Factory Test Instructions for Air To All PAPR Version 2

The PAPR factory test is firmware that briefly exercises the PAPR hardware, including microcontroller board, buzzer, vibrator, and fan, in order to verify that all components are working properly. The test is intended for use at the factory, to verify that newly-manufactured PAPRs have no defects.

To test a PAPR board after manufacturing, program the unit with the Factory Test firmware, then perform the following steps in order. For each step, do the action, then verify that the expected result happens. The beginning and end of each test is signaled by a quick sequence of LEDs. After the end signal, you can move on to the next test.

	Action	*Expected result*
1	Startup PAPR	All 7 LEDs flash 3 times
2	Press and release FAN DOWN button	All LEDs flash, one at a time, left to right
3	Press and release FAN UP button	Buzzer beeps 3 times
4	Press and release FAN UP button	Vibrator vibrates 3 times
5	Press and release FAN UP button	Fan runs at maximum power
6	Press and release FAN UP button	Fan runs at half power
7	Press and release FAN UP button	Fan runs at minimum power
8	Press and release FAN UP button	Battery Voltage Test. *This test is not yet defined.* For now, the 7 LEDs will display the input voltage: 1 LED = 12 volts, 7 LEDs = 24 volts. You should vary the voltage and verify the LEDs change accordingly.
9	Press and release FAN UP button	Fan RPM test. *This test is not yet defined*. For now, the raw Fan RPM value is displayed in binary on the LEDs.
10	?	Monitor Pin test. *This test is not yet defined.*