
PXI-2530B User Manual

2025-03-26



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PXI-2530B User Manual

The PXI-2530B User Manual provides detailed descriptions of the product functionality and the step by step processes for use.

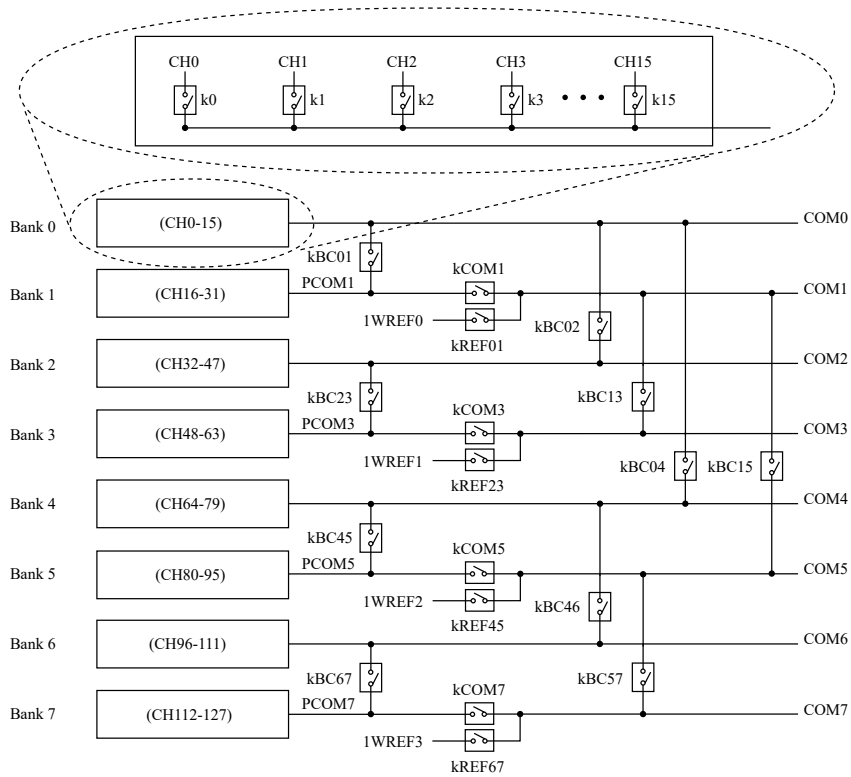
Looking for Something Else?

For information not found in the User Manual for your product, such as specifications and API reference, browse ***Related Information***.

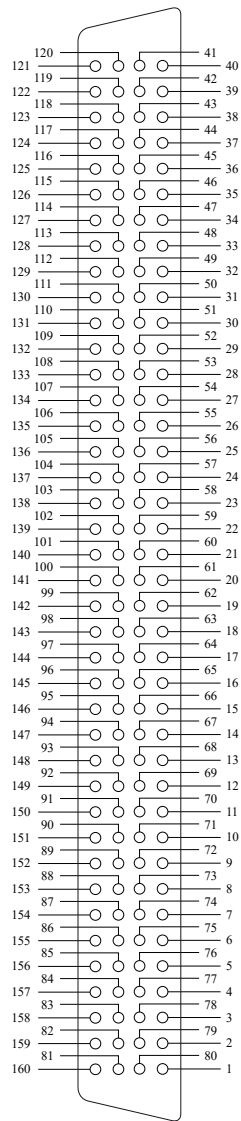
Related information:

- [PXI-2530B Specifications](#)
- [Software and Driver Downloads](#)
- [Release Notes](#)
- [License Setup and Activation](#)
- [Dimensional Drawings](#)
- [Product Certifications](#)
- [Letter of Volatility](#)
- [Discussion Forums](#)
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PXI-2530B Hardware Diagram

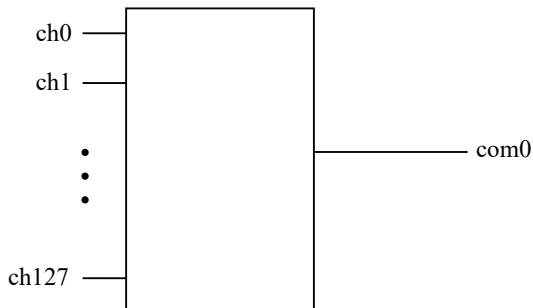


PXI-2530B Pinout



PXI-2530B Topology

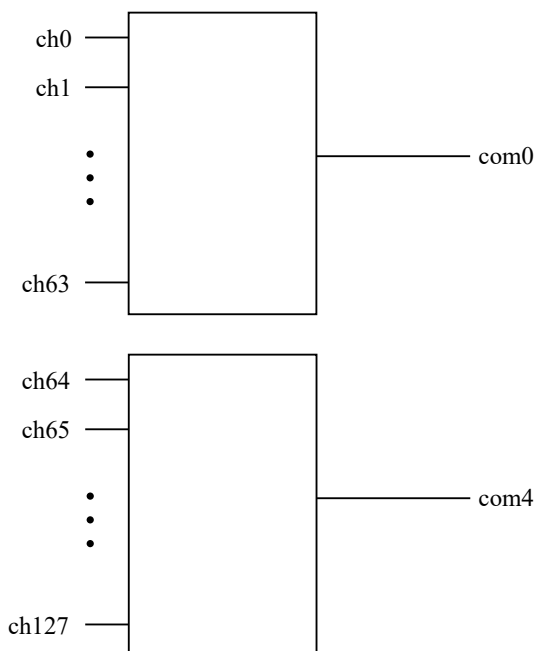
1-Wire 128×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2 is routed to COM0

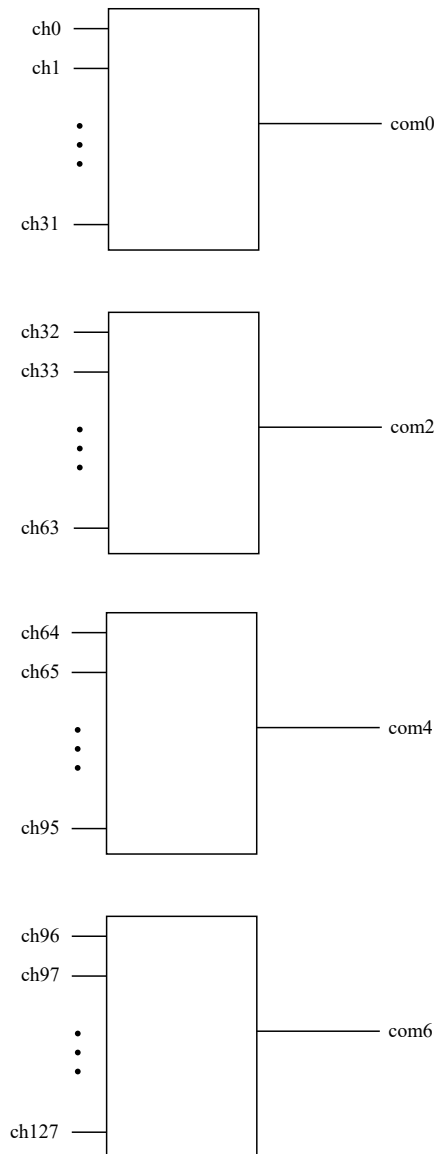
1-Wire Dual 64×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2 is routed to COM0

