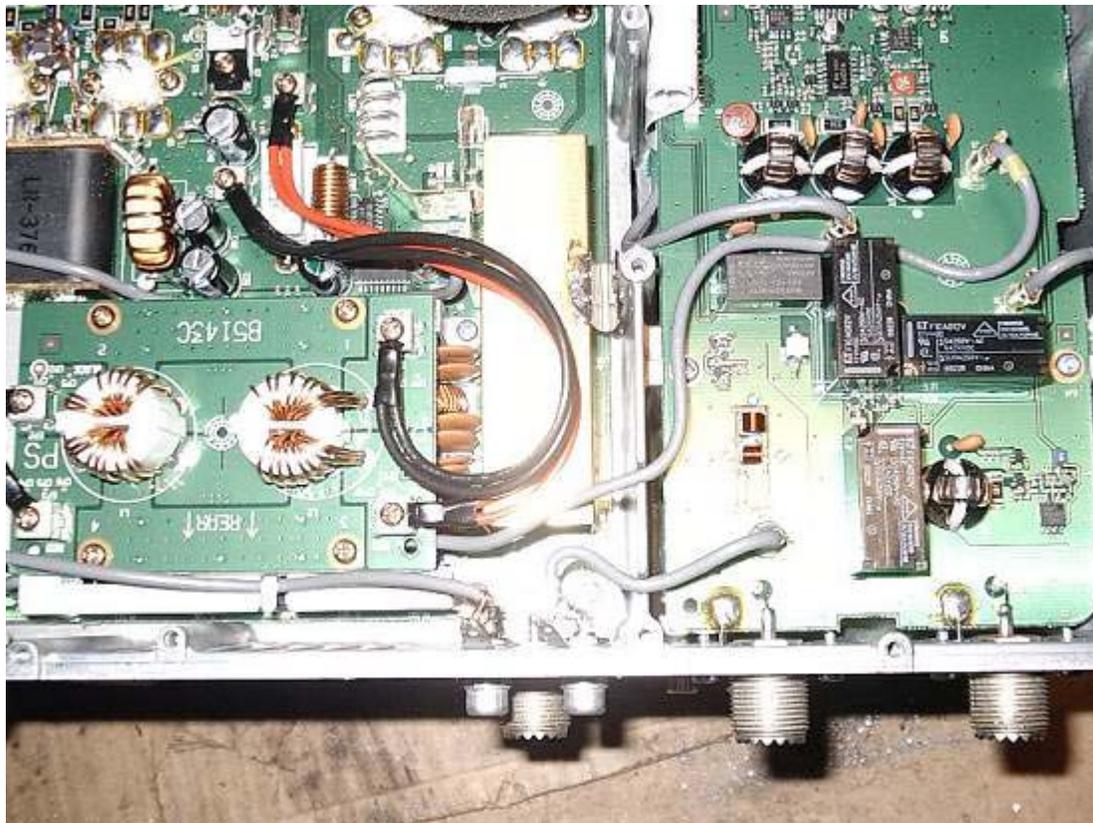




[Contact author:](#)  
[Bob Tomkovich](#)

[Print](#)

1. Remove top cover
2. Along the rear of the chassis is a small grey coaxial cable going from the RX/TX board to the RX section.
3. Install 2 RCA jacks in the rear panel above the VHF antenna SO-239.
4. Cut the grey cable mentioned earlier between the 2 RCA jack. This leaves slack to strip and solder the coax to each of the RCA jacks.
5. Reassemble the radio and between the 2 RCA jacks insert a small RCA to RCA jumper. This will allow normal operation as before the mod.
6. Remove the jumper and you can hook up a separate RX antenna to the right RCA jack when looking from the front.





This article has been read 310 times.



No messages about this article.



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**Subject:** ICOM IC-746 & IC-756 Series: Damage Due To RF-Overload **25-01-2007**



[Contact author:](#)  
[Mike Nadeau](#)

[Print](#) 

The following transceivers can be susceptible to damage from extreme RF-overload:

- IC-746
- IC-746PRO
- IC-756
- IC-756PRO
- IC-756PROII
- IC-756PROIII

In the 746-series, the HRX-muting circuit can be damaged. In the 756-series, the RFRX-muting circuit can be damaged. The damage is usually due to extreme RF-overload. This can be caused by one of the following questionable operating practices:

- Having the transceiver connected to an antenna which is in close proximity

of another transmitter's antenna.

- Using a coax-switch to select between the transceiver and another transmitter and/or amplifier, running more than 100-watts.
- Persistently trying to tune an antenna that is way off resonance.
- Persistently transmitting with a very high SWR.

If the HRX/RFRX-muting circuit fails, the transmitter will tend to oscillate intermittently. This is most noticeable on the higher HF bands (6, 10, or 12 meters). This will not affect the 2-meter band on the 746-series. The symptoms can be one or more of the following:

- Unusually high current demand from the power supply.
- Fluctuating RF output.
- Erratic antenna-tuner operation.

To get an idea if the HRX/RFRX-muting circuit is at fault, turn the receive attenuator (ATT) on. If the problem goes away when the ATT is on, the HRX/RFRX-muting circuit is probably at fault. This test works because the attenuator interrupts the path of oscillation.

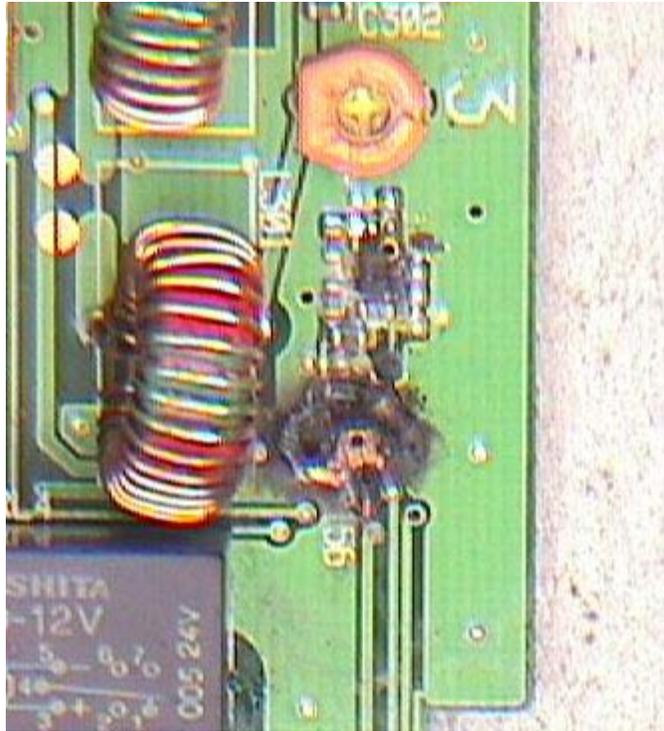
Suspect one or more of the following components on the CTRL Unit:

- IC-746 ... D22, Q25
- IC-746PRO ... D21, D22, D24, Q25
- IC-756 ... D22, Q25
- IC-756PRO ... D22, Q25
- IC-756PROII ... D22, D23, Q25
- IC-746PROIII ... D22, D23, Q25

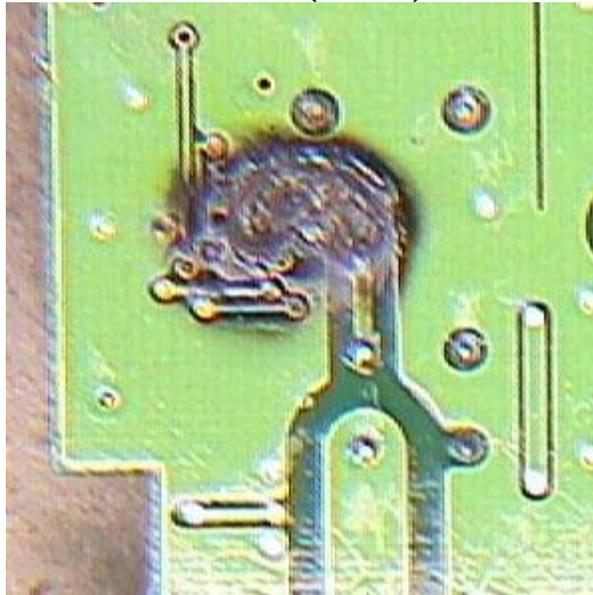
Note: To check the DC voltages at Q25, transmit on SSB with the mic-gain at minimum. The base voltage should be 0-volts RX, and 0.7-volts TX. The collector voltage should be 13.8-volts RX, and 0-volts TX.

If left unchecked, the situation can deteriorate until the damaged SMD components overheat and become charred, damaging the circuit-board. The pictures below show the worst-case scenario.

IC-756PRO CTRL Unit (top)



IC-756PRO CTRL Unit (bottom)



The owner of this IC-756PRO had two stations, selectable with a coax-switch. The other station had a 1-KW amp. His PRO was turned off. While he was transmitting from his other station, his wife alerted him to smoke coming from his IC-756PRO (in another room). In this case, it wasn't practical to repair the RFRX-muting circuit. The entire CTRL Unit was replaced.

Luckily, most of the time, the damage isn't so drastic, only requiring replacement of

the affected SMD components.

NOTE: If you are not familiar or equipped to work with static-sensitive surface-mount components, please leave it to a qualified technician.

Mike Nadeau - N1EQ  
www.n1eq.com

Last updated: January 24, 2007

This article has been read 734 times.



