Serial I/O Cables

Description
And
Connection Diagrams

PMC-SIO4
PCI-SIO4
cPCI-SIO4

Preliminary
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PREFACE

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This document provides information on the description and connection diagrams for
serial IO cables.

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Introduction[1]

This diagram includes descriptions and pin-out for serial IO cables for SIO4 boards (PMC-SIO4, PCI-SIO4, cPCI-SIO4). All of these boards have the same high-density connector so that all can be interchanged in a system without changing the serial IO cables.

All cables described in this diagram have a high-density connector on the ends that mate with any of these SIO4 boards.

Cable part numbers for these SIO4 boards are:

 1) **CABLEx-SIO4-STD2-DB25P** where x is the length in feet, STD2 (see * below) designates a standard wiring diagram (per diagram attached), and DB25 designates that DB25 connectors are attached to the user end of the cable. Four DB25 connectors are used with the STD2 version. The DB25P suffix indicates the use of DB25P connectors (P = pins, male) on the user end of the cable. Replace DB25P with DB25S for a socket connector (ie, S for Socket, female DB25).

 2) **CABLEx-SIO4-FLAT** where x is the length in feet and FLAT designates a connector on one end only.
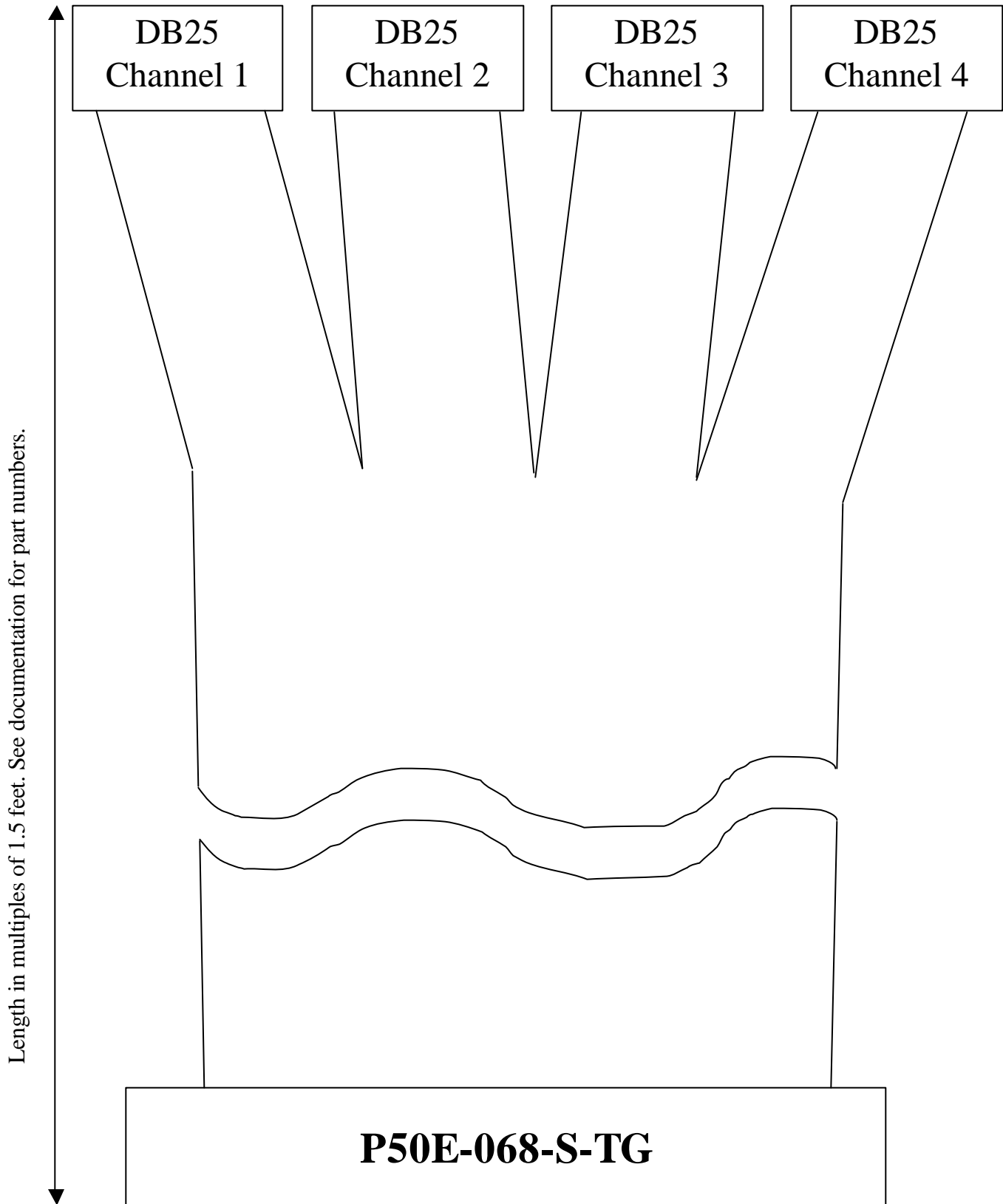
The cable length must be a multiple of 1.5 ft, in lengths up to 100 feet.

