



VME58 Manual Addendum

(Revision A)

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REVISION NOTES

Revision	Date	Notes
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1 OVERVIEW

1.01 Synopsis

This addendum documents the pin assignments for the front panel and VME backplane connectors of each model of the VME58 motion controller. Certain models of VME58 share the same pins but have different assignments so it's important to use the right table for the model of controller in question.

For all VME58's with servo control, those axes are of higher priority over steppers for axis assignment. For example the VME58-**2S2** controller is a mixture of 2 servos and 2 open loop stepper so axes assignments goes as follows:

- X & Y** – servo
- Z & T** – open loop steppers.

Each table uses the following color codes to show grouping of an axis control signals. Black table cell or **RED text** are used to note ground and voltage pins.

Color Legend	
	X axis
	Y axis
	Z axis
	T axis
	U axis
	V axis
	R axis
	S axis
	Ground
Red Text	Voltage

2 VME58-4

Axes assignment:

Motor Type	Axes							
	X	Y	Z	T	U	V	R	S
Servo								
Open Loop Stepper	•	•	•	•	N/A	N/A	N/A	N/A

2.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
	1	+5VDC	1	
X Axis Output	2	GROUND	2	
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
	5		5	
Y Axis Output	6		6	
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
	9		9	
Z Axis Output	10		10	
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
	13	+5VDC	13	
T Axis Output	14		14	
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
	17		17	
	18		18	
	19		19	
	20		20	
	21		21	
	22	GROUND	22	
	23		23	
	24		24	
	25		25	
	26		26	
	27		27	
	28		28	
	29		29	
	30		30	
	31	GROUND	31	
	32	+5VDC	32	

2.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10		60	Ground
11		61	
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15		65	
16		66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21		71	
22		72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	
26		76	T Axis Output
27		77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31		81	Ground
32		82	
33		83	
34		84	
35		85	
36		86	
37		87	
38		88	
39		89	
40		90	+ 5VDC
41	Analog Ground	91	Ground
42		92	
43		93	
44		94	
45		95	
46		96	
47		97	
48		98	
49		99	
50		100	

3 VME58-4S

Axes assignment:

Motor Type	Axes							
	X	Y	Z	T	U	V	R	S
Servo	•	•	•	•				
Open Loop Stepper					N/A	N/A	N/A	N/A

3.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
X Phase B	1	+5VDC	1	X Index
X Axis Output	2	GROUND	2	X Phase A
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
Y Phase B	5		5	Y Index
Y Axis Output	6		6	Y Phase A
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
Z Phase B	9		9	Z Index
Z Axis Output	10		10	Z Phase A
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
T Phase B	13	+5VDC	13	T Index
T Axis Output	14		14	T Phase A
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
	17		17	
	18		18	
	19		19	
	20		20	
	21		21	
	22	GROUND	22	
	23		23	
	24		24	
	25		25	
	26		26	
	27		27	
	28		28	
	29		29	
	30		30	
	31	GROUND	31	
	32	+5VDC	32	

3.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10	X Phase A	60	Ground
11	X Phase B	61	X Index
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15	Y Phase A	65	Y Index
16	Y Phase B	66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21	Z Phase A	71	Z Index
22	Z Phase B	72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	T Index
26	T Phase A	76	T Axis Output
27	T Phase B	77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31		81	Ground
32		82	
33		83	
34		84	
35		85	
36		86	
37		87	
38		88	
39		89	
40		90	+ 5VDC
41	Analog Ground	91	Ground
42		92	
43		93	
44		94	
45		95	
46		96	
47		97	
48		98	
49		99	
50		100	

4 VME58-4E

Axes assignment:

	Axes							
Motor Type	X	Y	Z	T	U	V	R	S
Servo								
Closed Loop Stepper	•	•	•	•	N/A	N/A	N/A	N/A

Special Note: The encoder inputs are offset by four axes.

4.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
	1	+5VDC	1	
X Axis Output	2	GROUND	2	
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
	5		5	
Y Axis Output	6		6	
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
	9		9	
Z Axis Output	10		10	
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
	13	+5VDC	13	
T Axis Output	14		14	
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
X Phase B	17		17	X Index
	18		18	X Phase A
	19		19	
	20		20	
Y Phase B	21		21	Y Index
	22	GROUND	22	Y Phase A
	23		23	
	24		24	
Z Phase B	25		25	Z Index
	26		26	Z Phase A
	27		27	
	28		28	
T Phase B	29		29	T Index
	30		30	T Phase A
	31	GROUND	31	
	32	+5VDC	32	

4.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10		60	Ground
11		61	
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15		65	
16		66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21		71	
22		72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	
26		76	T Axis Output
27		77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31	X Phase A	81	Ground
32	X Phase B	82	X Index
33		83	
34		84	
35		85	
36	Y Phase A	86	Y Index
37	Y Phase B	87	
38		88	
39		89	
40		90	+ 5VDC
41	Analog Ground	91	Ground
42	Z Phase A	92	Z Index
43	Z Phase B	93	
44		94	
45		95	
46		96	T Index
47	T Phase A	97	
48	T Phase B	98	
49		99	
50		100	

5 VME58-8

Axes assignment:

Motor Type	Axes							
	X	Y	Z	T	U	V	R	S
Servo								
Open Loop Stepper	•	•	•	•	•	•	•	•

5.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
	1	+5VDC	1	
X Axis Output	2	GROUND	2	
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
	5		5	
Y Axis Output	6		6	
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
	9		9	
Z Axis Output	10		10	
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
	13	+5VDC	13	
T Axis Output	14		14	
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
	17		17	
U Axis Output	18		18	
U Positive Limit	19		19	U Direction
U Negative Limit	20		20	U Home
	21		21	
V Axis Output	22	GROUND	22	
V Positive Limit	23		23	V Direction
V Negative Limit	24		24	V Home
	25		25	
R Axis Output	26		26	
R Positive Limit	27		27	R Direction
R Negative Limit	28		28	R Home
	29		29	
S Axis Output	30		30	
S Positive Limit	31	GROUND	31	S Direction
S Negative Limit	32	+5VDC	32	Z Home

5.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10		60	Ground
11		61	
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15		65	
16		66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21		71	
22		72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	
26		76	T Axis Output
27		77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31		81	Ground
32		82	
33	U Direction	83	U Axis Output
34	U Auxiliary Output	84	U Positive Limit
35	U Home	85	U Negative Limit
36		86	
37		87	V Axis Output
38	V Direction	88	V Positive Limit
39	V Auxiliary Output	89	V Negative Limit
40	V Home	90	+ 5VDC
41	Analog Ground	91	Ground
42		92	
43		93	R Axis Output
44	R Direction	94	R Positive Limit
45	R Auxiliary Output	95	R Negative Limit
46	R Home	96	
47		97	S Axis Output
48		98	S Auxiliary Output
49	S Direction	99	S Positive Limit
50	S Home	100	S Negative Limit

6 VME58-8S

Axes assignment:

	Axes							
Motor Type	X	Y	Z	T	U	V	R	S
Servo	•	•	•	•	•	•	•	•
Open Loop Stepper								

6.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
X Phase B	1	+5VDC	1	X Index
X Axis Output	2	GROUND	2	X Phase A
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
Y Phase B	5		5	Y Index
Y Axis Output	6		6	Y Phase A
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
Z Phase B	9		9	Z Index
Z Axis Output	10		10	Z Phase A
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
T Phase B	13	+5VDC	13	T Index
T Axis Output	14		14	T Phase A
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
U Phase B	17		17	U Index
U Axis Output	18		18	U Phase A
U Positive Limit	19		19	U Direction
U Negative Limit	20		20	U Home
V Phase B	21		21	V Index
V Axis Output	22	GROUND	22	V Phase A
V Positive Limit	23		23	V Direction
V Negative Limit	24		24	V Home
R Phase B	25		25	R Index
R Axis Output	26		26	R Phase A
R Positive Limit	27		27	R Direction
R Negative Limit	28		28	R Home
S Phase B	29		29	S Index
S Axis Output	30		30	S Phase A
S Positive Limit	31	GROUND	31	S Direction
S Negative Limit	32	+5VDC	32	Z Home

6.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10	X Phase A	60	Ground
11	X Phase B	61	X Index
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15	Y Phase A	65	Y Index
16	Y Phase B	66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21	Z Phase A	71	Z Index
22	Z Phase B	72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	T Index
26	T Phase A	76	T Axis Output
27	T Phase B	77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31	U Phase A	81	Ground
32	U Phase B	82	U Index
33	U Direction	83	U Axis Output
34	U Auxiliary Output	84	U Positive Limit
35	U Home	85	U Negative Limit
36	V Phase A	86	V Index
37	V Phase B	87	V Axis Output
38	V Direction	88	V Positive Limit
39	V Auxiliary Output	89	V Negative Limit
40	V Home	90	+ 5VDC
41	Analog Ground	91	Ground
42	R Phase A	92	R Index
43	R Phase B	93	R Axis Output
44	R Direction	94	R Positive Limit
45	R Auxiliary Output	95	R Negative Limit
46	R Home	96	S Index
47	S Phase A	97	S Axis Output
48	S Phase B	98	S Auxiliary Output
49	S Direction	99	S Positive Limit
50	S Home	100	S Negative Limit

