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ICOM IC-706MkII MF/HF/VHF Transceiver

Edited by **Rick Lindquist, N1RL**• Senior Assistant Technical Editor

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Since ICOM came out with the IC-706 a couple of years ago, we have been expecting (well, at least *half* expecting) another manufacturer to attempt to top ICOM's triumph. After all, the IC-706 was the first transceiver (and as of this printing the only) to integrate 160 through 2 meters in a single, very compact package that also includes general coverage receive, a choice of modes, and a detachable front panel that lets you install this radio just about anywhere in one of today's vehicle "cockpits."

Curiously, no one has seemed equal to the task of beating ICOM at its own game. Even so, last spring ICOM felt compelled to trump its own ace with the IC-706MkII. Not only has ICOM managed to make its best little radio even better, it kept the price the same!

Let's face it. The IC-706 was a hard act to follow. What could ICOM do to improve what we called "one of the most exciting new products to come along in years"? Well, for starters they must have taken our review of the original IC-706 (see "Product Review," *QST*, Mar 1996) to heart. While we heaped a lot of praise on the original '706, we also pointed out a few rough spots (very possibly a consequence of its having been rushed to market). Subsequently—and with little evidence that the competition was breathing down its back—ICOM went back to the drawing board to upgrade the basic '706 to smooth out the bumps without compromising a great (and rugged) basic design. Then they added some new features as icing on the cake.

Let's see how it turned out.

What's new?

ICOM's reworking has been successful enough to prompt even some diehard '706 owners to trade up to the MkII. None of the changes is terribly obvious. It's pretty easy to confuse the old radio with the new model when they're sitting next to one another. Among other new features, ICOM has given the MkII twice as much output power on 2 meters, an extra filter slot, real **BAND** buttons (which used to be **UP** and **DOWN** buttons), and expanded the role of the RIT knob to also serve as a sub VFO knob. A lot of the changes are hidden within the radio's many menus (no, those didn't go away in the MkII).

The MkII has a bigger, better speaker, a thermostatically controlled cooling fan, a new fine-tuning mode (activated by a menu choice labeled **1/4**—I had to look this one up), and improved wideband receive performance (no more "yellow wire mod"). As we has pointed out in our review, the original IC-706 suffered from poor sensitivity over much of the 60 to 200 MHz range. Tone squelch is available as a option.

Another change that will eliminate hassles for many ops is that power output now can be set independently for HF and for both VHF bands. You can set one power level for HF, another on 6 meters, and yet another on 2 meters! On the original IC-706, HF and 6 meters shared one power level setting and two meters another.

A new **M-CH** knob lets you step through the memory channels—something you did with the old **UP** and **DOWN** buttons on the original IC-706. And the MkII can do crossband repeat, which works fine for some satellite work.

Stepping through the modes on the MkII is just a little bit different. On the original unit, you'd toggle between RTTY and AM if you pressed and held in the mode button while on one or the other mode. Now, you toggle between RTTY and **R**RTTY (reverse). The AM mode shares a position on the *next* stop with FM and FMW (wide). The ability to swap or invert the RTTY signal is a real plus for those using the radio in that mode.

While most of the changes proved to be improvements, a couple (*just* a couple) prompted us to ask, "What, that's better?" More on these later. First, some details.

Moving around

No longer will '706 users have to rely on the **TS** button and the main tuning knob to move from band to band. As we mentioned, the MkII has real **BAND** buttons where the **UP** and **DOWN** buttons used to be. This is a great change that means much less button pushing and fewer errors (how many times have you IC-706 owners pushed the **TS** button and started turning the knob only

BOTTOM LINE

ICOM didn't wait for the competition to top its little all-in-one HF+VHF box. Not only did ICOM smooth up the rough edges of the original '706, it added a few features to boot. Nice work!

