference from adjacent signals • 16-step noise reduction

[CW mode] • DSP-controlled CW keying waveform shaping • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp) • Double key jack system

[Operation] • Two AGC loops • 7-inch wide color TFT LCD • Real-time spectrum scope • Built-in power supply • High quality digital voice memory • Message memory for CW, RTTY and PSK31 • Built-in RTTY and PSK31 modulator and demodulator • Twin peak audio filter for RTTY operation • Triple band stacking register • 101 memory channels • AGC control for fine tuning of the AGC time constant • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Screen saver function

Firmware Upgrade Functions

Spectrum Waterfall Display

Review RF and AF characteristics on the

IC-7700's impressive 7-inch color LCD. Includes a wide screen setting.



Spectrum scope with waterfall (wide screen setting)

PC Mouse Operation

Connect a mouse via USB to select operating frequency and control the spectrum scope.

Audio Scope Function

Review the FFT scope with waterfall and oscilloscope. In CW mode, observe mic compressor level and other attributes.



Mini spectrum scope and audio scope

Simplified Remote Control Operation

Connect directly to an IP network using Icom's optional RS-BA1 software and the IC-7700's internal base station function.

Digital Voice Recorder

Automatically capture incoming/outgoing calls onto an external memory card or flash drive.

Other New or Enhanced Functions

- Waveform outline in spectrum scope (ON/OFF)
- Voice TX function transmits the recorded audio repeatedly
- Increase APF volume level up to 6dB (Adjustable by 1dB step)
- TX delay function sets the transmission timing to control a connected external linear amplifier
- Added RIT and ΔTX commands for CI-V remote control

Firmware Update Available (Free Download)
<http://www.icom.co.jp/world/support/index.html>





HF/50MHz TRANSCEIVER

IC-7600

+30dBm Third-order Intercept Point (IP3)

Improved Inband IMD

5.8 Inch Ultra-wide Viewing Angle TFT Display

Dual DSP for Transmitter/Receiver and Spectrum Scope

Two separate 32-bit DSP units power the transmitter/receiver and spectrum scope. These processors give the IC-7600 high performance comparable to our top-of-the-line IC-7700, thanks to the combination of dual DSP and our analog RF design expertise.



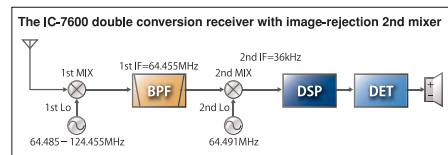
Dual DSP

104dB Dynamic Range and +30dBm IP3 (3rd order Intercept Point)

An astonishing 104dB receiver dynamic range and +30dBm IP3 in the 14MHz band without sacrificing receiver sensitivity is a standard specification befitting the IC-7600. Even a weak signal adjacent to strong signals is clearly received by the IC-7600.

Double Conversion Superheterodyne Improves Inband IMD

The IC-7600 employs a double conversion superheterodyne system which has an image rejection mixer for the 2nd mixer stage. The double conversion system dramatically reduces signal distortion and provides a high-linearity RF signal to the DSP processor.



5.8-inch Wide Viewing Angle TFT

The 5.8-inch ultra-wide viewing angle display has excellent color rendering and high contrast ratio with fast response time. These features provide accurate spectrum scope and simulated analog meters to move smoothly and naturally.

Spectrum Waterfall Display

The waterfall display captures signal strengths over time. This allows you to see signals that may not be apparent on a normal scope.

Three Built-in 1st IF (Roofing) Filters, Including 3kHz

The IC-7600 has three built-in 1st IF (roofing) filters ahead of the 1st IF amplifier stage. The 3kHz filter is especially effective in CW and SSB modes, eliminating overloading caused by strong signals just outside the passband.

PC Mouse Operation

By connecting a PC mouse to the USB port, you can control the spectrum scope and operating frequency with mouse operations.

Other Features

[Antenna and receiver] • Automatic antenna tuner • Two TX/RX plus RX antenna connectors • Digital twin PBT • Auto and manual notch filters • 16-step noise reduction • Dual watch

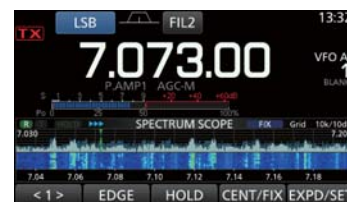
[Transmitter] • TX monitor function • VOX operation • All mode power control

[CW mode] • DSP-controlled CW keying waveform shaping • Adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp) • Double key jack system • Increase APF volume level up to 6dB (Adjustable by 1dB step)

[Operation] • Two AGC loops • USB connectors on the front and rear panels • RTTY/PSK31 operation with a USB keyboard • High quality digital voice memory • Message memory for CW, RTTY and PSK31 • 101 memory channels • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function • Programmable band edge beep • TX delay function sets the transmission timing to control a connected external linear amplifier • Added RIT, Δ TX, sub band and external antenna control commands for CI-V remote control • Wake up from standby mode via CI-V remote jack

Firmware Update Available (Free Download)
<http://www.icom.co.jp/world/support/index.html>

Base Station Transceivers



Spectrum scope + Waterfall



FFT scope/Oscilloscope



Touch screen interface

HF/50MHz TRANSCEIVER

IC-7300

Class Leading Real-time Spectrum Scope with Waterfall Function

RF Direct Sampling System

New "IP+" Function

Class Leading Real-time Spectrum Scope with Waterfall Function

The IC-7300's real-time spectrum scope is class-leading in resolution, sweep speed and dynamic range. While listening to received audio, you can check the real-time spectrum scope and quickly move to an intended signal.

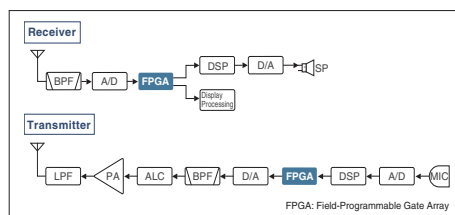
■ Real-time Spectrum Scope Specifications

	IC-7300
Scope system	FFT (Fast Fourier Transform)
Span width	5kHz~1000kHz
Resolution *	1 pixel minimum (approximately)
Sweep speed	Max. 30 frames/second (approximately)
Waveform display area (vertical axis)	80dB
Other functions	Waterfall function, Audio scope function

* Number of pixels shown at the 60dB level, when receiving a signal.

RF Direct Sampling System

The IC-7300 employs an RF direct sampling system. RF signals are directly converted to digital data and processed in the FPGA (Field-Programmable Gate Array), making it possible to simplify the circuit construction. This system is a leading technology making an epoch in amateur radio.



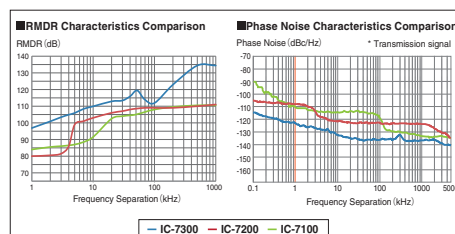
New "IP+" Function

The new "IP+" function improves 3rd order intercept point (IP3) performance. When a weak signal is received adjacent to strong interference, the AD converter is optimized against signal distortion.

Class Leading RMDR and Phase Noise Characteristics

The IC-7300's RMDR is improved to about 97dB* (typical value) and Phase Noise characteristics are improved about 15dB (at 1 kHz frequency separation) compared to the IC-7200. The superior Phase Noise characteristics reduce noise components in both receive and transmit signals.

* At 1 kHz frequency separation (received frequency: 14.2MHz, MODE: CW, IF BW: 500Hz)



15 Discrete Band-pass Filters

The IC-7300 has 15 discrete RF bandpass filters. The RF signal is only passed through one of the bandpass filters, while any out of range signals are rejected. High Q factor coils are used to minimize the loss in the RF band-pass filters.

