PHASER Digital Mode Transceiver

160-meter Conversion Kit

Converting an existing Phaser for use on 160-meters

This document describes just the changes needed to convert any version of the Phaser for 160M operation. Use (or substitute) the parts noted below as described in Group 4 of the Instructions for your Phaser model. The parts are noted in violet in the Parts Placement Diagram that follows.

160 meter-specific parts

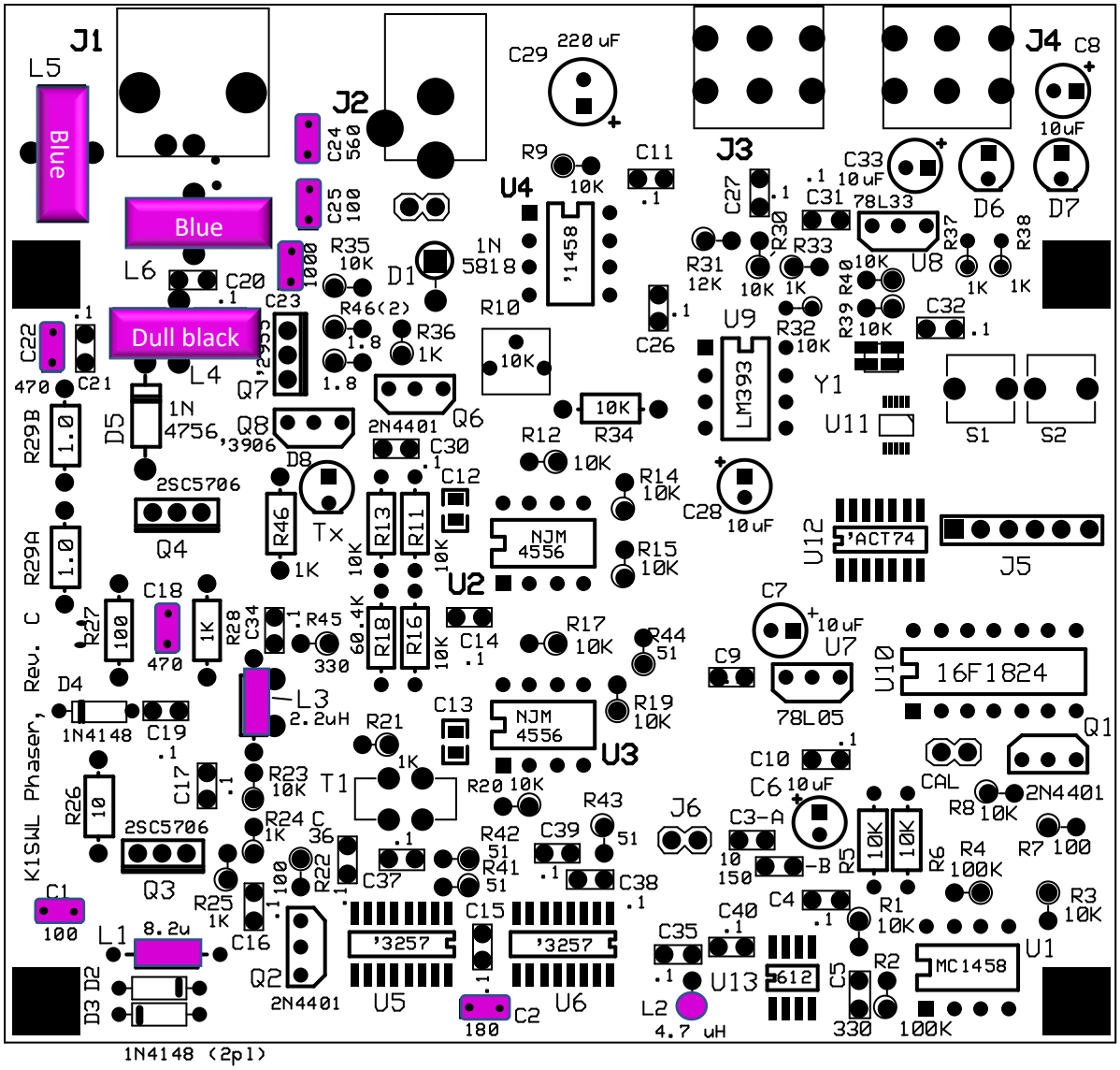
Quantity	Ref. Designator	Value	Notes & Markings
2	C1, C25	330 pF	'331'
1	C2	680 pF	'681'
1	C18	1000 pF	'102'
1	C22	1200 pF	
1	C23	2700 pF	
1	C24	1500 pF	'152'
1	R45	330 ohm	Orange-orange-brn-gold
1	L1	22 uH	Red-red-black-gold
1	L2	10 uH	Brown-black-black-gold
1	L3	6.8 uH	blu-gry-gold-gold
1	L4	FT50-61 toroid, 16 turns, #22 wire	**Dull black** toroid, larger core diameter
1	L5	T50-1 toroid, 19 turns, #26 wire	Blue core. See group 4 instructions
1	L6	T50-1 toroid, 24 turns, #26 wire	Blue core. See group 4 instructions

NOTES:

1) The best starting point for the change to 160M is from an **80M** Phaser. If starting with another band, toroids L5 and L6 may be be the wrong types. (Contact N2APB@midnightdesignsolutions.com if needed.) Use the 2.2 uH choke supplied for L3, oriented as shown on the parts placement figure below.

