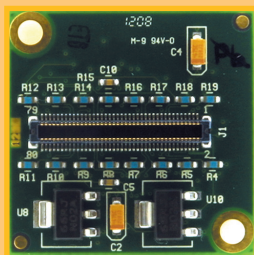
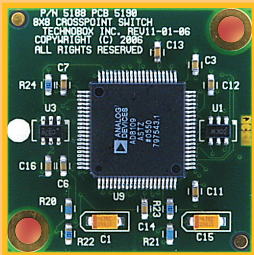
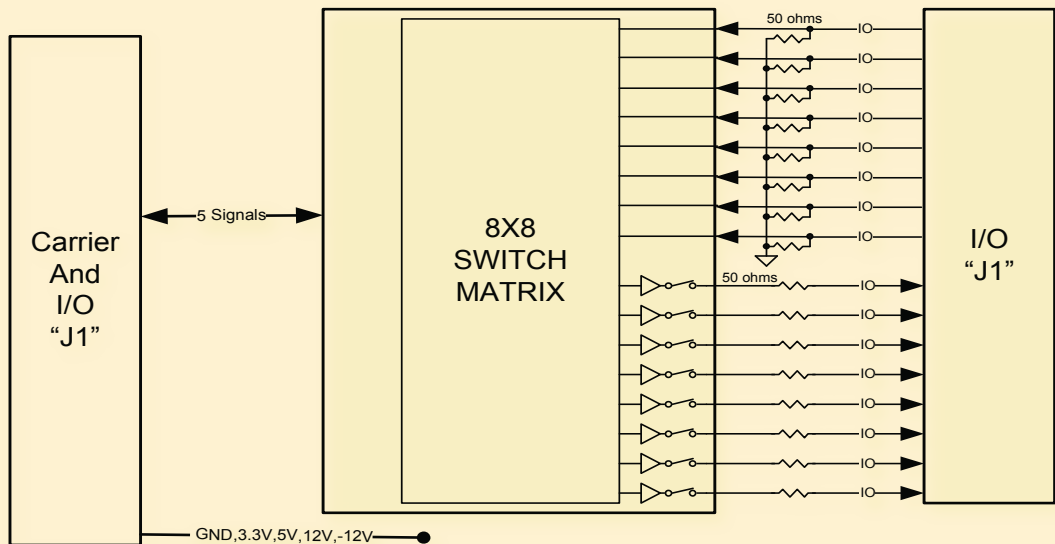


# Conversion Module

## Analog 8 x 8 Crosspoint Switch



# 5188



- Analog input/output ECM
- 8x8 Crosspoint switch
- Single-ended signals (8 inputs to 8 outputs)
- Differential signals (4 inputs to 4 outputs)
- Input signal range 3.75 V to -3.75 V, 250 MHz bandwidth
- Parallel 50 ohm single ended termination on inputs
- Series 50 ohm termination on outputs
- Output disables
- Analog Devices AD8109
- On board serial identification circuit
- Industrial temperature range
- RoHS compliant
- Patented

### Specifications

Temperature (Operating):  
-40 to +85 degrees C

Temperature (Storage):  
-55 to +100 degrees C

Altitude: Not Specified or Characterized. Typical similar equipment is at 15,000 ft.

Humidity (Operating/Storage):  
5% to 90% non-condensing

Vibration: Not specified or Characterized

Shock: Not specified or Characterized

MTBF: Available on request

Weight: 3 grams

Power: TBD

### Ordering Information

5188: Analog 8 x 8 Crosspoint Switch

**Technobox, inc.**

140 Mount Holly Bypass  
Unit 1  
Lumberton, NJ 08048

Tel: 609-267-8988  
Fax: 609-261-1011

www.technobox.com

The Technobox P/N 5188 ECM module provides a crosspoint switch for analog or digital signals.

For single ended applications 8 inputs can be connected up to 8 outputs in any configuration.

For differential applications the user can select 4 differential inputs to connect with 4 differential outputs.

Voltage signal range 3.75 V to -3.75 V.

Parallel 50 ohm single ended termination on all inputs. Internal gain of 2 compensates for 50 ohm output impedance of source.

