ASI1451

16 INPUT AND 16 OUTPUT GPIO MODULE

1 DESCRIPTION

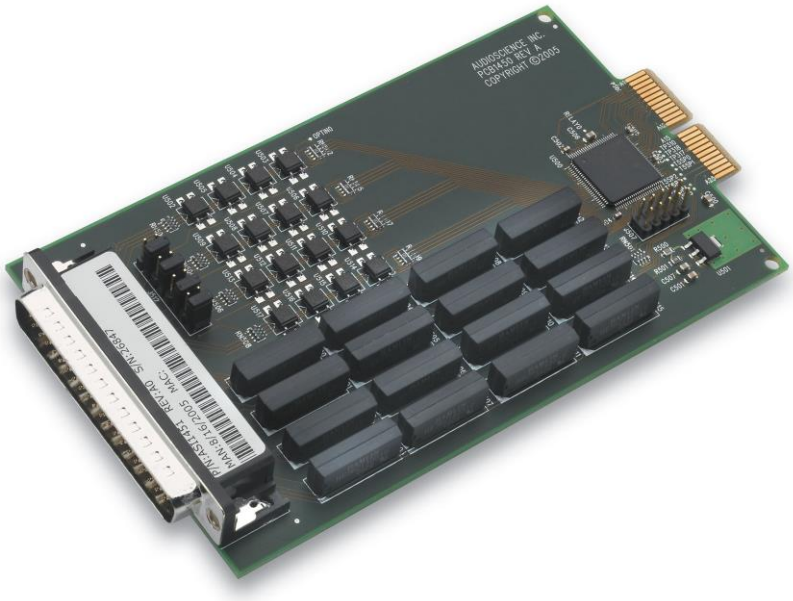
The ASI1451 is a GPIO module intended for use in the Hono AVB/CobraNet Custom network interfaces. It contains 16 opto-isolated inputs and 16 relay isolated outputs.

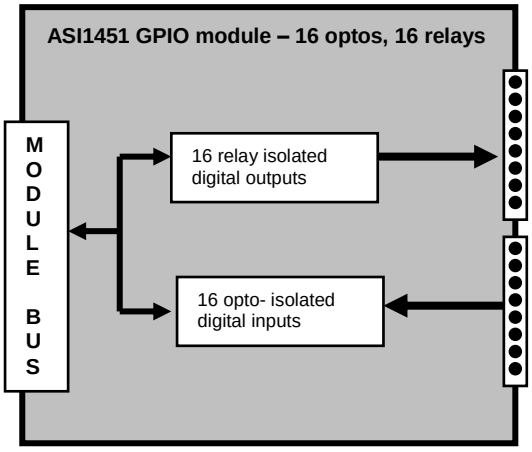
Up to four ASI1451 modules may be used in one Hono Custom allowing up to 64 opto-isolated inputs and 64 relay outputs in a 1RU interface.

The ASI451 uses a Terminal Block connector, the ASI1493.

2 FEATURES

- Sixteen opto-isolated inputs
- Sixteen relay isolated outputs
- Terminal Block connector
- Up to four modules can be used in one Hono Custom





ASI1493
Terminal Block

3 SPECIFICATIONS

OPTO-ISOLATED INPUTS	
Isolation	2000VRMS
Input Drive	4mA typical with internal 5V supply and internal 1K current limiting resistor
RELAY OUTPUTS	
Isolation	1500VRMS between relay contacts and coil
Contact Rating	Up to 200VDC and 500mA, 10W maximum
CONNECTOR MODULES	
ASI1493	5 position 3.81mm pluggable terminal block (8 per module)
GENERAL	
Bus	AudioScience Hono Custom series module bus
Dimensions	(Without Module Connector) 5.5" x 3.25" x 0.6" (140mm x 83mm x 15mm)
Weight	8 oz (227g) max
Operating Temperature	0C to 70C
Power Requirements	+5V @ 500mA
NOTES	