1-Wire Quad 32×1 Multiplexer Topology

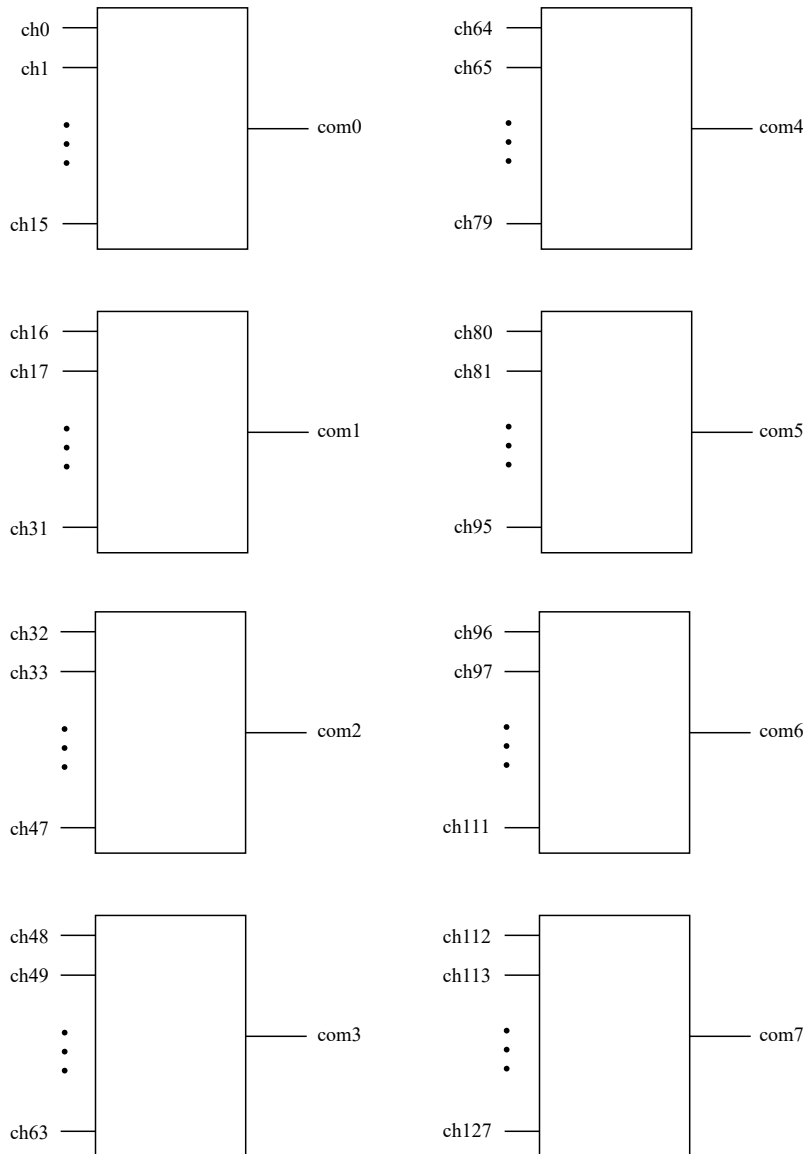


Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and

com0, result in the following connection:

- signal connected to CH2 is routed to COM0

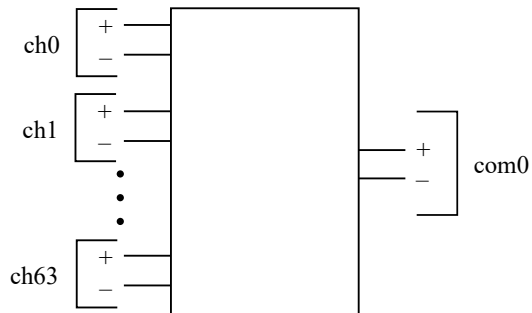
1-Wire Octal 16×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2 is routed to COM0

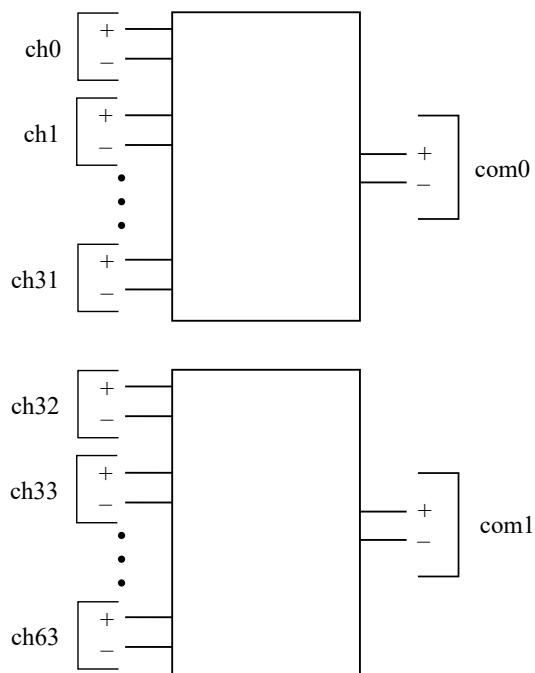
2-Wire 64×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2+ is routed to COM0+
- signal connected to CH2- is routed to COM0-

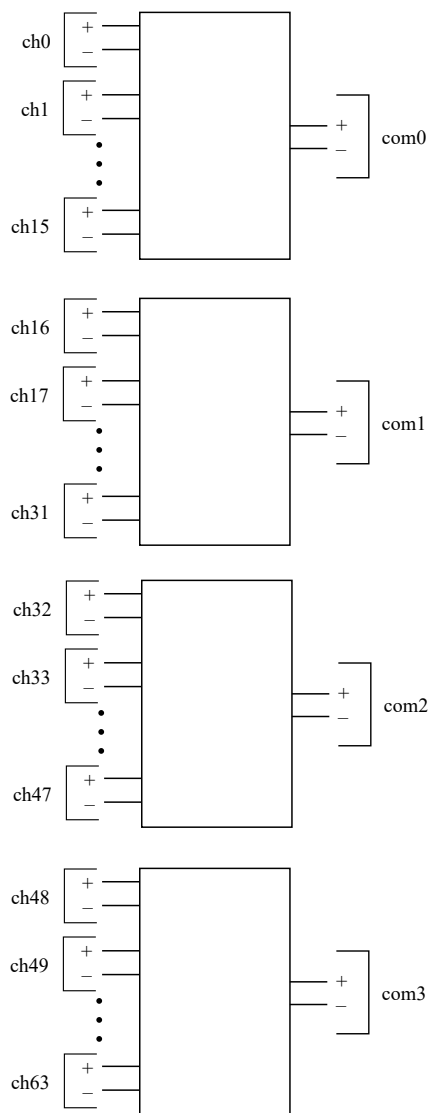
2-Wire Dual 32×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2+ is routed to COM0+
- signal connected to CH2- is routed to COM0-

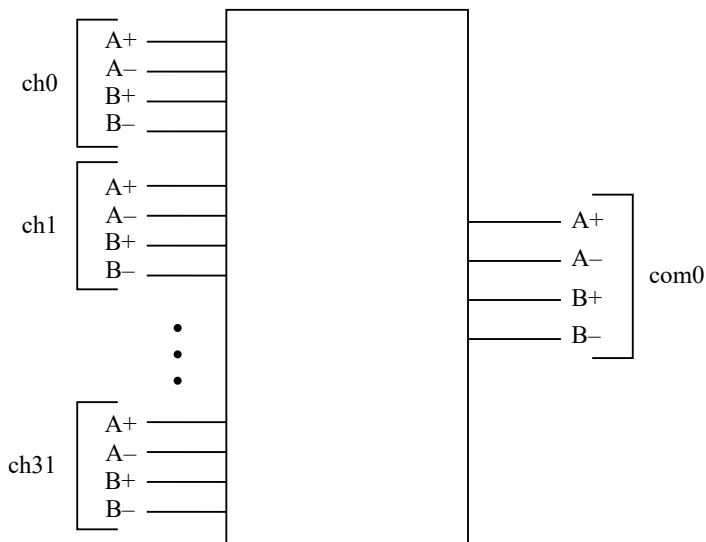
2-Wire Quad 16×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2+ is routed to COM0+
- signal connected to CH2- is routed to COM0-

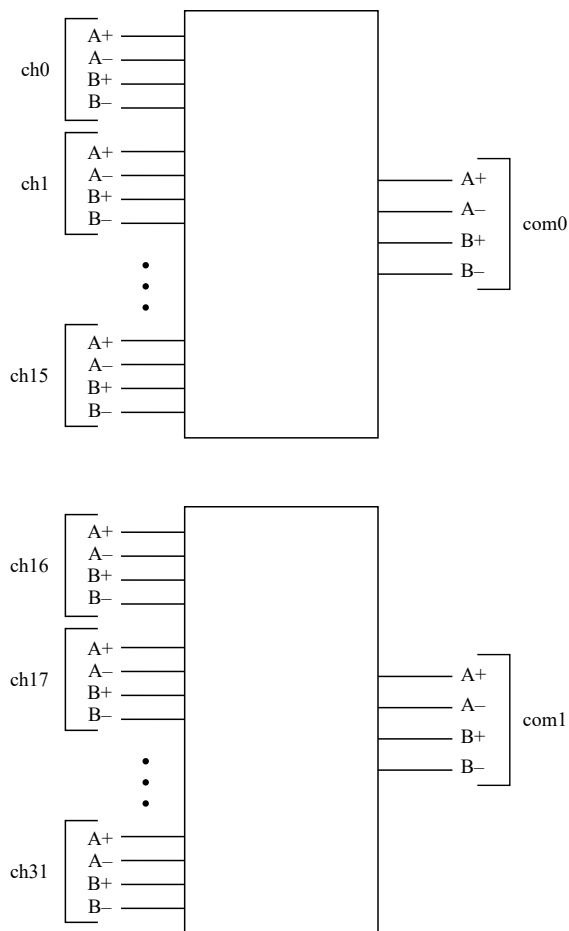
4-Wire 32×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2A+ is routed to COM0A+
- signal connected to CH2A- is routed to COM0A-
- signal connected to CH2B+ is routed to COM0B+
- signal connected to CH2B- is routed to COM0B-