Superior Signal Quality

The RF direct sampling system is naturally superior at signal linearity and noise immunity by digitally processing the signal from RF to AF. Mathematical frequency conversions within the FPGA drastically improve the signal purity. Thanks to these features, though it is a compact radio, the IC-7300 enjoys exceptionally clear and rich sound which normally can only be expected for a higher class radio.

Large Touch Screen Color TFT LCD

The large 4.3 inch color TFT touch LCD offers intuitive operation. Using the software keypad of the touch screen, you can easily set various functions and edit memory contents.

Other Features

- Built-in automatic antenna tuner
- Multi-dial knob for smooth operation
- SD memory card slot for saving data
- New incorporated speaker unit
- New HM-219 hand microphone supplied
- A large and effective cooling fan system
- A multi-function meter
- 101 memory channels (99 regular, 2 scan edges)
- Optional RS-BA1 IP remote control software (the spectrum scope with the waterfall can be observed)
- CW functions: Full break-in, CW reverse, CW auto tuning

Base Station Transceivers



HF/50MHz TRANSCEIVER IC-7410

**Faster DSP Unit and
In-house DSP Expertise**

Dual-conversion Superheterodyne

**+30dBm Class Third-order
Intercept Point (IP3)**

Faster DSP Unit and In-house DSP Expertise

Icom brings out the best DSP performance, combining more than ten years of DSP tech-

nical know-how and much faster DSP processors. Icom's in-house DSP experts have developed a IC-746PRO series replacement that every operator will be proud to own. In addition to the higher speed DSP, the AD/DA converter, AK4620, provides a higher dynamic range and superior S/N ratio.



<DSP unit> ADSP-21369
Internal clock speed: 333MHz
32-bit floating point DSP
Max. performance: 2000MFLOPS



AD/DA converter
ADC Signal/(Noise+Distortion): 10dB
ADC Dynamic range, S/N: 133dB
DAC Signal/(Noise+Distortion): 97dB
DAC Dynamic range, S/N: 115dB

Double-conversion Superheterodyne

Introduced with our top-of-the-line transceiver, a double-conversion superheterodyne design

with an image rejection mixer for the 2nd mixer stage is employed in the IC-7410. This receiver design not only reduces the electronic complexity, it greatly reduces the number of internal distortion points from older triple and quadruple conversion receivers.

+30dBm Class Third-order Intercept Point (IP3)

In Icom's continuing efforts to create the best receiver, the design of the IC-7410 incorporates the latest in DSP software technology and Icom's analog RF circuit experience for a +30dBm* (typ.) IP3. The end result, clear reception of weak signals surrounded by QRM from broadcast and neighboring ham stations.

* Typical in 14MHz band. Spacing=100 kHz

Other Features

- Three first IF filters (3/6/15kHz)
- Digital twin PBT
- AGC loop management with programmable AGC time constant
- Auto/manual notch filter provide more than 70dB attenuation
- Noise reduction
- RF speech compressor
- User programmable tone control
- Built-in voice synthesizer
- User programmable band edge beep
- VSC (Voice Squelch Control) function
- Two preamplifier types: Preamp 1: Improving IMD characteristics, Preamp 2: High gain preamplifier
- 20dB built-in attenuator
- Built-in automatic antenna tuner
- CTCSS tone encoder and decoder



HF TRANSCEIVER IC-718



**Simple, Straightforward Operation
with Keypad**

Front Mount Loud Speaker

Optional DSP Capability, UT-106

Simple, Straightforward Operation with Keypad

The IC-718 is equipped with a minimum number of buttons and controls for simple feature selection. The 10-key pad on the front panel allows direct entry of an operating frequency or a memory channel number. The auto tuning step function is activated when turning the dial quickly and helps speed up tuning. The band stacking register is convenient when changing operating bands.

Front Mount Loud Speaker

The IC-718 has the speaker mounted on the front panel. With the speaker facing the oper-

ator, audio will be heard clearly and directly while operating.

Optional DSP Capability, UT-106

The optional DSP unit* gives you noise reduction and auto notch filter functions for extra receiver performance.

* Already built-in to USA version.



Optional UT-106

General Coverage Receiver

The IC-718 has 0.03-29.999999MHz* general coverage receive capability.

* Guaranteed range: 0.5-29.99999 MHz

Other Features

- Front mounted loud speaker
- General coverage receiver
- Built-in electronic keyer
- Built-in microphone compressor
- Combined squelch and RF gain control
- Preamplifier and attenuator
- 101 memory channels
- CW full break-in
- IF shift interference rejection
- 1Hz tuning
- VOX function for hands-free operation
- Optional automatic antenna tuner
- Digital S/R/F meter



HF/VHF/UHF TRANSCEIVER IC-7100

Intuitive Touch Screen Interface

Controls at Your Fingertips
with an Angled Display

HF, 50/144/440MHz Multi-band

Intuitive Touch Screen Interface

The innovative touch screen interface provides quick and smooth operation for setting and editing various functions and memories.

One Touch Selection

For example, if you want to change the operating band, tap the frequency on the display. The band keys will be shown to select the operating band. Touching the multi-function meter indicator for 1 second will quickly change the transmit meter functions.



Straightforward Operation

Just tap the mode, filter, function etc., you need to change. The touch screen responds naturally changing your settings.

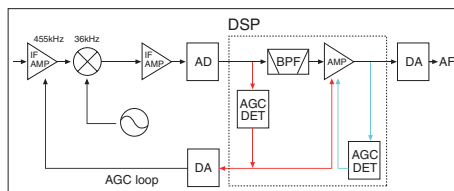


HF, 50/144/440MHz Multi-band

The IC-7100 fully covers the HF, 50, 144, 430/440 MHz amateur bands in multiple modes, providing 100W on HF/50MHz bands, 50W on 144MHz band and 35W on 430/440MHz band.

Digital Features Controlled by the IF DSP

A high-performance 32-bit floating point IF DSP delivers rich digital signal processing features, including digital IF filter, digital twin PBT, noise reduction, CW auto tune, etc. Those digital features work on all bands from HF to V/UHF bands.



AGC function loop

Built-in RTTY Functions

The built-in RTTY decoder allows you to instantly read an RTTY message on the display. Your RTTY operating log, both TX and RX, is recorded on an SD card. The eight RTTY memories can memorize and transmit often used RTTY sentences.

D-STAR DV Mode (Digital Voice + Data)

The IC-7100 provides D-STAR DV mode digital voice and low-speed data communication.

IDR (D-STAR Repeater) Function Operation

The DR function operation makes the D-STAR operation simple and straightforward, even if you are new to D-STAR operation.

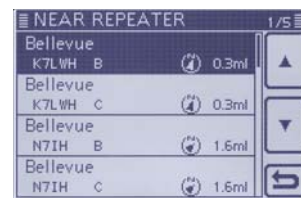
Repeater Search Function

With an external GPS receiver*, this function searches the nearby D-STAR repeaters from the internal database based on your location.

* External GPS receiver or manual position data input required.



DR (D-STAR Repeater) mode operation



Near repeater function



SD memory card slot for saving data

Controller Mounted Speaker and Jacks

The unique remote head design is perfect for providing loud, clear audio as well as jacks for an external speaker/headphones, key and microphone.

Controller Rear Panel View



SD Memory Card Slot for Saving Data

When used with an SD card, the SD card can store various contents including voice memory, memory channels, D-STAR repeater memories and other personal settings can be saved to the SD card and can be loaded to the transceiver.

