

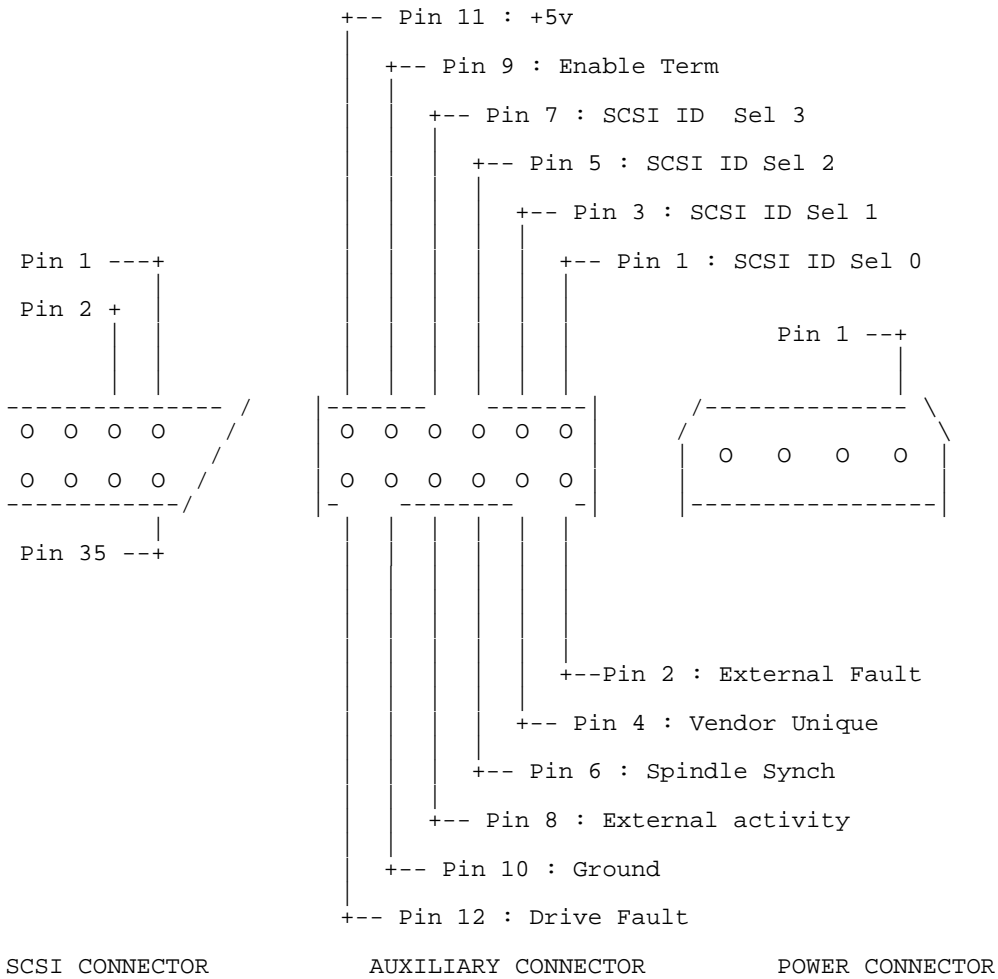
To: Membership of X3T9.2
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 with help from Gene Milligan

X3T9.2/93-112r1
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 SFF-8009

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Subject: UNITIZED CONNECTOR PIN ASSIGNMENTS

The following illustration represents the agreement on pin assignments for the 12-pin auxillary connector portion of the unitized connector. Please note that any previous version of this either from the Small Form Factor or X3T9.2 is likely to contain errors or omissions.



Auxiliary Pinouts

SIGNAL ASSIGNMENTS FOR AUXILIARY CONNECTOR					
Pin	Signal	Description	Hst	Dir	Dev
1	SEL0-	SCSI ID Sel 0	x	--->	x
2	XTFALT-	External fault	x	<---	x
3	SEL1-	SCSI ID Sel 1	x	--->	x
4	VUNIQ-	Vendor Unique	x	<---	x
5	SEL2-	SCSI ID Sel 2	x	--->	x
6	SPSYNC-	Spindle Synch	x	<--->	x
7	SEL3-	SCSI ID Sel 3	o	--->	x
8	XTACTV-	External activity	x	<---	x
9	ENTERM-	Enable termination	o	--->	x
10	Ground	Ground		<---	x
11	+5V	+5V		<---	x
12	FAULT-	Drive fault	x	--->	x

The Dir column indicates the direction of the signal between host and device. An x in the Hst column means this signal shall be supported by the Host. An x in the Dev column means this signal shall be supported by the device. An o means this signal is Optional. If there is nothing in the Dev column for a pin location, then no connection should be made to that pin.

SCSI ID Sel 0

When negated, this signal shall have a value of 0 and when asserted shall have a value of 1 for the purposes of selection and arbitration. This signal shall be latched within 250 milliseconds of the application of power or optionally of the negation of RST within the device. This input shall source no more than 4.8 milliamps when the input signal is asserted. If SCSI ID Sel 0 is intended to be selected the host shall provide a low impedance connection from pin 1 to pin 2 through an appropriate means.

