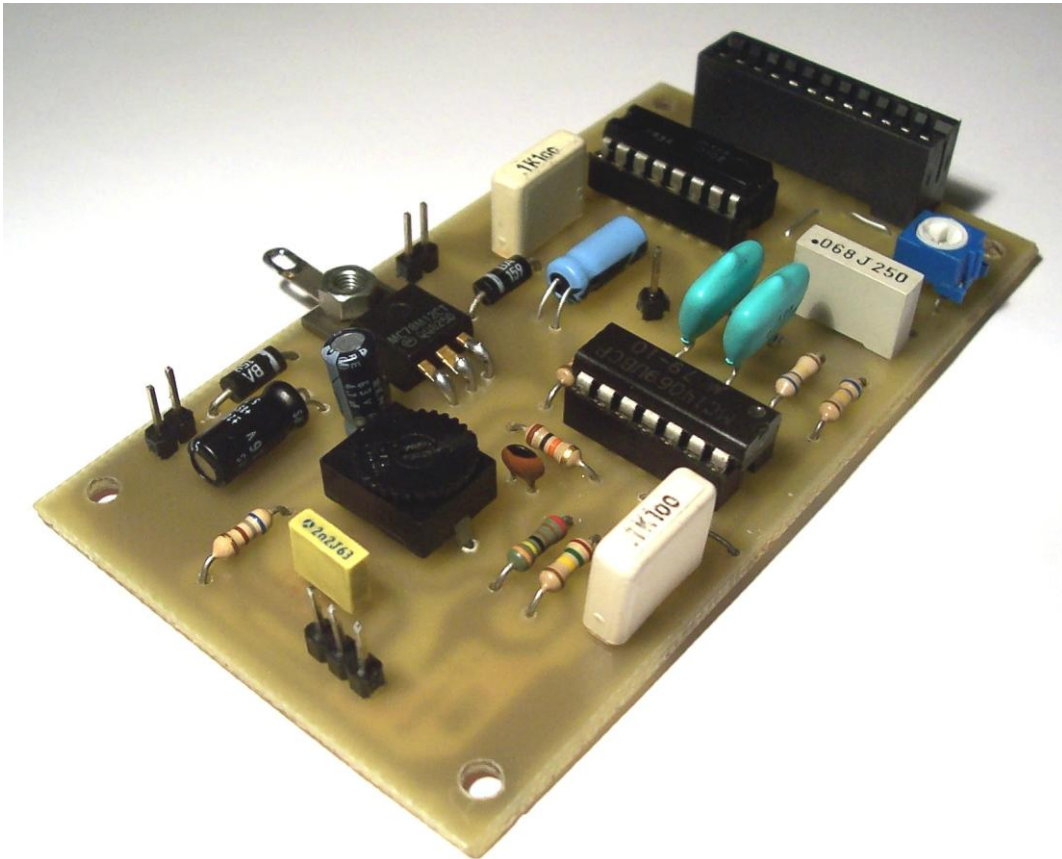


T.O.S.

