

Icom HM-151 modifications (original IC-7000 hand mic)

I have experimented with the original hand microphone that comes with the IC-7000. One thing I noticed with the HM-151 is that (compared to the HM-103 etc) it has a lot of bass response, and this also depresses the treble response a bit. Sadly, the IC-7000 do not have the DSP TX equalizer that I feel should have been implemented. The IC-7000 is an excellent radio on transmit, but with the HM-151 it's a bit to "bassy" and it sounds to muffled.

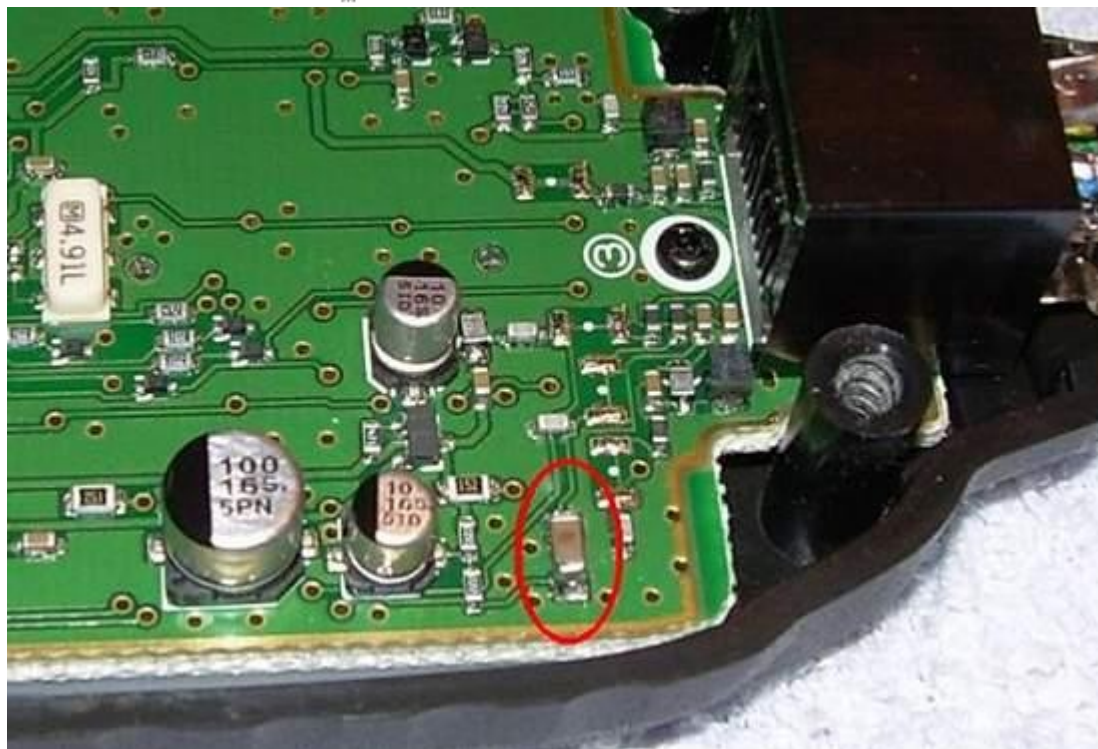
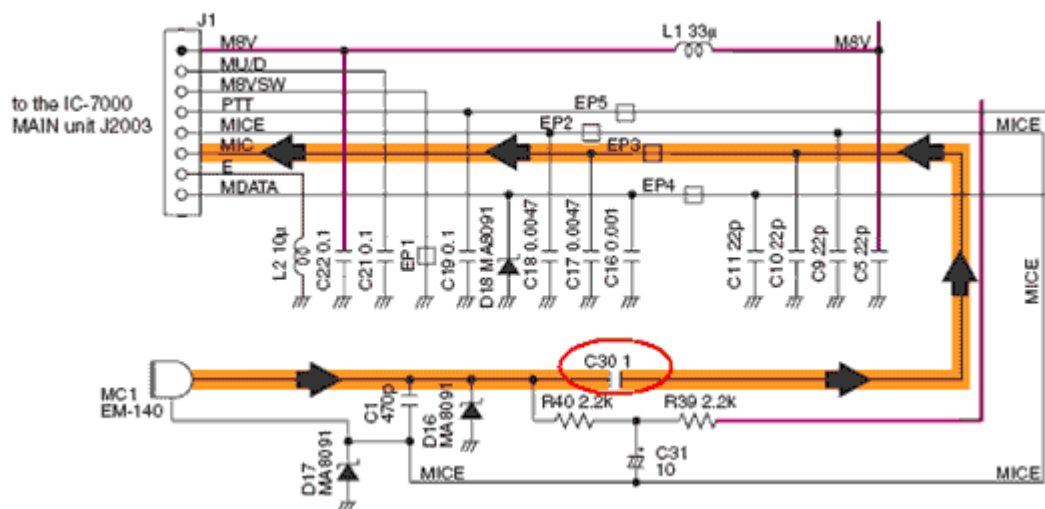
This can be improved by replacing the **C30** ceramic capacitors inside the HM-151.

One can use the MIC RECORDING function in the IC-7000 and record exactly the same phrase before and after the modification to compare and hear the difference.

Remove the rear cover of the HM-151



The schematics below show the HM-151 internal circuit.



The serial capacitor C30 is responsible for the bass roll-off, and 0,22 F is in my opinion the best value. This value also works great for FM-mode. Decreasing it any further will cut away too much bass and it will make the HM-151 sound very thin and weak (with decreased output).

The original size of the C30 capacitor is 1 F, and this is a bigger value than in any other icom hand microphone I know of. This is why it will allow a lot of bass to pass through, and this is why it will sound "bassy" compared to other icom hand mics.

First, you must get your hands on the replacement capacitor.

The C30 capacitor should be replaced with a 0,22 F SMD ceramic capacitor called C3216X7R1H224K. Size/type is 3216 or 1206 (3,2 x 1,6 mm). (also named C1206C224K5RAC C-7025) ELFA part number : 65-777-04

Replace the C30 capacitor. It is a bipolar capacitor, so there is no + or - on it. Please be aware of the fact that soldering such tiny SMD components are VERY difficult, if you don't feel like doing it yourself I strongly advice you to contact an electronic service shop to do it for you. Be careful ! Buying a new HM-151 is expensive!

Mic gain at 80 - 100 % , COMP on level 1 only.
Try these setting for transmitter bandwidth (TBW):

W(H) 2900	W= Ragchew
M(L) 200	
M(H) 2900	M= DX
N(L) 300	
N(H) 2700	N= DX (sounds almost like Heil HC-4)

This way you will have good settings for both Ragchew and DX. Only use COMP if necessary

Note !

If your IC-7000 has been modified internally (microphone preamp.) you will probably not notice any difference with this modification. This is the case with most IC-7000 radios sold in Scandinavia. They sound good in SSB-mode, but a little low on bass in FM-mode. There is no need to modify these radios any further (leave them as they are). If you on the other hand are planning on buying a new IC-7000, ask for an unmodified radio (microphone preamp.) but let the dealer replace the C30 capacitor inside the HM-151 for you.

Good luck !

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