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**Write new message about this article.**

**Subject:** Convert FL-32A, FL63A into FL-100, FL-101 sockets

**12-04-2006**



[Contact author:](#)  
[Jose Antonio Gonzalez](#)

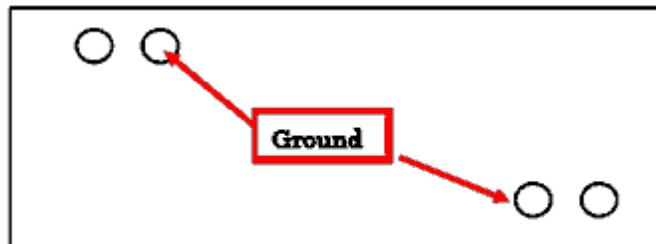
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## How to convert an Icom FL-32a or FL-63a CW filters into a FL-100 or FL-101 CW filters

This article shows the steps to convert a soldering type filter like the FL-32A or FL-63A into their plug in type equivalent like the FL-100 or FL-63A.

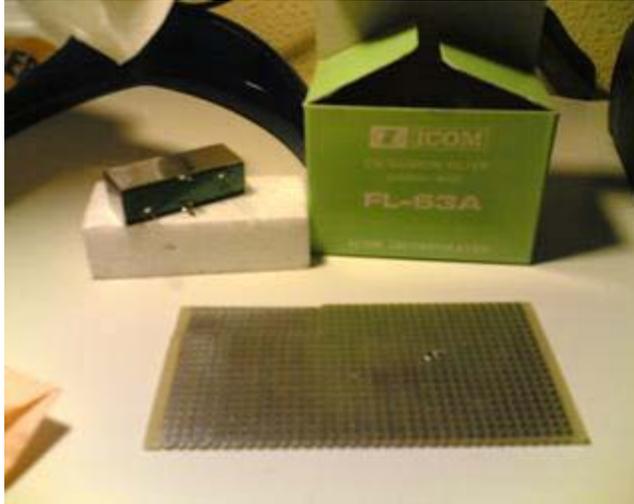
These filters are electrically identical and are designed for the same IF. This is the connections diagram for all these filters as provided by Icom support (excellent by the way!):

**Polarity of FL-63a and FL-101**



These are the steps for the conversion:

1. Parts required: You will need a FL-32A or FL-63A, a stripboard and four cylindrical pins



2. Cut the stripboard using a template. You can make the template using an original FL-100 or FL-101 or, as I done, using a transparent film and putting it on the filter's socket in the rig draw both the shape and pin holes.

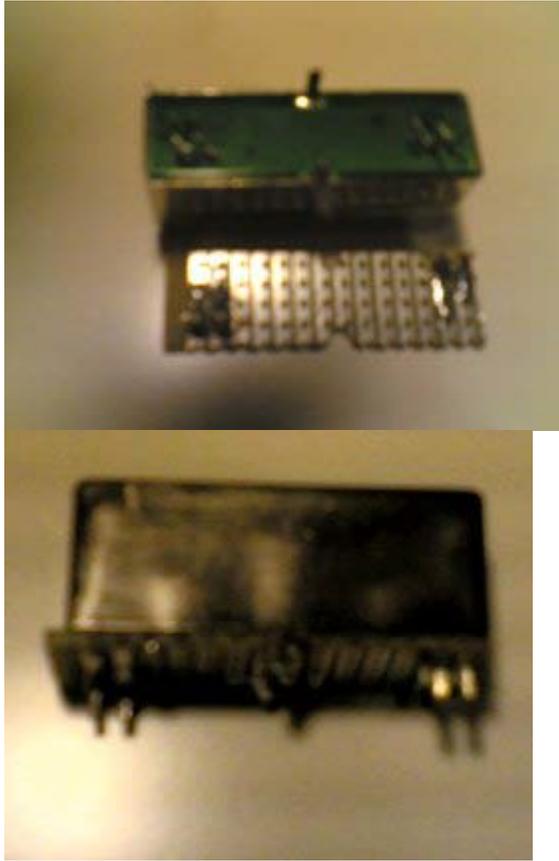


3. Install the four pins in the PCB and check it fits in the filter socket in the rig



4. Now bend the terminals in the FL-63A or FL-32A, and solder the filter in the stripboard. In order the give the filter consistency you will have to solder also the filter jacket pins to the stripboard, otherwise it would be very difficult to extract the filter once installed without damaging the filters

terminals.



Now the filter is ready to be installed. Just one tip: If you are going to install it in a IC-706 use the slot filter number 2. There is very few height between the filter and the cover, and the speaker is just above the filter in the slot 1 so as you filter will be slightly taller than original you will be in troubles to close the cover.

Best 73, any comments email me. My email address is OK in QRZ.COM. EA2BSN

Note, this mod would apply to the following ICOM: IC-575, IC-706, IC-725, IC-737, IC-746, IC-756, IC-775, R-72, R-75.

This article has been read 337 times.



No messages about this article.



**Write new message about this article.**

**Subject:**

Increase  
the  
microphone **18-01**  
gain of the  
IC-746



[Contact author:](#)  
[Mike Schwendeman](#)

P

Look at the PHOTOS below for the pix that deal with these modifications.

The modifications add more gain to the IC-746's mic preamp, and the second mod allow the cooling fan run whenever the unit is turned ON, but at a very low rate.

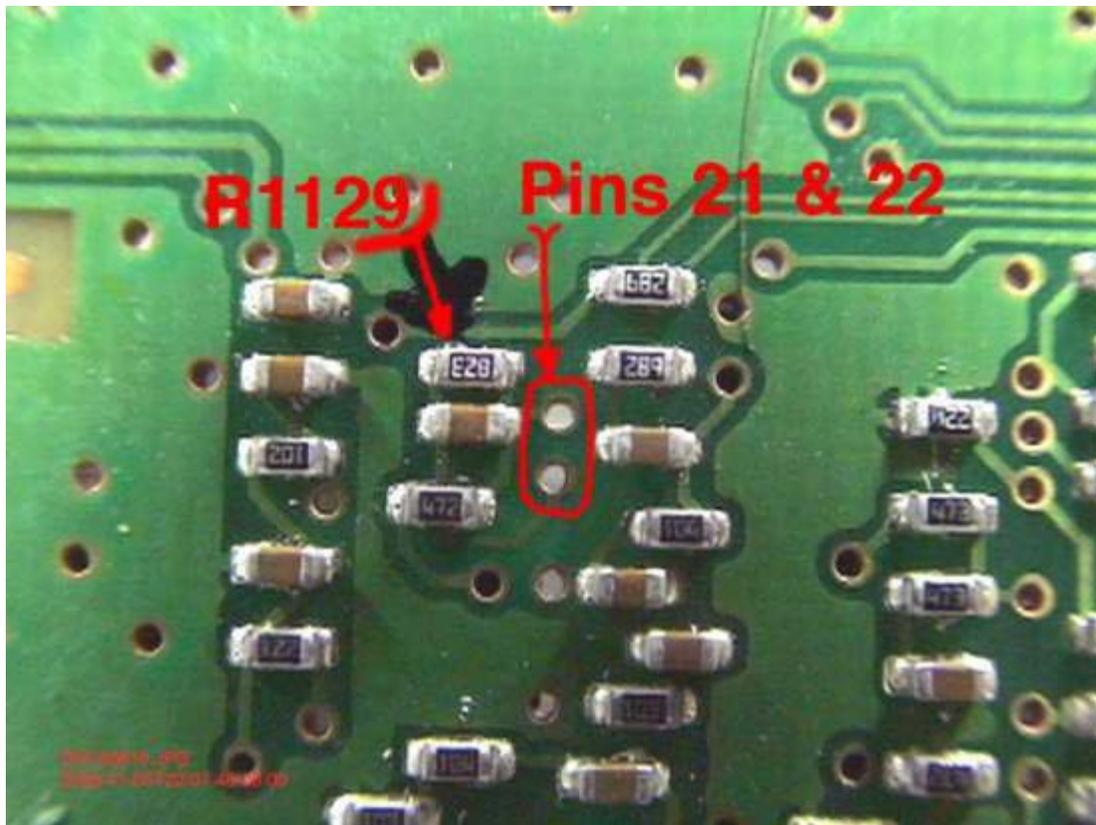
The first mod addresses the lower-than-normal mic preamp gain that the non-Pro model of IC-746. In looking at the IC-746 and the IC-746-Pro schematics, I attempted to compute the GAIN of the respective mic preamps. In my attempts, I found that the IC-746 has a gain of 17, while the IC-746-Pro has a mic preamp gain of 22.

The modifications involves removal of the MAIN BOARD from the IC-746. Then, locate and remove the original 82K surface mount resistor at R-1129. (This is located on the bottom of the board...)

