Bose® SoundTouch™ 20 Series I & II

Wi-Fi® music system

Service Manual

Reference Number 355589-SM Rev. 03
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PRODUCT DESCRIPTION

The Bose® SoundTouch™ 20 Wi-Fi® music system connects to a customer's Wi-Fi network. Audio content is streamed from Internet radio, music services, and music stored on a computer connected to the same network. There are 6 presets that are programmed by pressing and holding until a beep is emitted.

A computer application is used to connect the SoundTouch device to a customer's network and also to control the device. The SoundTouch device can also be controlled by a smartphone application.
Download the Bose SoundTouch computer application at: http://www.bose.com/soundtouch_app
Download the Bose SoundTouch smart phone app at the App Store for iOS devices and at Google Play™ Store for Android™ devices.

To connect a SoundTouch device to a Wi-Fi network, follow the directions on the computer Soundtouch application. The computer needs to be connected to the network you are connecting the SoundTouch device to. Multiple SoundTouch products can be connected to the same network.

Software is updated over the Wi-Fi connection.

The AUX input is for connecting an analog audio source.

USB connections are used for connecting the product to a computer for setting up the product and also for software updates loaded on a thumbdrive.

The ethernet connection provides a wired connection when a Wi-Fi network is not available.

SAFETY INFORMATION

Parts that have special safety characteristics are identified by the ⚠ symbol on schematics or by special notes on the parts list. Use only replacement parts that have critical characteristics recommended by the manufacturer.

CAUTION: The Bose® SoundTouch™ 20 Wi-Fi® music system contains no user-serviceable parts. To prevent warranty infractions, refer servicing to warranty service stations or factory service.

ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICE HANDLING

This unit contains ESDS devices. We recommend the following precautions when repairing, replacing or transporting ESDS devices:

- Perform work at an electrically grounded work station.
- Wear wrist straps that connect to the station or heel straps that connect to conductive floor mats.
- Avoid touching the leads or contacts of ESDS devices or PC boards even if properly grounded. Handle boards by the edges only.
- Transport or store ESDS devices in ESD protective bags, bins, or totes. Do not insert unprotected devices into materials such as plastic, polystyrene foam, clear plastic bags, bubble wrap or plastic trays.

WARRANTY

The Bose® SoundTouch™ 20 Wi-Fi music system is covered by a limited 1-year transferable warranty. 2 years in Europe.

PART LIST NOTES

1. The individual parts located on the PCBs are listed in the Electrical Part List.

2. This part is referenced for informational purposes only. It is not stocked as a repair part. Refer to the next higher assembly for a replacement part.

3. ⚠ This part is critical for safety purposes. Failure to use a substitute replacement with the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards.

4. The country code and serial number must be set after replacing the wi-fi module. Refer to the procedures on page 48.

5. The OLED display is ESD sensitive. To reduce the chance of latent failures, take proper ESD precautions when handling.

PACKAGING PART LIST

Figure 1, Page 6

Item Number	Description	Material Number	QTY	Variant	Note
1	QUICK START GUIDE, ST 30, 20, EU2	727927-0010	1	EU	3 ⚠
	QUICK START GUIDE, ST 30, 20, EU3	727928-0010	1	EU	
	QUICK START GUIDE, ST 30, 20, APAC2	727931-0010	1	APAC, JPN	
2	QUICK START GUIDE, ST 30, 20, AST, EU1	727573-0010	1	US, EU	
	QUICK START GUIDE, ST 30, 20, APAC1	727930-0010	1	APAC	
3	AU/NZ WARR SLIP SHEET 8.5 X 5.5	355731-0010	1	APAC	
4	GLOBAL WARRANTY CARD, 1 YR.	324486-0010	1		
	CONTACT SHEET, SOUNDTOUCH, US	373202-0010	1	US	
	CONTACT, SHEET, SOUNDTOUCH, AP	372837-0010	1	APAC, JPN	
	CONTACT, SHEET, SOUNDTOUCH, EU	372836-0010	1	EU	
	LETTER, COMMITMENT	343108-0010	1	ALL	
5	SHEET, SAFETY, SOUNDTOUCH 30, 20	369732-0010	1	ALL	3 ⚠
6	REMOTE, IR, WHT	355239-1020	1	ALL	
	REMOTE, IR, BLK	355239-0020			
7	PACKING TRAY, TOP, PULP, SPTY	355620-0010	1	ALL	
8	CABLE, SIGNAL, USB, MICRO/USB-A, MALE, 36IN	330816-0010	1	ALL	
9	BAG, FOAM, LDPE, 16.50X11.50X0.08IN	372176-0010	1	ALL	
10	PACKING, INSERT, D/C, 12.5X7.06IN	363847-0010	2	ALL	
11	PACKING TRAY, BTTM, PULP, SPTY	355619-0010	1	ALL	
12	CARTON, RSC, SPTY, WHT, WW	355617-0010	1	ALL	
	CARTON, RSC, SPTY, BLK, WW	369889-0010			
13	LINE CORD, 120V, NON-POL, DET, BLK, 1500	279101-1310	1	US	3 ⚠
	LINE CORD, 220V, EUR, DET, BLK, 1500	280135-1310	1	EU, APAC	
	LINE CORD, 230V, UKS, DET, BLK, 1500	280138-1310	1	EU, APAC	
	LINE CORD, 230V, KOREA, BLK, 1500mm	311668-1310	1	APAC	
	LINE CORD, 240V, AUS, DET, BLK, 1500	284243-1310	1	APAC	
	LINE CORD, 100V, JPN, DET, BLK, 1500	280136-1310	1	JPN	
-	BAG, POLY,14.38x9.87x2 mil (LIT KIT)	103351	1	ALL	
-	WAFER, SEALING, 1.5" DIAMETER, CLEAR (SEAL FOR LIT KIT BAG)	322267-0010	1	ALL	
-	LABEL, CARTON, SERIES II (ST20 / ST P)	729308-0020	1	ALL	

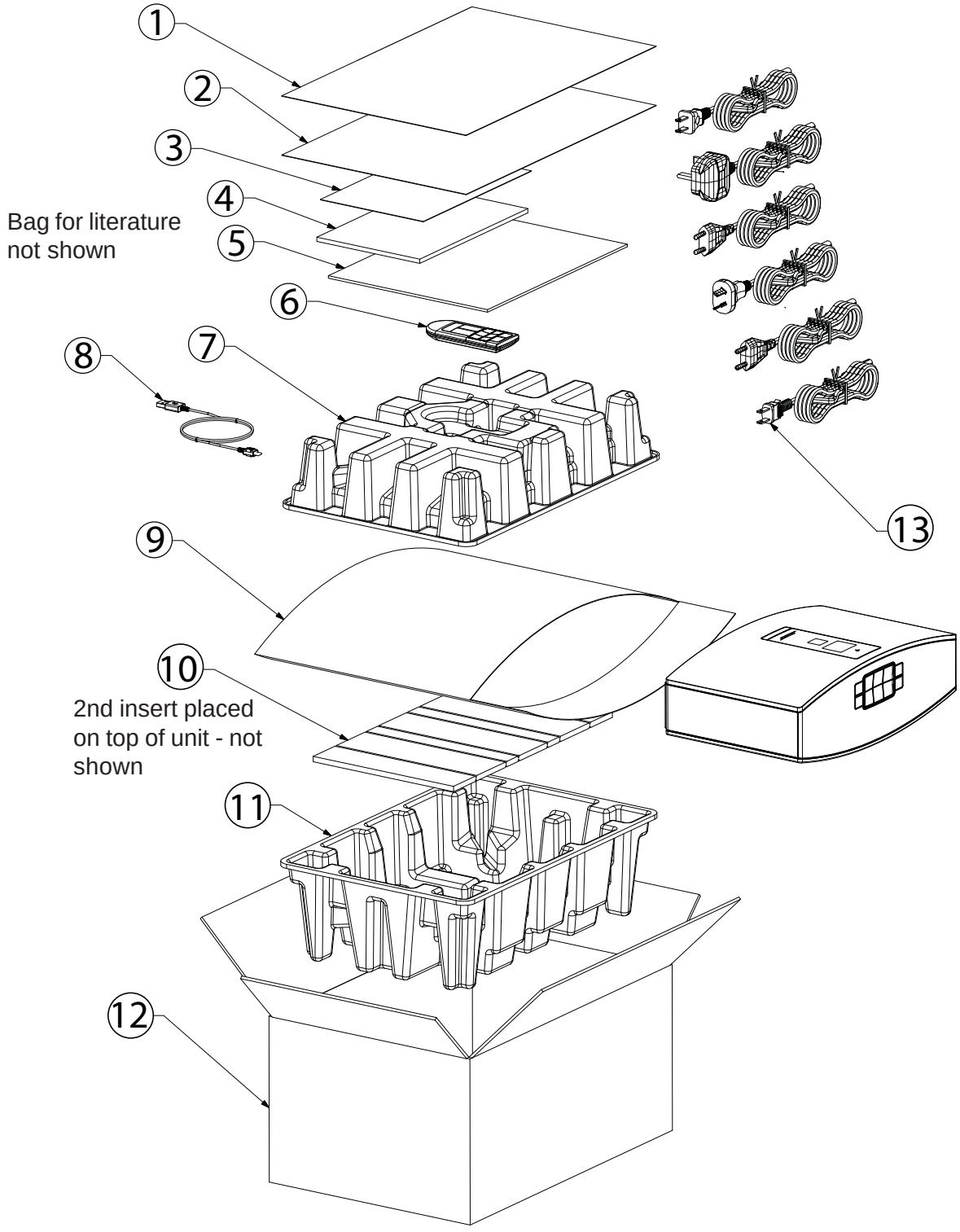


Figure 1. Packaging View

MAIN ASSEMBLY PART LIST

Figure 2, Page 8

Item Number	Description	Material Number	QTY	Note
1	TOP CAP, WHT	354207-0020	1	
	TOP CAP, BLK	354207-0010	1	
2	FLOCK, TOP CAP	372784-0010	1	
3	SCREW, 6-13x.5, PAN, XREC/SQ	288374-008	42	
4	KEYPAD ASSY, PULSE GRAY	354213-0020	1	
5	PCB ASSY, STCH 20/30, BUTTON, SVCE	359563-001S	1	
6	SCREW, SELF TAPPING, M2.5X7mm, WASHER, TORX	357328-0070	10	
7	CABLE, FFC, LED/DISPLAY, 12 COND, 170mm	355896-0020	1	
8	TAPE, FOAM, PORON, 15X10X4.78mm	369747-0010	4	
9	SLAB ASSY, SOUNDTOUCH, WIFI MODULE	625125-041S or 625125-071S	1	4
10	SCREW, TAPP, 4-16X.38, PAN, XREC	288372-006	3	
11	CABLE, FFC, BUTTON, 10COND, 125mm	354679-0020	1	3
12	ENCLOSURE, ST20, SRVC SUBASSY GRAY	374409-003S	1	⚠
	ENCLOSURE, ST20, SRVC SUBASSY, BLK	374409-001S	1	
13	HARNESS, STCH 20, I/O-PWR SUPPLY	354690-0010	1	
14	END CAP, WHITE	354205-0020	2	
	END CAP, BLK	354205-0010	2	
15	BASE, ST20, BLK	354212-0020	1	
16	FOOT, RUBBER	301750-001	4	
17	PCB ASSY, STCH 20, I/O, SVCE	354662-011S	1	
18	CABLE, FFC, STCH 20, PA-I/O, 20POS, 66mm	354680-0010	1	
19	FOAM, ACOUSTIC, 2.5X2.5X0.5	273518-012	2	
20	SCREW, 6-32X5/8, THREAD ROLLING	289391-010	8	
21	SHIELD, POWER AMP, TOP	354247-0010	1	
22	PCB ASSY, STCH 20, AMP/POWER SUPPLY, SVCE	354659-011S	1	
23	INSULATOR, STCH 20, PWR SUPPLY, BOTTOM	355631-0010	1	
24	SHIELD, POWER AMP, BOTTOM	354248-0010	1	3 ⚠
25	BRACKET, STCH 20, SPACER, AMP PCB	359515-0010	1	
26	BAFFLE ASSY, STCH 20, SRVC	363467-001S	1	
27	FOAM, GRILLE, ARRAY	272036-004	6	
28	SPEAKER, FULL RANGE, 71/19, 4OHM, Fe, LBL/PKG	369885-0010	2	
29	CABLE ASSY, FFC, FOLDED, 31POS, IMPED MATCH	354681-0010	1	
30	CABLE, FFC, STCH 20, SHELBY-I/O, 40POS, 226mm	354683-0010	1	
31	GRILLE ASSY, FRONT GRAY	354165-0030	1	
	GRILLE ASSY, FRONT BLK	354165-0010	1	
32	GASKET, STRIP, BACKER	625447-0010	2	
33	DIFFUSER, LED	354687-0010	1	
34	LENS, ST20, FRONT GRILLE	354200-0010	1	
35	GASKET, FOAM, MOJO, DISPLAY, W/PSA, BLK	357325-0010	1	
36	LENS/DISPLAY ASSY, ST 20, PIONEER, SVCE	627493-001S	1	5

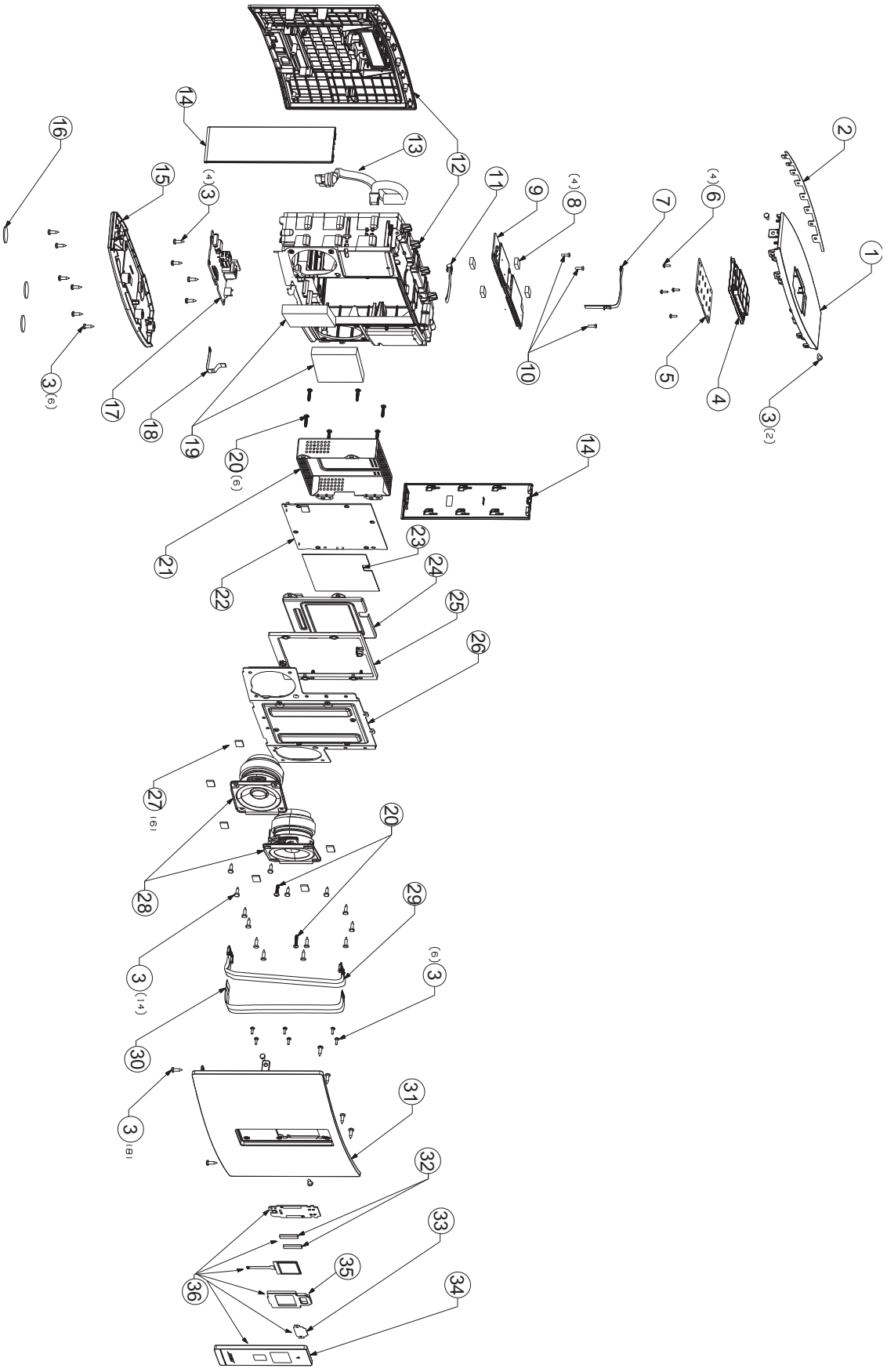


Figure 2. Main Assembly

AMP PCB PART LIST

Resistors

Reference Designator	Description	Material Number	Note
R201	34K, 0603, .1W, 1%	191465-3402	
R202	14K, 0603, .1W, 1%	191465-1402	
R203	25.5K OHM, 0603, .1W, 1%	191465-2552	
R204	71.5K, 0402, 63MW, 1%	268361-7152	
R205	2 MEG, 1206, 1/4W, 5%	124895-2055	
R206	340K, 1206, 1/4W, 1%	124894-3403	3 ⚠
R207	340K, 1206, 1/4W, 1%	124894-3403	3 ⚠
R208	340K, 1206, 1/4W, 1%	124894-3403	3 ⚠
R209	340K, 1206, 1/4W, 1%	124894-3403	3 ⚠
R210	10 OHM, 0603, .1W, 5%	199403-100	
R211	2 MEG, 1206, 1/4W, 5%	124895-2055	
R212	2 MEG, 1206, 1/4W, 5%	124895-2055	
R213	100K, 0402, 63MW, 1%	268361-1003	
R214	20.0K, 0402, 63MW, 1%	268361-2002	
R216	2.49K, 0603, .1W, 1%	191465-2491	
R217	249K, 0603, .1W, 1%	191465-2493	
R218	4.22K, 0603, .1W, 1%	191465-4221	
R221	750 OHM, 1206, 1/4W, 5%	124895-7515	
R223	102K, 0603, .1W, 1%	191465-1023	
R225	11.8K, 0603, .1W, 1%	191465-1182	
R229	JUMPER, CHIP, 0603	196042	
R230	0.10 OHM, 1210, 500mW, 5%	318356-101J	
R233	0.10 OHM, 1210, 500mW, 5%	318356-101J	
R234	1.0 OHM, 0603, .1W, 1%	191465-01R0	
R301	150K, 0402, 63MW, 1%	268361-1503	
R302	10K, 0603, .1W, 5%	199403-103	
R303	THERMISTOR, 0603, 3K, 5%, B4500	316463-3001	
R304	100K, 0402, 63MW, 1%	268361-1003	
R305	100K, 0402, 63MW, 1%	268361-1003	
R306	3.01K, 0402, 63MW, 1%	268361-3011	
R307	3.01K, 0402, 63MW, 1%	268361-3011	
R308	3.01K, 0402, 63MW, 1%	268361-3011	
R309	3.01K, 0402, 63MW, 1%	268361-3011	
R310	100K, 0402, 63MW, 1%	268361-1003	
R311	100K, 0402, 63MW, 1%	268361-1003	
R312	1K, 0603, .1W, 5%	199403-102	
R313	100K, 0402, 63MW, 1%	268361-1003	
R314	100K, 0402, 63MW, 1%	268361-1003	
R315	1K, 0603, .1W, 5%	199403-102	
R316	100K, 0402, 63MW, 1%	268361-1003	
R401	100K, 0402, 63MW, 1%	268361-1003	
R403	10K, 0603, .1W, 5%	199403-103	
R404	1.00K, 0402, 63MW, 1%	268361-1001	
R405	1.00K, 0402, 63MW, 1%	268361-1001	
R407	10K, 0603, .1W, 5%	199403-103	
R408	1.00K, 0402, 63MW, 1%	268361-1001	
R409	1.00K, 0402, 63MW, 1%	268361-1001	

AMP PCB PART LIST

Resistors

Reference Designator	Description	Material Number	Note
R410	10K, 0603, .1W, 5%	199403-103	
R412	10K, 0603, .1W, 5%	199403-103	
R414	10.0OHM, 0402, 63MW, 1%	268361-10R0	
R415	10.0OHM, 0402, 63MW, 1%	268361-10R0	
R416	49.9, 0805, .125W, 1%	133625-49R9	
R417	49.9, 0805, .125W, 1%	133625-49R9	
R418	49.9, 0805, .125W, 1%	133625-49R9	
R419	49.9, 0805, .125W, 1%	133625-49R9	
R420	10K, ARRAY, SMT, 4 POS, 5%	186433-1034	
R421	10K, ARRAY, SMT, 4 POS, 5%	186433-1034	
R422	34K, 0603, .1W, 1%	191465-3302	
R423	34K, 0603, .1W, 1%	191465-3302	
R424	3.3k, ARRAY, SMT, 4 POS, 5%	186433-3324	

Capacitors

Reference Designator	Description	Material Number	Note
C201	0.33uF, FILM, X2, 305VAC, 15MM	310415-334ME	3 ⚠
C202	100uF, CAP., EL., SMD, 105, 35V, 20%	306245-101EE	
C204	100pF, COG, 0402, 5%, 50V	268364-101	
C205	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C207	0.022uF, X7R, 1210, 500V, 10%	359772-223K	
C208	0.33uF, FILM, X2, 305VAC, 15MM	310415-334ME	3 ⚠
C212	FILTER ASSY, EMI, LC, 60MHz	625126-0010	3 ⚠
C213	0.1uF, FILM, X2, 275VAC, 10MM	268166-104A	3 ⚠
C214	1.0nF, X7R, 0402, 50V, 5%	268366-102	
C218	1000uF, EL, 105C, 35V, 20%, 12.5 x 25mm	196991-102VP50	
C219	100uF, EL, 105C, 20%, 450V	310510-101WBB	
C220	10pF, C0G, 0402, 50V, +/-0.25pF	317398-100CH	
C221	1000uF, EL, 105C, 35V, 20%, 12.5 x 25mm	196991-102VP50	
C222	0.15uF, X7R, 1210, 500V, 10%	359772-154K	
C223	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C224	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C225	0.15uF, X7R, 1210, 500V, 10%	359772-154K	
C226	0.022uF, X7R, 1210, 500V, 10%	359772-223K	
C227	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C229	FILTER ASSY, EMI, LC, 60MHz	625126-0010	3 ⚠
C235	4.7uF, X7R, 1210, FLEX TERM, 50V, 10%	315052-475E	3 ⚠
C237	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C238	68pF, X1/Y1, 10mm LS, 250VAC, 10%	354061-680KB	3 ⚠

AMP PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C239	68p, X1/Y1, 10mm LS, 250VAC, 10%	354061-680KB	3 ⚠
C301	220uF, EL, SMD, 105, 35V, 20%	306169-221VH	
C304	1.0nF, X7R, 0402, 50V, 5%	268366-102	
C305	1.0nF, X7R, 0402, 50V, 5%	268366-102	
C306	.22 uF, 0805, X7R, 10%, 25V	181264-224	
C307	1.0nF, X7R, 0402, 50V, 5%	268366-102	
C308	1.0nF, X7R, 0402, 50V, 5%	268366-102	
C309	3300pF, 0805, X7R, 50V, 10%	286499-332	3 ⚠
C401	0.33uF, X7R, 0603, 16V, 10%	257154-334K16	
C402	0.33uF, X7R, 0603, 16V, 10%	257154-334K16	
C403	0.33uF, X7R, 0603, 16V, 10%	257154-334K16	
C404	0.33uF, X7R, 0603, 16V, 10%	257154-334K16	
C405	1.0uF, 10V, X5R, 0603	278992-105	
C406	1.0uF, 10V, X5R, 0603	278992-105	
C407	1uF, X7R, 1206, 10%, 16V, OPEN	283163-105	
C408	1uF, X7R, 1206, 10%, 16V, OPEN	283163-105	
C409	1000pF, COG, 0402, 5%, 50V	268364-102	
C410	1000pF, COG, 0402, 5%, 50V	268364-102	
C411	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C412	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C413	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C414	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C415	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C416	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C417	0.47uF, 0805, X7R, 50V	133623-474	
C418	0.47uF, 0805, X7R, 50V	133623-474	
C419	0.47uF, 0805, X7R, 50V	133623-474	
C420	0.47uF, 0805, X7R, 50V	133623-474	
C429	1000pF, COG, 0402, 5%, 50V	268364-102	
C430	2.2 nF, X7R, 0402, 50V, 5%	268366-222	
C431	2.2 nF, X7R, 0402, 50V, 5%	268366-222	
C432	2.2 nF, X7R, 0402, 50V, 5%	268366-222	
C433	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C434	2.2 nF, X7R, 0402, 50V, 5%	268366-222	
C435	1000pF, COG, 0402, 5%, 50V	268364-102	
C436	0.1uF, X7R, 0603, 10%, 50V	304991-104	3 ⚠
C437	330uF, EL, SMT, 105, 35V, 20%	306245-331EG	
C438	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C439	330uF, EL, SMT, 105, 35V, 20%	306245-331EG	

AMP PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C440	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C441	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C442	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C443	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C444	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C445	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C446	0.1uF, 0805, X7R, 50V, 10%	286499-104	3 ⚠
C447	1000pF, 0603, X7R, 50V	191470-102	
C448	1000pF, 0603, X7R, 50V	191470-102	
C449	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	
C450	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	

Diodes

Reference Designator	Description	Material Number	Note
BR201	BRIDGE RECT, 3A, 600V, 4SIP, TRIMMED	350784-0010	3 ⚠
D201	SCHOTTKY, 1A, 30V, SOD123	317122-001	
D202	SWITCHING, SOD123, 1N4148W	257662	
D203	SCHOTTKY RECT., 5A, 170V, COMMON CATH	329305-0010	
D204	SWITCHING, SOD123, 1N4148W	257662	
ZR201	ZENER, 0.2W, 20V, SOD323	310491-20A	
ZR202	RECT, FAST, 600V, 1A	317066-600	
ZR203	ZENER, 1.5W, 150V, SMA	357194-0150	

Transistors

Reference Designator	Description	Material Number	Note
Q201	MFET, N-CH, 600V	310519-001	
Q301	BPLR, N, 40V, 200mA, SOT23	146819	
Q302	BPLR, P, 40V, 200mA, SOT23	148596	
Q303	BPLR, P, 40V, 200mA, SOT23	148596	
Q304	MOSFET, P-CH, 30V	298094-001	

AMP PCB PART LIST

Integrated Circuits

Reference Designator	Description	Material Number	Note
U201	SMPS, FLYBCK CNTLR, ADJ, 5A, UCC28610, 8SO	348216-0010	
U202	OPTO ISOLATOR, CNY17F-1X007	254120-002	3
U401	PWR AMP, 15W, CLASS D, 26V	327287-0010	3
U402	PWR AMP, 15W, CLASS D, 26V	327287-0010	3

Inductors

Reference Designator	Description	Material Number	Note
L201	TOROID, 1.5A, 30%, 4mH	359021-040N	3
L202	82uH, FIXED, RADIAL, 5mm LS, 670mA	309310-820K	3
L203	82uH, FIXED, RADIAL, 5mm LS, 670mA	309310-820K	3
L204	COMMON MODE, 3A, 30%, 30uH	357804-300N	3
L206	2.2UH, INDUCTOR, FIXED	309310-2R2M	
L207	2.2UH, INDUCTOR, FIXED	309310-2R2M	
L210	TOROID, 1.5A, 30%, 4MH	359021-040N	3
L401	22uH, FIXED, 3.9A	300618-220M	
L402	22uH, FIXED, 3.9A	300618-220M	
L403	22uH, FIXED, 3.9A	300618-220M	
L404	22uH, FIXED, 3.9A	300618-220M	

Miscellaneous

Reference Designator	Description	Material Number	Note
FB201	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
J200	CONN, HEADER, LOCKING, TOP ENTRY	193369-002	3
J301	CONN, FFC, 0.5mm, S ENTRY, 20POS, IVRY	349234-0020	
J302	CONN, LOCKING, 2.5MM, 2-P, LOC PIN, IVORY	283142-010002	
J303	CONN, LOCKING, 2.5MM, 2-P, LOC PIN, IVORY	283142-010002	
T201	TRANSFORMER, FLYBACK, 85-265VAC, 2.5A, 24V	370743-0010	3
VR201	VARISTOR, MET OX, RADIAL, 320V, 80J, CRIMP	273545-005	3
VR202	LIN REG, ADJ, SHUNT, TL431, 1%, SOT23-3	330361-1030	
W202	JUMPER, CHIP, 1206	124896	
W203	JUMPER, CHIP, 1206	124896	
W204	JUMPER, CHIP, 1206	124896	
W301	JUMPER, 0402, 0OHM	280043	
W403	JUMPER, CHIP, 0805	133627	
W404	JUMPER, CHIP, 0805	133627	

I/O PCB PART LIST

Resistors

Reference Designator	Description	Material Number	Note
R501	2.7 OHM, 1206, 1/4W, 5%	124895-2R75	
R502	2.7 OHM, 1206, 1/4W, 5%	124895-2R75	
R505	10K, 0603, .1W, 1%	191465-1002	
R507	10.0K, 0402, 63MW, 1%	268361-1002	
R509	332 K, 0603, .1W, 1%	191465-3323	
R510	30.1K, 0603, .1W, 1%	191465-3012	
R511	100K, 0402, 63MW, 1%	268361-1003	
R512	30.1K, 0603, .1W, 1%	191465-3012	
R515	698k, 0603, 0.1W, 1%	191465-6983	
R516	237K, 0603, 0.1W, 1%	191465-2373	
R518	51.1 OHM, 0603, .1W, 1%	191465-51R1	
R519	10K, 0603, .1W, 1%	191465-1002	
R520	3.9K, 0603, .1W, 1%	191465-3901	
R522	34.8K, 0603, 1/10W, 0.1%	282986-3482	
R525	6.49K, 0603, 1/10W, 0.1%	282986-6491	
R526	200K, 0603, .1W, 1%	191465-2003	
R528	100K, 0402, 63MW, 1%	268361-1003	
R601	120 OHMS, 0603, .1W, 5%	199403-121	
R602	100K, 0603, .1W, 1%	191465-1003	
R603	100 OHM, 0603, .1W, 1%	191465-1000	
R607	5.49K, 0402, 63MW, 1%	268361-5491	
R608	5.49K, 0402, 63MW, 1%	268361-5491	
R609	10.0K, 0402, 63MW, 1%	268361-1002	
R610	100K, 0603, .1W, 1%	191465-1003	
R613	10K, 0603, .1W, 1%	191465-1002	
R614	3.9K, 0603, .1W, 1%	191465-3901	
R615	3.9K, 0603, .1W, 1%	191465-3901	
R616	100K, 0603, .1W, 1%	191465-1003	
R619	6.65K, 0603, .1W, 1%,	191465-6651	
R620	6.65K, 0603, .1W, 1%,	191465-6651	
R621	10K, 0603, .1W, 1%	191465-1002	
R622	75 OHM, 0402, 63MW, 1%	268361-75R0	
R623	332 K, 0603, .1W, 1%	191465-3323	
R625	75 OHM, 0402, 63MW, 1%	268361-75R0	
R626	10.0K, 0402, 63MW, 1%	268361-1002	
R627	20.0K, 0402, 63MW, 1%	268361-2002	
R628	20.0K, 0402, 63MW, 1%	268361-2002	

Capacitors

Reference Designator	Description	Material Number	Note
C501	1uF, X5R, 0402, 10%, 10V	313771-105A	
C502	1000pF, 0603, X7R, 50V	191470-102	
C503	1uF, X5R, 0402, 10%, 10V	313771-105A	
C504	4.7uF, X7R, 1210, FLEX TERM, 50V, 10%	315052-475E	3 

I/O PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C505	1uF, X5R, 0402, 10%, 10V	313771-105A	
C507	1uF, X5R, 0402, 10%, 10V	313771-105A	
C508	220uF, EL, SMT, 105, 16V, 20%	306169-221CG	
C509	1000pF, 0603, X7R, 50V	304991-102	3 ⚠
C510	10uF, X5R, 0805, 25V, 10%	273592-106E	
C511	100uF, EL, SMD, 105, 16V, 20%	306169-101CF	
C512	.01uF, 0603, X7R, 50V	191470-103	
C513	0.1uF, CAP, X7R, 0603, 10%, 50V	191470-104	
C514	100pF, C0G, 0603, 50V, 5%	188454-101	
C515	C10pF, C0G, 0603, 50V, 5%	188454-100	
C518	10uF, X5R, 0805, 25V, 10%	273592-106E	
C528	0.01uF, 0805, X7R, 50V, 10%	286499-103	
C602	0.1uF, CAP, X7R, 0603, 10%, 50V	191470-104	
C603	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C605	1000pF, X7R, 1206, 2000V, 20%	359294-102M	
C608	10pF, C0G, 0402, 50V, +/-0.25pF	317398-100CH	
C609	10pF, C0G, 0402, 50V, +/-0.25pF	317398-100CH	
C610	10pF, C0G, 0402, 50V, +/-0.25pF	317398-100CH	
C611	10pF, C0G, 0402, 50V, +/-0.25pF	317398-100CH	
C615	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C616	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C617	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C618	0.1uF, CAP, X7R, 0603, 10%, 50V	191470-104	