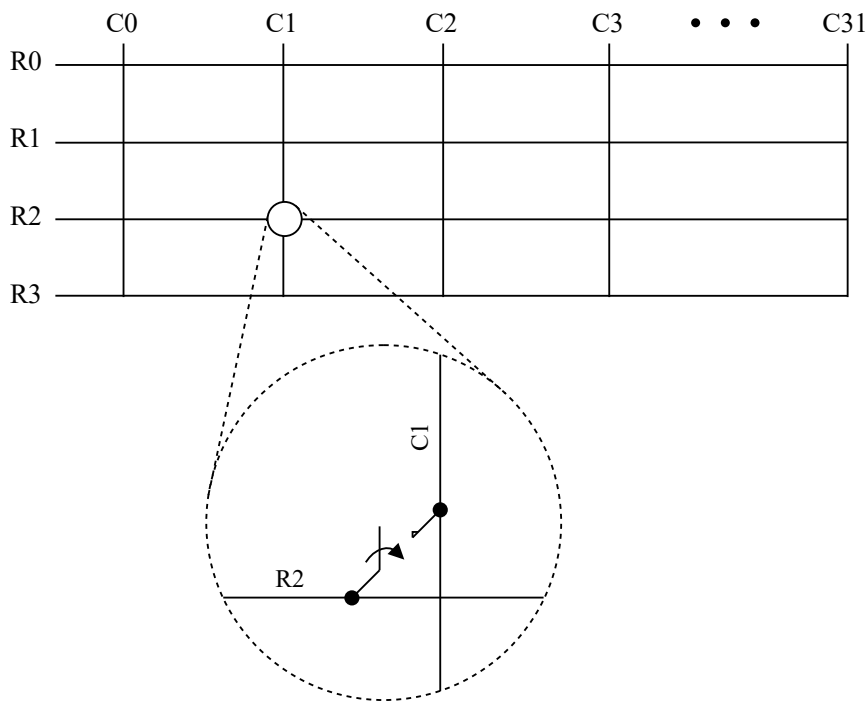
4-Wire Dual 16×1 Multiplexer Topology



Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connection:

- signal connected to CH2A+ is routed to COM0A+
- signal connected to CH2A- is routed to COM0A-
- signal connected to CH2B+ is routed to COM0B+
- signal connected to CH2B- is routed to COM0B-

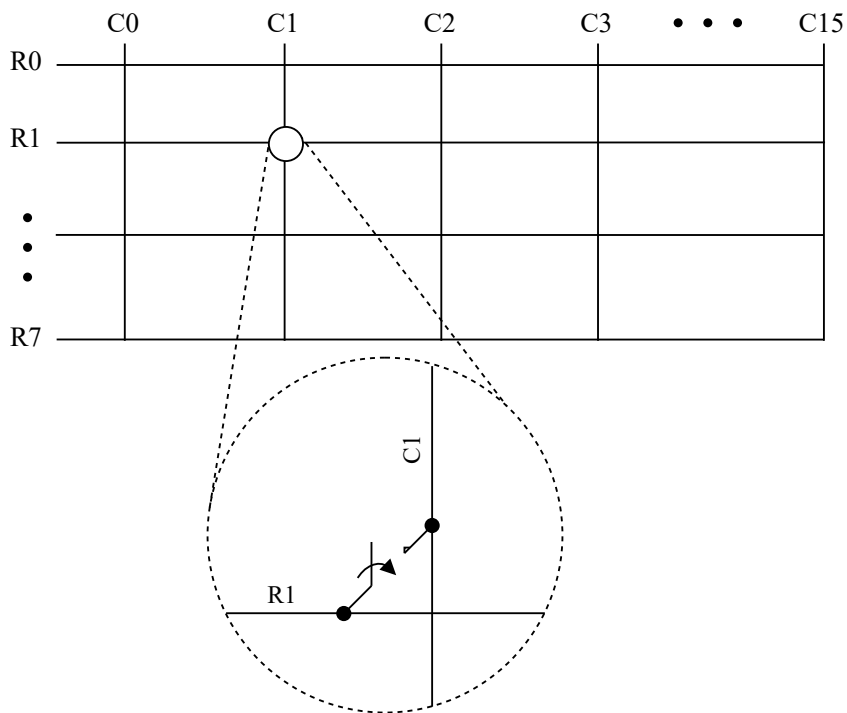
1-Wire 4×32 Matrix Topology



Both the scanning command, `r2->c1;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `r2` and `c1`, result in the following connection:

- signal connected to R2 is routed to C1

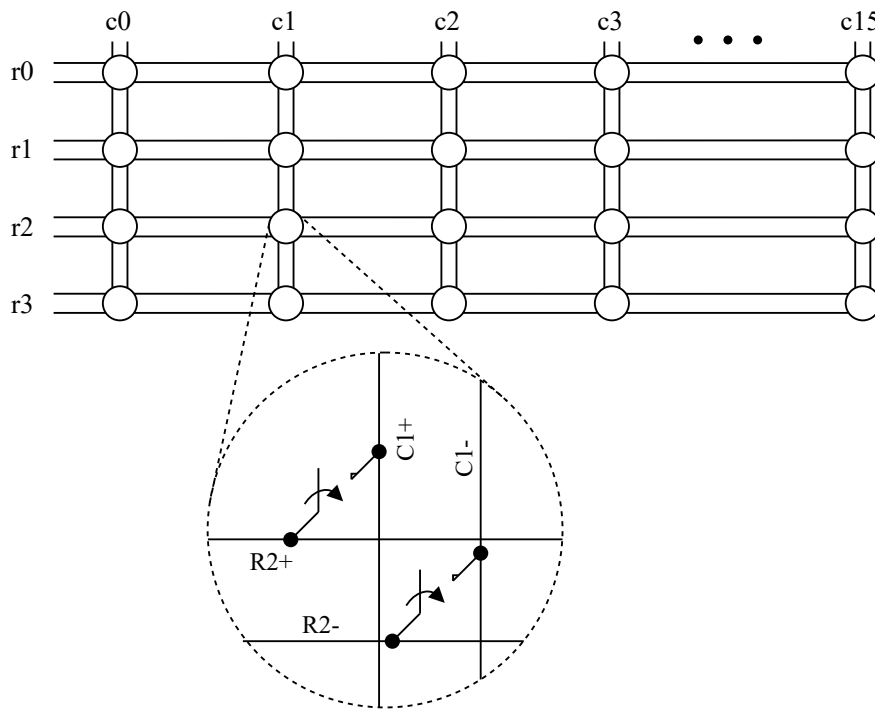
1-Wire 8×16 Matrix Topology



Both the scanning command, `r2->c1;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `r2` and `c1`, result in the following connection:

- signal connected to R2 is routed to C1

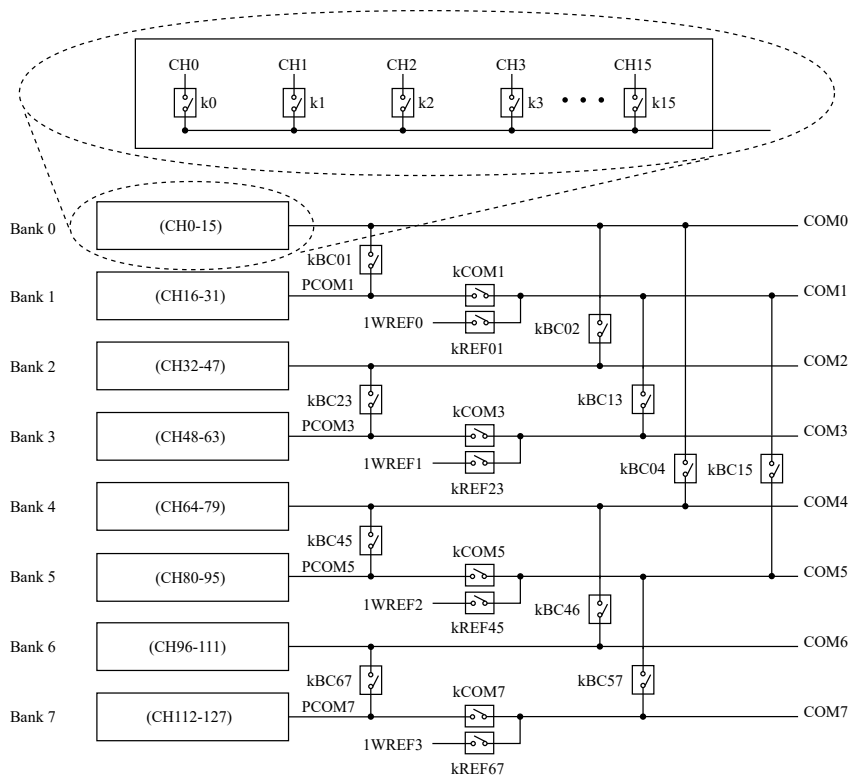
2-Wire 4x16 Matrix Topology



Both the scanning command, `r2->c1;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `r2` and `c1`, result in the following connection:

- signal connected to R2+ is routed to C1+
- signal connected to R2- is routed to C1-

Independent Topology



Both the scanning command, `r2->c1;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `r2` and `c1`, result in the following connection:

With the independent topology, you can let NI-SWITCH determine the path between two specified channels by setting the intermediate channels as reserved for routing and using the `niSwitch Connect Channels VI` or the `niSwitch_Connect` function, or you can control individual relays using the `niSwitch Relay Control VI` or the `niSwitch_RelayControl` function.

Signal Connections

1-Wire Multiplexer and Independent Topologies

Software Name					Hardware Name	
Single 128×1	Dual 64×1	Quad 32×1	Octal 128×1	Independent	Module Connector Pin Number	NI TB-2630 Terminal Name
com0	com0	com0	com0	com0	51	Bank 0, Pin 18

Software Name					Hardware Name	
Single 128×1	Dual 64×1	Quad 32×1	Octal 128×1	Independent	Module Connector Pin Number	NI TB-2630 Terminal Name
—	—	—	com1	com1	30	Bank 1, Pin 18
—	—	com2	com2	com2	5	Bank 2, Pin 18
—	—	—	com3	com3	76	Bank 3, Pin 18
—	com4	com4	com4	com4	110	Bank 4, Pin 18
—	—	—	com5	com5	131	Bank 5, Pin 18
—	—	com6	com6	com6	156	Bank 6, Pin 18
—	—	—	com7	com7	84	Bank 7, Pin 18
—	—	—	—	1wref0	58	Bank 0-1, Pin 17
—	—	—	—	1wref1	6	Bank 2-3, Pin 17
—	—	—	—	1wref2	103	Bank 4-5, Pin 17
—	—	—	—	1wref3	155	Bank 6-7, Pin 17
ch0					41	Bank 0, Pin 1
ch1					40	Bank 0, Pin 2
ch2					42	Bank 0, Pin 3
ch3					39	Bank 0, Pin 4
ch4					43	Bank 0, Pin 5
ch5					38	Bank 0, Pin 6
ch6					44	Bank 0, Pin 7
ch7					37	Bank 0, Pin 8
ch8					45	Bank 0, Pin 9
ch9					36	Bank 0, Pin 10
ch10					46	Bank 0, Pin 11
ch11					35	Bank 0, Pin 12
ch12					47	Bank 0, Pin 13
ch13					34	Bank 0, Pin 14

Software Name					Hardware Name	
Single 128×1	Dual 64×1	Quad 32×1	Octal 128×1	Independent	Module Connector Pin Number	NI TB-2630 Terminal Name
				ch14	48	Bank 0, Pin 15
				ch15	33	Bank 0, Pin 16
				ch16	50	Bank 1, Pin 1
				ch17	31	Bank 1, Pin 2
				ch18	49	Bank 1, Pin 3
				ch19	32	Bank 1, Pin 4
				ch20	52	Bank 1, Pin 5
				ch21	29	Bank 1, Pin 6
				ch22	53	Bank 1, Pin 7
				ch23	28	Bank 1, Pin 8
				ch24	54	Bank 1, Pin 9
				ch25	27	Bank 1, Pin 10
				ch26	55	Bank 1, Pin 11
				ch27	26	Bank 1, Pin 12
				ch28	56	Bank 1, Pin 13
				ch29	25	Bank 1, Pin 14
				ch30	57	Bank 1, Pin 15
				ch31	24	Bank 1, Pin 16
				ch32	67	Bank 2, Pin 1
				ch33	15	Bank 2, Pin 2
				ch34	12	Bank 2, Pin 3
				ch35	11	Bank 2, Pin 4
				ch36	70	Bank 2, Pin 5
				ch37	61	Bank 2, Pin 6
				ch38	20	Bank 2, Pin 7

Software Name					Hardware Name	
Single 128×1	Dual 64×1	Quad 32×1	Octal 128×1	Independent	Module Connector Pin Number	NI TB-2630 Terminal Name
				ch39	62	Bank 2, Pin 8
				ch40	19	Bank 2, Pin 9
				ch41	63	Bank 2, Pin 10
				ch42	18	Bank 2, Pin 11
				ch43	64	Bank 2, Pin 12
				ch44	17	Bank 2, Pin 13
				ch45	65	Bank 2, Pin 14
				ch46	16	Bank 2, Pin 15
				ch47	66	Bank 2, Pin 16
				ch48	14	Bank 3, Pin 1
				ch49	68	Bank 3, Pin 2
				ch50	13	Bank 3, Pin 3
				ch51	69	Bank 3, Pin 4
				ch52	1	Bank 3, Pin 5
				ch53	4	Bank 3, Pin 6
				ch54	3	Bank 3, Pin 7
				ch55	71	Bank 3, Pin 8
				ch56	10	Bank 3, Pin 9
				ch57	72	Bank 3, Pin 10
				ch58	9	Bank 3, Pin 11
				ch59	73	Bank 3, Pin 12
				ch60	8	Bank 3, Pin 13
				ch61	74	Bank 3, Pin 14
				ch62	7	Bank 3, Pin 15
				ch63	75	Bank 3, Pin 16

Software Name					Hardware Name	
Single 128×1	Dual 64×1	Quad 32×1	Octal 128×1	Independent	Module Connector Pin Number	NI TB-2630 Terminal Name
				ch64	120	Bank 4, Pin 1
				ch65	121	Bank 4, Pin 2
				ch66	119	Bank 4, Pin 3
				ch67	122	Bank 4, Pin 4
				ch68	118	Bank 4, Pin 5
				ch69	123	Bank 4, Pin 6
				ch70	117	Bank 4, Pin 7
				ch71	124	Bank 4, Pin 8
				ch72	116	Bank 4, Pin 9
				ch73	125	Bank 4, Pin 10
				ch74	115	Bank 4, Pin 11
				ch75	126	Bank 4, Pin 12
				ch76	114	Bank 4, Pin 13
				ch77	127	Bank 4, Pin 14
				ch78	113	Bank 4, Pin 15
				ch79	128	Bank 4, Pin 16
				ch80	111	Bank 5, Pin 1
				ch81	130	Bank 5, Pin 2
				ch82	112	Bank 5, Pin 3
				ch83	129	Bank 5, Pin 4
				ch84	109	Bank 5, Pin 5
				ch85	132	Bank 5, Pin 6
				ch86	108	Bank 5, Pin 7
				ch87	133	Bank 5, Pin 8
				ch88	107	Bank 5, Pin 9