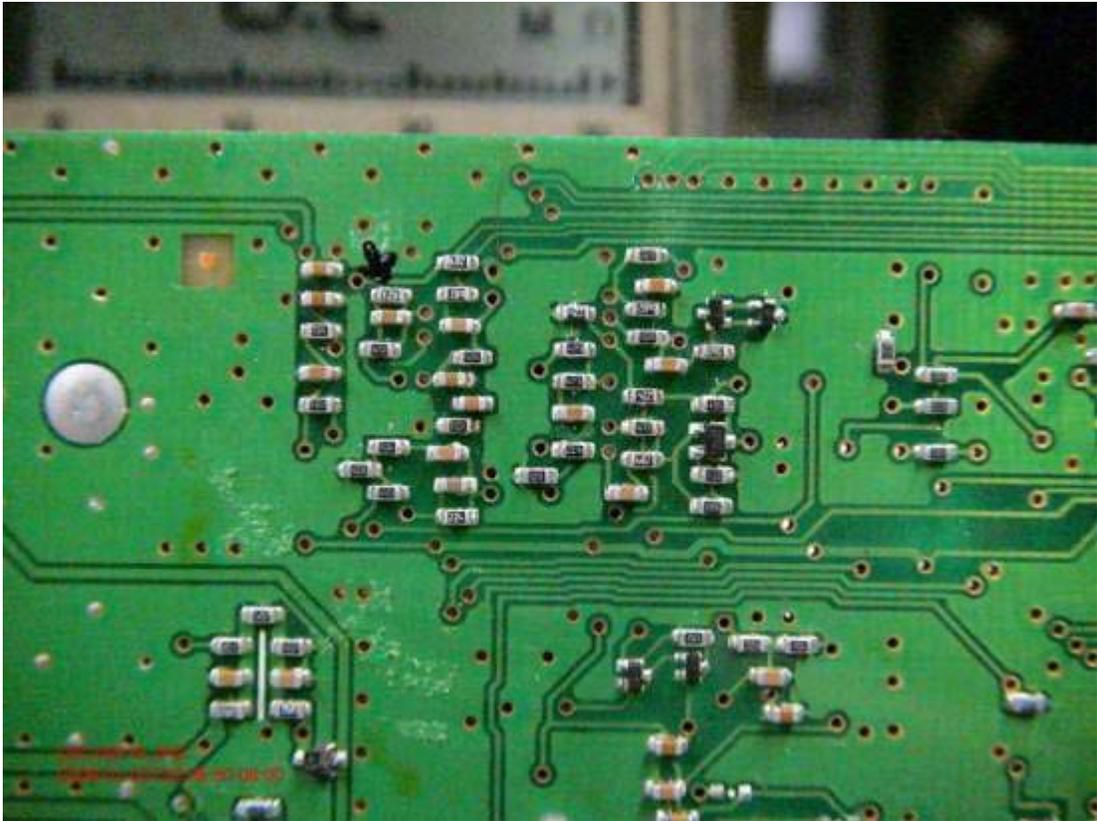
Install a 100K resistor as a replacement of the original R-1129 as shown in the photos. Note that there are two small holes at pins 21 and 22 of IC-1121. A potentiometer can be installed, if desired. (I wish I had this!)

Carefully re-install the main board and all of the previously removed interconnects. Power it up after a careful look at your workmanship. In my case, I have noted a good differential in the mic. gain, but I would have liked a little more.

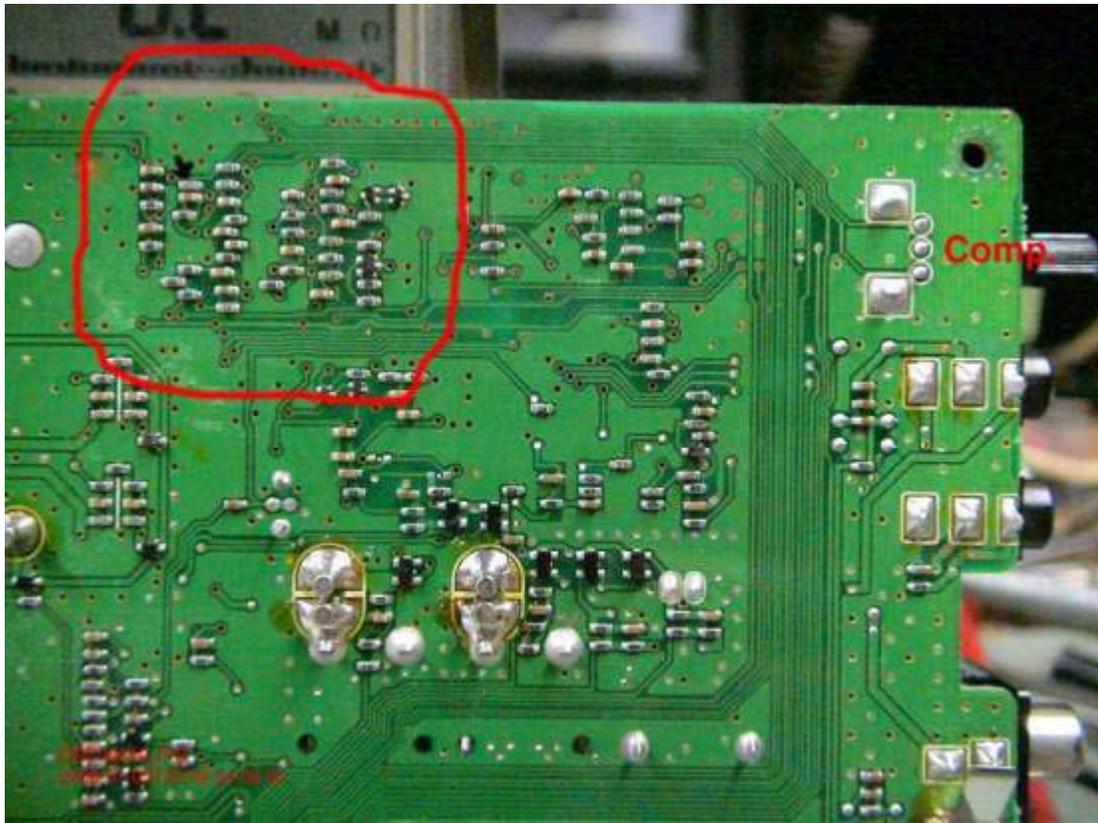
As ever, this mod is not endorsed by anyone but me, and if you do the mod, please be careful. I assume no responsibility for your care and workmanship!!



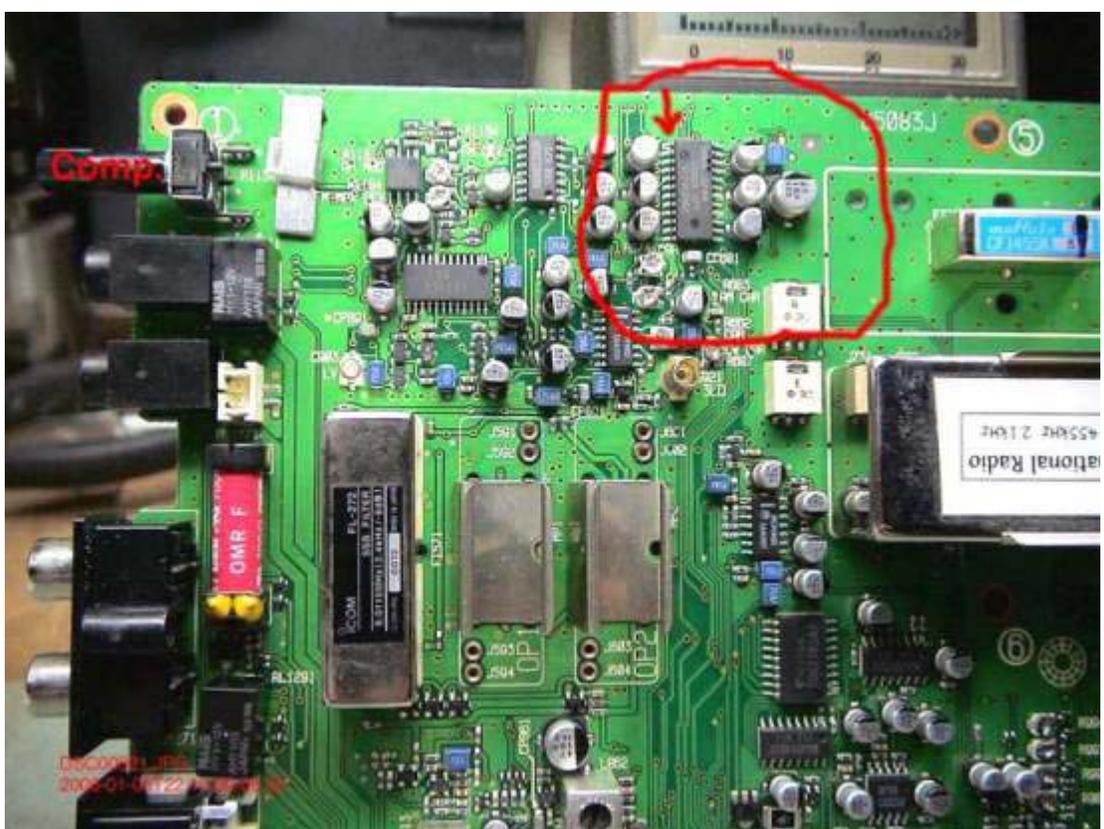
Above: This is a closeup of the surface mount resistor (R1129) that SETS the gain of the mic preamp. The two feedthrough holes that are circled are the same as pins 21 and 22 of the mic preamp IC.



