ICOM

HF/50/70 MHz TRANSCEIVER

IC-7300MK2

HF Excellence, Evolved —

Even More Excitement

Class-Leading Compact Radio Evolves to the Next Level!

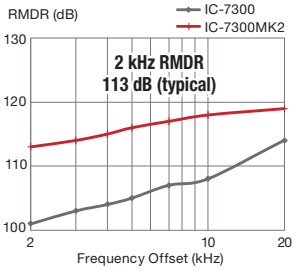
Enhanced Performance

Improved RMDR and Phase Noise Characteristics

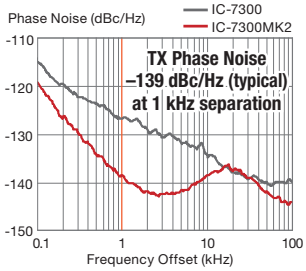
The IC-7300MK2's RMDR is improved to about 12 dB typical* and transmit Phase Noise characteristics are improved by about 12 dB* compared to the previous model. The superior Phase Noise characteristics reduce noise components in both receive and transmit signals.

* 2 kHz separation at 14.2 MHz, MODE: CW, IF BW: 500 Hz.

■ RMDR Characteristics



■ TX Phase Noise Characteristics



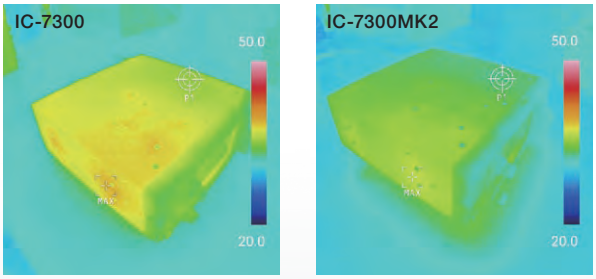
■ What is RMDR

RMDR (Reciprocal Mixing Dynamic Range) is a key indicator of how much receiver sensitivity is degraded by strong nearby signals. A higher RMDR value means less blocking from adjacent signals. In general, lower LO phase noise results in better RMDR performance.

Power Saving and Lower Heat Generation for Longer Continuous Operation

Through component selection and DC power optimization, the IC-7300MK2 reduces heat generation and enables stable operation during extended operating periods, such as contest operation. Compared to the previous model, the IC-7300MK2 reduces power consumption from 0.9 A to 0.7 A (typical) during RX standby. Furthermore, the fan control has been improved, making fan noise much less noticeable.

■ Heat Comparison Using Thermography*



* Device left in RX standby mode for 6 hours at 24°C room temperature.

HF/50/70 MHz TRANSCEIVER

IC-7300MK2

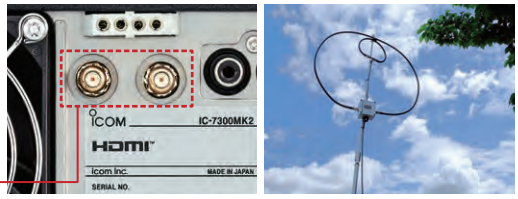
New Features

HDMI™ Port for External Display

As a first for Icom's HF/50 MHz radios, the IC-7300MK2 incorporates an HDMI™ port for external display connection. Operating information, such as frequency, scope, waterfall, and menus, can be shown on a large monitor, and audio can also be output through HDMI™ to the display's speakers.

RX-ANT Connectors for BPF, Preamps and Receiving Antennas

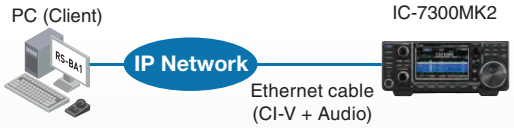
The RX Antenna IN/OUT connectors enable you to take advantage of antenna characteristics for optimized reception, such as avoiding interference and QRN. External bandpass filters and preamps can also be connected to these connectors.



Simplified Remote Control for RS-BA1

Whether from a remote location within your home QTH, or from a remote location somewhere around the world, the RS-BA1 (Version 2) software enables you to operate your IC-7300MK2*. With the addition of an Ethernet connector, a base station computer is not required. Not only can you control the radio settings and display a spectrum scope with the waterfall, you are able to remotely turn the radio ON or OFF through the Internet.

* RTTY and CW decode functions are not supported in the RS-BA1 Control Software.



Built-in CW Decoder*

Another first for Icom's HF/50 MHz radio, the IC-7300MK2 can decode Morse code signals without using a PC or other external equipment. The decode settings can be customized to suit various situations and needs, including decode key speed (AUTO, LOCK, KEYSPEED LINKED), decode filter (AUTO, FIX), and threshold (AUTO, MANUAL).

