

**FUSE**

12559335	T-GGS1 (CSA)	1A	Prim. 100V, 117V
12559510	SEMKO T315mA		Prim. 220V, 240V
12559514	SEMKO T2A		sec. 220V, 240V
12559336	T-GGS2 (CSA)	2A	sec. 100V, 117V
12559337	T-GGS3 (CSA)	3A	sec. 100V, 117V
12559338	T-GGS3.15 (CSA)	3.15A	sec. 100V, 117V
12559516	SEMKO	T3.15A	sec. 220V, 240V

**PCB** Order for PCB replacement will usually be filled with a newer one as long as they are compatible (if not, may be accompanied by adapting guide).

149H179C	CPU BOARD	(pcb 052H402C)
149H180B	MODULE BOARD (4-VOICE)	(pcb 052H403B)
149H181B	MODULE BOARD (2-VOICE)	(pcb 052H403B)
149H182A	BENDER BOARD	(pcb 052H404A)
149H183A	PANEL (L) BOARD	(pcb 052H405A)
149H184C	PANEL (R) BOARD	(pcb 052H406C)
149H186C	JACK BOARD	(pcb 052H408C)
162H061A	POWER SUPPLY BOARD (100V, 117V)	(pcb 052H409A)
162H062A	POWER SUPPLY BOARD (220V, 240V)	(pcb 052H409A)
149H191	FILTER BOARD (100V, 117V)	(pcb 052H416)
149H192	FILTER BOARD (220V, 240V)	(pcb 052H416)

**POTENTIOMETER**

	SLIDER	
13339420	S3018P405-B15	100KB
	ROTARY	
13219126	EVH-5XAP15-B15	100KB
13219125	EVH-5XAP15-B14	10KB
	TRIMMER	
13299563	RVG0707V101-10-103M	10K
13299564	RVG0707V101-10-104M	100K
13299562	RVG0707V101-10-503M	50K
13299525	3321P-1-502	5K

**TRANSISTOR**

15119108	2SA798-G
15119121	2SA937-Q or 2SA1115-E (15119129)
15119814	2SB1015-O
151291300G	2SC1583-G
15129119	2SC2021-Q or 2SC2603-E (15129140)
15129136	2SC2878-A
151291080A	2SC945 (NZ Selected)
15129827	2SD1406-O

**CAPACITOR**

13529103	DD111CH221J50J	220PF
13529102	DD600-257BC104Z12	0.1µF
13529104	DE7150F472MVA1	(Line bypass capacitor)



## IC

15179318	P8051-318-0	CPU	CPU BOARD
15179319	P8051-319-0	CPU	MODULE BOARD
15179142	P8031 or P8051	CPU	
P8031 and P8051 without suffix number (-318 or -319) Both have no internal program and need external PROM. Common to CPU and MODULE BOARD.			
P8051-318, P8051-319 Contains program to make external PROM unnecessary. NOTE: Internal/External ROMs can be switched by EA terminal of CPU. See Circuit Diagram.			
15159702	M54563P	8-Unit 500mA Source type darlington transistor	
15189136	M5218L	Dual low noise op amp	
15199117	M5230L	Variable output voltage regulator	
15159701	M54522P	8-Unit 400mA Darlington transistor array	
15189155	M51201L	Voltage comparator	
15169304	74LS04	Hex inverter	
15169352	74LS40	Dual 4-input positive NAND buffer	
15169353	74LS145	BCD-to-Decimal decoder/driver	
15159503	TC40H000P	Quad 2-input NAND gate	
15159504	TC40H002P	Quad 2-input NOR gate	
15159506	TC40H138P	3-to-8-line decoder/demultiplexer	
15159524	TC40H245P	Octal bus transceiver	
15159507	TC40H273P	Octal D-type flip-flop	
15159131	TC4053BP	Triple 2-channel multiplexer/demultiplexer	
15159134	TC4028BP	BCD to decimal (binary to octal) decoder	
15179317	TC5517APL or MB8416-25LP	RAM	
15179316	TC5517AP or MB8416-25P	RAM	
Use only "L" type for IC24 (CPU BOARD) for the longer battery life.			
15189146	IR9022	Low power dual op amp	
15229801	IR3109	VCF	
15219130	ADC0803LCN	A/D Convertor	
15179620	2732A-A	PROM A CPU BOARD	
Unnecessary when CPU is P8051-318			
15179621	2732A-B	PROM B MODULE BOARD	
15159508	TC40H373P	Octal D-type latch (3-state output)	
Unnecessary when CPU is P8051-319.			
15189117	TL081C	OP AMP	
15189118	TL082CP	OP AMP	
15189154	TL064CP	Low power op amp	
15159113	HD14051BP	8-Channel analog multiplexer/demultiplexer	
15159313	MC14551B	Quad 2-input analog multiplexer/demultiplexer	
15159311	MC14504B	HEX level shifter	
15219127	ITS80141	D/A Converter	
15229810	CEM3340	VCO	
15219129	CEM3360	VCA	
15219124	μPC1252H2	VCA selected (white)	
15199119	μPC3423C	Overvoltage protector	
15219131	HA17903PS	Dual comparators	
15229802	BA662-A	VCA	
15229812	EHM-S226W83S	Hybrid amp	
15159136	CD4067B	Single 16-Channel multiplexer/demultiplexer	