SDR Cube Transceiver

Online Assembly Guide

Detailed construction notes for building and testing each of the SDR Cube kit modules

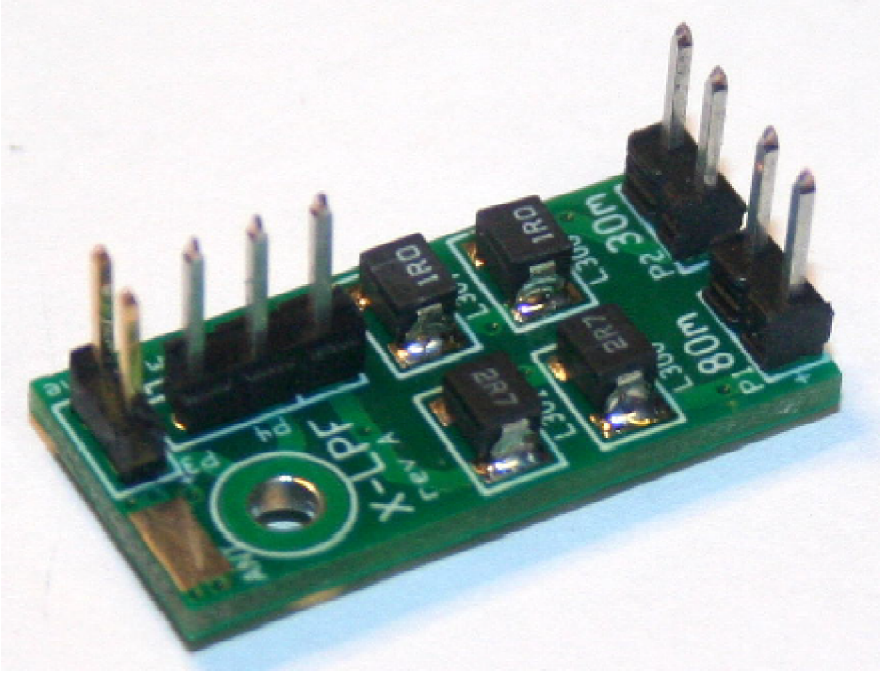
Home Bill of Materials I/O Board Controls Board DSP Board Softrock SR-Base Softrock TX/PA RXAMP X-LPF Internal Cable Set External Cable Set Main Enclosure Accessory Enclosure Digital Subassembly Test Final Assembly RF Functional Test

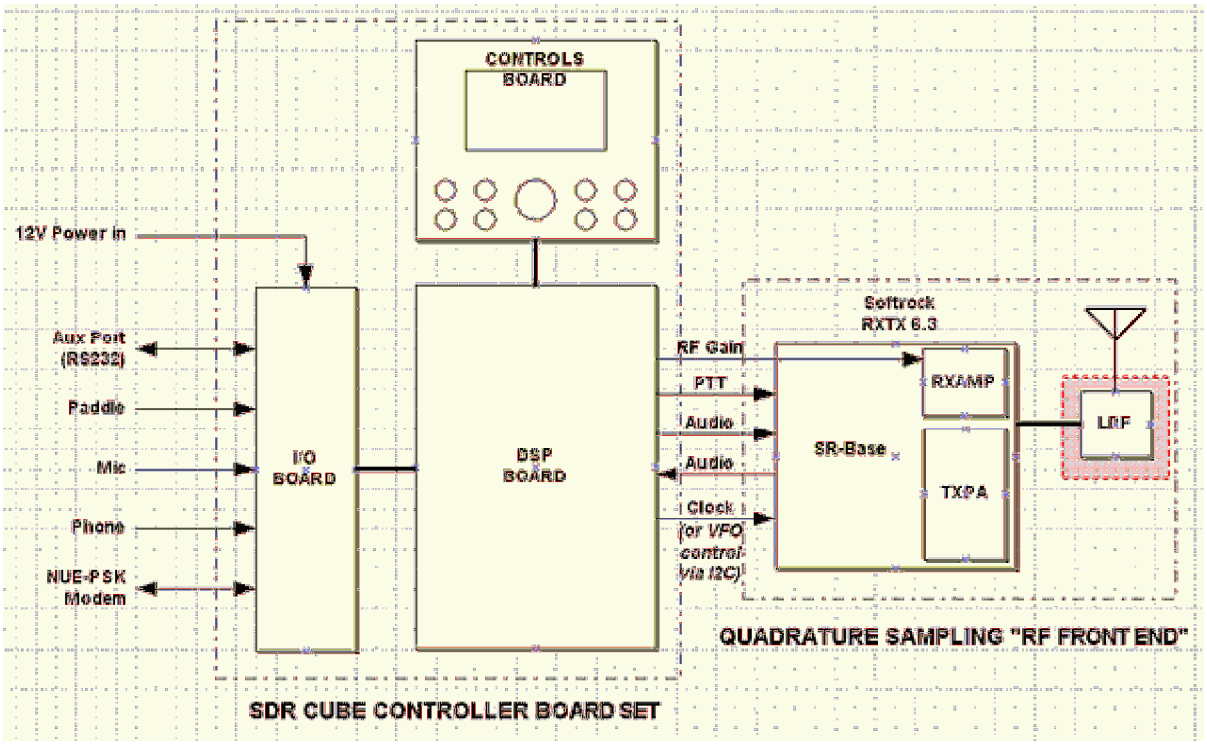
Building the Extra LPF Board (X-LPF)

