

ICOM

KB2LJJ
Radio Mods Database

HF ALL BAND TRANSCEIVER

IC-725



Compact and easy to operate.
Great for beginners as well as experienced hams.

Icom Inc.

HF ALL BAND TRANSCEIVER

IC-725

COMPACT, LIGHTWEIGHT, AND EASY TO OPERATE

Weighing in at only 4.6 kg (10.1 lb), IC-725 is great for base station, portable, and mobile operation. This rig comes packed with functions and special features, but it's so simple to operate that even novices will love it.

EASILY CONNECTED TO AN ANTENNA TUNER AND LINEAR AMPLIFIER

By connecting the AH-3 HF AUTOMATIC ANTENNA TUNER, you'll get a fully automatic antenna tuning system. This one-touch system is especially useful for mobile operation. It's a cinch to hook up the AT-150 or IC-AT500 AUTOMATIC ANTENNA TUNER. Connect the IC-2KL 500 W LINEAR AMPLIFIER for 500 watts of power.

INNOVATIVE DDS (DIRECT DIGITAL SYNTHESIZER) METHOD

Enter the DDS (Direct Digital Synthesizer) method from Icom — an innovative digital frequency synthesizer system. Using a gate array, DDS directly creates a digital pseudo sine wave. After D/A conversion, the analog output frequency closely resembles an ideal sine wave. The result: C/N, phase noise and blocking characteristics are greatly improved.

10 Hz STEP TUNING

Each frequency step is 10 Hz, making tuning as smooth as if using an analog VFO. Or instantly choose 20 Hz, 50 Hz, 1 kHz or 1 MHz tuning steps.

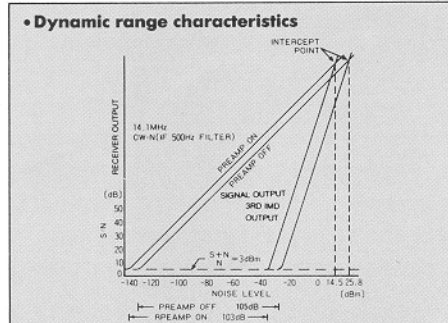
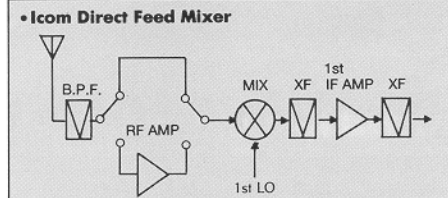
BAND STACKING REGISTER

Enables you to store an amateur frequency, switch bands, and return to the stored frequency. Especially convenient when switching bands during contests, and for quick monitoring of propagation conditions on other bands.

SUPER-SENSITIVE RECEIVER

A dynamic range of 105 dB provides excellent sound reproduction of faint and strong signals on all bands without distortion. The up-conversion system ensures superior image rejection and spurious response characteristics. The sensitivity of $0.15 \mu\text{V}$ for 10 dB S/N* will help you pick weak signals out of the mud. The receiver incorporates the Icom Direct Feed Mixer (DFM) in the front end for excellent intermodulation and cross modulation rejection.

*1.8~30 MHz, SSB or CW, preamp ON



All the feat reliable cor



MULTI-MODE 100 WATT OUTPUT TRANSMITTER

IC-725 outputs 100 watts on USB, LSB, and CW. Install the UI-7 AM-FM UNIT (optional) and operate AM and FM with 40 watts on AM and 100 watts on FM. Install the UT-20 PROGRAMMABLE TONE ENCODER UNIT (optional) and you can even work FM repeaters on 10 meters. CW semi break-in and sidetone circuitry is built-in. Break-in delay timing is adjustable.

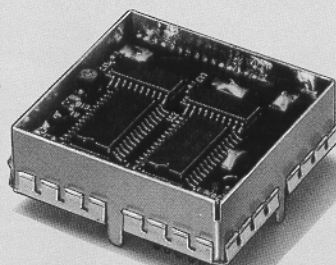
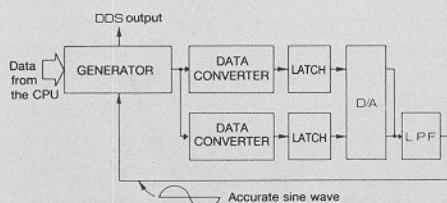
GENERAL COVERAGE RECEIVER

IC-725's receiver section covers 30 kHz to 33 MHz on SSB, CW, AM and FM (UI-7 required for FM). Great for listening to shortwave broadcasts, marine and coastal stations, etc.

