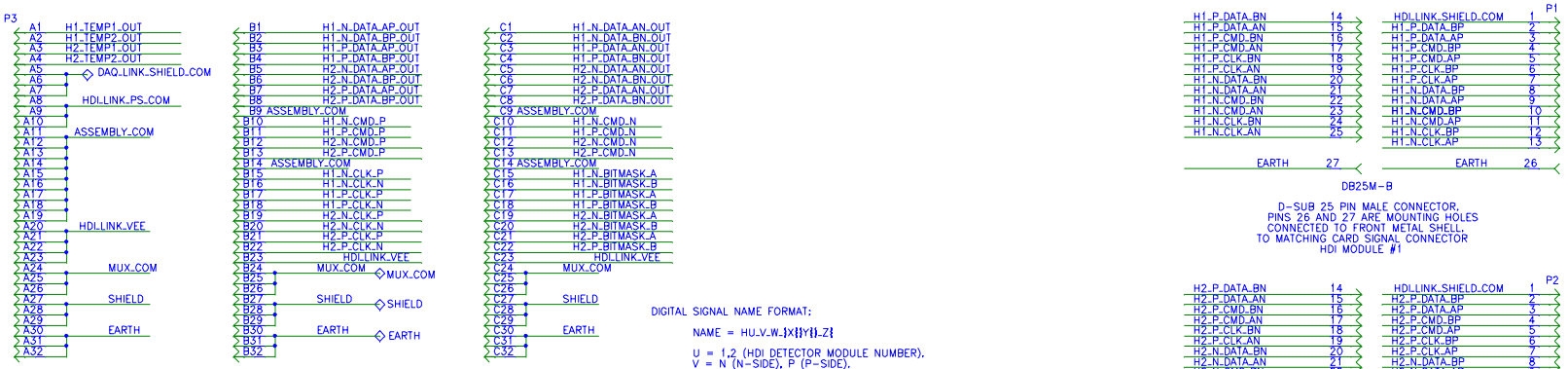
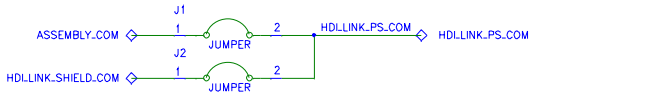


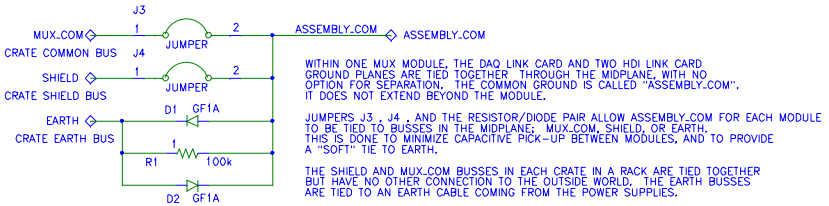
GROUNDING AND SHIELDING JUMPERS.
MAKE JUMPERS AT LEAST 0.300" WIDE
KEEP GAP SMALL.



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.

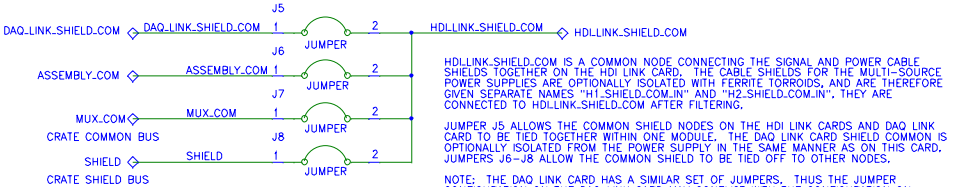
BECAUSE OF THE JUMPER GAP SIZE, RESISTORS, CAPACITORS, OR DIODES MAY BE SOLDERED ACROSS TO FORM A "SOFT" TIE RATHER THAN A "HARD" TIE.



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 TIED TOGETHER BUT HAVE NO OTHER CONNECTION TO THE OUTSIDE WORLD. THE EARTH BUSSES ARE TIED TO AN EARTH CABLE COMING FROM THE POWER SUPPLIES.



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 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.