Table 1
ICOM IC-706 MKII, serial number 02995

Manufacturer's Claimed Specifications	*Measured in the ARRL Lab*
Frequency coverage: Receive, 30 kHz to 200 MHz; transmit, 1.8-2, 3.5-4, 7-7.3, 10.1-10.15, 14-14.35, 18.068-18.168, 21-21.45, 24.89-24.99, 28-29.7, 50-54, 144-148 MHz.	Receive, as specified; transmit, 1.8-2, 3.4-4.1, 6.9-7.5, 9.9-10.5, 13.9-14.5, 17.9-18.5, 20.9-21.5, 24.4-25.1, 28-30, 50-54, 144-148 MHz
Modes of operation: SSB, CW, AM, NBFM, WBFM, (receive only), RTTY.	As specified.
Power requirement: Receive, 1.5 A (squelched); transmit, 20 A (max).	Receive, as specified; transmit, as specified.
Size (HWD): 2.3×6.7×7.9 inches; weight, 5.5 pounds.	
Receiver	*Receiver Dynamic Testing*
SSB/CW sensitivity, bandwidth not specified, preamp on, 10 dB S/N: 1.8-30 MHz, 0.15 µV; 50-54 MHz, 0.12 µV; 144-148 MHz, 0.11 µV.	Minimum discernible signal (noise floor), 500 Hz filter: *Preamp off* / *Preamp on* 3.5 MHz: –135 dBm / –140 dBm 14 MHz: –135 dBm / –141 dBm 50 MHz: –136 dBm / –141 dBm 144 MHz: –140 dBm / –143 dBm
AM sensitivity, 10 dB S/N, bandwidth not specified, preamp on: 0.5-1.8 MHz, 13 µV; 1.8-30 MHz, 2 µV; 50-54 MHz, 1 µV; 144-148 MHz, 1 µV.	10 dB (S+N)/N, 1-kHz tone, 30 modulation: *Preamp off* / *Preamp on* 1.0 MHz: 21 µV (–80 dBm) / 9.0 µV (–88 dBm) 3.8 MHz: 1.0 µV (–107 dBm) / 0.6 µV (–112 dBm) 50 MHz: 0.8 µV (–109 dBm) / 0.5 µV (–113 dBm) 120 MHz: 2.0 µV (–100 dBm) / 0.8 µV (–109 dBm) 144 MHz: 0.6 µV (–112 dBm) / 0.4 µV (–115 dBm)
NBFM sensitivity, 12 dB SINAD: 28-29.7 MHz, 0.5 µV; 50-54 MHz, 0.3 µV; 144-148 MHz, 0.2 µV.	For 12 dB SINAD: *Preamp off* / *Preamp on* 29 MHz: 0.5 µV (–114 dBm) / 0.3 µV (–119 dBm) 50 MHz: 0.3 µV (–117 dBm) / 0.2 µV (–121 dBm) 144 MHz: 0.3 µV (–119 dBm) / 0.2 µV (–123 dBm)
WBFM sensitivity, 12 dB SINAD: 76-108 MHz, 10 µV.	*Preamp off* / *Preamp on* 100 MHz: 2.0 µV (–101 dBm) / 0.9 µV (–108 dBm)
Blocking dynamic range: Not specified.	Blocking dynamic range, 500 Hz filter: *Preamp off* / *Preamp on* 3.5 MHz: 113 dB* / 110 dB* 14 MHz: 114 dB* / 109 dB* 50 MHz: 107 dB* / 105 dB* 144 MHz: 105 dB* / 102 dB*
Two-tone, third-order IMD dynamic range: Not specified.	Two-tone, third-order IMD dynamic range, 500 Hz filter: *Preamp off* / *Preamp on* 3.5 MHz: 87 dB* / 86 dB* 14 MHz: 86 dB* / 87 dB* 50 MHz: 85 dB* / 84 dB* 144 MHz: 86 dB* / 81 dB*
Third-order intercept: Not specified.	*Preamp off* / *Preamp on* 3.5 MHz: +3.4 dBm / –6.8 dBm 14 MHz: +4.2 dBm / –7.2 dBm 50 MHz: –1.3 dBm / –11.5 dBm 144 MHz: –7.7 dBm / –16.5 dBm
Second-order intercept: Not specified.	Preamp off, +55 dBm; preamp on, +40 dBm.

