

ALX-SSB Transceiver Kit Part List 16 July 2018

Band Independent Common Parts

<u>Part</u>	<u>QTY</u>	<u>Comments</u>
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	3	BRN-BLK-BLK-RED-BRN
10 k Ω trimmer	1	103. Blue and White. 3-pin
10 k Ω potentiometer	1	B10K marking for GAIN
Capacitors		
2 pF NPO	2	2. Ceramic or monolithic.
27 pF NPO	1	27 or 270. Ceramic or monolithic.
47 pF NPO	7	47 or 470. Ceramic or monolithic.
68 pF NPO	1	68 or 680. Ceramic or monolithic.
0.01 μ F	6	103. Ceramic or monolithic.
0.1 μ F	33	104. Ceramic or monolithic
10 μ F	1	Electrolytic capacitor 16 V or higher
100 μ F	2	Electrolytic capacitor 16 V or higher
1000 μ F	3	Electrolytic capacitor 25 V or higher
Diodes, Transistors and IC's		
1N4148	6	Glass body. Band is cathode.
1N5820	1	Black body. Band is cathode.
C8050 or S8050	1	TO-92 transistor. 3-pin. RX muting.
C3357	1	SMD 3-pin. First TX amplifier.
D882 or BD139	1	TO-126 transistor. 3-pin. TX driver amplifier.
IRF510	1	TO-220 MOSFET. 3-pin. Final TX amplifier.
7808	1	TO-220 IC. 3-pin. 8V voltage regulator.
NE602A	2	DIP-8 IC. Balanced mixer.

<u>Part</u>	<u>QTY</u>	<u>Comments</u>
MC1350	1	DIP-8 IC. IF amplifier.
TDA2822M or D2822A	1	DIP-8 IC. Audio amplifier.
IC Socket	4	DIP-8.

Inductors and Transformers

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

IF Crystals	7	8.4672 MHz, HC-49S
Black chassis screw	8	For front and rear panels.
Chassis Feet	4	14 mm tall.
Thermal insulator	2	For IRF510 and D882, as insulator between chassis and plate
TO-220 washer	1	Small and white, for IRF510, as insulator between plate and nut
Silver M3x10 Screw	6	For chassis feet and semiconductors.
Silver M3 Nut	6	For chassis feet and semiconductors.
Phone Jack	1	3.5mm, for speaker output
DC IN Connector	1	2.1mm type. Center positive.
Mic Connector	1	8-pin type socket.
SIP5 Connector	1	PCB mic connector
SIP5 Cable	1	Cable between Mic Connector and PCB
Black plastic knob	2	For both TUNE and GAIN controls
9V Relay	4	HK4100F-DC9V-SHG. Yellow body
Antenna Connector	1	BNC type, PCB mount.
Chassis	1	Black, aluminum alloy material
PCB	1	Main board,
Panel	2	black front panel and rear panel
Jumper cap	1	For UNBAL jumper short
Quick Guide	1	Printed one-page guide.
Chassis Foot Screw	1	Self-Taping foot screw

Band Dependent Parts

<u>Part</u>	<u>QTY</u>	<u>Comments</u>
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75/80-meter Band Dependent Parts

27 pF NPO	4	27 or 270. Ceramic or monolithic.
820 pF NPO	4	821. Ceramic or monolithic.
3.8M IFT/ shielded coil	4	DIY7-3.8

Toroids winding:

8 bi-filar turns on 3 pcs of FT37-43 black toroids

22 turns on 2 pcs T37-2 red toroids.

40-meter Band Dependent Parts

27 pF NPO	4	27 or 270. Ceramic or monolithic.
470 pF NPO	4	471. Ceramic or monolithic.
7M IFT/ shielded coil	4	DIY7-7

Toroids winding:

5 bi-filar turns on 3 pcs of FT37-43 black toroids

15 turns on 2 pcs T37-2 red toroids.

20-meter Band Dependent Parts

15 pF NPO	4	15 or 150. Ceramic or monolithic.
270 pF NPO	4	271. Ceramic or monolithic.
14M IFT/ shielded coil	4	DIY7-14

Toroids winding:

5 bi-filar turns on 3 pcs of FT37-43 black toroids

11 turns on 2 pcs T37-2 red toroids.

