

ICOM

HF/VHF ALL MODE TRANSCEIVER

# IC-746

**HF + 50 MHz + 144 MHz**  
100w                      100w                      100w



Icom Inc.

# ICOM INNOVATION AND TECH

LOOKING FOR ONE RIG TO SATISFY ALL YOUR BASE STATION NEEDS? FEATURES, SUPERIOR PERFORMANCE OVER A WIDE FREQUENCY RANGE AND



## HF + 6 m + 2 m band coverage

The IC-746 offers all mode operation (SSB, CW, RTTY, AM and FM) on the amateur HF (1.8–28 MHz), 50 MHz and 144 MHz bands. In addition, a wide frequency coverage receiver provides continuous coverage from 30 kHz to 60 MHz and 108–174 MHz.\*

\*Specifications guaranteed 1.8–29.990 MHz, 50–54 MHz and 144–148 MHz only.

## 100 W output for all bands

100 W of output power is available on all bands—HF, 50 MHz and 144 MHz, making the IC-746 a practical choice for all-round base station use. The aluminum, die-cast chassis and large cooling fan help to stabilize the PA circuit, providing 100%, full duty cycle operation.

## DSP functions standard

DSP digitally transposes receive audio components in all modes of operation to produce desired AF frequency character-

istics at the IF stage (15.625 kHz) of the transceiver. This built-in DSP provides the following functions.

- ◆ **Noise reduction**—reduces various types of noise and enhances receive signal components only.
- ◆ **Automatic notch filter**—automatically reduces single beat interference and protects the receive voice signals. The notch frequency adjusts automatically to the interfering beat frequency.
- ◆ **Selectable APF**—a total of 3 passband widths are selectable from 80 Hz, 160 Hz and 320 Hz, for super-narrow filter APF functions in CW mode. The APF center frequency is adjustable.

## Large, multi-function LCD

Designed for ease-of-use and optimum readability in any lighting condition. Operating frequency, memory channel number, function settings and digital meter readouts are indicated. In addition, the following items can be displayed in the multi-function, dot-matrix portion of the LCD:

## HF/VHF ALL MODE TRANSCEIVER IC-746

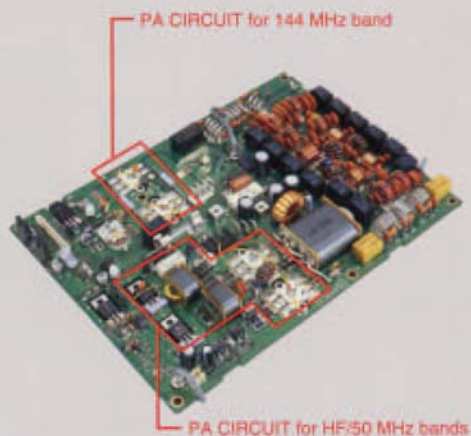
- ◆ **Band scope**—provides a convenient visual indication of band conditions around a displayed frequency
- ◆ **Memory names**—up to 9 characters can be conveniently assigned to memories
- ◆ **Key assignments**—indicates functions assigned to the multi-function switches
- ◆ **Twin PBT settings**—display passband widths and passband location against the Rx frequency
- ◆ **Split frequency**—Rx or Tx frequency\* is displayed during split operation  
\*Depending on condition (transmit or receive).
- ◆ **Memory keyer contents**—displays the contents of the CW memory keyer



# TECHNOLOGY LEADERSHIP...AGAIN!

GO NO FURTHER! THE IC-746 OFFERS IF DSP, NEW AND EXCITING FEATURES AND ALL MODE OPERATION AT 100 W (40 W IN AM MODE).

## ● PA UNIT



## ● Display example 1— Band scope



## ● Display example 2— Memory names



## ● Display example 3— Dual frequency display



## ● Display example 4— Memory keyer contents



## Twin PBT

This convenient function narrows the IF passband in two stages to eliminate interfering signals. Particularly useful during crowded band conditions such as pileups, contests, etc.

## Versatile filter combinations

Up to 3\* optional crystal filters can be installed, providing a wide variety of filter combinations. Choose a filter combination from the front panel that best suits your operating needs, for example 500 Hz and 250 Hz CW filters.

