PHASER Digital Mode Transceiver

60-meter Conversion Kit

Converting an existing Phaser for use on 60-meters

This document describes just the changes needed to convert any version of the Phaser for 60M 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.

60 meter-specific parts

2	**C1, C25**	100 pF	'101'
1	**C2**	180 pF	'181'
2	**C18, C22**	470 pF	'471'
1	**C24**	560 pF	'561'
1	**C23**	1000 pF	'102'
1	**R45**	330 ohm	Orange-orange-brown-gold
1	**L1**	8.2 uH	Grey-red -gold-gold
1	**L2**	4.7 uH	Yellow-violet-gold-gold
1	**L3**	2.2 uH	Red-red-gold-silver
1	**L5**	T50-2 toroid, 18 turns #26	Red core
1	**L6**	T50-2 toroid, 19 turns, #26 wire	Red core
1	**- - -**	#26 wire, 26" length	Red enamel magnet wire
1	**U10**	PIC controller, 16F1824, programmed for 60m use	14-pin DIP IC

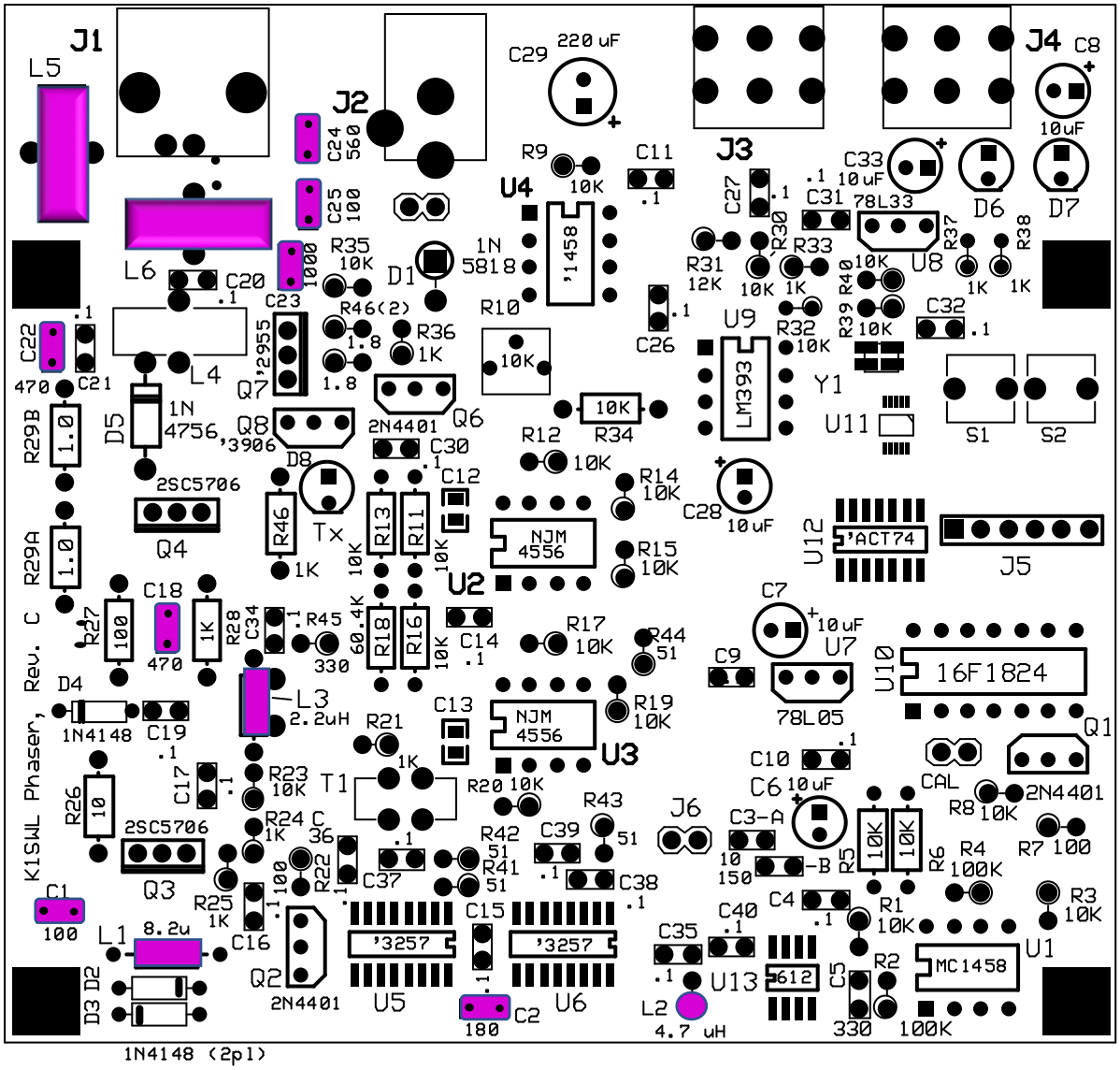
NOTES:

1) The best starting point for the change to 60M is from an **80M** or **40M** 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 60 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.