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BABAR SVT HDI LINK CARD

SIGNAL CONNECTORS

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P6
H1_D5NS_IN
H1_D0NS_IN
H1_L5NS_IN
H1_L0NS_IN
H1_A5NS_IN
H1_A0N5S_IN
H1_A2NS_IN
H1_A0N2S_IN
H1_A2PS_IN
H1_A0P2S_IN
H1_A5PS_IN
H1_A0P5S_IN
H1_L5PS_IN
H1_L0PS_IN
H1_D5PS_IN
H1_D0PS_IN
H1_SHIELD_COM_IN
EARTH
HD-20-50M
H1_D5N_IN
H1_D0N_IN
H1_L5N_IN
H1_L0N_IN
H1_A5N_IN
H1_A0N5_IN
H1_A2N_IN
H1_A0N2_IN
H1_A2P_IN
H1_A0P2_IN
H1_A5P_IN
H1_A0P5_IN
H1_L5P_IN
H1_L0P_IN
H1_D5P_IN
H1_D0P_IN
H1_EP_IN
H1_BNE_IN
H1_BP_IN
H1_BNB_IN
H1_PS_COM_IN
EARTH
D-SUB 50 PIN MALE CONNECTOR,
PINS 51 AND 52 ARE MOUNTING HOLES
CONNECTED TO FRONT METAL SHELL.
POWER CABLE CONNECTOR
FROM POWER SUPPLIES FOR HDI DETECTOR MODULE #1.
P7
H2_D5NS_IN
H2_D0NS_IN
H2_L5NS_IN
H2_L0NS_IN
H2_A5NS_IN
H2_A0N5S_IN
H2_A2NS_IN
H2_A0N2S_IN
H2_A2PS_IN
H2_A0P2S_IN
H2_A5PS_IN
H2_A0P5S_IN
H2_L5PS_IN
H2_L0PS_IN
H2_D5PS_IN
H2_D0PS_IN
H2_SHIELD_COM_IN
EARTH
HD-20-50M
H2_D5N_IN
H2_D0N_IN
H2_L5N_IN
H2_L0N_IN
H2_A5N_IN
H2_A0N5_IN
H2_A2N_IN
H2_A0N2_IN
H2_A2P_IN
H2_A0P2_IN
H2_A5P_IN
H2_A0P5_IN
H2_L5P_IN
H2_L0P_IN
H2_D5P_IN
H2_D0P_IN
H2_EP_IN
H2_BNE_IN
H2_BP_IN
H2_BNB_IN
H2_PS_COM_IN
EARTH
D-SUB 50 PIN MALE CONNECTOR,
PINS 51 AND 52 ARE MOUNTING HOLES
CONNECTED TO FRONT METAL SHELL.
POWER CABLE CONNECTOR
FROM POWER SUPPLIES FOR HDI DETECTOR MODULE #2.
P4
H1_D5P
H1_D5P
H1_D5PS
H1_A5P
H1_A5PS
H1_A2P
H1_A2PS
H1_EP
H1_PS_COM
H1_TEMP2_IN
H1_BP
H1_A2NS
H1_A2N
H1_A5NS
H1_A5N
H1_D5NS
H1_D5N
H1_D5N
EARTH
H1_D0P
H1_D0P
H1_D0PS
H1_A0P5
H1_A0P5S
H1_A0P2
H1_A0P2S
H1_BNE
H1_PS_COM
H1_TEMP1_IN
H1_BNB
H1_A0N2S
H1_A0N2
H1_A0N5S
H1_A0N5
H1_D0N
H1_D0N
HDI_LINK_SHIELD_COM
EARTH
HD-20-37M
D-SUB 37 PIN MALE CONNECTOR
PINS 38 AND 39 ARE CONNECTOR MOUNTING HOLES
CONNECTING FRONT METAL SHELL TO EARTH
POWER CABLE CONNECTOR
TO MATCHING CARD FOR HDI DETECTOR MODULE #1
P5
H2_D5P
H2_D5P
H2_D5PS
H2_A5P
H2_A5PS
H2_A2P
H2_A2PS
H2_EP
H2_PS_COM
H2_TEMP2_IN
H2_BP
H2_A2NS
H2_A2N
H2_A5NS
H2_A5N
H2_D5NS
H2_D5N
H2_D5N
EARTH
H2_D0P
H2_D0P
H2_D0PS
H2_A0P5
H2_A0P5S
H2_A0P2
H2_A0P2S
H2_BNE
H2_PS_COM
H2_TEMP1_IN
H2_BNB
H2_A0N2S
H2_A0N2
H2_A0N5S
H2_A0N5
H2_D0N
H2_D0N
HDI_LINK_SHIELD_COM
EARTH
HD-20-37M
D-SUB 37 PIN MALE CONNECTOR
PINS 38 AND 39 ARE CONNECTOR MOUNTING HOLES
CONNECTING FRONT METAL SHELL TO EARTH
POWER CABLE CONNECTOR
TO MATCHING CARD FOR HDI DETECTOR MODULE #2
D-SUB CONNECTORS ARE POSITIONED ON THE OPPOSITE SIDE
OF THE PC BOARD FROM THE NORMAL VME CONVENTION.
POWER_FILTER_AND_PROTECTION_BLOCK
HDL1_Power
D5N_IN
D0N_IN
D5NS_IN
D0NS_IN
L5N_IN
L0N_IN
L5NS_IN
L0NS_IN
A5N_IN
A0N5_IN
A5NS_IN
A0N5S_IN
A2N_IN
A0N2_IN
A2NS_IN
A0N2S_IN
A2P_IN
A0P2_IN
A2PS_IN
A0P2S_IN
A5P_IN
A0P5_IN
A5PS_IN
A0P5S_IN
L5P_IN
L0P_IN
L5PS_IN
L0PS_IN
D5P_IN
D0P_IN
D5PS_IN
D0PS_IN
BP_IN
BNB_IN
EP_IN
BNE_IN
TEMP1_IN
TEMP2_IN
SHIELD_COM_IN
PS_COM_IN
PowFilt1.sch
D5N_OUT
D0N_OUT
D5NS_OUT
D0NS_OUT
L5N_OUT
L0N_OUT
A5N_OUT
A0N5_OUT
A5NS_OUT
A0N5S_OUT
A2N_OUT
A0N2_OUT
A2NS_OUT
A0N2S_OUT
A2P_OUT
A0P2_OUT
A2PS_OUT
A0P2S_OUT
A5P_OUT
A0P5_OUT
A5PS_OUT
A0P5S_OUT
L5P_OUT
L0P_OUT
D5P_OUT
D0P_OUT
D5PS_OUT
D0PS_OUT
BP_OUT
BNB_OUT
EP_OUT
BNE_OUT
TEMP1_OUT
TEMP2_OUT
SHIELD_COM_OUT
PS_COM_OUT
H1_D5N
H1_D0N
H1_D5NS
H1_D0NS
H1_L5N
H1_L0N
H1_A5N
H1_A0N5
H1_A2N
H1_A0N2S
H1_A0N2
H1_A2P
H1_A2PS
H1_A0P2S
H1_A0P2
H1_A5P
H1_A0P5
H1_A0P5S
H1_L5P
H1_L0P
H1_D5P
H1_D0P
H1_D5PS
H1_D0PS
H1_BP
H1_BNB
H1_EP
H1_BNE
H1_TEMP1_OUT
H1_TEMP2_OUT
HDL_LINK_SHIELD_COM
H1_PS_COM
H1_PS_COM
J13
1
2
HDLLINK_PS_COM
JUMPER
H1 AND H2 PS COMMON
POWER_FILTER_AND_PROTECTION_BLOCK
HDL2_Power
H2_D5N_IN
H2_D0N_IN
H2_D5NS_IN
H2_D0NS_IN
H2_L5N_IN
H2_L0N_IN
H2_L5NS_IN
H2_L0NS_IN
H2_A5N_IN
H2_A0N5_IN
H2_A5NS_IN
H2_A0N5S_IN
H2_A2N_IN
H2_A0N2_IN
H2_A2NS_IN
H2_A0N2S_IN
H2_A2P_IN
H2_A0P2_IN
H2_A2PS_IN
H2_A0P2S_IN
H2_A5P_IN
H2_A0P5_IN
