

Bill of Materials - Annotated

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Kit Contents

Here is the kit as received.



Bill of Materials

The kit comes in 2 bags: one for all of the BPF boards and one for the main board. The kit the author built did not come with the U4, SI570. That was ordered separately.

Kit Contents

The v8.3 kits are sorted into four small zip-loc bags. One bag contains the circuit board and the packet of ICs.

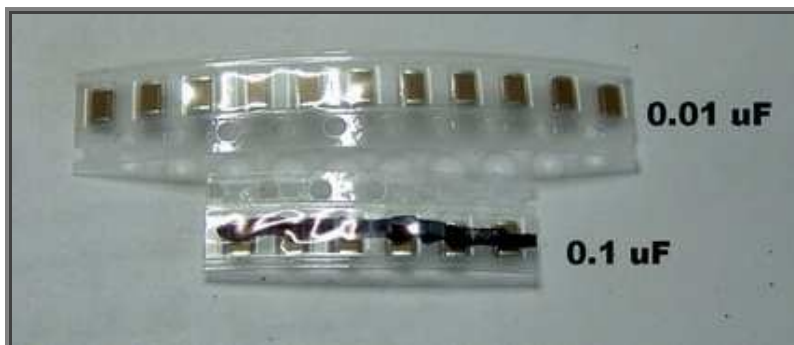
The four BPF module kits are together in a zip-loc bag. Included with the BPF kits is a 9-pin length of a SIP pin strip. This pin strip is to be used as a tool to align the 2-pin and 3-pin sections of the header sockets on the v8.3 main circuit board. Afterwards the 9-pin header strip may be snipped into 2-pin or 3-pin lengths as spares for the pins that mount on the bottom of each BPF board.

Within the main board bag is a pink anti-static IC bag containing the two SOT23-5 ICs (FIN1002 and

LP2992AIM5-3.3) and the 74AC74, FST3253 and LT6231. The two SOT235 ICs are rolled up in the bottom half of the pink anti-static bag. There are two staples through the bag that provide an upper compartment for the three SOIC parts and a lower compartment for the two SOT23-5 parts. First remove the staple that allow the SOIC parts to be removed and then remove the second staple to get to the SOT23-5 parts. Abbreviated markings on the top of the FIN1002 IC indicate that it is the FIN1002.

The third and fourth zip-loc bags in the kit include the resistor/capacitor bag and a hardware bag. Included in the resistor/capacitor bag is an anti-static bag holding the programmed PIC (U3), the PIC socket, the DIP switch (SW1), and the 5 volts LM7805 TO-220 cased regulator IC (U1).

Caveat: Note that the SMT caps come in two different strips: there are 5 SMT caps (black stripe on strip) that are 0.1 μ F; there are 10 SMT caps (unmarked strip) that are 0.01 μ F. Do not get them mixed up.



Here is the complete bill of materials for the kit.

Individual components are identified to the particular stage in which they are installed.

The components associated with the four individual bandpass filters are identified to the circuit identified as "BPF-#", where "#" is a number from 1 to 4.

Designation	Component	Type	Qty	Notes	Circuit
Board-Main	Lite+Xtall V8.3	Main Circuit board	1		Main
BPF-Board-1	Board	BPF Board ¹	1	BPF-160	BPF-1
BPF-Board-2	Board	BPF Board ¹	1	BPF-80/40	BPF-2
BPF-Board-3	Board	BPF Board ¹	1	BPF-30/20/17	BPF-3
BPF-Board-4	Board	BPF Board ¹	1	BPF-15/12/10	BPF-4
C01	4.7 μ F (code 475)	ceramic	1		PS-1
				(bottom) At pin 1 pad of	