15-meter or 17-meter Band Dependent Parts

15 pF NPO	4	15 or 150. Ceramic or monolithic.
150 pF NPO	4	151. Ceramic or monolithic.
21M IFT/ shielded coil	4	DIY7-21

Toroids winding:

5 bi-filar turns on 3 pcs of FT37-43 black toroids

8 turns on 2 pcs T37-2 red toroids.

Other parts supplied with Kit options – see additional parts list.

- 1) Option 1 – Base Radio – Standard CS-Series Radio – Standard Sandwich.
- 2) Option 2 – Base Radio plus OLED Display
- 3) Option 3 – Base Radio plus Small OLED Display
- 4) Option 4 – Base Radio plus Dual Band

<u>Part</u>	<u>QTY</u>	<u>Comments</u>
<u>Option 1 – Standard Sandwich</u>		
330 Ω	3	ORG-ORG-BLK-BLK-BRN
1 kΩ	5	BRN-BLK-BLK-BRN-BRN
0.1 μF	9	104. Ceramic or monolithic
Dual color LED	1	3mm dual color D1
Sandwich Crystal	1	27 MHz, HC-49S X1
Rotary encoder w/button	1	20 pulses per rev., for Sandwich SW1
Arduino Pro Mini 3.3V	1	code pre-programmed, for Sandwich
PCB	1	Sandwich control board,
PCB	1	Sandwich OSC board with SI5351a pre-mounted.
<u>Option 2 – Base Radio plus OLED Display</u>		
	3	104 capacitors
	1	Rotary encode with switch
	1	5-volt regulator
	1	OLED Display
	1	PCB - Control Board
	1	Face Plate
		Assorted Header Pins
330 Ω	2	ORG-ORG-BLK-BLK-BRN
1 kΩ	4	BRN-BLK-BLK-BRN-BRN
0.1 μF	6	104. Ceramic or monolithic
Sandwich Crystal	1	27 MHz, HC-49S X1
Rotary encoder w/button	1	20 pulses per rev., for Sandwich SW1
PCB Oscillator Board	1	Sandwich OSC board with SI5351a
Arduino Pro Mini 3.3V	1	code pre-programmed, for Sandwich
<u>Option 3 – Base Radio plus Small OLED Display</u>		
	3	104 capacitors
	1	Rotary encode with switch
	1	5-volt regulator
	1	Small OLED Display
	1	PCB - Control Board
	1	Face Plate
		Assorted Header Pins
330 Ω	2	ORG-ORG-BLK-BLK-BRN
1 kΩ	4	BRN-BLK-BLK-BRN-BRN
0.1 μF	6	104. Ceramic or monolithic
Sandwich Crystal	1	27 MHz, HC-49S X1

<u>Part</u>	<u>QTY</u>	<u>Comments</u>
Rotary encoder w/button	1	20 pulses per rev., for Sandwich SW1
PCB Oscillator Board	1	Sandwich OSC board with SI5351a
Arduino Pro Mini 3.3V	1	code pre-programmed, for Sandwich

Option 4 – Base Radio plus Dual Band

Includes Option 2 as indicated above and:

Single Board Dual Band Main Board

Part Value Type

All Kits

2	D1, D2 1N4148 or equivalent diode
2	K1, K2 OMRON G5V-2 DC9V relay
2	X1, X3 2-pin 22-23-2021 or similar Connector
1	X2 3-pin 22-23-2031 or similar Connector
3	PCB
2	Sets of Cables Filter control
1	DPDT Mini Switch Band Switch assembly
1	Software download/update upon request

Single Mini Band Boards

	Part	Value	Type
80 Meter	1	C2	2p capacitor
	2	C1, C3	27p capacitor
	2	L1, L2	DIY7-3.8 inductor
40 Meter	1	C2	2p capacitor
	2	C1, C3	27p capacitor
	2	L1, L2	DIY7-7 inductor
20 Meter	1	C2	2p capacitor
	2	C1, C3	12p capacitor
	2	L1, L2	DIY7-14 inductor
17 Meter	1	C2	2p capacitor
	2	C1, C3	12p capacitor
	2	L1, L2	DIY7-21 inductor
15 Meter	1	C2	2p capacitor
	2	C1, C3	12p capacitor
	2	L1, L2	DIY7-21 inductor
	2	X1, X2	4 pin headers