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Icom IC-R71

The IC-R71 is a glorious MW/SW radio receiver produced by Nippon Icom Inc. (Osaka) for ham and professional fields in the '80 and '90 years. At that time it was surely the best SW radio outstanding on the market. The fantastic dynamic (105dB!) and the great technical features have made it famous in radioamateur world and also for the government and professional services. I was lucky to buy someone coming from a UK government stock of goods and sold out just €200, but today it still has a price much higher than I paid, despite the circuitry is 20 years old.

Frequency range	0.1 ~ 30 MHz	
Heterodyning	4 conversions	
Frequency synthesis	PLL controlled by μ P (10, 50, 100 Hz steps)	
Frequency display	6 digit with 100 Hz resolution	
Power Supply	110Vac or 230Vac or 13.8 Vdc	
Power consumption	30VA	
Temper. Oper.	-10°C ~ +60°C	
Frequency stability	< 200 Hz	After power-up
	< 30 Hz	After one hour
	< 500 Hz	between 0/+50°C
I.F. conversions	1 [^]	70.451 MHz
	2 [^]	9.0115 MHz
	3 [^]	455 kHz
	4 [^]	9.0115 MHz
Sensitivity: with preamp inserted (10dB S=N/N) * 12 dB SINAD	SSB/CW/RTTY	1.0 μ V (0.1~1.6 MHz)
		< 0.15 μ V (1.6~30 MHz)
	AM	3.0 μ V (0.1~1.6 MHz)
		< 0.5 μ V (1.6~30 MHz)
	FM	< 3.0 μ V (1.6~30 MHz)*
Selectivity	SSB/CW/RTTY	2.3/4.2 kHz
	CW-N/RTTY-N	500 Hz / 1.5 kHz
	AM	6/15 kHz
	FM	15/25 kHz
Sporious rejection	> 60 dB	
Demodulations	SSB, CW, RTTY, AM, FM (FM is optional by EX-257 option)	
Antenna impedance	50 ohm (high impedance between 0.1 and 1.6 MHz)	
Audio output	> 2W - 8 Ohm	
Dimensions	111 x 286 x 276 mm	
Weight	7.5 kg.	

It was produced in different versions: version "A" was destined to the American market, "E" reserved for the European market.



After the first power-up I tried to tune it on MW band and I have seen how much it deaf there, so I went looking for on Google and discovering that the receiver was designed to avoid the front-end stage saturation by the strong MW broadcast emitters. If it is not changed, the preamp stage doesn't work on MW band and an inside "T" resistor-based attenuator mitigates too much the signals on medium-waves band. I have early modified it following an useful compendium with a lot of modifications, tips and tricks about the IC-R71 by Donald E. Noman ([link](#)). Here the manual too: [IC-R71 UserManual](#).

Enabling preamp for MW band

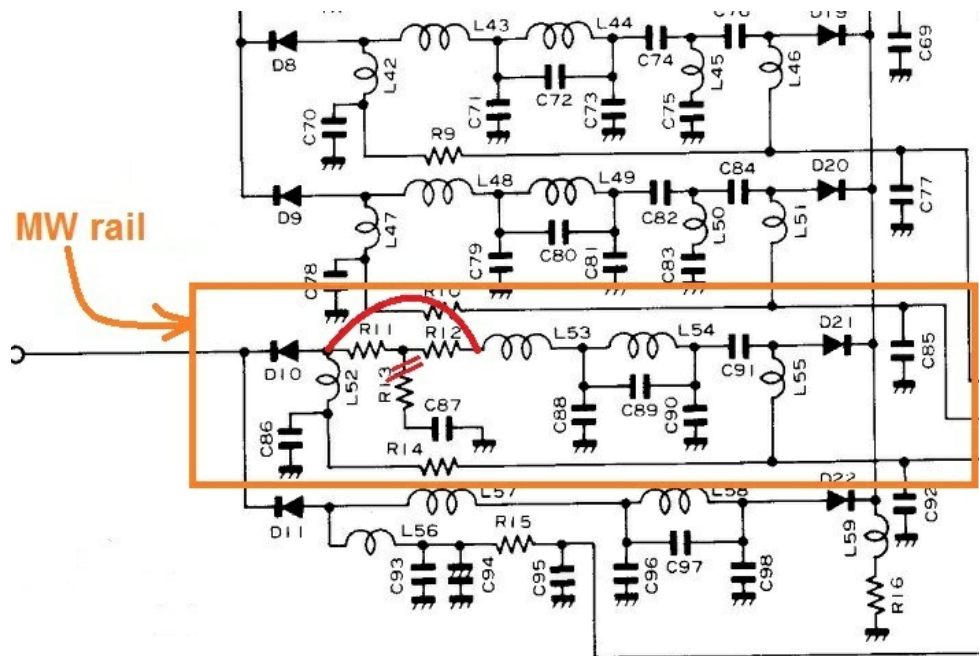
About the MW sensitivity improvement, you can lift one leg of D23 or remove entire diode located on RF board (right side of the radio). This operation allows to take about 1/1.5 dB