C02	0.1 μ F	SMT 1206	1	U1 (black-marked strip)	PS-1
C03	4.7 μ F (code 475)	ceramic	1		PS-1
C04	0.01 μ F	SMT 1206	1	(bottom)	PS-1
C05	0.01 μ F	SMT 1206	1	(bottom)	PS-2
C06	0.01 μ F	SMT 1206	1	(bottom)	PS-2
C07	4.7 μ F (code 475)	ceramic	1		PS-2
C08	0.01 μ F	SMT 1206	1	(bottom)	LO
C09	0.01 μ F	SMT 1206	1	(bottom)	LO
C10	0.01 μ F (code 103)	ceramic	1		LO
C100-1	390 pF (code 391)	ceramic	1	BPF-160	BPF-1
C100-2	560 pF (code 561)	ceramic	1	BPF-80/40	BPF-2
C100-3	180 pF (code 181)	ceramic	1	BPF-30/20/17	BPF-3
C100-4	82 pF (code 82)	ceramic	1	BPF-15/12/10	BPF-4
C101-1	5600 pF (code 562)	ceramic	1	BPF-160	BPF-1
C101-2	680 pF (code 681)	ceramic	1	BPF-80/40	BPF-2
C101-3	220 pF (code 221)	ceramic	1	BPF-30/20/17	BPF-3
C101-4	330 pF (code 331)	ceramic	1	BPF-15/12/10	BPF-4
C11	0.01 μ F	SMT 1206	1	(bottom)	LO
C12	0.01 μ F	SMT 1206	1	(bottom)	DIV
C13	0.01 μ F	SMT 1206	1	(bottom)	OpAmp
C14	4.7 μ F (code 475)	ceramic	1		OpAmp
C15	0.1 μ F	SMT 1206	1	(bottom) Adjacent to U7 (black-marked strip)	OpAmp
C16	0.01 μ F	SMT 1206	1	(bottom)	Mixer
C17	0.047 μ F (code 473)	ceramic	1		OpAmp
C18	0.047 μ F (code 473)	ceramic	1		OpAmp
C19	220 pF (code 221)	ceramic	1		OPAMP

C20	220 pF (code 221)	ceramic	1		OPAMP
C21	0.1 μ F	SMT 1206	1	(bottom) Adjacent to U7 (black-marked strip)	OPAMP
C22	0.1 μ F	SMT 1206	1	(bottom) Adjacent to U7 (black-marked strip)	OPAMP
C23	0.1 μ F	SMT 1206	1	(bottom) Adjacent to U7 (black-marked strip)	OPAMP
C24	0.01 μ F	SMT 1206	1	(bottom)	LO
D1	1N4003	Diode	1		PS-1
J1	2-pin header	header pins	1	Install before C10	LO
J2	3 pin header	header pins	1	Install before C10	LO
L100-1	18.7 uH	T-30-2 red #30	1	BPF-160 - 66Turns (32")	BPF-1
L100-2	1.6 uH	T25-2 red #30	1	BPF-80/40 - 22 turns (10")	BPF-2
L100-3	0.78 uH	T25-6 yellow #30	1	BPF-30/20/17 - 17 turns (8")	BPF-3
L100-4	0.53 uH	T25-6 yellow #30	1	BPF-15/12/10 - 14 turns (7")	BPF-4
T100-1	1.4 uH pri	T30-2 red #30	1	BPF-160 18T(pri 10"); 9T bifilar (5")	BPF-1
T100-2	1.2 uH pri	T25-2 red #30	1	BPF-80/40 18T(pri 10"); 9T bifilar(5")	BPF-2
T100-3	0.6 uH pri	T25-6 yellow #30	1	BPF-30/20/17 14T(pri 8"); 7T bifilar (4")	BPF-3
T100-4	0.13 uH pri	T25-6 yellow #30	1	BPF-15/12/10 7T(pri 3"); 4T bifilar (2")	BPF-4
misc	shorting wire		1	for /ENRX grounding	Mixer
P100-1	2 pin	socket	1	BPF-1	BPF-1
P101-1	3 pin	socket	1	BPF-1	BPF-1
P100-2	2 pin	socket	1	BPF-2	BPF-2
P101-2	3 pin	socket	1	BPF-2	BPF-2
P100-3	2 pin	socket	1	BPF-3	BPF-3
P101-3	3 pin	socket	1	BPF-3	BPF-3
P100-4	2 pin	socket	1	BPF-4	BPF-4
P101-4	3 pin	socket	1	BPF-4	BPF-4
R01	1k Ohm	Resistor 1%	1	hairpin (north-south)	LO
R02	1k Ohm	Resistor 1%	1	Hairpin (south - North)	LO
R03	10k Ohm	Resistor 1%	1	Hairpin (south - North)	LO
R04	10k Ohm	Resistor 1%	1	hairpin (north-south)	LO
R05	10k Ohm	Resistor 1%	1	hairpin (north-south)	LO

