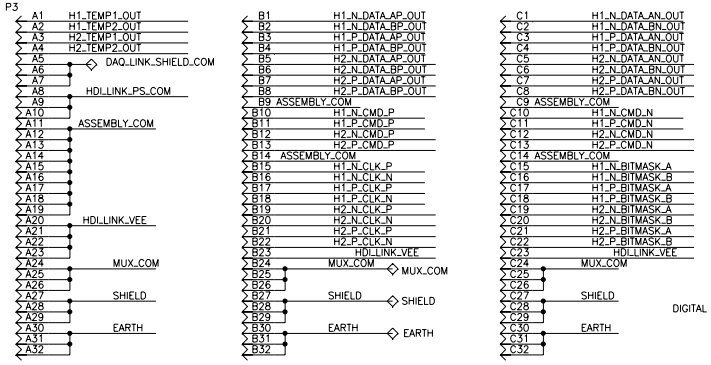



NOTE: THIS CONNECTOR IS POSITIONED UPSIDE DOWN AND ON THE OPPOSITE SIDE OF THE PC BOARD FROM THE NORMAL VME CONVENTION.

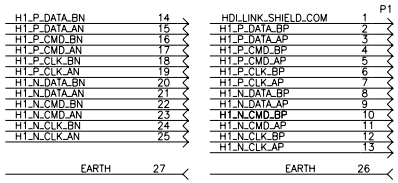
NORMAL VME CONVENTION: WHEN VIEWING THE FRONT PANEL OF THE BOARD AS IT SITS IN A CRATE, ALL PARTS ARE LOADED ON BOARD FACE POINTING TO RIGHT. THE BOARD IS MOUNTED TO THE LEFT HAND EDGE OF THE FRONT PANEL. ON THIS BOARD THE COMPONENTS ARE MOUNTED ON THE BOARD FACE POINTING LEFT, AND THE BOARD MOUNTS TO THE RIGHT HAND EDGE OF THE FRONT PANEL. THE VME CONNECTOR IS ROTATED 180 DEGREES CAUSING THE PIN MARKED A1 ON THE CONNECTOR TO END UP IN THE A31 POSITION ON THE BOARD FOOTPRINT.

DIGITAL SIGNAL NAME FORMAT:

NAME = HU_V_W_}X{}Y{}_Z{

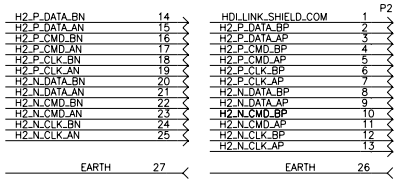
U = 1,2 (HDI DETECTOR MODULE NUMBER).
V = N (N-SIDE), P (P-SIDE).
W = CLK, CMD, DATA, BITMASK.
X = A (CHANNEL A), B (CHANNEL B), NOT SPECIFIED.
Y = N (INVERTING SIGNAL), P (NON-INVERTING SIGNAL), NOT SPECIFIED.
Z = IN, OUT, NOT SPECIFIED.

EXAMPLE: H2_N_CLK_BP = N SIDE CLOCK, CHANNEL B, NON-INVERTED SIGNAL, FOR H2 MODULE



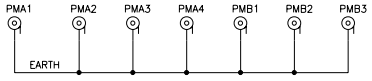

PINS 26 AND 27 ARE MOUNTING HOLES CONNECTED TO FRONT METAL SHELL.

TO MATCHING CARD SIGNAL CONNECTOR HDI MODULE #1



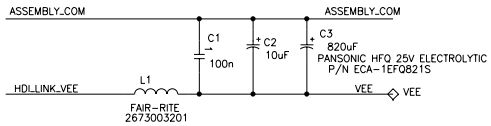

PINS 26 AND 27 ARE MOUNTING HOLES CONNECTED TO FRONT METAL SHELL.

TO MATCHING CARD SIGNAL CONNECTOR HDI MODULE #2

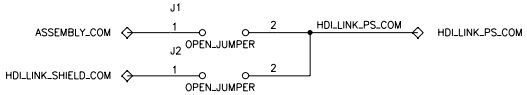



MOUNTING HOLES ON BOARD CORNERS AND FRONT EDGE ARE PLATED THROUGH AND HAVE LARGE PADS THAT ARE EARTHED. THE FRONT PANEL MOUNTING HARDWARE CONTACTS THE PADS AND THE FRONT PANEL, EARTHING THE FRONT PANEL.

PMA = 0.260" X 0.380" PAD
PMB = 0.250" X 0.250" PAD



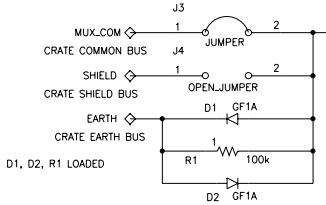

GROUNDING AND SHIELDING JUMPERS.
MAKE JUMPERS AT LEAST 0.300" WIDE
KEEP GAP SMALL.