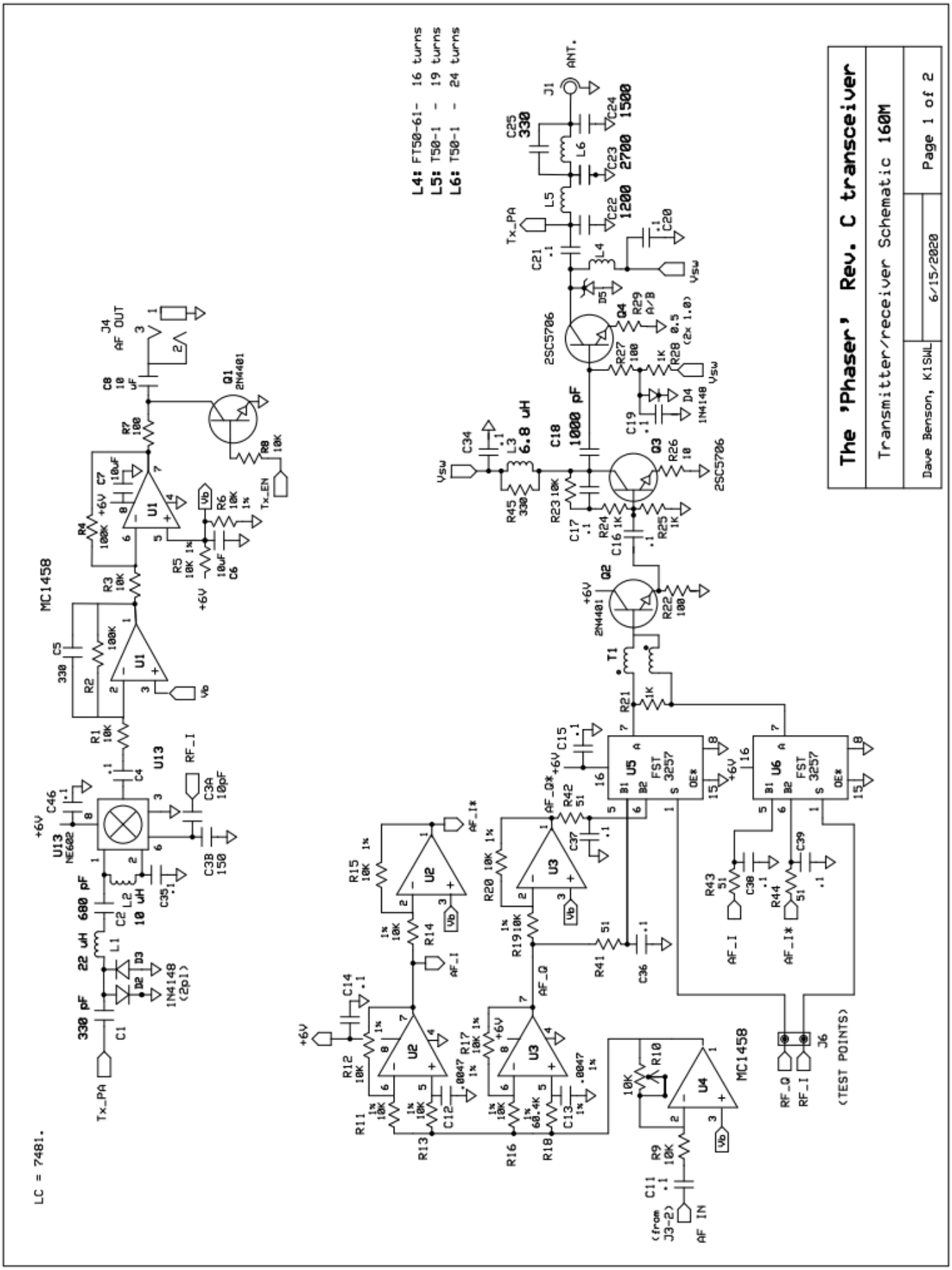
2) It is really recommended that this conversion to 160 meters is applied to an **unassembled** Phaser kit. Attempting to convert a Phaser that was already built is more difficult and prone to error and/or frustration.

3) The L4 toroid providined in this Conversion Kit is different that the L4 supplied in the base kit from which you are starting. Be sure to use the **dull black** FT50-61 core provided on this 160-m Band Specific Parts card instead of the grey FT50-43 core provided in the base Phaser Kit.



Parts Placement Diagram- 160M

Band-specific components are highlighted in color (12 places)


The 'Phaser' Rev. C transceiver
Transmitter/receiver Schematic 160M
Dave Benson, K1SWL
6/15/2020
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L4: FT50-61- 16 turns
L5: T50-1 - 19 turns
L6: T50-1 - 24 turns
LC = 7481.
MC1458
MC1458
Tx_PA
AF IN
(from J3-2)
RF_Q
RF_I
(TEST POINTS)
Vsw
Tx_EN
AF OUT
ANT.
2SC5706
2N4401
IN4148
FST 3257