Introduction

I started on doing modifications of CB- and HAM-radios since 1980 at the age of 12 years. I mostly wasn't satisfied with the sound of the modulation or reception of my rigs. This is normally founded by restrictions of the local law or by rationalize productions. Only expensive high-class amateur radios have a good sound on their basic state.

Therefore there must be some possibilities for improvements. So I learned the basics of RF electronics on myself and did a lot of modifications until today and I would like to spend my experiences to all other electronic interested people, CB- or HAM-radio stations.

You have to recognize your local laws. Mostly modifications aren't allowed by the local law or by the manufactures. So you do it on your own risk. Also the brand new HAM rigs are mostly build with a lot of teeny-weeny SMD parts. You have to use special equipment and you also must have a great expert knowledge. So some modifications aren't for only hobby electronic technicians.

So this and all of my Modification Sheet are for education purposes only !

Used pix are mostly done with my Fujifilm „FinePix 6800 Zoom" on resolution „3M/Fine", but they are reduced on their size due to minimize the total file size of this publication.

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Main Unit			
Part (org. value)	change to		Remarks
D01	BAT85 Schottky	RX	LPF
D02	BAT85 Schottky	RX	LPF
D03	BAT85 Schottky	RX	LPF
D57	BAT85 Schottky	TX	to TX preamp Q32
D04, D17	BAT85 Schottky	RX	for all lower BPF from 0,1 – 21,5 MHz
D05, D06	BAT85 Schottky	RX	BPF 0,1 – 2,5 MHz
D07, D08	BAT85 Schottky	RX	BPF 2,5 – 4,0 MHz
D09, D10	BAT85 Schottky	RX	BPF 4,0 – 7,5 MHz
D11, D12	BAT85 Schottky	RX	BPF 7,5 – 14,5 MHz
D13, D14	BAT85 Schottky	RX	BPF 14,5 – 21,5 MHz
D15, D16	BAT85 Schottky	RX	BFP 21,5 – 29,9 MHz
D18	BAT85 Schottky	RX	RX Mixer In
D21, D22	BAT85 Schottky	RX	2nd RX mix
D23	BAT85 Schottky	RX	2nd RX mix
D24	BAT85 Schottky	RX	2nd RX mix
C116 (1µF)	2,2µF	RX	longer SSB AGC
		TX	Mic Gain
D81	Remove	RX	fast AGC on AM+FM, slow AGC on SSB original: fast AGC on FM, slow AGC on AM + SSB
J13	Cut the brown wire near C149. Solder the open brown wire end to the middle pin of J13.	TX	Mic Gain is also working on FM (original only for AM/SSB)
Display Unit			
Part (orig. value)	change to		Remarks
C22 (10nF)	1nF	RX	higher cutoff on af lowpass
C25 (68nF)	Remove	RX	remove af lowpass
C26 (10µF)	100µF/25V	Lamp	
---	4,7nF from R20/R21/C23 to ground	RX	af lowpass cutoff at 3 kHz
---	Cut hot speaker wire and solder a 0,47mH coil between. Add a 22µF electrolyt parallel the speaker	RX	af lowpass filter with cutoff frequency of 2,5 kHz
Filter Unit			
Part (orig. value)	change to		Remarks
D01, D02, D03, D04	BAT85 Schottky	RX	SSB Filter
D05, D06	BAT85 Schottky	RX	CW Filter
D07, D08, D09, D10	BAT85 Schottky	RX	AM Filter
D11, D17, D12	BAT85 Schottky	RX	direct throughpass
D13, D14, D15, D16	BAT85 Schottky	RX	filter output stage
FM Unit			
Part (orig. value)	change to		Remarks
C19 (4,7nF)	100nF	TX	more basses
C21 (6,8nF)	Remove	TX	more natural sound
C23 (3,3nF)	2,2nF	TX	higher af lowpass cutoff
C09 (not placed in)	15nF	RX	af lowpass cutoff on 2,5 kHz

I'm using a "Astatic 1104C" base microphone (ceramic capsule, mike preamp + tone control).

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Disclaimer • Disclaimer of liability

This modifications mostly need to be done by a electronic specialist who had enough practise and who has knowledge in SMD soldering. You do the modifications on your own risk !

Radio modifications shown here are provided for properly licensed operators only! The user is solely responsible for making sure that any modifications made to the radio unit must meet all Federal and State Regulations or the Country of use! Liability of damages to any equipment is the sole responsibility of the user! Downloading , viewing, or using any information provided on these pages automatically accepts the user to the terms of this agreement! Modifications are provided for information purposes only!

Although the greatest care has been taken while compiling these documents, we cannot guarantee that the instructions will work on every radio presented.

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If your company would like to provide technical information to be featured on this pages please contact me at:dg2iaq@web.de

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