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Axes assignment:

Motor Type	Axes							
	X	Y	Z	T	U	V	R	S
Servo	•	•						
Open Loop Stepper			•	•	N/A	N/A	N/A	N/A

7.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
X Phase B	1	+5VDC	1	X Index
X Axis Output	2	GROUND	2	X Phase A
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
Y Phase B	5		5	Y Index
Y Axis Output	6		6	Y Phase A
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
	9		9	
Z Axis Output	10		10	
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
	13	+5VDC	13	
T Axis Output	14		14	
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
	17		17	
	18		18	
	19		19	
	20		20	
	21		21	
	22	GROUND	22	
	23		23	
	24		24	
	25		25	
	26		26	
	27		27	
	28		28	
	29		29	
	30		30	
	31	GROUND	31	
	32	+5VDC	32	

7.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10	X Phase A	60	Ground
11	X Phase B	61	X Index
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15	Y Phase A	65	Y Index
16	Y Phase B	66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21		71	
22		72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	
26		76	T Axis Output
27		77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31		81	Ground
32		82	
33		83	
34		84	
35		85	
36		86	
37		87	
38		88	
39		89	
40		90	+ 5VDC
41	Analog Ground	91	Ground
42		92	
43		93	
44		94	
45		95	
46		96	
47		97	
48		98	
49		99	
50		100	

8 VME58-2S6

Axes assignment:

Motor Type	Axes							
	X	Y	Z	T	U	V	R	S
Servo	•	•						
Open Loop Stepper			•	•	•	•	•	•

8.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
X Phase B	1	+5VDC	1	X Index
X Axis Output	2	GROUND	2	X Phase A
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
Y Phase B	5		5	Y Index
Y Axis Output	6		6	Y Phase A
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
	9		9	
Z Axis Output	10		10	
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
	13	+5VDC	13	
T Axis Output	14		14	
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
	17		17	
U Axis Output	18		18	
U Positive Limit	19		19	U Direction
U Negative Limit	20		20	U Home
	21		21	
V Axis Output	22	GROUND	22	
V Positive Limit	23		23	V Direction
V Negative Limit	24		24	V Home
	25		25	
R Axis Output	26		26	
R Positive Limit	27		27	R Direction
R Negative Limit	28		28	R Home
	29		29	
S Axis Output	30		30	
S Positive Limit	31	GROUND	31	S Direction
S Negative Limit	32	+5VDC	32	Z Home

8.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10	X Phase A	60	Ground
11	X Phase B	61	X Index
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15	Y Phase A	65	Y Index
16	Y Phase B	66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21		71	
22		72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	
26		76	T Axis Output
27		77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31		81	Ground
32		82	
33	U Direction	83	U Axis Output
34	U Auxiliary Output	84	U Positive Limit
35	U Home	85	U Negative Limit
36		86	
37		87	V Axis Output
38	V Direction	88	V Positive Limit
39	V Auxiliary Output	89	V Negative Limit
40	V Home	90	+ 5VDC
41	Analog Ground	91	Ground
42		92	
43		93	R Axis Output
44	R Direction	94	R Positive Limit
45	R Auxiliary Output	95	R Negative Limit
46	R Home	96	
47		97	S Axis Output
48		98	S Auxiliary Output
49	S Direction	99	S Positive Limit
50	S Home	100	S Negative Limit

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Axes assignment:

Motor Type	Axes							
	X	Y	Z	T	U	V	R	S
Servo	•	•	•	•				
Open Loop Stepper					•	•	•	•

9.01 Backplane connector / P2

ROW A	PIN	ROW B	PIN	ROW C
X Phase B	1	+5VDC	1	X Index
X Axis Output	2	GROUND	2	X Phase A
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
Y Phase B	5		5	Y Index
Y Axis Output	6		6	Y Phase A
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
Z Phase B	9		9	Z Index
Z Axis Output	10		10	Z Phase A
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
T Phase B	13	+5VDC	13	T Index
T Axis Output	14		14	T Phase A
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
	17		17	
U Axis Output	18		18	
U Positive Limit	19		19	U Direction
U Negative Limit	20		20	U Home
	21		21	
V Axis Output	22	GROUND	22	
V Positive Limit	23		23	V Direction
V Negative Limit	24		24	V Home
	25		25	
R Axis Output	26		26	
R Positive Limit	27		27	R Direction
R Negative Limit	28		28	R Home
	29		29	
S Axis Output	30		30	
S Positive Limit	31	GROUND	31	S Direction
S Negative Limit	32	+5VDC	32	Z Home

