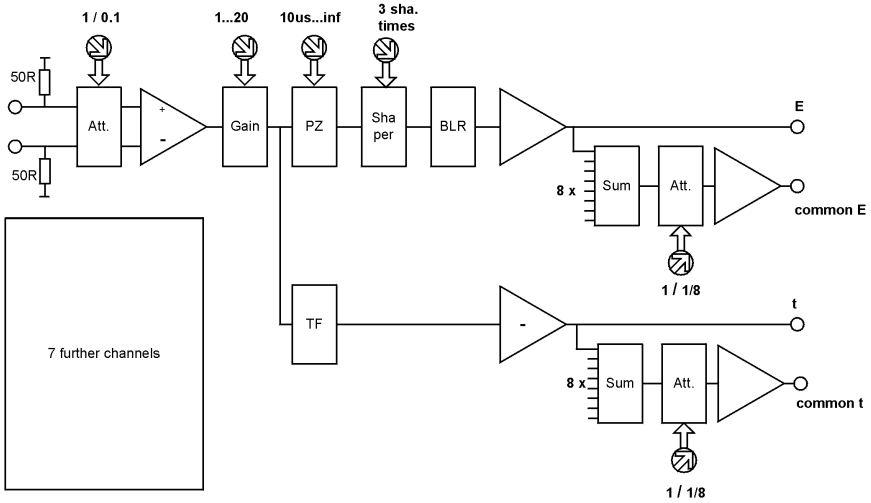
The mesytec **MDS-8** is an 8-channel spectroscopy amplifier with integrated timing filter amplifier in a 1/12 wide NIM module. It provides an adjustable gain of 1 to 150, and 3 shaping times.

Features:

- Eight differential Lemo inputs, can be used single ended.
- Input resistance 50 Ω (= 100 Ω differential).
- 3 shaping times: 0.25, 0.5 , 1 us (sigma)
- Passive baseline restorer
- Adjustable gain and PZ compensation at front panel
- Individual outputs:
  - +10 V shaped pulse
  - –2 V timing filter output
- Common outputs:
  - sum of shaping outputs
  - sum of timing filter outputs

Schematic:



mesytec GmbH & Co. KG
Wernher-von-Braun- Str. 1, 85640 Putzbrunn, Germany
phone: +49 - 89 / 456007-30 fax: +49 - 89 / 456007-39
info@mesytec.com - www.mesytec.com

Technical Data

Shaper inputs

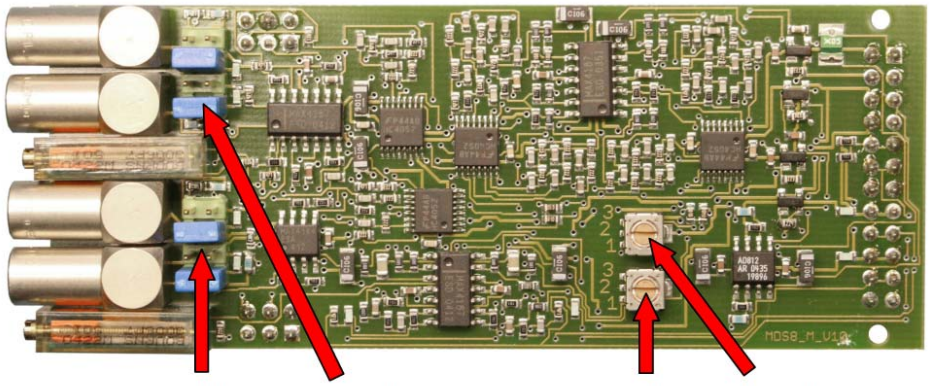
- internally terminated with 50 Ω (differential use 100 Ω)
- positive and negative input
- adjustable gain range: 0.75..150. (Factor 20 with 10 turn potentiometer plus factor 10 by sensitivity jumpers.)

Energy outputs

for each channel:

- Shaper output amplitude: max 10 V (into 1 kΩ).
- Shaping time switch selectable for each channel : 0.25, 0.5, 1us (sigma).
- Integral nonlinearity < $2*10^{-4}$
- Input noise: (shaping times Sigma) For 0.25, 0.5, 1 us: 20 uVrms @ gain = 100
- Offset: max 3 mV.

Servicable elements inside the module



Timing outputs

for each channel:

- Scaled with gain setting.
- output voltage max –2 V full range.
- integration time = 15 ns.
- differentiation time = 50, 80, 150 ns (at 0.25, 0.5, 1 us Shaping time).
- can be terminated with 50 Ω.

Common Timing output

- sum value of all 8 timing outputs,
- max –4 V output amplitude.
- Attenuator for factor of 8 is jumper selectable.
- can be terminated with 50 Ω.

Common Energy output

- sum value of all energy outputs (only useful for same shaping time in all channels).
- max 10 V output amplitude.
- Attenuator for factor of 8 is jumper selectable.

Pole zero adjustment

Front panel potentiometer.
Range 10 us to ∞

Power consumption

+12 V +60 mA
+6 V +50 mA
–6 V –110 mA
total power dissipation: 1.7 W

mesytec GmbH & Co. KG
Wernher-von-Braun- Str. 1, 85640 Putzbrunn, Germany
phone: +49 - 89 / 456007-30 fax: +49 - 89 / 456007-39
info@mesytec.com - www.mesytec.com