R06	10k Ohm	Resistor 1%	1	Hairpin (south - North)	LO
R07	100 Ohm	Resistor 1%	1	hairpin (east- west)	LO
R08	100 Ohm	Resistor 1%	1	hairpin (east- west)	LO
R09	100 Ohm	Resistor 1%	1	hairpin (east- west)	LO
R10	100 Ohm	Resistor 1%	1	hairpin (east- west)	LO
R11	10k Ohm	Resistor 1%	1	flat	DIV
R12	10k Ohm	Resistor 1%	1	flat	DIV
R13	10 Ohm	Resistor 1%	1	flat	Mixer
R14	10 Ohm	Resistor 1%	1	flat	Mixer
R15	10k Ohm	Resistor 1%	1	flat	Mixer
R16	100 Ohm	Resistor 1%	1	flat	Mixer
R17	10 Ohm	Resistor 1%	1	hairpin (west-east)	OpAmp
R18	10 Ohm	Resistor 1%	1	hairpin (west-east)	OpAmp
R19	1k Ohm	Resistor 1%	1	Hairpin (south - North)	OpAmp
R20	1k Ohm	Resistor 1%	1	hairpin (east- west)	OpAmp
R21	4.99k Ohm	Resistor 1%	1	hairpin (east- west)	OpAmp
R22	4.99k Ohm	Resistor 1%	1	hairpin (east- west)	OpAmp
R23	100 Ohm	Resistor 1%	1	hairpin (north-south)	OpAmp
R24	100 Ohm	Resistor 1%	1	Hairpin (south - North)	OpAmp
R25	100 Ohm	Resistor 1%	1	flat - ignore for CMOS SI570	LO
SW1	4-pos dip switch	8 pin Dip Switch%	1		LO
U1	LM7805	TO-220 5 volt regulator	1	(top)	PS-1
U2	LP2992AIMS-3.3V	SOT23-5 3.3v Regulator	1	(bottom)	PS-2
U3	12F683	CPU and socket	1	(top)	LO
U4	Si570 LVDS	Oscillator	1	(bottom)not from Tony	LO
U5	74AC74	SOIC-14 SMT Dual FF	1	(bottom)	DIV
U6	FST3253MX	SOIC-14 SMT Mixer	1	(bottom)	Mixer
U7	LT6231	SOIC-8 OpAmp	1	(bottom)	OpAmp
U8	FIN1002	SOT23-5 Diff LVDS Rcvr	1	(bottom)	LO
hardware	4-40 3/8 inch	machine screw	5	Misc Hardware	n/a
hardware	4-40	hex nut	5	Misc Hardware	n/a
hardware	#4	star lock washer	1	Misc Hardware	n/a
hardware	#4 1/8 inch	nylon spacer	4	Misc Hardware	n/a
hardware	#4	nylon washer	4	Misc Hardware	n/a

¹ The BPF boards will arrive in a strip of four boards. The builder will need to hacksaw the individual boards out of the strip. (See "[sawing the boards](#)" in the BPF Stage Installation notes.)

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