Dieter's



Pages

TEST PROCEDURE

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This Page helps if you have troubles with your 2101 or expect a failure in the hardware...
If you have questions send me an Email.

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- Initial Setup
    1. Reset GSP 2101:
       a. Power the 2101 OFF.
       b. Press and hold Function Key 1.
       c. Power the 2101 ON.
       d. After the Asterisk (*) appears in the upper right corner, release Function Key 1.
       e. Press Program UP key.
    2. Turn on power at Power- Switch and quickly check power supplies.
       +5VDC U93 Pin "o"
       +12VDC U91 Pin "o"
       -12VDC U92 Pin "o"
       +5VDC U17 Pin "o"
       +5VDC U14 Pin "o"
       -5VDC U13 Pin "o"
       approx. +42VDC* J4 Pin 3
       +240 VDC +/- 10%* B+ on R253 Pin in direction to frontpanel.

+11VDC* OVH on + side of C249
*use DMM to measure these voltages

3. Check 10 (20) MHz and 24.576 MHz clocks.

- Setup Compression
  1. Select Program 1.
  2. Switch all Effects off.
  3. Select Compression.
  4. Turn on Compression.
  5. Select Compression Level 0.
  6. With no input signal, adjust P2 until pin 1 of U9 measures 0VDC +/- 30mV.

- Setup Distortion
  1. Select Distortion.
  2. Turn on Distortion.
  3. Select Distortion "Heavy Sustain".
  4. Select Gain then use the data wheel to set at 0.6
  5. Adjust P3 until pin 1 of U62 measure 0mVDC +/-2mV

- Trim Digital/Analog Converter For Lowest Noise
  1. Set unit to Mono- Mode (Utility- Menu).
  2. Connect Probe to Mono- Output.
  3. Make sure Compression and Distortion are off. Set Master Volume to 0 dB.
  4. Turn Output Level up full and adjust P1 for least noise.
  5. Turn Output Level back down.
  6. Set unit back to Stereo- Mode

- EQ Test
  1. Input a sweep signal @ 1Vpp.
  2. Select EQ ("Local EQ" at Patch)
  3. Put Probe on TP3 (EQ- Board) and verify the cut and boost of each band. (use the data wheel to cut and boost each band)
  4. Leave each band at 0dB (Flat).
     Note: The last band 5.12 kHz will effect from 5.12 kHz on up.
  5. Press Utility Button and select #1 "Global EQ" and repeat steps 3 and 4.
  6. Put probe on one of the outputs of J14 and check the Cabinet Simulator (SW34).
  7. Repeat step 6 for the other sides of J15.
  8. Verify the Cabinet Simulator (low pass filter) to both sides of the headphone outs.

- Compression Check
  1. Select Compression and turn on.
  2. With probe on TP3, verify ratio (select Ratio then turn data wheel from 1.5:1 to INF:1).
  3. Verify Threshold (select Threshold then turn data wheel from -30dB to -45dB).
  4. Verify Compression Output Level (select Output Level then turn data wheel from -6 to 6).
  5. If compression do not sound right, refer the charts at the end of these procedures

Click here to go to the additional compressor check.

- Clean Tube Setup
    1. Turn compressor off. Select Distortion. Select "Clean Tube".
       Adjust signal generator output until a 4Vpp signal is measured at U36 pin 1.
       select gain screen.
    2. Set gain 1 = 11.0. Adjust R188 (10k trimpot) for a 15Vpp signal at U6 pin 1.
    3. Adjust gain 1 = 3.0. The signal at U6 pin 1 should now be between 0.8 Vpp and 2 Vpp.

- Distortion Check
    1. Connect a guitar into either input (J5 or J6).
    2. Select Distortion and turn on.
    3. Select distortion type, then turn data wheel to "Saturated Tube".
    4. Check again: Turn data wheel while listening to Gain 2. Verify the increase from 0.6 to 11.0.
    5. Repeat same steps for Gain 1. Leave at 11.00
    6. Check Distortion types and use the data wheel to change through the distortions. Verify the Type.
    7. If distortion or compression do not sound right, refer the charts at the end of these procedures.

       Click here to go to the additional distortion check.

- FX Loop Check
    1. Select Parameter "External FX loop".
    2. Select "loop No Sum".
    3. Plug an open dummy plug into J9. This should terminate one side of the signal (J12).
    4. Plug a ¼" cable into J8. This should terminate the other side (J11).
    5. Connect the other end of the ¼" cable into J10 and the signal should return to J11.
    6. Verify FX loop settings.
        7. Bypass: signal to both sides .
           Summed: signal increase.
           No Sum: signal to one side

- MIDI Test
    1. Connect a PDS3500 or PMC10 MIDI pedal set to Channel 1 to the MIDI in jack (J1) of the 2101.
    2. Connect a MIDI addressable device to the MIDI through jack (J3).
    3. Verify that program changes are received on the 2101 when sent from these pedals,
       and that the other device receives them as well.
    4. Connect the MIDI addressable device to the MIDI out (J2) of the 2101.
    5. Select MIDI. Select "Front Panel Program Change" (SW27 4 times) and change to "yes".
       Press "Next" to the Device screen and press #1 (SW30). Using the data wheel, change
       from "Disabled" to "CH1". Press MIDI. Changing programs from the front

panel of the
2101 should now send program changes to the connected device.

- Sound Test
  1. Using the data wheel, scroll through the programs and listen to them for any abnormalities.
  2. Using the Effects Library switches, turn each effect on and off to verify proper function.
  3. Connect the XLR outputs and verify both outputs (+ and -) of each jack. Also press SW34 and listen for any pops or noise and it is engaged or disengaged.

- Additional Information for Compression Check
  1. Apply a 1kHz signal so that 2Vpp is measured at U20 pin 1.
  2. Set compressor output level to 0dB.
  3. Use the following chart to verify the correct compression ratios and thresholds

DC voltages at U9 pin 7 (+/-10%)

	Threshold			
Ratio	**-30**	**-35**	**-40**	**-45**
1.5:1	-1.19	-1.39	-1.59	-1.8
2:1	-1.34	-1.57	-1.8	-2.03
3:1	-1.82	-2.13	-2.44	-2.75
4:1	-2.06	-2.41	-2.75	-3.1
5:1	-2.15	-2.52	-2.87	-3.24
7:1	-2.32	-2.71	-3.09	-3.49
10:1	-2.51	-2.93	-3.34	-3.76
INF:1	-2.82	-3.28	-3.72	-4.18

- Additional Information for Distortion Check
  - Gain 2: Adjust the distortion type to "Distored Tube".
    Set Gain 1 = 2.0 and Gain 2 = 11.0. Adjust the input signal until signal measured at R217
    (the side away from V2) is 6Vpp. The signal at the other side of R217 should be between
    1.7Vpp and 2Vpp. Set gain 2 = 0.6. The signal at R217 should now be between 100mVpp
    and 240mVpp.