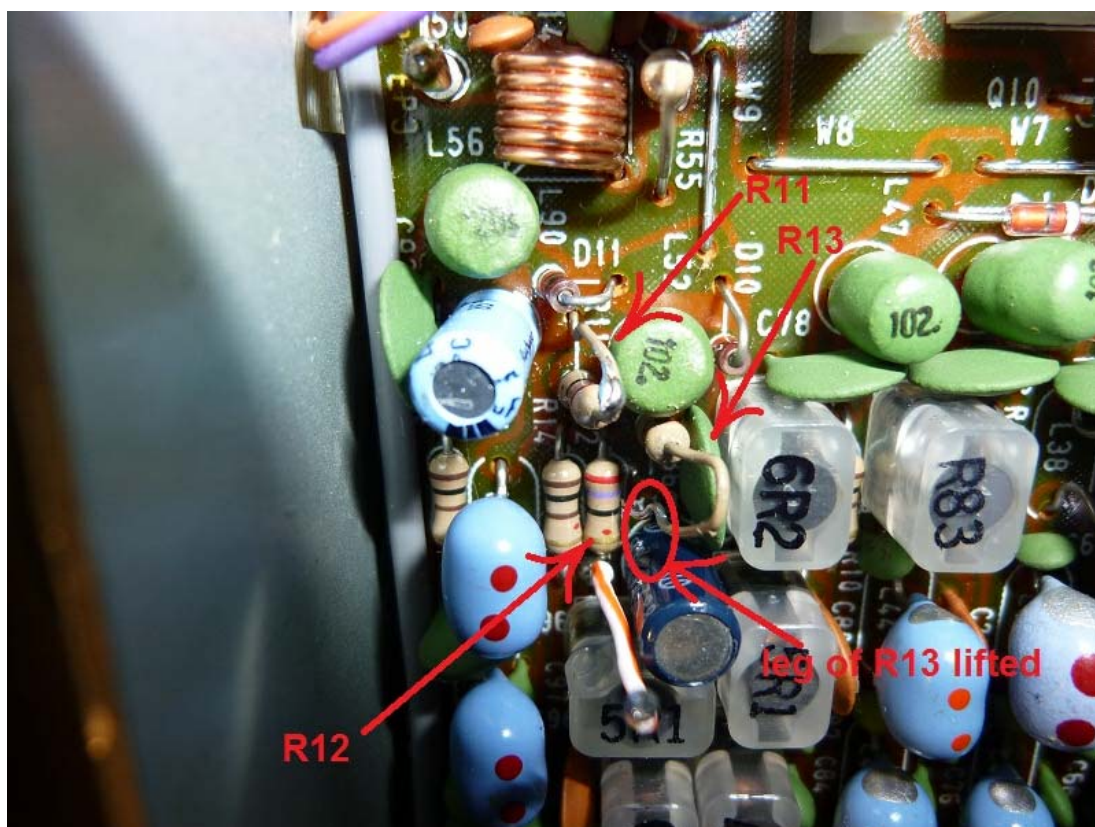
How to exclude the MW attenuator

There is a small attenuator consisting of three resistors located on the RF MW input chain. This one must be inhibited:



To by-pass that, R13 lifting or removal and the shorting of R11-R12 series is called for.