Diodes

Reference Designator	Description	Material Number	Note
D502	SCHOTTKY, 40V, 3A, SMB	193847-001	
VR601	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR602	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR603	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR604	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR605	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR606	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR607	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR608	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR609	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR610	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR611	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR617	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR618	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	

I/O PCB PART LIST

Transistors

Reference Designator	Description	Material Number	Note
Q501	MOSFET, P-CH, 30V	298094-001	
Q502	BPLR, P, 40V, 200mA, SOT23	148596	
Q503	MFET, N-CH, 0.3A, 60V, SOT-23	356154-0010	
Q601	MFET, N-CH, 0.3A, 60V, SOT-23	356154-0010	
Q602	MFET, N-CH, 0.3A, 60V, SOT-23	356154-0010	
Q603	MFET, N-CH, 0.3A, 60V, SOT-23	356154-0010	
Q604	BPLR, P, 40V, 200mA, SOT23	148596	
Q605	BPLR, P, 40V, 200mA, SOT23	148596	

Integrated Circuits

Reference Designator	Description	Material Number	Note
U501	O/V PROTECT, 6.85V, NCP367, 8DFN	355357-0030	
U502	O/V PROTECT, 7.20V, NCP367, 8DFN	355357-0040	
U601	CONN, RJ45, 2.54mm, S ENT, SHLD, TAB-UP, 8 POS	361231-0010	
VR502	IC,VREG, SW, BUCK, 581kHz, 1.5A, 42V, 10MSOP	328718-0020	

Inductors

Reference Designator	Description	Material Number	Note
L602	18nH, 0402, 0.9A, 2%	328669-18NXGLW	
L603	18nH, 0402, 0.9A, 2%	328669-18NXGLW	
L604	18nH, 0402, 0.9A, 2%	328669-18NXGLW	
L605	18nH, 0402, 0.9A, 2%	328669-18NXGLW	
L606	90 OHMS, 0504, , 150mA, C- MODE	324381-090D	
L607	90 OHMS, 0504, , 150mA, C- MODE	324381-090D	
L502	22uH, PWR, SMT, 4.71A	348801-220M	

Miscellaneous

Reference Designator	Description	Material Number	Note
F501	FUSE, TIME LAG, RADIAL, 3.15A, 250V	310538-3150B	3 ⚠
FB501	330ohm, Bead, FerriteBLM18P, 0603	302257-331	
FB601	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
FB602	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
FB603	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
J601	CONN, USB, MICRO-B, 5POS, FEMALE	330458-0010	
J602	CONN, USB, TYPE A, SMT	306363-001	
J603	CONN, PHONE, 3.5MM, FEMALE, 7POS, BLK	330462-0010	
J605	CONN, FFC, 0.5mm, S ENTRY, 31POS, W/SHIELD	310623-031	
J606	CONN, FFC, 0.5mm, S ENTRY, 40POS	310573-040	
J607	CONN, FFC, 0.5mm, S ENTRY, 20POS, IVRY	349234-0020	
J609	AC CONN, SINGLE PIECE LEADS	301125-001	3 ⚠

I/O PCB PART LIST

Miscellaneous

Reference Designator	Description	Material Number	Note
J610	CONN, HEADER, LOCKING, TOP ENTRY	193369-002	3 ⚠
S601	MUX/DEMUX, 2X2:1, USB, TS3USB221, 10QFN	353620-0010	
W601	JUMPER, CHIP, 0603	196042	
W602	JUMPER, CHIP, 0603	196042	
W603	JUMPER, CHIP, 0603	196042	
W604	JUMPER, CHIP, 0603	196042	
	SCREW, TAPP, 4-16X.38, PAN, XREC	288372-006	

WI-FI MODULE PCB PART LIST

Resistors

Reference Designator	Description	Material Number	Note
R13	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R14	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R15	0 OHM, JUMPER, 0402	280043	
R16	0 OHM, JUMPER, 0402	280043	
R27	220 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-221J4	
R123	121 OHM, 0402, 63mw, 1%	268361-121R	
R124	30.1 OHMS, 0402, 0.063W, 1%	268361-30R1	
R125	5.76K, 0402, 63mW, 1%	268361-5761	
R126	5.76K, 0402, 63mW, 1%	268361-5761	
R127	5.76K, 0402, 63mW, 1%	268361-5761	
R128	187 OHM, 0402, 63mw, 1%	268361-187R	
R129	187 OHM, 0402, 63mw, 1%	268361-187R	
R132	392 OHM, 0402, 63mW, 1%	268361-392R	
R133	51 OHMS, 0402, 0.063W, 1%	268361-51R0	
R134	100 OHM, 0402, 63mW, 1%	268361-1000	
R135	100 OHM, 0402, 63mW, 1%	268361-1000	
R136	100 OHM, 0402, 63mW, 1%	268361-1000	
R137	100 OHM, 0402, 63mW, 1%	268361-1000	
R138	0 OHM, JUMPER, 0402	280043	
R139	0 OHM, JUMPER, 0402	280043	
R140	100 OHM, 0402, 63mW, 1%	268361-1000	
R141	3.01K, 0402, 63mW, 1%	268361-3011	
R142	10.0K, 0402, 63mW, 1%	268361-1002	
R143	10.0K, 0402, 63mW, 1%	268361-1002	
R144	10.0K, 0402, 63mW, 1%	268361-1002	
R146	JUMPER, CHIP, 0603	196042	
R147	JUMPER, CHIP, 0603	196042	
R200	10.0K, 0402, 63mW, 1%	268361-1002	
R201	13.0K, 0402, 63mW, 1%	268361-1302	
R202	6.04K, 0402, 63mW, 1%	268361-6041	
R203	10.0K, 0402, 63mW, 1%	268361-1002	
R204	10.0K, 0402, 63mW, 1%	268361-1002	
R205	2.74K, 0402, 63mW, 1%	268361-2741	
R206	100 OHM, 0402, 63mW, 1%	268361-1000	
R207	1.50K, 0402, 63mW, 1%	268361-1501	
R208	10.0K, 0402, 63mW, 1%	268361-1002	
R209	10.0K, 0402, 63mW, 1%	268361-1002	
R210	10.0K, 0402, 63mW, 1%	268361-1002	
R211	10.0K, 0402, 63mW, 1%	268361-1002	
R212	0 OHM, JUMPER, 0402	280043	
R213	0 OHM, JUMPER, 0402	280043	
R214	10.0K, 0402, 63mW, 1%	268361-1002	
R215	100 OHM, 0402, 63mW, 1%	268361-1000	
R216	100 OHM, 0402, 63mW, 1%	268361-1000	
R217	10.0K, 0402, 63mW, 1%	268361-1002	
R218	10.0K, 0402, 63mW, 1%	268361-1002	
R219	4.75k, 0402, 0.063W, 1%	268361-4751	
R220	10.0K, 0402, 63mW, 1%	268361-1002	
R221	4.75k, 0402, 0.063W, 1%	268361-4751	
R225	100 OHM, 0402, 63mW, 1%	268361-1000	
R229	100 OHM, 0402, 63mW, 1%	268361-1000	
R240	10.0K, 0402, 63mW, 1%	268361-1002	

WI-FI MODULE PCB PART LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R242	10.0K, 0402, 63mW, 1%	268361-1002	
R243	10.0K, 0402, 63mW, 1%	268361-1002	
R244	10.0K, 0402, 63mW, 1%	268361-1002	
R245	10.0K, 0402, 63mW, 1%	268361-1002	
R246	0 OHM, JUMPER, 0402	280043	
R247	33 OHM, 0402, 1/16W, 1%	268361-33R0	
R276	10.0K, 0402, 63mW, 1%	268361-1002	
R279	0 OHM, JUMPER, 0402	280043	
R280	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R281	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R282	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R283	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R284	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R285	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R286	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R287	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R288	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R289	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R290	0 OHM, 0402 ARRAY, 4 CONVEX, 0.5A	357537-0020	
R300	100 OHM, 0402, 63mW, 1%	268361-1000	
R302	1.00K, 0402, 63mW, 1%	268361-1001	
R304	100 OHM, 0402, 63mW, 1%	268361-1000	
R305	100 OHM, 0402, 63mW, 1%	268361-1000	
R307	10.0K, 0402, 63mW, 1%	268361-1002	
R308	10.0K, 0402, 63mW, 1%	268361-1002	
R309	10.0K, 0402, 63mW, 1%	268361-1002	
R311	100 OHM, 0402, 63mW, 1%	268361-1000	
R400	51 OHMS, 0402, 0.063W, 1%	268361-51R0	
R401	51 OHMS, 0402, 0.063W, 1%	268361-51R0	
R402	243 OHM, 0402, 63mW, 1%	268361-2430	
R406	49.9 OHM, 0402, 63mW, 1%	268361-49R9	
R407	51 OHMS, 0402, 0.063W, 1%	268361-51R0	
R408	100 OHM, 0402, 63mW, 1%	268361-1000	
R409	10.0K, 0402, 63mW, 1%	268361-1002	
R413	806 OHM, 0402, 63mw, 1%	268361-806R	
R414	1.00K, 0402, 63mW, 1%	268361-1001	
R415	33 OHM, 0402, 1/16W, 1%	268361-33R0	
R421	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R422	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R423	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R424	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R425	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R426	51 OHM, 0402 ARRAY, 4 5%, 0.063W	354737-510J4	
R500	100 OHM, 0402, 63mW, 1%	268361-1000	
R501	100 OHM, 0402, 63mW, 1%	268361-1000	
R502	100 OHM, 0402, 63mW, 1%	268361-1000	
R503	10.0K, 0402, 63mW, 1%	268361-1002	
R504	100 OHM, 0402, 63mW, 1%	268361-1000	
R505	100 OHM, 0402, 63mW, 1%	268361-1000	
R506	10.0K, 0402, 63mW, 1%	268361-1002	
R507	5.76K, 0402, 63mW, 1%	268361-5761	
R508	4.75k, 0402, 0.063W, 1%	268361-4751	

WI-FI MODULE PCB PART LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R509	100 OHM, 0402, 63mW, 1%	268361-1000	
R510	100 OHM, 0402, 63mW, 1%	268361-1000	
R511	4.53k, 0402, 0.063W, 1%	268361-4531	
R513	10.0K, 0402, 63mW, 1%	268361-1002	
R514	10.0K, 0402, 63mW, 1%	268361-1002	
R515	10.0K, 0402, 63mW, 1%	268361-1002	
R516	100 OHM, 0402, 63mW, 1%	268361-1000	
R517	10.0K, 0402, 63mW, 1%	268361-1002	
R518	100 OHM, 0402, 63mW, 1%	268361-1000	
R519	100 OHM, 0402, 63mW, 1%	268361-1000	
R520	100 OHM, 0402, 63mW, 1%	268361-1000	
R521	100 OHM, 0402, 63mW, 1%	268361-1000	
R522	56.2K, 0402, 63mW, 1%	268361-5622	
R523	100 OHM, 0402, 63mW, 1%	268361-1000	
R524	1.00K, 0402, 63mW, 1%	268361-1001	
R525	10.0K, 0402, 63mW, 1%	268361-1002	
R528	100 OHM, 0402, 63mW, 1%	268361-1000	
R530	100 OHM, 0402, 63mW, 1%	268361-1000	
R531	100 OHM, 0402, 63mW, 1%	268361-1000	
R532	100 OHM, 0402, 63mW, 1%	268361-1000	
R534	10.0K, 0402, 63mW, 1%	268361-1002	
R535	1.00K, 0402, 63mW, 1%	268361-1001	
R537	100 OHM, 0402, 63mW, 1%	268361-1000	
R539	10.0K, 0402, 63mW, 1%	268361-1002	
R540	301 OHM, 0402, 63mW, 1%	268361-3010	
R541	301 OHM, 0402, 63mW, 1%	268361-3010	
R544	100 OHM, 0402, 63mW, 1%	268361-1000	
R546	100 OHM, 0402, 63mW, 1%	268361-1000	
R547	100 OHM, 0402, 63mW, 1%	268361-1000	
R548	100 OHM, 0402, 63mW, 1%	268361-1000	
R549	56.2K, 0402, 63mW, 1%	268361-5622	
R550	56.2K, 0402, 63mW, 1%	268361-5622	
R551	100 OHM, 0402, 63mW, 1%	268361-1000	
R552	100 OHM, 0402, 63mW, 1%	268361-1000	
R553	56.2K, 0402, 63mW, 1%	268361-5622	
R554	56.2K, 0402, 63mW, 1%	268361-5622	
R555	1.50K, 0402, 63mW, 1%	268361-1501	
R560	56.2K, 0402, 63mW, 1%	268361-5622	
R561	56.2K, 0402, 63mW, 1%	268361-5622	
R562	100 OHM, 0402, 63mW, 1%	268361-1000	
R564	100 OHM, 0402, 63mW, 1%	268361-1000	
R565	100 OHM, 0402, 63mW, 1%	268361-1000	
R566	100 OHM, 0402, 63mW, 1%	268361-1000	
R600	4.53K, 0402, 0.063W, 1%	268361-4531	
R601	10.0K, 0402, 63mW, 1%	268361-1002	
R602	4.53K, 0402, 0.063W, 1%	268361-4531	
R603	340 OHM, 0402, 63mW, 1%	268361-3400	
R604	340 OHM, 0402, 63mW, 1%	268361-3400	
R606	100 OHM, 0402, 63mW, 1%	268361-1000	
R607	10.0K, 0402, 63mW, 1%	268361-1002	
R608	10.0K, 0402, 63mW, 1%	268361-1002	
R609	10.0K, 0402, 63mW, 1%	268361-1002	

WI-FI MODULE PCB PART LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R610	10.0K, 0402, 63mW, 1%	268361-1002	
R611	100 OHM, 0402, 63mW, 1%	268361-1000	
R612	100 OHM, 0402, 63mW, 1%	268361-1000	
R613	100 OHM, 0402, 63mW, 1%	268361-1000	
R614	100 OHM, 0402, 63mW, 1%	268361-1000	
R615	10.0K, 0402, 63mW, 1%	268361-1002	
R616	100 OHM, 0402, 63mW, 1%	268361-1000	
R617	100 OHM, 0402, 63mW, 1%	268361-1000	
R618	1.00K, 0402, 63mW, 1%	268361-1001	
R619	10.0K, 0402, 63mW, 1%	268361-1002	
R620	10.0K, 0402, 63mW, 1%	268361-1002	
R622	100 OHM, 0402, 63mW, 1%	268361-1000	
R657	100 OHM, 0402, 63mW, 1%	268361-1000	
R661	3.32K, 0402, 63mW, 1%	268361-3321	
R662	3.32K, 0402, 63mW, 1%	268361-3321	
R665	10.0K, 0402, 63mW, 1%	268361-1002	
R667	10.0K, 0402, 63mW, 1%	268361-1002	
R668	100 OHM, 0402, 63mW, 1%	268361-1000	
R669	100 OHM, 0402, 63mW, 1%	268361-1000	
R674	100 OHM, 0402, 63mW, 1%	268361-1000	
R675	100 OHM, 0402, 63mW, 1%	268361-1000	
R676	100 OHM, 0402, 63mW, 1%	268361-1000	
R688	100 OHM, 0402, 63mW, 1%	268361-1000	
R700	10.0K, 0402, 63mW, 1%	268361-1002	
R701	10.0K, 0402, 63mW, 1%	268361-1002	
R702	10.0K, 0402, 63mW, 1%	268361-1002	
R800	10.0K, 0402, 63mW, 1%	268361-1002	
R801	10.0K, 0402, 63mW, 1%	268361-1002	
R802	10.0K, 0402, 63mW, 1%	268361-1002	
R1000	3.32K, 0402, 63mW, 1%	268361-3321	
R1001	3.32K, 0402, 63mW, 1%	268361-3321	
R1002	49.9 OHM, 0402, 63mW, 1%	268361-49R9	
R1003	56.2K, 0402, 63mW, 1%	268361-5622	
R1004	100 OHM, 0402, 63mW, 1%	268361-1000	
R1005	100 OHM, 0402, 63mW, 1%	268361-1000	
R1006	100 OHM, 0402, 63mW, 1%	268361-1000	
R1007	100 OHM, 0402, 63mW, 1%	268361-1000	
R1008	100 OHM, 0402, 63mW, 1%	268361-1000	
R1009	100 OHM, 0402, 63mW, 1%	268361-1000	
R1010	100 OHM, 0402, 63mW, 1%	268361-1000	
R1011	100 OHM, 0402, 63mW, 1%	268361-1000	
R1014	100 OHM, 0402, 63mW, 1%	268361-1000	
R1015	100 OHM, 0402, 63mW, 1%	268361-1000	
R1016	100 OHM, 0402, 63mW, 1%	268361-1000	
R1100	3.32K, 0402, 63mW, 1%	268361-3321	
R1101	3.32K, 0402, 63mW, 1%	268361-3321	
R1102	100K, 0402, 63mW, 1%	268361-1003	
R1103	100K, 0402, 63mW, 1%	268361-1003	
R1104	1.0M, 0402, 63mW, 1%	268361-1004	
R1105	1.0M, 0402, 63mW, 1%	268361-1004	
R1106	1.0M, 0402, 63mW, 1%	268361-1004	
R1107	100K, 0402, 63mW, 1%	268361-1003	

