



KN-Q7A 20 meter version V1.2

CRKITS.COM Designed by BA6BF

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Common Parts

Part	Qty	Comments
Resistors		
10 Ω	4	BRN-BLK-BLK-GLD-BRN
27 Ω	1	RED-VIO-BLK-GLD-BRN
51 Ω	1	GRN-BRN-BLK-GLD-BRN
120 Ω	1	BRN-RED-BLK-BLK-BRN
220 Ω	1	RED-RED-BLK-BLK-BRN
220 Ω 1W	1	RED-RED-BLK-BLK-BRN, Big Size
330 Ω	1	ORG-ORG-BLK-BLK-BRN
680 Ω	1	BLU-GRY-BLK-BLK-BRN
1.5 k Ω	7	BRN-GRN-BLK-BRN-BRN
3.3 k Ω	3	ORG-ORG-BLK-BRN-BRN
10 k Ω	4	BRN-BLK-BLK-RED-BRN
100 k Ω	2	BRN-BLK-BLK-ORG-BRN
10 k Ω trimmer	1	103. Blue and White. 3-pin
10 k Ω potentiometer	2	A10K marking for TUNE, B10K marking for IF GAIN.
Capacitors		
2 pF NPO	2	2. Ceramic or monolithic.
0.01 μ F	7	103. Ceramic or monolithic.
0.1 μ F	34	104. Ceramic or monolithic.
10 μ F 25 V or higher	1	Electrolytic capacitor
100 μ F 25 V or higher	2	Electrolytic capacitor
1000 μ F 25 V or higher	3	Electrolytic capacitor
50 pF trimmer capacitor	1	9~50 pF range, for BFO tuning
Diodes, Transistors and IC's		
1N4148	6	Glass body. Band is cathode.
1N5401 or 1N5820	1	Black body. Band is cathode. PCB marking: 1N5401.
BB910	1	Black body, similar to TO-92 transistor. 2-pin. Varicap diode.
C8050 or S8050	1	TO-92 transistor. 3-pin. RX muting.
C3357	1	RE or RF marking. SMD 3-pin. First TX amplifier.
D882	1	TO-126 transistor. 3-pin. TX driver amplifier.
IRF530 or IRF510	1	TO-220 MOSFET. 3-pin. Final TX amplifier. PCB marking: IRF530
7808	1	TO-220 IC. 3-pin. 8V voltage regulator.
NE602A	2	DIP-8 IC. Balanced mixer.
MC1350	1	DIP-8 IC. IF amplifier.
TDA2822M	1	DIP-8 IC. Audio amplifier.
IC Socket	4	DIP-8.
Inductors		
4.7 μ H Solenoidal	1	YEL-VIO-GLD-SLV
100 μ H Solenoidal	3	BRN-BLK-BRN-SLV
FT37-43 Toroid	3	Black, for RF wide-band transformers
T37-2 Toroid	2	Red, for low-pass filters
Magnet Wire	2m	For toroid winding instruction, see band dependent sections below
Others		
Black chassis screw	8	For front and rear panels.
Chassis Feet	4	14 mm tall.
TO-220 thermal insulator	2	For IRFxxx and D882, as insulator between chassis and plate
TO-220 washer	1	Small and white, for IRFxxx, as insulator between plate and nut
Silver M3x10 Screw	7	For chassis feet and semiconductors.
Silver M3 Nut	7	For chassis feet and semiconductors.
Phone Jack	1	3.5mm, for speaker output

KN-Q7A 80_40_20m Part List 20141122 for PCB V2.2

DC IN Connector	1	2.1mm type. Center positive.
Mic Connector	1	8-pin type socket.
SIP5 Connector	1	One pair with cable, for mic connector to PCB connection.
Black plastic knob	1	Smaller, for IF GAIN control
Silver and black knob	1	Bigger, for TUNE control
9V Relay	4	HK4100F-DC9V-SHG. Yellow body
Antenna Connector	1	BNC type, PCB mount.
Chassis	1	Black, aluminum alloy material
PCB set of 3 pcs	1	Including main board, black front panel and rear panel.
Quick Guide	1	Printed one-page guide.

75/80-meter Band Dependent Parts

Part	Qty	Comments
27 pF NPO	5	27 or 270. Ceramic or monolithic.
47 pF NPO	11	47 or 470. Ceramic or monolithic.
68 pF NPO	1	68 or 680. Ceramic or monolithic.
220 pF NPO	1	221. Ceramic or monolithic.
820 pF NPO	4	821. Ceramic or monolithic.
22 μ H Solenoidal	1	RED-RED-BLK-SLV. Inductor.
3.8M IFT/ shielded coil	5	DIY7-3.8, one needs rework to remove built-in tubular capacitor.
IF Crystals	8	8.4672 M
VXO Crystals	1	12.040 MHz, 12.140 MHz, or 12.288 MHz, depending on operating frequency range

Toroids winding: 8 bi-filar turns on 3 pcs of FT37-43 black toroids, and 22 turns on 2 pcs T37-2 red toroids.

40-meter Band Dependent Parts

Part	Qty	Comments
27 pF NPO	5	27 or 270. Ceramic or monolithic.
47 pF NPO	11	47 or 470. Ceramic or monolithic.
68 pF NPO	1	68 or 680. Ceramic or monolithic.
120 pF NPO	1	121. Ceramic or monolithic.
470 pF NPO	4	471. Ceramic or monolithic.
22 μ H Solenoidal	1	RED-RED-BLK-SLV. Inductor.
7M IFT/ shielded coil	5	DIY7-7, one needs rework to remove built-in tubular capacitor.
IF Crystals	8	8.4672 M or 8.192 M, depending on operating frequency range
VXO Crystals	1 or 2	15.360 MHz, 15.418 MHz, 15.500 MHz, 15.540 MHz, 15.570 MHz or 15.600 MHz, depending on operating frequency range

Toroids winding: 5 bi-filar turns on 3 pcs of FT37-43 black toroids, and 15 turns on 2 pcs T37-2 red toroids.

20-meter Band Dependent Parts

Part	Qty	Comments
15 pF NPO	5	15 or 150. Ceramic or monolithic.
27 pF NPO	9	27 or 270. Ceramic or monolithic.
47 pF NPO	2	47 or 470. Ceramic or monolithic.
68 pF NPO	1	68 or 680. Ceramic or monolithic.
270 pF NPO	5	271. Ceramic or monolithic.
7M IFT/ shielded coil	1	DIY7-7, needs rework to remove built-in tubular capacitor.
14M IFT/ shielded coil	4	DIY7-14
IF Crystals	8	4.194304 MHz or 4.096 MHz, depending on operation frequency range
VXO Crystals	1	18.432 MHz

Toroids winding: 5 bi-filar turns on 3 pcs of FT37-43 black toroids, and 11 turns on 2 pcs T37-2 red toroids.