H2_A5PS_IN
H2_A0P5S_IN
H2_L5P_IN
H2_L0P_IN
H2_L5PS_IN
H2_L0PS_IN
H2_D5P_IN
H2_D0P_IN
H2_D5PS_IN
H2_D0PS_IN
H2_BP_IN
H2_BNB_IN
H2_EP_IN
H2_BNE_IN
H2_TEMP1_IN
H2_TEMP2_IN
H2_SHIELD_COM_IN
H2_PS_COM_IN
PowFilt2.sch
D5N_OUT
D0N_OUT
D5NS_OUT
D0NS_OUT
L5N_OUT
L0N_OUT
A5N_OUT
A0N5_OUT
A5NS_OUT
A0N5S_OUT
A2N_OUT
A0N2_OUT
A2NS_OUT
A0N2S_OUT
A2P_OUT
A0P2_OUT
A2PS_OUT
A0P2S_OUT
A5P_OUT
A0P5_OUT
A5PS_OUT
A0P5S_OUT
L5P_OUT
L0P_OUT
D5P_OUT
D0P_OUT
D5PS_OUT
D0PS_OUT
BP_OUT
BNB_OUT
EP_OUT
BNE_OUT
TEMP1_OUT
TEMP2_OUT
SHIELD_COM_OUT
PS_COM_OUT
H2_D5N
H2_D0N
H2_D5NS
H2_D0NS
H2_L5N
H2_L0N
H2_A5N
H2_A0N5
H2_A2N
H2_A0N2S
H2_A0N2
H2_A2P
H2_A2PS
H2_A0P2S
H2_A0P2
H2_A5P
H2_A0P5
H2_A0P5S
H2_L5P
H2_L0P
H2_D5P
H2_D0P
H2_D5PS
H2_D0PS
H2_BP
H2_BNB
H2_EP
H2_BNE
H2_TEMP1_OUT
H2_TEMP2_OUT
HDL_LINK_SHIELD_COM
H2_PS_COM
H2_PS_COM
J14
1
2
HDLLINK_PS_COM
JUMPER
HDLLINK_SHIELD_COM
PIN NAMING CONVENTION FOR HDI DETECTOR MODULE POWER:
NAME = HU-V[W][X]Y[][S]_[Z]
U = 1,2 (HDI DETECTOR MODULE NUMBER)
V = A (ANALOG), B (BIAS RING), D (DIGITAL), E (EDGE GUARD),
L (HDI LINK CARD VOLTAGE SHIFTED DIGITAL),
PS_COM (POWER SUPPLY COMMON).
W, IF PRESENT = 0, 2, 5. SUPPLY VOLTAGE.
X = N (N-SIDE), P (P-SIDE),
B (PAIRED WITH BIAS RING P), E (PAIRED WITH EDGE-GUARD).
Y IF PRESENT, = 2 (A0 LINE PAIRED WITH A2), 5 (A0 LINE PAIRED WITH A5),
S , IF PRESENT INDICATES SENSE LINE
Z = IN, OUT (OPTIONAL, FOR CLARITY).
NOTE: SIGNAL NAMES ENDING IN "_COM" ARE COMMON TO ONE OR MORE
MODULES, AND DO NOT FOLLOW THE ABOVE NAMING CONVENTION.
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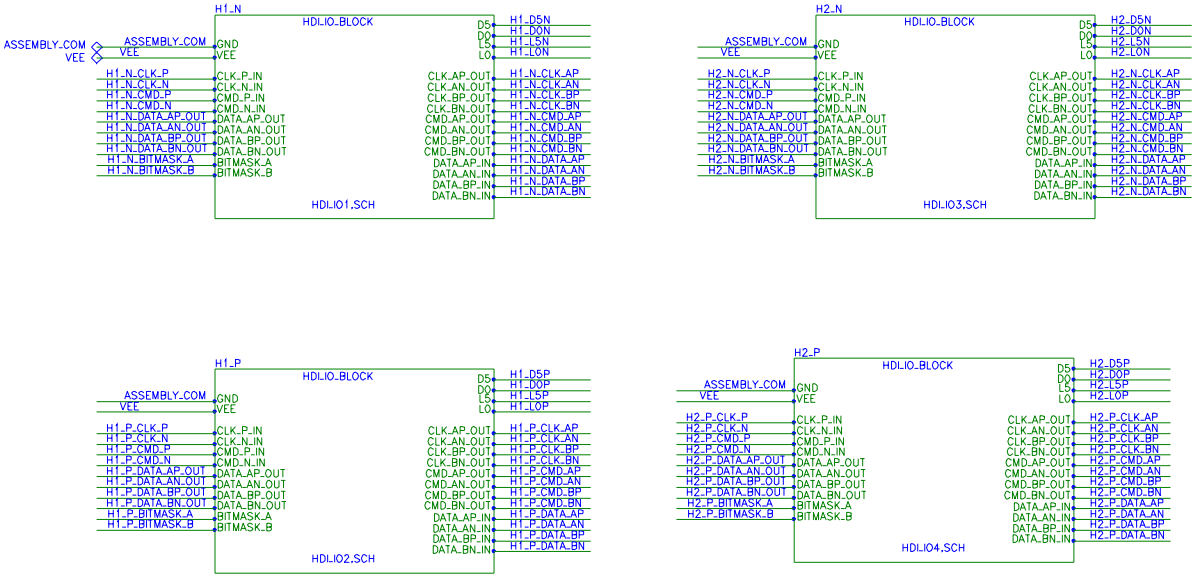
BABAR SVT HDI LINK CARD
POWER CONNECTORS AND FILTERING
SLAC DRAWING NO. SD350-700-15-C03
REVISION: 3
6/10/98
FILENAME: HDILNK19.SCH
PAGE 2 OF 3



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HDI DETECTOR MODULE I/O CIRCUITRY

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