\*2 filters for 9 MHz IF and 1 for 455 kHz IF stages.

## Digital, multi-function S/Rf meter

This meter provides a variety of useful information. Signal strength is indicated while receiving (S-meter) and RF output, SWR and ALC levels are simultaneously indicated while transmitting. A peak level hold function is available for the S-meter.

## Complete CW functions

CW enthusiasts won't be disappointed. With a built-in 4 channel memory keyer with 50 characters, multi-function electronic keyer, CW pitch control and full break-in (QSK), the IC-746 has it all.

## Tone squelch standard

Tone squelch functions (CTCSS encoder/decoder) are standard with 50 different tone frequencies available.

## Automatic antenna tuner

An automatic antenna tuner is built-in and covers the HF bands to 50 MHz.\* After operating on a band for the first time memories can be preset providing very high speed tuning.

\*Guaranteed for amateur bands only.

## FM narrow capability

The IC-746 lets you take full advantage of this operating style on either the 10 m or 2 m (where narrow FM is required) bands.

## Quick split function

With this function, the offset frequency can be set in advance. Simply push [SPLIT] for 1 sec. to select all necessary settings for split frequency operation.

## Other outstanding features

- Triple band stacking register
- Memo-pad function has up to 10 channels available to temporarily store operating frequencies and modes
- Optional UT-102 VOICE SYNTHESIZER UNIT announces the displayed frequency, operating mode and S-meter level
- IF transmit audio monitor (SSB mode only; AF transmit audio monitor for the other modes)



## SPECIFICATIONS

## GENERAL

• Frequency coverage (MHz)	Receive	0.030-60.000**	108.000-174.000**
	Transmit	1.800-1.999**	3.500-3.999**
		7.000-7.300**	10.100-10.150
		14.000-14.350	18.068-18.168
		21.000-21.450	24.890-24.990
		28.000-29.700	50.000-54.000**
		144.000-148.000**	

\*\*except for some frequency ranges

\*depending on version

• Mode	USB, LSB, CW, RTTY, AM, FM
• No. of memory channels	102 (99 regular, 2 scan edges and 1 call)

## • Frequency stability

Less than  $\pm 7$  ppm from 1 min. to 60 min. after power ON. After that, rate of stability change is less than  $\pm 1$  ppm at 25°C (+77°F). Temperature fluctuations (0°C to +50°C; +32°F to +122°F) less than  $\pm 5$  ppm.

• Power supply requirement	13.8 V DC ( $\pm 10\%$ , negative ground)
• Current drain (at 13.8 V DC)	Transmit max. power 20.0 A Receive max. audio 2.0 A standby 1.8 A

• Antenna connector	SO-239-3 (2 for HF/50 MHz and 1 for 144 MHz band) 50 $\Omega$
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• Dimensions (protrusions not included)	267(W) $\times$ 122.5(H) $\times$ 316(D) mm 11 $\frac{1}{2}$ (W) $\times$ 4 $\frac{7}{8}$ (H) $\times$ 12 $\frac{3}{8}$ (D) in
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• Weight (approx.)	8.9 kg, 19 lb 10 oz
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## TRANSMITTER

• Output power	5-100 W (except AM) 5-40 W (AM only)
• Modulation system	USB, LSB, AM, FM
• Spurious emissions	Balanced modulation Variable reactance modulation Less than -50 dB (HF) Less than -60 dB (50/144)
• Carrier suppression	More than 40 dB
• Unwanted sideband supp.	More than 50 dB
• JTX variable range	$\pm 9,999$ kHz
• Microphone connector	8-pin (600 $\Omega$ )

## RECEIVER

• Sensitivity (typical)	USB, LSB, CW, RTTY (10 dB S/N)	0.16 $\mu$ V <sup>1</sup> (1.8-29.800 MHz) 0.13 $\mu$ V <sup>2</sup> (30 MHz)
	AM (10 dB S/N)	0.11 $\mu$ V <sup>3</sup> (144 MHz) 13 $\mu$ V (1.8-1.799 MHz) 2.0 $\mu$ V <sup>1</sup> (1.8-29.800 MHz) 1.0 $\mu$ V <sup>2,3</sup> (30/144 MHz)
	FM (12 dB SINAD)	0.5 $\mu$ V <sup>1</sup> (28-29.800 MHz) 0.25 $\mu$ V <sup>2</sup> (30 MHz) 0.18 $\mu$ V <sup>3</sup> (144 MHz)