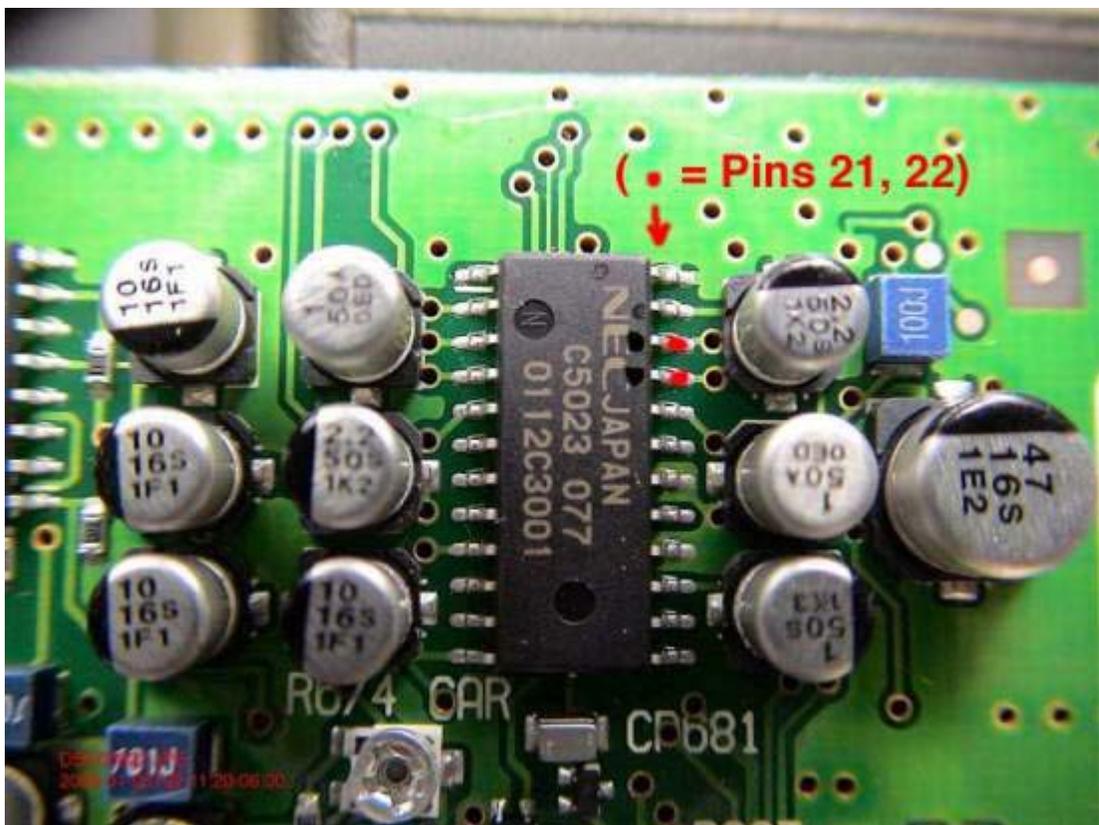
Above: This is the same location of the MAIN PC board, but moved away slightly, to assist in LOCATING the area that needs to be addressed.



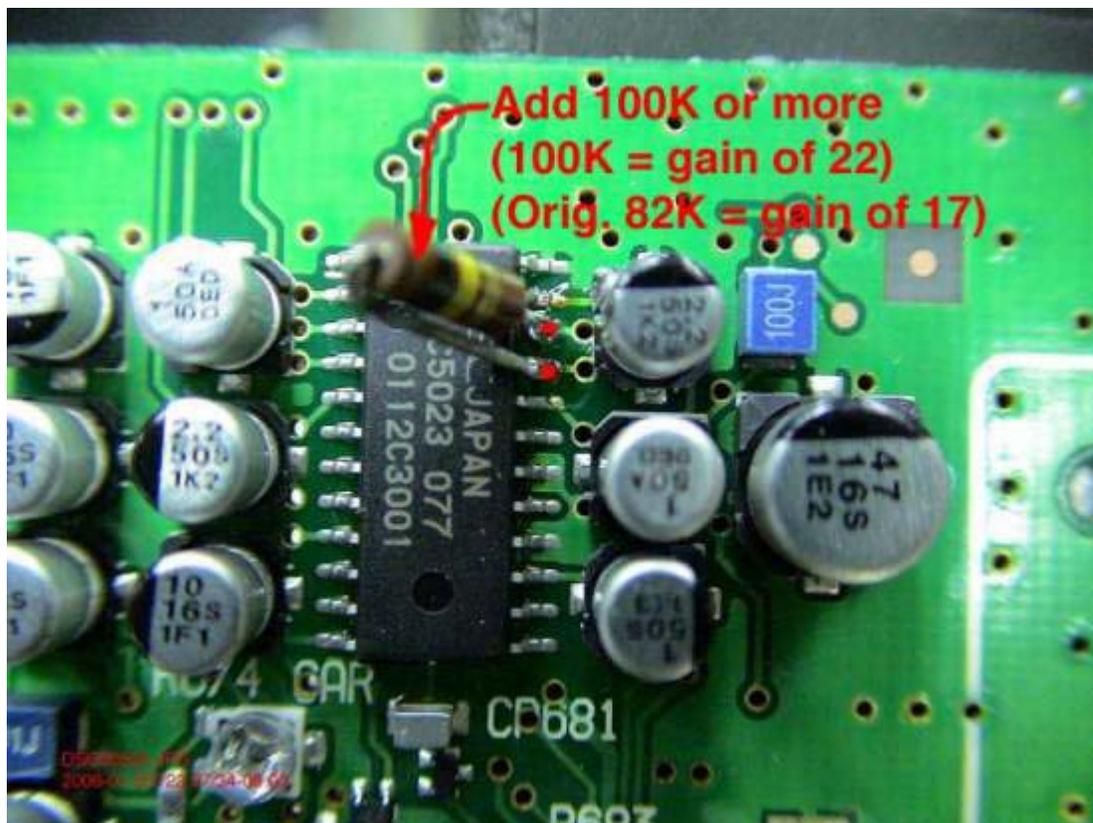
Above: The bottom of the main board, zoomed further back. Note the position of the COMP control, which normally is accessible from the rear panel of the IC-746.



Above: TOP view of the MAIN PC board. The mic preamp IC is circled.



Above: Once the original resistor has been removed, the new feedback resistor can be tacked-soldered to pins 21 and 22, as shown . (See the RED dots on the IC.)



Above: The completed modification; I added a 100K resistor, as shown. Please note that one could put in a potentiometer, but if this is attempted, I would suggest that a 56K resistor be added in series, just to insure that the feedback path does not get too LOW. (A 200 to 300K total value would be more than enough!)

This article has been read 701 times.



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**Subject:** Allow slow-speed CONTINUOUS operation of the IC-746's fan

**18-01-2006**

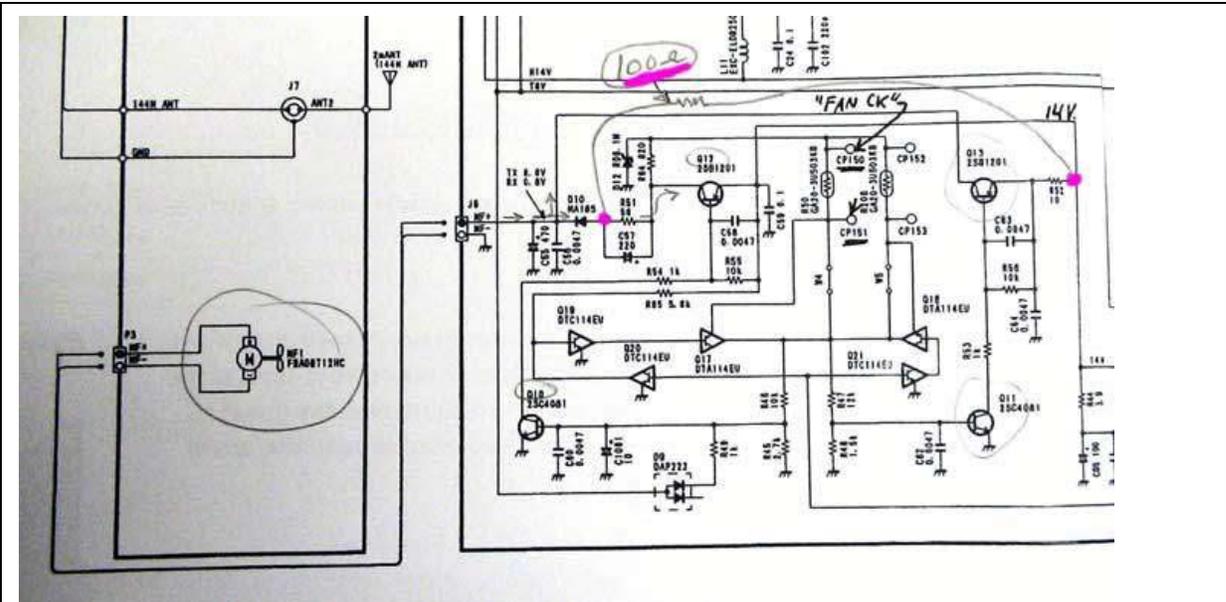


[Contact author:](#)  
[Mike Schwendeman](#)

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Basically, I added a 100 Ohm resistor as shown, which allows the fan to turn at a low speed. I originally had tried an 82 Ohm, but decided to slow it a little more, as I feared having the fan cause too much noise in receive. As it turns out, the fan noise is totally silent, once the covers are back in place. (So, I'd suggest that an 82 or lower value resistor be used in place of the 100 Ohms as shown.)

As ever, this mod is not endorsed by anyone but me, and if you do the mod, please be careful. I assume no responsibility for your care and workmanship!!



Above: A view of the IC-746's schematic localized in the section that includes the cooling fan and it's associated control circuitry. The location of the added 100 Ohm resistor is shown in PENCIL.



Above: As you can see, I tack-soldered the resistor to the two lands indicated by the RED DOTS. I evaluated the fan's noise with the covers off; In retrospect, I would

suggest a lower value, such as less than 82 Ohms. (When I completed the installation of the radio's covers, I found that I could not hear the fan!)

This article has been read 500 times.



No messages about this article.



**Write new message about this article.**

**Subject:** ICOM-746 thermal fix

**24-03-2005**



[Contact author:](#)  
[W9DKI](#)

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I took a series of thermocouple and infrared measurements on my ICOM 746Pro after it came back from ICOM with a IC-151 and 2SK2975 driver board replacement. The NEC 1678G temperatures measured at the leads and the IR surface temperatures rose to over 53C in receive and ~60C under TX in an open case. A closed case would increase these temperatures appreciably.