* Decoding accuracy may vary depending on receiving conditions.

USB Type-C™ Port with Dual COM + Audio

The IC-7300MK2 provides a USB Type-C™ port with dual virtual COM ports and audio IN/OUT. You can use two applications simultaneously, such as FT8, logging and contest software, with just one USB cable*.

* CW decode output to the USB port is not supported.

APF (Audio Peak Filter) for CW Signals

The APF improves CW reception by emphasizing a specific audio frequency, making it easier to zero in on a desired signal. The APF level is adjustable from 0 to 6 dB in 1 dB steps.

Proven Core Features

Real-Time Spectrum Scope

Equipped with a real-time spectrum scope, the IC-7300MK2 delivers sophisticated operation through intuitive touch control with advanced specifications, including resolution, sweep speed, and dynamic range. While listening to received audio, you can check for clear frequencies, monitor band conditions, and quickly access target signals with simple touch operation.

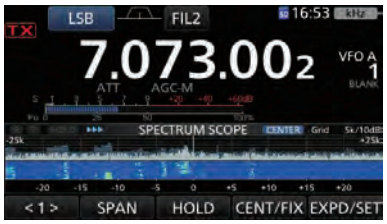
■ Real-Time Spectrum Scope Specifications

Scope System	FFT (Fast Fourier Transform)
Sweep Speed	Max. 30 frames/sec (approx.), Selectable from Slow, Mid or Fast
Span Width	5 kHz ~ 1000 kHz
Resolution*	1 pixel minimum (approximately)
Waveform Display Area (Vertical axis)	80 dB
Reference Level Adjustment	–20 dB ~ +20 dB
Peak Level Hold (Max. Hold)	ON/OFF/Last 10 seconds
Other Functions	• Average indication • Touch screen operation • VBW (Video Band Width) adjustment

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

High-Resolution Waterfall Function

The combination of the waterfall function and the real-time spectrum scope assists in maximum receive performance of the IC-7300MK2, and increases QSO opportunities without missing weak signals. The waterfall function shows a change of signal strength over a period of time, and allows you to find weak signals that may not be apparent on the spectrum scope.



Spectrum scope + Waterfall

Audio Scope Function

The audio scope function can be used to observe various AF characteristics such as microphone compressor level, filter width, notch filter width and keying waveform in the CW mode. Either the transmit or receive audio can be displayed on the FFT scope with the waterfall function and the oscilloscope.

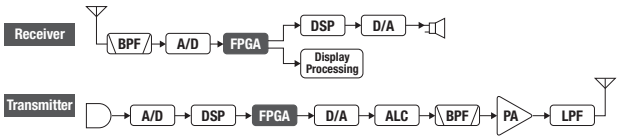
FFT scope + Oscilloscope

Advanced RF Direct Sampling

The IC-7300MK2 utilizes RF direct sampling technology that directly converts RF signals to digital data and processes them within an advanced Field-Programmable Gate Array (FPGA). This innovative approach dramatically simplifies circuit architecture while delivering exceptional performance that sets new standards in amateur radio.

■ Advanced "IP+" Technology

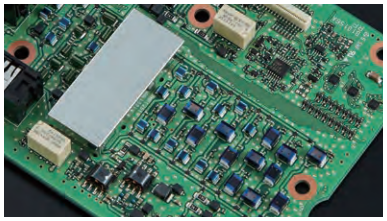
The "IP+" function significantly enhances intermodulation distortion (IMD) performance. When you receive strong interference adjacent to your intended signal, it intelligently optimizes the AD converter to minimize signal distortion and ensure clean reception.



FPGA: Field-Programmable Gate Array

15 High-Performance Discrete Bandpass Filters

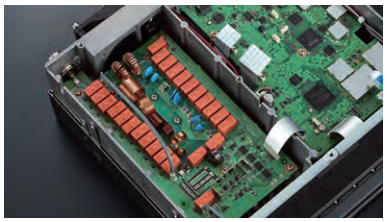
Incorporating 15 discrete RF bandpass filters with high-Q factor coils, the IC-7300MK2 delivers exceptional out-of-band interference suppression, comparable to premium-class transceivers.



Built-in Automatic Antenna Tuner

A built-in automatic antenna tuner recalls optimal settings in its memory for rapid band switching. The Enforced Tuning function* enables operation with a wide range of non-resonant antennas, providing emergency communication capability.

* Do not use the Enforced Tuning function except in case of an emergency. Transmission power may be reduced.