The two parallel 50 terminations appear as 100 ohms for differential signals.

Series 50 ohm termination on all outputs.

Bandwidth 250 MHz.

See AD8109 datasheet for more detail.

#### Typical applications P/N 5188

The 5188 can route any of 8 inputs to any of 8 outputs either single ended or differential signals. For differential pairs it is suggested to use IO0/IO1, IO2/IO3 etc. Note that when the outputs are disabled they are not high impedance, but have a 1K resistance in parallel which may have to be considered when tying multiple outputs together.

The gain of 2 compensates for applications with 50 ohm parallel termination, however when driving high impedance inputs the input signal should be reduced by half to get the desired voltage at the output.

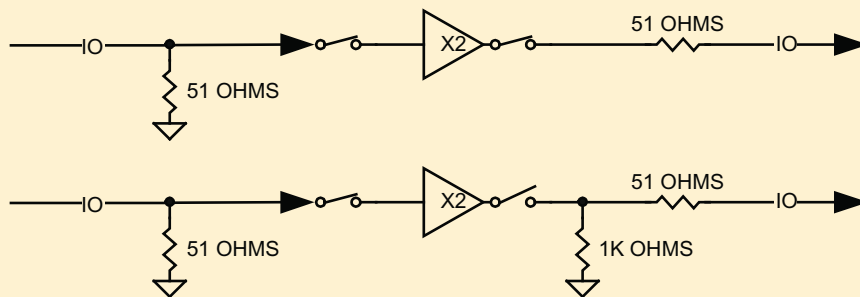


Figure 1 Signal chain with outputs enabled and disabled

| User IO | J1 Pin Number | J1 Direction | Description                                           |
|---------|---------------|--------------|-------------------------------------------------------|
| IO0     | 16            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO1     | 18            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO2     | 28            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO3     | 30            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO4     | 52            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO5     | 54            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO6     | 64            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO7     | 66            | INPUT        | -3.75 V to +3.75 V input, parallel terminated 51 ohms |
| IO8     | 65            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |
| IO9     | 63            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |
| IO10    | 53            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |
| IO11    | 51            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |
| IO12    | 29            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |
| IO13    | 27            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |
| IO14    | 17            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |
| IO15    | 15            | OUTPUT       | -3.75 V to +3.75 V input, series terminated 51 ohms   |

Table 1 User IO signal connections

| Carrier Data | J1 Pin Number | J1 Direction | Description           |
|--------------|---------------|--------------|-----------------------|
| DA0          | 10            | INPUT        | U9, Serial Data Clock |
| DA1          | 12            | INPUT        | U9, Update when High  |
| DA2          | 22            | INPUT        | U9, Reset when Low    |
| DA3          | 24            | INPUT        | U9, Serial Data In    |
| DA4          | 34            | OUTPUT       | U9, Serial Data Out   |
| DA5          | 36            | N/C          | No connection         |
| DA6          | 46            | N/C          | No connection         |
| DA7          | 48            | N/C          | No connection         |
| DA8          | 58            | N/C          | No connection         |
| DA9          | 60            | N/C          | No connection         |
| DA10         | 70            | N/C          | No connection         |
| DA11         | 72            | N/C          | No connection         |
| DA12         | 71            | N/C          | No connection         |
| DA13         | 69            | N/C          | No connection         |
| DA14         | 59            | N/C          | No connection         |
| DA15         | 57            | N/C          | No connection         |
| DA16         | 47            | N/C          | No connection         |
| DA17         | 45            | N/C          | No connection         |
| DA18         | 35            | N/C          | No connection         |
| DA19         | 33            | N/C          | No connection         |
| DA20         | 23            | N/C          | No connection         |
| DA21         | 21            | N/C          | No connection         |
| DA22         | 11            | N/C          | No connection         |
| DA23         | 9             | N/C          | No connection         |
| DA24         | 40            | N/C          | No connection         |
| DA25         | 41            | N/C          | No connection         |
| DA26         | 42            | N/C          | No connection         |
| DA27         | 39            | N/C          | No connection         |

Table 2 Carrier DA signal connections