WI-FI MODULE PCB PART LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R1108	100K, 0402, 63mW, 1%	268361-1003	
R1111	4.7 OHMS, 0402, 0.063W, 1%	268361-4R70	
R1112	1.00K, 0805, 1/10W, 5%	133626-1025	
R1113	499 OHM, 0805, .125W, 1%	133625-4990	
R1114	4.7 OHMS, 0402, 0.063W, 1%	268361-4R70	
R1115	4.7 OHMS, 0402, 0.063W, 1%	268361-4R70	
R1201	100 OHM, 0402, 63mW, 1%	268361-1000	
R1202	100 OHM, 0402, 63mW, 1%	268361-1000	
R1206	100 OHM, 0402, 63mW, 1%	268361-1000	
R1207	100 OHM, 0402, 63mW, 1%	268361-1000	
R1208	100 OHM, 0402, 63mW, 1%	268361-1000	
R1210	100 OHM, 0402, 63mW, 1%	268361-1000	
R1300	10.0K, 0402, 63mW, 1%	268361-1002	
R1301	0 OHM, JUMPER, 0402	280043	
R1303	100K, 0402, 63mW, 1%	268361-1003	
R1304	100K, 0402, 63mW, 1%	268361-1003	
R1306	215k, 0402, 0.063W, 1%	268361-2153	
R1307	100K, 0402, 63mW, 1%	268361-1003	
R1308	24.0K, 0402, 63mw, 1%	268361-2402	
R1309	10.0K, 0402, 63mW, 1%	268361-1002	
R1310	10.0 OHM, 0402, 63mW, 1%	268361-10R0	
R1313	100K, 0402, 63mW, 1%	268361-1003	
R1314	100K, 0402, 63mW, 1%	268361-1003	
R1315	348K, 0402, 63mW, 1%	268361-3483	
R1316	100K, 0402, 63mW, 1%	268361-1003	
R1317	1 OHM, 0402, 0.063W, 1%	268361-1R00	
R1318	8.25k, 0402, 0.063W, 1%	268361-8251	
R1500	1.50K, 0402, 63mW, 1%	268361-1501	
R1501	51 OHMS, 0402, 0.063W, 1%	268361-51R0	
R1502	51 OHMS, 0402, 0.063W, 1%	268361-51R0	
R1503	1.50K, 0402, 63mW, 1%	268361-1501	
R1504	49.9 OHM, 0805, .125W, 1%	133625-49R9	
R1505	51 OHMS, 0402, 0.063W, 1%	268361-51R0	
R1506	49.9 OHM, 0805, .125W, 1%	133625-49R9	
R1507	274 OHM, 0402, 63mW, 1%	268361-2740	
R1508	274 OHM, 0402, 63mW, 1%	268361-2740	
R1509	75 OHM, 0402, 63mW, 1%	268361-75R0	
R1510	75 OHM, 0402, 63mW, 1%	268361-75R0	
R1539	100 OHM, 0402, 63mW, 1%	268361-1000	
R1540	100 OHM, 0402, 63mW, 1%	268361-1000	
R1541	100 OHM, 0402, 63mW, 1%	268361-1000	
R1542	100 OHM, 0402, 63mW, 1%	268361-1000	
R1548	100 OHM, 0402, 63mW, 1%	268361-1000	
R1549	100 OHM, 0402, 63mW, 1%	268361-1000	
R1550	100 OHM, 0402, 63mW, 1%	268361-1000	
R1553	12.1K, 0402, 63mW, 1%	268361-1212	
R1555	100 OHM, 0402, 63mW, 1%	268361-1000	
R1556	4.75K, 0402, 0.063W, 1%	268361-4751	
R1557	4.75K, 0402, 0.063W, 1%	268361-4751	
R1558	49.9 OHM, 0805, .125W, 1%	133625-49R9	
R1559	49.9 OHM, 0805, .125W, 1%	133625-49R9	
R1561	4.75k, 0402, 0.063W, 1%	268361-4751	

WI-FI MODULE PCB PART LIST

Resistors (continued)

Reference Designator	Description	Material Number	Note
R1562	4.75k, 0402, 0.063W, 1%	268361-4751	
R1564	4.75k, 0402, 0.063W, 1%	268361-4751	
R1566	4.75k, 0402, 0.063W, 1%	268361-4751	
R6100	100 OHM, 0402, 63mW, 1%	268361-1000	
R6102	100 OHM, 0402, 63mW, 1%	268361-1000	
R6103	100 OHM, 0402, 63mW, 1%	268361-1000	
R6111	249k, 0402, 0.063W, 1%	268361-2493	

Capacitors

Reference Designator	Description	Material Number	Note
C138	10pF, COG, 0402, 5%, 50V	268364-100	
C139	10pF, COG, 0402, 5%, 50V	268364-100	
C147	10uF, X5R, 0805, 10V, 10%	354809-106K	
C148	0.1uF, X5R, 0402, 16V, 10%	313771-104C	
C149	100pF, COG, 0402, 5%, 50V	268364-101	
C150	0.22uF, X5R, 0402, 10V, 10%	342199-224	
C151	470pF, COG, 0402, 5%, 50V	268364-471	
C152	10uF, X5R, 0805, 10V, 10%	354809-106K	
C153	10uF, X5R, 0805, 10V, 10%	354809-106K	
C154	10uF, X5R, 0805, 10V, 10%	354809-106K	
C155	10uF, X5R, 0805, 10V, 10%	354809-106K	
C156	0.1uF, X5R, 0402, 16V, 10%	313771-104C	
C157	100pF, COG, 0402, 5%, 50V	268364-101	
C160	6800pF, X7R, 0402, 16V, 10%	293702-682	
C161	6800pF, X7R, 0402, 16V, 10%	293702-682	
C162	6800pF, X7R, 0402, 16V, 10%	293702-682	
C164	470pF, COG, 0402, 5%, 50V	268364-471	
C165	0.22uF, X5R, 0402, 10V, 10%	342199-224	
C167	0.22uF, X5R, 0402, 10V, 10%	342199-224	
C168	10uF, X5R, 0805, 10V, 10%	354809-106K	
C169	100pF, COG, 0402, 5%, 50V	268364-101	
C171	100pF, COG, 0402, 5%, 50V	268364-101	
C172	0.22uF, X5R, 0402, 10V, 10%	342199-224	
C173	0.22uF, X5R, 0402, 10V, 10%	342199-224	
C174	6800pF, X7R, 0402, 16V, 10%	293702-682	
C175	6800pF, X7R, 0402, 16V, 10%	293702-682	
C177	6800pF, X7R, 0402, 16V, 10%	293702-682	
C178	6800pF, X7R, 0402, 16V, 10%	293702-682	
C181	6800pF, X7R, 0402, 16V, 10%	293702-682	
C182	6800pF, X7R, 0402, 16V, 10%	293702-682	
C183	6800pF, X7R, 0402, 16V, 10%	293702-682	
C184	6800pF, X7R, 0402, 16V, 10%	293702-682	
C185	6800pF, X7R, 0402, 16V, 10%	293702-682	
C186	6800pF, X7R, 0402, 16V, 10%	293702-682	
C187	3.3pF, C0G, 0402, 50V, +/-0.25pF	317398-3R3CH	
C188	22pF, COG, 0402, 50V, 5%	268364-220	
C189	47pF, COG, 0402, 50V, 5%	268364-470	
C190	1.8pF, +/-0.1pF, COG, 0402, 50V	317398-1R8BH	
C191	10pF, COG, 0402, 5%, 50V	268364-100	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C192	1000pF, X7R, 0402, 16V, 10%	293702-102	
C193	1000pF, X7R, 0402, 16V, 10%	293702-102	
C194	47pF, COG, 0402, 50V, 5%	268364-470	
C195	18pF, COG, 0402, 5%, 50V	268364-180	
C196	15pF, COG, 0402, 5%, 50V	268364-150	
C197	15pF, COG, 0402, 5%, 50V	268364-150	
C198	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C199	47pF, COG, 0402, 50V, 5%	268364-470	
C200	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C201	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C202	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C203	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C204	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C205	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C206	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C207	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C208	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C209	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C210	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C211	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C212	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C213	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C215	0.1uF, X7R, 0603, 16V, 10%	257154-104K16	
C220	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C222	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C223	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C224	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C225	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C226	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C227	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C233	0.22uF, X5R, 0402, 10V, 10%	342199-224	
C300	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C301	0.1uF, X7R, 0603, 16V, 10%	257154-104K16	
C302	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C303	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C304	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C305	0.1uF, X7R, 0603, 10%, 50V	191470-104	
C307	470pF, X7R, 0402, 50V, 5%	268366-471	
C308	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C309	470pF, X7R, 0402, 50V, 5%	268366-471	
C310	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C311	1uF, X7R, 0603, 16V, 10%	257154-105K16	
C312	470pF, X7R, 0402, 50V, 5%	268366-471	
C314	1500pF, X7R, 0402, 16V, 10%	293702-152	
C315	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C317	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C318	1500pF, X7R, 0402, 16V, 10%	293702-152	
C319	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	
C320	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C321	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	
C323	1500pF, X7R, 0402, 16V, 10%	293702-152	
C324	0.1uF, X7R, 0402, 16V, 10%	293702-104	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C326	1500pF, X7R, 0402, 16V, 10%	293702-152	
C328	1500pF, X7R, 0402, 16V, 10%	293702-152	
C330	1500pF, X7R, 0402, 16V, 10%	293702-152	
C332	1500pF, X7R, 0402, 16V, 10%	293702-152	
C334	1500pF, X7R, 0402, 16V, 10%	293702-152	
C335	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C338	1500pF, X7R, 0402, 16V, 10%	293702-152	
C340	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C341	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C342	1500pF, X7R, 0402, 16V, 10%	293702-152	
C343	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C344	1500pF, X7R, 0402, 16V, 10%	293702-152	
C346	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C347	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C348	1500pF, X7R, 0402, 16V, 10%	293702-152	
C349	1500pF, X7R, 0402, 16V, 10%	293702-152	
C352	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C353	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C354	1500pF, X7R, 0402, 16V, 10%	293702-152	
C355	1500pF, X7R, 0402, 16V, 10%	293702-152	
C357	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C358	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C359	1500pF, X7R, 0402, 16V, 10%	293702-152	
C361	1500pF, X7R, 0402, 16V, 10%	293702-152	
C363	1500pF, X7R, 0402, 16V, 10%	293702-152	
C364	1500pF, X7R, 0402, 16V, 10%	293702-152	
C367	1500pF, X7R, 0402, 16V, 10%	293702-152	
C368	1500pF, X7R, 0402, 16V, 10%	293702-152	
C370	1500pF, X7R, 0402, 16V, 10%	293702-152	
C371	1500pF, X7R, 0402, 16V, 10%	293702-152	
C373	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C374	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C376	470pF, X7R, 0402, 50V, 5%	268366-471	
C377	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C378	470pF, X7R, 0402, 50V, 5%	268366-471	
C379	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C380	0.1uF, X7R, 0603, 16V, 10%	257154-104K16	
C381	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C382	0.1uF, X7R, 0603, 16V, 10%	257154-104K16	
C383	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	
C384	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	
C385	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C386	0.1uF, X7R, 0603, 16V, 10%	257154-104K16	
C400	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C401	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C402	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C403	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C404	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C405	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C406	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C407	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C408	0.1uF, X7R, 0402, 16V, 10%	293702-104	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C409	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C410	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C411	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C412	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C413	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C414	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C415	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C416	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C417	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C418	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C419	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C420	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C421	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C422	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C423	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C424	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C425	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C426	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C427	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C428	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C429	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C430	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C431	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C432	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	
C433	22uF, X5R, 0805, 6.3V, 20%	273592-226JM	
C434	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C435	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C500	0.1uF, X7R, 0603, 10%, , 50V	191470-104	
C501	100pF, COG, 0402, 5%, 50V	268364-101	
C502	100pF, COG, 0402, 5%, 50V	268364-101	
C503	100pF, COG, 0402, 5%, 50V	268364-101	
C504	0.1uF, X5R, 0402, 16V, 10%	313771-104C	
C505	100pF, COG, 0402, 5%, 50V	268364-101	
C506	0.1uF, X5R, 0402, 16V, 10%	313771-104C	
C507	15nF, X7R, 0402, 16V, 5%	296732-153	
C508	15nF, X7R, 0402, 16V, 5%	296732-153	
C509	100pF, COG, 0402, 5%, 50V	268364-101	
C510	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C511	100pF, COG, 0402, 5%, 50V	268364-101	
C512	100pF, COG, 0402, 5%, 50V	268364-101	
C513	100pF, COG, 0402, 5%, 50V	268364-101	
C514	100pF, COG, 0402, 5%, 50V	268364-101	
C515	1000pF, COG, 0402, 5%, 50V	268364-102	
C516	100pF, COG, 0402, 5%, 50V	268364-101	
C517	100pF, COG, 0402, 5%, 50V	268364-101	
C518	0.1uF, X5R, 0402, 16V, 10%	313771-104C	
C519	0.1uF, X5R, 0402, 16V, 10%	313771-104C	
C521	1000pF, COG, 0402, 5%, 50V	268364-102	
C600	100pF, COG, 0402, 5%, 50V	268364-101	
C601	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C602	100pF, COG, 0402, 5%, 50V	268364-101	
C603	100pF, COG, 0402, 5%, 50V	268364-101	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C604	100pF, COG, 0402, 5%, 50V	268364-101	
C607	100pF, COG, 0402, 5%, 50V	268364-101	
C700	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C701	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C702	10nF, X7R, 0402, 25V, 5%	268367-103	
C703	10nF, X7R, 0402, 25V, 5%	268367-103	
C704	10nF, X7R, 0402, 25V, 5%	268367-103	
C705	10nF, X7R, 0402, 25V, 5%	268367-103	
C706	100pF, COG, 0402, 5%, 50V	268364-101	
C707	100pF, COG, 0402, 5%, 50V	268364-101	
C708	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C709	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C710	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C711	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C712	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C713	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C714	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C715	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C716	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C717	1000pF, COG, 0402, 5%, 50V	268364-102	
C718	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C719	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C720	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C721	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C746	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C748	10nF, X7R, 0402, 25V, 5%	268367-103	
C749	10nF, X7R, 0402, 25V, 5%	268367-103	
C750	10nF, X7R, 0402, 25V, 5%	268367-103	
C751	10nF, X7R, 0402, 25V, 5%	268367-103	
C752	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C768	10nF, X7R, 0402, 25V, 5%	268367-103	
C769	10nF, X7R, 0402, 25V, 5%	268367-103	
C771	10nF, X7R, 0402, 25V, 5%	268367-103	
C772	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C773	10nF, X7R, 0402, 25V, 5%	268367-103	
C774	10nF, X7R, 0402, 25V, 5%	268367-103	
C775	10nF, X7R, 0402, 25V, 5%	268367-103	
C776	10nF, X7R, 0402, 25V, 5%	268367-103	
C777	10nF, X7R, 0402, 25V, 5%	268367-103	
C778	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C779	10nF, X7R, 0402, 25V, 5%	268367-103	
C780	10nF, X7R, 0402, 25V, 5%	268367-103	
C781	10nF, X7R, 0402, 25V, 5%	268367-103	
C782	10nF, X7R, 0402, 25V, 5%	268367-103	
C783	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C784	10nF, X7R, 0402, 25V, 5%	268367-103	
C785	10nF, X7R, 0402, 25V, 5%	268367-103	
C786	10nF, X7R, 0402, 25V, 5%	268367-103	
C787	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C788	10nF, X7R, 0402, 25V, 5%	268367-103	
C789	10nF, X7R, 0402, 25V, 5%	268367-103	
C790	10nF, X7R, 0402, 25V, 5%	268367-103	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C791	10nF, X7R, 0402, 25V, 5%	268367-103	
C792	10nF, X7R, 0402, 25V, 5%	268367-103	
C793	10nF, X7R, 0402, 25V, 5%	268367-103	
C794	10nF, X7R, 0402, 25V, 5%	268367-103	
C795	10nF, X7R, 0402, 25V, 5%	268367-103	
C796	10nF, X7R, 0402, 25V, 5%	268367-103	
C797	10nF, X7R, 0402, 25V, 5%	268367-103	
C798	10nF, X7R, 0402, 25V, 5%	268367-103	
C799	10nF, X7R, 0402, 25V, 5%	268367-103	
C900	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C901	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C902	0.01uF, X7R, 0402, 16V, 10%	293702-103	
C1003	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1006	3.3uF, X5R, 0603, 20%, 6.3V	313766-335J	
C1007	3.3uF, X5R, 0603, 20%, 6.3V	313766-335J	
C1009	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1011	12pF, C0G, 0402, 5%, 50V	268364-120	
C1012	15pF, COG, 0402, 5%, 50V	268364-150	
C1013	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1014	220pF, COG, 0402, 5%, 50V	268364-221	
C1015	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1016	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C1017	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1018	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1019	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1020	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1021	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C1022	220pF, COG, 0402, 5%, 50V	268364-221	
C1023	220pF, COG, 0402, 5%, 50V	268364-221	
C1024	0.1uF, X7R, 0402, 16V, 10%	293702-104	
C1025	47pF, COG, 0402, 50V, 5%	268364-470	
C1026	1uF, X5R, 0402, 10%, 10V	313771-105A	
C1027	47pF, COG, 0402, 50V, 5%	268364-470	
C1028	1000pF, COG, 0402, 5%, 50V	268364-102	
C1029	100pF, COG, 0402, 5%, 50V	268364-101	
C1030	100pF, COG, 0402, 5%, 50V	268364-101	
C1031	100pF, COG, 0402, 5%, 50V	268364-101	
C1032	100pF, COG, 0402, 5%, 50V	268364-101	
C1100	3.3uF, X5R, 0603, 20%, 6.3V	313766-335J	
C1101	470pF, X7R, 0402, 50V, 5%	268366-471	
C1102	470pF, X7R, 0402, 50V, 5%	268366-471	
C1103	22pF, COG, 0402, 50V, 5%	268364-220	
C1104	150pF, X7R, 0402, 16V, 10%	293702-151	
C1105	0.1uF, X7R, 0603, 10%, , 50V	191470-104	
C1107	150pF, X7R, 0402, 16V, 10%	293702-151	
C1108	150pF, X7R, 0402, 16V, 10%	293702-151	
C1109	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1110	150pF, X7R, 0402, 16V, 10%	293702-151	
C1111	150pF, X7R, 0402, 16V, 10%	293702-151	
C1112	0.1uF, X7R, 0603, 10%, , 50V	191470-104	
C1113	150pF, X7R, 0402, 16V, 10%	293702-151	
C1114	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C1115	1000pF, COG, 0402, 5%, 50V	268364-102	
C1116	1000pF, COG, 0402, 5%, 50V	268364-102	
C1117	3.3uF, X5R, 0603, 20%, 6.3V	313766-335J	
C1200	100pF, COG, 0402, 5%, 50V	268364-101	
C1201	1000pF, COG, 0402, 5%, 50V	268364-102	
C1202	100pF, COG, 0402, 5%, 50V	268364-101	
C1203	100pF, COG, 0402, 5%, 50V	268364-101	
C1204	100pF, COG, 0402, 5%, 50V	268364-101	
C1205	100pF, COG, 0402, 5%, 50V	268364-101	
C1206	100pF, COG, 0402, 5%, 50V	268364-101	
C1207	100pF, COG, 0402, 5%, 50V	268364-101	
C1208	100pF, COG, 0402, 5%, 50V	268364-101	
C1209	100pF, COG, 0402, 5%, 50V	268364-101	
C1210	100pF, COG, 0402, 5%, 50V	268364-101	
C1211	100pF, COG, 0402, 5%, 50V	268364-101	
C1212	100pF, COG, 0402, 5%, 50V	268364-101	
C1213	100pF, COG, 0402, 5%, 50V	268364-101	
C1214	100pF, COG, 0402, 5%, 50V	268364-101	
C1215	100pF, COG, 0402, 5%, 50V	268364-101	
C1216	100pF, COG, 0402, 5%, 50V	268364-101	
C1217	100pF, COG, 0402, 5%, 50V	268364-101	
C1218	100pF, COG, 0402, 5%, 50V	268364-101	
C1221	100pF, COG, 0402, 5%, 50V	268364-101	
C1222	100pF, COG, 0402, 5%, 50V	268364-101	
C1223	100pF, COG, 0402, 5%, 50V	268364-101	
C1224	100pF, COG, 0402, 5%, 50V	268364-101	
C1225	100pF, COG, 0402, 5%, 50V	268364-101	
C1226	4.7uF, CER, 1210, X7R, 25V	291431-475	
C1227	100pF, COG, 0402, 5%, 50V	268364-101	
C1228	100pF, COG, 0402, 5%, 50V	268364-101	
C1229	100pF, COG, 0402, 5%, 50V	268364-101	
C1230	100pF, COG, 0402, 5%, 50V	268364-101	
C1231	100pF, COG, 0402, 5%, 50V	268364-101	
C1232	100pF, COG, 0402, 5%, 50V	268364-101	
C1233	100pF, COG, 0402, 5%, 50V	268364-101	
C1234	100pF, COG, 0402, 5%, 50V	268364-101	
C1235	100pF, COG, 0402, 5%, 50V	268364-101	
C1236	1000pF, COG, 0402, 5%, 50V	268364-102	
C1237	1000pF, COG, 0402, 5%, 50V	268364-102	
C1300	100nF, X7R, 0402, 16V, 5%	296732-104	
C1301	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1302	4.7uF, X5R, 0402, 20%, 4V	313771-475GM	
C1303	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C1304	4.7uF, X5R, 0402, 20%, 4V	313771-475GM	
C1305	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C1306	4.7uF, X5R, 0402, 20%, 4V	313771-475GM	
C1307	10uF, X5R, 0603, 6.3V, 20%	313766-106J	
C1308	4.7uF, X5R, 0402, 20%, 4V	313771-475GM	
C1309	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1310	4.7uF, X5R, 0402, 20%, 4V	313771-475GM	
C1311	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1312	4.7uF, X5R, 0402, 20%, 4V	313771-475GM	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C1313	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1314	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1315	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1316	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1317	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1318	4.7uF, CER, 1210, X7R, 25V	291431-475	
C1319	0.1uF, X7R, 0603, 10%, 50V	304991-104	
C1320	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1321	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1322	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1323	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1324	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1325	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1326	2.2uF, X5R, 0402, 6.3V, 20%	329485-225M	
C1328	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1329	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1330	10uF, X5R, 0603, , 6.3V, 20%	313766-106J	
C1331	100nF, X7R, 0402, 16V, 5%	296732-104	
C1332	100nF, X7R, 0402, 16V, 5%	296732-104	
C1333	1uF, X5R, 0402, 10%, 10V	313771-105A	
C1335	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1336	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1337	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1338	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1339	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1340	1000pF, X7R, 0402, 16V, 10%	293702-102	
C1500	1000pF, COG, 0402, 5%, 50V	268364-102	
C1501	1000pF, COG, 0402, 5%, 50V	268364-102	
C1502	100pF, COG, 0402, 5%, 50V	268364-101	
C1503	1000pF, COG, 0402, 5%, 50V	268364-102	
C1508	0.1uF, X7r, 0603, 10%, 50V	191470-104	
C1509	0.1uF, X7r, 0603, 10%, 50V	191470-104	
C1510	470pF, X7R, 0402, 50V, 5%	268366-471	
C1511	4.7uF, X5R, 0603, 10V, 20%	313766-475A	
C1512	1uF, 0805, X7R, 10%, 25V	181264-105	
C1513	0.1uF, X7r, 0603, 10%, 50V	191470-104	
C1514	0.1uF, X7r, 0603, 10%, 50V	191470-104	
C1515	10uF, 1206, X7R, 10V, 10%	260361-1062	
C1516	0.1uF, X7R, 0603, 10%, , 50V	191470-104	
C1517	1.0nF, 0603, COG, SMD, 25V, 5%,	268368-102	
C1518	1.0nF, 0603, COG, SMD, 25V, 5%,	268368-102	
C1519	1000pF, X7R, 1206, 2000V, 20%	359294-102M	
C7100	10nF, X7R, 0402, 25V, 5%	268367-103	
C7101	10nF, X7R, 0402, 25V, 5%	268367-103	
C7102	10nF, X7R, 0402, 25V, 5%	268367-103	
C7103	10nF, X7R, 0402, 25V, 5%	268367-103	
C7104	10nF, X7R, 0402, 25V, 5%	268367-103	
C7105	10nF, X7R, 0402, 25V, 5%	268367-103	
C7106	10nF, X7R, 0402, 25V, 5%	268367-103	
C7107	10nF, X7R, 0402, 25V, 5%	268367-103	
C7108	10nF, X7R, 0402, 25V, 5%	268367-103	
C7109	10nF, X7R, 0402, 25V, 5%	268367-103	