Other Features

- DSP controlled AGC function loop
- Easy vehicle mounting with optional MBF-1
- RS-MS1A remote control software for an Android™ device (Send and receive pictures)
- Optional RS-BA1 IP remote control software
- Full break-in, CW receive reverse, Auto tuning
- Optional multi-function microphone, HM-151
- Band scope and SWR graphic display
- RF speech compressor controlled by the DSP
- Voice memory function
- Multi-function meter
- 495 regular, 4 call, 6 scan edge and 900 DR mode repeater channels
- 4 channels TX voice memories
- ± 0.5 ppm frequency stability
- Auto reply function*
- Digital callsign squelch (DSQL) and digital code squelch (CSQL)*
- 12.5kHz IF output for DRM (Digital Radio Mondiale) receive
- * D-STAR DV mode only

Firmware Update Available (Free Download)
<http://www.icom.co.jp/world/support/index.html>



HF/VHF/UHF TRANSCEIVER

IC-9100

**HF to 1200MHz Multi-band,
Dual Independent Receiver**

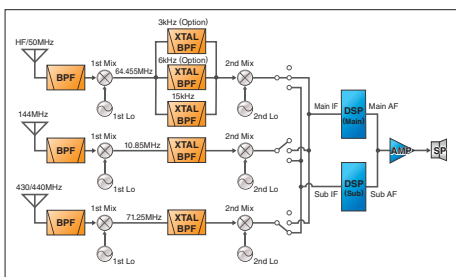
**+30dBm Class Third-order
Intercept Point (IP3)**

Satellite Mode Operation

HF to 1200MHz Multi-band, Dual Independent Receiver

The IC-9100 covers 100W on HF, 50MHz and 144MHz, 75W on 430/440MHz bands and 10W on the 1200MHz band.* The radio has 3 independent receiver circuits from the antenna connector to the second IF mixer (image rejection mixer) and simultaneously receives two different bands (1. HF/50MHz + 144/430/440/ 1200MHz, 2. 144MHz + 430/440/ 1200MHz, 3. 430/440MHz + 1200MHz) at a time.

* Optional UX-9100 1200MHz band unit required.



+30dBm Class IP3

Using receiver design techniques introduced in Icom's highest grade HF transceivers, the IC-9100 has an IP3 of +30dBm* in the HF band. Even a weak signal adjacent to strong signals is clearly received by the IC-9100.

* Typical in 14MHz band. Spacing=100kHz

Satellite Mode Operation

The IC-9100 has a top class receiver performance in the VHF/UHF bands, indispensable for obtaining weak signals in the satellite communication. The satellite mode synchronizes the uplink (transmitting) and downlink (receiving) frequencies, and tracks the frequencies in the same tuning step. 20 satellite memory channels store frequencies, mode and tone settings for quick setup.

Optional 1200MHz Band Unit

By installing the optional UX-9100 1200MHz band unit, the IC-9100 extends the coverage to the 1200MHz band. You can also enjoy L/V or L/U mode satellite operation.



UX-9100, 1200MHz band unit

Optional D-STAR DV Mode

The optional UT-121 provides D-STAR DV mode digital voice and low speed data communication. Linking of D-STAR repeaters over



▲Optional UT-121

the Internet allows you to communicate virtually anywhere. The D-STAR repeater (DR) function makes it easy to access D-STAR repeaters.

Three First IF Filters (3/6/15kHz) for HF/50MHz Band

The IC-9100 comes with a built-in 15kHz 1st IF filter and can accept up to two optional filters (3kHz FL-431 and 6kHz FL-430). By changing the first IF filter width according to the operating mode, the desired is protected from adjacent inband signals at the later stages for better receiver performance.



1st IF filters (6kHz, 3kHz)

USB Connector for PC Control

The IC-9100 has a standard type B USB connector and can be connected to a PC. Modulation input, audio output, RTTY demodulator output and CI-V command can be controlled via the USB cable.

Other Features

- 32-bit DSP and double conversion superhetrodyne system
- AGC loop management
- Digital IF filter
- Digital twin PBT and IF shift
- Noise reduction
- Noise blanker
- RF speech compressor
- Adjustable transmit bandwidth
- RTTY demodulator and decoder
- Ample CW functions
- Built-in antenna tuner for HF/50MHz band
- Digital notch filter
- Large, multi-function LCD
- Optional CS-9100 programming software
- Optional RS-BA1 IP remote control software

D-STAR

Handheld Transceivers



Colorful, fun! Color Special Edition



Special supplied accessories*

- Matched color carrying case
- LCD protection film
- * Only for color special edition.



VHF/UHF DUAL BAND DIGITAL TRANSCEIVER

ID-51A PLUS

V/V, U/U, V/U Dualwatch

Independent AM/FM Receiver

Integrated GPS Receiver

Lightweight & Compact Body

The ID-51A PLUS has a compact 58 × 105.4 × 26.4 mm body, and weighs only 255g (approx.) with battery pack and antenna. In this slim body, the ID-51A PLUS contains 5W output power, VHF/UHF dual band, D-STAR and integrated GPS receiver.



V/V, U/U, V/U Dualwatch

The dualwatch function monitors VHF/VHF, UHF/UHF and VHF/UHF bands simultaneously.* The audio and squelch levels can be set separately for the main and sub-bands. *DV/DV, AM/AM, FM-N/FM-N and DV/FM-N modes dualwatch not available.

Integrated GPS Receiver

The integrated GPS receiver provides fast start-up time and accurate position. Your current position and altitude are shown on the display and offers a position reporting function in DV mode. The GPS-A mode assists in easy D-PRS operation.



GPS receiver transparent image

DV Fast Data Mode*

By using data in place of voice frames, the ID-51A PLUS transfers data 3.5 times faster (3480 bps) than in the conventional DV mode (with voice). Pictures taken by an Android™ device can be quickly transmitted in the DV Fast Data mode.

* The DV Fast Data mode is not compatible with the DV mode low-speed data communication.

DV/FM Repeater Search Function

The repeater search function searches for nearby analog FM repeaters as well as DV repeaters using the repeater memories and the integrated GPS*.

* To use the repeater search function, the position data of the repeater is required.



Repeater list example

Independent AM/FM Receiver

FM and AM broadcast and VHF airband stations can be listened to while using the dualwatch function to monitor the ham bands.



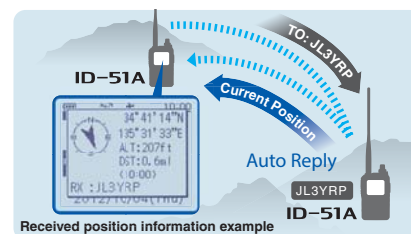
AM + dualwatch receive

microSD Card Slot

When used with a microSD card (Up to 32GB), various contents including voice memory, DV auto reply message, TX voice message, QSO log, RX history log and GPS log data can be stored. The microSD card can also be used to update firmware and edit memories.

Automatic Reply Function (DV Mode)

When receiving a call addressed to your call-sign, the ID-51A PLUS can automatically reply your current position information*. Between ID-51A PLUS's communication, replied position information can pop up on the caller's display. *Function not available on all D-STAR networks.



IPX7 Waterproof Construction

The ID-51A PLUS has superior IPX7 waterproof protection (1m depth of water for 30 minutes). It can be used in harsh outdoor environments, or when hiking, mountain biking, touring and doing mountain sports.



RS-MS1A Remote Control Software (Free download Android™ application from Google Play™)

The RS-MS1A allows you connect to the ID-51A and remotely set DR functions, link with a map application and send/receive messages over the DV mode.

* Optional OPC-2350LU USB cable is required.

