



LEGEND:

- RF GAIN FRONT/REAR PANEL CONTROL
- BFO FREQ. INTERNAL ADJUSTMENT
- C36 BAND SPECIFIC COMPONENT

NOTES:

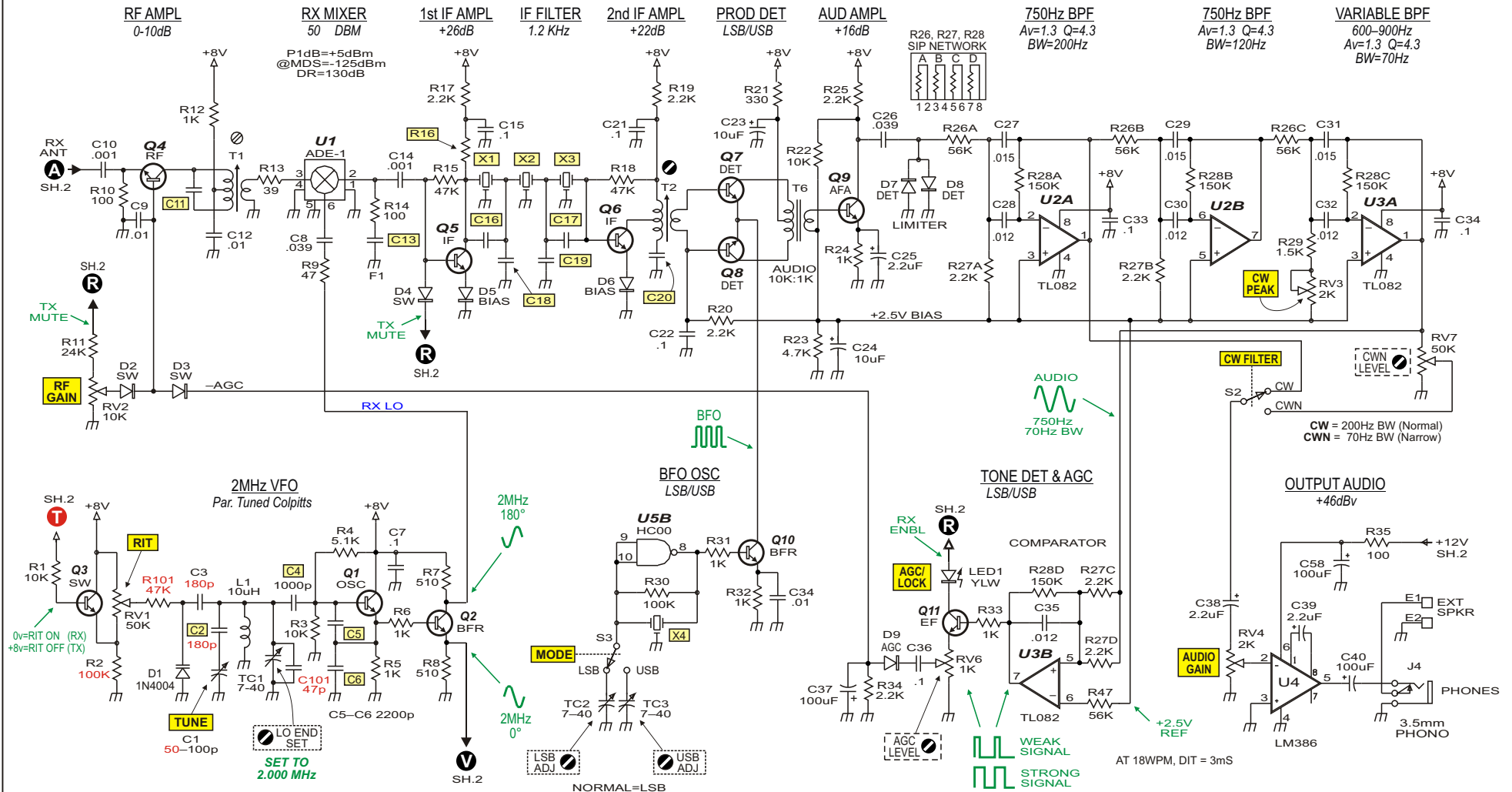
1. UNLESS OTHERWISE INDICATED: ALL COMPONENTS THRU-HOLE. ALL RESISTORS 1/8 WATT; CAPACITORS 16WVDC MIN. ALL TRANSISTORS 2N3904 or similar; PNPs 2N3906; DIODES 1N914/1N4148
2. IF TRANSFORMERS MOUSER 421F124 4.5uH NOM.
3. AUDIO TRANSFORMER MOUSER 42TL006 20K:1K CT or similar