Multi-Dial Knob for Enhanced Operation

The intuitive combination of multi-dial knob and touch screen delivers fast, efficient control. Simply press the multi-dial knob to display the menu on the right side of the screen, touch to select your desired function, then rotate the knob for adjustment.

Large Touch Screen Color IPS LCD

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

One-Touch FT8 Mode Preset

Experience simplified FT8 operation with one-touch preset switching. Simply select [FT8] from the preset menu to automatically configure all necessary settings, or choose [Normal] to instantly return to conventional operation. Presets 3 to 5 are user-programmable, ensuring compatibility with future digital modes.

Superior Sound Quality

A high-performance speaker unit with large magnet is housed in dedicated acoustic space for exceptional clarity, and minimal distortion, at any volume.

SD Memory Card Slot for Data Storage

The IC-7300MK2 stores various data on SD cards, including communication recordings, voice memories, RTTY decode logs, and screen captures. Personal settings can also be saved, enabling instant configuration switching between operators with a simple card exchange.

■ Other Features

- Multi-function meter (Po, SWR, ALC, COMP, VD and ID)
- 101 memory channels (99 regular, 2 scan edges)
- CW functions: Full break-in, CW reverse, CW auto tuning
- Automatic Contest Serial Numbering

❶ DC Power Socket
❷ **RX Antenna IN/OUT (SMA)**
❸ Tuner Socket
❹ ALC/SEND Jacks
❺ KEY Jack
❻ Ground Terminal
❼ Antenna Connector
❽ **LAN (Ethernet) Port**
❾ **HDMI™ Port**
❿ **USB Type-C™ Port**
⓫ ACC Socket (13-pin)
⓬ Remote Control Jack
⓭ External Speaker Jack

SPECIFICATIONS

GENERAL

Frequency coverage	Receiver*1	0.030 ~ 74.800 MHz*2
	Transmitter*1	1.800 ~ 1.999, 3.500 ~ 3.800, 5.255 ~ 5.405*3*4, 7.000 ~ 7.200, 10.100 ~ 10.150, 14.000 ~ 14.350, 18.068 ~ 18.168, 21.000 ~ 21.450, 24.890 ~ 24.990, 28.000 ~ 29.700, 50.000 ~ 52.000, 70.000 ~ 70.500 MHz

*1 EUR version. Varies according to version. *2 Guaranteed range: 0.500 ~ 29.999, 50 ~ 54, 70 ~ 70.5 MHz. *3 Some frequency bands are not guaranteed. *4 Please refer to the Amateur Radio regulations in your country for the 5 MHz band operation. The 5 MHz band is only available depending on the version.

Mode		A1A (CW), A3E (AM), J3E (SSB), F1B (RTTY), F3E (FM)
Number of channels		101 (99 regular, 2 scan edges)
Antenna connectors		SO-239 × 1 (50 Ω unbalanced) SMA × 2 (RX antenna IN/OUT)
Power supply requirement		13.8 V DC ±15%
Power consumption	Tx (High)	21 A (at 100 W output power)
	Rx (Standby) (AF Max.)	0.7 A typical 1.25 A
Operating temperature range		–10 ˚C to +60 ˚C; 14 ˚F to 140 ˚F
Frequency stability		±0.5 ppm or less (–10˚C to +60˚C; 14˚F to 140˚F)
Frequency resolution		1 Hz (minimum)
Dimensions (W × H × D) (projections not included)		240 × 94 × 237.6 mm; 9.4 × 3.7 × 9.4 in
Weight (approximately)		4.1 kg; 9.0 lb

TRANSMITTER

Output power	SSB/CW/FM	0.6 ~ 100 W (HF/50 MHz), 0.3 ~ 50 W (70 MHz)
	AM	0.125 ~ 25 W (HF/50 MHz), 0.075 ~ 12.5 W (70 MHz)
Modulation system	SSB	Digital P.S.N. modulation
	AM	Digital Low power modulation
	FM	Digital Reactance modulation
Spurious emissions	Harmonics	–50 dB (HF), –63 dB (50 MHz), –60 dB (70 MHz) or less
	Out of band emission	–40 dB (HF), –60 dB (50 MHz), –60 dB (70 MHz) or less
Carrier suppression		50 dB or more
Unwanted sideband		50 dB or more
Microphone impedance		600 Ω

RECEIVER

Receiver system	Direct Sampling Superheterodyne			
Intermediate frequency	12 kHz			
Sensitivity*5 (Filter shape: Soft)	0.5 ~ 1.800 MHz	1.8 ~ 29.999 MHz	50 MHz band	70 MHz band
SSB/CW (at 10 dB S/N)	–	0.16 μV	0.13 μV	0.16 μV
AM (at 10 dB S/N)	12.6 μV	2.0 μV	1.0 μV	1.0 μV
FM (at 12 dB SINAD)	–	0.5 μV*6	0.25 μV	0.25 μV

