BASILISK ANALOG-HYBRID GENERATIVE BASSLINE SYNTHESIZER

QUICK START CONSTRUCTION GUIDE

The kit is quite simple, but there are some important things to know before starting.

POLARISED COMPONENTS

Components with a polarity will only work if they are inserted in the correct orientation. Incorrect placement will cause them to not work correctly, and…

IN SOME CASES THIS WILL DESTROY THE COMPONENT!

- Illuminated switches SW1 – SW6 (coloured leg towards inside)
- 100uF Electrolytic capacitors C2, C4, C6 (long-leg to +)
- BC337 transistor & LM336Z (**don't mix these up** – check the label!)
- Resistor network RN471 and RN105
- Diode D1-D7
- Arduino Nano
- All ICs (MAX7221, MCP6004, MCP4251-103 & 104, CD74HC165
- 8x8 LED Matrix

All other components can be inserted any orientation, or the PCB will only allow the correct orientation.

ALIGNMENT WITH FRONT PANEL

To ensure the interface components align with the holes in the front panel, it is good practice to place them firmly into the PCB and then…

TEST-FIT THE FRONT PANEL BEFORE SOLDERING

Even small misalignment of these components can make things not fit together during assembly or can make knobs and switches fail to function smoothly.
- Switches SW1-SW6
- Potentiometers
- 3.5mm jacks
- LED matrix
- Filter mode switch

ARDUINO NANO PINS

To enable the Arduino Nano to fit into the DIP30 socket, the legs must be shorter than a standard Nano. The best way to do this is to **insert the long-ends of the pin header into the Nano**, then trim the excess from the top-side of the Nano.

IMPORTANT - SOLDERING TEMPERATURE & CLEANING

Some components are sensitive to overheating. Be careful not to apply heat for too long, otherwise switches and knobs may not operate correctly. When cleaning the PCB, be careful not to let fluid residue into the switches or they will not work well. If this happens, use contact cleaner to flush out residue.

DETAILED INSTRUCTIONS / DETAILLIERTE ANLEITUNG / INSTRUCCIONES DETALLADAS / INSTRUCTIONS DÉTAILLÉES

Detailed construction and operations manuals are available at wireheadinstruments.com/support

WIREHEAD BASILISK FM – BILL OF MATERIALS – PCB V1.1

Part	Count	Description	
Resistors			
R102	3	Resistor THT 102 1k	
R103	2	Resistor THT 103 10k	
R104	2	Resistor THT 104 100k	
R105	3	Resistor THT 105 1M	
R204	3	Resistor THT 204 200K	
R392	2	Resistor THT 392 3K9	
R822	1	Resistor THT 822 8K2	
Resistor Network Arrays			
RN105	1	Resistor Array 100k 9pin	
RN470	1	Resistor Array 470 9pin	
Capacitors			
C104CER	7	100n ceramic capacitor	
C107ELEC	3	100u electrolytic capacitor	
C225MON	2	2u2 monolithic capacitor (bigger)	**DON'T MIX THESE UP! READ THE LABEL!**
C333MON	2	33n monolithic capacitor (smaller)	
C472CER	1	4n7 ceramic capacitor	
Semiconductors			
1N4004	1	Diode	
1N914	6	Small Signal Diode	
LM336Z-2.5	1	LM336 Voltage Regulator 2.5V TO92	**DON'T MIX THESE UP! READ THE LABEL!**
BC337TO92	1	NPN Transisitor TO92	
Electromechanical			
PTV09A-4025U-B103	10	Bourns 10K 20% 9MM 25mm shaft 40-knurl	
TS-22E01AT15	1	TS22 Baton Toggle Switch	
SK12D07	1	Mini Toggle Switch	
DIPSKT14	3	14-pin DIP socket	
DIPSKT16	1	16-pin DIP socket	
DIPSKT24	1	24-pin DIP socket	
DIPSKT32	1	32-pin DIP socket for Arduino Nano 3.0	
IDCSKT8X1	2	8x1 header socket	
PJ358	4	3.5mm jack - Stereo switched	
PWRDCSKT2.1	1	Power socket, DC, 2.1mm	
Hardware			
SCREWHEXM306	4	Screw, Hex head, M3, 6mm	
SCREWHEXM310	4	Screw, Hex head, M3, 10mm	
SPACEHEXM312BLK	4	Spacer, Hex, M3, 12mm, Black	
WASHM325	4	M3 aluminium washer M3*6*2.5	
FOOT10X4	4	Silicone 10mm x 4mm rubber foot pad	
Integrated Circuits			
CD74HC165	1	74HC165 Parallel-in-Serial-Out Multiplexer	
MAX7221	1	MAX7221 slew-limited LED driver	
MCP4251-B103-P	1	MCP4251 Digital Potentiometer linear 10K	
MCP4251-B104-P	1	MCP4251 Digital Potentiometer linear 100K	
MCP6004	1	MCP6004 Op Amp	
CD74HC165	1	74HC165 Parallel-in-Serial-Out Multiplexer	