9.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10	X Phase A	60	Ground
11	X Phase B	61	X Index
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15	Y Phase A	65	Y Index
16	Y Phase B	66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21	Z Phase A	71	Z Index
22	Z Phase B	72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	T Index
26	T Phase A	76	T Axis Output
27	T Phase B	77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31		81	Ground
32		82	
33	U Direction	83	U Axis Output
34	U Auxiliary Output	84	U Positive Limit
35	U Home	85	U Negative Limit
36		86	
37		87	V Axis Output
38	V Direction	88	V Positive Limit
39	V Auxiliary Output	89	V Negative Limit
40	V Home	90	+ 5VDC
41	Analog Ground	91	Ground
42		92	R Index
43		93	R Axis Output
44	R Direction	94	R Positive Limit
45	R Auxiliary Output	95	R Negative Limit
46	R Home	96	
47		97	S Axis Output
48		98	S Auxiliary Output
49	S Direction	99	S Positive Limit
50	S Home		S Negative Limit

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Axes assignment:

Motor Type	Axes							
	X	Y	Z	T	U	V	R	S
Servo	•	•	•	•	•	•		
Open Loop Stepper							•	•

10.01 Backplane connector | P2

ROW A	PIN	ROW B	PIN	ROW C
X Phase B	1	+5VDC	1	X Index
X Axis Output	2	GROUND	2	X Phase A
X Positive Limit	3		3	X Direction
X Negative Limit	4		4	X Home
Y Phase B	5		5	Y Index
Y Axis Output	6		6	Y Phase A
Y Positive Limit	7		7	Y Direction
Y Negative Limit	8		8	Y Home
Z Phase B	9		9	Z Index
Z Axis Output	10		10	Z Phase A
Z Positive Limit	11		11	Z Direction
Z Negative Limit	12	GROUND	12	Z Home
T Phase B	13	+5VDC	13	T Index
T Axis Output	14		14	T Phase A
T Positive Limit	15		15	T Direction
T Negative Limit	16		16	T Home
U Phase B	17		17	U Index
U Axis Output	18		18	U Phase A
U Positive Limit	19		19	U Direction
U Negative Limit	20		20	U Home
V Phase B	21		21	V Index
V Axis Output	22	GROUND	22	V Phase A
V Positive Limit	23		23	V Direction
V Negative Limit	24		24	V Home
	25		25	
R Axis Output	26		26	
R Positive Limit	27		27	R Direction
R Negative Limit	28		28	R Home
	29		29	
S Axis Output	30		30	
S Positive Limit	31	GROUND	31	S Direction
S Negative Limit	32	+5VDC	32	Z Home

10.02 Front Panel connector (J29)

PIN	FUNCTION	PIN	FUNCTION
1	User I/O 0	51	+ 5VDC
2	User I/O 2	52	User I/O 1
3	User I/O 4	53	User I/O 3
4	User I/O 6	54	User I/O 5
5	User I/O 8	55	User I/O 7
6	User I/O 10	56	User I/O 9
7	User I/O 12	57	User I/O 11
8	User I/O 13	58	Ground
9	Analog Ground	59	+ 5VDC
10	X Phase A	60	Ground
11	X Phase B	61	X Index
12	X Direction	62	X Axis Output
13	X Auxiliary Output	63	X Positive Limit
14	X Home	64	X Negative Limit
15	Y Phase A	65	Y Index
16	Y Phase B	66	Y Axis Output
17	Y Direction	67	Y Positive Limit
18	Y Auxiliary Output	68	Y Negative Limit
19	Y Home	69	+ 5VDC
20	Analog Ground	70	Ground
21	Z Phase A	71	Z Index
22	Z Phase B	72	Z Axis Output
23	Z Direction	73	Z Positive Limit
24	Z Auxiliary Output	74	Z Negative Limit
25	Z Home	75	T Index
26	T Phase A	76	T Axis Output
27	T Phase B	77	T Auxiliary Output
28	T Direction	78	T Positive Limit
29	T Home	79	T Negative Limit
30	Analog Ground	80	+ 5VDC
31	U Phase A	81	Ground
32	U Phase B	82	U Index
33	U Direction	83	U Axis Output
34	U Auxiliary Output	84	U Positive Limit
35	U Home	85	U Negative Limit
36	V Phase A	86	V Index
37	V Phase B	87	V Axis Output
38	V Direction	88	V Positive Limit
39	V Auxiliary Output	89	V Negative Limit
40	V Home	90	+ 5VDC
41	Analog Ground	91	Ground
42		92	
43		93	R Axis Output
44	R Direction	94	R Positive Limit
45	R Auxiliary Output	95	R Negative Limit
46	R Home	96	
47		97	S Axis Output
48		98	S Auxiliary Output
49	S Direction	99	S Positive Limit
50	S Home	100	S Negative Limit