Other Features

- 5W output power
- 3 hours rapid charging with supplied wall charger (BP-271)
- Long lasting battery pack
- CS-51 PLUS cloning software supplied
- Dplus Reflector link commands

D-STAR Repeaters



ID-RP2C
Repeater controller



ID-RP2D
1.2GHz DD mode module



ID-RP2V
1.2GHz DV mode module



ID-RP2000V
144MHz DV mode module



ID-RP4000V
430/440MHz DV mode module



RS-RP2C
Internet gateway software



VHF/UHF DUAL BAND DIGITAL TRANSCEIVER

ID-5100A

Intuitive Touch Screen Operation

DV/DV Dualwatch

Integrated GPS Receiver

Intuitive Touch Screen Operation

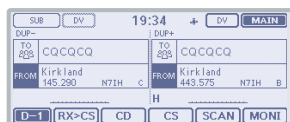
The intuitive touch screen interface provides quick and smooth operation. The large 5.5 inch display (320 × 128 pixels) responds naturally to the touch – allowing you to change settings, enter frequencies and edit memory channels with ease.



Vehicle installation example
(Using optional MBF-1 mount base and MBA-2 controller bracket)

DV/DV Dualwatch

The ID-5100A can receive both FM/FM and FM/DV mode signals simultaneously. Two DV mode signals can be monitored for receive on either channel. You can check other repeaters or other channel activities while waiting for the main repeater.

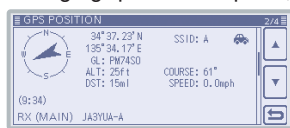


DV/DV dualwatch (DR function) example

* Main band audio has priority if two DV signals come in at the same time.

Integrated GPS Receiver

The ID-5100A has an integrated GPS receiver in the controller and shows own position, course, speed and altitude on the display. The GPS position information can be used for exchanging position reports, tracing the GPS log and searching for nearby repeaters.



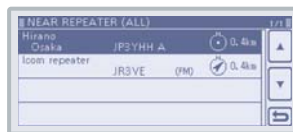
Received position information example



DV/FM Repeater Search Function

The DV/FM repeater search function assists you in accessing nearby repeaters, even in areas you are visiting for the first time. The function searches for a nearby repeater using the repeater memories with the GPS position information.

* To use the repeater search function, the position data of the repeater is required.



Repeater list example

DV Fast Data Mode*

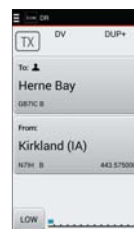
By using data in place of voice frames, the ID-5100A can transfer data 3.5 times faster (3480 bps) than in the conventional DV mode (with voice).
* The DV Fast Data mode is not compatible with the DV mode low-speed data communication.

RS-MS1A Remote Control (Free Download Application from Google Play™)

The RS-MS1A allows you wirelessly connect to the ID-5100A and remotely set DR functions, link with a map application and send/receive messages over the DV mode. In addition, pictures taken by the Android™ device can be transmitted in the DV Fast Data mode or DV mode.

* Optional UT-133/A Bluetooth® unit must be installed in the ID-5100A.

* Some functions may not work properly, depending on Android™ phones and devices used.



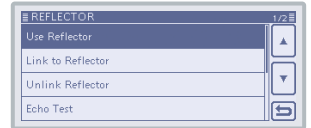
DR function setting example



Repeater map example © Google

Dplus Reflector Linking

Dplus reflector link commands are added to the DR function to allow easy reflector operation. Use Reflector, link/unlink to Reflector, echo test and repeater information commands are selectable.



Reflector commands example

SD Card Slot for Voice and Data Storage

When used with an SD card, the SD card can store various contents including voice memory, DV auto reply message, TX voice message, QSO log, RX history log and GPS log data. Memory channels, repeater memories and other personal settings can be saved to the SD card and can be loaded to the transceiver.

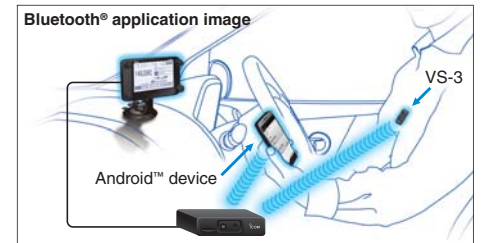


SD card slot

VS-3 Bluetooth® Headset

The optional Bluetooth® headset, VS-3, provides hands-free communication and can remotely control the ID-5100A with three programmable buttons. This provides convenient communication in a vehicle.

* Optional UT-133/A Bluetooth® unit must be installed in the ID-5100A.



Other Features

- 50W output power
- Repeater memory channels increased to 1500
- CTCSS and DTCS with Split tone function
- Sub band mute auto
- D-PRS functions
- Convenient memory contents management using CSV format
- Speech function announces operating frequency, mode and received call sign (DV mode)
- Independent main, volume and SQL knobs for A/B bands
- AM airband dualwatch
- CS-5100, cloning software supplied
- Weather channel with weather alert function (USA version only)
- Auto repeater function (USA version only)

Firmware Update Available (Free Download)
<http://www.icom.co.jp/world/support/index.html>

Steps to send a picture over the DV mode (Use with the RS-MS1A)



Take a picture using an Android™ device



Transfer the photo to the ID-5100A via Bluetooth®



ID-5100A



ID-5100A

Receive the photo at the ID-5100A



View the photo on an Android™ device



**50 Watts of Output Power
on Both VHF and UHF Bands**

**VHF/VHF, UHF/UHF
Simultaneous Receive**

**Optional Wireless Remote Control
Bluetooth® Headset VS-3**

VHF/UHF DUAL BAND TRANSCEIVER

IC-2730A

VHF/VHF, UHF/UHF Dual Receive

The IC-2730A provides VHF/VHF, UHF/UHF simultaneous receive capability as well as VHF/UHF receive. Main dials, volume, squelch knobs and primal buttons are symmetrically laid out for each band.

Optional VS-3 Bluetooth® Headset

The optional VS-3 Bluetooth® headset can wirelessly control the IC-2730A with three programmable keys and a PTT button. It also provides VOX operation for hands-free communication.

*Optional UT-133/A Bluetooth® unit must be installed in the IC-2730A.



Optional VS-3 Bluetooth® headset

Wideband Receiver

The IC-2730A covers 118–174 and 375–550MHz. You will be able to listen to aviation, marine, weather channels and other utility communications.

Easy Controller Mounting with the Optional MBF-1

The combination of the optional MBF-1 suction cup mounting base and MBA-5 controller bracket provides easy tilt and swivel adjustments. The large suction cup can be mounted on flat surfaces and can be removed easily.

Other Features

- 50 watts of output on VHF and UHF
- 50 CTCSS and 104 DTCS tones with Split Tone Function
- HM-207 remote control microphone
- CS-2730 free download PC programming software
- Versatile scanning capability
- Squelch delay and squelch attenuator
- Sub band auto mute function
- Sub band busy beep function
- Auto repeater functions* (*Depending on the transceiver version)
- Auto power off
- Time-out-timer
- 16 DTMF auto dial memories
- Weather channel receive with weather alert* (* USA version only)
- CI-V remote control capability (through the OPC-478UC)



**65 Watts of RF Output Power
with Heavy-duty Endurance**

**Powerful 4.5W Audio Output
Provides Loud and Clear Audio**

**Tested to the Latest
MIL-STD 810 G Specifications**

144MHz FM TRANSCEIVER

IC-2300H

Stable 65W of Output Power

The IC-2300H can generate 65W of output power. The rugged aluminum die-cast provides effective heat dissipation and keeps RF output even during high duty cycle continuous transmission.

Built-in CTCSS and DTCS Encoder/Decoder

The CTCSS and DTCS tones are built-in for quiet stand-by and repeater access. The tone scan function detects the subaudible tone that is used for repeater access. The pocket beep function gives you an audible and visual indicator of an incoming call. The DTCS encoder function (DTCS transmit only) is also available.

A Total of 207 Memory Channels

The IC-2300H has a total of 207 memory channels, including 200 regular channels, 6 scan edges and 1 call channel. The channel name is programmable with 6 characters for easy recognition.