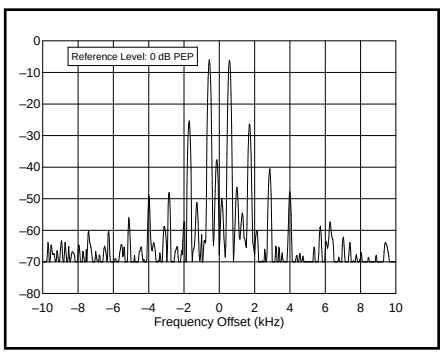

Figure 1—Worst-case HF spectral display of the IC-706MkII transmitter during two-tone intermodulation distortion (IMD) testing. The worse-case third-order product is approximately 26 dB below PEP output, and the worse-case fifth-order product is down approximately 42 dB. The transceiver was being operated at 100 W PEP output at 28.35 MHz.

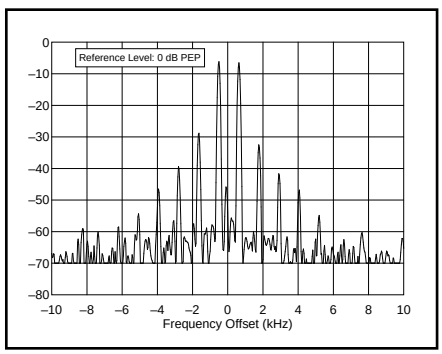

Figure 2—Worse-case VHF spectral display of the IC-706MkII transmitter during two-tone intermodulation distortion (IMD) testing. The worse-case third-order product is approximately 29 dB below PEP output, and the worse-case fifth-order product is down approximately 40 dB. The transceiver was being operated at 100 W PEP output at 144.2 MHz.

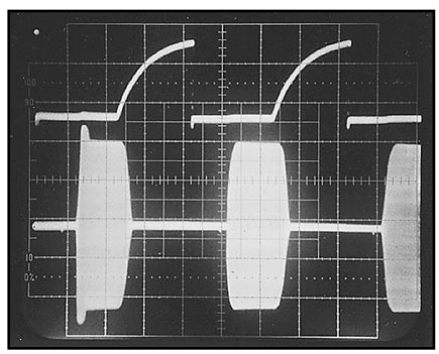

Figure 3—CW keying waveform for the IC-706MkII in the full-break-in (QSK) mode showing the first and second dits. Equivalent keying speed is approximately 60 wpm. The upper trace is the actual key closure; the lower trace is the RF envelope. Horizontal divisions are 10 ms. The transceiver was being operated at 100 W output at 14.2 MHz. Note the significant shortening of both dits. In semi-break-in mode, only the first dit is shortened. Also note the higher-power "spike" on the leading edge of the CW waveform (see text).