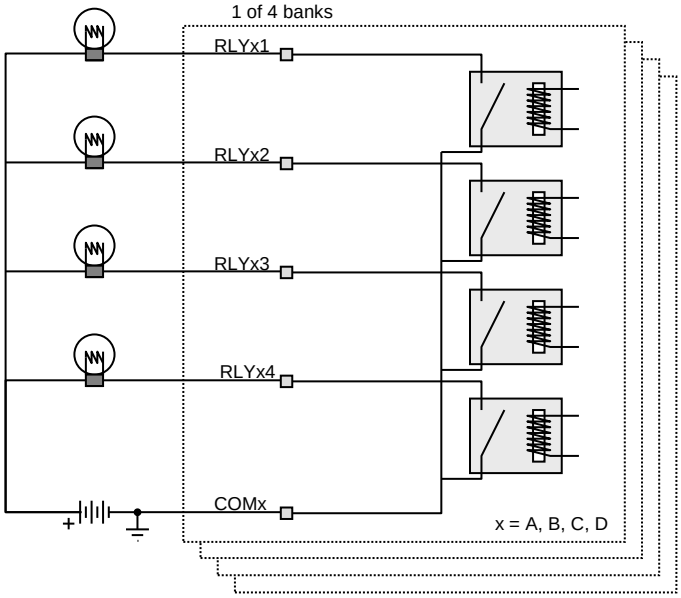
4 REVISIONS

Date	Description
27 June 2009	Elaborated first page, second paragraph. Updated format, including adding a REVISIONS section.
07 April 2010	Section 7: Added Rev numbers.
13 October 2017	Updated to include AVB compatibility

5 CONTENTS

7 GP-OUTPUT CONNECTIONS

The GP outputs are organized as four banks (A…D) of four outputs (1…4). Each bank consists of four normally open relays with one side connected to a common. The current through each relay should be limited to 500mA.