Software Name					Hardware Name	
Single 128×1	Dual 64×1	Quad 32×1	Octal 128×1	Independent	Module Connector Pin Number	NI TB-2630 Terminal Name
				ch89	134	Bank 5, Pin 10
				ch90	106	Bank 5, Pin 11
				ch91	135	Bank 5, Pin 12
				ch92	105	Bank 5, Pin 13
				ch93	136	Bank 5, Pin 14
				ch94	104	Bank 5, Pin 15
				ch95	137	Bank 5, Pin 16
				ch96	94	Bank 6, Pin 1
				ch97	149	Bank 6, Pin 2
				ch98	91	Bank 6, Pin 3
				ch99	150	Bank 6, Pin 4
				ch100	146	Bank 6, Pin 5
				ch101	100	Bank 6, Pin 6
				ch102	141	Bank 6, Pin 7
				ch103	99	Bank 6, Pin 8
				ch104	142	Bank 6, Pin 9
				ch105	98	Bank 6, Pin 10
				ch106	143	Bank 6, Pin 11
				ch107	97	Bank 6, Pin 12
				ch108	144	Bank 6, Pin 13
				ch109	96	Bank 6, Pin 14
				ch110	145	Bank 6, Pin 15
				ch111	95	Bank 6, Pin 16
				ch112	147	Bank 7, Pin 1
				ch113	93	Bank 7, Pin 2

Software Name					Hardware Name	
Single 128×1	Dual 64×1	Quad 32×1	Octal 128×1	Independent	Module Connector Pin Number	NI TB-2630 Terminal Name
				ch114	148	Bank 7, Pin 3
				ch115	92	Bank 7, Pin 4
				ch116	85	Bank 7, Pin 5
				ch117	81	Bank 7, Pin 6
				ch118	157	Bank 7, Pin 7
				ch119	90	Bank 7, Pin 8
				ch120	151	Bank 7, Pin 9
				ch121	89	Bank 7, Pin 10
				ch122	152	Bank 7, Pin 11
				ch123	88	Bank 7, Pin 12
				ch124	153	Bank 7, Pin 13
				ch125	87	Bank 7, Pin 14
				ch126	154	Bank 7, Pin 15
				ch127	86	Bank 7, Pin 16

Table 1. Additional Pin Reference

Module Pin Number	Signal Name
2, 21, 22, 23, 59, 60, 77, 78, 79, 80, 101, 102, 138, 140, 160	NO CONNECT
83, 158	GND
159	TRIGIN
82	TRIGOUT
139	RESERVED



Note Do not connect to RESERVED pins or to NO CONNECT pins.

2-Wire Multiplexer Topologies

Software Name			Polarity	Hardware Name	
Single 64×1	Dual 32×1	Quad 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
com0	com0	com0	+	51	Bank 0, Pin 18
—	—		-	30	Bank 1, Pin 18
—	—	com1	+	5	Bank 2, Pin 18
—	—		-	76	Bank 3, Pin 18
—	com1	com2	+	110	Bank 4, Pin 18
—	—		-	131	Bank 5, Pin 18
—	—	com3	+	156	Bank 6, Pin 18
—	—		-	84	Bank 7, Pin 18
—	—	—	+	58	Bank 0-1, Pin 17
—	—	—	-	6	Bank 2-3, Pin 17
—	—	—	+	103	Bank 4-5, Pin 17
—	—	—	-	155	Bank 6-7, Pin 17
ch0			+	41	Bank 0, Pin 1
			-	50	Bank 1, Pin 1
ch1			+	40	Bank 0, Pin 2
			-	31	Bank 1, Pin 2
ch2			+	42	Bank 0, Pin 3
			-	49	Bank 1, Pin 3
ch3			+	39	Bank 0, Pin 4
			-	32	Bank 1, Pin 4
ch4			+	43	Bank 0, Pin 5
			-	52	Bank 1, Pin 5
ch5			+	38	Bank 0, Pin 6
			-	29	Bank 1, Pin 6

Software Name			Polarity	Hardware Name	
Single 64×1	Dual 32×1	Quad 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
ch6			+	44	Bank 0, Pin 7
			-	53	Bank 1, Pin 7
ch7			+	37	Bank 0, Pin 8
			-	28	Bank 1, Pin 8
ch8			+	45	Bank 0, Pin 9
			-	54	Bank 1, Pin 9
ch9			+	36	Bank 0, Pin 10
			-	27	Bank 1, Pin 10
ch10			+	46	Bank 0, Pin 11
			-	55	Bank 1, Pin 11
ch11			+	35	Bank 0, Pin 12
			-	26	Bank 1, Pin 12
ch12			+	47	Bank 0, Pin 13
			-	56	Bank 1, Pin 13
ch13			+	34	Bank 0, Pin 14
			-	25	Bank 1, Pin 14
ch14			+	48	Bank 0, Pin 15
			-	57	Bank 1, Pin 15
ch15			+	33	Bank 0, Pin 16
			-	24	Bank 1, Pin 16
ch16			+	67	Bank 2, Pin 1
			-	14	Bank 3, Pin 1
ch17			+	15	Bank 2, Pin 2
			-	68	Bank 3, Pin 2
ch18			+	12	Bank 2, Pin 3

Software Name			Polarity	Hardware Name	
Single 64×1	Dual 32×1	Quad 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
			-	13	Bank 3, Pin 3
ch19			+	11	Bank 2, Pin 4
			-	69	Bank 3, Pin 4
ch20			+	70	Bank 2, Pin 5
			-	1	Bank 3, Pin 5
ch21			+	61	Bank 2, Pin 6
			-	4	Bank 3, Pin 6
ch22			+	20	Bank 2, Pin 7
			-	3	Bank 3, Pin 7
ch23			+	62	Bank 2, Pin 8
			-	71	Bank 3, Pin 8
ch24			+	19	Bank 2, Pin 9
			-	10	Bank 3, Pin 9
ch25			+	63	Bank 2, Pin 10
			-	72	Bank 3, Pin 10
ch26			+	18	Bank 2, Pin 11
			-	9	Bank 3, Pin 11
ch27			+	64	Bank 2, Pin 12
			-	73	Bank 3, Pin 12
ch28			+	17	Bank 2, Pin 13
			-	8	Bank 3, Pin 13
ch29			+	65	Bank 2, Pin 14
			-	74	Bank 3, Pin 14
ch30			+	16	Bank 2, Pin 15
			-	7	Bank 3, Pin 15

Software Name			Polarity	Hardware Name	
Single 64×1	Dual 32×1	Quad 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
ch31			+	66	Bank 2, Pin 16
			-	75	Bank 3, Pin 16
ch32			+	120	Bank 4, Pin 1
			-	111	Bank 5, Pin 1
ch33			+	121	Bank 4, Pin 2
			-	130	Bank 5, Pin 2
ch34			+	119	Bank 4, Pin 3
			-	112	Bank 5, Pin 3
ch35			+	122	Bank 4, Pin 4
			-	129	Bank 5, Pin 4
ch36			+	118	Bank 4, Pin 5
			-	109	Bank 5, Pin 5
ch37			+	123	Bank 4, Pin 6
			-	132	Bank 5, Pin 6
ch38			+	117	Bank 4, Pin 7
			-	108	Bank 5, Pin 7
ch39			+	124	Bank 4, Pin 8
			-	133	Bank 5, Pin 8
ch40			+	116	Bank 4, Pin 9
			-	107	Bank 5, Pin 9
ch41			+	125	Bank 4, Pin 10
			-	134	Bank 5, Pin 10
ch42			+	115	Bank 4, Pin 11
			-	106	Bank 5, Pin 11
ch43			+	126	Bank 4, Pin 12

Software Name			Polarity	Hardware Name	
Single 64×1	Dual 32×1	Quad 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
			-	135	Bank 5, Pin 12
ch44			+	114	Bank 4, Pin 13
			-	105	Bank 5, Pin 13
ch45			+	127	Bank 4, Pin 14
			-	136	Bank 5, Pin 14
ch46			+	113	Bank 4, Pin 15
			-	104	Bank 5, Pin 15
ch47			+	128	Bank 4, Pin 16
			-	137	Bank 5, Pin 16
ch48			+	94	Bank 6, Pin 1
			-	147	Bank 7, Pin 1
ch49			+	149	Bank 6, Pin 2
			-	93	Bank 7, Pin 2
ch50			+	91	Bank 6, Pin 3
			-	148	Bank 7, Pin 3
ch51			+	150	Bank 6, Pin 4
			-	92	Bank 7, Pin 4
ch52			+	146	Bank 6, Pin 5
			-	85	Bank 7, Pin 5
ch53			+	100	Bank 6, Pin 6
			-	81	Bank 7, Pin 6
ch54			+	141	Bank 6, Pin 7
			-	157	Bank 7, Pin 7
ch55			+	99	Bank 6, Pin 8
			-	90	Bank 7, Pin 8

Software Name			Polarity	Hardware Name	
Single 64×1	Dual 32×1	Quad 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
ch56			+	142	Bank 6, Pin 9
			-	151	Bank 7, Pin 9
ch57			+	98	Bank 6, Pin 10
			-	89	Bank 7, Pin 10
ch58			+	143	Bank 6, Pin 11
			-	152	Bank 7, Pin 11
ch59			+	97	Bank 6, Pin 12
			-	88	Bank 7, Pin 12
ch60			+	144	Bank 6, Pin 13
			-	153	Bank 7, Pin 13
ch61			+	96	Bank 6, Pin 14
			-	87	Bank 7, Pin 14
ch62			+	145	Bank 6, Pin 15
			-	154	Bank 7, Pin 15
ch63			+	95	Bank 6, Pin 16
			-	86	Bank 7, Pin 16

Table 2. Additional Pin Reference

Module Pin Number	Signal Name
2, 21, 22, 23, 59, 60, 77, 78, 79, 80, 101, 102, 138, 140, 160	NO CONNECT
83, 158	GND
159	TRIGIN
82	TRIGOUT
139	RESERVED



Note Do not connect to RESERVED pins or to NO CONNECT pins.