I found a simple patch that avoids soldering a heat sink to the MMIC. A 100 k ohm CERMET pot set to 50k across J160(far right and the 8 volt third for right end ) turns on the fan continuously and is adjustable. The temperature of IC-151 dropped to 40C and the temperatures of all the other components declined likewise. Significantly, this stops the thermal expansion cycling of these components.

This could be a simple fix for several ICOM-746 Pro problems. I have photos, of the recent (Feb 2005) ICOM factory patch that added two Schottky diodes directly to a new NEC 1678C between pins 8 and 1 and 1 and 3. I also have plots of the component temperatures with and without the fan and the Panasonic 100 k CERMET pot soldered to J-160.

Time will tell how much this helps.

W9DKI  
Professor Physics  
US Naval Postgraduate School  
Monterey, CA

This article has been read 5359 times.



No messages about this article.



**Write new message about this article.**

**Subject:** IC-746 improved AGC and weak signal volume.

**26-09-2004**



[Contact author:](#)  
[ZL3AG](#)

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In the service manual under 5-4 RECEIVER ADJUSTMENT.

For setting the RECEIVER TOTAL GAIN.

- Part 1 follow as written.
- Part 2, set R761 for 178mV (-15dB).

This gives a better(lower) AGC knee signal level and during weak signal reception maintains good volume level without having to manually advance the volume control. This is especially useful for Six and Two metre weak signal work.

The noise blanker, general AGC action and S meter calibration were not adversely affected.

This article has been read 5422 times.



No messages about this article.



**Write new message about this article.**

**Subject:** IC-746 adjustment point

**21-05-2004**



[Contact author:](#)  
[Bill KOZL](#)

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Adjust the frequency for Icom IC-746.





This article has been read 7149 times.



No messages about this article.



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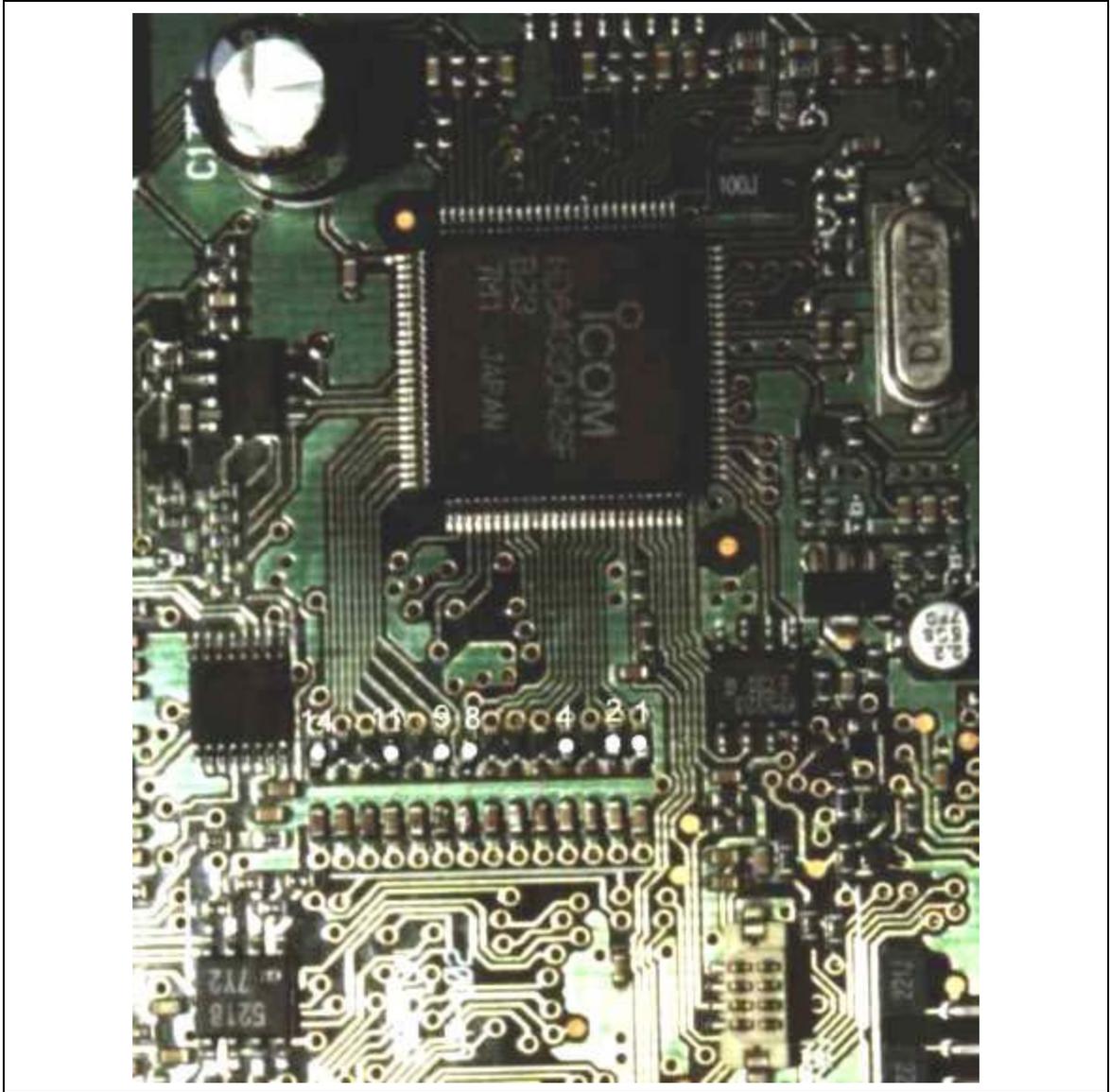
**Subject:** TX/RX frequency mod IC746 JA ver.

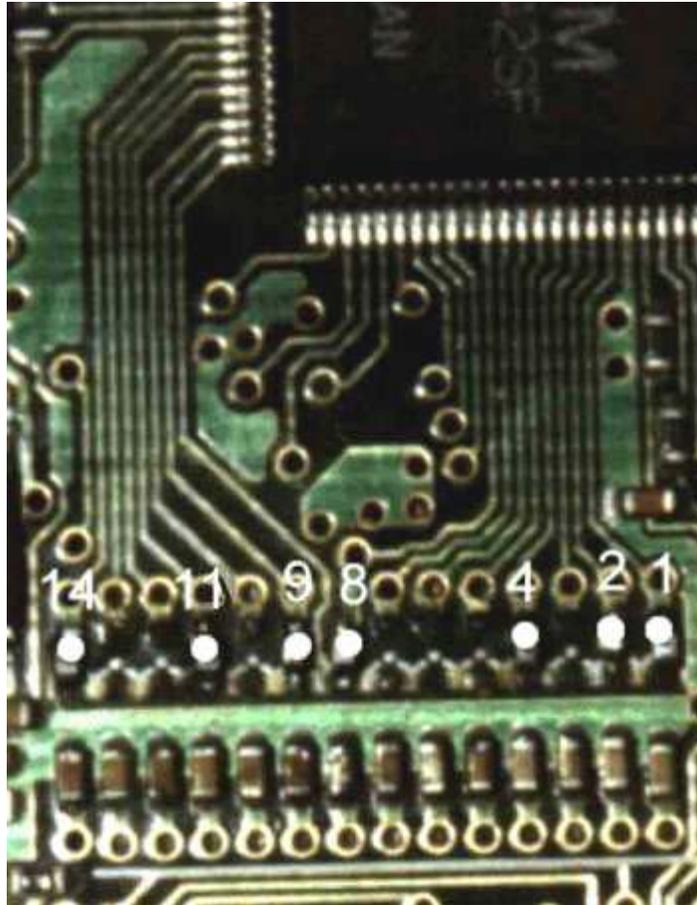
**07-12-2003**



[Contact author](#)

[Print](#) 





White spots are diodes soldered to circuit with the same polarization like original one soldered in factory.

RX HF - ALL BANDS

TX HF - ALL BANDS (26-28 MHz BLOCKED !)

RX VHF - ALL BANDS (30-60MHz, 118-174MHz)

TX VHF - AMATEUR BANDS (50-54MHz, 144-146MHz)

This article has been read 6681 times.



See messages about this article.



Write new message about this article.

**Subject:** ICOM IC-746 Electronic Keyer Speed Modification

**07-11**



[Contact author:](#)  
[Hans Glista, WA1LWS](#)

[Pr](#)

### **Purpose**

The built-in IC-746 electronic keyer speed is adjustable over the range of 6 to 60 wpm. Most amateur operators never operate Morse code approaching 60 wpm. I usually operate in the 15 to 25 wpm range. I found that setting the keyer speed in this range is very touchy because the speed changes greatly with

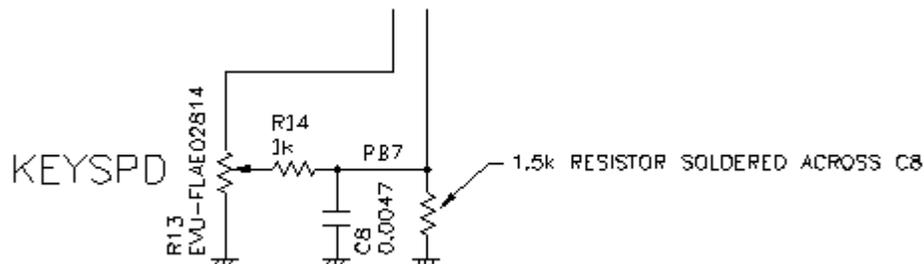
a slight rotation of the Key Speed knob. This modification limits the maximum keyer speed to about 32 wpm making the adjustment of the keyer speed easier.

