# C-A Controls Division
# Hitl2 Chassis and Wiring
# BNL Drawing Number XXXXX

Brookhaven National Laboratory, Upton, New York 11973

Created By: Bill Venegas
Last Updated 4/20/00

**Hitl2 Rack and Chassis Layout**

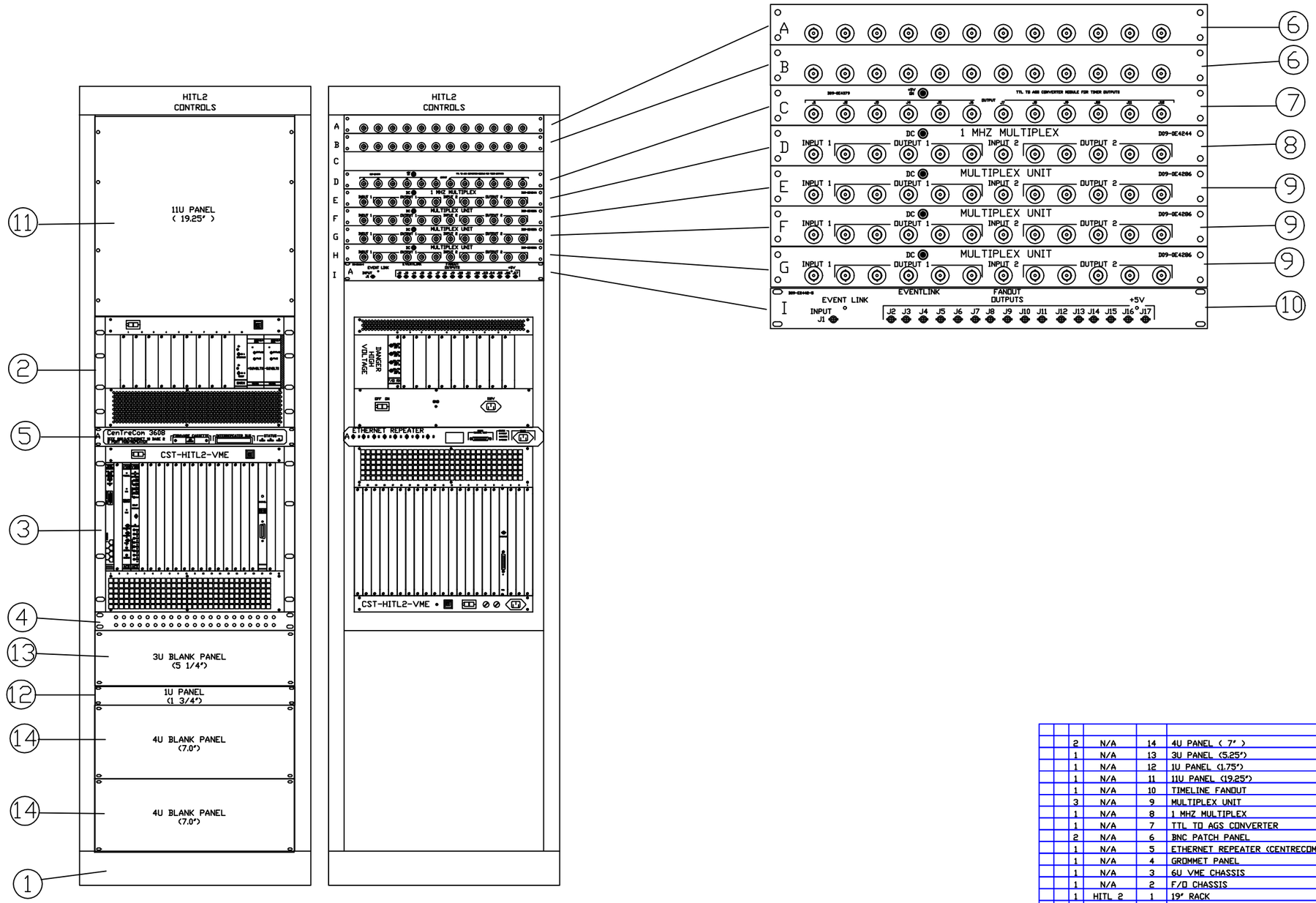
🕮 Rack Layout (Sheet 1)
🕮 VME Chassis Layout  (Sheet 2)
🕮 F/O Chassis Layout (Sheet 3)
🕮 AGS Event Fanout (Sheet 4)

