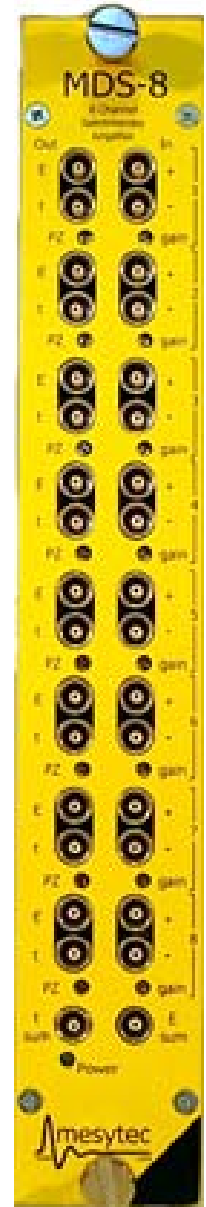
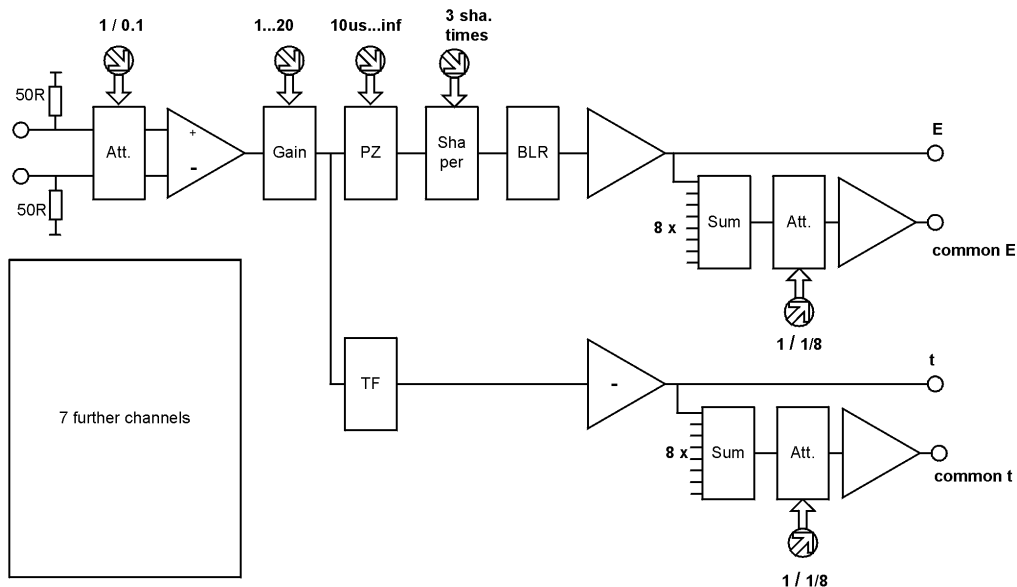


The mesytec **MDS-8** is an 8-channel spectroscopy amplifier with integrated timing filter amplifier in a 1/12 wide NIM module. It provides an adjustable gain of 1 to 200, and 3 shaping times.

### Features:

- Eight differential Lemo inputs, can be used single ended.
- Input resistance 50 Ohm (= 100 Ohm differential).
- 3 shaping times: 0.4, 1, 2.5 us or 8, 20, 50us FWHM
- 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



# Datasheet

## Shaper inputs

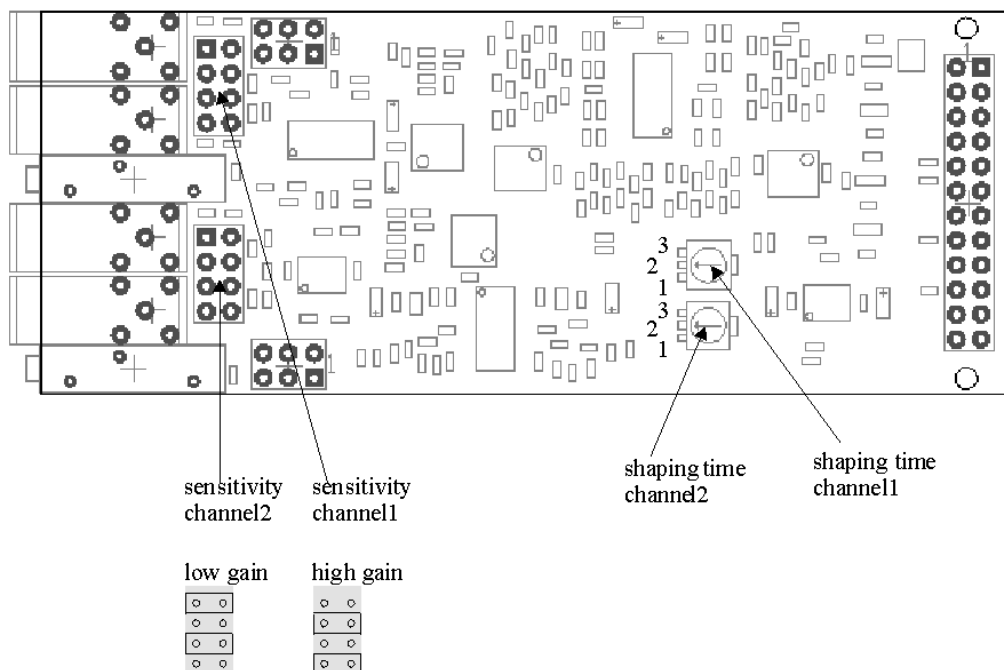
- internally terminated with 50 Ohm (differential use 100 Ohm)
- positive and negative input
- adjustable gain range: 1..200. (Factor 20 with 10 turn potentiometer plus factor 10 by attenuator jumpers.)

## Energy outputs

for each channel:

- Shaper output amplitude: max 10 V (into 1 kOhm).
- Shaping time switch selectable for each channel : 0.4, 1, 2.5 us or 8, 20, 50us FWHM.
- Integral nonlinearity  $< 2 \cdot 10^{-4}$
- Input noise:  
For 0.4, 1, 2.5us: 20 uVrms @ gain=100  
For 8, 20, 50us: 8.5 uVrms @ gain=100
- Offset: max 3mV.

## 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 = 200 ns.
- can be terminated with 50 Ohm.

## 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 Ohm.

## Common Energy output:

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

## Pole zero adjustment

Front panel potentiometer. Range 10 us to  $\infty$

## Power consumption:

+12 V +60 mA  
+6 V +50 mA  
-6 V -110 mA

total power dissipation: 1.7 W