- step1: raise R13



step2: shorting of R11-R12 series

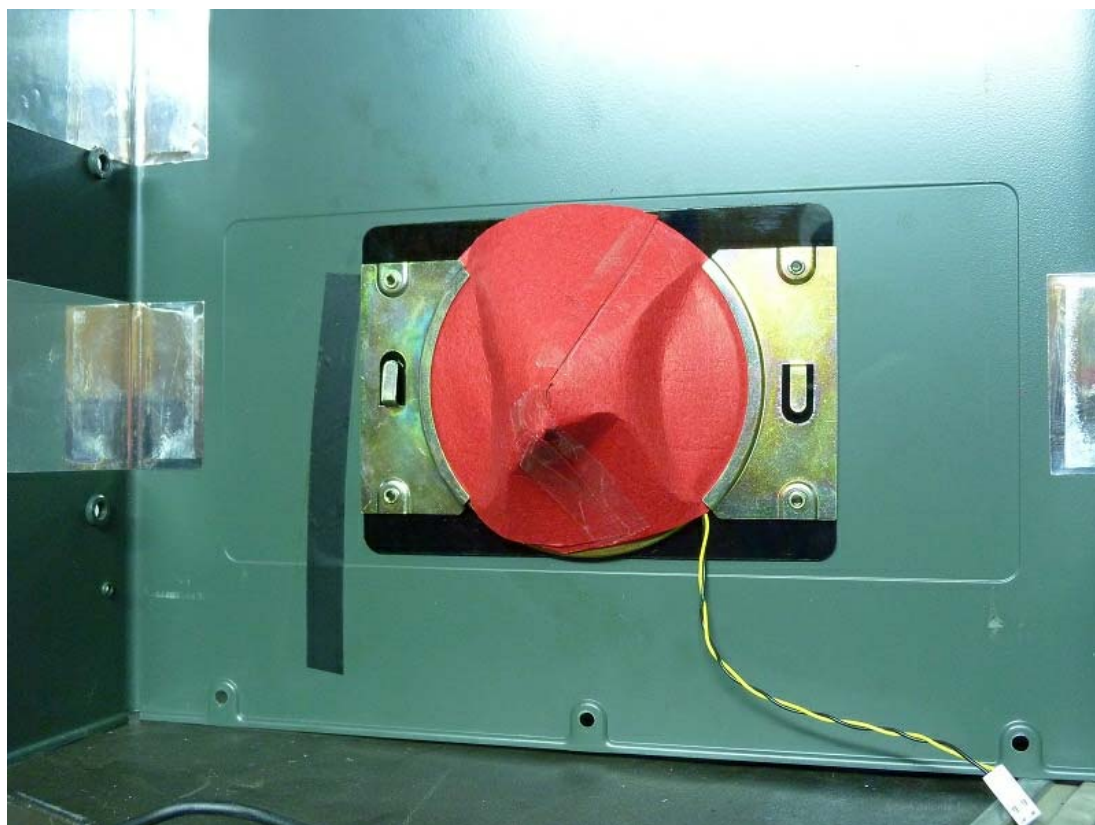


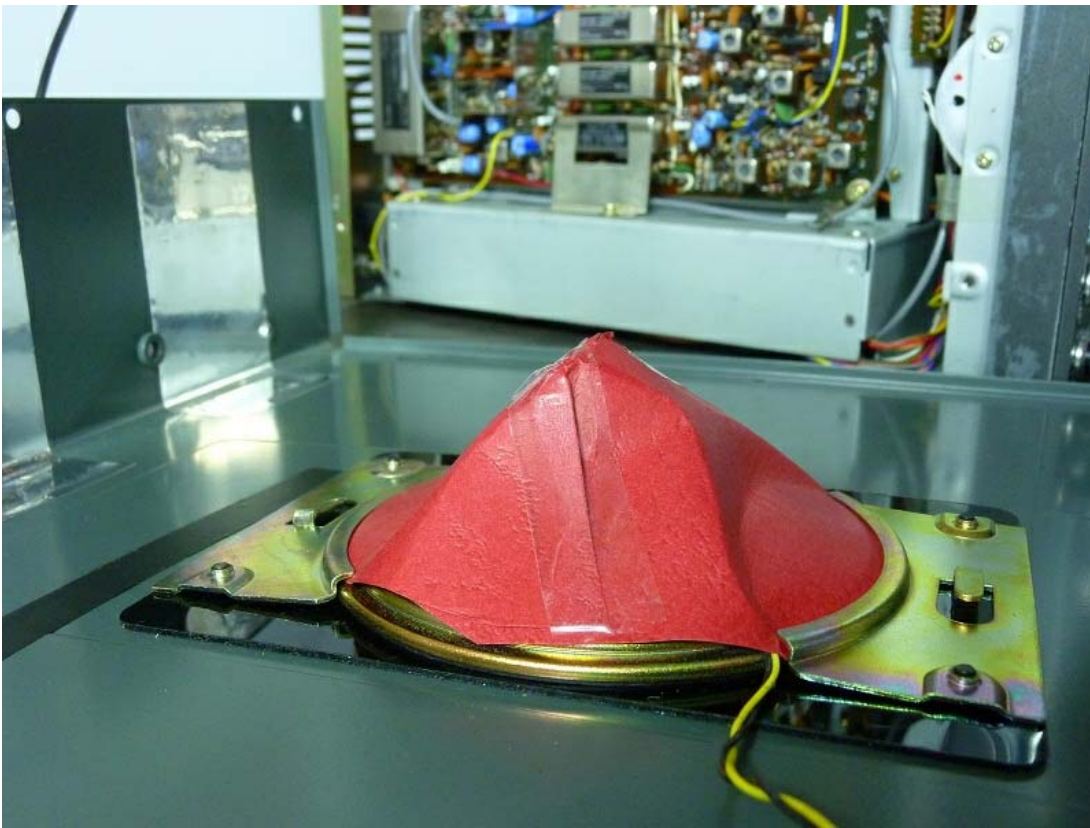
The MW attenuator by-passing procedure, allows to gain another 5/6 dB.

In the video below you can feel and see the differences before and after two modifications:

How to improve quickly the sound quality of speaker without affecting the circuitry

Afterward I bought an external speaker, but if you want to improve just little bit of sound quality, you can simply place some kind of reflector behind the internal speaker to redirect the sound towards you. I used some cardboard to make book binding.





Here below two videos show my IC-R71 while I am listening the BBC World Service and the mysterious Russian station "the Buzzer" on SW: