COMPETITION DATA SYSTEMS
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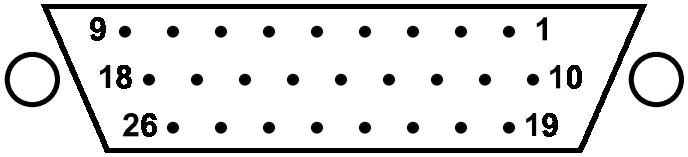
COMMANDER II Port Pinouts & Wiring For S/N 50300 & higher

REV: C DATE: 01/20/01



PORT PIN NUMBER LAYOUT

NOTE: This view shows the connector on the *COMMANDER II.* The actual wiring harness connector will be the mirror image when viewing the face of the connector. Pin numbers are molded in to the connector, but may be difficult to read.

WIRING NOTES

1) Use only AMP high density D-Sub crimp pins for making up cables to go into *COMMANDER II* ports. Pins, hardware, and wiring supplies are available from CDS at nominal cost.

2) Use foil shielded twisted pair or twisted multiconductor cable with drain wire for all wiring. Teflon insulated cable is available from CDS at nominal cost.

3) IMPORTANT: DO NOT connect shield and common together at any point in the sensor cabling. The shield MUST be isolated from the common.

4) IMPORTANT: Only connect sensor common (-) signals to the pins labeled COMMON on the ports. Only connect shield drain wires to the pins labeled SHIELD in the ports.

NOTE Failure to follow the above guidelines can result in intermittent noise problems, lockup of the *COMMANDER II,* corrupt data and possible damage to the unit.

SENSOR CONNECTIONS

1) All Analog channel inputs are voltage type. Normal input is 0-6 volts or any portion thereof. Inputs have fault protection in the range of +/- 35 volts. Input impedance is very high (>500k)

2) All RPM channels are current sinking type. All inputs are pulled up to 5 volts internally. User connected sensors should be open collector type, and provide a frequency no greater than 800 HZ with a rise and fall time no greater than 5 10 microseconds. They must be capable of sinking about 20 milliamps when low, at a saturation voltage less than .9 volts.

COMMANDER II Port Pinouts (S/N 503000 and higher)

PORT 1

Pin #	Description
1	Photobeam Signal
2	Trigger Signal
3	Not Used
4	RPM 1 Signal
5	Common
6	Common
7	Display Clock
8	Display Data
9	Not Used
10	+ 12 Volts
11	+ 12 Volts
12	+ 5 Volts
13	+ 5 Volts

Pin #	Description
14	Common
15	Common
16	+ 5 Volts
17	+ 5 Volts
18	+ 5 Volts
19	Shield
20	Shield
21	Shield
22	Common
23	Common
24	Shield
25	Shield
26	Shield

PORT 2

Pin #	Description
1	+ 12 Volts
2	Analog 1 Signal
3	Analog 2 Signal
4	Analog 3 Signal
5	Common
6	Common
7	Analog 4 Signal
8	RPM 2 Signal
9	RPM 3 Signal
10	+ 12 Volts
11	+ 5 Volts
12	+ 5 Volts
13	+ 5 Volts

Pin #	Description
14	Common
15	Common
16	+ 5 Volts
17	+ 5 Volts
18	+ 5 Volts
19	Shield
20	Shield
21	Shield
22	Common
23	Common
24	Shield
25	Shield
26	Shield

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PORT 3

Pin #	Description
1	+ 5 Volts
2	Analog 10 Signal
3	Analog 9 Signal
4	+ 12 Volts
5	+ 5 Volts
6	+ 5 Volts
7	+ 12 Volts
8	Analog 8 Signal
9	Analog 7 Signal
10	+ 5 Volts
11	+ 5 Volts
12	Common
13	Common

Pin #	Description
14	Common
15	+ 12 Volts
16	+ 12 Volts
17	Analog 6 Signal
18	Analog 5 Signal
19	+ 5 Volts
20	Common
21	Shield
22	Shield
23	Shield
24	Shield
25	Common
26	Common

PORT 4

Pin #	Description
1	Analog 13 Signal
2	Common
3	Common
4	+ 5 Volts
5	+ 5 Volts
6	+ 12 Volts
7	Analog 11 Signal
8	+ 12 Volts
9	Shield
10	Analog 14 Signal
11	Common
12	Common
13	Common

Pin #	Description
14	+ 5 Volts
15	+ 12 Volts
16	Analog 12 Signal
17	Shield
18	Shield
19	Common
20	+ 5 Volts
21	+ 5 Volts
22	+ 5 Volts
23	+ 12 Volts
24	Analog 16 Signal
25	Analog 15 Signal
26	Shield

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PORT 5

Pin #	Description
1	Common
2	Common
3	Common
4	+ 5 Volts
5	Analog 20 Signal
6	Analog 19 Signal
7	Analog 18 Signal
8	Analog 17 Signal
9	No Connection
10	Shield
11	Shield
12	Shield
13	Common

Pin #	Description
14	+ 5 Volts
15	+ 5 Volts
16	RPM 4 Signal
17	+ 12 Volts
18	+ 12 Volts
19	Shield
20	Shield
21	Common
22	+ 5 Volts
23	+ 5 Volts
24	+ 12 Volts
25	+ 12 Volts
26	+ 12 Volts

PORT 6

Pin #	Description
1	Common
2	Common
3	Common
4	+ 5 Volts
5	Analog 24 Signal
6	Analog 23 Signal
7	Analog 22 Signal
8	No Connection
9	Analog 21 Signal
10	Shield
11	Shield
12	Shield
13	Common

Pin #	Description
14	+ 5 Volts
15	+ 5 Volts
16	RPM 5 Signal
17	+ 12 Volts
18	+ 12 Volts
19	Shield
20	Shield
21	Common
22	+ 5 Volts
23	+ 5 Volts
24	+ 12 Volts
25	+ 12 Volts
26	+ 12 Volts

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PORT 7

Pin #	Description
1	Analog 25 Signal
2	Analog 26 Signal
3	Analog 27 Signal
4	Analog 28 Signal
5	+ 5 Volts
6	Common
7	Common
8	Common
9	No Connection
10	+ 12 Volts
11	+ 12 Volts
12	No Connection
13	+ 5 Volts

Pin #	Description
14	+ 5 Volts
15	Common
16	Shield
17	Shield
18	Shield
19	+ 12 Volts
20	+ 12 Volts
21	No Connection
22	+ 5 Volts
23	No Connection
24	No Connection
25	Shield
26	No Connection

PORT 8

Pin #	Description
1	Analog 29 Signal
2	Analog 30 Signal
3	Analog 31 Signal
4	Analog 32 Signal
5	+ 5 Volts
6	Common
7	Common
8	Common
9	No Connection
10	+ 12 Volts
11	+ 12 Volts
12	No Connection
13	+ 5 Volts

Pin #	Description
14	+ 5 Volts
15	Common
16	Shield
17	Shield
18	Shield
19	+ 12 Volts
20	+ 12 Volts
21	No Connection
22	+ 5 Volts
23	No Connection
24	No Connection
25	Shield
26	No Connection

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