... (Section version 1.0b -- Noted that C100 on SMT Card should really say "C301")

What Is It?

The X-LPF board is the extra low pass filter (LPF) that the Softrock RXTX 6.3 designers recommend using to reduce harmonics when operating on 80m and 30m. Softrock owners have classically needed to provide this extra LPF in some way for themselves in the past ... but we include it when when SR-Base option is provided with the SDR Cube. The X-LPF board dimensions are 1/2" x 1" and it mounts on the back of the BNC connector. The short RF output cable from the SR-Base board connects over to the nearby X-LPF board and plugs into one of several pinheader connectors, as determined by the band on which one intends to operate: 80m or 30m. Then a shunt (jumper) is placed across another pinheader to route the RF to/from the BNC connector. But if the Softrock is going to be used on some other band that doesn't need an extra LPF, the RF cable from the SR-Base gets plugged into another pinheader on the X-LPF board at the RF is routed directly to the BNC, effectively bypassing either of the two extra LPF filters needed for Softrock operation on 80m and 30m.

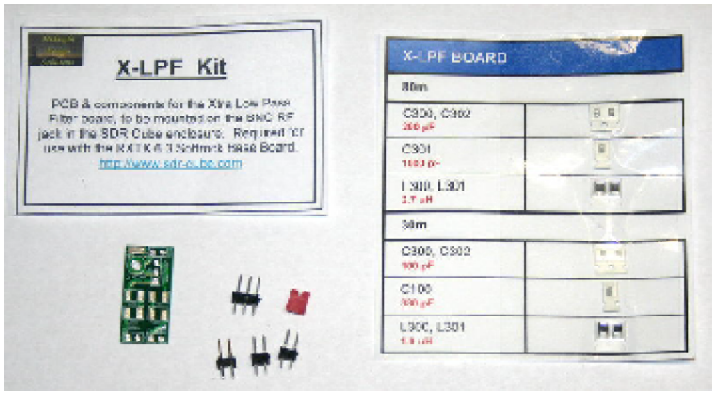


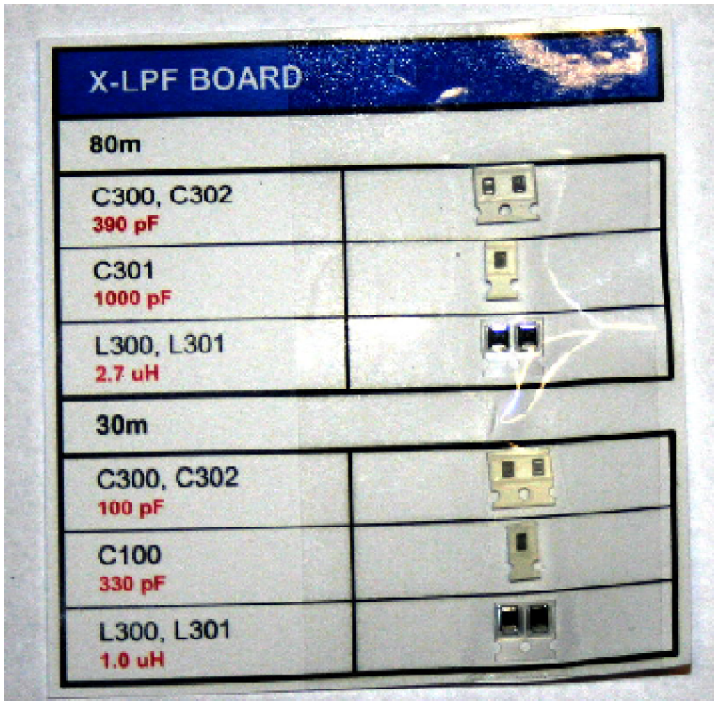


CONSTRUCTION STEPS

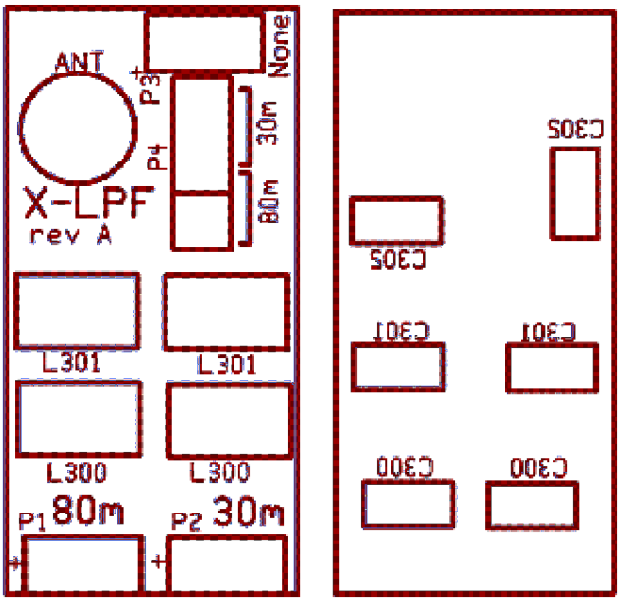
[____] STEP 1: Inventory the supplied parts

Check to make sure you received the X-LPF Kit bag and all the components that are pictured below. (Click on any photo to see a larger image.)

