dPA-153

High Efficiency
Digital Vibration System Amplifiers

**GENERAL DESCRIPTION**

The Labworks dPA-153 Class D switch mode Power Amplifier utilizes patented high-efficiency output circuitry to produce the high output voltage and current peaks required to drive shakers to their maximum rated output force using a fraction of the input power required by conventional linear amplifiers.

The user-friendly front panel digital display indicates the operational status of the amplifier’s output as well as a complete set of vibration shaker system diagnostics. The amplifier monitors all vital shaker system parameters to guard against vibration test system damage and reports the cause for any amplifier limiting or protective shutdowns via its digital display.

**FEATURES**

- Class D output stage provides maximum output power with minimum line input power requirements
- Full digital system and amplifier diagnostics
- Automatic over temperature protection
- Automatic shaker specific current limiting
- Shaker system operational interlocks
- Quiet 2-speed cooling fans
- Low cooling heat load to environment

The dPA-153 Amplifier family features internal protection from both over current and over temperature conditions insuring long term amplifier reliability. Full external interlock capability is provided to guard against payload damage as may be required by a vibration test program or critical specimen parameter.

Shaker system specific dPA-153 models are available, matched to Labworks most popular shaker systems including field supplies, de-gauss supplies, cooling and overtravel interlocks all in one chassis where needed.

<table>
<thead>
<tr>
<th>Shaker</th>
<th>Amplifier Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET-140</td>
<td>dPA-153-0</td>
</tr>
<tr>
<td>FG-143</td>
<td>dPA-153-3</td>
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<tr>
<td>ET-127</td>
<td>dPA-153-7</td>
</tr>
<tr>
<td>ET-139</td>
<td>dPA-153-9</td>
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</tbody>
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(714)549-1981
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dPA-153 SPECIFICATIONS

Output Voltage (continuous)
- Volts (rms)    75
- Volts (peak)   110

Output Current (continuous)
- Amps (peak)    120
- Amps (rms)
  - Maximum        43
  - High Current Limit  25
  - Medium Current Limit  22
  - Low Current Limit   13

Frequency Range
- -3dB          3.0 - 4000 Hz
- -6dB          2.0 - 6000 Hz

Air Cooling
- Dissipation Typical   300W
- Dissipation Maximum   600W
- Noise Level (L/H)     <50dB / <62 dB

Inlet Air Temperature Range
- 40-100°F

Maximum Voltage Gain
- 45 dB

Digital Panel Display
- Volts, pk     10 segment + 3 digits
- Amps, rms     10 segment + 3 digits
- Shaker        System Diagnostics
- Internal      Amplifier Diagnostics
- Ext. Interlocks Fault Open, Closed, TTL
- Operational   Current Limiting
-                Amplifier Temperature

Front Panel Status Lights, Controls
- Lights        Fault, Ready, Interlock
- Controls      Power, Gain, Current Limit

Signal Input
- Max Voltage   10 Vpk
- Input impedance 10 KΩ
- Input Connector BNC

Self Protection
- Over Current, Over Temperature

Line Input Power
- Voltage      120*, 200 - 240Vac, 50-60 Hz, 1Ø
- Power (Max)
  - dPA-153-0   2100 VA*
  - dPA-153-3   2300 VA*
  - dPA-153-7   3500 VA*
  - dPA-153-9   1750 VA

*This Power level is not available from a standard U.S.A. 115/120 V wall outlet

Dimensions
- 8.8”H x 19”W x 17”D

Weight
- dPA-153-0   85 lbs
- dPA-153-3   80 lbs
- dPA-153-7   115 lbs
- dPA-153-9   75 lbs

TYPICAL DISPLAY MESSAGES

Welcome screen indicates firmware revision levels.

Vibration test system monitoring and control messages.

Normal operation screen peak output Voltage and rms output current.