

# marantz ST-520 – List Of Electrolytic Capacitors And Their Replacements

P100 (tuner board)								
On PCB			In schematic	Brand / Type	Replaced By			Comment
Ref. Design.	uF	V			Brand / Series	uF	V	
C207	1	50	=	Matsushita / elco	Elna / Silmic II RFS	1	50	FM IF amp, muting... circuit
C210	1	50	=	Matsushita / elco	Elna / Silmic II RFS	1	50	FM IF amp, muting... circuit
C211	100	16	=	NippChemi / elco	Elna / Silmic II RFS	100	25	FM IF amp, muting... circuit
C217	10	25	=	Elna / elco	Elna / Silmic II RFS	10	35	
C218	100	10	=	Elna / elco	Elna / Silmic II RFS	100	25	
C220	10	25	=	Elna / elco	Elna / Silmic II RFS	10	35	
C222	10	25	=	NippChemi / elco	Elna / Silmic II RFS	10	35	
C223	4,7	50	=	NippChemi / elco	Elna / Silmic II RFS	4.7	50	FM IF amp, muting... circuit
C303	1	50	=	Matsushita / elco	Elna / Silmic II RFS	1	50	FM MPX decoder circuit
C304	4.7	50	=	NippChemi / elco	Elna / Silmic II RFS	4.7	50	FM MPX decoder circuit
C306	1	50	=	Matsushita / elco	Elna / Silmic II RFS	1	50	FM MPX decoder circuit
C307	1	50	=	Matsushita / elco	Elna / Silmic II RFS	1	50	FM MPX decoder circuit
C308	330	16	=	Elna / elco	Panasonic / FM	330	25	FM MPX decoder circuit
C315	100	16	=	NippChemi / elco	Elna / Silmic II RFS	100	25	Analog output circuit
C316	100	16	=	NippChemi / elco	Elna / Silmic II RFS	100	25	Analog output circuit
C319	0.33	50	=	NippChemi / elco	WIMA / MKS2	0.33	50	Analog output circuit; in signal path
C320	0.33	50	=	NippChemi / elco	WIMA / MKS2	0.33	50	Analog output circuit; in signal path
C322	4,7	50	2.2/50	NippChemi / elco	Elna / Silmic II RFS	4.7	50	Analog output circuit
C323	47	10	=	NippChemi / elco	Elna / Silmic II RFS	47	25	Analog output circuit
C324	1	50	=	Matsushita / elco	Elna / Silmic II RFS	1	50	
C506	2200	16	C501	Elna / elco	Panasonic / FM	2200	25	Prescaler and microcontroller circuit
C507	22	16	=	NippChemi / elco	Elna / Silmic II RFS	22	25	Prescaler and microcontroller circuit
C508	4.7	50	=	Elna / elco	Elna / Silmic II RFS	4.7	50	Prescaler and microcontroller circuit
C509	1	50	=	Matsushita / elco	Elna / Silmic II RFS	1	50	Prescaler and microcontroller circuit
C510	2.2	50	=	NippChemi / elco	Elna / Silmic II RFS	2.2	50	5 step analog level detector circuit
C514	100	10	=	NippChemi / elco	Elna / Silmic II RFS	100	25	5 step analog level detector circuit
C802	470	35	=	Elna / elco	Elna / Silmic II RFS	470	35	Power supply circuit

C803	470	25	=	Elna / elco	Elna / Cerafine ROA	470	25	Power supply circuit
C805	470	16	=	Elna / elco	Elna / Silmic II RFS	470	16	Power supply circuit
C806	470	25	=	Elna / elco	Elna / Cerafine ROA	470	25	Power supply circuit
C808	220	10	=	Elna / elco	Nichicon / FW	220	16	Power supply circuit
C810	220	50	=	Elna / elco	Nichicon / Muse KZ	220	50	Power supply circuit
C811	220	35	=	Elna / elco	Nichicon / Muse FG	220	35	Power supply circuit
C814	220	50	=	Elna / elco	Nichicon / Muse KZ	220	50	Power supply circuit
C815	470	25	=	Elna / elco	Elna / Cerafine ROA	470	25	Power supply circuit
CA13	100	16	=	NippChemi / elco	Elna / Silmic II RFS	100	25	AM tuner circuit
CA25	0.47	50	=	NippChemi / elco	WIMA / MKS2	0.47	50	AM tuner circuit
CA27	10	25	=	NippChemi / elco	Elna / Silmic II RFS	10	35	AM tuner circuit
CA28	4.7	50	=	NippChemi / elco	Elna / Silmic II RFS	4.7	50	AM tuner circuit

**Nichicon Capacitors Classification (partial)**Large Aluminium Capacitors **KG** For audio

Small Aluminium Capacitors **KA** High grade for high grade equipment, 105 °C  
**KZ** Premium grade, for audio  
**FG** High grade, for audio  
**KW** Standard grade, for audio  
**FW** Standard grade, for audio

**Panasonic Capacitors Classification (partial)**

**FR** Low imp.; (upgrade) same as FM  
**FM** Low imp. (40-70% less than FC)  
**FK** Low imp. (20-30% less than FC)  
**FC** Low impedance

**WIMA Capacitors (partial)**

**MKS** Metallized Polyester (PET)  
**MKP** Metallized Polypropylene (PP)

**ELNA Capacitors Classification (partial)**

Large Aluminium Capacitors **LAO** For audio  
Small Aluminium Capacitors **RFS** Silmic II  
**ROS** Silmic  
**ROA** Cerafine  
**ROB** TONEREX  
**RBD** bipolar

**Other (Optional) Replacements****P701 (main board)**

On PCB			In schematic	Brand / Type	Replaced By			Comment
Ref. Design.	A	V			Brand / Series	A	V	
Q801-Q804, Q809, Q811, Q508	1	200	DS135D	Sanyo / Power diode	Fairchild, Microsemi or Vishay / Ultrafast power diode UF4004	1	400	Also: UF4003 (1A/200V)

## IC's List

On PCB Ref. Design.	In schematic	Brand	Comment
QA01	LA1245	Sanyo	AM electronic tuner
QS22	TL-489	TI	5-step analog level detector
Q202	HA11225	Hitachi	FM IF amplifier and detector, muting
Q305	(KB)4437	Toko	FM MPX decoder
Q501	uPD1703C-016	NEC	Phase Locked Loop AM/FM Frequency Synthesizer; 4 bit microcontroller
Q502	uPB553AC	NEC	150 MHz divide by 16/17 Low Power Prescaler
Q521	(CD)4035	TI	4-step flip/flop shift register
Q522	HD74LS42P	Hitachi	BCD to decimal decoder
Q534	(CD)4011	TI	Quad 2-input NAND gate (AM/FM switch)