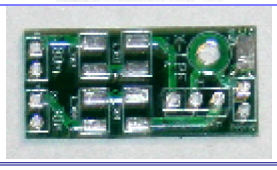




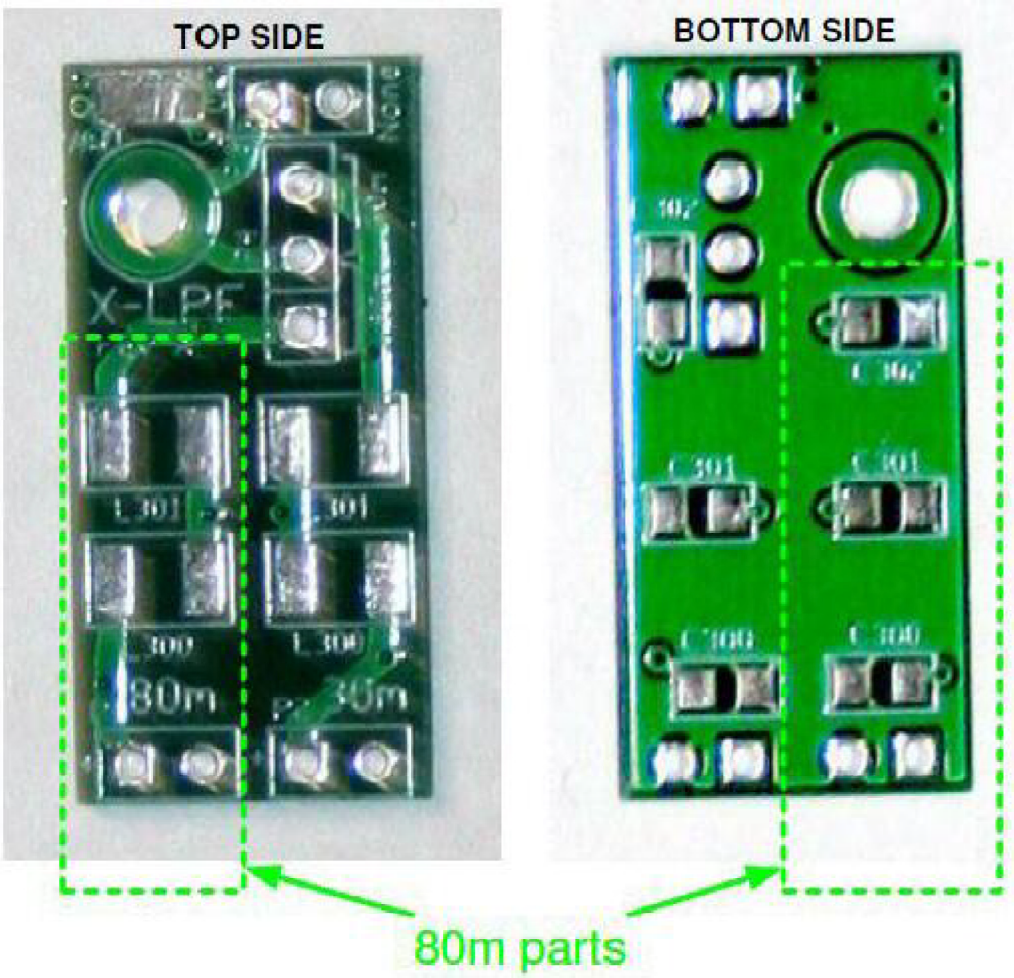
NOTE: In 30m section on SMT Card above, "C100" should really say "C301"



NOTE: Yes, we know the bottom side text designators (above-right) are reversed. Unavoidable. The board silkscreen is correct, of course. Please just follow the silkscreen labels on the board if you have trouble reading **sdrawkcab**.

Designator	QTY	Description	Source
P1, P2, P3	3	Pinheader, 0.1", 1x2	
P4	1	Pinheader, 0.1", 1x3	
Shunt	1	Pinheader, 1x2 shunt	
	1	PCB	

STEP 2: Install the surface mount capacitors and inductors for the 80m half of the board ...

