

ARDFrx80-7 PCB20140909-15

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Ordering details for coils and crystals. RM=pin space.

For adjustments of coils see "Coil details".

Coils are becoming more difficult to obtain. I therefore suggest several coil types. At the date of publishing these components were advertised. (www.amidon.de and www.box73.de).

		Conrad OrderNr	box73.de OrderNr
L102	<p>a). Ferrite rod 8x50mm $U_i=300$ Wind 7 twisted turns. Then L102 has totally 14 turns with a center tap. <u>This cheap little rod performs well and fits INSIDE the box.</u></p> <p>-OR-</p> <p>b). 150mm x8mm rod $U_i=250$ (material 4B1) from box 73 <u>Cheap and possibly better performance but much longer size</u></p> <p>-OR-</p> <p>c). Amidon / Fair-Rite rod $U_i=125$ material #61 <u>long and expensive</u></p> <p>Adapt number of turns for nominal 8.00 uH inductance. Use one pair of firmly twisted wires taken from a piece of CAT5 network cable (outside wire dia is.1mm).</p> <p>See "Coils details" for correct adjustment of L102 selfinductance.</p>	535575	FS-150x8-4B
L101	<p>3 turns close wound over the centre of the 50mm rod.</p> <p>REM: If another rod is used try : (L101 turns) = (3/14 L102 turns).</p>		
L2	<p>Local oscillator coil 1.00 uH. Neosid 7.5 x 7.5 mm BV5048. See "Coils details" for one-time-adjustment to 1uH. Or at Amidon.de "WZ6,5" , already adjusted to 1.0 uH).</p>		Box73.de or Amidon.de
L3, L6	<p>IF coils tuned to 10.7 MHz.</p> <p>* R15 and R18 probably will need no change (22k), as these coils are versions with high Q (around 100).</p> <p>* The total value of tuning capacitors C25 and C26 must be adapted to the inductance of the used coils.</p> <p>Amidon.de has in stock : "Pre-adjusted filter coils series 7.1", with the coil connected at pins 5 and 1.</p>		

The following types per-asjusted coils could be used :

L [uH]	Type
1.0	WZ6,5
3.3	WZ12,25
3.9	WZ13,5
4.7	WZ15,25
5.6	WZ16,25

Also usable :

Neosid BV5170 5.6 uH.

Before soldering this coil in place, this coil needs a simple modification, to bring its pinning in accordance with the PCB :

- Using a permanent felt pen, make coinciding marks onto the can, and to the bottom of the coilform.
- Remove the coil form out of the can, by carefully pressing onto the ferrite core.
- Fully cut down pin 3 (the middle one of the row of three).
- Seen from the bottom/pins side, turn the coil form 90 degr. to the right,
- Replace the coilform into the can.

After tuning (all types of coils) :

*** If a coil core is fully at the bottom of the coil, solder a small value (a few pF) capacitor, at the bottom side of the PCB, in parallel to the tuning capacitor.**

*** If the core is fully to the top of the can, exchange the tuning capacitor for one with a bit smaller value.**

Box73.de
or
Amidon.de

L7, L10, L12	22uH Neosid SD75 RM5 -OR- EPCOS / FASTRON axial chokes 3x7mm 22uH SRF >= 11MHz. Installed vertically.	535389	
L11	68uH Neosid SD75 RM5 SRF 10MHz -OR- EPCOS / FASTRON axial choke 3x7mm 22uH SRF >= 11MHz. Installed vertically.	535400	
L13, 14,15,101	10uH Epcos (Fastron) choke 3x7mm RM7.5	501881	
FB 2, 5	Resistors 1k. Installed vertically with one end of its body close to G2 trace.		FP-G-5
FB 6,7	<i>Resistors (220 Ohms).</i> See "Setup" for values.		
F1+F2	Crystal filter 10M12B (3k) -OR- 10M7B (1k8)		10M12B
Cr	BFO crystal 10.7MHz HC18U		10.700k
Trim key	!! Special tool !! for adjustment of Neosid coil L2.		ABGL-SD
Fr	9,5 x 9,5mm ferrite core with 3 turns, two twisted wires. Inserted between PCB "HPH" and chassis phone bus.	1086850	