PARTS LIST

SEMICONDUCTORS

D1 — MBD101 hot carrier or 1N34 germanium diode
D2, D5 — 1N914 silicon signal diode
D3, D4 — MV2109 varactor diode
D6, D7 — 1N4001 one-amp silicon diode
Q1, Q7 — 2N5486 junction FET (MPF102 will work)
Q2 — Dual gate MOSFET: MPF121, MPF131, NTE222, or 40673
Q3, Q4, Q5, Q6, Q8, Q9 — 2N3904 general-purpose NPN silicon transistor
U1, U2 — 78L12 voltage regulator, 12 volt
U3 — MC3340P electronic volume control
U4 — LM386 audio power amplifier

RESISTORS

*1/4 watt, 5%, carbon, unless otherwise specified.*

R1, R10, R33 — 604,000 ohms, metal film
R2 — 180 ohm
R3, R34 — 1,800 ohm, metal film
R4, R5 — 4,700 ohm, metal film
R6 — 15,000 ohm
R7 — 100,000-ohm panel mounted linear potentiometer
R8 — 5,000-ohm panel mounted linear potentiometer
R9 — 10,000-ohm panel mounted audio potentiometer
R11, R17, R22, R27, R32 — 100 ohm, metal film
R12 — 820 ohm
R13, R20, R25, R30, R35, R39 — 1,000 ohm
R14, R18, R23, R28 — 82,000 ohm
R15, R19, R24, R29, R37 — 10,000 ohm
R16, R21, R26, R31, R38 — 1,000 ohm, metal film
R36 — 27,000 ohm
R40 — 10 megohm
R41 — 3,300 ohm
R42, S4 — 50,000-ohm panel mounted linear potentiometer with switch
R43 — 47,000 ohm
R44 — 10 ohm

CAPACITORS

*50-volt general-purpose ceramic except where otherwise specified.*

C1-C6 — 3.5-20 pF miniature ceramic trimmer
C7, C16, C31, C54, C62 — .001 mF
C8, C11, C13-C15, C20, C22, C24, C26, C28, C30, C44, C55, C58, C47 — .01 mF
C9, C10 — 15 pF silver mica
C12, C17, C43, C57 — 10 mF, 16 volt, electrolytic
C18 — 330 pF silver mica
C19, C42 — 130 pF silver mica
C21, C23, C25, C27, C29 — 10 pF silver mica
C32-C39 — These numbers are not used.
C40, C41, C45, C50, C59 — 0.1 mF
C46 — 0.33 mF polystyrene or Mylar
C48 — 47 mF, 16 volt, electrolytic
C49 — 630 pF
C51 — 100 mF, 16 volt, electrolytic
C52 — 0.047 mF
C53, C56 — 470 mF, 16 volt, electrolytic
C60, C61 — 4,700 mF, 16 volt electrolytic

INDUCTORS

L1-L6 — INDUCTORS that are selected by the builder for the six shortwave bands desired. See **Table 2** for winding instructions. Cores depend on the bands chosen. The author used four T-50-6 and two T-50-2 cores.
L7-L9 — 47 mH, self resonate frequency (SRF) greater than 26 MHz (J. W. Miller 9250-473). To hand-wind these inductors, see instructions in **Table 2**. Three FT-50-61 cores will be required.

MISCELLANEOUS

J1 — 2.1 mm DC power jack (RadioShack 274-1565)
J2 — BNC female chassis mount connector, or other connector suitable for your counter cable.
J3 — 1/8 inch panel mount closed circuit stereo jack (RadioShack 274-246)
BP1, BP2 — Binding post or clips for antenna and ground connection
S1 — Six-pole dip switch
S2, S3 — SPDT miniature slide switch, PC board mountable (RadioShack 275-409)
SPKR — Three-inch speaker RadioShack 40-252, or as desired.
ANT — 30-inch whip antenna Radioshack 270-1401
DC Power Adapter — 15 volts at 500 mA (most unregulated supplies rated at 12 volts actually supply 15 volts and will work). RadioShack RU 11327822.
Miscellaneous — Printed circuit supplies, 6" x 12" x 3/4" wooden base, 7" x 13" x 1/8" particle board front panel, knobs, pointers, bumpers, magnet wire, hook-up wire, and solder.

*Editor's note - At the time this article was writen, the author offered PCBs and kits or sale. While we don't know if this is still the case, there is mention on his web site of PCBs. If interested, check out*[***www.russwil.org***](http://www.russwil.org/)*and contact him at the address listed.*