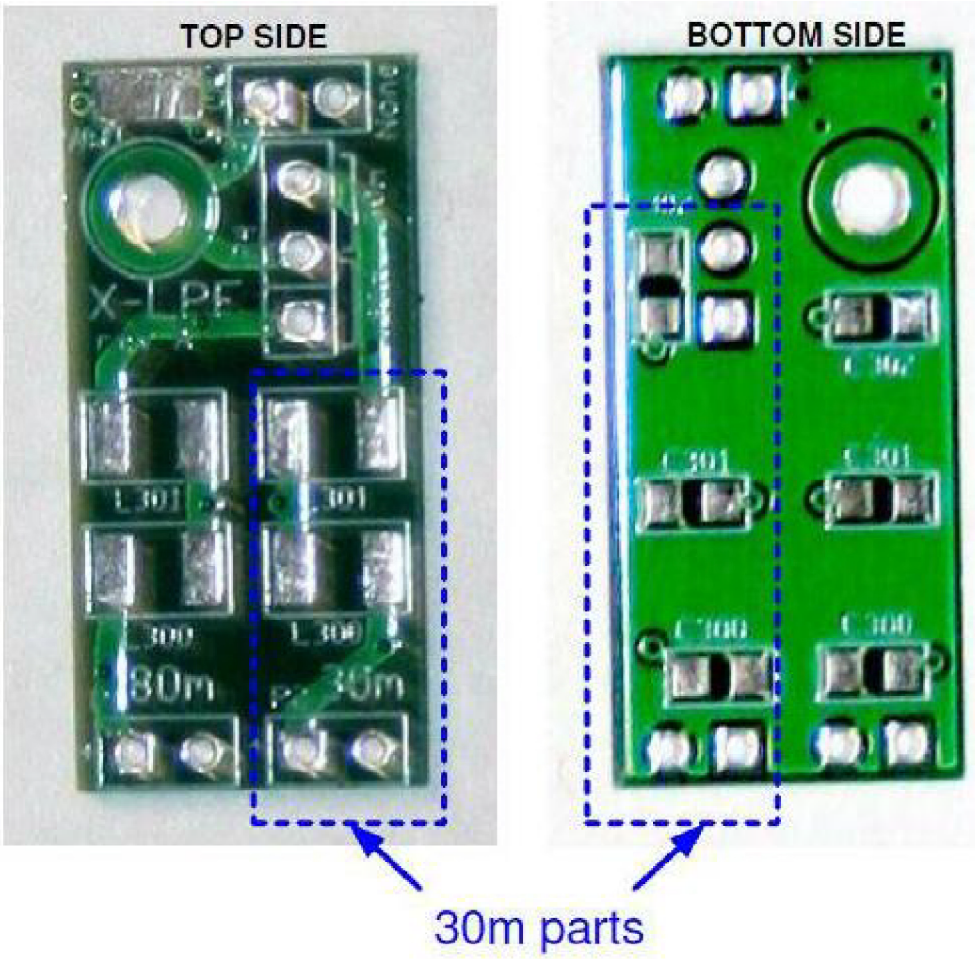


[____] C300, C302

[____] C301

[____] L300, L301

STEP 3: Install the surface mount capacitors and inductors for the 30m half of the board ...



[____] C300, C302

[____] C301 ... **NOTE:** This part on the SMT Card says "C100" but it is really the C301 part

[____] L300, L301

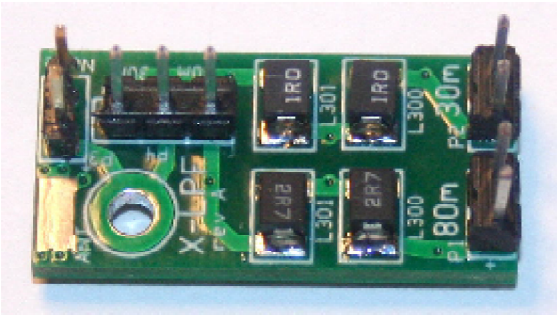