*5 Or less, HF: Preamp 1 ON, 50/70 MHz: Preamp 2 ON *6 28 ~ 29.7 MHz

Sensitivity for RED*7 (Filter shape: Soft)	1.8 ~ 2.999 MHz	3.0 ~ 29.999 MHz	50 MHz band	70 MHz band
SSB (at 12 dB SINAD)	10 dBμV emf	0 dBμV emf	–6 dBμV emf	–6 dBμV emf
AM (at 12 dB SINAD)	16 dBμV emf	6 dBμV emf	0 dBμV emf	0 dBμV emf
FM (at 12 dB SINAD)	–	0 dBμV emf*8	–6 dBμV emf	–6 dBμV emf

*7 Or less, HF: Preamp 1 ON, 50/70 MHz: Preamp 2 ON, BW: SSB=2.4 kHz, AM=4 kHz, 60% mod, FM=7 kHz, 60% modulation *8 28 ~ 29.7 MHz

Selectivity (Filter shape: Sharp)	–6 dB	–40 dB
SSB (BW: 2.4 kHz)	2.4 kHz or more	3.4 kHz or less
CW (BW: 500 Hz)	500 Hz or more	700 Hz or less
RTTY (BW: 500 Hz)	500 Hz or more	800 Hz or less
AM (BW: 6 kHz)	6.0 kHz or more	10 kHz or less
FM (BW: 15 kHz)	12.0 kHz or more	22 kHz or less

Spurious and image rejection	HF bands	70 dB or more
	50/70 MHz	70 dB or more (Except for ADC Aliasing*9)

*9 ADC Aliasing frequency: 124.032 MHz – RX frequency

Audio output power	2.5 W or more (at 10% distortion with an 8 Ω load, 1 kHz)

TUNER

Frequency range	1.8 ~ 70 MHz amateur bands
Matching impedance range	16.7 ~ 150 Ω unbalanced (3:1 VSWR or less)
Tuning accuracy	1.5:1 VSWR or less
Tuning time	2 ~ 3 seconds (average) 15 seconds (maximum)

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

Supplied accessories: (May differ depending on version)
• Hand microphone, HM-219 • DC power cable • Fuses • Plugs

OPTIONS

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

EXTERNAL SPEAKERS

SP-33
Wooden box speaker
Max. 5 W input

SP-38
High quality audio and matching height
Max. 7 W input

SP-41
Two input lines, High/low filters
Max. 5 W input

SP-35
2 m, 6.6 ft cable
SP-35L
6 m, 19.7 ft cable
Compact mobile external speaker

DESKTOP MICROPHONES

SM-30
Compact, lightweight electret microphone.

SM-50
Dynamic mic with [UP/DOWN] switches and a low cut function.

AUTO TUNING ANTENNA

AH-740
Covers 2.5–30 MHz (amateur band).
OPC-2321 is required.

NVIS KIT

AH-5NV
4.5 m (14.8 ft) fiberglass antenna element for use with AH-740.
Covers 2.2– 30 MHz with AH-740.

HF + 50 MHz 1 kW LINEAR AMPLIFIER

IC-PW2
OPC-599 is required.

HF + 50 MHz AUTO ANTENNA TUNER

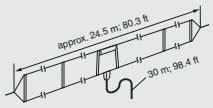
AH-730
Covers 1.8 ~ 54 MHz with a 7 m, 23 ft or longer wire antenna. Max. input: 150 W PEP, 100 W continuous. Controller cable (10 m, 32.8 ft) is supplied with the AH-730.

IP REMOTE CONTROL SOFTWARE & REMOTE ENCODER

RS-BA1 Version 2

RC-28
For use with the RS-BA1.

FOLDED DIPOLE ANTENNA



AH-710
Covers 1.9–30 MHz bands.
Not available for European Market.

- **HM-219:** HAND MICROPHONE (same as supplied)
- **MB-118:** MOBILE MOUNTING BRACKET
- **MB-123:** CARRYING HANDLE
- **OPC-1465:** CONTROL CABLE for use with AH-730 (10 m; 32.8 ft)
- **OPC-2321:** CONTROL CABLE for use with AH-740 (6 m; 19.7 ft)
- **OPC-599:** CABLE ADAPTER Converts 13-pin ACC to 7-pin + 8-pin ACC connectors. Required for the IC-PW2 connection.

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For the latest information, please visit **www.icomjapan.com**