The flat cable used is standard 68 conductor 'twist-n-flat' (also known as 'vari-twist'). It is made up of twisted pairs with a flat area every 1.5 feet. The conductor spacing in the flat area is standard 50 mil; this allows the user to attach any 'old-style' insulation displacement connector (IDC) to the flat area.
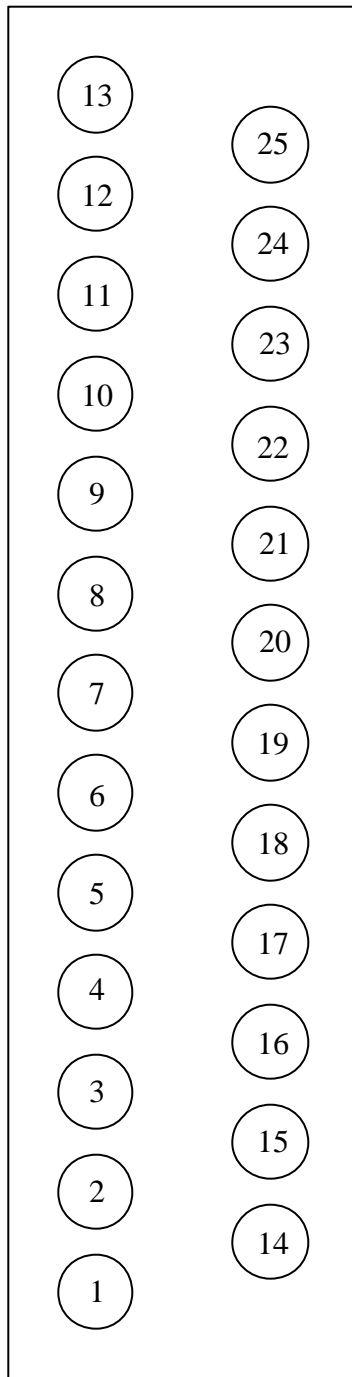
The pin-out on all of the boards assures that each differential signal is routed to a single twisted pair in the cable.

* The wiring diagram can be chosen from GSC's "library" or provided by customer. The STD2 version may become a stocked item once typical lengths have been established.

SIO4 card family cable overview:

| DB25 Channel 1 | DB25 Channel 2 | DB25 Channel 3 | DB25 Channel 4 |

Length in multiples of 1.5 feet. See documentation for part numbers.

P50E-068-S-TG

DB25 Connector Pin-out (same for each channel)

Pin	Signal
1	Lwr Cable TxD/RxD+
2	*
3	Lwr Cable CTS/DCD+
4	*
5	Lwr Cable Tx/Rx Clk+
6	*
7	Upr Cable TxD/RxD+
8	*
9	Upr Cable CTS/DCD+
10	*
11	Upr Cable Tx/Rx Clk+
12	*
13	*
14	Lwr Cable TxD/RxD-
15	*
16	Lwr Cable CTS/DCD-
17	*
18	Lwr Cable Tx/Rx Clk-
19	*
20	Upr Cable TxD/RxD-
21	*
22	Upr Cable CTS/DCD-
23	*
24	Upr Cable Tx/Rx Clk-
25	*

* Unused

User Connector info for the SIO4 card family:

Pin 34 Top Row

Pin 1 Top Row –
White arrow

Pin 68 Bottom Row

Pin 35 Bottom Row
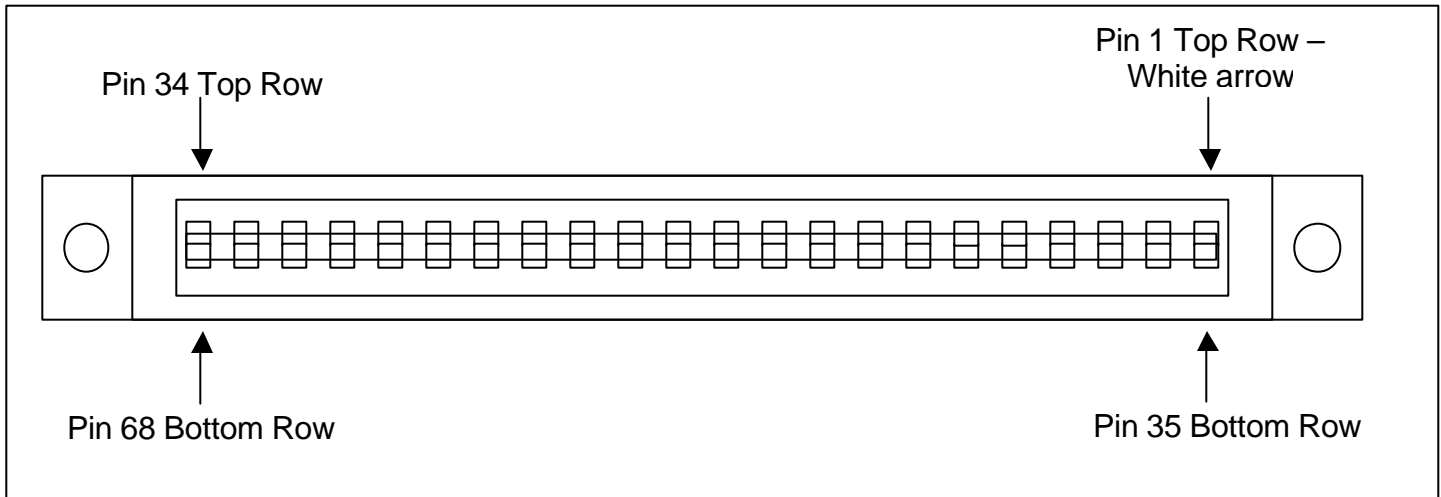
Diagram 1 - Board Connector – As viewed from mating surface