\*1:Preamp-1 ON, \*2:Preamp-2 ON, \*3:Preamp ON

• Selectivity	USB, LSB, CW, RTTY	More than 2.1 kHz/-6 dB Less than 4.0 kHz/-60 dB More than 9.0 kHz/-6 dB Less than 20.0 kHz/-40 dB More than 12 kHz/-6 dB Less than 30 kHz/-50 dB
	AM, FM-N	
	FM	
• Squelch sensitivity	USB, LSB, CW, RTTY	Less than 5.6 $\mu$ V Less than 1.0 $\mu$ V
	FM	
• Spurious and image rejection ratio:	(except IF through on 50 MHz)	More than 70 dB (HF, 50 MHz) More than 60 dB (144 MHz)
• RIT variable range		$\pm 9,999$ kHz
• Audio output power		More than 2.0 W (at 13.8 V DC with an 8 $\Omega$ load)

## Supplied accessories:

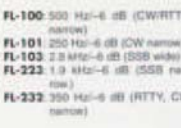
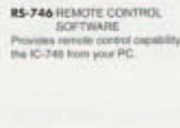
- Hand microphone
- DC power cable
- Spare fuses
- Key plug

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

## OPTIONS



IC-PW1 HF + 50 MHz 1 kW LINEAR AMPLIFIER

AH-4 HF + 50 MHz AUTOMATIC ANTENNA TUNER  
Covers 3.5-54 MHz with a 7 m (23 ft) or longer wire antenna.AH-2b ANTENNA ELEMENT  
A 2.5 m long antenna element for mobile operation with the AH-4. All bands between 7-54 MHz can be matched.PS-85 POWER SUPPLY  
Output: 13.8 V DC (20 A max.)SP-21 EXTERNAL SPEAKER  
Designed for base station operation. Input impedance: 8  $\Omega$ . Max. input power: 5 W.SM-20 DESKTOP MICROPHONE  
Unidirectional electret microphone for base station operation. Includes [UP]/[DOWN] switches and a low cut function.SM-8 DESKTOP MICROPHONE  
Electret, condenser-type desktop microphone including 2 connection cables for simultaneous connection of 2 transceivers. [UP]/[DOWN] switches are included.CT-17 CI-V LEVEL CONVERTER  
For remote transceiver control using a personal computer. You can change frequencies, operating mode, memory channels, etc.CT-16 SATELLITE INTERFACE UNIT  
Easy tuning when connecting another Icom VHF transceiver for instant satellite communications.CR-282 HIGH-STABILITY CRYSTAL UNIT  
Contains a temperature-compensating oven heater and crystal unit for improved frequency stability.  
• Frequency stability:  $\pm 0.5$  ppmUT-102 VOICE SYNTHESIZER UNIT  
Announces operating frequency, mode and S-meter level.HM-36 HAND MICROPHONE  
Same as supplied.9 MHz FILTERS  
Have good shape factor and provide you with better reception.FL-100 500 Hz/-6 dB (CW/RTTY narrow)  
FL-101 250 Hz/-6 dB (CW narrow)  
FL-103 2.8 kHz/-6 dB (SSB wide)  
FL-223 1.9 kHz/-6 dB (SSB narrow)  
FL-232 350 Hz/-6 dB (RTTY, CW narrow)455 kHz FILTERS  
Have good shape factor and provide you with better reception.FL-52A 500 Hz/-6 dB (CW/RTTY narrow)  
FL-53A 250 Hz/-6 dB (CW narrow)  
FL-96 2.8 kHz/-6 dB (SSB wide)  
FL-222 1.8 kHz/-6 dB (SSB narrow)  
FL-257 3.3 kHz/-6 dB (SSB wide)RS-746 REMOTE CONTROL SOFTWARE  
Provides remote control capability for the IC-746 from your PC.

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Count on us!

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