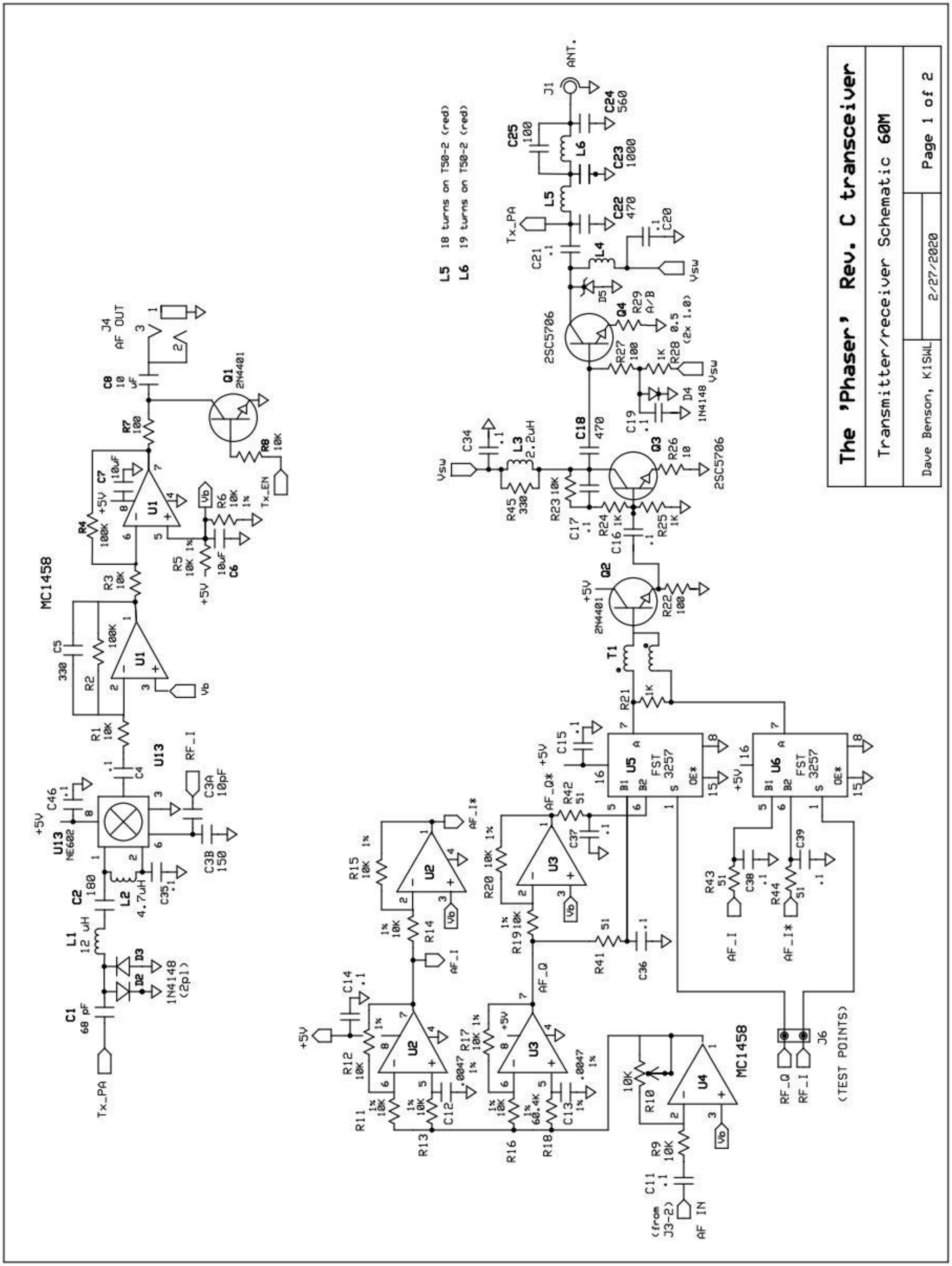
3) The 60-meter frequency allocations for us are channelized! See, study and adhere to the ARRL description of channelized operation on 60 meters ... <http://www.arrl.org/60m-channel-allocation>.

4) The generally accepted 'FT8 watering hole' frequency on 60m is 5357 kHz, and it is usually is usually busy with FT8 communications. As such, **we've programmed both the FT8 and ALT buttons on the Phaser-60 PIC controller to be on this frequency in order to help Phaser users adhere to the recommendations**. As a matter of being 'good neighbors', we strongly urge you to stick to that frequency. There are other users on the remaining channels - primarily using SSB - and they list those as their watering holes and probably monitor them. While no one owns a frequency, it pays to be considerate of others.



Parts Placement Diagram- 60M

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


The 'Phaser' Rev. C transceiver
Transmitter/receiver Schematic 60M
Dave Benson, K1SWL
2/27/2020
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L5 18 turns on T50-2 (red)
L6 19 turns on T50-2 (red)
ANT.
AF OUT
AF IN
(TEST POINTS)