





 $\bigcirc$ 

#### **Assembly Guide**

With these assembly instructions, you can quickly build your SWT16+. All required components are included in this kit.

You need the following tools: soldering iron, wire cutter, and solder. Also a desoldering pump and a nut driver.

Read the instructions carefully and follow the steps in the correct order. Robaux wishes you much fun building the Sweet 16 Plus Sequencer.





## 1 20 Pin Header

Let's start with the jack board. Take the narrow PCB and solder the 20-pin header to the back.





# 2 Thonkiconns

Now grab the 18 Thonkiconn Jacks and place them in the PCB. Please do not solder the jacks yet!





## 3 Knurled Nuts

Now put the PCB with the Jacks on the front panel. Use the knurrled nuts to tighten the jacks on the front panel. If everything is screwed tight, you can solder on the Jacks.





## 4 Blue LEDs

Now it's up to the LEDs. Let's start with the blue ones. Solder these in the bottom row. Please pay attention to the polarity of the LEDs. The long leg goes into the + hole, the short leg into the - hole.







That was easy! Then it's the turn of the white LEDs. Solder these in the two rows above the blue LEDs.





# 6 Orange LEDs

Now only the 16 orange LEDs have to be soldered.





## 7 40 Pin Headers

Flip the button board over and solder on the two 40 pin headers.





# 8 Keypad

Now place the 4x4 Button Keypad and the 4x3 Button Keypad on the front of the Button Board. Make sure that the holes on the keypad match the holes on the button board.





9 Frame

Now put the frame on the keypad. Make sure the holes in the frame match the holes in the keypad.





## **10** Screws

Now fix the front panel, the frame, the keypad and the button board with the four screws. Insert the screws through all parts as shown in the picture. Secure the screws with the washers and nuts.





#### Power Socket

Now take the main board and solder the socket as shown in the picture. Note that the socket points in the right direction.



#### 12 Pins

Place and solder the Male Pin Headers as shown in the picture. It is the shorter pins of the pin header that you are soldering.





**13** Diodes

Now solder the sixteen diodes to the board as shown in the picture. Please pay attention to the polarity!





#### 19 Resistor 10K

Now solder the seven 10K resistors to the board. You can recognize the resistors by their color code Brown, Black, Orange, Gold.





15 Crystal

Now solder the 16MHz crystal as shown in the picture.





# 16 Capacitor 220

Now solder the two 220 capacitors to the board as shown in the picture.

		÷			600 0		•
	0000000		000000			000	
000 000	000000		100000				
	0000 000	000000					
000 .66	0 00000	0000	0.0000	9 0000	robo SWT		•
000000	000000		<u>600000</u> - <u>*****</u>	000000	000000	000000	000000





Now solder the two 104 capacitors to the board as shown in the picture.





## 18 1K Arrays

Solder the fifteen 1K resistors arrays to the board as shown in the picture. These arrays do not have a specific direction.

. 1	. 🟹	<del>@</del> :			<u>.</u>
20000	00000		1000000	: c	
	ອີເລີຍ ອີເລີຍ			10-0 10-0	<u></u>
	00000 5 0000		- 00000	+ C+-3	00
	• ••••••	0000000	000000	roba	UX
	പ്പം	0000		swт "М	<sup>16⁺</sup>
0000	00000		0000	mat/	



## 10K Arrays

There are even more 10K resistors in the form of two resistor arrays. Solder the three arrays as shown in the picture. Please note that the arrays soldered in the right direction: the GND must point upwards.





## **20 IC Sockets**

Now solder the IC sockets to the board. It is easiest to solder first only the outer pins and then the remaining ones.

	. 🗔	9 😁	-	6000	6 <u></u> 0
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 a a a a a a a a a a a a a a a a a a a			
		(A (	) j		
				nobo	
		現 <u>お</u> 現 え 見 見 見 見 見 見			
JU			J		



## **21** Capacitors

Now solder the two Electrolytic Capacitors to the board as shown in the picture. Please pay attention to the polarity of the Capacitors. The red mark must match the mark on the PCB.





## 22 Step Down

Now solder the step-down adapter to the pins as shown in the picture.

Ι.	. 🗔	allin.			6er 5	Gerb
				15		
	100	0.00		1.		·····
	14 B) 14 B) 14 B)	10	14 31	]]	0-0-0	0
U	15 31	-	10 31	- î î		Ger 9
ι,						G0
	E 31		1111	11	000	0er 0
	15 21	(a)a)	12 21	nii	entre o	a territo
U				10	a robo	ux.
i ri	10 10	11 III	18 N.	115	ëSWT	16*
	15. 武王王王王王王王王王王王王王王王王王王王王王王王王王王王王王王王王王王王王	diamo.	11.1	1	O O D E	
1		11日日 日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日	(1 H H H H H H H H H H H H H H H H H H H		000	
J (J	14 H 14 H	10 20		з <b>!</b>		





Now it's time for the rectifier. Solder this to the PCB as shown in the picture. Note that the - and + symbols on the board match the symbols on the rectifier.





## 24 74HC595

Now the ICs can be installed. Let's start with the 74HC595. Put four of them nose down as shown in the picture. Two more are installed with the nose up on the right side.







Now you can put the four CD4021 nose down as shown in the picture.





## **26** ATmega

Now insert the ATmega into the socket. Be sure to attach it nose down as shown in the picture.

						-
	30		E)	9999	-9 C±-6	2.0
	55 50 20	1000		0000		
1	Ö			0000	-D C-	
	•			1.4	-9 0-	
Ho.H				0000		•
				0000	He callin	•
	Ciarija			0005	UT 16*	
	Starte	1 12	1	0000		
	19.00			9999		318 1





One more IC left. Install it with the nose down as shown in the picture.





#### 28 Pins

Insert the pin headers into the headers on the button board and the jack board.



## 29 The last step.

Be especially careful, because now comes the tricky part! Plug the mainboard into the installed pins headers. If everything fits, solder them on.

#### Voilà!

Congratulations! Your module is ready and can be installed in your case. Make sure the power cable is plugged in the right way on both connectors. Enjoy creating beats with the Robaux Sweet 16+!