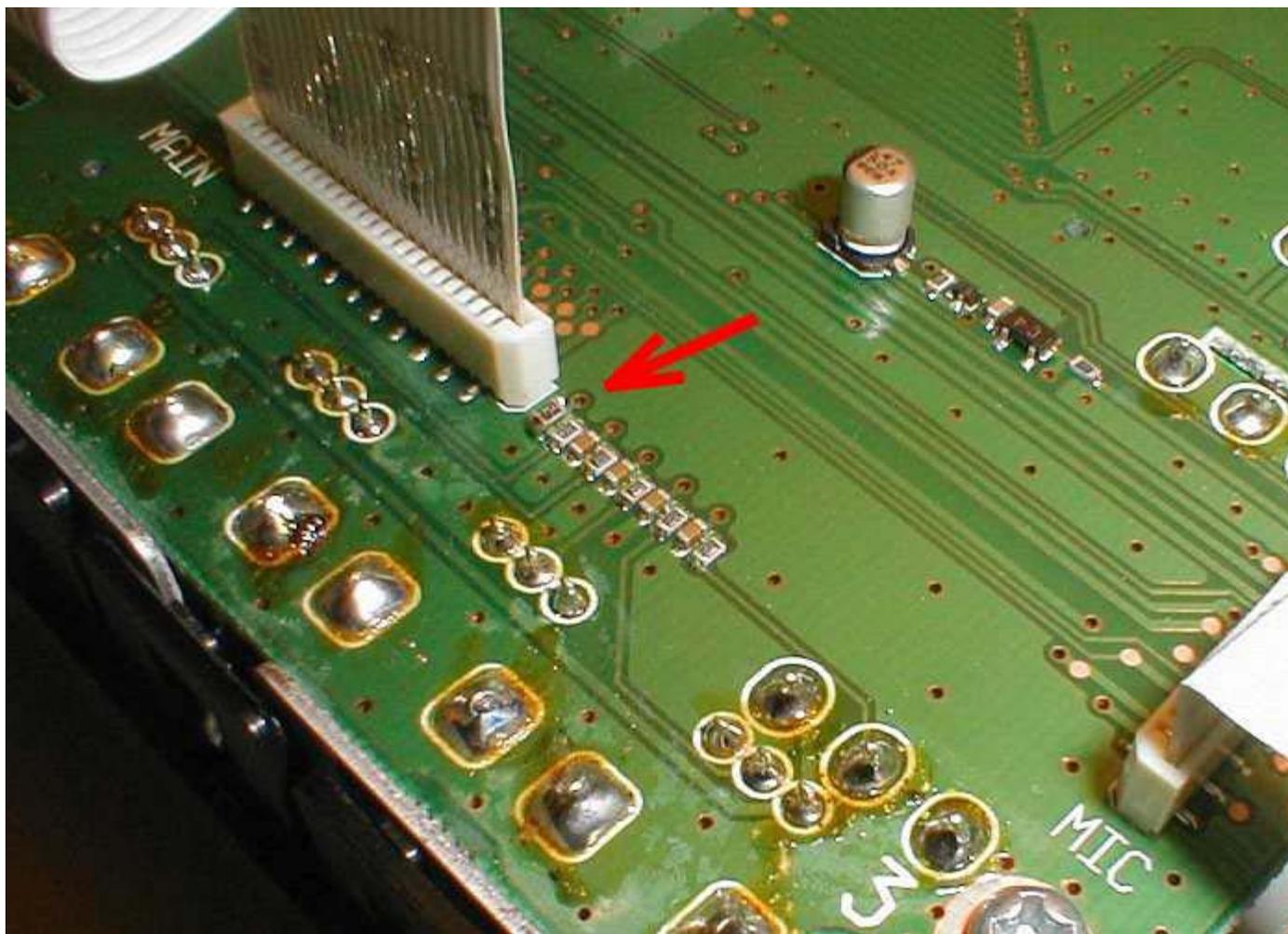
### Modification

Solder a 1.5k ohm resistor across C8 of the S-LOGIC Unit PCB. If a maximum keyer speed other than 32 wpm is desired, increase the resistor value for a higher maximum speed, or lower it for a lower maximum speed.

### Procedure

1. Remove the top cover: 12 black screws and 2 chrome handle screws
2. Remove the bottom cover: 6 black screws
3. Remove the front panel assembly: 4 flathead screws; disconnect ribbon cable W18 that connects S-LOGIC Unit PCB on the front panel assembly to the MAIN Unit PCB on the chassis by pulling it out of its socket (J1334) on the MAIN Unit PCB
4. Solder a 1.5k ohm resistor across C8 of the S-LOGIC Unit PCB. C8 is located next to pin 1 of J60. See photograph for location (red arrow). I used a size 0603 surface mount resistor. A leaded resistor may alternatively be used.
5. Reassemble in reverse order of disassembly.





This article has been read 4270 times.



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**Subject:** IC-746 Loss of tx power all bands

**21-09-2003**



[Contact author:](#)  
[Bill KOZL](#)

[Print](#)

DC to LIGHT op amp, uPD1678 (actually a MMIC), located on the RF unit (bottom side of radio, rear left, remove shield cover) will shut down ALL tx on ALL bands when it fails. I have replaced three of them so far.

MMIC is the "i1678", actually a uPD1678. Input is pin 1, lower right, and output is pin 5, upper left pin on the SMD chip. Check in FM mode any HF band, using RF probe, should have very small sig on pin 1 and very large (>.6volts DC) on the RF probe when applied to pin 5. When chip fails, pin 5 goes to very near 0 millivolts on the RF probe.



uPD1678, icom number is 1110001890, lists about 10 bucks or less. Changing this chip requires proficiency in surface mount desoldering, and anti-static protection measures.

73,

Bill KOZL

This article has been read 9018 times.



See messages about this article.



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**Subject:** IC746:Using 500Hz filters on SSB for Dig Modes

**10-12-2002**



[Contact author:](#)  
[I2JJR Augusto](#)

[Print](#)

Hi there!

I ran usually my old TS440S-AT with 500Hz IF filters on USB mode for the Pactor lev 1 and 2, and for PSK31 very weak signals.

Some week ago I found in a Ham fair an FL100 CW filter for the IC746 at a bargain price, and in the last days it happened to me to have some time to devote to our hobby, and so I installed the 9 Mhz IF filter for 500Hz, FL100, on the IC746 for pactor 1 and 2 and psk31, as I am used to.

I followed the instruction on page 78 of the ICOM user manual.

After returning all the covers on, I went to page 60 of the instruction manual, to select the installed filter for the 9MHz-1 position.

I selected the FL100 . Then I went on page 42 for filter program mode setting as suggested on the page 60.

Note on the top of page 42, at the beginning of the chapter 5-11, 1st paragraph: " Optional filters ....omissis...

.. Filters can be independently selected for each operating mode."

And so I went to program mode setting and pushed the "filter" button for 2 seconds and then choosed to program the CW and the SSB-Narrow for 9M on 500Hz and 455k for 2.4 k ..... but - surprise - the FL100 was not available on SSB!

I suspiciously read carefully the manual and find nothing on selecting filters depending from mode choosen..... or relation between filter type and/or bandpass sensing... nothing. So I went to the usual "dirty trick way" to gamble with the filter program mode setting: I told the IC746 that the installed filter was an SSB Narrow 1.9kHz one, the FL223 type. All OK , hi hi ....

Then I went again on the procedure of page 42, and set the SSB-N filter mode for 9M "1.9 kHz" (hi!) and 455k at 2.4kHz.

It runs OK having now bandpass of 500Hz on SSB-N mode available for Pactor lev1 and lev 2, and PSK31. On the TS440SAT I had to correct for the IF filter frequency moving the IF bandpass slightly clockwise to fit it for the selected tone pair (1200-1400 Hz or 1400-1600 Hz) and the same had to be done on the IC746: selecting as usual USB I had to tune the outer larger one of the twin bandpass tuning about 90 degrees clockwise.

This proved to be quite a god setting for operation on USB Pactor level 1 and 2 using high tones.

I tested some lower tone pair compatible with the CW bandpass (but take care of the CW Pitch setting!!! it should be tuned fully clockwise or you'll get no audio out!) and tested with 400-600Hz, 500-700Hz and 600-800 Hz , but although the PtcII controller I use is very versatile on this respect, my ears are not, and so being used to "by ear search and pre-tuning" and then "spectra fine tuning" I endly went back to the usual 1500 Hz center frequency. I got 1500 Hz as I am also using pactor level3; before it I was using 1300 Hz center.

Here people using other controllers like KAM+ or alike have to adjust their bandpass tuning depending on the tones frequencies they use.

Actually I have not yet the FL52A 500Hz 455kHz filter; if I'll find it at bargain price I'll buy it and test it;

I saw by now that having 2.4 kHz bandpass on 455 kHz works.

I have to say that apart from this test and related trick to get the 500Hz bandpass for USB digital RX, I would not suggest as necessary to buy and install such filters on the IC746 : with the PtcII controller you may work very well on pactor, psk31, rtty and other 500Hz bandpass modes on the IC746; (do not use the DSP and or NB, NR sometimes's good, some others no)

The same applies for the soundblaster software programs like Digipan or others, the normal bandpass is more than adequate, and you may taylor it using the twin bandpass tuning.

I recommend the narrow filters on TS440sat and alike: more,I suggest on them to replace also the 455kHz filters with other that have better performances (IN-RAD has some good ones) and the old good TS440S will copy nicely and happily very low level digital signals.

