

Marantz CD63mkII-KI modifications

Power supply

Part:	Org. value:	Replace by:	Brand:	Farnell:	Remark:
C803/804	470u/35V sm.	3300u/25V	Panasonic FC	969-2223	+ 1u MKT
C805/806	470u/16V	1000u/16V	Panasonic FM	121-9463	+ 100n PPS 1913
C811/812	47n cer.	47n MKS	Wima	100-6025	
C813	4700u/16V	4700u/16V	Panasonic FC	969-2100	+ 1u MKT
C814	1000u/16V	3300u/16V	Panasonic FM	121-9465	+ 1u MKT
C815	3300u/6,3V	4700u/10V	Panasonic FM	121-9459	+ 100n PPS 1913
D801...804	S5688G	MBR1100	IR	489-7432	
D811...814	S5688G	MBR1100	IR	489-7432	
D851/854	S5688G	MBR1100	IR	489-7432	
DN01/02	S5688G	MBR1100	IR	489-7432	
Q801/802	78M12/79M12	LM317/LM337	* see below		
Q811	7805	MC7805ACT	ONsemi	300-4831	

HDAM & OPAMPS (Q605/606)

C611...614	100u/25V cf.	220u/16V	Black Gate Std.		
C655...658	220u/16V sm.	remove			
C659/660	100p	remove			
R613...616	27R	470uH/7R9	Siemens	608-580	+ ferrite
R651...654	27R	remove			
R655/656	10k	remove			
R657/658	100R	remove			
R659/660	100R	40R2/1%	PRP		
U210/214	jumper	remove			
QN05...08	2SC2878	remove			
Q605/606	NJM2114D	gold-plated socket and AD8610 (IC1) + AD8510 (IC2) on SMD adapters			

OUTPUT FILTER

C601...604	120p	120p/1% PS	LCR	952-0678	
C605/606	1000p	1000p/1% KP	Wima	100-5978	
C607/608	100p	100p/1% PS	LCR	952-0660	
CD21...24	120p	120p/1% PS	LCR	952-0678	
L601/602	220uH				
R601...604	27k	27k/0,1%	Philips 0204	308-6288	MELF
R607/608	18k	18k/0,1%	Philips 0204	308-6240	MELF
R609/610	22k	22k/0,1%	Philips 0204	308-6264	MELF
R605/606/611/612	10k	10k/0,1%	Welwyn RC55Y	949-9938	
R661/662	100k	100k/1%	PRP		
RD21...28	10k	10k/0,1%	Philips 0204	308-6185	MELF

DAC (QD01, SM5872BS)

CD04	220u/10V	remove			
CD05	47n cer.	220u/16V	Black Gate Std.		
CD06	47n cer.	220u/16V	Black Gate Std.		
CD07	220u/10V	remove			
CD12/13	47n cer.	remove			
CD15/16	470u/10V	220u/16V	Black Gate Std.		
RD01	4,7R	220uH/3R3	Siemens	511-651	+ ferrite
RD04	4,7R	470uH/2R5	Siemens	517-070	+ ferrite
RD17/18	jumper	470uH/7R9	Siemens	608-580	+ ferrite
U196	jumper	remove			
- insert 100n X7R 0603 between pins 15 & 16			Epcos	521-2870	SMD
- insert 4x 100n X7R 0805 between pins 17 & 19, 21 & 19, 22 & 24 and 26 & 24					

HF-amp (Q501/502)

C503	47n cer.	remove			
C504	220u/10V	330u/16V	Rubycon ZL	114-4688	+ 100n PPS 1913
C505	2200p cer.	2n2 PS	LCR	303-9705	
R505	100R	1mH/14R	Siemens	608-609	+ ferrite

Decoder (Q503, SAA7354)

C507	47p cer.	47p PS			
C508	22n cer.	100n MKT	BC	116-6036	
C509/512	47n cer.	330u/16V	Panasonic FM	121-9461	+ 100n PPS 1913
C510/511	220u/10V	remove (put new elcap in C509/512's place, closer to IC)			
C513	47n cer.	100n PPS 1913	Panasonic	969-5532	SMD
R508	4,7R	220uH/3R3	Siemens	511-651	+ ferrite
R511	4,7R	jumper			
U179	jumper	220uH/3R3	Siemens	511-651	+ ferrite

Digital out

CT04/10	22n cer.	47n MKS	Wima	100-6025	
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SERVO & Vref. (Q104, TDA1301T)

C120	47u/16V	220u/10V	Rubycon ZL	114-4679	
C122	47u/16V	remove			
C124	10u/25V	100u/16V	Rubycon ZLH	812-6283	
C119	47n cer.	100n PPS 1913	Panasonic	969-5532	
C121	47n cer.	220u/10V	Rubycon ZL	114-4679	+ 100n PPS 1913
C123	47n cer.	100n X7R	AVX	121-6440	
R107	330R	1mH/14R	Siemens	608-609	+ ferrite
R122/123	4,7R	220uH/3R3	Siemens	511-651	+ ferrite
R124/125	150R	330R			

Drivers (Q105/106/QM01, TCA0372)

C135/138	47u/16V	220u/16V	Rubycon ZLH	812-6305	
C136/137	22n cer.	100n X7R	AVX	121-6440	
C146/148	22n cer.	220u/16V	Rubycon ZLH	812-6305	+ 100n X7R
C151	22n cer.	100n X7R	AVX	121-6440	
C152	22n cer.	330u/16V	Rubycon ZL	114-4688	
C153	47u/16V	330u/16V	Rubycon ZL	114-4688	
C154	47u/16V	100n X7R	AVX	121-6440	
R127/128	4,7R	220uH/3R3	Siemens	511-651	+ ferrite
R149/150/164/165	jumper	56uH/1R2	Siemens		+ ferrite

µCONTROLLER (QF01, MN187164)

CF02	47u/16V	remove (put new elcap in CF01's place, closer to µC)			
CF01	47n cer.	220u/10V	Rubycon ZL	114-4679	
CY01	22n cer.	100u/16V	Rubycon ZLH	812-6283	
RF01	4,7R	220uH/3R3	Siemens	511-651	+ ferrite
RY11	4,7R	220uH/3R3	Siemens	511-651	+ ferrite

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

RF AMP PCB

C107	47n cer.	100u/16V	Rubycon ZLH	812-6283	+ 100n PPS 1913
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MORE MOD'S...

- Disable headphone circuit: remove C901/902 (signal) and jumpers U271/272 (+/- 12V).
- Disable muting circuit: remove QN24/25/91/92 and RN27/28 (cuts analog -12V to muting circuit). Remove U207, U211 and U262 (and cut trace) to disable traces running to headphone section. Decouple each muting line to GND with two 100n/X7R at junctions U222/223 and output side to remove noise coupled-in to analog section from digital-out trace that runs in parallel with muting lines for several inches!!
- Replace clock by special low jitter clock module. Remove CD02/03, RD02 and XD01. Connect clock signal to pin 28 of DAC and GND. Use separate power supply for best results.
- Stick damping material, like bitumen pads, on the bottom, chassis and hood.
- 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 969-4234). Remove U242/243/245/246 and insert filter here. Place one class X or Y capacitor 4,7n/250Vac across mains before and after filter.

REMARKS

- * replace Q801/802 with LM317/337 on small PCB's. Use experimentingboard or PCB's found at <http://eddie.dyec.com.tw/diy-products/vrm/vrm.htm> for example. Use low-ESR decoupling caps.
- suitable ferrite beads: Farnell type 242-500.

CREDITS

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 <http://www.tnt-audio.com/clinica/cd67.html>
- 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... :-)

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