Q125 Signal Processor

Oct 2001

The Q125 Signal Processor provides many useful features normally requiring multiple modules. Audio and control signals can be amplified, attenuated, off-set, and inverted all in this one, easy-to-use module. Two sections allow two processes to be performed at the same time.

Processing functions

Amplification
Attenuation
Inversion
Voltage Source
Offset Adjustment

Specifications

Panel Size: Single width 2.125"w x 8.75"h.
Input Levels: 10V PP maximum
Output Levels: 20V PP maximum
Power: +15V@8ma, -15V@8ma.

Controls and Connectors

Top Section

Gain Control

Sets the overall gain/attenuation. Full counter clockwise results in an inversion of 200%. Full clockwise results in a non-inversion of 200%.

Offset Control

Adds a positive or negative offset to the waveform. Full counter clockwise results in an offset of –5 volts. Full clockwise results in an offset of +5 volts. Without an input the offset control can be used to generate a voltage source of –5 volts to +5 volts.

Input Jack

Signal to be processed.

Output Jack

Signal output.

Bottom Section

Normal/Invert Switch

Determines whether the output will be inverted or not.

Offset Control

Adds a positive or negative offset to the waveform. Full counter clockwise results in an offset of –5 volts. Full clockwise results in an offset of +5 volts. Without an input the offset control can be used to generate a voltage source of –5 volts to +5 volts.

Input Jack

Signal to be processed.

Output Jack

Signal output.

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Testing

No calibration is required on this module. Jumpers on the PC Board select +/-100% (jumper off) maximum gain or +/-200% (jumper on) maximum gain for each section. Normally the top section will provide +/-200% and the bottom section +/-100%.

Top Section
1. Attach a volt meter to the output jack.
2. When the offset control is in it's full counter-clockwise position, the output should be –5 volts.
3. When the offset control is in it's full clockwise position, the output should be +5 volts.
4. Set the offset control to it's center position (0 offset).
5. Apply a +5 volt to the input jack.
6. The output should be +10 volts when the gain control is in the full clockwise position and –10 volts
   when in the full counter-clockwise position.

Bottom Section
Same as the top section except the toggle switch selects between +100% gain and –100% gain.

Power Connector

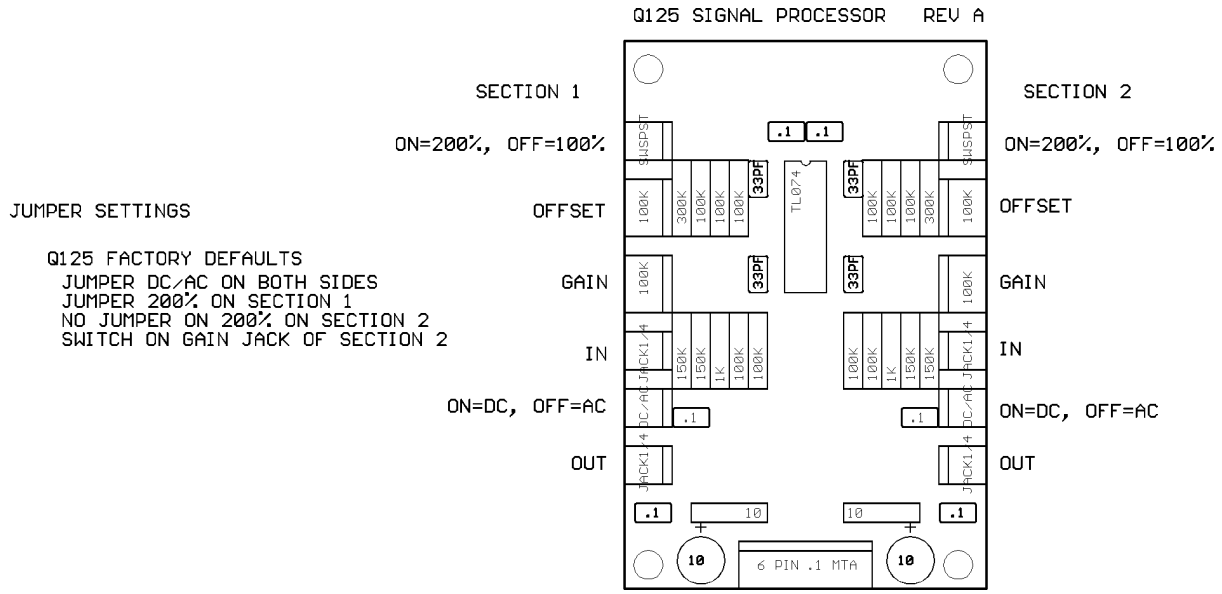
6 pin .1" MTA type connector made by AMP. Available from Mouser Electronics or Digi-Key. Modules have a male PCB mount connector and cable harnesses have a female.

Part Numbers:
Female cable mount: #6404416
Male PCB mount: #6404566

Pinout:
1 = +15v
2 = key (pin removed)
3 = +5v
4 = gnd
5 = -15v

Not all voltages are used on all modules.

PC Board Layout



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