STEP 3: Connectors on the top side of the board

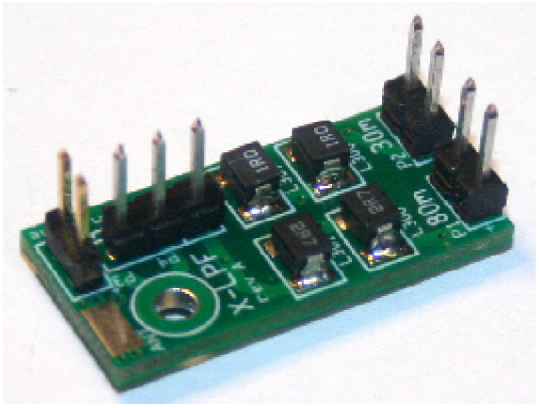
[____] P1, P2, P3

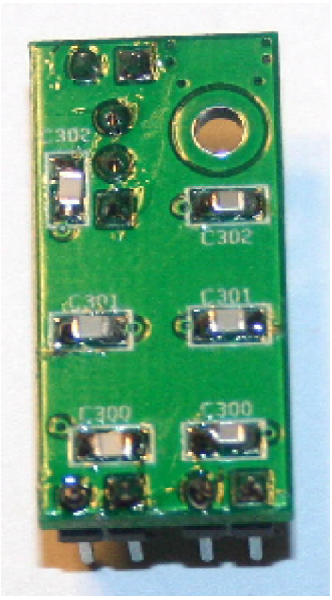
[____] P4

STEP 4: Place the shunt on P4

[____] Shunt







The X-LPF Board is complete! Set it aside and next move on to the RF Functional Test section.

[Back to Construction Home]

Pagemaster: n2apb@midnightdesignsolutions.com
Page last updated: Jan 8, 2011