mesytec MSI-8-PT is a compact 8 channel preamplifier with ±5V preamp output, a timing filter output and an additional differential preamplifier output. It uses the same preamp cards as MSI-8 and adds a buffer / timing filter card instead of the Shaper card for MSI-8.

Features:

• Gain adjustable by Jumper at preamp x5.
• 8 channel compact standalone module
• Preamplifier modules individually selectable
• Two buffered Lemo outputs per channel: preamplifier and timing filter output.
• Differential preamplifier output per channel. Can be terminated with 100 Ohm.
• Single and common detector bias
• All outputs can be terminated with 50 Ω
• Lemo connectors for in- and outputs
**System Design**

**Preamplifier inputs**
- Lemo connectors directly situated on the preamplifier module

**Detector bias**
- Lemo connectors directly situated on the preamplifier module
- Connect bias switches allow to select a channel group to be commonly biased. (Bias inputs of this group are connected). This allow easier cabling.

**Pulser input**
- Tail pulse, or square pulse
- Internally terminated with 50 Ω
- Sensitivity marked on the box

**Pre amplifier outputs**
- Lemo connector
- Positive, or negative preamplifier pulse, maximum amplitude +4 V unterminated, +2.0 V terminated.

**Timing output**
- Lemo connectors
- Fast negative signal (standard band width limit RC = 7 ns)
- Max +4 V unterminated +2.0 V terminated

**Differential outputs**
- Each preamplifier channel has an extra differential output. Maximum amplitude +1.8 V. Can drive differential terminated 100Ohm lines.

**Power supply**
- SUB-D 9 female connector. (NIM convention)
- Supply voltages (currents for box with 8 shapers and 8 preamps)

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>+12 V</td>
<td>150 mA</td>
</tr>
<tr>
<td>+6 V</td>
<td>50 mA</td>
</tr>
<tr>
<td>−6 V</td>
<td>−100 mA</td>
</tr>
</tbody>
</table>

Total power: 3 W

- Pin connections (numbers are noted on the connector):

<table>
<thead>
<tr>
<th>pin</th>
<th>name</th>
<th>pin</th>
<th>name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gnd</td>
<td>6</td>
<td>Not connected</td>
</tr>
<tr>
<td>2</td>
<td>Gnd</td>
<td>7</td>
<td>Not connected</td>
</tr>
<tr>
<td>3</td>
<td>+6 V</td>
<td>8</td>
<td>Not connected</td>
</tr>
<tr>
<td>4</td>
<td>+12 V</td>
<td>9</td>
<td>Not connected</td>
</tr>
<tr>
<td>5</td>
<td>−6 V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Box size**
- length = 170 mm
- width = 105 mm
- height = 67 mm
Preamp Module (MMPR-1)

Input
• The standard pre amplifiers can handle a detector capacity of up to 1000 pF

Detector bias
• Maximum bias voltage: ±400 V
• Bias filter 10 MΩ / 50 MΩ (selectable by internal jumper)

Sensitivity
Attenuator switch by factor of 5

Power consumption
• Low power: typ 150 mW
• cooling not necessary

For details see data sheet of MMPR-1