

Emergency Radio Communications Enhancement System Service Requirement Checklist

PN LC10212-003GE-E:A 01/17/2019 19-0567

1 Service Requirement

SIGNAL BOOSTERS SHALL BE SERVICED BY MANUFACTURER-CERTIFIED AND QUALIFIED PERSONNEL ONLY. UNAUTHORIZED ALTERNATIONS, MODIFICATIONS AND SETTINGS CHANGES MAY CAUSE HARMFUL INTERFERENCE AND RESULT IN NON-COMPLIANCE WITH FCC RULES. CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE MANUFACTURER RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

NOTE: It is recommended that a full building survey and re-certification of in-building coverage be performed annually and no less than once every 5 years. The survey should be done in accordance with NFPA and/or AHJ requirements, as applicable. A full building survey should be done if building is updated which may affect building coverage, such as: remodeling, additions, tenant fit-outs, occupancy changes, addition of low-E glass, updates of public safety radio system, adjacent building construction or other environmental changes that may affect radio signal propagation.

1.1 Annual Inspection Checklist

Signal boosters must be inspected annually by a manufacturer-certified, FCC GROL licensed technician.

FCC GROL Licensed technician				FCC GROL License #			
Date of Inspection							

1	Uplink Gain (dB):			dB			
2	Downlink Gain (dB):			dB			
3	Uplink Peak Power Level(dBm)			dBm			
4	Downlink Peak Power Level(dBm)			dBm			
5	Spurious emissions check UL/DL check (pass/fail)						
6	UL noise SquelchThreshold (dBm)			dBm			
7	Oscillation detection (yes/no)						
8	Visual inspection of all LED LAMPS (pass/fail)						
9	Voltage of power supplies	1	vdc	2	vdc		
10	Verify Voltage of both batteries	1	vdc	2	vdc		
11	Verify AC voltage			vac			
12	Circuit Breaker operation cycle on/off (pass/fail)						

13	Visual inspect the enclosure (inspect for damage and tampering (pass/fail)			
14	Copy, save and analyze the trouble logs from the built-in SD card. Clear the contents of the SD card. (pass/fail)			
15	Test "low battery" condition faults (pass/fail)		Simulate the "low battery" condition by unplugging the battery fuse. Wait 30 seconds, verify the trouble indication on both the dedicated annunciator panel as well as the fire alarm control panel. Reinsert the fuse, verify that the condition has cleared within 30 seconds.	
16	Simulate "charger fail" condition (pass/fail)		Simulate the "charger fail" condition by switching off the primary power supply circuit breaker. Wait 30 seconds, verify the trouble indication on both the dedicated annunciator panel as well as the fire alarm control panel. Turn the circuit breaker back on, verify that the condition has cleared within 30 seconds.	
17	Simulate "Donor Antenna Failure" (pass/fail)		<p>Simulate the "Donor Antenna Failure" condition by disconnecting the donor antenna. WARNING: It is very important to power the signal booster OFF before disconnecting the antenna or DAS connections. Please follow these steps:</p> <ol style="list-style-type: none"> 1. Power OFF the BDA (Both circuit breakers and unplug the battery fuse) 2. Disconnect the Donor antenna connector 3. Turn ON the BDA 4. Wait > 90 seconds for power-up sequence to complete 5. Verify that the "Antenna Fail" trouble indication is active on both the dedicated annunciator panel as well as the fire alarm control panel 6. Power OFF the BDA (Both circuit breakers and unplug the battery fuse) 7. Reconnect the donor antenna 8. Turn ON the BDA 9. Wait > 90 seconds for power-up sequence to complete 10. Verify that all trouble conditions have cleared. 	
18	Simulate "AC Power Loss" (pass/fail)		Simulate the "AC Power Loss" condition by turning OFF both circuit breakers (battery remains connected). Wait 90 seconds. Verify that the "AC Power Loss" trouble indication is active on both the dedicated annunciator panel as well as the fire alarm control panel. Turn both circuit breaker back on, verify that the condition has cleared within 30 seconds. Verify that the green LED "AC Power Normal" is active	
19	Simulate "BDA Trouble" (pass/fail)		<p>Simulate the "BDA Trouble" indication by unplugging the flat ribbon cable IDC RF module cable off the PMU board. WARNING: power OFF the BDA before connecting and disconnecting the IDC connector. Follow the procedure:</p> <ol style="list-style-type: none"> 1. Power OFF the BDA (Both circuit breakers and unplug the battery fuse) 2. Unplug the IDC connector (either UL or DL) 3. Turn ON the BDA 4. Wait > 90 seconds for power-up sequence to complete 5. Verify that the "BDA Trouble" trouble indication is active on both the dedicated annunciator panel as well as the fire alarm control panel 6. Power OFF the BDA (Both circuit breakers and unplug the battery fuse) 7. Reconnect the IDC 8. Turn ON the BDA 9. Wait > 90 seconds for power-up sequence to complete 10. Verify that all trouble conditions have cleared. 	
20	Simulate the "Annunciator Panel Fail" (pass/fail)		Simulate the "Annunciator Panel Fail" condition by unplugging the 8-conductor panel connector. Verify the trouble indication on the fire alarm panel. Re-connect the panel.	
21	Test the battery under load (pass/fail)		<ol style="list-style-type: none"> 1. Test the battery under load for at least 10 minutes or as required by the AHJ. 2. Switch OFF both circuit breakers 3. Run the BDA on battery for the period of time 4. Note the voltage indication on the LCD 5. Measure the Voltage with a calibrated Volt-meter to verify the LCD indication. 6. Turn the circuit breakers back ON 	

22	Inspect the battery enclosure and battery terminals (pass/fail)		
23	Battery replacment (date replaced)		Replace batterys every 3 years
24	Visual inspection of das/donor antenna and lightening arrestors (pass/fail)		<p>1. Visual inspection of donor antenna and lightning arrestors – verify the antenna direction and vertical tilt, attachment hardware, connections, check for corrosion and possible water intrusion.</p> <p>2. Connect a calibrated spectrum analyzer to the donor antenna. Measure and record the received signal strength from the radio system donor site (i.e. Public Safety Repeater)</p> <p>3. Check the DAS by using a test signal generator and measuring signal strength at each DAS antenna.</p> <p>4. In-building signal strength survey as required / specified by AHJ</p> <p>5. Measure the isolation between DAS and the donor antenna.</p> <p>6. Verify that there were no changes and that the above measurements are in line with the measurements taken at the time of system installation and deployment.</p>