Manufacturer's Claimed Specifications	*Measured in the ARRL Lab*
FM adjacent channel rejection: Not specified.	29 MHz: 62 dB; 52 MHz, 66 dB; 146 MHz, 61 dB, at 20 kHz channel spacing, preamp on.
FM two-tone, third-order IMD dynamic range: Not specified.	29 MHz: 66 dB*; 52 MHz, 67 dB*; 146 MHz, 61 dB* at 20 kHz channel spacing, preamp on. 146 MHz, 77 dB at 10 MHz spacing.
S-meter sensitivity: Not specified.	S9 signal at 14.2 MHz: preamp off, 67 μV; preamp on, 21 μV; 52 MHz, preamp off, 36 μV; preamp on, 18 μV; 146 MHz., preamp off, 30 μV; preamp on, 12 μV.
Squelch sensitivity: SSB, 5.6 μV; FM, 0.3 μV, preamp on, at threshold.	At threshold, preamp on: SSB, 14 MHz, 1.1 μV; FM, 29 MHz, 0.15 μV; 52 MHz, 0.09 μV; 146 MHz, 0.12 μV.
Receiver audio output: 2 W at 10% THD into 8 Ω.	2.2 W at 10% THD into 8 Ω.
IF/audio response: Not specified.	Range at -6dB points, (bandwidth): CW-N (500 Hz filter): 357-893 Hz (536 Hz); CW-W: 359-2427 Hz (2138 Hz); USB-W: 349-2516 Hz (2167 Hz); LSB-W: 356-2530 Hz (2174 Hz); AM-N: 353-3369 Hz (6032 Hz).
Spurious and image rejection: 70 dB on HF; 50 MHz, not specified; 144 MHz, 60 dB (FM mode).	First IF rejection — *Preamp off* / *Preamp on*: 14 MHz 108 dB / 118 dB; 50 MHz 93 dB / 77 dB; 144 MHz 77 dB / 74 dB. Image rejection — *Preamp off* / *Preamp on*: 14 MHz 95 dB / 98 dB; 50 MHz 119 dB / 120 dB; 144 MHz 83 dB / 91 dB.
Transmitter	*Transmitter Dynamic Testing*
Power output: HF and 50 MHz: SSB, CW, FM, RTTY: 100 W (max); 5 W (min); AM, 40 W (max), 2 W (min); 144 MHz, SSB, CW,FM, RTTY, 20 W (max), 2 W (min); AM, 8 W (max), 2 W (min).	HF: CW, SSB & FM, typically 109 W (max), <3 W (min); AM, typically 35 W (max), < 1 W (min); 50 MHz, CW, typically 95 W (max), <2 W (min); SSB & FM, typically 80 W (max), <2 W (min), AM, typically 30 W (max), <1 W (min); 144 MHz, CW, SSB & FM, typically 19 W (max), <1 W (min); AM, typically 7 W (max), <1 W (min).
Spurious-signal and harmonic suppression: >50 dB on HF, >60 dB on VHF.	HF, 42 dB (see text); VHF, as specified. Meets FCC requirements for spectral purity for equipment in its power class and frequency range.
SSB carrier suppression: 40 dB.	As specified.
Undesired sideband suppression: 50 dB.	As specified.
Third-order intermodulation distortion (IMD) products: Not specified.	See Figures 1 and 2.
CW keyer speed range: Not specified.	6 to 60 wpm.
CW keying characteristics: Not specified.	See figure 3.
Transmit-receive turn-around time (PTT release to 50 % audio output): Not specified.	S9 signal, 8 ms.
Receive-transmit turn-around time (tx delay): Not specified.	SSB, 9.5 ms; FM, 46 ms.
Composite transmitted noise: Not specified.	See Figures 4 and 5.

Note: All dynamic range measurements are taken at the ARRL Lab standard spacing of 20 kHz unless otherwise noted.

*Measurement was noise-limited at the value indicated.

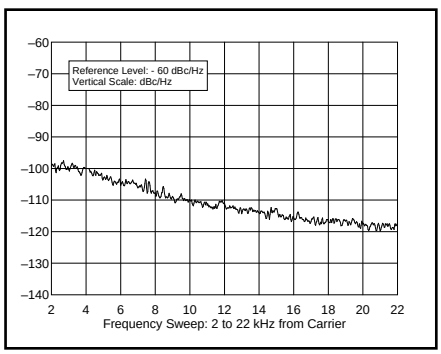

Figure 4—Worst-case HF spectral display of the IC-706MkII transmitter output during composite-noise testing. Power output is 100 W at 14.2 MHz. The carrier, off the left edge of the plot, is not shown. This plot shows composite transmitted noise 2 to 22 kHz from the carrier.

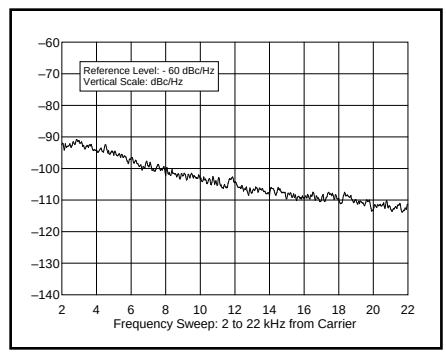

Figure 5—Worse-case VHF spectral display of the IC-706MkII transmitter output during composite-noise testing. Power output is approximately 20 W at 144 MHz. The carrier, off the left edge of the plot, is not shown. This plot shows composite transmitted noise 2 to 22 kHz from the carrier.

to realize you've got the tuning step indicator in the wrong place?).

The **TS** button lets you select 1 Hz and 10 Hz tuning steps in CW, SSB and RTTY modes. When you're in the 1 Hz tuning step mode, a 1 Hz digit appears on the display. One difference here is that you can only apply the 1 MHz "quick tuning" step in FM, WFM or AM mode on the MkII. Some users of the newer model considered this a disadvantage. The old '706 let you apply the 1-MHz step in *any* mode.