4-Wire Multiplexer Topologies

Software Name		Polarity	Hardware Name	
Single 32×1	Dual 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
com0	com0	A+	51	Bank 0, Pin 18
		A-	30	Bank 1, Pin 18
		B+	110	Bank 2, Pin 18
		B-	131	Bank 3, Pin 18
—	com1	A+	5	Bank 4, Pin 18
		A-	76	Bank 5, Pin 18
		B+	156	Bank 6, Pin 18
		B-	84	Bank 7, Pin 18
—	—	—	58	Bank 0-1, Pin 17
—	—	—	6	Bank 2-3, Pin 17
—	—	—	103	Bank 4-5, Pin 17
—	—	—	155	Bank 6-7 Pin 17
ch0		A+	41	Bank 0, Pin 1
		A-	50	Bank 1, Pin 1
		B+	120	Bank 4, Pin 1
		B-	111	Bank 5, Pin 1
ch1		A+	40	Bank 0, Pin 2
		A-	31	Bank 1, Pin 2
		B+	121	Bank 4, Pin 2
		B-	130	Bank 5, Pin 2
ch2		A+	42	Bank 0, Pin 3
		A-	49	Bank 1, Pin 3
		B+	119	Bank 4, Pin 3

Software Name		Polarity	Hardware Name	
Single 32×1	Dual 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
		B-	112	Bank 5, Pin 3
ch3		A+	39	Bank 0, Pin 4
		A-	32	Bank 1, Pin 4
		B+	122	Bank 4, Pin 4
		B-	129	Bank 5, Pin 4
ch4		A+	43	Bank 0, Pin 5
		A-	52	Bank 1, Pin 5
		B+	118	Bank 4, Pin 5
		B-	109	Bank 5, Pin 5
ch5		A+	38	Bank 0, Pin 6
		A-	29	Bank 1, Pin 6
		B+	123	Bank 4, Pin 6
		B-	132	Bank 5, Pin 6
ch6		A+	44	Bank 0, Pin 7
		A-	53	Bank 1, Pin 7
		B+	117	Bank 4, Pin 7
		B-	108	Bank 5, Pin 7
ch7		A+	37	Bank 0, Pin 8
		A-	28	Bank 1, Pin 8
		B+	124	Bank 4, Pin 8
		B-	133	Bank 5, Pin 8
ch8		A+	45	Bank 0, Pin 9
		A-	54	Bank 1, Pin 9
		B+	116	Bank 4, Pin 9
		B-	107	Bank 5, Pin 9
ch9		A+	36	Bank 0, Pin 10

Software Name		Polarity	Hardware Name	
Single 32×1	Dual 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
		A-	27	Bank 1, Pin 10
		B+	125	Bank 4, Pin 10
		B-	134	Bank 5, Pin 10
ch10		A+	46	Bank 0, Pin 11
		A-	55	Bank 1, Pin 11
		B+	115	Bank 4, Pin 11
		B-	106	Bank 5, Pin 11
ch11		A+	35	Bank 0, Pin 12
		A-	26	Bank 1, Pin 12
		B+	126	Bank 4, Pin 12
		B-	135	Bank 5, Pin 12
ch12		A+	47	Bank 0, Pin 13
		A-	56	Bank 1, Pin 13
		B+	114	Bank 4, Pin 13
		B-	105	Bank 5, Pin 13
ch13		A+	34	Bank 0, Pin 14
		A-	25	Bank 1, Pin 14
		B+	127	Bank 4, Pin 14
		B-	136	Bank 5, Pin 14
ch14		A+	48	Bank 0, Pin 15
		A-	57	Bank 1, Pin 15
		B+	113	Bank 4, Pin 15
		B-	104	Bank 5, Pin 15
ch15		A+	33	Bank 0, Pin 16
		A-	24	Bank 1, Pin 16
		B+	128	Bank 4, Pin 16

Software Name		Polarity	Hardware Name	
Single 32×1	Dual 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
		B-	137	Bank 5, Pin 16
ch16		A+	67	Bank 2, Pin 1
		A-	14	Bank 3, Pin 1
		B+	94	Bank 6, Pin 1
		B-	147	Bank 7, Pin 1
ch17		A+	15	Bank 2, Pin 2
		A-	68	Bank 3, Pin 2
		B+	149	Bank 6, Pin 2
		B-	93	Bank 7, Pin 2
ch18		A+	12	Bank 2, Pin 3
		A-	13	Bank 3, Pin 3
		B+	91	Bank 6, Pin 3
		B-	148	Bank 7, Pin 3
ch19		A+	11	Bank 2, Pin 4
		A-	69	Bank 3, Pin 4
		B+	150	Bank 6, Pin 4
		B-	92	Bank 7, Pin 4
ch20		A+	70	Bank 2, Pin 5
		A-	1	Bank 3, Pin 5
		B+	146	Bank 6, Pin 5
		B-	85	Bank 7, Pin 5
ch21		A+	61	Bank 2, Pin 6
		A-	4	Bank 3, Pin 6
		B+	100	Bank 6, Pin 6
		B-	81	Bank 7, Pin 6
ch22		A+	20	Bank 2, Pin 7

Software Name		Polarity	Hardware Name	
Single 32×1	Dual 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
		A-	3	Bank 3, Pin 7
		B+	141	Bank 6, Pin 7
		B-	157	Bank 7, Pin 7
ch23		A+	62	Bank 2, Pin 8
		A-	71	Bank 3, Pin 8
		B+	99	Bank 6, Pin 8
		B-	90	Bank 7, Pin 8
ch24		A+	19	Bank 2, Pin 9
		A-	10	Bank 3, Pin 9
		B+	142	Bank 6, Pin 9
		B-	151	Bank 7, Pin 9
ch25		A+	63	Bank 2, Pin 10
		A-	72	Bank 3, Pin 10
		B+	98	Bank 6, Pin 10
		B-	89	Bank 7, Pin 10
ch26		A+	18	Bank 2, Pin 11
		A-	9	Bank 3, Pin 11
		B+	143	Bank 6, Pin 11
		B-	152	Bank 7, Pin 11
ch27		A+	64	Bank 2, Pin 12
		A-	73	Bank 3, Pin 12
		B+	97	Bank 6, Pin 12
		B-	88	Bank 7, Pin 12
ch28		A+	17	Bank 2, Pin 13
		A-	8	Bank 3, Pin 13
		B+	144	Bank 6, Pin 13

Software Name		Polarity	Hardware Name	
Single 32×1	Dual 16×1		Module Connector Pin Number	NI TB-2630 Terminal Name
		B-	153	Bank 7, Pin 13
ch29		A+	65	Bank 2, Pin 14
		A-	74	Bank 3, Pin 14
		B+	96	Bank 6, Pin 14
		B-	87	Bank 7, Pin 14
ch30		A+	16	Bank 2, Pin 15
		A-	7	Bank 3, Pin 15
		B+	145	Bank 6, Pin 15
		B-	154	Bank 7, Pin 15
ch31		A+	66	Bank 2, Pin 16
		A-	75	Bank 3, Pin 16
		B+	95	Bank 6, Pin 16
		B-	86	Bank 7, Pin 16

Table 3. Additional Pin Reference

Module Pin Number	Signal Name
2, 21, 22, 23, 59, 60, 77, 78, 79, 80, 101, 102, 138, 140, 160	NO CONNECT
83, 158	GND
159	TRIGIN
82	TRIGOUT
139	RESERVED



Note Do not connect to RESERVED pins or to NO CONNECT pins.