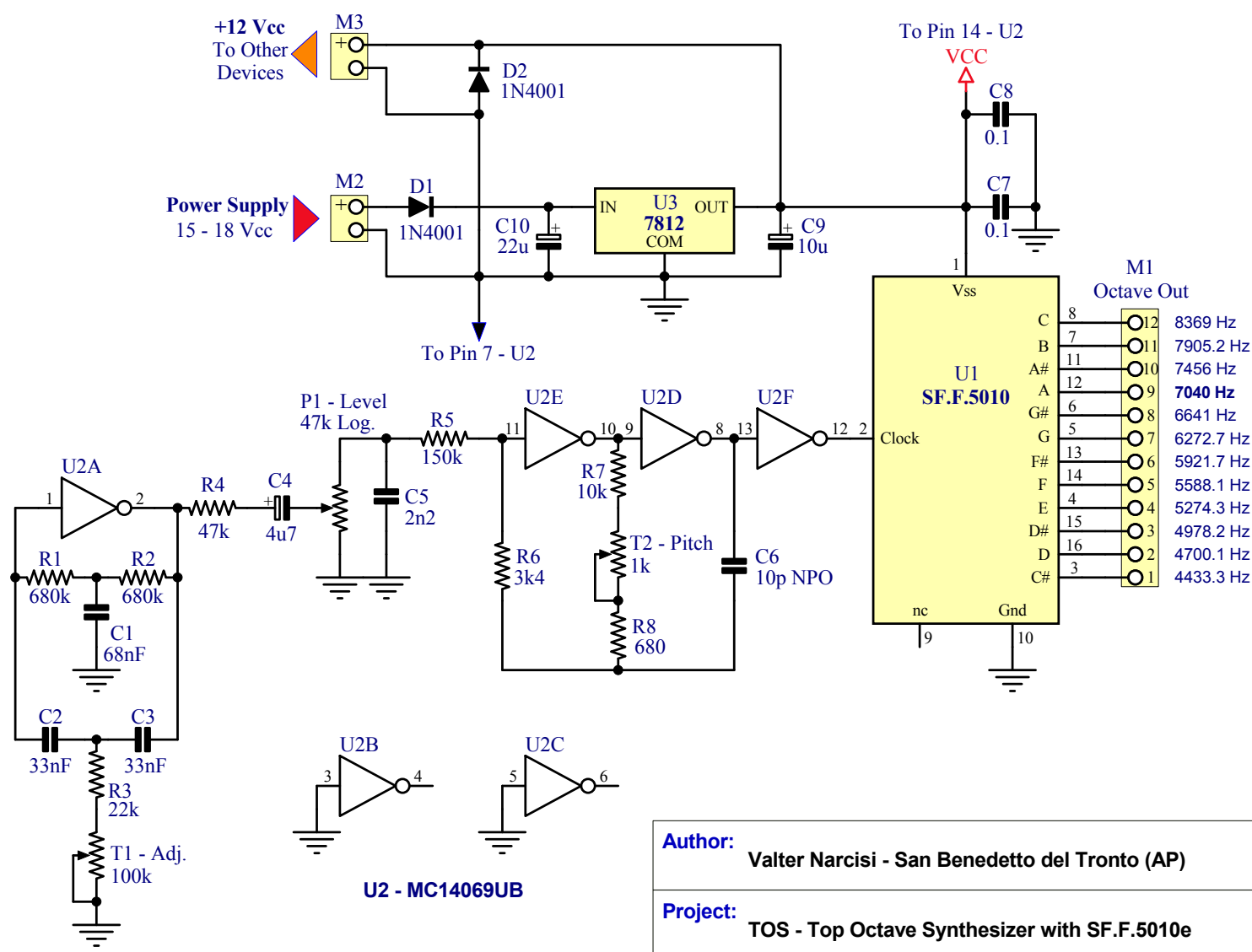
12-note Top Octave Synthesizer

with SFF5010 integrated circuit



SERVICE MANUAL





Author: Valter Narcisi - San Benedetto del Tronto (AP)				
Project: TOS - Top Octave Synthesizer with SF.F.5010e				Year: 2013
Size: —	DWG no. 1	Rev.: 1	Scale: 1:1	Sheet: 1 of 1
Note: www.narcisivalter.it - info@narcisivalter.it				