WI-FI MODULE PCB PART LIST

Capacitors (continued)

Reference Designator	Description	Material Number	Note
C7110	10nF, X7R, 0402, 25V, 5%	268367-103	
C7111	10nF, X7R, 0402, 25V, 5%	268367-103	
C7112	10nF, X7R, 0402, 25V, 5%	268367-103	
C7113	10nF, X7R, 0402, 25V, 5%	268367-103	

Diodes

Reference Designator	Description	Material Number	Note
D500	SOT-23, BAV 99	147239	
D501	SOT-23, BAV 99	147239	
D502	SOT-23, BAV 99	147239	
D601	SOT-23, BAV 99	147239	
D1000	SOT-23, BAV 99	147239	
D1001	SOT-23, BAV 99	147239	
D1101	SWITCHING, 100V, BAV99, SOT363	319113-001	
D1200	SOT-23, BAV 99	147239	
D1201	SOT-23, BAV 99	147239	
D1300	SCHTKY, SC70, 30V, SINGLE	268381-001	
D1301	SCHOTTKY, DUAL, SERIES, 20V, SOT-23	342827-0010	
D1302	SCHTKY, SC70, 30V, SINGLE	268381-001	
DS601	DUAL, LED, RED, GRN, CM_ANOD	316292-001	
VR1100	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR1101	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	
VR1102	DIODE, TVS, ESD, 24VDC, 0603	352782-0010	

Transistors

Reference Designator	Description	Material Number	Note
Q500	BPLR, N, 40V, 200mA, SOT23	146819	
Q501	MOSFET, P-CH, 3.8A, 30V, SOT-23	348008-0010	
Q600	BPLR, P, 40V, 200mA, SOT23	148596	
Q601	N, MFET, 2.5V, SOT-23	252043	
Q602	BPLR, P, 40V, 200mA, SOT23	148596	
Q1300	MOSFET, N-CHAN, 2N7002, SOT523	309607-001	

Integrated Circuits

Reference Designator	Description	Material Number	Note
U5	POWER AMP, 2.4GHz, SST12LP15A, 16VQFN	353372-0010	
U7	RF TRANSCEIVER, 2.4GHz, T6201C, QFN48	353400-0010	
U8	FILTER, BALUN, 2.4GHz, HHM1711D1, 0603-6	353392-0010	
U22	FILTER, BANDPASS, 0603-4, 2.4GHz	353361-0010	
U23	FILTER, BANDPASS, 0603-4, 2.4GHz	353361-0010	
U28	ANALOG SW, 6GHz, DPDT, HWS410, 12QFN	353365-0010	
U100	IC, SoC, MEDIA PROC, DM870A, 320LFBGA	354024-0010	
U100A	PAD, THERMAL, CONDUCTIVE	371259-0010	
U200	MEM, FLASH, NOR, 3.6V, 70nS, 64Mb, 64LFBGA	NOT AVAILABLE	

WI-FI MODULE PCB PART LIST

Integrated Circuits (continued)

Reference Designator	Description	Material Number	Note
U203	MEM, SDRAM, 3.3V, 167MHz, 128Mb, VFBGA54	353272-0082	
U203A	PAD, THERMAL, CONDUCTIVE	371259-0010	
U301	CODEC, AUDIO, W/DSP, 32b, 192kHz, 40WQFN	353341-0010	
U401	MEM, SDRAM, DDR3, 64Mbx16, 1.25nS, 96FBGA	353178-0010	
U401A	PAD, THERMAL, CONDUCTIVE	371259-0010	
U402	MEM, FLASH, NAND, 1.8V, 2GbX8, 63VFBGA	NOT AVAILABLE	
U500	SOC, ARM A8, 105C, 1.1V, 600MHz, 324PBGA	369713-0040	
U500A	PAD, THERMAL, CONDUCTIVE	371259-0010	
U501	AUTHC, COPROCESSOR, APPLE, 2.0C	351292-0010	
U502	BUFFER, NON-INV, SINGLE, 74VHC1G125, SC70	347398-0010	
U503	V LEVEL, TRANSLATOR, CONFIG., SOT-23	326120-0010	
U602	SCHMITT TRIGGER, INVERT, 5V	310791-001	
U604	INVERTER, DUAL,50mA, 5V	280293-001	
U700	LINEAR REG, TPS51200, DDR TERMINATION	319515-001	
U1000	SoC, BLUETOOTH, 2.4GHz, CC2540F256, 40QFN	NOT AVAILABLE	
U1101	DAC, 192kHz, 24Bit, 2ch, AK4384	299344-001	
U1105	STEREO ADC, 24-Bit, 192kHz	307160-001	
U1200	INVERTER, DUAL, 50MA, 5V	280293-001	
U1300	PWR MNGMT, Li-ION, TPS650250, 32QFN	347568-0010	
U1301	LOGIC,SCHMITT INV,DUAL,74LVC2G14,SC70	310351-002	
U1302	VOLT REG, SW, ADJ, DC-DC, TPS65910, 48QFN	354002-0010	
U1500	ETHERNET, PHYSICAL, LAN, TxRx, 24-QFN	353306-0010	

Inductors

Reference Designator	Description	Material Number	Note
L18	120 OHMS, FERRITE, BEAD, 0603, BLM18P	302257-121	
L22	HI FREQ, 0402, 125C, 4.7nH	354810-4R7S	
L24	HI FREQ, 0402, 125C, 1.8nH	354810-1R8S	
L38	0 OHM, JUMPER, 0402	280043	
L1200	0504, 90 OHMS, 150mA, C- MODE	324381-090D	
L1300	POWER, 2520, 125C, 20%, 4.7uH	348739-4R7M	
L1301	POWER, 2520, 125C, 20%, 2.2uH	348739-2R2M	
L1302	POWER, 2520, 125C, 20%, 2.2uH	348739-2R2M	
L1303	POWER, 2520, 125C, 20%, 2.2uH	348739-2R2M	
L1304	POWER, 2520, 125C, 20%, 2.2uH	348739-2R2M	
L1305	POWER, 2520, 125C, 20%, 2.2uH	348739-2R2M	
L1306	POWER, 2520, 125C, 20%, 2.2uH	348739-2R2M	

Ferrite Beads

Reference Designator	Description	Material Number	Note
FB300	BEAD, FERRITE, 0805, 1.5A, 330OHM	267539-331	
FB301	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
FB302	FERRITE BEAD, CHIP, 0603, 120 OHM	259925-121	
FB303	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
FB304	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
FB305	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
FB306	FERRITE BEAD, CHIP, 0603, 120 OHM	259925-121	