1-Wire 4×32 Matrix Topology

Software Name	Hardware Name	
	Module Connector Pin Number	NI TB-2631 Terminal Name
r0	51	ROW 0
r1	5	ROW 2
r2	110	ROW 4
r3	156	ROW 6
c0	120, 94, 67, 41	COLUMN 0
c1	121, 149, 15, 40	COLUMN 1
c2	119, 91, 12, 42	COLUMN 2
c3	122, 150, 11, 39	COLUMN 3
c4	118, 146, 70, 43	COLUMN 4
c5	123, 100, 61, 38	COLUMN 5
c6	117, 141, 20, 44	COLUMN 6
c7	124, 99, 62, 37	COLUMN 7
c8	116, 142, 19, 45	COLUMN 8
c9	125, 98, 63, 36	COLUMN 9
c10	115, 143, 18, 46	COLUMN 10
c11	126, 97, 64, 35	COLUMN 11
c12	114, 144, 17, 47	COLUMN 12
c13	127, 96, 65, 34	COLUMN 13
c14	113, 145, 16, 48	COLUMN 14
c15	128, 95, 66, 33	COLUMN 15
c16	111, 147, 14, 50	COLUMN 16
c17	130, 93, 68, 31	COLUMN 17
c18	112, 148, 13, 49	COLUMN 18
c19	129, 92, 69, 32	COLUMN 19
c20	109, 85, 1, 52	COLUMN 20

Software Name	Hardware Name	
	Module Connector Pin Number	NI TB-2631 Terminal Name
c21	132, 81, 4, 29	COLUMN 21
c22	108, 157, 3, 53	COLUMN 22
c23	133, 90, 71, 28	COLUMN 23
c24	107, 151, 10, 54	COLUMN 24
c25	134, 89, 72, 27	COLUMN 25
c26	106, 152, 9, 55	COLUMN 26
c27	135, 88, 73, 26	COLUMN 27
c28	105, 153, 8, 56	COLUMN 28
c29	136, 87, 74, 25	COLUMN 29
c30	104, 154, 7, 57	COLUMN 30
c31	137, 86, 75, 24	COLUMN 31

Table 4. Additional Pin Reference

Module Pin Number	Signal Name
2, 21, 22, 23, 59, 60, 77, 78, 79, 80, 101, 102, 138, 140, 160	NO CONNECT
83, 158	GND
159	TRIGIN
82	TRIGOUT
139	RESERVED



Note Do not connect to RESERVED pins or to NO CONNECT pins.

1-Wire 8×16 Matrix Topology

Software Name	Hardware Name	
	Module Connector Pin Number	NI TB-2632 Terminal Name
r0	51	ROW 0

Software Name	Hardware Name	
	Module Connector Pin Number	NI TB-2632 Terminal Name
r1	30	ROW 1
r2	5	ROW 2
r3	76	ROW 3
r4	110	ROW 4
r5	131	ROW 5
r6	156	ROW 6
r7	84	ROW 7
c0	120, 94, 67, 41, 111, 147, 14, 50	COLUMN 0
c1	121, 149, 15, 40, 130, 93, 68, 31	COLUMN 1
c2	119, 91, 12, 42, 112, 148, 13, 49	COLUMN 2
c3	122, 150, 11, 39, 129, 92, 69, 32	COLUMN 3
c4	118, 146, 70, 43, 109, 85, 1, 52	COLUMN 4
c5	123, 100, 61, 38, 132, 81, 4, 29	COLUMN 5
c6	117, 141, 20, 44, 108, 157, 3, 53	COLUMN 6
c7	124, 99, 62, 37, 133, 90, 71, 28	COLUMN 7
c8	116, 142, 19, 45, 107, 151, 10, 54	COLUMN 8
c9	125, 98, 63, 36, 134, 89, 72, 27	COLUMN 9
c10	115, 143, 18, 46, 106, 152, 9, 55	COLUMN 10
c11	126, 97, 64, 35, 135, 88, 73, 26	COLUMN 11
c12	114, 144, 17, 47, 105, 153, 8, 56	COLUMN 12
c13	127, 96, 65, 34, 136, 87, 74, 25	COLUMN 13
c14	113, 145, 16, 48, 104, 154, 7, 57	COLUMN 14
c15	128, 95, 66, 33, 137, 86, 75, 24	COLUMN 15

Table 5. Additional Pin Reference

Module Pin Number	Signal Name
2, 21, 22, 23, 59, 60, 77, 78, 79, 80, 101, 102, 138, 140, 160	NO CONNECT
83, 158	GND
159	TRIGIN
82	TRIGOUT
139	RESERVED



Note Do not connect to RESERVED pins or to NO CONNECT pins.

2-Wire 4×16 Matrix Topology

Software Name	Polarity	Hardware Name	
		Module Connector Pin Number	NI TB-2632 Terminal Name
r0	+	51	ROW 0
	-	30	ROW 1
r1	+	5	ROW 2
	-	76	ROW 3
r2	+	110	ROW 4
	-	131	ROW 5
r3	+	156	ROW 6
	-	84	ROW 7
c0	+	120, 94, 67, 41	COLUMN 0
	-	121, 149, 15, 40	COLUMN 16
c1	+	119, 91, 12, 42	COLUMN 1
	-	122, 150, 11, 39	COLUMN 17
c2	+	118, 146, 70, 43	COLUMN 2
	-	123, 100, 61, 38	COLUMN 18
c3	+	117, 141, 20, 44	COLUMN 3

Software Name	Polarity	Hardware Name	
		Module Connector Pin Number	NI TB-2632 Terminal Name
	-	124, 99, 62, 37	COLUMN 19
c4	+	116, 142, 19, 45	COLUMN 4
	-	125, 98, 63, 36	COLUMN 20
c5	+	115, 143, 18, 46	COLUMN 5
	-	126, 97, 64, 35	COLUMN 21
c6	+	114, 144, 17, 47	COLUMN 6
	-	127, 96, 65, 34	COLUMN 22
c7	+	113, 145, 16, 48	COLUMN 7
	-	128, 95, 66, 33	COLUMN 23
c8	+	111, 147, 14, 50	COLUMN 8
	-	130, 93, 68, 31	COLUMN 24
c9	+	112, 148, 13, 49	COLUMN 9
	-	129, 92, 69, 32	COLUMN 25
c10	+	109, 85, 1, 52	COLUMN 10
	-	132, 81, 4, 29	COLUMN 26
c11	+	108, 157, 3, 53	COLUMN 11
	-	133, 90, 71, 28	COLUMN 27
c12	+	107, 151, 10, 54	COLUMN 12
	-	134, 89, 72, 27	COLUMN 28
c13	+	106, 152, 9, 55	COLUMN 13
	-	135, 88, 73, 26	COLUMN 29
c14	+	105, 153, 8, 56	COLUMN 14
	-	136, 87, 74, 25	COLUMN 30
c15	+	104, 154, 7, 57	COLUMN 15
	-	137, 86, 75, 24	COLUMN 31

Table 6. Additional Pin Reference

Module Pin Number	Signal Name
2, 21, 22, 23, 59, 60, 77, 78, 79, 80, 101, 102, 138, 140, 160	NO CONNECT
83, 158	GND
159	TRIGIN
82	TRIGOUT
139	RESERVED



Note Do not connect to RESERVED pins or to NO CONNECT pins.

Matrix Expansion

You can expand the module matrix using either the NI TB-2631/2631B or NI TB-2632/2632B terminal block. The terminal block you are using determines the matrix expansion procedure.