The changes involving the RIT may turn out to be a matter of good news/bad news, depending on your perspective. First, the good news. Now, when you turn the **M-CH** knob (formerly the **RIT** knob) after pressing the **RIT/SUB** button to enable RIT, the frequency change is displayed (briefly) in the menu portion of the window. This is a quantum leap from the original RIT implementation, where you never knew how much RIT you were cranking in until you pressed and held the RIT button to add the RIT to

the main frequency readout.

The potentially bad news is that ICOM upped the maximum amount of RIT in the MkII from ±1 kHz to ±9.99 kHz. This sounds like an improvement, but you're likely to find yourself turning and turning the little knob to effect just a minor frequency adjustment, and it cannot be changed to a coarser step. ICOM suggests using the split function if you need more than a little RIT. The MkII's **M-CH** knob is detented too. The RIT no longer works in FM or AM as it did on the original '706.

Menu mods

Like the original '706, the MkII has several menu sets you access by pushing or pushing and holding the **DISPLAY** button on the front panel, then using the **MENU** button to step through the choices. All the buttons and menu sets can take a little getting used to, but they offer a degree of flexibility once found only in much more expensive transceivers. The menus on the IC-706 offer choices accessible via the four "F" keys below the big backlighted display window. In a side-by-side comparison of old and new, we discovered several changes. For example, in the most-used menu, the M set (M1 through M4), on the MkII a **M->V** button replaces the former **MCL** (memory clear) choice on the M2 menu. Other changes are more cosmetic—**FIL** instead of **NAR** to pick the optional narrow filter.

One menu change eliminates a source of annoyance that most owners of the original IC-706 have run into at one time or another—and it's something we didn't talk about in our earlier review: the IC-706MkII doesn't let you turn on the speech processor (compressor) in the FM mode. This means you can switch from SSB on HF to 2-meter FM and not worry that you've left it on. A **TSQ** (tone squelch) selection replaces the former **COM** choice in the M4 menu.

We mentioned the **1/4** selection. This fills a formerly blank spot on the M4 menu when you're in CW or RTTY mode. While not necessarily intuitive, this cuts the tuning rate of the main dial to one-fourth of its default rate, a great feature that (once again) eliminates the need to press the **TS** (tuning step) button. It's not available in SSB. The IC-706MkII *Instruction Manual* could be a bit clearer on what this does—it would be easy to overlook.

Other changes lurk in the S1 through S3 menus. The most obvious one is what shows up as **B.S.R** (for "band stacking registers") on the display window in the S3 menu. After **B.S.R.** flashes on the screen, you can select from among three bands that you can set up yourself. This is a nice feature, but it's a bit hard to reach in a hurry. However, the band stacking registers can memorize preamp or attenuator settings, tuner on/off status (the IC-706MkII can control an optional, external automatic antenna tuner), frequency and mode. Another addition is the choice of a **PRI**mary scan channel on the S2 scanning menu.

The G1 through G4 menus are essentially the same as those on the original IC-706, except that a **.1M** (100 kHz) choice has been added to the selections on the BandScope menu, G1.

The MkII still has a Quick Set mode to set various operating parameters that you don't adjust too often, such as output power, mike gain, VOX delay or CW break-in delay, CW pitch, CW paddle configuration, RTTY keying, repeater tone and carrier frequency.

There are a couple of changes in the Initial Set Mode menu. The MkII menu has 28 items instead of the 24 of the original '706. This makes room on the menu to include an additional optional filter among other things. You now can disable the noise blanker for AM reception, and there's a power-on diagnostic check that you can disable (MkII owners who are familiar with the original unit will spot this right away at power up). The **M-CH** (memory channel) dial doubles as either an RIT (the default) or a SUB tuning knob. The Initial Set Mode menu lets you enable one or the other. You press the **RIT/SUB** button to activate RIT or SUB, whichever is enabled. I found the SUB function a bit puzzling since the knob appears to become just another tuning knob when you select SUB. The main advantage is that this knob—unlike the main dial—is detented. Each click represents the frequency step size you've chosen.