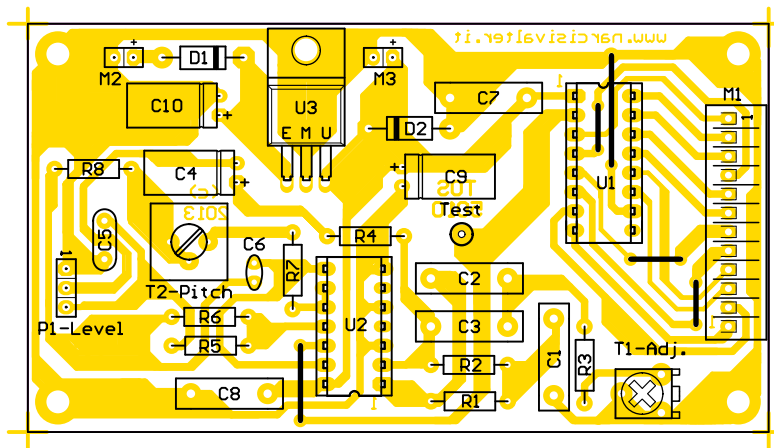
SESCOSEM
SF.F 5010e

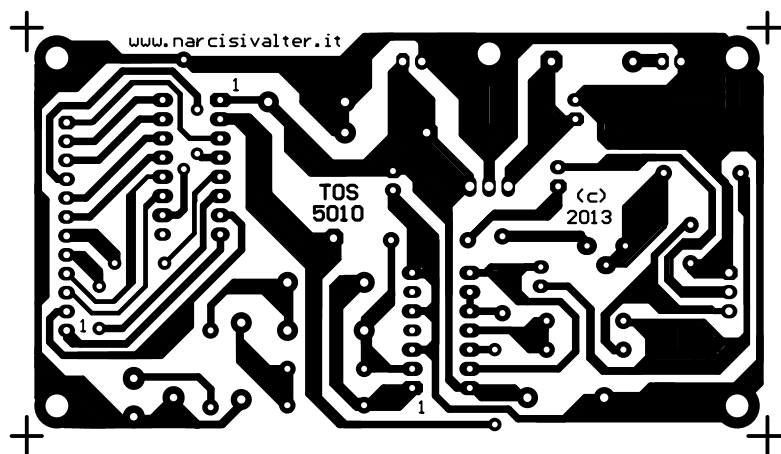
12-note Top Octave Synthesizer
(TOS)

Power Supply: 11,5 ÷ 12,5 V
Chip Package: **DIP16 (CB-79)**
Master Clock Input: 0,1 ÷ 4 MHz
Typical Clock Input: **820,160 kHz**
Duty Cycle: **50%**



Pin No.	Note	Div.	Freq. Output	
			Master Clock (kHz)	
			1640,32	3280,64
3	C#	370	4433,30 Hz	8866,59 Hz
16	D	349	4700,06 Hz	9400,11 Hz
15	D#	329,5	4978,21 Hz	9956,42 Hz
4	E	311	5274,34 Hz	10548,68 Hz
14	F	293,5	5588,82 Hz	11177,65 Hz
13	F#	277	5921,73 Hz	11843,47 Hz
5	G	261,5	6272,73 Hz	12545,47 Hz
6	G#	247	6640,97 Hz	13281,94 Hz
12	A	233	7040,00 Hz	14080,00 Hz
11	A#	220	7456,00 Hz	14912,00 Hz
7	B	207,5	7905,16 Hz	15810,31 Hz
8	C	196	8368,98 Hz	16737,97 Hz

