

Marantz CD72mkII modifications

Main-board

Power supply

Part:	Org. value:	Replace by:	Brand:	Farnell/ Digi-Key:	Remark:
C801/802	1000u/50V	2700u/25V	Panasonic FM	P12385-ND	+1u MKT
C805/806	47u/16V	470u/25V	Panasonic FM	P12388-ND	
C807/808	220u/10V cf	390u/16V	Panasonic FC	P11201-ND	
C821	1000u/25V	4700u/16V	Panasonic FC	P10263-ND	+1u MKT
C822	3300u/25V	4700u/16V	Panasonic FC	P10263-ND	+1u MKT
C825	220u/16V	680u/16V	Panasonic FM	P12377-ND	+100n X7R 1206
C530/531	1000u/6,3V	1500u/16V	Panasonic FM	P12368-ND	+100n X7R 1206
C852	100u/50V	180u/50V	Panasonic FC	P10324-ND	
C853	47u/50V	56u/50V	Panasonic FC	P10322-ND	
C861	1000u/16V	1500u/16V	Panasonic FM	P12368-ND	
D821...823	RL103E	MBR1100	IR	489-7432	
D851/852	RL103E	MBR1100	IR	489-7432	
D861/862	RL103E	MBR1100	IR	489-7432	
Q801	NJM79M12A	LM320T-12	NCS	949-0418	
Q802	NJM78M12A	LM340T-12	NCS	156-4656	

HDAM & OPAMPS (Q601/602)

C607/608	100u/25V cf	220u/16V	Elna Silmic II		
C609/610	22n cer.	100n PPS	Panasonic	969-5532	1913 SMD
C611/612	100u/25V cf	220u/16V	Elna Silmic II		
C613/614	22n cer.	100n PPS	Panasonic	969-5532	1913 SMD
C627...630	220u/16V cf	remove			
C631/632	100p cer.	remove			
C727/728	100u/16V	jumper			
C731/732	100p cer.	remove			
C787/788	100u/16V	390u/16V	Panasonic FC	P11201-ND	
Q601/602	NJM2114D	8p. gp socket		107-7303	* see below
Q703	NJM2114D	8p. gp socket		107-7303	* see below
QN11...14	2SC2878	remove			disables muting
QN17...20	2SC2878	remove			disables muting
R423...428	100R	remove			disables HDAM
R613...616	2,2R	220uH/3R3	Epcos	511-651	
R617/618	100R	remove			disables HDAM
R633/634	100R	jumper			
R635/636	10k	remove			
R729/730	100R	remove			
R787/788	2,2R	220uH/3R3	Epcos	511-651	

OUTPUT FILTER

C601/602	56p cer.	56p/2,5% PS	LCR	952-0082	
C603/604	2n2	2n2/1% PS	LCR	952-0490	
C605/606	560p	560p/1% PS	LCR	952-0813	
CD15/16	820p	820p/1% PS	LCR	952-0635	
CD17...20	150p cer.	150p/1% PS	LCR	952-0686	
R601/602	10k	10k/0,1%	Vishay BC	308-6185	MMA0204 SMD
R603/604	3k32	3k3/0,1%	Vishay BC	308-6069	MMA0204 SMD
R605/606	3k92	3k3/0,1%	Vishay BC	308-6069	MMA0204 SMD
R607/608	12k1	10k/0,1%	Vishay BC	308-6185	MMA0204 SMD
R609...612	2k67	2k7/0,1%	Vishay BC	308-6045	MMA0204 SMD
RD17...20	18k2	18k/0,1%	Vishay BC	308-6240	MMA0204 SMD

DAC (QD02, TDA1547)

CD04...10	100n/50V	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
CD11/12	220u/10V	remove			
CD13/14	100n cer.	220u/10V	Panasonic FM	P12920-ND	+100n X7R 1206
CD21/22	100u/10V	remove			
CD23/24	100n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
RD04...08	2,2R	220uH/3R3	Epcos	511-651	
RD21/22	2,2R	220uH/3R3	Epcos	511-651	

Noise shaper (QD01, SAA7350A)

CD01	47u/16V	remove			
CD02	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
RD01	4,7R	220uH/3R3	Epcos	511-651	

Digital filter (Q511, SM5840FP)

C523	47u/16V	remove			
C524	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
R513	4,7R	220uH/3R3	Epcos	511-651	

Decoder (Q501, SAA7310)

C502	2n2 cer.	2n2/1% PS	LCR	952-0490	
C503	470n	470n MKT	Vishay BC	116-6054	
C504	2,2u/50V	2u2/35V tant.	generic	970-8537	
C521	47u/16V	remove			
C522	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206

DRAM (Q502, D41416C)

C514	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
C515	47u/16V	remove			
R512	4,7R	220uH/3R3	Epcos	511-651	

Digital out (Q509, PCF2705P)

C527	22n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
R515	4,7R	220uH/3R3	Epcos	511-651	

Motor control (Q140, NJM4560D)

C145	47u/16V	remove			
C146	47u/16V	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
C147	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
C148	47n cer.	remove			
R164/165	4,7R	220uH/3R3	Epcos	511-651	

Driver (QM01, TCA0372)

CM11/12	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
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µCONTROLLER (QF01, MC68HC05)

CF03	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
CF04	47u/16V	remove			
RF03	4,7R	220uH/3R3	Epcos	511-651	

FTS EEPROM (QF03, X24C16)

CF05	47n cer.	100n X7R	Kemet	141-4715	1206 SMD
CF06	47u/16V	120u/16V	Panasonic FM	P12922-ND	
RF04	4,7R	220uH/3R3	Epcos	511-651	

Muting/reset (Q510, 74HC08)

C525	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
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Servo-board

C133/150	47u/16V	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
Q108	79L06				
Q109	7805	MC7805ACT			

Photodiode processor (Q101, TDA8808T)

C103*	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
C113*	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206

*mount flat on the PCB!

Radial error processor (Q103, TDA8809T)

C126	47u/16V				
C128	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
C132	100n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206

Driver (Q106, TCA0372)

C135/136	47n cer.	120u/16V	Panasonic FM	P12922-ND	+100n X7R 1206
C134/137	47u/16V	remove			

MORE MOD'S...

- Disable headphone circuit: remove flatcable from J901.
- Disable muting circuit: remove QN05/06 and RN09/10 (cuts analog -12V to muting circuit).
- Drive two new 5V muting relays with the signal on RN07/08 and two BC547C's, tap power from PM5V. Connect relays NC contacts to collector and emitter of QN13/14.
- Replace clock by special low jitter clock module. Remove CD528/529, R521, RD02 and X501. Connect clock signal to pads of C528 (pin 9 of Q509 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, like S20K250 (100-4357 or 105-7197) on mains terminals on the PCB.
- Insert common-mode filter LH01 (Farnell 969-4234). Remove UH01/02 and insert filter. Place one class X or Y capacitor 4,7n/250Vac across mains before and after filter.

REMARKS

* for best results: use single SMD opamps, each fit for their task. Example: OPA602 + THS4011 or AD8610 + AD8510 for post-DAC and filter on SMD adapters (BrownDog or eq.). Experiment and listen!

R701/702: audio-signal L/R to motor-controlled potmeter

U614/615: central jumpers +/-12V

U636/639: output-points opamps, jumper these points to outputs

16-07-2009, data collected by R.A. van der Steen