Pin 1 Top Row –
White arrow

Pin 34 Top Row

Pin 35 Bottom Row
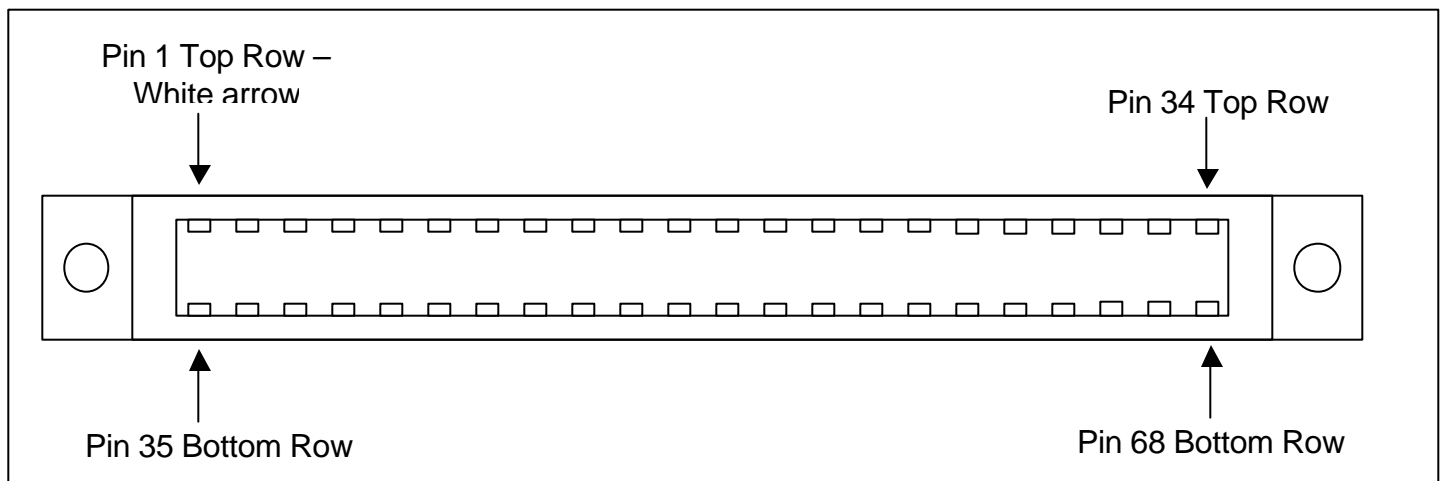
Pin 68 Bottom Row

Diagram 2 - Cable Connector – As viewed from mating surface

The Connectors used to make the cable are:
The user cable connector part number for compatibility with the SIO4 is a Robinson
Nugent **P50E-068-S-TG**.

Cable CONNECTIONS for the CABLEx-SIO4-STD2-DB25:

Cable Signal Name:	68 Pin Board Connector:	* DB25 Connector:
CHANNEL 1		
Ch1 Lwr Cable TxD/RxD+	1	1
Ch1 Lwr Cable TxD/RxD-	2	14
Ch1 Lwr Cable CTS/DCD+	3	3
Ch1 Lwr Cable CTS/DCD-	4	16
Ch1 Lwr Cable Tx/Rx Clk+	5	5
Ch1 Lwr Cable Tx/Rx Clk-	6	18
Ch1 Upr Cable TxD/RxD+	7	7
Ch1 Upr Cable TxD/RxD-	8	20
Ch1 Upr Cable CTS/DCD+	9	9
Ch1 Upr Cable CTS/DCD-	10	22
Ch1 Upr Cable Tx/Rx Clk+	11	11
Ch1 Upr Cable Tx/Rx Clk-	12	24
CHANNEL 2		
Ch2 Lwr Cable TxD/RxD+	13	1
Ch2 Lwr Cable TxD/RxD-	14	14
Ch2 Lwr Cable CTS/DCD+	15	3
Ch2 Lwr Cable CTS/DCD-	16	16
Ch2 Lwr Cable Tx/Rx Clk+	17	5
Ch2 Lwr Cable Tx/Rx Clk-	18	18
Ch2 Upr Cable TxD/RxD+	19	7
Ch2 Upr Cable TxD/RxD-	20	20
Ch2 Upr Cable CTS/DCD+	21	9
Ch2 Upr Cable CTS/DCD-	22	22
Ch2 Upr Cable Tx/Rx Clk+	23	11
Ch2 Upr Cable Tx/Rx Clk-	24	24
CHANNEL 3		
Ch3 Lwr Cable TxD/RxD+	35	1
Ch3 Lwr Cable TxD/RxD-	36	14
Ch3 Lwr Cable CTS/DCD+	37	3
Ch3 Lwr Cable CTS/DCD-	38	16
Ch3 Lwr Cable Tx/Rx Clk+	39	5
Ch3 Lwr Cable Tx/Rx Clk-	40	18
Ch3 Upr Cable TxD/RxD+	41	7
Ch3 Upr Cable TxD/RxD-	42	20
Ch3 Upr Cable CTS/DCD+	43	9
Ch3 Upr Cable CTS/DCD-	44	22
Ch3 Upr Cable Tx/Rx Clk+	45	11
Ch3 Upr Cable Tx/Rx Clk-	46	24
CHANNEL 4		
Ch4 Lwr Cable TxD/RxD+	47	1
Ch4 Lwr Cable TxD/RxD-	48	14
Ch4 Lwr Cable CTS/DCD+	49	3
Ch4 Lwr Cable CTS/DCD-	50	16
Ch4 Lwr Cable Tx/Rx Clk+	51	5
Ch4 Lwr Cable Tx/Rx Clk-	52	18
Ch4 Upr Cable TxD/RxD+	53	7
Ch4 Upr Cable TxD/RxD-	54	20
Ch4 Upr Cable CTS/DCD+	55	9
Ch4 Upr Cable CTS/DCD-	56	22
Ch4 Upr Cable Tx/Rx Clk+	57	11
Ch4 Upr Cable Tx/Rx Clk-	58	24