WI-FI MODULE PCB PART LIST

Ferrite Beads

Reference Designator	Description	Material Number	Note
FB307	BEAD, FERRITE, 0805, 1.5A, 330OHM	267539-331	
FB900	120 OHM, BEAD, FERRITE, 0402, 0.3A	324216-121B	
FB1100	120 OHM, BEAD, FERRITE, 0402, 0.3A	324216-121B	
FB1101	120 OHM, BEAD, FERRITE, 0402, 0.3A	324216-121B	
FB1102	BEAD, FERRITE, 0402, 120 OHM, 0.3A	324216-121B	
FB1103	BEAD, FERRITE, 0402, 120 OHM, 0.3A	324216-121B	
FB1104	120 OHM, BEAD, FERRITE, 0402, 0.3A	324216-121B	
FB1106	BEAD, FERRITE, 0402, 120 OHM, 0.3A	324216-121B	
FB1107	BEAD, FERRITE, 0402, 120 OHM, 0.3A	324216-121B	
FB1202	120 OHM, FERRITE BEAD, CHIP, 0603	259925-121	
FB1203	FERRITE BEAD, CHIP, 0603, 120 OHM	259925-121	
FB1300	120 OHM, FERRITE BEAD, 1206	326348-121	
FB1502	FERRITE BEAD, CHIP, 0603, 120 OHM	259925-121	
FB1503	BEAD, FERRITE, 0805, 1.5A, 330OHM	267539-331	

Miscellaneous

Reference Designator	Description	Material Number	Note
FL1000	FILTER, CERAMIC, BAND PASS, 2.45GHz, 0603-6	354643-0010	
J900	CONN., RF, COAXIAL, WITH SWITCH	316679-001	
J1200	CONN, FFC, 0.5mm, S ENTRY, 10POS, IVRY	349234-0010	
J1201	CONN, FFC, 0.5mm, S ENTRY, 31POS, W/SHIELD	310623-031	
J1202	CONN, FFC, 0.5mm, SMT, S ENTRY, 12 POS, IVRY	349234-0012	
J1203	CONN, FFC, 0.5mm, S ENTRY, 40 POS	310573-040	
CON3	CONN., RF, COAXIAL, WITH SWITCH	316679-001	
CON4	CONN., RF, COAXIAL, WITH SWITCH	316679-001	
SHLD1	SHIELD, RF MODULE, TOP FRAME	353966-0010	
SHLD1-TOP	SHIELD, RF MODULE, TOP COVER	353965-0010	
SHLD2-BOT	SHIELD, RF MODULE, BOTTOM COVER	353967-0010	
SHLD300	SHIELD, FENCE, DSP	355254-0010	
SHLD300-TOP	SHIELD, COVER, DSP	355249-0010	
SHLD301-BOT	SHIELD, COVER, DSP	355249-0010	
SHLD400	SHIELD, FENCE, BT, TOP	355262-0010	
SHLD400-TOP	SHEILD, COVER, BT, TOP	355261-0010	
SHLD401-BOT	SHIELD, COVER, BT, BOTTOM	355257-0010	
W1	47pF, COG, 0402, 50V, 5%	268364-470	
W1000	0 OHM, JUMPER, 0402	280043	
W1001	0 OHM, JUMPER, 0402	280043	
W1003	0 OHM, JUMPER, 0402	280043	
W1004	0 OHM, JUMPER, 0402	280043	
W1103	0 OHM, JUMPER, 0402	280043	
W1104	0 OHM, JUMPER, 0402	280043	
W1105	0 OHM, JUMPER, 0402	280043	
W1300	0 OHM, JUMPER, 0402	280043	
W1301	0 OHM, JUMPER, 0402	280043	
W1302	0 OHM, JUMPER, 0402	280043	

WI-FI MODULE PCB PART LIST

Miscellaneous (continued)

Reference Designator	Description	Material Number	Note
W1303	0 OHM, JUMPER, 0402	280043	
W1304	0 OHM, JUMPER, 0402	280043	
W1305	0 OHM, JUMPER, 0402	280043	
W1308	0 OHM, JUMPER, 0402	280043	
W1309	0 OHM, JUMPER, 0402	280043	
W1310	0 OHM, JUMPER, 0402	280043	
W1312	0 OHM, JUMPER, 0402	280043	
W1313	0 OHM, JUMPER, 0402	280043	
W1315	0 OHM, JUMPER, 0402	280043	
W1316	JUMPER, CHIP, 0603	196042	
W1317	JUMPER, CHIP, 0603	196042	
W1319	0 OHM, JUMPER, 0402	280043	
W1320	0 OHM, JUMPER, 0402	280043	
W1321	0 OHM, JUMPER, 0402	280043	
W1322	0 OHM, JUMPER, 0402	280043	
W1500	0 OHM, JUMPER, 0402	280043	
W2	47pF, COG, 0402, 50V, 5%	268364-470	
W503	0 OHM, JUMPER, 0402	280043	
W700	0 OHM, JUMPER, 0402	280043	
W900	0 OHM, JUMPER, 0402	280043	
W901	0 OHM, JUMPER, 0402	280043	
X1000	CRYSTAL, FUND, 12pF, +/-12PPM, 32MHz	291429-026	
X500	CRYSTAL, FUND, 12pF, +/-50PPM, 24MHz	291429-027	
XFMR1500	TRANSFORMER, CHOKE, 10/100BASE-T, SMT	356073-0010	
Y3	CRYSTAL, SMT, +/-10PPM, 50MHz	353398-0010	

BUTTON PCB PART LIST

All Components

Reference Designator	Description	Material Number	Note
J300	CONN, FFC, 0.5mm, S ENTRY, 10POS, IVRY	349234-0010	
VR300	TVS, ESD, 24VDC, 0603	352782-0010	
VR301	TVS, ESD, 24VDC, 0603	352782-0010	
VR302	TVS, ESD, 24VDC, 0603	352782-0010	
VR303	TVS, ESD, 24VDC, 0603	352782-0010	
VR304	TVS, ESD, 24VDC, 0603	352782-0010	
VR305	TVS, ESD, 24VDC, 0603	352782-0010	
VR306	TVS, ESD, 24VDC, 0603	352782-0010	

DISASSEMBLY PROCEDURE

1. Bottom Cover Removal

1.1 Remove the 6 screws indicated in Figure 3.

1.2 Lift off the bottom cover.

2. I/O PCB Removal

2.1 Perform procedure 1 first.

2.2 Remove the FFC from connector J606. Figure 4

2.3 Remove the four screws securing the I/O PCB. Figure 4

2.4 Lift up the I/O PCB and disconnect the cable harness from J610. Figure 5

2.5 Disconnect the FFC from J607. Figure 5

2.6 Press on J605's two connector release tabs and carefully pull out the FFC. Figure 5.

3. Side Panel Removal

3.1 Perform procedure 1 first.

3.2 Grasp the side panel and slide it upward to remove the side panel from the enclosure. Figure 6.

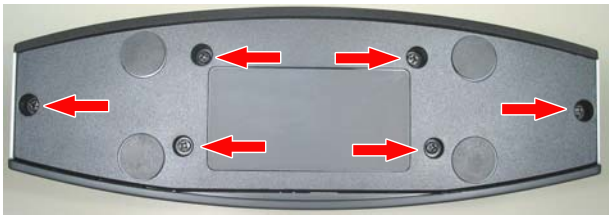


Figure 3. Bottom Cover

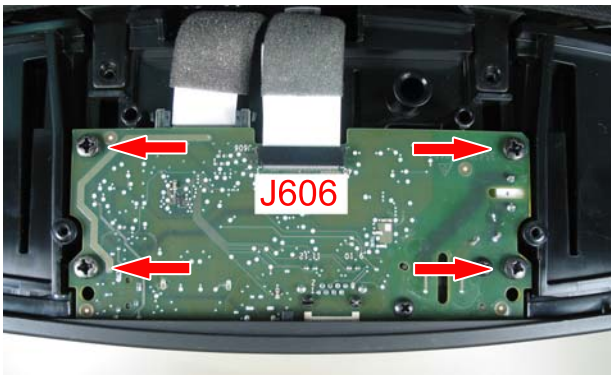


Figure 4. I/O PCB

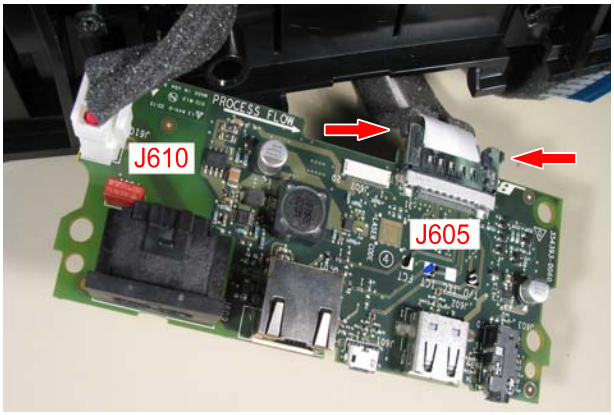


Figure 5. I/O PCB - Cables

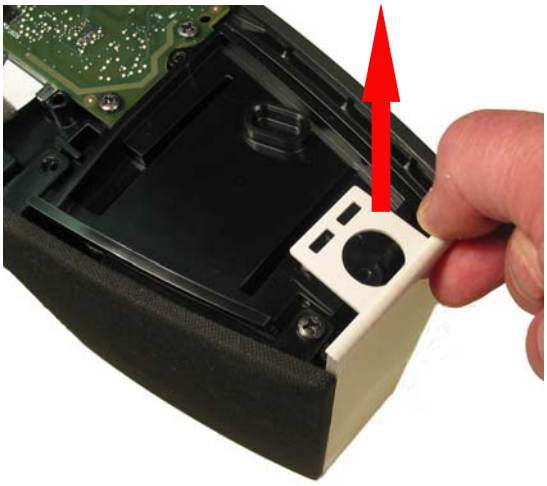


Figure 6. Side Panel

DISASSEMBLY PROCEDURE

4. Grille and Top Cover Removal

4.1 Perform procedures 1 and 3 first.

4.2 Remove the two screws securing the grille assembly to the bottom of the matrix. Figure 7.

4.3 Remove the two screws, on either side, securing the grille assembly to the side of the matrix. Figure 8.

4.4 With the unit on its back, lift up on the lower part of the grille and rotate it backward until grille and top cover are disengaged. Figure 9.

4.5 Remove the FFC from the button and display PCB. Figure 10.
! Important Note: Take ESD precautions when disconnecting the OLED display. Refer to page 4 for ESD precautions.

Figure 7. Grill and Top Cover Removal, Bottom Screws

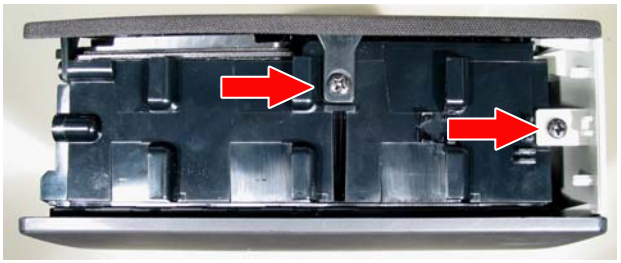


Figure 8. Grill and Top Cover Removal, Side Screws.

Figure 9. Grill and Top Cover Removal

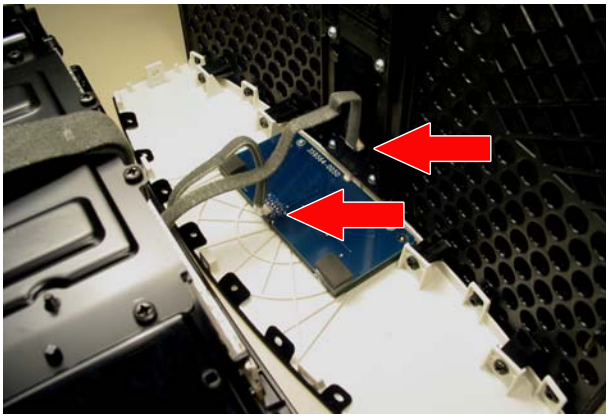


Figure 10. Button and Display PCB FFC

DISASSEMBLY PROCEDURE

5. Button PCB Removal

5.1 Perform procedure 4 first.

5.2 Remove the four screws securing the button PCB to the top cap. Slightly lift up the foam to expose to the two screws furthest from the grille. Figure 11.

6. Display Assembly Removal

6.1 Perform procedure 4 first.

6.2 Remove the six screws securing the display assembly to the grille. Lift out the display assembly. Figure 12.

! Important Note: Take ESD precautions when connecting or disconnecting the OLED display. Refer to page 4 for ESD precautions.

Important Note: The display assembly must be replaced with the display assembly listed in the main part list. There are different OLEDs that need to match the display PCB. The display assembly listed in the main part list uses a matched OLED and display PCB.

7. Wi-Fi Module Removal

7.1 Perform procedure 4 first.

7.2 Remove the FFC from J1202 and J1203. Figure 13.

7.3 Remove the three screws securing the Wi-Fi Module to the matrix and lift out the Wi-Fi Module. Figure 14.

7.4 Remove the FFC from J1200. Press on J1201's two connector release tabs and carefully pull out the FFC. Figure 14.

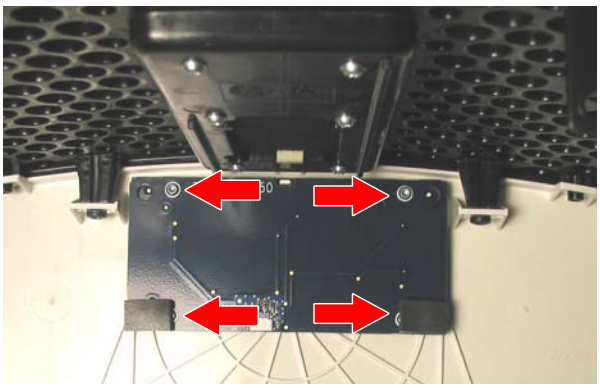


Figure 11. Button PCB Removal

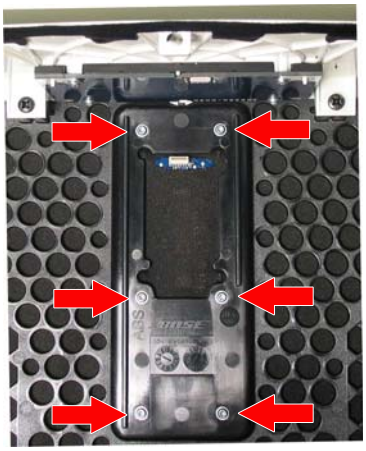


Figure 12. Display Assembly Removal

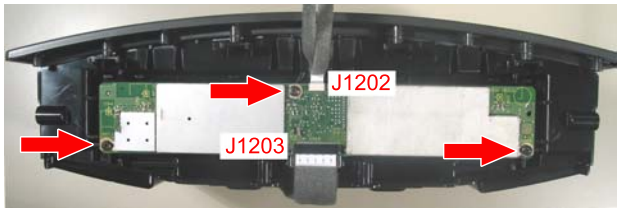


Figure 13. Wi-Fi Module Removal

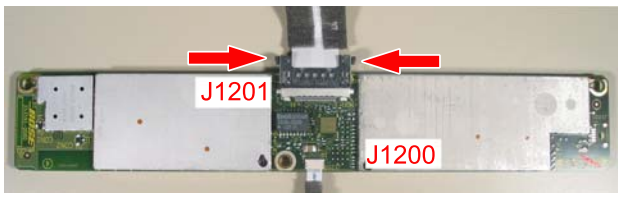


Figure 14. Wi-Fi Module, Cables

DISASSEMBLY PROCEDURE

8. Baffle and Driver Removal

8.1 Perform procedure 4 first.

8.2 Perform procedure 2 (remove I/O PCB) in order to remove the two FFC cables running in front of the baffle.

8.3 Remove the 16 screws securing the baffle to the matrix. Figure 15.

8.4 The baffle gasket might cause it to stick to the matrix. Using a flat tool, slightly pry up on the top edges. Lift up the top edge of the baffle. Figure 15 and 16.
Note: If the baffle gasket peals away from the baffle, a new baffle with gasket should be used to prevent air leaks. Item 26 in the main part list.