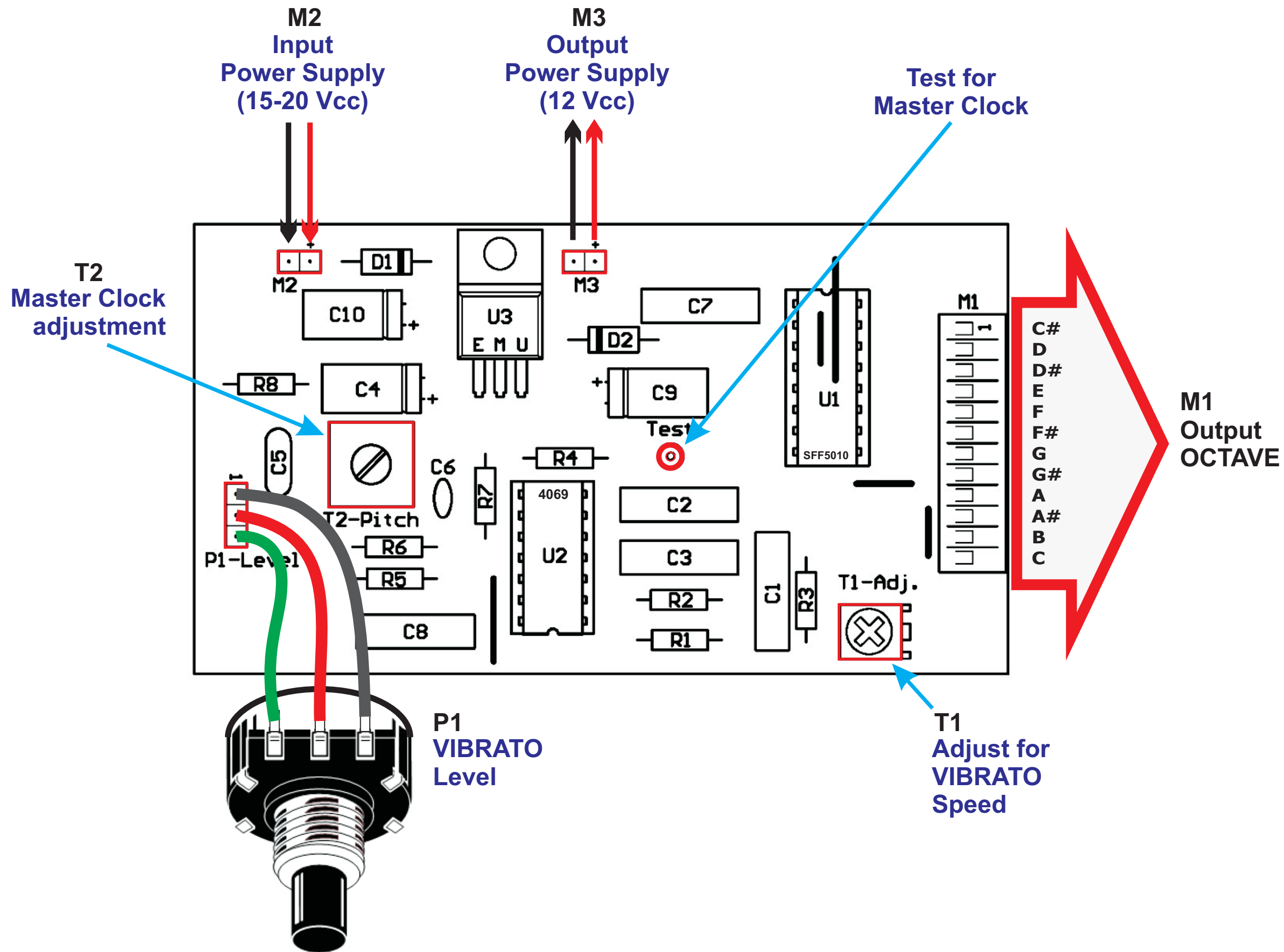




MASTER (Copper side - Lato rame)

TOS with SF.F.5010 - Component List

Designator	Part Type	Description
C1	68nF	Condensatore Ceramico/Poliestere
C2	33nF	Condensatore Ceramico/Poliestere
C3	33nF	Condensatore Ceramico/Poliestere
C4	4u7	Condensatore Elettrolitico
C5	2n2	Condensatore Ceramico/Poliestere
C6	10p NPO	Condensatore Ceramico/Poliestere
C7	0.01	Condensatore Ceramico/Poliestere
C8	0.01	Condensatore Ceramico/Poliestere
C9	10u	Condensatore Elettrolitico
C10	22u	Condensatore Elettrolitico
R1	680k	Resistenza
R2	680k	Resistenza
R3	22k	Resistenza
R4	47k	Resistenza
R5	150k	Resistenza
R6	3k4	Resistenza
R7	10k	Resistenza
R8	680	Resistenza
T1 - Adj.	100k	Trimmer
T2 - Pitch	1k	Trimmer
P1 - Level	47k Log.	Potenziometro
D1	1N4001	Diodo Raddrizzatore
D2	1N4001	Diodo Raddrizzatore
U1	SF.F.5010	12-note Top Octave Synthesizer
U2	MC14069	Six Inverter (NOT)
U3	7812	Stab. Pos. LM7812 (1 or 1,5 A)
M1	Octave Out	Connettore/Morsettiera 12 vie
M2	15 - 18 Vcc	Connettore/Morsettiera 2 vie
M3	To Other	Connettore/Morsettiera 2 vie



TOS integrated circuits

13-Note Top Octave Generator		12-Note Top Octave Generator	
Integrated Circuits	Brand	Integrated Circuits	Brand
S50240 - S50241 S50243 - S50244	AMI	MK50242	Mostek
MK50240 MK50241	Mostek	S50242 S50245	AMI
M082B1 - M082AB1 M083B1 - M083AB1	SGS-Ates (STMicroelectronics)	M086B1 - M086AB1 M087B1	SGS-Ates (STMicroelectronics)
MM5891AA MM5891AB	National	AY-1-0212 AY-3-0214	General Instruments
SFF5011	Sescosem	SFF5009 SFF5010	Sescosem
SAA1030	ITT	TMS3616 TMS36161	Texas Instruments
S2555 - S2556	AMI		
MM5555 - MM5556 MM5832 - MM5833	National		
M8071 - LM8071	Sanyo		

The chips in RED color require a double power supply

<http://www.narcisivalter.it/progetti/top-octave-synthesizer-5010.html>