26 MEMORY CHANNELS FOR GREAT CONVENIENCE

Store a frequency and a mode in each of the 26 memory channels, and recall them at the touch of a button. Channels 23 and 24 memorize both receive and transmit frequencies for split frequency operation.

DDS Block Diagram



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THREE SCANS FOR HANDS-FREE OPERATION

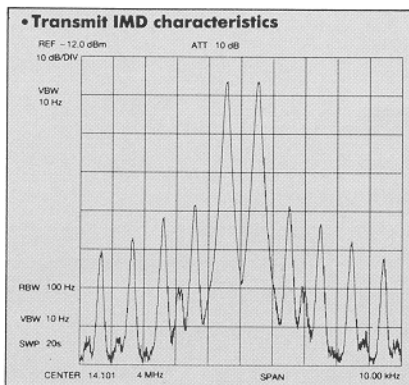
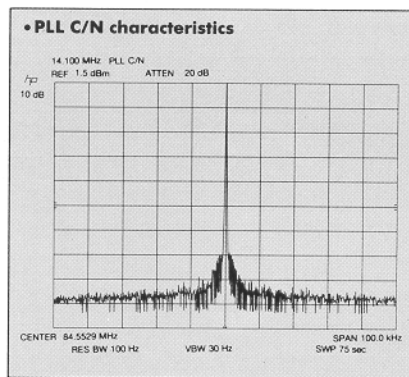
Programmed Scan scans all frequencies between two programmable scan edges. Memory Scan scans all memory channels in succession. Selected Mode Memory Scan scans all memory channels with the same mode. Sit back and relax. Let the rig do the work for you.

RECEIVER INCREMENTAL TUNING (RIT)

Use RIT to tune above and below a desired signal within ± 1 kHz without changing the operating frequency. The Δf function adds the frequency increment to the operating frequency. This function is a great convenience when working a DX pile-up, operating net control, etc.

BUILT-IN PREAMPLIFIER AND ATTENUATOR

Turn on the receiver preamplifier to boost a signal by 10 dB. If your antenna's gain is insufficient, you need this preamplifier! Use the 20 dB attenuator and prevent saturation of the receiver's front end by very strong signals.



AMPLE HEAT DISSIPATION FOR STABILITY AND SAFETY

The large, sturdy aluminum die-cast frame and inner-flow cooling fan maintain a stable internal temperature. IC-725 keeps the output power stable even after long hours of continuous use.

ALL MODE SQUELCH

The all mode squelch, which mutes the speaker, comes in handy when scanning or when working a 10 meter repeater. Signals and noise that are stronger than the squelch threshold level open the squelch, but those below that level do not.

CI-V SYSTEM

With the built-in interface, you can control IC-725 with a personal computer through the CT-17 CI-V LEVEL CONVERTER. You can also control the frequency, mode, VFO A/B selection, memory channels, etc. of several Icom HF rigs with a personal computer through the CI-V line.

LCD FOR EASY VIEWING

The extra large liquid crystal display (LCD) makes it easy to read the frequency, mode, memory channel number, etc. The soft orange background is easy on the eyes. Turn the 10 Hz digit display on and off at the touch of a button.

TWO VARIABLE FREQUENCY OSCILLATORS (VFO)

With two digital VFOs, you can switch back and forth between two frequencies at the touch of a switch. Especially useful for net operation and contests. Equalize the frequencies and modes of both VFOs instantly.

OPTIONAL PLUG-IN CW FILTERS

The serious brasspounder will enjoy our two optional CW NARROW FILTERS: FL-100 (9.0106 MHz; 500 Hz/-6 dB), and FL-101 (9.0106 MHz; 250 Hz/-6 dB). These filters can greatly help out in heavy interference. When the CW filters are installed, select either CW-wide or CW-narrow at the touch of a button on the transceiver.