External fault

This signal is an open-collector output capable of sinking intended to drive an LED to indicate an external fault condition has occurred. This signal shall be held asserted for 250 milliseconds following the application of power or optionally the deassertion of RST during initialization while the SCSI ID pin is read (if this signal is connected to an LED, this action can cause the LED to light briefly). When asserted this signal shall present a d.c. impedance of 150 ohms +/- 20% to ground. Provision of this signal is optional. However if it is not provided the pin shall meet the above requirements during initialization and have a high impedance after initialization.

SCSI ID Sel 1

When negated, this signal shall have a value of 0 and when asserted shall have a value of 2 for the purposes of selection and arbitration. This signal shall be latched within 250 milliseconds of the application of power or optionally of the negation of RST within the device. This input shall source no more than 4.8 milliamps when the input signal is asserted. If SCSI ID Sel 0 is intended to be selected the host shall provide a low impedance connection from pin 3 to pin 4 through an appropriate means.

Vendor Unique

This signal is open-collector output available for Vendor Unique usage. This signal shall be held asserted for 250 milliseconds following the application of power or optionally the deassertion of RST during initialization while the SCSI ID pin is read (if this signal is connected to an LED, this action can cause the LED to light briefly). When asserted this signal shall present a d.c. impedance of 150 ohms +/- 20% to ground. Provision of this signal is optional. However if it is not provided the pin shall meet the above requirements during initialization and have a high impedance after initialization.

GEM COMMENT: Because of the jumpering, the Vendor Unique pin can not be vendor unique during the Initialization time. During that time it must conform to the stated requirements (in the revised document) in order to make the ID selection work. This may impose restrictions on the VU implementation even after Initialization. In addition I do not think it will work to allow VU to be either an input or an output. I think it has to stay as documented an output from the device. Otherwise this may blow some mixtures. I suppose an alternative would be to require that the host and devices which provide an output must use a "wired Or" capable circuit. Should we have asked if anyone was using VU? Should we have reclaimed it as reserved? Sorry did not think of that before.

SCSI ID Sel 2

When negated, this signal shall have a value of 0 and when asserted shall have a value of 4 for the purposes of selection and arbitration. This signal shall be latched within 250 milliseconds of the application of power or optionally of the negation of RST within the device. This input shall source no more than 4.8 milliamps when the input signal is asserted. If SCSI ID Sel 0 is intended to be selected the host shall provide a low impedance connection from pin 5 to pin 6 through an appropriate means.

Spindle Synch

This signal is an open-collector output which is used as a spindle synchronization reference. This signal shall be held asserted for 250 milliseconds following the application of power or optionally the deassertion of RST during initialization while the SCSI ID pin is read (if this signal is connected to the Spindle Synch of other drives, this action can cause the synch function to be interrupted briefly). When asserted this signal shall present a d.c. impedance of 150 ohms +/- 20% to ground. Provision of this signal is optional. However if it is not provided the pin shall meet the above requirements during initialization and have a high impedance after initialization.

Typically, spindle synchronization is only effective if all drives connected through this pin are identical in make and model.

SCSI ID Sel 3

When negated, this signal shall have a value of 0 and when asserted shall have a value of 8 for the purposes of selection and arbitration. This signal shall be latched within 250 milliseconds of the application of power or optionally of the negation of RST within the device. This input shall source no more than 4.8 milliamps when the input signal is asserted. If SCSI ID Sel 0 is intended to be selected the host shall provide a low impedance connection from pin 7 to pin 8 through an appropriate means.

External activity

This signal is an open-collector output intended to drive an LED to indicate the device is active. This signal shall be held asserted for 250 milliseconds following the application of power or optionally the deassertion of RST during initialization while the SCSI ID pin is read (if this signal is connected to an LED, this action can cause the LED to light briefly). When asserted this signal shall present a d.c. impedance of 150 ohms +/- 20% to ground. Provision of this signal is optional. However if it is not provided the pin shall meet the above requirements during initialization and have a high impedance after initialization.

Enable termination

When connected to ground, this optional signal shall cause the drive to enable its terminators. If this signal is not connected, the drive shall disable its terminators.

LJL COMMENT: This signal seems to imply that switchable terminators are required. In our experience a number of customers do not want switchable terminators. Should this be an optional feature?

+5V

This signal provides 5V of DC power to drive LEDs, and should be limited to a maximum value of 1 amp.

LJL COMMENT: What is the tolerance on the +5 V dc?

Ground

This signal shall be connected to logic ground.

Drive fault

This signal is normally held negated. Assertion of this signal shall cause the drive to stop any media-altering activity, which may result in the drive asserting XTFALT- or VUNIQ- signals, or both. This input shall source no more than 4.8 milliamps when the input signal is asserted. This signal is intended to be used as a power failure warning and/or as a write protect input. Provision of this signal is optional. However if it is not provided the pin shall be open.

NOTE: This signal can be used as a write-fault input in addition to a fault input.

Assertion of this input signal, when write commands are active, may cause data loss. However judicious use of this input signal under failure conditions can minimize the total data loss.