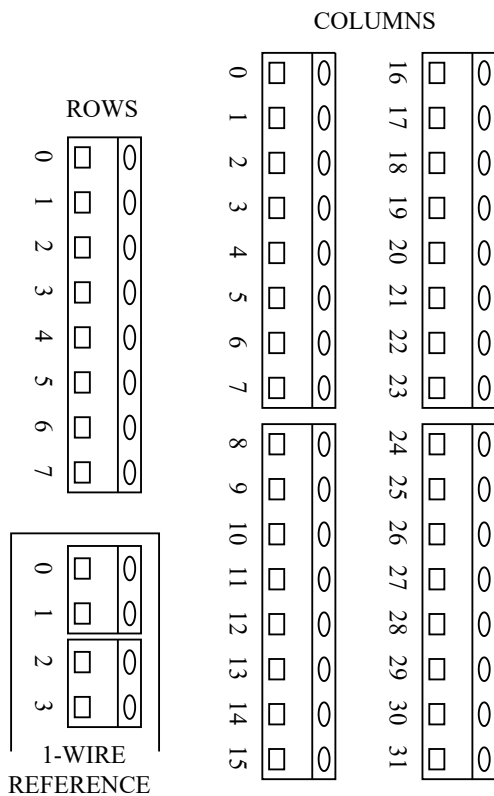
Terminal Block	Topology (Row × Column)
NI TB-2631/2631B	1-wire 4×32, 2-wire 4×16
NI TB-2632/2632B	1-wire 8×16

Using the NI TB-2631/2631B

Use the NI TB-2631/2631B and bare wire to expand the module. You will need the following items:

- Bare wire
- Two or more NI TB-2631/2631B terminal blocks
- Two or more switch modules

Terminal Reference



Expanding the Module Columns

Complete the following steps to expand the module columns using an NI TB-2631/2631B terminal block.

1. Connect one end of the bare wire to the row screw terminal on one NI TB-2631/2631B.
2. Connect the other end of the bare wire to the corresponding row screw terminal on another NI TB-2631/2631B.
3. (Optional) To further expand the columns, attach another bare wire to the row screw terminal you accessed in the previous step. Connect the other end of the bare wire to the corresponding row screw terminal on another NI TB-2631/2631B.
4. Repeat the previous steps for all rows.

Expanding the Module Rows

Complete the following steps to expand the module rows using an NI TB-2631/2631B terminal block.

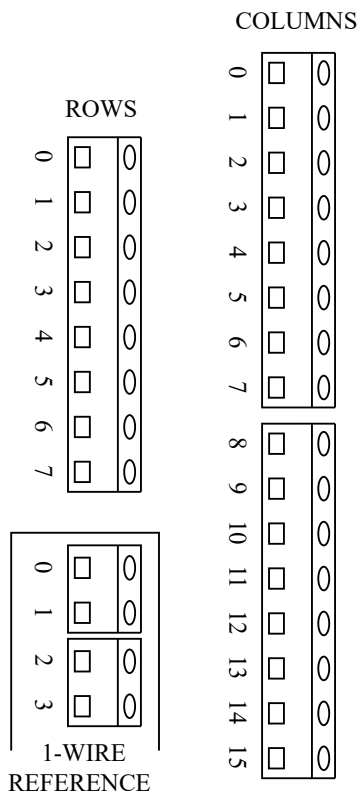
1. Connect one end of the bare wire to a column screw terminal on one NI TB-2631/2631B.
2. Connect the other end of the bare wire to the corresponding column screw terminal on another NI TB-2631/2631B.
3. (Optional) To further expand the rows, attach another bare wire to the column screw terminal you accessed in the previous step. Connect the other end of the bare wire to the corresponding column screw terminal on another NI TB-2631/2631B.
4. Repeat the previous steps for all columns.

Using the NI TB-2632/2632B

Use the NI TB-2632/2632B and bare wire to expand the module. You will need the following items:

- Bare wire
- Two or more NI TB-2632/2632B terminal blocks
- Two or more switch modules

Terminal Reference



Expanding the Module Columns

Complete the following steps to expand the module columns using an NI TB-2632/2632B terminal block.

1. Connect one end of the bare wire to the row screw terminal on one NI TB-2632/2632B.
2. Connect the other end of the bare wire to the corresponding row screw terminal on another NI TB-2632/2632B.
3. (Optional) To further expand the columns, attach another bare wire to the row screw terminal you accessed in the previous step. Connect the other end of the bare wire to the corresponding row screw terminal on another NI TB-2632/2632B.
4. Repeat the previous steps for all rows.

Expanding the Module Rows

Complete the following steps to expand the module rows using an NI TB-2632/2632B terminal block.

1. Connect one end of the bare wire to a column screw terminal on one NI TB-2632/2632B.
2. Connect the other end of the bare wire to the corresponding column screw terminal on another NI TB-2632/2632B.
3. (Optional) To further expand the rows, attach another bare wire to the column screw terminal you accessed in the previous step. Connect the other end of the bare wire to the corresponding column screw terminal on another NI TB-2632/2632B.
4. Repeat the previous steps for all columns.

PXI-2530B Relay Replacement

The module uses reed relays.

Relay Manufacturer	Part
Coto	9012-0021

Complete the following steps to replace a failed relay.

Locate the Relay

1. Ground yourself using a grounding strap or a ground connected to your PXI chassis.



Note Properly grounding yourself prevents damage to your module from electrostatic discharge.

2. Locate the relay you want to replace. Relay names are labeled on the back of module. The following table maps the relay names to the reference designator.

Relay Name	Relay Designator	Relay Name	Relay Designator	Relay Name	Relay Designator
k0	K16	k50	K126	k100	K101
k1	K15	k51	K116	k101	K108
k2	K14	k52	K115	k102	K104
k3	K13	k53	K113	k103	K107
k4	K12	k54	K114	k104	K103
k5	K11	k55	K125	k105	K106
k6	K10	k56	K124	k106	K94
k7	K9	k57	K123	k107	K105
k8	K8	k58	K122	k108	K93
k9	K7	k59	K121	k109	K95

Relay Name	Relay Designator	Relay Name	Relay Designator	Relay Name	Relay Designator
k10	K6	k60	K120	k110	K102
k11	K5	k61	K119	k111	K96
k12	K4	k62	K118	k112	K146
k13	K3	k63	K112	k113	K144
k14	K2	k64	K25	k114	K145
k15	K1	k65	K32	k115	K143
k16	K69	k66	K24	k116	K133
k17	K68	k67	K33	k117	K131
k18	K71	k68	K23	k118	K132
k19	K70	k69	K31	k119	K142
k20	K67	k70	K22	k120	K141
k21	K66	k71	K30	k121	K140
k22	K65	k72	K21	k122	K139
k23	K64	k73	K29	k123	K138
k24	K63	k74	K20	k124	K137
k25	K62	k75	K28	k125	K136
k26	K56	k76	K19	k126	K135
k27	K57	k77	K27	k127	K134
k28	K60	k78	K18	kbc01	K55
k29	K61	k79	K26	kbc02	K73
k30	K58	k80	K51	kbc04	K17
k31	K59	k81	K49	kbc13	K128
k32	K82	k82	K52	kbc15	K34
k33	K81	k83	K50	kbc23	K111
k34	K83	k84	K38	kbc45	K36
k35	K85	k85	K48	kbc46	K92

Relay Name	Relay Designator	Relay Name	Relay Designator	Relay Name	Relay Designator
k36	K84	k86	K37	kbc57	K90
k37	K89	k87	K47	kbc67	K130
k38	K88	k88	K39	kcom1	K54
k39	K87	k89	K42	kcom3	K110
k40	K86	k90	K40	kcom5	K35
k41	K74	k91	K41	kcom7	K129
k42	K75	k92	K43	kref01	K53
k43	K79	k93	K45	kref23	K109
k44	K78	k94	K44	kref45	K72
k45	K77	k95	K46	kref67	K91
k46	K76	k96	K100	—	—
k47	K80	k97	K99	—	—
k48	K127	k98	K98	—	—
k49	K117	k99	K97	—	—

Replace the Relay

The module uses lead-free assemblies.

Ensure you have the following items:

- Temperature-regulated soldering iron set to 371 °C (700 °F) for lead-free solder rework
- 96.5/3.0/0.5 Tin/Silver/Copper solder (flux core) for lead-free solder rework
- Solder wick
- Fine pick
- Isopropyl alcohol
- Cotton swabs



Note NI recommends using lead-free solder for relay replacement on lead-

free assemblies, and lead solder for relay replacement on lead assemblies.



Notice Do not rework lead assemblies using a lead-free work station. Lead solder from the unit could contaminate the station.



Notice If a lead-free assembly is reworked with lead solder, label the assembly to indicate this. This can prevent the same unit from being reworked later on a lead-free solder station, which could contaminate the station.

Replace the relay as you would any other through-hole part.



Tip Use the NI-SWITCH Switch Soft Front Panel to reset the relay count after you have replaced a failed relay. Refer to the ***Switch Soft Front Panel Help*** for more information.