Crossband operation

The original IC-706 did not operate in crossband mode; you could not receive on one band and transmit on another. This welcome addition to operating flexibility is available on the MkII, however—great for those who want to venture into Modes A, K, or KT on the satellites (Mode A is 2 meters up, 10 meters down; Mode K is 15 meters up, 10 meters down; Mode KT is 15 meters up and 10 and 2 meters down). The MkII lets you do all of these, and, on 2 meters, you have the added advantage of twice the transmitting power of the original '706.

Using a MkII to work satellites isn't quite like having a full-duplex setup, though. The MkII still operates in simplex mode, even while it can transmit on one band and receive on another. The disadvantage here is that you will have to calculate (or guess) where your uplink signal will be coming down in the downlink bandpass. This makes operating a wee bit more difficult, but we were still able to make good contacts via RS-12. KB1HY says he simply called CQ on 2 meters, then looked for a station calling him on 10 meters. "The radio worked very well for this type of operating," he said.

Other changes

The new, larger speaker of the IC-706MkII is something you'll notice right away if you've been used to listening to the tinny, tiny (somewhat under 2 inches in diameter) speaker of the original '706. The speaker in the MkII is about one-third larger and provides a noticeable difference in audio quality and clarity. Even at full volume, there is very little distortion.

The new MkII has just a bit less heat sink material on the back than the original IC-706. The heat sink fins that were on the right, rear apron of the original '706 are absent on the MkII. This makes the jacks on that side (and especially the modular mike jack) a bit more accessible.

The fan operated constantly on the original unit, alternating between a normal speed and a high speed as required. In the MkII, the fan is controlled by a temperature sensor on the heat sink. The fan now shuttles among off, low, and high. When it comes on is determined by the heat sink temperature (which, of course, can be affected by the outside temperature). In a side-by-side comparison, we found the MkII seemed to get warmer than the original IC-706. This is likely not a result of the missing cooling fins but fan operation.

On balance, some operators find cooling fan noise annoying, and since the fan does not run all the time, there's less noise in the MkII. While running, the respective fans generated about the same amount of noise.

An additional second optional filter slot is a big improvement to the IC-706 and one that all users appreciated. This lets you have a CW filter and an SSB filter or two CW filters (500 Hz and 250 Hz, for example). In addition, ICOM says it has refined the stock SSB filter.

A Measure of Improvement

In the ARRL Lab, we measured some important performance improvements in the MkII (see Table 1). Much improved transmit IMD is a prime example. We came down pretty hard on the transmit IMD of the original IC-706 primarily because of the prominence of higher-order products on VHF. We were pleased to discover that ICOM has remedied this problem in the MkII (see Figures 1 and 2). We should point out, however, that on 10 meters, the third-order, two-tone transmit IMD of our MkII was somewhat worse than the original IC-706, but fifth-order two-tone transmit IMD was better, with higher-order products at respectably low levels.

With the preamp turned off, the receiver in the IC-706MkII is much more sensitive on some bands than the original IC-706 was with its preamp off. On 20 meters, we measured 12 dB more sensitivity on SSB/CW, and another 10 dB on 6 meters. Sensitivity also was up on narrowband FM on 10, 6 and 2 meters with the preamp off. With the preamp on, the sensitivity was approximately the same in both '706 versions.

The sensitivity of the original '706—especially above 2 meters—was such that in some places, the signal had to be of rock-crushing amplitude to be heard (in FM mode

at 200 MHz, we had measured "a dismal –28 dBm" on the original unit). We found that sensitivity, while still not terrific in the upper reaches of the receiver's range, was *much* improved over the original IC-706. CW sensitivity dropped off gradually above 160 MHz, then more precipitously once you reached 190 MHz, but it was still much better than the original IC-706. At 200 MHz, it was in the vicinity of –80 dBm on FM. In the 160 MHz region—where you might want to check on the National Weather Service broadcasts—we measured FM sensitivity at –118 dBm (0.28 μV) for 12 dB SINAD.

Blocking dynamic range numbers also were improved on our MkII—up by as much as another 12 dB on 20 meters. Two-tone, third-order IMD dynamic range was approximately the same to just slightly worse—typically in the mid to upper 80s. Almost all dynamic range numbers were noise-limited in the MkII. This was pretty much the case with the original '706, too. The combination of increased sensitivity and the nearly identical two-tone, third-order IMD numbers meant that third-order input intercept numbers we measured with the preamp off all were lower than on the original IC-706. They were barely in the positive numbers on 80 and 20 meters, but dipped into the negatives on 6 and 2. (The preamp-on numbers, as expected, were comparable to those we measured on the original IC-706.)