Multiple Scan Functions










The IC-2300H supports various scan types for maximum reception and ease of use. The DMS (Dynamic Memory Scan) system allows you to scan selected banks from 10 memory banks by simply adding and deleting bank links.


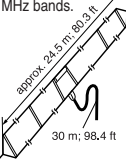








Other Features

- Tested to the MIL-STD 810 G specifications
- Simple operation
- Multiple scan functions
- Power supply voltage display
- Wide/narrow channel setting
- 4.5W (typical) loud audio
- Reduced depth dimensions
- DTMF autodial
- Time-out timer
- Repeater lockout
- Automatic power off
- S-meter squelch
- Selectable LCD backlight color (amber, yellow and green)
- Weather channel receive and alert function (USA version only)
- Automatic repeater function (USA version only)
- Selectable squelch delay from short and long
- Squelch attenuator reduces suppression from strong signals
- PC to transceiver and transceiver to transceiver cloning capability

OPTIONS FOR BASE STATION TRANSCEIVERS

	HAND MICROPHONES					DESKTOP MICROPHONES			EXTERNAL SPEAKERS
MODEL NAME	HM-36	HM-219	HM-103	HM-151	HM-198	SM-50	SM-30	SM-27	SP-23 4 audio filters
									
IC-7851	✓					✓	✓		
IC-7700	✓					✓	✓		
IC-7600	✓					✓	✓		✓
IC-7300	✓	✓				✓	✓		✓
IC-7410	✓					✓	✓		✓
IC-718	✓					✓	✓	✓	✓
IC-7100	✓ (Use with OPC-589)		✓	✓	✓	✓ (Use with OPC-589)	✓ (Use with OPC-589)		✓
IC-9100	✓					✓	✓		✓

	EXTERNAL SPEAKERS			DC POWER SUPPLY	ANTENNA ELEMENT	ANTENNA TUNERS		AUTO TUNING ANTENNA	NVIS KIT
MODEL NAME	SP-33 Wooden box speaker	SP-34 4 audio filters	SP-35 2m (6.5ft) cable SP-35L 6m (19.6ft) cable	PS-126 13.8V/25A 4-pin type	AH-2b Covers 7–54MHz	AH-4 Covers 3.5–54MHz.	AT-180 Covers 1.8–54MHz.	AH-740 Covers 2.5–30MHz. (amateur band) OPC-2321 is required.	AH-5NV Fiberglass antenna element for use with AH-740. Covers 2.2–30MHz (amateur band) with AH-740.
									
IC-7851	✓	✓							
IC-7700	✓	✓							
IC-7600				✓	✓	✓		(Use with OPC-2321)	✓
IC-7300	✓	✓	✓	✓	✓	✓		(Use with OPC-2321)	✓
IC-7410				✓	✓	✓		(Use with OPC-2321)	✓
IC-718				(Depending on version)	✓	✓	✓	(Use with OPC-2321)	✓
IC-7100			(Use SP-35)	✓	✓	✓	✓	(Use with OPC-2321)	✓
IC-9100				✓	✓	✓		(Use with OPC-2321)	✓

	CONTROL CABLE	FOLDED DIPOLE ANTENNA	FILTERS		HIGH STABILITY CRYSTAL UNIT	DSP UNIT	CI-V CONVERTER	LINEAR AMPLIFIER	CARRYING HANDLES
MODEL NAME	OPC-2321 (6m; 19.6ft) For use with AH-740 OPC-420 (10m; 32.8ft) For use with AH-4	AH-710 Covers 1.9–30 MHz bands. approx. 24.6 m (80.9 ft) 30 m; 98.4 ft	FL-430 6kHz 1st IF FILTER (For HF/ 50MHz band) FL-431 3kHz 1st IF FILTER (For HF/ 50MHz band)	FL-53A 250Hz/–6dB FL-222 1.8kHz/–6dB FL-257 3.3kHz/–6dB	CR-338 Frequency sta- bility: ±0.5ppm	UT-106	CT-17	IC-PW1	MB-23 MB-121 MB-123
	 (Photo shows OPC-2321)		 						 (Photo shows MB-23)
IC-7851							✓	✓	
IC-7700							✓	✓	
IC-7600	✓						✓	✓	(Use MB-121)
IC-7300	✓	✓					✓	✓	(Use MB-123)
IC-7410	✓		✓				✓	✓	(Use MB-123)
IC-718	✓	✓			✓	✓	✓	✓	(Use MB-23)
IC-7100	✓			(Accepts only one filter)		(Installed depending on version)	✓	✓	✓
IC-9100	✓		✓				✓	✓	(Use MB-123)

✓ : Applicable : Not applicable

OPTIONS FOR BASE STATION TRANSCEIVERS

	MOBILE MOUNTING BRACKETS		MOUNTING BASE	CONTROLLER BRACKET	SEPARATION CABLES	MIC ADAPTER CABLE	ADAPTER CABLE	DC POWER CABLES	1200MHz BAND UNIT
MODEL NAME	MB-62	MB-118	MBF-1	MBA-1	OPC-2253 3.5m;11.5ft OPC-2254 5.0m;16.4ft	OPC-589 8-pin connector microphone to 8-pin modular	OPC-599 13-pin ACC socket to 7-, 8-pin ACC sockets	OPC-025A 20A cable OPC-1457 30A cable OPC-2361 25A cable	UX-9100
IC-7851									
IC-7700									
IC-7600									
IC-7300		✓					✓	(Use OPC-1457)	
IC-7410							✓	(Use OPC-2361)	
IC-718		✓					✓	(Use OPC-1457)	
IC-7100	✓		✓ (Use with MBA-1)	✓	✓	✓	✓	(Use OPC-025A)	
IC-9100							✓	(Use OPC-1457)	✓

	CLONING SOFTWARE		REMOTE CONTROL SOFTWARE	IP REMOTE CONTROL SOFTWARE	USB REMOTE ENCODER	D-STAR UNIT	DATA COMMUNICATION CABLES	
MODEL NAME	CS-9100 A USB cable (A-B type) is required for programming.	CS-7100	RS-MS1A*1	RS-BA1	RC-28 For use with RS-BA1	UT-121	OPC-1529R RS-232 cable for an external GPS or a PC	OPC-2350LU USB cable for an Android™ device or a PC
IC-7851				✓	✓			
IC-7700				✓	✓			
IC-7600				✓	✓			
IC-7300				✓	✓			
IC-7410				✓	✓			
IC-718				✓	✓			
IC-7100		✓	✓ (Use with OPC-2350LU)	✓	✓	✓	✓	✓
IC-9100	✓			✓	✓	✓	✓	

*1 Free download Android™ app. Download from Google Play™.

✓ : Applicable : Not applicable

IP REMOTE CONTROL SOFTWARE

RS-BA1

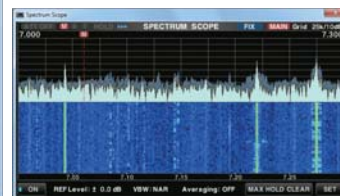


- Option for IC-7850, 7851, 7700, 7600, 7300, 7410, 7100 and 9100
- Most functions and modes of your transceiver can be remotely controlled over an IP network
- Low voice latency, high quality audio
- Waterfall spectrum scope can be observed (only for IC-7850, 7851 and 7300 single band)
- New slider control screen (e.g. RF power, CW pitch, twin PBT)
- Wake-up from standby mode via the RS-BA1 (for IC-7850, 7851, 7700, 7600, 7300 and 7100)

Software Update Available (Free Download)
<http://www.icom.co.jp/world/support/index.html>





USB REMOTE ENCODER
RC-28



Waterfall spectrum scope

OPTIONS FOR HANDHELD TRANSCEIVERS




	BATTERY CASES	BATTERY PACKS		DESKTOP CHARGER	AC ADAPTER	WALL CHARGER	CIGARETTE LIGHTER CABLES		DC POWER CABLES
MODEL NAME	BP-273 LR6(AA)×3 cells 	BP-271 (Li-ion) 7.4V/1150mAh(min.), 1200mAh(typ.) 	BP-272 (Li-ion) 7.4V/1880mAh(min.), 2000mAh(typ.) 	BC-202 Rapid charger 	BC-123S *1 12V/1A 	BC-167S *2 12V/500mA 	CP-12L with noise filter 	CP-19R with DC-DC converter 	OPC-254L/LR 
ID-51A PLUS	✓	✓	✓	✓ (Use with BC-123S)	✓	✓	✓	✓	✓

*1 BC-123SA for USA, SE for Europe and SV for Australia version available.
*2 BC-167SA for USA, SD for Europe and SV for Australia version available.