I hope this notes will be useful for some reader, I will appreciate any feedback on this matter.

Thanks and 73 de 12JJR Augusto

This article has been read 9436 times.



No messages about this article.



**Write new message about this article.**

**Subject:** IC-746 Backlight

**17-07-2002**



[Contact author](#)

[Print](#)

Marty Duplissey N5KBP has discovered that there is some few error in this article, so he has created this fine PDF file including pictures of the article.

[Download the article here](#) (110 Kb).

---

Here you go guys, here is the repair mod for the backlight.

1. Remove top and bottom cover.
2. Remove the 4 screws holding on the face, 2 on left and 2 on right of face holding it to chassis. There's 1 ribbon cable connecting the face to main unit, just pull straight out.
3. Remove knobs just by pulling them off. VFO just pulls off also.
4. Unplug all ribbon cables on back of face, number them with a permanent marker if you think you might mix them up.
5. There are 5 screws holding the top circuit board in, take them out and lift up board, be careful and feed 2 of the ribbon cables through the board. On the back side of this board there are 2 steel boxes on the board. Take the top off of the biggest one.

You will see a small square transistor with the #B1201 on it. This is the problem transistor that's been giving backlight problems.

This transistor has no way of cooling laying flat on the board. Remove this at your own risk. You have to have a small tip iron and a good set of eyes and steady hands. The center leg on the transistor is cut off, this is the ground leg, and the top of the trans is soldered to the board.

Heat the top of the transistor and lift it and it will come loose, then unsolder the legs and lift. Remember which way it came out. Take the new trans and don't cut the center leg off, the center leg needs to be soldered where the top of the transistor was soldered. And the other 2 where they were from the start, leaving the part standing up instead of laying flat on the board.

Now push the transistors side against the metal box and put some heatsink compound around the

transistor and between the part and box, now it can keep cool.

Thats it, put the top back on and put the unit back together. Replacment part #s are NTE2525 or 2SA1244 or 2SB1201, good luck and take your time.

Works well

This article has been read 15805 times.



See messages about this article.



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---

**Subject:** IC-746 modulation on AM

**26-06-2002**



[Contact author](#)

[Print](#)

If you want more crisper and louder modulation on AM, turn radio upside down and remove cover at the top right hand corner of radio you will see a varible that says (AM mod). Clockwise increases mod and counter clockwise decreases mod. You might want to use another radio on the same frequency so you can hear results. The radio that you are listening with needs no ant screwed in to it being that you are only listening.

I have done this and mine has loud crisp modulation. Remember, no compression on AM, you will find that it will muffle you on AM.

Do at your own risk.

73s

This article has been read 11299 times.



No messages about this article.



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---

**Subject:** IC-746 (USA models) All Band TX Modification

**13-06-2002**



[Contact author:](#)  
[Lyndel, N7LT](#)

[Print](#)

This information is to help clear the confusion about the ICOM IC-746 modification for out of amateur band transmissions. There are a couple of different mods floating around for the IC-746. For USA models, the following information is the ONLY mod for the IC-746! I verified this with my contacts at ICOM. They verified that this was the ONLY modification for the IC-746 (USA model) and that there were NO others. I then performed the modification and the radio transmits from about 100KHZ to 60MHZ and 118MHZ to 176MMZ so be careful with this mod!

Read the following instructions all the way through before performing this mod. Perform this modification ONLY if you feel capable of soldering VERY small surface mount diodes! Do this totally at your own risk.

Turn the radio upside down and position the front panel to your right. The main tuning knob will be to your lower right and the microphone connector to your upper right. This will orientate the radio in the proper direction to read the parts layout identification silk screening. (Note: the IC part numbers will be UPSIDE DOWN.)

Remove the twelve screws from the sides and bottom securing the bottom cover.

Locate the Circuit board with the Optional IF filters. The filters will be in the upper left hand corner of the circuit board. Look to the lower middle of the circuit board for silk screening that reads "Option UT-102". (almost the center of the radio) Immediately to the right of the "Option UT-102" silk screening you will see two columns (14 positions in each column) of VERY small surface mount diodes in a tight configuration. I'll call them diode positions 1-14. This column should have diodes in EVERY position 1-14. The next column to the right is diode positions 15-28. This column should have diodes in positions 15, 18, 20, 22, 23, 27 and 28 as shown below.

[01]	[15]
[02]	[ ]
[03]	[ ]
[04]	[18]
[05]	[ ]
[06]	[20]
[07]	[ ]
[08]	[22]
[09]	[23]<-- Remove this diode only!!!
[10]	[ ]
[11]	[ ]
[12]	[ ]
[13]	[27]
[14]	[28]

Diode 23 is VERY small and has a small "Y" on top of it. Use the finest pair of tweezers you have to remove diode 23 ONLY! Make sure you remove diode 23 only and NO other diodes! Make sure you have NO solder bridges as the diode pads are VERY small!

Use a clear piece of tape and tape the diode to one of the metal covered cans near the columns in the same orientation you removed it. This way you'll have your diode to reinstall if you ever feel you need to and you'll know the orientation of the diode.

This completes the TX modification. Replace the cover and screws.

TX should be from about 100KHZ to 60MHZ and 118MHZ to 176MMZ.

Do this totally at your own risk. Never, transmit out of the ham bands or your privileges.

73

Lyndel, N7LT

This article has been read 16207 times.



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**Subject:** Schematic for ICOM CI-V Option

25-01-2002



Contact author:  
Rick Pemble

Print

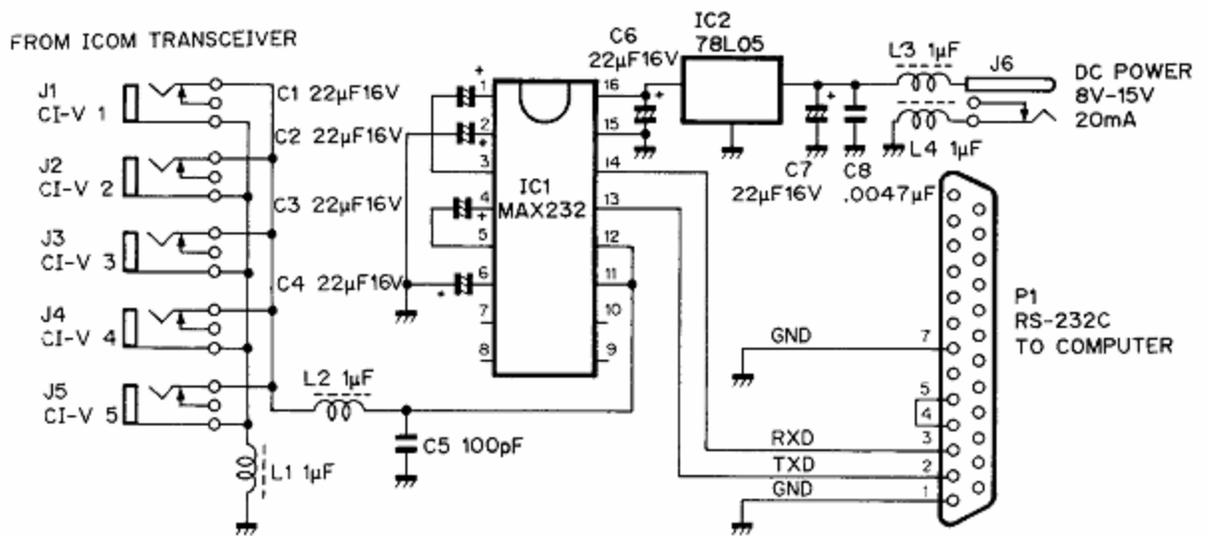
This is a message from usenet alt.ham-radio

There is the interface. This one shows a 5 radio hookup -- just use the one jack if that is all you want. The inductors are all RFI suppressors, you can skip them if you want (L1, L2, L3, L4, as well as C5). The important parts are the five 22uF electrolytics, the Max232 IC and the 7805 regulator.

Easy to build -- works fine.

cheers

Rick W4RP



Tod J. Knapp wrote in message ...

>I'm looking to build a CI-V unit for my ICOM 746. Although I'm not really  
>looking forward to giving ICOM \$100 (or more) for a computer to radio  
>feature, I'd sure enjoy the experience building such a unit.

>

>CI-V allows your computer to communicate with your ICOM radio.

>

>Does such a WORKABLE schematic exist? Has anyone tried it?

>

>Please advise...

>

>Tod N9ZWY

This article has been read 14817 times.



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**Subject:** Monitor Audio Output Too Low

**13-01-2002**



[Contact author](#)

[Print](#)

The monitor function on the IC-746 tends to have low output compared to receiver AF volume, therefore in order to listen to yourself, you have to increase the volume. When the PTT is released back to receive mode, the AF setting nearly blows your speaker or your headphones.

If the monitor audio output is too low on your ICOM 746, you can add 4.7K resistor in parallel with R1087. This brings up the gain of IC1082 to a more reasonable level that can still be controlled by the monitor level function but with plenty more gain.

#### **Technical Notes:**

These SMDs are located in the Main Board. You will probably need a service manual to locate these parts on the main board. Adding modifications to these very small parts requires some skill and a good magnifier together with the appropriate tools. A 1/8 Watt resistor will be suitable for this modification, but still require some precision.

This article has been read 13069 times.