**VME Chassis CST-HITL2-VME modules**

🕮 488 Interface to Device Controller GPIB 1014 (Sheet 5)
🕮 V102 Decoder Module (Sheet 6)
🕮 CPU, Memory Board, V108 Utility Module (Sheet 7)

| REV. | ZONE | ECN NO. | DATE | BY | CKR | APP. |
|---|---|---|---|---|---|---|

BNL, BNL 4/20/00 10:26 AM hit2_rk.dwg




| QTY REQD -3 | -2 | -1 | REF DESIGNATOR | ITEM NO. | DESCRIPTION | MAT'L DWG NO.,BNL NO. |
|---|---|---|---|---|---|---|
| | | 2 | N/A | 14 | 4U PANEL ( 7" ) | A-45507 |
| | | 1 | N/A | 13 | 3U PANEL (5.25") | A-45505 |
| | | 1 | N/A | 12 | 1U PANEL (1.75") | A-45501 |
| | | 1 | N/A | 11 | 11U PANEL (19.25") | A-45521 |
| | | 1 | N/A | 10 | TIMELINE FANOUT | D09-E2442 |
| | | 3 | N/A | 9 | MULTIPLEX UNIT | D09-0E4286 |
| | | 1 | N/A | 8 | 1 MHZ MULTIPLEX | D09-0E4244 |
| | | 1 | N/A | 7 | TTL TO AGS CONVERTER | N/A |
| | | 2 | N/A | 6 | BNC PATCH PANEL | N/A |
| | | 1 | N/A | 5 | ETHERNET REPEATER (CENTRECOM 3608) | N/A |
| | | 1 | N/A | 4 | GROMMET PANEL | N/A |
| | | 1 | N/A | 3 | 6U VME CHASSIS | N/A |
| | | 1 | N/A | 2 | F/O CHASSIS | N/A |
| | | 1 | HITL 2 | 1 | 19" RACK | N/A |

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMAL TOLERANCES
.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE
± .5°

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY A-3

| | | |
|---|---|---|
| DRAWN BY | VENEGAS | 12/11/97 |
| CHECKED BY | | |
| DESIGN APPROVAL | | |
| ENGINEER APPROVAL | | |
| SUPVR. APPROVAL | | |

NEXT ASSEMBLY

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ASSOCIATED UNIVERSITIES, INC.
UPTON, N.Y. 11973

RACK LAYOUT FOR HITL2
CONTROL SYSTEM

SIZE | DRAWING NUMBER | REV.

