THANKS FOR CHOOSING ONE OF OUR KITS!

This manual has been written taking into account the common issues that we often find people experience in our workshops.

Some steps are not obvious, so even if you're an experienced DIYer please read the steps thoroughly before starting. It might be good moment to take a look to this document:

www.befaco.org/howto/

Be warned that this bus will be powering up your modular system. If you do not feel confident with your skills, please **drop us a mail** for advice before starting the build. This is a critical part of your system and an error **might damage your modules.**

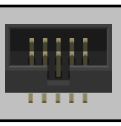
This power supply contains a PCB and a number of components. When soldering the components to the PCB ensure the body of the component is on the silkscreen side (the white images on the PCB) with the actual soldering done on the other side.

SOME USEFUL INFO:

- Resistors are not polarised.
- Diodes are polarised and the negative side is indicated by a black or gray band on one side of the diode.
- The long leg is positive (LEDs, capacitors etc…).
- If both the legs of a capacitor are the same length, it is not polarised.
- Snip the excess length of the legs of components after soldering.
- Be gentle and triple check all steps!

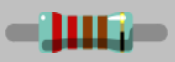
ENJOY!

IDC CONNECTORS



Solder the IDC connectors (the black boxes). You need to place the connector in the edge of the board, so each line of pins ends up at each side of the PCB.
Ensure the small black triangle on each connector matches the white triangle on the silkscreen. Connectors **notches will end up facing up.**
It will help you placing one connector and soldering one of the legs, making sure all pins are aligned with the pads. Using flux is advisable as will help big time.

RESISTOR



Qty	Value	Code	Name on PCB
2	820R	Gray, red, black, black, brown	R3, R4
2	1k	Brown, black, black, brown,brown	R1, R2
1	680R	Blue, gray, black, black, brown	R5
1	220R	Red, red,black,black, brown	R6

DIODE

Solder the diode **observing their polarity**. The black or white line on the diode must match with the white line on the diode symbol on the PCB silkscreen.

Qty	Value	Name on PCB
1	1N5400	D1

CERAMIC CAPACITOR

Identifying capacitors can be quite tricky. Codes stated are indicative, please take a look at this guide for help identifying capacitors: http://www.wikihow.com/Read-a-Capacitor

Qty	Value	Code	Name on PCB
1	100n	104	C3

LEDs

Place the LEDs onto the PCB minding, their polarity. The long leg is the positive and the short the negative. Make sure the flat side of the LED (which indicates **negative**) matches the flat **side** of the silkscreen.

Qty	Name on PCB
3	-12, +12, +5

ELECTROLYTIC CAPACITORS

Its value is written on the side of the capacitor. Observe its polarity (the long leg of the capacitor is the positive (+)).

Qty	Value	Code	Name on PCB
1	10uf	10uf	C2
1	22uf	22uf	C1

REGULATOR

Place it through the PCB and secure it with the screw and nut before soldering. Ensure that you use pliers to bend thinner parts of the legs so that the hole matches up with the one on the PCB.

Qty	Value	Name on PCB
1	LM317	REG

POWER AND CONNECTIONS SECTION

At this point of the build you can choose either to use supplied power connector and switch or use an external switch and connector. If you are using external switch and power jack, skip the next two steps and proceed to Terminal block directly.

LED LATCH SWITCH
The latch switch should be placed over the silkscreen as indicated on the PCB and soldered. After soldered, you can add the push button cap.

2.5mm DC POWER JACK
Place the DC power jack onto the PCB over the silkscreen at position J1 and solder.

Terminal Block
This connector is only valid if you want to use your own switch and power connector, wired to the board. If so, wire your power in the positive terminal to the switch and from the switch connect to + terminal of the connectors. Connect the negative from your power connector to the – connector of the terminal block. **If you are not sure about this step, better to drop us a mail before ruining your system.**

+12/- 12V DC REGULATOR
The large DC regulator (marked “Aipulnion”or “Hi-LInk”) should be placed at the center of the PCB and soldered into place where the large white square silk screen indicates.

TESTING THE MODULE

DO NOT CONNECT ANY MODULE TO THIS BUS BEFORE TESTING IT!!!

We strongly recommend using a 15v/3A (45W) center positive 2.5 Barrel connector.

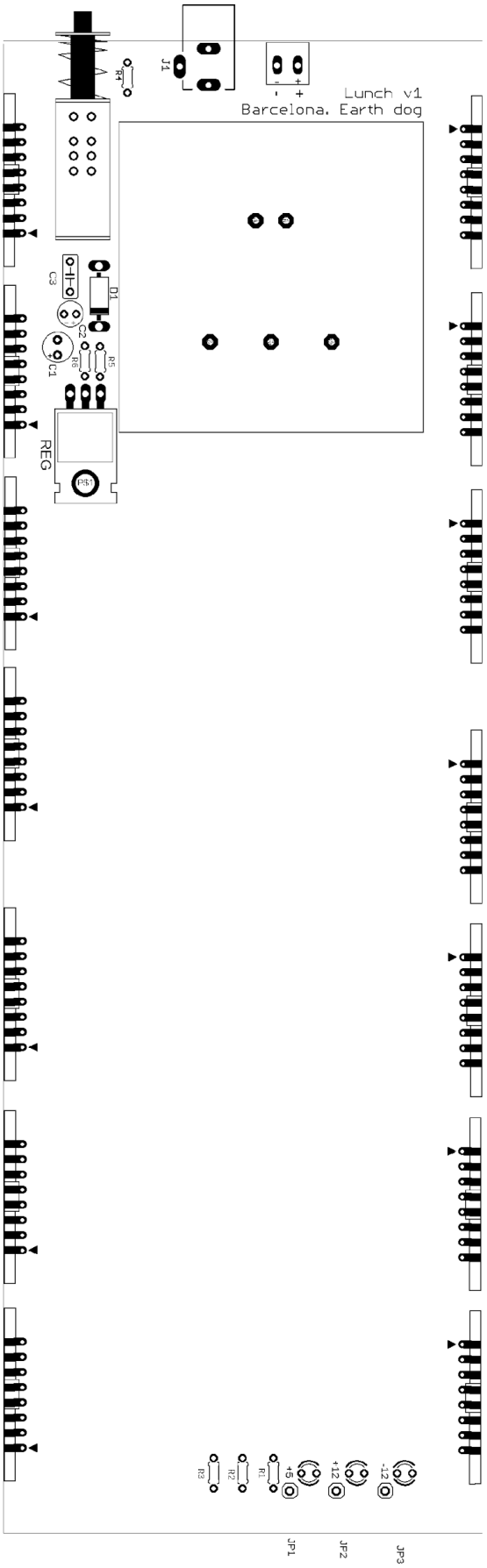
On power up, the three leds should light. There are testing points by each one, marked with the voltage you should get. Measure that you have relevant voltages in each test point. Use one of the standoffs plated pads as ground connection.

TROUBLESHOOTING

-If the LEDs are not lit but you are getting the correct voltages, the LEDs are the wrong way round.

-If the LEDs are not lit and you are not getting the correct voltages (or any voltages) at the pins, carefully go back through the workbook checking your connections and that you have made good solder joints. Also check your power supply is the correct polarity , minimum input voltage is 15v DC and max current draw (2A+).

ENJOY YOUR NEW BEFACO MODULE!


Lunch v1
Barcelona. Earth dog
J1
R4
C3
D1
C2
C1
R5
REG
R3
R2
R1
+5
+12
-12
JP1
JP2
JP3