SPECIFICATIONS

■ GENERAL

- Frequency coverage : Receive 30 kHz~33 MHz
guaranteed range 500 kHz~30 MHz
Transmit 1.80000~1.99999 MHz
3.40000~4.09999 MHz
6.90000~7.49999 MHz
9.90000~10.49999 MHz
13.90000~14.49999 MHz
17.90000~18.49999 MHz
20.90000~21.49999 MHz
24.40000~25.09999 MHz
27.90000~30.00000 MHz
- Modes : SSB (A3J), CW (A1), AM (A3), FM (F3)
(UI-7 AM-FM UNIT required for AM transmission and FM transmission reception.)
- Number of memory channels : 26
- Antenna impedance : 50 Ω unbalanced
- Usable temperature range : -10°C~+60°C (+14°F~+140°F)
- Frequency stability : Less than ±200 Hz up to one hour after the power is turned ON (+25°C; +77°F)
Less than ±30 Hz after one hour (+25°C; +77°F)
Less than ±350 Hz
(0°C~+50°C; +32°F~+122°F)
- Power supply requirement : 13.8 V DC ±15%, negative ground
- Current drain (at 13.8 V DC) : Receive (squellched) 1.2 A
(max. audio output) 1.5 A
Transmit 20 A
- Dimensions : 241(W) × 94(H) × 239(D) mm
9.5(W) × 3.7(H) × 9.4 (D) in
(Projections not included)
- Weight : 4.6 kg (10.1 lb)

■ TRANSMITTER

- Output power : SSB, CW, FM 10~100 W continuously adjustable
AM 10~40 W continuously adjustable
- Spurious emissions : More than 50 dB below peak output power

- Carrier suppression : More than 40 dB below peak output power
- Unwanted sideband : More than 50 dB down with 1 kHz AF input
- Microphone impedance : 600 Ω

■ RECEIVER

- Receiver system : SSB, CW, AM Double-conversion
superheterodyne
FM Triple-conversion superheterodyne
- Intermediate frequencies : 1st SSB 70.4515 MHz
CW 70.4506 MHz
AM, FM 75.4500 MHz
2nd SSB 9.0115 MHz
CW 9.0106 MHz
AM, FM 9.0100 MHz
3rd FM 455 kHz
- Sensitivity : (1.8~30 MHz, preamplifier ON)
SSB, CW Less than 0.15 μV for 10 dB S/N
AM Less than 2.0 μV for 10 dB S/N
(28~29.7 MHz, preamplifier ON)
FM Less than 0.5 μV for 12 dB SINAD
- FM squelch sensitivity (preamplifier ON) : Less than 0.3 μV
- Selectivity : SSB, CW More than 2.3 kHz/-6 dB
Less than 4.0 kHz/-60 dB
AM More than 6.0 kHz/-6 dB
Less than 20 kHz/-40 dB
FM More than 15 kHz/-6 dB
Less than 30 kHz/-50 dB
- Spurious response rejection : More than 70 dB
- Audio output impedance : 8 Ω
- Audio output power : More than 2.6 W at 10% distortion
with an 8 Ω load
- RIT variable range : More than 1 kHz

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

OPTIONS

AH-2b	ANTENNA ELEMENT (for AH-3)	IC-2KL	500 W LINEAR AMPLIFIER
AH-3	HF AUTOMATIC ANTENNA TUNER	MB-23	CARRYING HANDLE
AT-150	100 W AUTOMATIC ANTENNA TUNER	IC-PS30	AC POWER SUPPLY (13.8 V, 25 A)
CR-64	HIGH-STABILITY CRYSTAL UNIT	PS-55	AC POWER SUPPLY (13.8 V, 20 A)
CT-16	SATELLITE INTERFACE UNIT	SM-6	ELECTRET CONDENSER-TYPE DESKTOP MICROPHONE
CT-17	CI-V LEVEL CONVERTER	SM-8	DESK MICROPHONE
EX-627	HF AUTOMATIC ANTENNA SELECTOR	SM-10	COMPRESSOR/GRAPHIC EQUALIZER DESK TOP MICROPHONE
FL-100	CW NARROW FILTER (9.0106 MHz, 500 Hz/-6 dB)	SP-7	EXTERNAL SPEAKER
FL-101	CW NARROW FILTER (9.0106 MHz, 250 Hz/-6 dB)	SP-20	EXTERNAL SPEAKER WITH AUDIO FILTERS
HP-2	COMMUNICATION HEADPHONES	UI-7	AM-FM UNIT
IC-AT500	500 W AUTOMATIC ANTENNA TUNER	UT-30	PROGRAMMABLE TONE ENCODER UNIT
IC-MB5	MOBILE MOUNTING BRACKET	WR-200	SWR & POWER METER (1.8~150 MHz, max. 200 W)
IC-SP3	EXTERNAL SPEAKER	WR-2000	SWR & POWER METER (1.8~54 MHz, max. 2 kW)

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