	SPEAKER-MICROPHONES			EARPHONE-MICROPHONES				HEADSETS	
MODEL NAME	HM-75LS 	HM-183LS Waterproof 	HM-186LS 	HM-153LS 	HM-153 	HM-166LS 	HM-166 	HS-94 Earhook type with boom microphone 	HS-95 Behind-the-head type 
ID-51A <small>PLUS</small>	✓	✓	✓	✓	(Use with OPC-2144)	✓	(Use with OPC-2144)	(Use with OPC-2006LS)	(Use with OPC-2006LS)

	HEADSETS	EARPHONE	PLUG ADAPTER CABLES		CARRYING CASE	SILICONE JACKET CASE	DATA CABLE	PROGRAMMING SOFTWARE	REMOTE CONTROL SOFTWARE
MODEL NAME	HS-97 Throat microphone type 	SP-13 	OPC-2006LS 	OPC-2144 	LC-179 	SJ-1 For use with BP-271 	OPC-2350LU USB cable for an Android™ device or a PC 	CS-51 PLUS *3 	RS-MS1A *4 
ID-51A PLUS		 (Use with OPC-2144)							 (Use with OPC-2350LU)

*3 CS-51 PLUS is available for free download from: <http://www.icom.co.jp/world/support/index.html>
*4 Free download Android™ app. Download from Google Play™.

	BELT CLIP	ANTENNA	ANTENNA ADAPTER	CI-V LEVEL CONVERTER
MODEL NAME	MB-127 Alligator type	FA-S270C VHF/UHF stand- ard antenna	AD-92SMA BNC type antenna connector	CT-17
				
ID-51A PLUS	✓	✓	✓	✓

✓ : Applicable : Not applicable

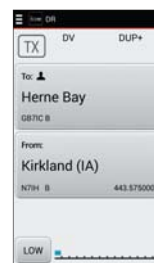
RS-MS1A Remote Control Software

(Free Download Android™ Application from Google Play™)

The RS-MS1A allows you to connect the ID-5100A and ID-51A PLUS with an Android™ device and remotely control various functions and settings from the Android™ device. Pictures taken by the Android™ device can be transmitted over the DV mode.

* Optional UT-133/A Bluetooth® unit or OPC-2350LU cable is required. Not all functions are usable with the IC-7100.

* Some functions may not work properly, depending on Android™ phones and devices used.



DR function setting example



Repeater map example
© Google

OPTIONS FOR MOBILE TRANSCEIVERS

	HAND MICROPHONES				BLUETOOTH® HEADSET	MOUNTING BASE	MOUNTING BRACKET	CONTROLLER BRACKETS	
MODEL NAME	HM-209 Noise canceling microphone	HM-207	HM-154	HM-133V w/DTMF keypad	VS-3	MBF-1	MBF-4	MBA-2	MBA-5
ID-5100A	✓	✓	✓		✓ (Use with UT-133/A)	✓ (Use with MBA-2)	✓	✓*1	
IC-2730A	✓	✓	✓		✓ (Use with UT-133/A)	✓ (Use with MBA-5)	✓		✓
IC-2300H	✓		✓	✓					

*1 Supplied with the ID-5100A, depending on the ID-5100A version.

	COMBINATION BRACKET	EXTERNAL SPEAKERS		MICROPHONE CABLES	MIC ADAPTER CABLE	CONTROLLER CABLE	DATA COMMUNICATION CABLES		
MODEL NAME	MBA-4	SP-35 2m (6.5ft) cable	SP-30 4 inch (102.5mm) diameter speaker	OPC-440A 5.0m: 16.4ft OPC-647 2.5m: 8.2ft	OPC-589 8-pin connector microphone to 8-pin modular	OPC-1156 3.5m; 11.4ft	OPC-1529R RS-232 cable	OPC-2350LU USB cable for an Android™ or a PC	
ID-5100A		✓	✓	✓	✓	✓	✓	✓	
IC-2730A	✓	✓	✓	✓	✓	✓			
IC-2300H		✓		✓	✓				

	PROGRAMMING CABLES	CLONING CABLE	PROGRAMMING SOFTWARES	BLUETOOTH® UNIT	REMOTE CONTROL SOFTWARE	CI-V LEVEL CONVERTER
MODEL NAME	OPC-478UC Transceiver to PC USB cable	OPC-478 Transceiver to PC RS-232 cable	OPC-474 Between transceivers	CS-2300H CS-2730 *2 CS-5100 *2	UT-133/A	RS-MS1A *3 CT-17
ID-5100A	✓			✓ (Use CS-5100)	✓	✓ (Use with UT-133/A)
IC-2730A	✓		✓	✓ (Use CS-2730)	✓	
IC-2300H	✓	✓	✓	✓ (Use CS-2300H)		

*2 CS-5100 and CS-2730 are available for free download from:
<http://www.icom.co.jp/world/support/index.html>

*3 Free download Android™ app. Download from Google Play™.

✓ : Applicable □ : Not applicable



NOISE CANCELING MICROPHONE

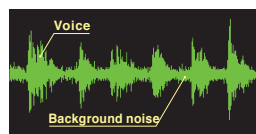
HM-209

Active Noise Canceling Microphone, HM-209 Shuts Out Annoying Background Noise

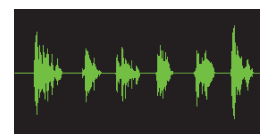
- Built-in DSP automatically reduces background noise
- Transmits clear audio in both analog and digital modes
- Compatible with ID-5100A, IC-2730A and IC-2300H

▶ Experience in video

http://www.icom.co.jp/r/e_HM-209/



Noise Canceller OFF



Noise canceller ON
Image for illustration purpose only.