8.5 Disconnect the amp/power supply harness J200. Disconnect the driver harness connectors J302 and J303. Figure 16.

8.6 Remove the drivers from the enclosure. Lift out the baffle with amp/power supply PCB connected.

9. Amp/Power Supply PCB Removal

9.1 Perform procedure 8 first.

9.2 Remove the four screws securing the amp/power supply shield. Figure 17.

9.3 Remove the two screws securing the amp/power supply to the baffle. Lift out the amp/power supply PCB. Figure 18.

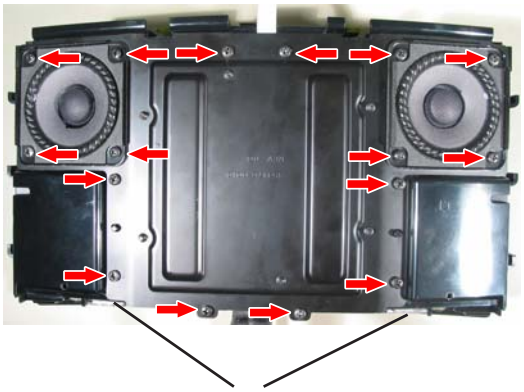


Figure 15. Baffle Removal

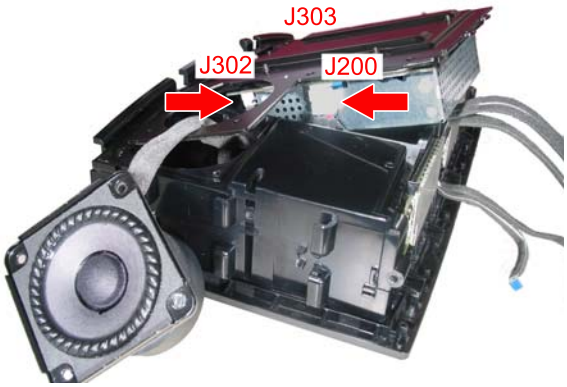


Figure 16. Baffle Lifted

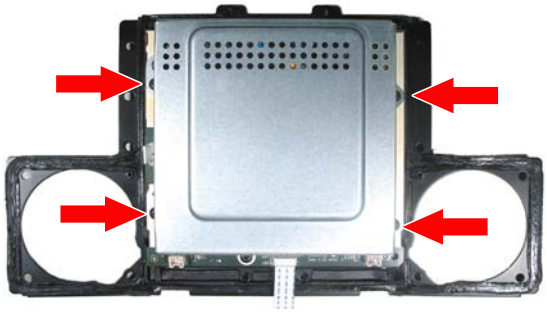


Figure 17. Amp/Power Supply Shield

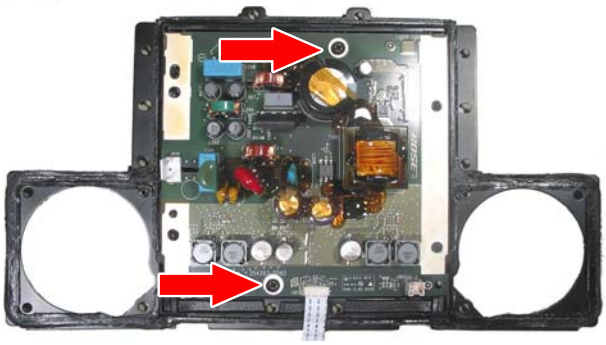


Figure 18. Amp/Power Supply PCB

ASSEMBLY KEY POINTS

1. Replacing Drivers

1.1 Loop the driver harness through the baffle and the enclosure as shown in Figure 19.

1.2 Connect the driver harnesses to the amp/power supply PCB.

1.3 Secure the drivers and baffle with the screws removed in disassembly procedure 4. The driver's lower inner screws drives into the metal baffle and are different than the other 14 screws that drive into the plastic enclosure. These two screws have a machine thread - item 20 in the Main Part list. Figure 20.
Note: If the baffle gasket pealed away from the baffle, replace with a new baffle to prevent air leaks. Item 26 in the main part list.

2. FFC Dressing

2.1 Before securing the I/O PCB or Wi-Fi module, connect the FFCs to ensure they are fully inserted. It is difficult to connect the FFCs when the PCB is secured in place.

2.2 The FFC connecting the top connector on the I/O PCB (J606) to the top connector on the Wi-Fi module (J1203) should lay on top of the other FFC running between the two PCBs and over the baffle.

2.3 When properly dressed, the two cables should have a crossing pattern as shown in Figure 21. Failure to properly dress these cables will cause stress on the connections resulting in a intermittent connection.

3. Button Replacement

3.1 Align the replacement button pad to the alignment features in the top cover.

3.2 Remove the adhesive backing and align the button PCB over the button pad and the top cover alignment features. The button PCB connector will be opposite the grille. Figure 22.

3.3 Secure the button PCB with the screws removed in disassembly procedure 5.

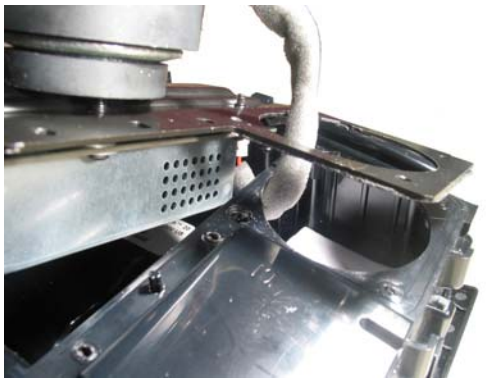


Figure 19. Driver Harness Dressing

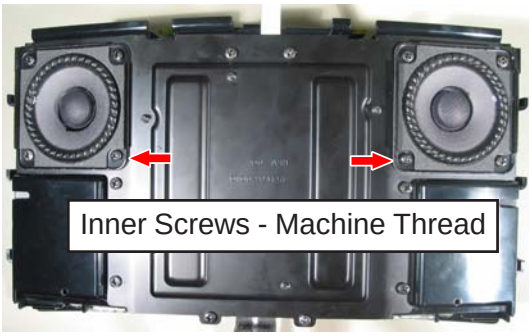


Figure 20. Driver Lower Inner Screws Location

Figure 21. FFC Dressing

Figure 22. Button Pad

ASSEMBLY KEY POINTS

4. Top Cap Replacement

4.1 Install the buttons on the replacement top cap using Assembly Key Points procedure 3.

4.2 Align the top cap to the grille's alignment features. Secure the top cap to the grille with four screws shown in Figure 23

4.2 To avoid buzzes, install the top cap flock on the edge of the top cap opposite the grille. Make sure the flock does not extend above the edge of the top cap. The flock should not be visible when the top cap and grille are installed on the enclosure. Top cap flock is item 2 in the Main Assembly part list. Figure 23.

5. Grille and Top Cap Replacement

5.1 Connect the FFCs from the Wi-Fi module to the button and display PCB. Figure 24.
! Important Note: Take ESD precautions when connecting the OLED display. Refer to page 4 for ESD precautions.

5.2 Align the top cap to the alignment features on the enclosure.

5.3 Set the unit on a flat surface with the top cap down.

5.4 Apply pressure to the grille and rear cover, as shown in Figure 25, as you tighten the screws securing the top cap to the enclosure on each side. Figure 25.

5.5 Install the two screws securing the grille to the bottom of the enclosure. Figure 26.

Notes:
1. The gap between the grille and side panels should be .50 +0.67mm, - 0.50mm
2. The side panels should sit subflush to the top cap, 0.12 ± 0.47mm. When sliding your finger upward along the side panel, where the side panel meets the top cap, there should be no sharp edge felt.
3. Reman locations should use the square-up fixture to install the top cap and grille. See procedure 5A on the next page for instructions.

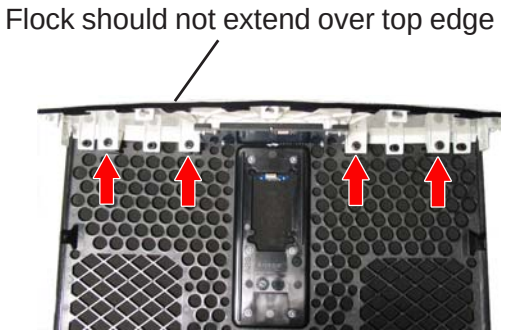


Figure 23. Top Cap

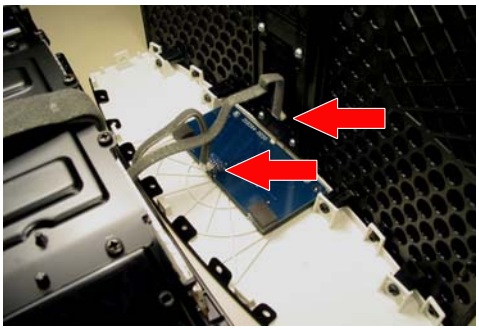


Figure 24. FFC Connection

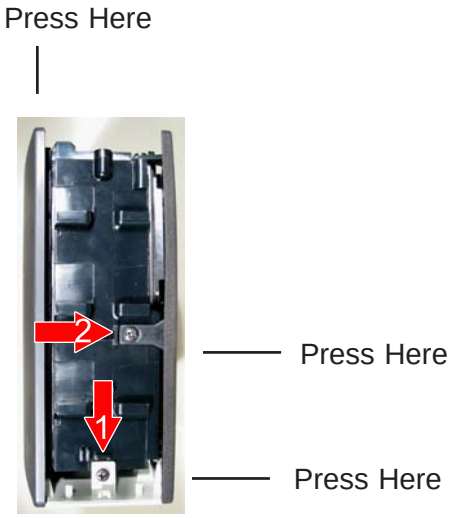


Figure 25. Grille, Side Screws

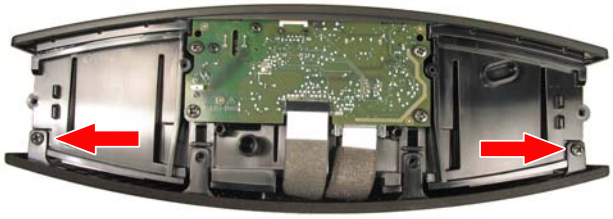


Figure 26. Grille, Bottom Screws

ASSEMBLY KEY POINTS

5A. Reman Grille and Top Cap Replacement Using Square-up Fixture

5A.1 Connect the FFCs from the Wi-Fi module to the button and display PCB. Figure 24 on previous page.

5A.2 Align the top cap to the alignment features on the enclosure.

5A.3 Set the unit in the fixture with the top cap down. Figure 27

5A.4 Fully insert the alignment side panels into the unit.

5A.5 Secure the fixture clamp to hold the unit.

5A.6 Install the two screws, through the alignment side panels, to secure the grille to the enclosure. Do this on the other side.
Note: The alignment side panel has three holes enabling it to be used on either side of the unit.

5A.7 Install the two screws securing the grille to the bottom of the enclosure. Figure 26 on previous page.

5A.8 Remove the alignment side panels.

Notes:
1. The gap between the grille and side panels should be .50 +0.67mm, - 0.50mm
2. The side panels should sit subflush to the top cap, 0.12 ± 0.47mm. When sliding your finger upward along the side panel, where the side panel meets the top cap, there should be no sharp edge felt. Refer to cosmetic spec CS355588.

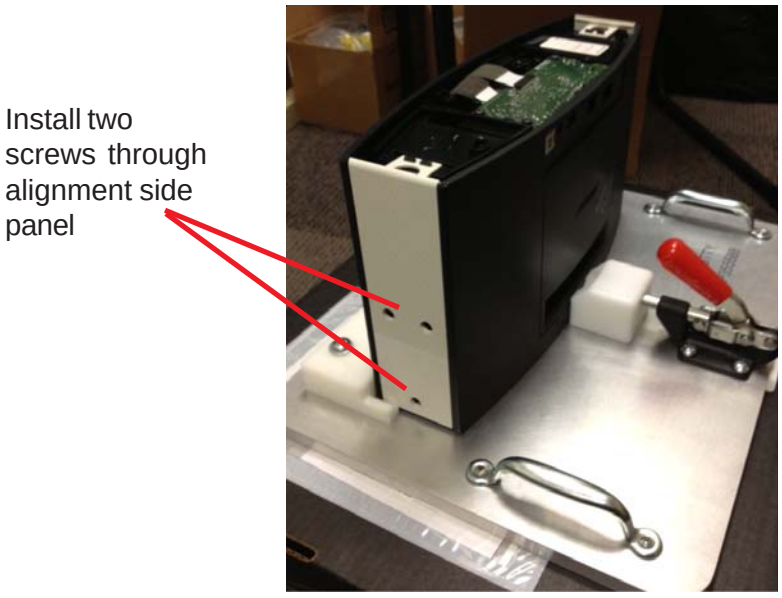


Figure 27. Reman SoundTouch™ 20 Top Cap and Grille Alignment Fixture.

AUDIO TEST PROCEDURES

Equipment Required: Audio Signal Generator

1. Air Leak Test

1.1 Apply a 125 mVrms, 80 Hz signal generator to the AUX input

1.2 Select AUX and set the volume to MAX.

1.3 Listen for air leaks around all the cabinet seams, joints, and wire harness through-holes.

PASS if no audible air leaks can be heard at a distance of less than 1ft (0.3M) from any exterior surface of the enclosure.

FAIL if any air leaks can be heard at a distance less than 1ft (0.3M) from any exterior surface of the enclosure.

2. Frequency Sweep Test

2.1 Apply a 85 mVrms, 40 Hz signal to the AUX input

2.2 Select AUX and set the volume to MAX.

2.3 Sweep the signal generator from 40 Hz - 100 Hz. 5 second sweep up and 5 second sweep down.

2.4 Apply a 20 mVrms 100 Hz signal to the AUX input.

2.5 Sweep the signal generator from 100 Hz - 5 kHz. 5 second sweep up and 5 second sweep down.

2.6 Listen for any extraneous noises such as buzzes, rattles, ticks, and distortion.

PASS if no noise can be heard at a distance of less than 1ft (0.3M).

FAIL if any noise can be heard at a distance less than 1ft (0.3M).

3. Left / Right Channel Test

3.1 Apply a 60 mVrms, 300 Hz signal generator to the LEFT AUX input

3.2 Listen for audio from the left channel.

3.3 Apply a 60 mVrms, 500 Hz signal generator to the RIGHT AUX input

3.4 Listen for audio from the right channel reconnect the right channel.

TAP COMMAND SET UP

SoundTouch™ 20 Wi-Fi Music System TAP command set up

Equipment Required

Hardware
Computer w/serial port
RS232 to TTL converter
Lifestyle® ETAP Cable, P/N 264565
Soundlink® ETAP adapter P/N 347062-0005

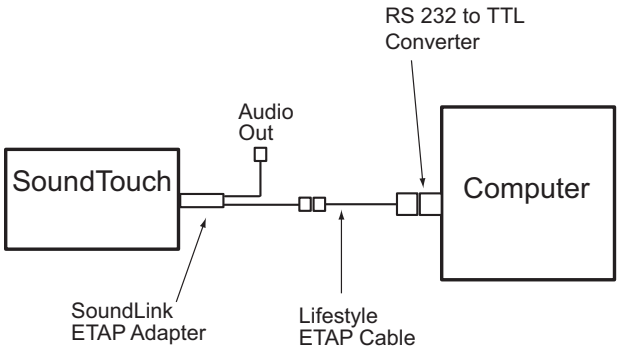
Software
TeraTerm terminal emulator
(Download at http://sourceforge.jp/projects/ttssh2/)

TAP commands are sent to the SoundTouch 20 system by connecting to the AUX IN connector. Refer to the ETAP connections diagram.

An ETAP cable, ETAP Cable adapter and RS232 to TTL Converter are required for this communication. Both ETAP cables are available from Bose® (see part numbers above). The RS232 to TTL Converter is made by B+B electronics, model number 232LPTTL. It can be purchased online at http://www.bb-elec.com.