RX CONVERSION SCHEMES

40M	RF	7.000	7.100 MHz
	LO	2.000	2.100 MHz
	IF	5.000	5.000 MHz
30M	RF	10.100	10.150 MHz
	LO	2.100	2.150 MHz
	IF	8.000	8.000 MHz
20M	RF	14.000	14.100 MHz
	LO	2.941	3.041 MHz
	IF	12.000	12.000 MHz

LAST USED - THIS SHEET

C41	D9	L1	Q11	U5
R35	RV6	T6	TC3	X4



PRELIMINARY

RCVR



RADIO RANCH • PAUL HARDEN, NA5N
P.O. BOX 757 • SOCORRO, NM 87801



Title: **ARCI "A1X" CW QRP TRANSCEIVER**

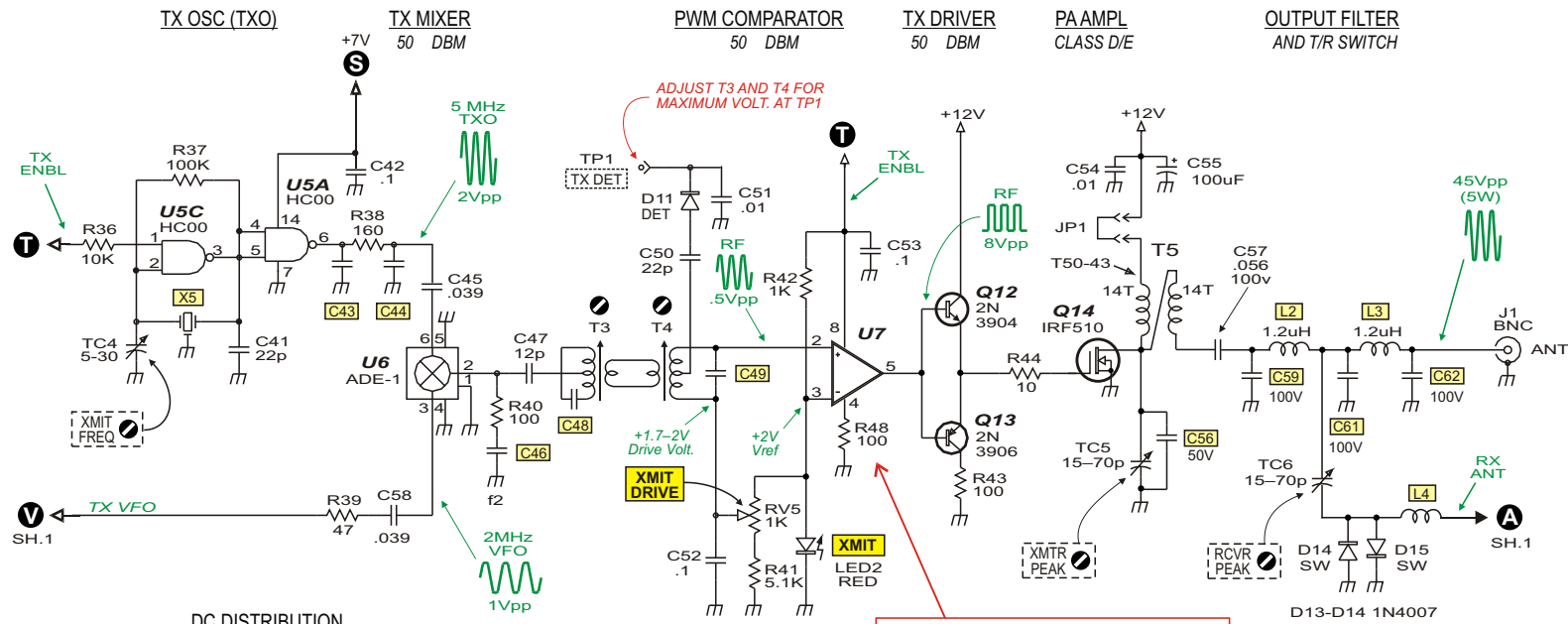
SIZE **A** **A1X** SCHEMATIC DIAGRAM
RECEIVER SECTION