SPECIFICATIONS FOR BASE STATION TRANSCEIVERS

		IC-7851	IC-7700	IC-7600	IC-7300
General	Frequency coverage (Differs according to version)	Tx: 1.8, 3.5, 5* ¹ , 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60MHz* ² * ¹ Depending on version. * ² Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5* ¹ , 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60MHz* ² * ¹ Depending on version. * ² Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5* ¹ , 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60MHz* ² * ¹ Depending on version. * ² Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5* ¹ , 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–74.8MHz* ² * ¹ Depending on version. * ² Some frequency ranges are not guaranteed.
	Modes	USB, LSB, CW, RTTY, PSK31/63, AM, FM	USB, LSB, CW, RTTY, PSK31, AM, FM	USB, LSB, CW, RTTY, PSK31, AM, FM	USB, LSB, CW, RTTY, AM, FM
	Frequency stability	±0.05ppm (0°C to +50°C; +32°F to +122°F, after warm up)	±0.05ppm (0°C to +50°C; +32°F to +122°F, after warm up)	±0.05ppm (0°C to +50°C; +32°F to +122°F, after warm up)	Less than ±0.5ppm (–10°C to +60°C; +14°F to +140°F)
	Maximum current drain	800VA	800VA	23A at 13.8V DC	21A at 13.8V DC
	Power supply requirement	85–265V AC (Auto sensing)	85–265V AC (Auto sensing)	13.8V DC ±15%	13.8V DC ±15%
	Antenna connector	SO-239 × 4 + BNC × 2 (50Ω)	SO-239 × 4 + BNC (50Ω)	SO-239 × 2 + phono [(RCA) 50Ω]	SO-239 (50Ω)
	Number of memory channels	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)
	Dimensions (W×H×D; Projections are not included)	425×149×435 mm; 16.73×5.87×17.13 in	425×149×437 mm; 16.73×5.87×17.2 in	340×116×279.3 mm; 13.39×4.57×11 in	240×94×238 mm; 9.45×3.7×9.37 in
	Weight (approx.)	23.5kg; 51.8lb	22.5kg; 49.6lb	10.0kg; 22lb	4.2kg; 9.26lb
Transmitter	Output power	SSB, CW, RTTY, PSK, FM: 5–200W AM: 5–50W	SSB, CW, RTTY, PSK31, FM: 5–200W AM: 5–50W	SSB, CW, RTTY, PSK31, FM: 2–100W AM: 1–30W	SSB, CW, RTTY, FM: 2–100W AM: 1–25W
	Spurious emissions (Harmonics)	HF Less than –60dB 50MHz Less than –70dB	HF Less than –60dB 50MHz Less than –70dB	HF Less than –50dB 50MHz Less than –63dB	HF Less than –50dB 50MHz Less than –63dB
	Carrier suppression	More than 63dB	More than 63dB	More than 40dB	More than 50dB
	Unwanted sideband	More than 70dB	More than 80dB	More than 55dB	More than 50dB
	Microphone connector	8-pin connector (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)
Receiver	Sensitivity (typical) Preamp ON SSB, CW, RTTY, AM: at 10dB S/N FM, WFM: at 12dB SINAD	SSB, CW, RTTY, PSK (2.4kHz): 0.1–1.799MHz 0.5μV 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz): 0.1–1.799MHz 6.3μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV FM (15kHz): 28–29.999MHz 0.5μV 50–54MHz 0.32μV	SSB, CW, RTTY, PSK31 (2.4kHz): 0.1–1.799MHz 0.5μV 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz): 0.1–1.799MHz 6.3μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV FM (15kHz): 28–29.999MHz 0.5μV 50–54MHz 0.32μV	SSB, CW, RTTY (2.4kHz): 1.8–29.995MHz 0.15μV 50–54MHz 0.12μV AM (6kHz): 0.5–1.799MHz 6.3μV 1.8–29.995Hz 2.0μV 50–54MHz 1.6μV FM (15kHz): 28–29.7MHz 0.5μV 50–54MHz 0.3μV	SSB, CW (2.4kHz): 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz): 0.5–1.8MHz 12.6μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV FM (15kHz): 28–29.7MHz 0.5μV 50–54MHz 0.25μV
	Selectivity	SSB: 2.4kHz/–3dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–3dB (500Hz) 700Hz/–60dB AM: 6.0kHz/–3dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB * Variable between 50Hz and 3.6kHz.	SSB: 2.4kHz/–3dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–3dB (500Hz) 700Hz/–60dB RTTY, PSK31: 360Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–3dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB * Variable between 50Hz and 3.6kHz.	SSB: 2.4kHz/–6dB (2.4kHz) 3.8kHz/–60dB CW: 500Hz/–6dB (500Hz) 900Hz/–60dB RTTY: 350Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–6dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB * Variable between 50Hz and 3.6kHz.	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–40dB RTTY: 500Hz/–6dB (500Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB * Variable between 50Hz and 3.6kHz.
	Spurious and image rejection	More than 70dB	More than 70dB	More than 70dB* * Except IF point on 50MHz band	HF More than 70dB 50MHz More than 70dB* * Except for ADC Aliasing
	Audio output power (at 10% distortion with an 8Ω load)	More than 2.6W	More than 2.6W	More than 2.0W	More than 2.5W
	External speaker connector	2-conductor 3.5 (d) mm (1/8")/8Ω×2 (for main and sub bands)	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω

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

SPECIFICATIONS FOR BASE STATION TRANSCEIVERS

		IC-7410	IC-718	IC-7100	IC-9100
General	Frequency coverage (Differs according to version)	Tx: 1.8, 3.5, 5 ^{*1} , 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60.000MHz ^{*2} ^{*1} Depending on version. ^{*2} Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28MHz bands Rx: 30kHz–29.999MHz [*] [*] Guaranteed range 0.5–29.999MHz.	Tx: 1.8, 3.5, 5 ^{*1} , 7, 10, 14, 18, 21, 24, 28, 50, 144, 430(440)MHz bands Rx: 30kHz–199.999MHz, 400–470MHz ^{*2} ^{*1} Depending on version. ^{*2} Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 5 ^{*1} , 7, 10, 14, 18, 21, 24, 28, 50, 144, 430 (440), 1200MHz bands ^{*3} Rx: 30kHz–60MHz ^{*2} , 136–174MHz ^{*2} , 420–480MHz ^{*2} , 1240–1320MHz ^{*3} ^{*1} Depending on version. ^{*2} Some frequency ranges are not guaranteed. ^{*3} With optional UX-9100.
	Modes	USB, LSB, CW, RTTY, AM, FM	USB, LSB, CW, RTTY, AM	USB, LSB, CW, RTTY, DV, AM, FM, WFM [*] ([*] Rx only)	USB, LSB, CW, RTTY (FSK), AM [*] , FM, DV (with UT-121) [*] Transmit HF/50MHz only. Cannot receive on 1200MHz band.
	Frequency stability	Less than ±0.5ppm (0°C to +50°C; +32°F to +122°F)	Less than ±200Hz (From 1 min. to 60 min. after power ON)	±0.5ppm (0°C to +50°C @ 430MHz)	±0.5ppm (0°C to +50°C; +32°F to +122°F, after warm up)
	Maximum current drain	23A at 13.8V DC	20A at 13.8V DC	22A at 13.8V DC	24A at 13.8V DC
	Power supply requirement	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%
	Antenna connector	SO-239 × 2 (50Ω)	SO-239 (50Ω)	SO-239 × 2 (for HF/50MHz and 144/430(440)MHz bands: 50Ω)	HF/50MHz SO-239 (50Ω) × 2 144MHz SO-239 (50Ω) 430/440MHz Type-N (50Ω) 1200MHz Type-N (50Ω) (With UX-9100)
	Number of memory channels	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)	495 regular, 4 call, 6 scan edges, 900 D-STAR repeater channels	396 [*] (99 for each HF/50, 144, 430/440, 1200MHz band) 4 Call [*] (1 for each band) 24 Scan edges [*] (6 for each band) 20 satellite [*] With optional UX-9100.
	Dimensions (W×H×D; Projections are not included)	315×116×343 mm; 12.4×4.57×13.5 in	240×95×239 mm; 9.45×3.74×9.41 in	Main unit 167×58×225 mm; 6.57×2.28×8.86 in Controller 165×64×78.5 mm; 6.5×2.52×3.09 in	315×116×343 mm; 12.4×4.57×13.5 in
	Weight (approx.)	10.2kg; 22.4lb	3.8kg; 8.4lb	Main unit 2.3 kg; 5.1 lb Controller 0.5 kg; 1.1 lb	IC-9100: 11kg; 24.3lb UX-9100: 950g; 2.1lb
Transmitter	Output power	SSB, CW, RTTY, FM: 2–100W AM: 2–27W	SSB, CW, RTTY: 2–100W AM: 2–35W	SSB, CW, RTTY, FM, DV: 1.8–50MHz 2–100W 144MHz 2–50W 430(440)MHz 2–35W AM: 1.8–50MHz 1–30W	SSB, CW, RTTY, FM, DV ^{*1} : HF/50MHz 2–100W 144MHz 2–100W 440MHz 2–75W 1200MHz ^{*2} 1–10W AM: HF/50MHz 2–30W ^{*1} With UT-121. ^{*2} With UX-9100.
	Spurious emissions	HF Less than –50dB 50MHz Less than –63dB	Less than –50dB	HF Less than –50dB 50MHz Less than –63dB 144/430/440MHz Less than –60dB	1.8–29.7MHz Less than –50dB 50,144MHz Less than –63dB 430/440MHz Less than –61.8dB 1200MHz Less than –53dB (With UX-9100)
	Carrier suppression	More than 40dB	More than 40dB	More than 50dB	More than 40dB
	Unwanted sideband	More than 55dB	More than 50dB	More than 50dB	More than 55dB
	Microphone connector	8-pin connector (600Ω)	8-pin connector (600Ω)	8-pin modular (600Ω)	8-pin connector (600Ω)
Receiver	Sensitivity (typical) Preamp ON SSB, CW, RTTY, AM: at 10dB S/N FM, WFM: at 12dB SINAD DV: at 1% BER	SSB, CW (2.4kHz): 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz): 0.5–1.8MHz 12.6μV 1.8–29.999MHz 2.0μV 50–54MHz 1.6μV FM (15kHz): 28–29.7MHz 0.5μV 50–54MHz 0.32μV	SSB, CW, RTTY: 1.8–29.999MHz 0.16μV AM: 0.5–1.799MHz 13μV 1.8–29.999MHz 2.0μV	SSB, CW (2.4kHz): 1.8–29.999MHz 0.15μV 50–54MHz 0.12μV 144/430(440)MHz 0.11μV AM: (6kHz) 0.5–1.8MHz 13μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV 144/430(440)MHz 1.0μV FM: (15kHz) 28–29.7MHz 0.5μV 50–54MHz 0.25μV 144/430(440)MHz 0.18μV DV: 28–29.7MHz 1μV 50–54MHz 0.63μV 144/430(440)MHz 0.35μV WFM: 76–108MHz 10μV	SSB, CW (2.4kHz): 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV 144/440MHz 0.11μV 1200MHz 0.11μV ^{*1} AM: (6kHz) 0.5–1.8MHz 12.6μV 1.8–29.999MHz 2.0μV 50–54MHz 1.6μV 144/440MHz 1.4μV FM: (15kHz) 28–29.7MHz 0.5μV 50–54MHz 0.32μV 144/440MHz 0.18μV 1200MHz 0.18μV ^{*1} DV ^{*2} : 28–29.7MHz 1.0μV 50–54MHz 0.63μV 144/440MHz 0.35μV 1200MHz 0.35μV ^{*1} ^{*1} With UX-9100. ^{*2} With UT-121.
	Selectivity	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–40dB RTTY: 500Hz/–6dB (350Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB	SSB, CW, RTTY: 2.1kHz/–6dB 4.5kHz/–60dB AM: 6.0kHz/–6dB 20kHz/–40dB	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–60dB RTTY: 500Hz/–6dB (500Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB DV: –50dB (12.5kHz)	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–40dB RTTY: 500Hz/–6dB (500Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10.0kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB DV (With UT-121): –50dB (12.5kHz spacing) 1200MHz (With UX-9100) SSB, CW 2.3kHz/–6dB FM 15.0kHz/–6dB
	Spurious and image rejection (except IF)	More than 70dB	More than 70dB (1.8–29.999MHz)	More than 70dB (HF/50MHz) More than 65dB (144/430/440MHz) (except 1/2 IF through on 50MHz, IF through on 144MHz)	HF/50MHz More than 70dB [*] 144,430/440MHz More than 60dB 1200MHz More than 50dB (With UX-9100) [*] Except IF point on 50MHz band
	Audio output power (at 10% distortion with an 8Ω load)	More than 2.0W	More than 2.0W	More than 2.0W	More than 2.0W
	External speaker connector	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω	2-conductor 3.5 (d) mm (1/8")/8Ω×2 (for main and sub bands)

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SPECIFICATIONS FOR MOBILE AND HANDHELD TRANSCEIVERS

	ID-51A PLUS	ID-5100A	IC-2730A	IC-2300H
Frequency coverage (Differs according to version)	USA version: Tx 144–148, 430–450MHz*1 Rx (A) 136–174, 380–479MHz*1 (B) 108–174, 380–479MHz*1 Broadcast 0.52–1.71, 88–108MHz	USA version : Tx 144–148, 430–450MHz*1 Rx 118–174, 375–550MHz*1 EXP version : Tx 137–174, 400–470MHz*2 Rx 118–174, 375–550MHz*2	USA version : Tx 144–148, 430–450MHz Rx 118–174, 375–550MHz*3 EXP version : Tx 137–174, 400–470MHz*2 Rx 118–174, 375–550MHz*2	USA version: Tx 144–148MHz Rx 136–174MHz*4 EXP version: Tx/Rx 136–174MHz*4
Modes	DV, FM, FM-N, AM (Rx only)	DV, FM, FM-N, AM (Rx only), AM-N (Rx only)	FM, FM-N, AM (Rx only), AM-N (Rx only)	FM, FM-N
Max. current drain	2.5A	13A	13A	11A
Number of memory channels	554 (500 regular, 50 scan edges and 4 call channels)	1054 (1000 regular, 50 scan edges and 4 call channels)	1052 (1000 regular, 50 scan edges and 2 call channels)	207 (200 regular, 6 scan edges and 1 call channel)
Dimensions (W×H×D; Projections are not included)	58×105.4×26.4 mm; 2.28×4.15×1.04 in	Main unit: 150×40×172.6 mm; 5.91×1.57×6.8 in Controller: 182.2×81.5×24.7 mm; 7.17×3.21×0.97 in	Main unit: 150×40×151 mm; 5.91×1.57×5.94 in Controller: 150×50×27.2 mm; 5.91×1.97×1.07 in	140×40×162 mm; 5.51×1.57×6.38 in
Weight (approx.)	255g; 8.99oz with antenna and BP-271	Main unit: 1.3kg; 2.87lb Controller: 260g; 9.17oz	Main unit: 1.2kg; 2.65lb Controller: 140g; 4.94oz	1.1kg; 2.43lb
Output power (at 13.8V DC; Differs according to version)	High: 5W Mid: 2.5W Low1: 1.0W Low2: 0.5W S-Low: 0.1W	High: 50W Mid: 15W Low: 5W	High: 50W Mid: 15W Low: 5W	High: 65W Mid-Hi: 25W (approx.) Mid-Lo: 10W (approx.) Low: 5W (approx.)
Sensitivity (FM: at 12dB SINAD DV: at 1% BER Guaranteed range)	DV Less than 0.28µV FM/FM-N Less than 0.18µV (144, 430(440) MHz bands)	DV Less than 0.28µV FM/FM-N Less than 0.18µV (144, 430(440) MHz bands)	FM/FM-N Less than 0.18µV (144, 430(440) MHz bands)	FM/FM-N Less than 0.18µV
Audio output power (10% distortion)	More than 400mW (Internal SP, 16Ω load) More than 200mW (Internal SP, 8Ω load)	More than 2.0W (8Ω load)	More than 2.0W (8Ω load)	4.5W typ. (4Ω load)

*1 Guaranteed range 144–148 and 440–450MHz. *2 Guaranteed range 144–148 and 430–440MHz. *3 Guaranteed range 144–148 and 430–450MHz. *4 Guaranteed range 144–148MHz.

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Applicable U.S. Military Specifications

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