General Description

Lab Brick Signal Generators are RF signal sources with operation up to 6 GHz. These units require connection to a USB port for control and power. No additional DC supply voltage is required. Lab Brick Signal Generators are easily programmable for fixed frequency or frequency stepping directly from the included GUI. Lab Brick Signal Generator API dll and LabVIEW compatible drivers are also available for custom programming applications.

Features/Benefits

- USB powered and controlled
- Includes easy to install and use GUI
- Programmable frequency stepping
- Output level up to +20 dBm
- Output level control
- Operate multiple devices directly from a PC or USB hub
- Autonomous operation from USB hub or battery pack
- Easily programmable for ATE applications
- Robust cast aluminum construction

Applications

- Automated Test Equipment (ATE)
- Portable LO Source
- Engineering/Production Test Lab
## Standard Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSG-251</td>
<td>50 - 250 MHz</td>
</tr>
<tr>
<td>LSG-251-20</td>
<td>50 - 250 MHz</td>
</tr>
<tr>
<td>LSG-152</td>
<td>250 - 1500 MHz</td>
</tr>
<tr>
<td>LSG-152-20</td>
<td>250 - 1500 MHz</td>
</tr>
<tr>
<td>LSG-222</td>
<td>500 - 2200 MHz</td>
</tr>
<tr>
<td>LSG-222-20</td>
<td>500 - 2200 MHz</td>
</tr>
<tr>
<td>LSG-402</td>
<td>1000 - 4000 MHz</td>
</tr>
<tr>
<td>LSG-602</td>
<td>1500 - 6000 MHz</td>
</tr>
</tbody>
</table>

### Standard Operating Modes
- Fixed Frequency
- Frequency Stepping - Single Sweep
- Frequency Stepping - Repeat Sweep

### Available Options
- Opt 001: External Reference
- Opt 002: +13 dBm Output Power

### Electrical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>LSG-251</th>
<th>LSG-152</th>
<th>LSG-222</th>
<th>LSG-402</th>
<th>LSG-602</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>100 kHz</td>
<td>+/- 2ppm</td>
<td>0.5 dB</td>
<td>+/-0.5 dB at +10 dBm</td>
<td>+/-1.5-0.5 dB full range</td>
</tr>
<tr>
<td>Output Power</td>
<td>+10 to -45 dBm</td>
<td>+20 to -35 dBm</td>
<td>0.5 dB</td>
<td>+/-0.5 dB at +10 dBm</td>
<td>+/-1.5-0.5 dB full range</td>
</tr>
<tr>
<td>Spurious</td>
<td>-80 dBc</td>
<td>-70 dBc</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>VSWR</td>
<td>1.5:1</td>
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<tr>
<td>Harmonics</td>
<td>-10 dBc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase Noise</td>
<td>-105/-125 dBc/Hz</td>
<td>-95/-115 dBc/Hz</td>
<td>-90/-110 dBc/Hz</td>
<td>-85/-105 dBc/Hz</td>
<td>-75/-95 dBc/Hz</td>
</tr>
</tbody>
</table>

### Mechanical Specifications
- RF Connector: SMA-Female
- USB Connector: MiniB-Female
- Dimensions: 4.90x3.14x1.59 inches (124x80x40 mm)
- Weight: < 1.0 lbs. (< .45 kG)
- Mounting Holes (2): #6 Socket Head Screws - not included

### GUI Compatibility
- Windows 2000/XP/Vista

### Included Accessories
- USB Flash Drive with: GUI Software
- User Manual/Programming Guide
- API drivers
- 6' USB Cable

## Notes
1. Customized models are available tailored to specific performance requirements.
2. Specifications are subject to change without notice.
3. +10 to -40 dBm for the LSG-602.
4. 2.2:1 for LSG-XXX-20 models

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**Vaunix Technology Corporation**
242 Neck Road
Haverhill, MA 01835
978-662-7839
www.Vaunix.com

**Lab Brick**
www.LabBrick.com
Revision C
Mechanical Outline

Revision History

<table>
<thead>
<tr>
<th>REV</th>
<th>DESCRIPTION</th>
<th>DATE</th>
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<tr>
<td>A</td>
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<td>12/06/07</td>
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<tr>
<td>B</td>
<td>REVISED SCALE AND REV BLOCKS</td>
<td>01/30/08</td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. Dimensions are nominal.

Ordering Information

For price, delivery and order placement please contact Vaunix Technology Corporation:
242 Neck Road Haverhill, MA 01835 Phone: 978-662-7839 Fax: 978-662-7842
or visit www.labbrick.com to order online