

## Marantz CD67mkII modifications

### Power supply

Part:	Org. value:	Replace by:	Brand:	Farnell:	Remark:
C801/802/811/812	47n cer.	remove			
C803/804	1000u/35V	6800u/40V	BC 056	116-5498	+1u MKT
C805/806	470u/16V	1000u/25V	Elna RSH		
C813	4700u/16V	4700u/16V	Panasonic FC	969-2100	+1u MKT
C815	3300u/6,3V	4700u/10V	Panasonic FM	121-9459	+220n MKT
C871	47u/16V	1200u/10V	Panasonic FC	969-1960	
D801...804	S5688G	MBR1100	IR	489-7432	
D811/812/851/854	S5688G	MBR1100	IR	489-7432	
DN01...04	S5688G	MBR1100	IR	489-7432	
Q801	JRC78M12	TS7812CZ	TS	717-4047	
Q802	JRC79M12	TS7912CZ	TS	720-2172	

### Opamps (Q605/606)

C611...614	100u/25V	220u/16V	Elna Silmic		
C651...654	470u/16V	remove			
C655...658	220u/16V	remove			
C659/660	100p	remove			
R613...616	27R	100uH/1R7	Epcos	608-543	
R651...654	27R	remove			
R655/656	10k	remove			
R657/658	100R	remove			
R659/660	100R	47R			
U216/217	wire	remove			
QN05...08	2SC2878	remove			
Q605/606 **	NJM2114D	AD827/LM6172/LT1361....		experiment!	** see below
- insert extra 220n/PPS between pins 4 and 8			Panasonic	383-5492	SMD

### **OUTPUT FILTER**

C601...604	120p	120p/1%	BC	458-694 (Conrad)
C605/606	1000p	560p/1%	BC	458-775 (Conrad)
C607/608	100p	100p/1%	BC	458-686 (Conrad)
CD21...24	120p	120p/1%	BC	458-694 (Conrad)
R601...604	27k	26k7/0,1%	Welwyn	950-1380
R607/608	18k	18k2/0,1%	Welwyn	950-0642
R609/610	22k	22k1/0,1%	Welwyn	950-1185
R605/606/611/612	10k	10k0/0,1%	Welwyn	949-9938
RD21...28	10k	10k0/0,1%	BC	308-6185

### DAC (QD01, SM5872BS)

CD04	220u/10V	remove			
CD05/06	47n cer.	100u/25V	Elna Cerafine		+ 100n X7R 1206
CD07	220u/10V	remove			
CD12/13	47n cer.	100n X7R 1206	Phycomp	644-316	
CD15/16	470u/10V	100u/25V	Elna Cerafine		
RD01/04	4,7R	220uH/3R3	Epcos	511-651	
- insert extra 100n X7R 0603 directly between pins 15 & 16					

## **Decoder (Q102, SAA7372GP)**

C108	100n cer.	100n MKT	BC	567-450
C109	22n cer.	100n MKT	BC	567-450
C114	47u/16V	100u/25V	Elna Cerafine	
C115...119	47n cer.	100n X7R 1206	Phycomp	644-316
C120	47u/16V	100u/25V	Elna Cerafine	
C125	1n cer.	1n cer.		
R117/118	4,7R	82uH	Epcos	

- CRIN/CROUT modification, see '**More mods...**' section below

## **µController (QF01, MN187164)**

CF02	47u/16V	remove		
CF01	47n cer.	100u/16V	Rubycon ZLH	812-6283
CY01	47n cer.	22u/16V in parallel		
RF01/R11	4,7R	470uH		

- insert extra 100n X7R between pins 1 and 4/5 of QF01

## **Drivers (Q106/107/108, TDA7073A)**

C132	47n cer.	remove		
C155	47u/16V	100u/16V	Rubycon ZLH	812-6283
C156	47u/16V	remove		
C157/159	47n cer.	100u/16V	Rubycon ZLH	812-6283

- insert 3x 100n X7R on bottom-side, directly between pin 5 and 10/14 (ground)

## **Servo PCB**

C121/124	47n cer.	100n X7R 1206	BC	644-316	
C126	47u/16V	220u/16V	Rubycon ZLH	812-6305	+100n PPS

## **More mod's...**

To clean up the +/- 12V supply that's used for the opamps, disable all other circuits that use it:

- Disable headphone circuit: remove C901/902 (signal) and jumpers U139/140 (+/- 12V).
- Disable muting circuit: remove QN24/25/91/92 and RN27/28 (disables analog -12V supply to muting circuit).

Some noise reduction...

- Place 250VAC/20mm. varistor (100-4357 or 105-7197) directly on mains pins of IEC socket or on mains terminals on the PCB.
- Insert common-mode filter (Farnell 322-7509 or 969-4234). Remove U243/245 and insert filter instead. Place one class X capacitor 4,7n/250Vac (952-7052) across mains before and after filter.
- Insert a 100n film capacitor and 22R resistor across the sled motor. This adds a snubber, similar to R161 and C162 for the disc motor. There are empty places for these components located near JM01.

Disable Digital Out:

- Remove R114, U172, U196 and U204 to disable the DO signal to the outputs on the back-panel.
- Remove U201 to disable +5V to the optical output connector.

Disable IR remote switch and RC-5 IN/OUT bus:

- Remove U125, U133 and DF52 to isolate the RC-5 signal.
- Remove RF52, RF54 and RF61 to disable the 5V power supply for this circuit.
- Insert a jumper wire from U125 (the hole farthest from QF61) to U133 (the hole near QF02).

## And these are for the die-hard's...

- Replace the 16.9344MHz crystal by a low jitter clock module, like [The Flea](#). Remove CD02/03, RD02 and XD01. Connect clock signal to pin 28 of DAC and GND. Use separate power supply for best results.
- Feed the digital (DVDD) and analog supply pins (AVDD1...4) of the DAC separately, through their own inductors. Remove U202 and U203. U201 should already be removed (Digital Out disabled). Place the "RD04" inductor in the empty "+" hole of CD07 and in the hole of U203 that connects it to U200. Place a new 220uH inductor (+ 2 ferrites) in the other hole of U203 and in the hole of U201 that connects it to C815. The digital and analog +5V of the DAC are now separated.
- To separate the +/- 12V circuit for the opamps further: modify the power-transformer and separate the common 5V / 12V center-tap. Remove the transformer from the PCB. Carefully desolder the two thickest wires connected to pin 4 of the transformer. These are the 5V center-tap wires. Wrap them together a bit and solder a small piece of wire on them. Remove U239. Insert a wire between the two un-named holes in line with U239. This will reconnect the now separate 12V center-tap to the 12V section. Put the transformer back on the PCB and connect the free 5V center-tap wires to the empty hole of U239 that's closest to U241.

## REMARKS

\*\* for best results: use single opamps, each fit for their task. Example: OPA627 + OPA132 or AD8610 + AD8510 for post-DAC + filter on SMD adapters (BrownDog or eq.). Experiment and listen!

A lot of information and tips came from various articles and forums I found on the internet:

- many thanks to Thorsten Loesch for his article at [TNT-Audio.com](#)
- many thanks to Acoustica.org for [The CD63 clock-hack](#)
- and credits to the members of diyAudio.com that contributed through the forum, although they are probably not aware of that (they'll know who they are if they recognize their idea here... :-)

For updated mods-lists and detailed photos: visit [www.raylectronics.nl](http://www.raylectronics.nl)

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