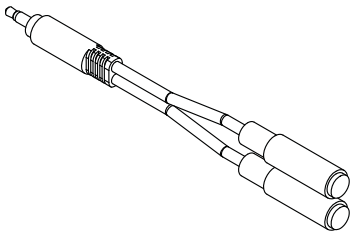
TAP commands are needed for the following procedures:

A. Wi-Fi Test
B. Serial Number Programing
C. Setting Wi-Fi Country Code

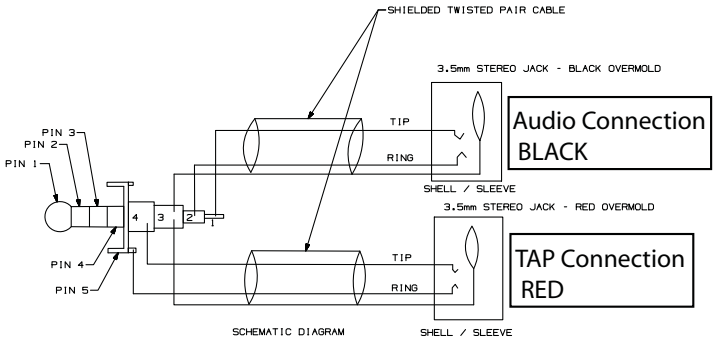


ETAP Block Diagram

B+B Electronics model 232LPTTL RS232 to TTL converter



Drawing of Soundlink ETAP Cable Adapter



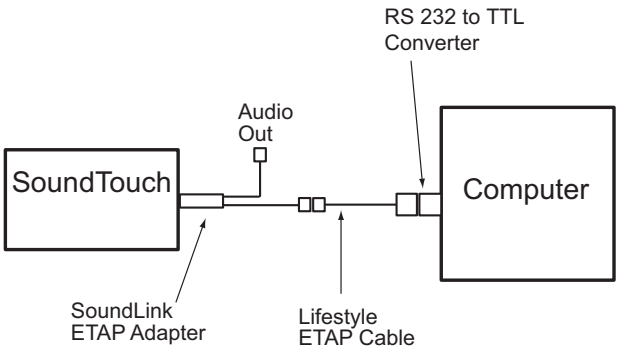
Schematic Drawing of Soundlink ETAP Cable

TAP COMMAND SET UP CONTINUED

1. Tera Term Terminal USB set up

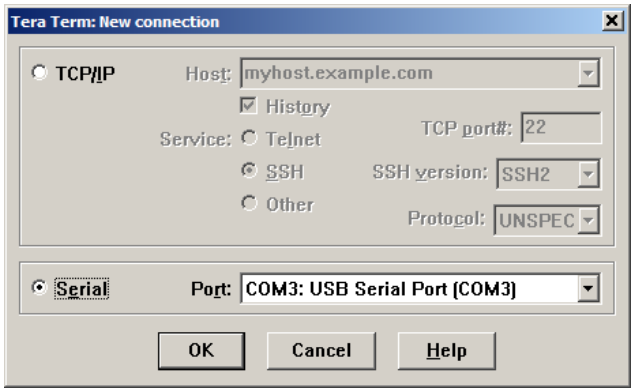
Tera Term is a terminal emulator and can be downloaded at http://sourceforge.jp/projects/ttssh2/. It is the interface used to send TAP commands to the SoundTouch™ 20 product.

1.1 Connect the SoundTouch as shown in the diagram below.

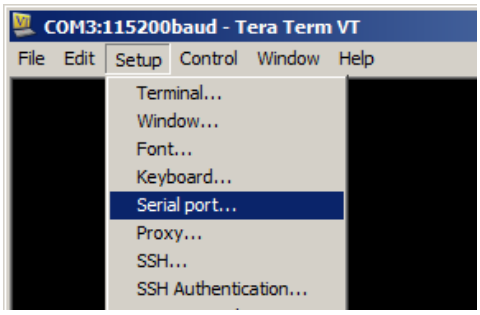


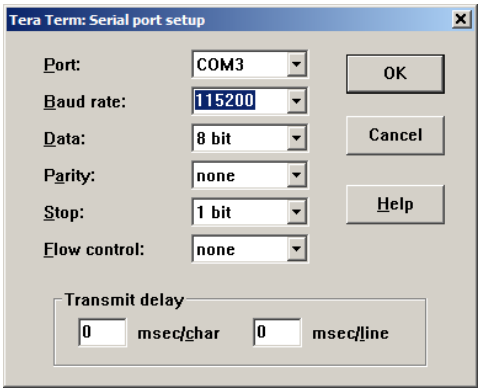
2. Teraterm set up

2.1 Launch a Tera Term terminal window and select serial communication and port as shown below.



2.2 Select setup, then serial port to set the baud rate to 115,200 data to 8 bit, parity to none, stop to 1 bit and flow control to none.





3. Test TAP Communication

Enter TAP command “sys ver”. The system will respond with the software version. BoseApp version: **2.1.11**.12551.365510 epdbuild.rel_2.x.hepdswbld04.2013-09-11T20:50:07

WI-FI TEST PROCEDURE

1. Wi-Fi Functional Test Set Up

This test uses TAP commands to connect the product to a Wi-Fi network and stream audio from a Bose® URL. Refer to pages 44-45, TAP Command Setup. The Bose® SoundTouch™ application can be used in place of this test.
Note: Do not download the audio file from the test URL.

Note: A Tera-Term macro that includes the TAP commands below is available for download on the product's repair information page. Place the macro file in the same folder as your Tera-Term program. Open Tera-Term, select Control, Macro, wifi_test.ttl. Once the macro runs, follow the prompts.

Determine the security type for your router and select the appropriate TAP command for connecting to a Wi-Fi Router.
(WEP, WPA, or no security)

2. Connecting to a Wi-Fi Router

2.1 Enter the following TAP command for your router security type setting. Do not enter parentheses.

2.1.1 WEP Security Type

airplay wep profile (SSID) (Password)

2.1.2 WPA Security Type

airplay wpa profile (SSID) (tkip or aes) (Password)

2.1.3 No Security

airplay Wi-Fi profile (SSID)

2.2 Wait for the Wi-Fi indicator on the product's display to turn solid white. This may take up to a minute. If the indicator does not turn white, enter the TAP command again.

3. Testing the Wi-Fi Module.

3.1 Enter the following TAP commands.

sys configuration DemoAudioURL http://worldwide.bose.com/downloads/assets/audio/take5.mp3

sys configuration DemoNetworkEnabled true

demo enter

3.4 The song "Take 5" should play. Listen for clean undistorted audio.

3.5 Enter the following TAP command to exit the Wi-Fi test.

demo exit

4. Factory Default Unit

4.1 Enter the TAP command
sys factorydefault

4.2 Provide the customer instructions for re-connecting their system to their Wi-Fi network. Download instructional sheet on the repair information page.

FUNCTIONAL TEST PROCEDURES

1. IR Remote Test

1.1 Press each button on the remote control confirming the display reacts to each button press.

2. Keypad Button Test

2.1 Press each button the SoundTouch™ 20 keypad confirming the display reacts to each button press.

3. USB Port Functional Test

3.1 Connect the SoundTouch 20 to a computer as shown in the TAP command set up documented on pages 45 - 45.

3.2 Type the command “local_services on” and <enter>. Then press CTRL-C on the keyboard. Then type “e” and <enter>. The command line spotty login: should be displayed on the computer.

3.3 Type the command “root” and <enter>. The command line should be root@spotty:root#.

3.4 Connect a USB thumb drive to the USB port located on the back of the product.

3.5 Type the command “lsusb”.

3.6 Verify the unit responds with the name of the USB thumbdrive.

3.7 Send the command “rm /mnt/nv/local_services” and <enter>.

3.8 Send the command “exit” and <enter>. This will return to the TAP interface (CLI) and a TAP command line “->” should be shown.

4. Micro USB Port Functional Test

4.1 Using a micro USB to standard USB cable, insert the micro USB end of the cable into the SoundTouch connector labeled SETUP A (micro USB). Plug the other end of the cable into a USB port on a computer. Ensure that cable is properly seated.

4.2 Open your device manger and look under Network Adapters. You should see the SoundTouch 20 as an adapter.
Directions: On your computer, click on Start and navigate to Run. In the window that opens, enter “mmc devmgmt.msc”. The device manager will open. In the device manager, expand the network adapters, you should see the SoundTouch 20 as an adapter.

5. Ethernet Connector Functional Test

5.1 Insert an Ethernet cable into the Ethernet connector on the SoundTouch system. Connect the other end of the cable to the router.

5.2 The LED lights on the product’s Ethernet connector should light up yellow and green after a few seconds indicating that the connector is functioning.

SERIAL NUMBER AND COUNTRY CODE PROGRAMMING

Perform both of these procedures any time the Wi-Fi Module is replaced.

Download two macros from the SoundTouch™ product's repair information page located on http://serviceops.bose.com. Place these macros in the Tera Term program folder.

set_serial_number.ttl
set_country_code.ttl

1. Setting the Serial Number

1.1 Connect the SoundTouch 20 to a computer as shown in the TAP command set up procedure on pages 44 and 45.

1.2 Within Tera Term, select Control then Macro and Select the file - "set_serial_number.ttl"

1.3 Follow the prompts.

Note: The serial number can be read by pressing the Volume - button and the number 5 at the same time for 5 seconds for system information. Use the Volume - and + button to toggle through system information.

2. Setting the Country Code

2.1 Connect the SoundTouch 20 to a computer as shown in the TAP command set up procedure on pages 44 and 45.

2.2 Within Tera Term, select Control then Macro and Select the file - "set_country_code.ttl"

2.4 Follow the prompts.

Note: Selecting us sets the Wi-Fi module to the US standard channels 1-11. Selecting eu sets the Wi-Fi module to EU standard channels 1-13

3. Reading the Country Code.

3.1 Type the command "local_services on" and <enter>. Then press CTRL-C on the keyboard. Then type "e" and <enter>. The command line spotty login: should be displayed on the computer.

3.2 Type the command "root" and <enter>. The command line should be root@spotty:root#.

3.3 Enter "cat /var/tmp/mfgdata.xml". The country code is displayed in the first line of the response.

3.4 Return to CLI prompt by entering the command "rm /mnt/nv/local_services" and <enter>.

3.5 Enter the command "exit" and <enter>. This will return to the TAP interface (CLI) and a TAP command line "->" should be shown.

HI-POT TEST

1. Hi-Pot Test

THIS IS A MANDATORY TEST

CAUTION - All units that are disassembled as part of a repair MUST be Hi-Pot tested before being returned to the customer.

This test applies a high voltage to the AC line cord and measures the current leakage to the chassis and/or other metal parts on the outside of the unit to check for potential shock hazards.

If the unit fails Hi-Pot test, it must be returned to the technician for troubleshooting and repair of the problem, after which it must be Hi-Pot tested again to ensure that it now passes the test.

Hi-Pot Tester Settings:

Type of product: 100-240 VAC 2-wire Class II
Test Voltage: 3000 VAC
Trip Current Limits: 2mA min, 6mA max
Ramp: 1 sec
Dwell: 2 sec

Procedure

1.1 Connect the positive side (hot) of the Hi-Pot tester to both terminals of the AC mains input.

1.2 Connect the return of the Hi-Pot tester to all connections on the 3.5mm audio jack, ground shell on either USB connector and all points on the Ethernet connector.

1.3 Connect the continuity check terminal of the Hi-Pot tester to the shell of the USB. (all grounds are connected to the same point internal to the product, so only a single connection point is required).

This test must be performed only after the system has been completely assembled. Failure of this test indicates a faulty transformer, defective or incorrectly dressed primary wiring, improperly attached leads, surface contamination of either the power supply board or the I/O connector board, or incorrectly adjusted trip point on tester.

TAP COMMANDS

1. Connect to Router

1.1 No security
"airplay wifi profile [network_name]" connects to a network w/ no security

1.2 WPA security
"airplay wpa profile [network_name] [security] [passphrase]" for WPA where security is TKIP or AES

1.3 WEP security
"airplay wep profile [network_name] [key]" for WEP security

2. Play Song from Demo URL

2.1 View Current system configuration
"getpdo CurrentSystemConfiguration" will print out the current values

2.2 Enter location of demo URL
"sys configuration DemoAudioURL http://worldwide.bose.com/downloads/assets/audio/take5.mp3"

2.3 Enable Demo
"sys configuration DemoNetworkEnabled true"

2.4 Enter Demo mode
"demo enter"

2.5 Exit Demo Mode
"demo exit" or "sys reboot"

3. Enter Manufacturing mode

3.1 As soon as the unit starts to boot, hold shift and press "U" repeatedly until "U-Boot#" prompt is displayed. This will interupt the normal boot process.

3.2 At the U-Boot# prompt, enter TAP command "setenv variant_mode mfg"

3.3 Enter TAP command "boot" to reboot unit into manufacturing mode.

4. Set Country Code

The Wi-FI module can be set to EU or US standard, which determines which Wi-Fi channels are used. All countries outside the US are set to the EU Code. EU 1-13 ch , US 1-11 ch

4.1 Enter Manufacturing Mode (Procedure 3)

4.2 At the "->" prompt, enter TAP command "d dm870 cc (EU or US).

4.3 Enter TAP command "d reset" to reboot into normal mode.

5. Check Country Code.

5.1 Type the command "local_services on" and <enter>. Then press CTRL-C on the keyboard. Then type "e" and <enter>. The command line spotty login: should be displayed on the computer.

5.2 Enter TAP command "root" and <enter>. The command line should be root@spotty:root#.

5.3 Enter "cat /var/tmp/mfgdata.xml" without the quotes. The country code is displayed in the first line of the response.

5.4 Return to CLI prompt by entering the command "rm /mnt/nv/local_services" and <enter>.

5.5 Enter the command "exit" and <enter>. This will return to the TAP interface (CLI) and a TAP command line "->" should be shown.

6. Set Serial Number

6.1 Enter Manufacturing Mode (Procedure 3)

6.2 At the "->" prompt, enter TAP command "d serial 1 XXXXXXXXXXXXXXXX".
Where X equals a serial number digit.

6.3 Enter TAP command "d reset" to reboot into normal mode.

TAP COMMANDS

7. Software Version

7.1 “sys ver”
The unit will reply with something similar to the following, significant digits are bold:
BoseApp version: **2.1.12**.12569.366803 epdbuild.rel_2.x.hepdswbld05.2013-09-12T18:23:09

8. Display Test (OLED)

8.1 Enter TAP command **‘**local_services on’

8.2 Press Control C and then type ‘e’ and then enter.

8.3 At the Spotty login, enter TAP command ‘root’.

8.4 Enter TAP command **‘**cd /opt/Bose’

8.5 At the root@spotty:Bose prompt, enter the following TAP commands to display different sections of the display.

cat oled_pattern_left_bar.raw > /dev/fb

cat oled_pattern_center_bar.raw > /dev/fb

cat oled_pattern_right_bar.raw > /dev/fb

cat oled_pattern_cols.raw > /dev/fb

cat oled_pattern_rows.raw > /dev/fb

cat oled_pattern_outline.raw > /dev/fb

8.6 To return unit to normal mode, Enter TAP command ‘rm /mnt/nv/local_services’
Enter TAP command ‘sys reboot’

9. Factory Default

9.1 Enter TAP command ‘sys factorydefault’

BACK DOOR KEY PRESSES

1. System Information

1.1 Press and hold the Volume minus and Preset 5 buttons to bring up System Information. Use the Volume minus and plus button to toggle through the items.

1. MAC address
   1.1 Ethernet MAC address
   1.2 Wi-Fi MAC address

2. Network Information
   2.1 Connection Type
   2.2 IP Address
   2.3 SSID
   2.4 RSSI (Received Signal Strength), rates Wi-Fi signal received strength

3. System Information
   3.1 Component ID
   3.2 System Serial number
   3.3 Component ID (Wi-Fi)
   3.4 Wi-Fi module Serial Number
   3.5 Wi-Fi module Firmware

4. SoundTouch Information
   4.1 Wi-Fi module Serial Number
   4.2 Bose Application Firmware

5. SoundTouch Controller Information
   5.1 Yes/No

2. Factory Default

2. Press and hold the Volume minus and Preset 1 button. The system will return to factory default settings and reboot.

3. Software Update

3.1 Press and hold the Volume minus and Preset 4 button to initiate a software update.

3.1.1 The unit will download software from an update over Wi-Fi.

3.1.2 While applying power and holding the Volume minus and Preset 4 button, the unit will load software from a thumbdrive inserted in its USB port.

4. Alternate Setup (connect unit to Wi-Fi network)

4.1 Press and hold the Volume minus and Preset 2 button to initiate alternate setup mode.

4.2 Connect a smartphone to the unit's Bose® Soundtouch Wi-Fi network.

4.3 The units Wi-Fi setup page IP address will be shown on the unit's display. Enter the IP address into smart phone browser and follow the directions on the page.

5. Connect iPhone Directly to Unit

5.1 Press and hold the Volume minus and Preset 2 button to initiate alternate setup mode.

5.2 Connect an iPhone to the unit's Bose® Soundtouch Wi-Fi network.

5.3 In the iPhone airplay menu, select the Bose SoundTouch device. The airplay symbol along with song information will display on the SoundTouch device.

6. Disable/Enable Networking

6.1 Press and hold the Volume minus and Preset 3 to enable or disable networking.

SERVICE MANUAL REVISION HISTORY

Revision	Date	Description	ECN
00	10/13	Initial Release	NA
01	02/14	WI-FI PCB UPDATED, NEW SOFTWARE	
02	10/14	Black parts added	
03	10/14	WI-FI PCB UPDATED, NEW SOFTWARE	

SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE

Bose Corporation
The Mountain
Framingham Massachusetts USA 01701

P/N: 355589-SM REV 03, 10/2014 (H)
http://serviceops.bose.com