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**Subject:** Solutions for chip blowing with mPC

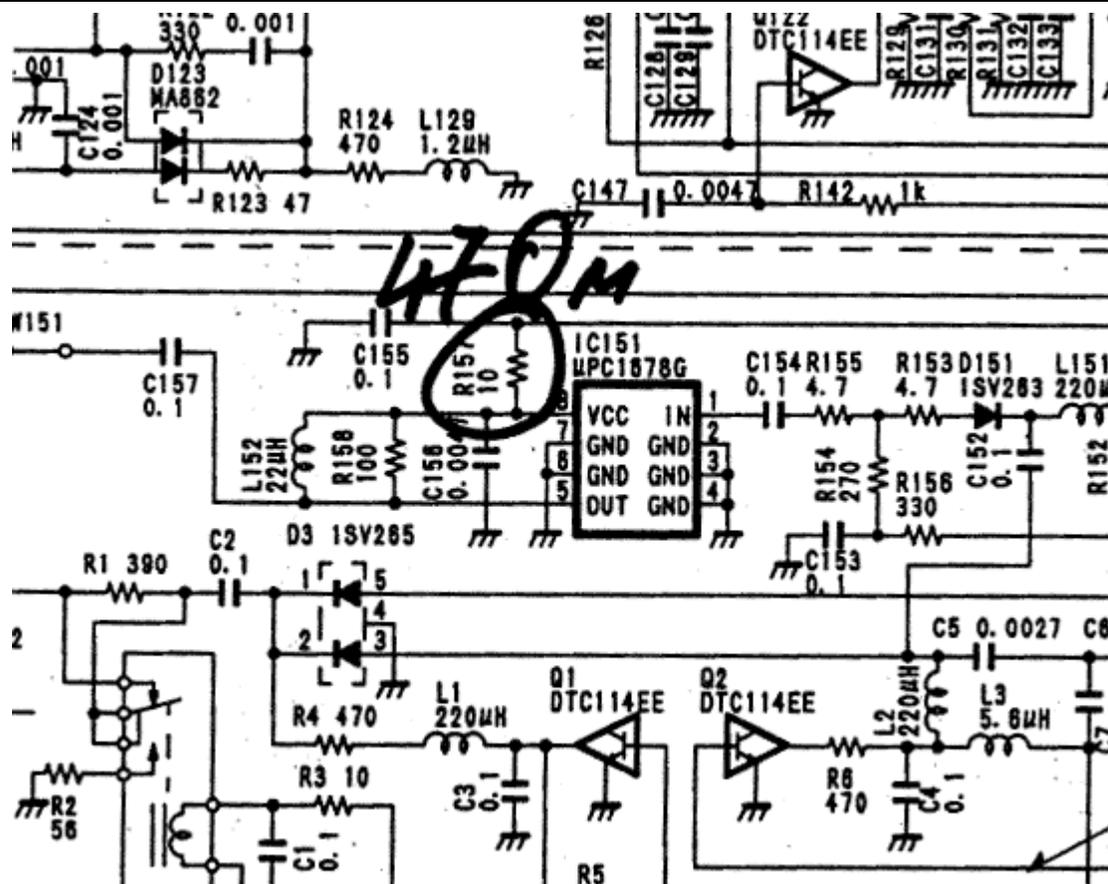
**20-10-2001**



[Contact author:](#)  
[Sergey L.Chuchanov](#)

[Print](#)

Change resistor R157 from 10 Ohm to 47 Ohm close to this chip.



This article has been read 13277 times.



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**Subject:** Power mod for the IC-746

02-07-2001



[Contact author:](#)  
[N14L](#)

[Print](#)

Remove bottom cover.

Find the voice module plug-in. Right behind it you will see 4 pots

- R993 144 mhz power adj
- R991 50 mhz power adj
- R989 HF bands power adj
- R990 AM power adj

You can tweak these to up the power suggest on hf doing it on 40 meters. you can get close to 180 watts on 40-75 meters about 125 to 150 on 20-10.

The pots are very small be careful not to use something to big. the are all metal pots.

NI4L

This article has been read 20318 times.



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**Subject:** Separating the Tx and Rx lines

02-12-2000

---

**Author:** David, G4YTL

[Print](#)

Separating the Tx and Rx lines on 2 meters in the IC746 could not be easier.

Put the rig on the bench with the front panel facing towards you, and turn upside down, with the front panel still facing towards you.

Remove the bottom cover.

At back-left there is a 5 inch square metal screening plate held in place by four screws - remove it.

You will see a miniature co-ax plug and cocked, labeled VRX. Simply unplug, tuck the original plug out of the way and plug in a new plug attached to a length of miniature coax, which can neatly leave the rig through the hole on the back panel that contains an earth bolt. Now you have your separate receive input!

You could cut off and re-use the miniature co-ax plug, but I preferred to contact my local Icom dealer and buy a new one (a couple of dollars) - the Icom description is: PLUG TMP-P01X-A1 (Min Coax) IC-125.

73

David, G4YTL

This article has been read 13582 times.



No messages about this article.



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**Subject:** Extended RX/TX for IC-746

25-10-2000



[Contact author](#)

[Print](#)

- Open the bottom cover of the IC-746
- Place radio on surface upside down with front to your left.
- Find chip label HD6433042SFB24
- To the right of this chip (3/4 inch) are two rows of diodes.
- 14 diodes in the right column and 7 diodes in the left column.

For Icom 746 Radios with the diodes in the 1, 2, 6, 7, 9, 11 and 14 positions, remove numbers 6 and 7 leaving the other 5 in place.

Mod complete.

This article has been read 19536 times.



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**Subject:** IC-746 Modification

**11-12-1999**

**Author:** John Schmitz NS8E

[Print](#)

Remove the twelve screws holding on the bottom cover.

With the Radio laying flat on it's top remove the bottom cover. Turn the radio so that the front panel is to your left and the antenna connectors are to your right. Locate the IC labeled "ICOM HD6433042SF".

About 3/4 of an inch to the right is a vertical row of diodes. The left hand column of diodes has 7 diodes (14 possible spaces). The right hand row is full with 14 diodes. Remove the diode in the 6th space from the top in the left hand column. DO NOT remove anything from the right hand column. This should get you TX from about 100KHZ to 60MHZ and 118MHZ to 176MMZ.

Do this totally at your own risk. Never, ever transmit out of the ham bands or your privileges..

John Schmitz NS8E

#### **Additional information.**

After having put a forward reading watt meter on my 746 i have found that there is NO loss of power due to this mod. It is still putting out the full 100 watts when you have a good match (5-100 on SSB and FM and 2-40 on AM).

I have also discovered that the TX was NOT opened up above 54MHz to 60MHz the top end of the 6 meter band switch on the 746.

The only effect i have noticed is that sometimes while using the built in antenna tuner in manual tune the LCD display sometimes blinks or lights up with all functions showing or sometimes disappears below the line.

Also the band edge beep function option no longer works because with wide open TX there are no more band edges.

One must be carefull to stay within their operator band privileges. These are the only adverse effects i have noticed with Mr. Schmitz mod.

This article has been read 20939 times.



[No messages about this article.](#)



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**Subject:** IC-746 out of range TX/RX

**19-07-1998**

In IC746DW.JPG you can see the open bottom side from the transceiver and you will see a red marked area, too.



This marked area you can see again and bigger in the picture IC746SMD.JPG.

Now something about IC746SMD.JPG.

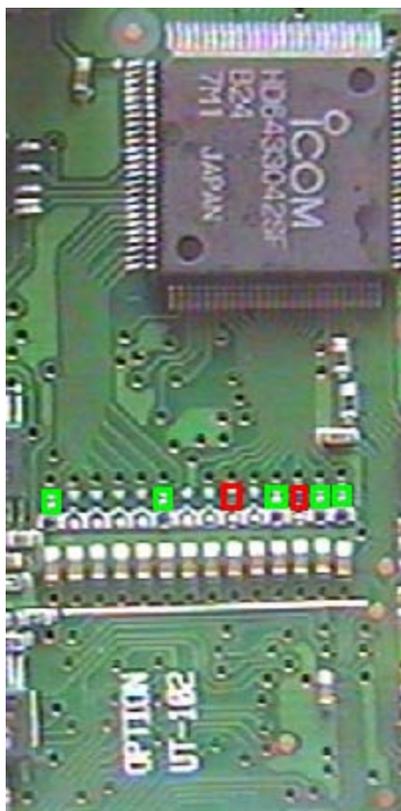
There are some green frames. This are diodes which must be on this place.

There are some red frames. This are diodes which you have to remove. Where no frame is, there is no diode in my transceiver.

After removing the red marked diodes you should can

RX 60 khz - 60 MHz and 118 Mhz - 176 MHz

TX 100 khz - 60 MHz and 118 Mhz - 176 MHz





See messages about this article.



Write new message about this article.

Date: Wed, 2 Jan 2002 11:34:47 -0800 (PST)  
From: Hector Padron  
Subject: IC-746 higher power mod.

Here is one easy mod that tou don't have listed in your site:

For all those who wants a little more of driving power for an old amp with the new IC-746,here is the way to do it easily.

Important settings pots within the IC-746 HF/VHF radio. Remove the twelve screws holding on the bottom cover. With the Radio laying flat on it's top remove the bottom cover.

Underneath the radio there is a board named MAIN UNIT (B5083J) where there are 4 important small pots provided to increase or decrease the power output in different bands as follow:

R-989 HF Power output (rated at 100W)

R-991 50 Mhz band Power Output (rated at 100W)

R-993 144Mhz band Power Output (rated at 100W)

R-994 AM Power output (rated at 40W)

R-546 Tx gain,set at factory for best linearity in TX IF (better not to play with it)

Do this totally at your own risk.Dont get more than 140 Wts in FM because with high SWR you might damage your final stage and void your factory warranty.

Note: Be sure to do all the setings over a pure 50 ohms dummy load.

Hector Padron  
AD4C

¿