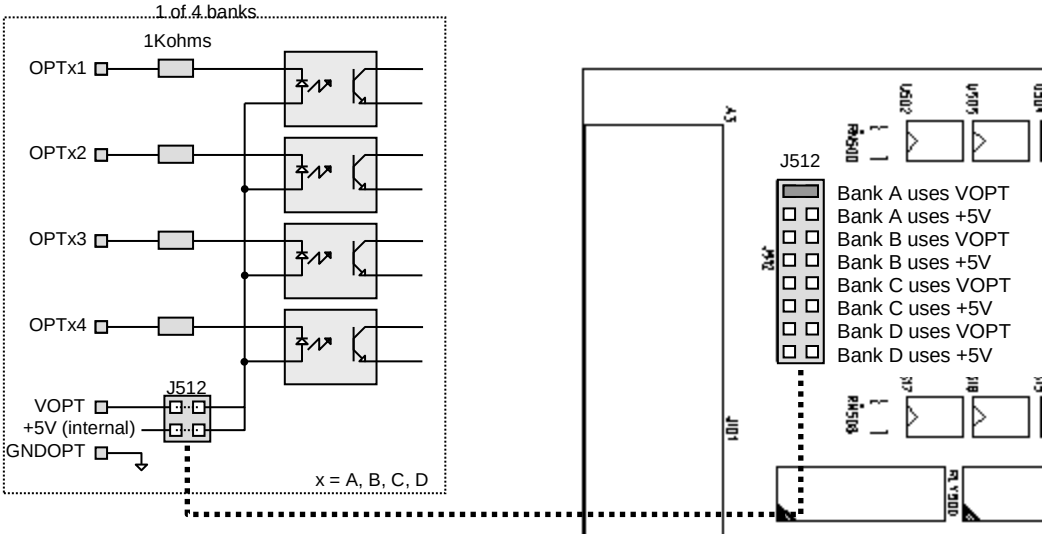


8 GP-INPUT CONNECTIONS

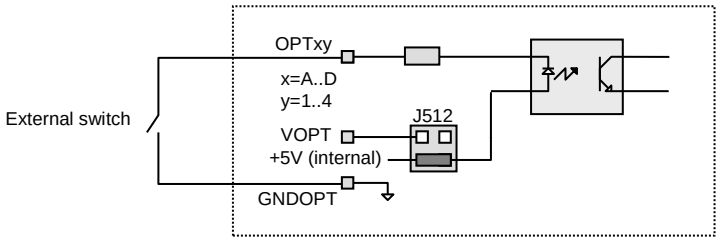
The GP inputs are organized as four banks (A...D) of four inputs (1…4). Each bank consists of four opto-isolators.

The voltage powering the LED in the opto-isolator may either be supplied from an external source through the VOPT pin or may be powered from the modules internal +5V supply. The opto-isolator voltage is settable for each bank using jumpers on J512 located on the ASI1451 PCB.

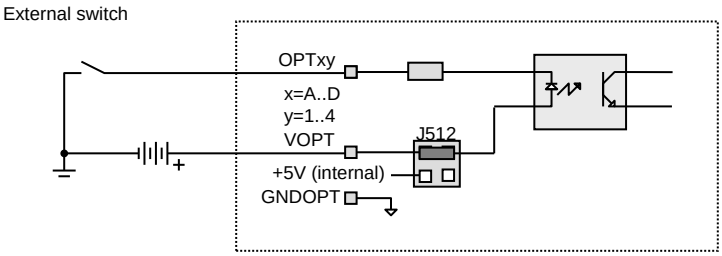
Approximately 5mA is needed to fully turn on each opto-isolator. When using the internal +5V power source then the 1K ohm current limiting resistors are all that is needed. When using an external voltage, the current should be limited to 25mA. With the internal 1K resistor, this means that external voltage of up to +14V can be used.



The following diagram shows the connections needed if using the internal +5V to power the opto-isolators.



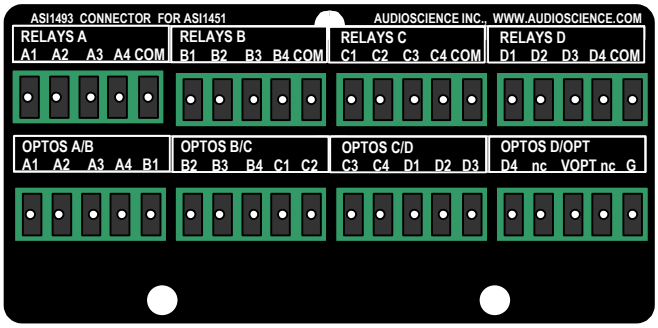
When using an external power source for the opto-isolators, use the following diagram as a guide to connections:



9 MODULE CONNECTORS

9.1 ASI1493 TERMINAL BLOCK

Rev A-E



The ASI1493 Terminal Block Module connector provides a 3.81mm Phoenix type connector breakout option for the ASI1451.

ASI1451+ASI1493 combination has the following pinouts:

Terminal Block 1					**Terminal Block 2**					**Terminal Block 3**					**Terminal Block 4**				
1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
RLY A1	**RLY A2**	**RLY A3**	**RLY A4**	**COM A**	**RLY B1**	**RLY B2**	**RLY B3**	**RLY B4**	**COM B**	**RLY C1**	**RLY C2**	**RLY C3**	**RLY C4**	**COM C**	**RLY D1**	**RLY D2**	**RLY D3**	**RLY D4**	**COM D**
OPT A1	**OPT A2**	**OPT A3**	**OPT A4**	**OPT B1**	**OPT B2**	**OPT B3**	**OPT B4**	**OPT C1**	**OPT C2**	**OPT C3**	**OPT C4**	**OPT D1**	**OPT D2**	**OPT D3**	**OPT D4**	**nc**	**V OPT**	**nc**	**GND OPT**
1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Terminal Block 5					**Terminal Block 6**					**Terminal Block 7**					**Terminal Block 8**				