THE MULTI-SOURCE POWER SUPPLY CABLES INCLUDE POWER SUPPLY COMMON WIRES NAMED "H1_PS_COM" AND "H2_PS AFTER OPTIONAL FILTERING. EACH COMMON IS CARRIED THROUGH TO THE CORESPONDING MATCHING CARD POWER CABLE. JUMPERS J13 AND J14 (NEXT PAGE) ALLOW THE POWER SUPPLY COMMONS TO BE CONNECTED TOGETHER IN THE NODE NAMED "HDI_LINK_PS_COM". THIS NODE IS JUMPERABLE TO ASSEMBLY_COM OR HDI_LINK_SHIELD_COM.

THE DAQ LINK CARD POWER SUPPLY ("MUX POWER SUPPLY") HAS A HARD TIE TO ASSEMBLY_COM, SO CLOSING J1 TIES ALL POWER SUPPLY COMMONS TOGETHER.

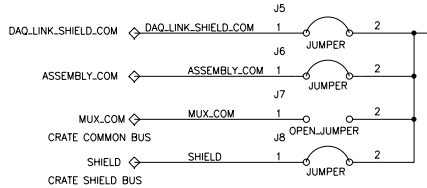
BECAUSE OF THE JUMPER GAP SIZE, RESISTORS, CAPACITORS, OR DIODES MAY BE SOLDERED ACROSS TO FORM A "SOFT" TIE RATHER THAN A "HARD" TIE.




WITHIN ONE MUX MODULE, THE DAQ LINK CARD AND TWO HDI LINK CARD GROUND PLANES ARE TIED TOGETHER THROUGH THE MIDPLANE, WITH NO OPTION FOR SEPARATION. THE COMMON GROUND IS CALLED "ASSEMBLY_COM". IT DOES NOT EXTEND BEYOND THE MODULE.

JUMPERS J3 , J4 , AND THE RESISTOR/DIODE PAIR ALLOW ASSEMBLY_COM FOR EACH MODULE TO BE TIED TO BUSSES IN THE MIDPLANE; MUX_COM, SHIELD, OR EARTH. THIS IS DONE TO MINIMIZE CAPACITIVE PICK-UP BETWEEN MODULES, AND TO PROVIDE A "SOFT" TIE TO EARTH.

THE SHIELD AND MUX_COM BUSSES IN EACH CRATE IN A RACK ARE OPTIONALLY TIED TOGETHER BUT HAVE NO OTHER CONNECTION TO THE OUTSIDE WORLD. EACH EARTH BUS IS STRAPPED TO THE MUX CRATE WHICH MAKES OHMIC CONTACT WITH THE RACK. EACH RACK IS INTENDED TO BE EARTHED.




HDI_LINK_SHIELD_COM IS A COMMON NODE CONNECTING THE SIGNAL AND POWER CABLE SHIELDS TOGETHER ON THE HDI LINK CARD. THE CABLE SHIELDS FOR THE MULTI-SOURCE POWER SUPPLIES ARE OPTIONALLY ISOLATED WITH FERRITE TORROIDS, AND ARE THEREFORE GIVEN SEPARATE NAMES "H1_SHIELD_COM_IN" AND "H2_SHIELD_COM_IN". THEY ARE CONNECTED TO HDI_LINK_SHIELD_COM AFTER OPTIONAL FILTERING.

JUMPER J5 ALLOWS THE COMMON SHIELD NODES ON THE HDI LINK CARDS AND DAQ LINK CARD TO BE TIED TOGETHER WITHIN ONE MODULE. THE DAQ LINK CARD SHIELD COMMON IS OPTIONALLY ISOLATED FROM THE POWER SUPPLY IN THE SAME MANNER AS ON THIS CARD. JUMPERS J6-J8 ALLOW THE COMMON SHIELD TO BE TIED OFF TO OTHER NODES.

NOTE: THE DAQ LINK CARD HAS A SIMILAR SET OF JUMPERS. THUS THE JUMPER CONFIGURATION ON THE DAQ LINK CARD MAY CONFLICT WITH THE CONFIGURATION ON THIS CARD.

TITLEBLK B

SCIPP
SANTA CRUZ, CA 95064
831-459-5702

PAGE SIZE: User
PAGE 1 OF 25

BABAR HDI LINK CARD
SIGNAL CONNECTORS

SLAC DRAWING NO. SD350-700-15-C03
REVISION: 1.4 8/26/99
FILENAME: HDILNK19.SCH
PAGE 1 OF 3