BD600+ MOTHERBOARD TEST PROCEDURE, 102394

Eventide, Inc
Internal Procedure: 142395
Revision B Date 1/19/2017
Approved By

The BD600+ is very similar in many ways to the BD600 – as a result the following procedure is much like that for the BD600, even using the same test fixture. The main differences lie in the power supplies and the software installation procedure.

Required:

Quantity	Part Number	Description
3	264145	XLR Loopback Cable
1	264146	BNC Loopback Cable
1	324262	DB9 RS232 Loopback Plug
1	264149	DB9 RS232 Null Modem Cable
1	264243	CABLE ASSY, BD600, BASIC REMOTE TEST
1	217030	BD600+ Install Software CD
1	142396	BD600+ Software Installation Procedure
1	325007	BD600 Motherboard Test Fixture
1	102394	BD600+ Motherboard Assembly Drawing
1	132472	BD600+ Motherboard Schematic
1	217031	BD600+ test card (Compact Flash)
1	N/A	Volt-Ohmmeter (i.e. Fluke 77 series)

1. Continuity/Short Checks for Power Supplies
a. Confirm the following resistances between the pins of J1800 (power header) and the mounting hole below it (pin 1 is nearest mounting hole):

1)	> 1K	(+15V DC)
2)	> 100	(+5V DC)
3)	> 100	(+5V DC)
4)	< 1	(GND)
5)	< 1	(GND)
6)	> 1K	(-15VA DC)

3. Install Motherboard into Test Fixture
a.   Insert BD600+ Motherboard into BD600 Motherboard Test Fixture (325007)
b.   Attach DC power supply cable to J1800
c.   Attach serial connector cable to J601
d.   Attach ribbon cable from J602 to back panel board.

4. Verify DC Power Supply Voltages
a.   Check the voltage at the following labelled test points:

Label	Min	Max	Location
+4VA	3.7V	4.0V	by red leds near XLRs
+3.3VD	3.2V	3.4V	by red leds near XLRs
+3.3VA	3.2V	3.4V	by red leds near XLRs
+5VA	4.75V	5.25V	by red leds near XLRs
-5VA	4.75V	5.25V	by red leds near XLRs
+6VA	5.75V	6.25V	by red leds near XLRs
+3.3V	3.2V	3.4V	by red led near J1800
+15V	14.25V	15.75V	below relay to left of OSC500
-15V	-14.25V	-15.75V	to left of OSC500
+1.2V	1.1V	1.3V	near top of CN100

5. *Program Flash ROM*
Follow instructions in "142396 BD600+ Software Installation Procedure."

6. *Automatic Diagnostic Tests*
a.   Install the following loopback cables between the input and output connectors

Connector Name	Loopback Cable	Motherboard Connector
Ch1 Analog	XLR (264145)	CN300 to CN401
Ch2 Analog	XLR (264145)	CN301 to CN402
AES/EBU	XLR (264145)	CN500 to CN501
Wordclock	BNC (264146)	J502(top) to J502 (bottom)
Serial	Serial Loopback Plug (324262)	J503 (via cable assembly)
Basic Remote	Test Adaptor (264243)	Test Fixture rear panel
Card	Test Card 217031	CN1700

b.   Run Test 2, "Test All w/Card" as described below. It is recommended that at least 10 passes are performed.

To enter test mode:

a)   Power down the unit
b)   Press and hold the SNEEZE key (key on immediate left of display).
c)   Power on the unit, keeping the SNEEZE key held down.
d)   Display shows "BD600+", "SYSTEM", "MODULES".
e)   Display shows version number.
f)   Display shows flashing "TEST".
g)   Release the SNEEZE key.
h)   The display shows scrolling text consisting of a 3 digit test numbered followed by a test name.

Running the built-in tests:

o   The WAIT AND EXIT key can be used to increment the test number, while the WAIT FOR SAFE key reduces it. With practice, the keys can be hit at a rate that steps neatly between the test numbers.
o   When the test number is at maximum or minimum, the appropriate keys are disabled.
o   To start a test, hit the DUMP key.
o   To stop the running test, press and hold the DUMP key until the unit beeps and the display shows the scrolling test number and name.
o   To exit tests, power down.

If the current test fails, the bar indicator will flash while it is selected. With a "Test All," step through the individual tests to find which one failed.

Normally the display shows the number of passes, followed by the number of errors in that pass, e.g. P10.E4 – the format will change to aid visibility.

Further information upon the failure and the test status can be obtained by using the REBUILD and RAMP TO ZERO keys to scroll through a series of messages. They key may need to be held down until a beep shows that it is recognized. The messages are:

o   Test Number and Name.
o   Pass Number and Errors this pass (default while test is running)
o   Message text (varies with test). Name of current test for "Test all" type.
o   Info text (varies with test).
o   Info1 text (varies with test).
o   Sub Test (varies with test).

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The tests available are as follows:

Test	Description	Comments
1	Test All	Needs loopback connectors
2	Test All w/Card	Requires BD600+ Test Card 217031
3	Test All NL	
4	Test Ram ALL	
5	Test Audio All	Needs loopback connectors
103	System Ram	
202	Flash ROM	
203	Flash ROM (All)	Erases software
303	Serial Port	Needs loopback connectors
306	Remote Connector BD600	Needs loopback connectors
310	Remote Connector BD600E	Needs loopback connectors
402	CompactFlash	Needs card 207xxx
501	Analog Audio (XLR)	Needs loopback connectors
510	AES Digital	Needs loopback connectors
520	Wordclock	Needs loopback connectors
521	Audio Clocks	
801	Front Panel	
803	Speaker	