As we said about the original IC-706, the MkII did not choke badly under strong-signal conditions as some radios in this price class are known to do. It is more than adequate as a mobile or "second" transceiver.

On FM, adjacent channel rejection and two-tone, third-order IMD dynamic range was essentially unchanged from the original IC-706 to the MkII, with all numbers (preamp on) hovering in the 60s. We had not measured the two-tone, third-order IMD dynamic range at 10 MHz spacing on the original IC-706. On the MkII, this was a respectable 77 dB on 2 meters.

Image rejection was improved on 20 and 6 meters, but off on 2 meters by 31 dB (preamp off).

Just the Same

We found that other stations could not detect the difference on the air between the transmit of the old IC-706 and the new MkII, although ICOM claims the MkII has "improved transmit audio." We got the identical "excellent audio" reports on both radios.

We also found the noise blanker worked about the same in the MkII. It's OK for moderate ignition noise and probably what you'd expect in any other radio in this price class.

Users still are limited to two AGC selections, fast and not fast (actually, the display only indicates when the AGC action is set for fast; it displays nothing at the slower setting).

CW keying in the full-break-in (QSK) mode on the original IC-706 was clipped significantly at higher speeds. Semi-break-in mode looked much better, with only clipping of the initial dit in a series. Anyone who has heard one of these radios on the air when the operator has it in QSK (and especially while using the internal keyer) at more than 30 WPM knows exactly what we're talking about here. This has not changed in the IC-706MkII, and maybe the best philosophy to adopt in this instance is: "You can't have everything" (especially in a radio priced at just under $1600 that already includes more features than most ops had heard of 10 years ago).

The MkII has 102 memory channels and you can apply alphanumeric names of up to nine characters apiece to help you keep track of them. There are 99 split memories that can memorize both transmit and receive frequencies (for repeater channels or crossband work, for example).

The original '706 was unable to key an external amplifier relay directly. The MkII cannot either. It will switch 20 mA. You'll still need an external relay or switching circuit like the one in "Cure for the 'Missing First Dot' Problem . . ." (*QST*, Nov 1995, p 84).

There's another amplifier-related issue that we overlooked when we reviewed the original IC-706. When first keyed (ie, in CW or in a continuous-carrier mode), the radio generates an leading-edge high-power "spike" of very short duration—maybe a few milliseconds before the ALC takes hold and reins in the output to conform to the power setting (this is visible on Figure 3). This means that even if you've set the power output at, say, 10 W, the radio can generate a brief burst of power—more than 100 W—that could damage some amplifiers or trip protective mechanisms in others.

A Raised eyebrow

We did not encounter any serious problems with the IC-706MkII. However, we did discover that the spectral purity measurements we got in the ARRL Lab did not quite come up to ICOM's better than –50 dB specification for HF (ICOM specs –60 dB for 50 and 144 MHz). On 20 and 17 meters, we measured approximately –42 dB, which still meets FCC requirements. In truth, ICOM was more concerned about this discrepancy than we were. They asserted our radio was defective and asked us to return it for a look. In the meantime, we checked two other IC-706MkIIs (one a loaner from ICOM and another from a retailer's shelf) and both met the –50 dB specification.

An in conclusion . . .

The new ICOM IC-706MkII certainly offers a substantial level of improvement in a product that already had a great deal to offer. Even with the shortcomings of the original '706, it was hard to imagine that ICOM could top its original coup. That ICOM did so without raising the price is doubly praiseworthy.

Many thanks to Peter Budnik, KB1HY, Steve Ford, WB8IMY, and Mike Tracy, KC1SX and Ed Hare, W1RFI, of the ARRL Lab, for their assistance in preparing this review.

Manufacturer: ICOM America, 2380 116th Ave NE, Bellevue, WA 98004; tel 800-858-6252. Manufacturer's suggested retail price, $1599; FL-100 500-Hz or FL-101 250-Hz CW filter, $133; FL-223 1.9 kHz SSB filter, $105; OPC-581 12 ft. separation cable, $61.