CODE AND TRUTH TABLES

Dots in the chart indicate connected terminals when switch is closed.
Terminals are identified on the keyboard.

SERIES 84S
Sealed

FEATURES
- Waterproof Silicone Rubber
- Easily Readable Legends
- Audible, Tactile Contacts
- Low Contact Resistance
- Optional RF/EMI Shielding
- 3,000,000 Operations per Button

SPECIFICATIONS
Rating Criteria
Rating at 24 Vdc: ±10 milliamps resistive
Contact Bounce: 4 milliseconds maximum at make, 10 milliseconds at break
Contact Resistance: MOS, TTL, and DTL compatible (10 ohms maximum)
Life Expectancy: 3 million operations/button
Insulation Resistance: ≥1,000 megohms

Operating Features
Pre-Travel: 0.005 inches minimum

Operating Force: 20 ± 4 ounces
Humidity: 0 to 95% (no condensation)
Minimum Push Out Force Per Pin: 5 pounds

Materials and Finishes
Terminal Pins: Copper alloy CDA 725, solder-plated
PC Board: FR-4 glass cloth epoxy
Contact Dome: Stainless steel, selectively gold plated
Dome Retainer/Rear Seal Sheet: Polyester

Mounting Studs: Phosphor bronze
Optional Hex Nut: Stainless steel, passivated
Optional EMI Shield: Aluminum foil
Keypad: Silicone rubber
Buttons: ABS Cycolac, grade FR15U

Shielding Effectiveness
Results shown are typical for a standard Grayhill Series 84S Keyboard. A conductive gasket will generally increase the shielding, depending on the size and shape of the gasket and its material. Data derived for E-Field Radiation.

FREQUENCY RATING

<table>
<thead>
<tr>
<th>Freq (MHz)</th>
<th>0.1</th>
<th>10</th>
<th>100</th>
<th>400</th>
<th>800</th>
<th>2,000</th>
<th>6,000</th>
<th>10,000</th>
<th>18,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating (dB)</td>
<td>68.2</td>
<td>59.8</td>
<td>90.5</td>
<td>64.2</td>
<td>42.3</td>
<td>40.5</td>
<td>38.1</td>
<td>34.4</td>
<td>37.0</td>
</tr>
</tbody>
</table>

Test Method:
Measurements were made with the keyboard mounted to a brass plate, which in turn was mounted to a shielded enclosure containing the receiving equipment. A signal generator provided the frequency source that was radiated from the transmitting antenna to the enclosed receiving antenna. The spacing between antennas was maintained constant throughout the frequency range. The effectiveness rating is determined by establishing a reference reading without obstruction between the two antennas and determining the difference between that reading and the test setup reading.

Note:
When measured in actual equipment, shielding effectiveness is determined by many factors. This method accurately represents the shielding effectiveness of the Grayhill Series 84S under ideal test conditions.