The Larson Davis Model 426A12 Outdoor Microphone has been designed for permanent outdoor use in any weather condition. It is constructed of stainless steel to resist corrosion, and its profile minimizes both wind resistance and acoustic reflections. It includes a rain hat, wind screen and bird spikes and an electrostatic actuator which can be controlled remotely for on-site calibration checks. With the proper choice of microphone, it can provide frequency response characteristics consistent with precision sound level meter requirements for free-field or random incidence measurements. Equipped with A, C and Z-weighting filters and a 20 dB gain, the 426A12 is ideal for use with any electronic sound measurement system.

A hydrophobic membrane vent and replaceable desiccant cartridges prevent moisture from reaching the microphone through the vent. The saturation status of the desiccant cartridges can be determined remotely using signals from internal temperature and humidity sensors, as well as visually through an observation window.

The Larson Davis Model 831 sound level meter is the ideal complement to the Model 426A12 Permanent Outdoor Microphone for Noise Monitoring Systems.
### Permanent Outdoor Microphone

**Electrical Frequency Response**

<table>
<thead>
<tr>
<th>Sensitivity</th>
<th>50 mV/Pa for 426A12-FF and 426A12-RH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Response</td>
<td></td>
</tr>
<tr>
<td>Z-Weight</td>
<td>10 Hz to 63 kHz (± 0.2 dB)</td>
</tr>
<tr>
<td>A-Weight</td>
<td>40 Hz to 20 kHz (± 0.3 dB)</td>
</tr>
<tr>
<td>C-Weight</td>
<td>25 Hz to 20 kHz (± 0.3 dB)</td>
</tr>
<tr>
<td>A and C-Weight Compared to A-Weight @ 1 kHz</td>
<td>&lt; 0.12 dB</td>
</tr>
</tbody>
</table>

### Acoustical Frequency Response

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>Free-field Response with 377B02 Microphone</th>
<th>Random Response with 377B20 Microphone</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Hz to 20 Hz</td>
<td>+1 dB, -3 dB</td>
<td>+1 dB, -3 dB</td>
</tr>
<tr>
<td>20 Hz to 5 kHz</td>
<td>± 1 dB</td>
<td>± 1 dB</td>
</tr>
<tr>
<td>5 kHz to 12.5 kHz</td>
<td>+1 dB, -2 dB</td>
<td>+2 dB, -1 dB</td>
</tr>
<tr>
<td>12.5 kHz to 16 kHz</td>
<td>+0 dB, -5 dB</td>
<td>+1 dB, -4 dB</td>
</tr>
</tbody>
</table>

### Acoustical Frequency Response Limits with the 250 Hz Level as the Reference

- **Dynamic Range**
  - 0 dB Gain, A-Weight: 130 dB, 10 dB noise floor to 140 dB re.20μV with an equivalent 50 mV/Pa microphone.
  - 20 dB Gain, A-Weight: 114 dB, 10 dB noise floor to 120 dB re.20μV with an equivalent 50 mV/Pa microphone.
  - Note that a typical 50 mV/Pa microphone has a 15 dB A-weighted noise in addition to the electrical noise of the preamplifier.

- **Output Noise**
  - 20 Hz to 20 kHz, with output through an ADP005 (18 pF)
  - Gain, dB: 0 dB 3.6 μV, 3.0 μV, 3.8 μV
  - 20 dB 33 μV, 18 μV, 27 μV

- **Preamplifier Output Cable Driving Capacity**
  - Length, ft: 14 Vpeak, 4.2 Vpeak, 1.4 Vpeak
  - 250: 38 kHz, 120 kHz, 300 kHz
  - 500: 19 kHz, 62 kHz, 180 kHz
  - 1,000: 9.5 kHz, 31 kHz, 92 kHz
  - 2,000: 4.7 kHz, 15.6 kHz, 47 kHz

- **Cable Driving Capacity Control Cable**
  - The control cable length is limited to 120 feet total of CBL154 and EXAXXX extension cable unless the 10.5 V minimum power supply voltage is increased.

- **Power Supply**
  - Voltage: External 12 Vdc
  - Voltage Range: 10.5 to 18 Vdc
  - Isolated from preamp circuitry for ground loop protection

- **Power Consumption**
  - 0 V Microphone Bias: 85 mA at 12 Volt (110 mA with electrostatic actuator on)
  - 200 V Microphone Bias: 120 mA at 12 Volt (150 mA with electrostatic actuator on)

### Environmental

- **Operating Temperature Range**
  - 40 °C to 70 °C (40 °F to 158 °F)

- **Humidity Sensitivity**
  - < 0.05 dB @ 1 kHz from 40 °C to 70 °C

### Physical

- **Microphone Thread**
  - 114 mm - 80 UNS (4006 - 60 UNS)

- **Mounting Thread**
  - 1.1/2” ISO 288-1

- **Windscreen Diameter**
  - 101.6 mm (4 in)

- **Weight**
  - 1.361 kg (3 lb)

- **Height**
  - 597 mm (23.1 in)

### Compliance

- **IEC61622-1 EMC requirements for electrical equipment for measurement, control and laboratory use**

### Accessories

- **DSC004**
  - Desiccant Pack (10 sets)

- **EPS2110**
  - Rainhat with built-in electrostatic actuator head

- **CBL154**
  - 12 Vdc to Model B31 control cable, 20 ft (6 m)

### Ordering Information

- The 426A12 is a preamplifier without a microphone. Packages including microphones are available as follows. The 426A12 with its selected microphone is subjected to an environmental test

- **Ordering Code**
  - 426A12-FF: Permanent Outdoor preamplifier
  - 426A12-R: Permanent Outdoor preamplifier
  - 426A12: Permanent outdoor preamplifier without microphone

For environmental noise monitoring and building acoustics, Larson Davis offers a full line of instruments, accessories and software. For personal noise and vibration exposure monitoring, Larson Davis complements this with sound level meters, personal noise dosimeters, human vibration meters, audiometric calibration systems and hearing conservation programs.