REV **A**

Designed by: Paul Harden, NA5N

Date: 12 NOV 2005

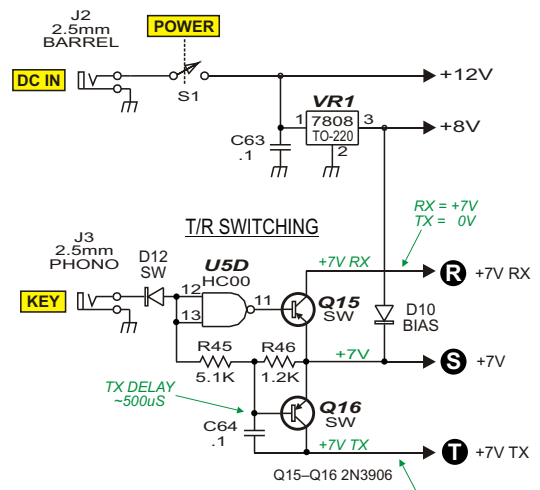
Sheet 1 of 2



ADJUST T3 AND T4 FOR MAXIMUM VOLT. AT TP1

NOTE: U7 Pin-out and prototype layout based on LM360 high speed comparator. Preliminary – may not be final device!!!

DC DISTRIBUTION



PRELIMINARY

BAND TABLE

DESIG	RECEIVER COMPONENTS (SHT. 1)			TRANSMITTER COMPONENTS (SHT. 2)		
	40M	30M	20M	40M	30M	20M
C2	330pF	75pF	51pF	X5	5.000MHz	8.000MHz
C4	1000pF	1000pF	560pF	C43, C44	200pF	120pF
C5	2200pF	2000pF	560pF	f2	10.0 MHz	12.2 MHz
C6	2200pF	2000pF	1000pF	C46	1000pF	820pF
C11	120pF	56pF	27pF	C48, C49	120pF	56pF
f1	7.5 MHz	12.0 MHz	14.5 MHz	L2, L3	10uH	10uH
C13	1200pF	820pF	680pF	L4	10uH	10uH
C16, C17	12pF†	12pF†	12pFz	C56	TBD†	TBD†
C18, C19	TBD†	TBD†	TBD†	T5	TBD†	TBD†
R16	TBD†	TBD†	TBD†	C57	FT50-43	FT50-43
C20	120pF	56pF	27pF	C59, C62	470pF	220pF
X1-X4	5.000MHz	8.000MHz	11.059MHz	C61	820pF	330pF

†TBD = To Be Determined, based on X1-X3 parameters
‡TBD = To Be Determined, based on Q14 parameters

- NOTES:
- SEE NOTES SHEET 1
 - T3-T4 MOUSER 42IF124 4.5uH NOM.
 - U6 HIGH-SPEED COMPARATOR WITH B.E.R.
 - T5 14T BIFILAR ON T50-43 TOROIDAL CORE

TX CONVERSION SCHEMES

	VFO	TXO	RF
40M	2.000	2.100 MHz	5.000 MHz
30M	2.000	2.130 MHz	10.100 MHz
20M	2.941	3.041 MHz	11.059 MHz
			14.100 MHz

LAST USED - THIS SHEET

C64	D15	L4	Q16	U6
R48	RV7	T5	TC5	X5

PRELIMINARY

XMTR

RR RADIO RANCH • PAUL HARDEN, NA5N
P.O. BOX 757 • SOCORRO, NM 87801

Title: **ARCI "A1X" CW QRP TRANSCEIVER**

SIZE: **A** **A1X** SCHEMATIC DIAGRAM TRANSMITTER SECTION

Designed by: Paul Harden, NA5N | Date: 12 NOV 2005 | Sheet 2 of 2