VFO

+5VA +5VA +5VA

R1 100k R2 100k C2 220 C4 220 R3 51k Q1 S9018

C5 1000 C7 1000

RV1 100k Freq Ctrl

D1 ISV149 L1 4.4u R4 51k C8 1000 R5 2k VFO_Out

GND GND GND GND GND

PreMix

R8 2.7k C14 .01u C15 220 C17 .01u

U4 SA602
1 IN_A VCC 8
2 IN_B OSC_E 7
3 GND OSC_B 6
4 OUT_A OUT_B 5

+5V C20 0.47u C19 39 C21 39

PreMix

J5 VFO_Out

J3 Premix_Filter

GND GND GND GND GND GND GND

AGC

+5V

AGC Adjustment C38 .1u RV3 50k R19 47k D6 1N5711

R22 1.8k Coil_1 Coil_2 R26 27k

Q7 MPSA14_EBC 6R/AUX Q8 2N7000

AF_level AGC OFF C41 2.2u

J7 SMTR

GND GND GND GND

Receiver Mixer

J1 RF_IN T1 4:20

U2 SA602
1 IN_A VCC 8
2 IN_B OSC_E 7
3 GND OSC_B 6
4 OUT_A OUT_B 5

C3 .01u Coil_1 C11 .001u PreMix +5V

C12 .001u R6 27k R7 27k Q2 2N3904

C10 0.47u R9 27k 6R/AUX1

GND GND GND GND GND

Internal Freq Filter

+5V Band Width Ctrl RV2 100k

R13 100k R14 100k R15 100k C22 .01u C23 220

C18 220 Y1 4.915MHz Y2 4.915MHz Y3 4.915MHz Y4 4.915MHz

T2 5:20 Coil_2

D2 ISV149 D3 ISV149 D4 ISV149

GND GND GND GND GND GND

Product Detector & BFO

+5V

U6 SA602
1 IN_A VCC 8
2 IN_B OSC_E 7
3 GND OSC_B 6
4 OUT_A OUT_B 5

C34 22 C35 50 C36 330

AF_1 AF_2 C27 2.2u C32 0.47u Y5 4.915MHz L2 33u

GND GND GND GND

AF PreAmp

+5V

Mute AF_1 C25 0.1u C26 0.1u

R16 47k Q5 2N7000 C24 .047u AF_2

U5 LM386

C28 1u C30 10u C39 .1u Q6 2N3906

C29 10u R17 2.7k C33 .01u R18 2.2M AF_level

C31 .01u JP1 JMP D5 1N4148 C37 .01u

6R/AUX For routing only 6R/AUX1

GND GND GND GND GND GND

AF Amp

+12V

XFIL/TONE C40 .01u R24 10

R20 47k R21 47k C42 10u U7 LM380N-8

RV4 100k AF Gain Ctrl

C43 .01u R23 47k C44 220

R25 1.5 C46 220u C47 220u C45 .047u

J8 Audio

GND GND GND GND GND

VFO Freq Counter Buffer

+5V +5V

R10 2.7k R12 2.7k C16 100 R11 100k Q4 2N3904

J4 Freq_Counter

VFO_Out Q3 2N3906

GND GND GND GND

Power Supply

+12V +12V +5VA +12V +5V

J2 PWR_12V

U1 L78L05_TO92 VI VO C1 10u C6 10u

U3 L78L05_TO92 VI VO C9 10u C13 10u

GND GND GND GND GND GND GND

Outer Control

+5V

5V 5V GND GND

6R/AUX AGC OFF XFIL/TONE Mute

J6 Outer_Ctrl

GND

Mounting Hole

J9 Conn_01x01 J12 Conn_01x01
J10 Conn_01x01 J13 Conn_01x01
J11 Conn_01x01 J14 Conn_01x01

GND GND