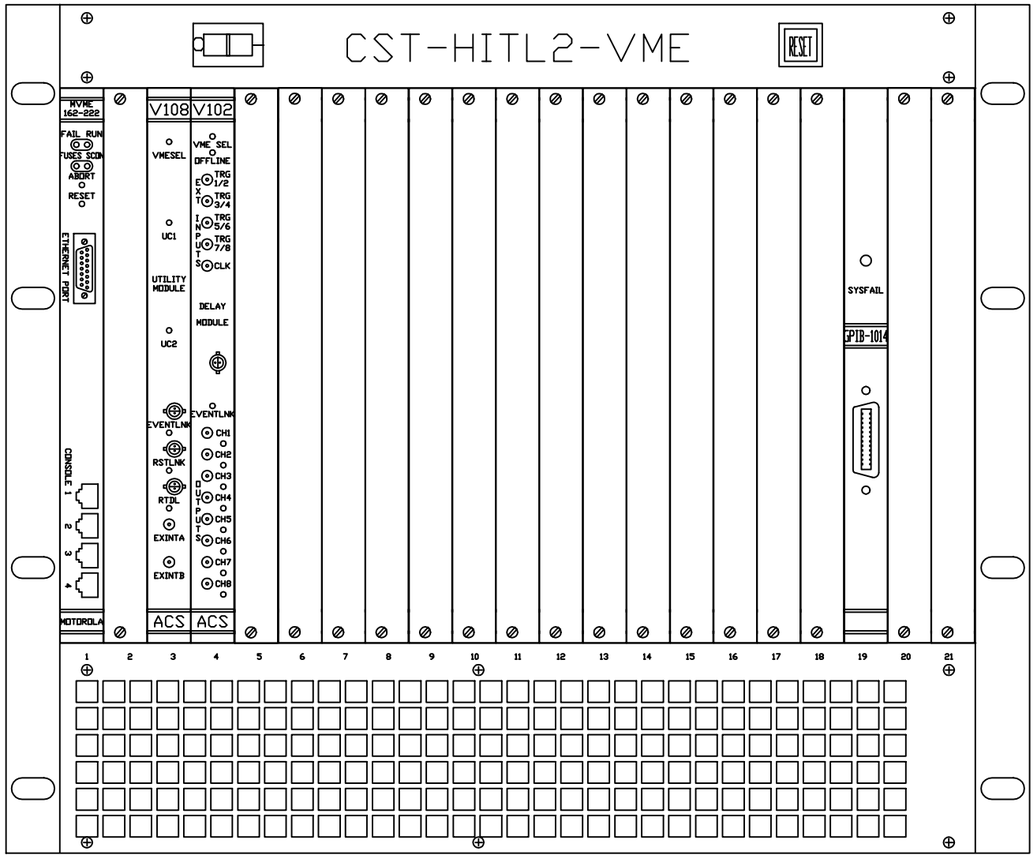
MATERIAL: | SCALE: | WEIGHT: | SHEET 1

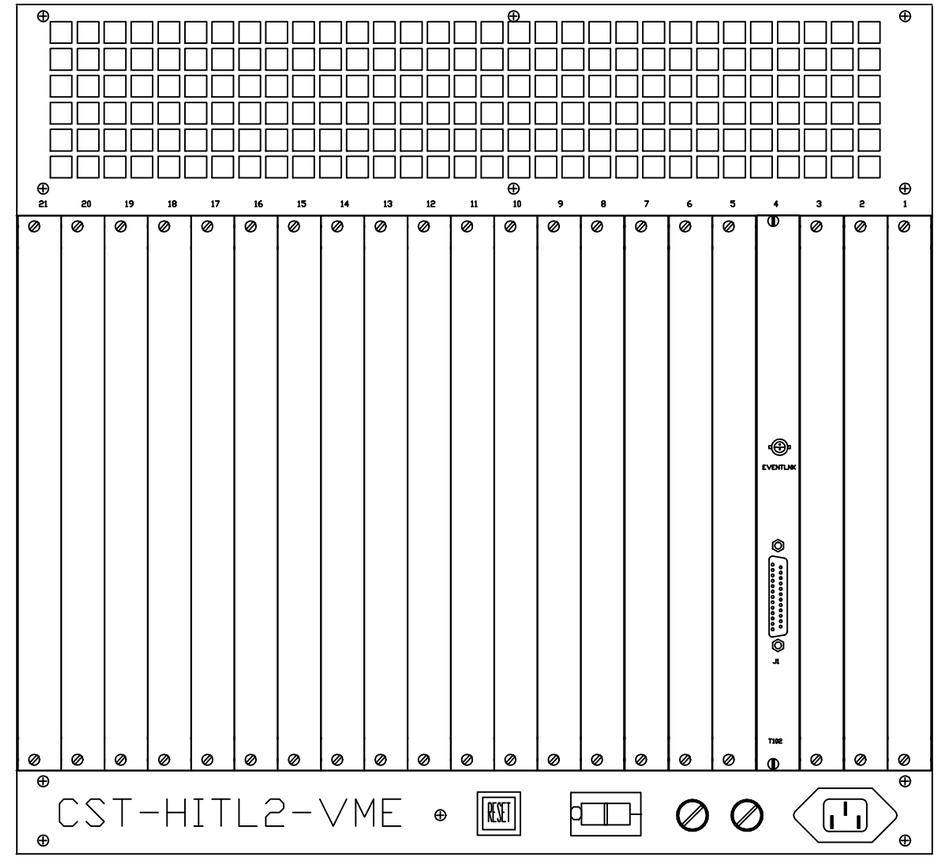
FILE "HIT2_RK.DWG"

1 *AUTOCAD

| REV. | ZONE | ECN NO. | DATE | BY | CKR | APP. |
|---|---|---|---|---|---|---|

BNL, BNL 4/20/00 10:27 AM hit2cst.dwg




NOTE 1: FOR UNUSED SLOTS

| -3 | -2 | -1 | QTY REQD | REF DESIGNATOR | ITEM NO. | DESCRIPTION | MAT'L DWG NO.,BNL NO. |
|---|---|---|---|---|---|---|---|
| | | X | X | X | X | X | X |
| | | 36 | NOTE 1 | 8 | 6U FILLER PANELS | | X |
| | | 2 | SLOTS 4,5 | 7 | T120 TRANSITION MODULE | | X |
| | | 2 | SLOTS 20,21 | 6 | GPIB 1014 | | X |
| | | X | X | X | X | | X |
| | | 1 | SLOT 4 | 4 | V104 DECODER MODULE | | 94028072 |
| | | 1 | SLOT 3 | 3 | V108 UTILITY MODULE | | 94028094 |
| | | 1 | SLOT 1 | 2 | FRONT END COMPUTER ( 162-222) | | X |
| | | 1 | N/A | 1 | 6U VME CHASSIS | | RHIC-93008000 |

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMAL TOLERANCES
.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE
± .5°

OUTSTANDING ECN

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

Q.A. CATEGORY A-3

| | | DATE |
|---|---|---|
| DRAWN BY | VENEGAS | 5/30/97 |
| CHECKED BY | | |
| DESIGN APPROVAL | | |
| ENGINEER APPROVAL | | |
| SUPVR. APPROVAL | | |

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UPTON, N.Y. 11973

TANDEM LINE VME CONTROL CHASSIS

HITL 2

SIZE | DRAWING NUMBER | REV.

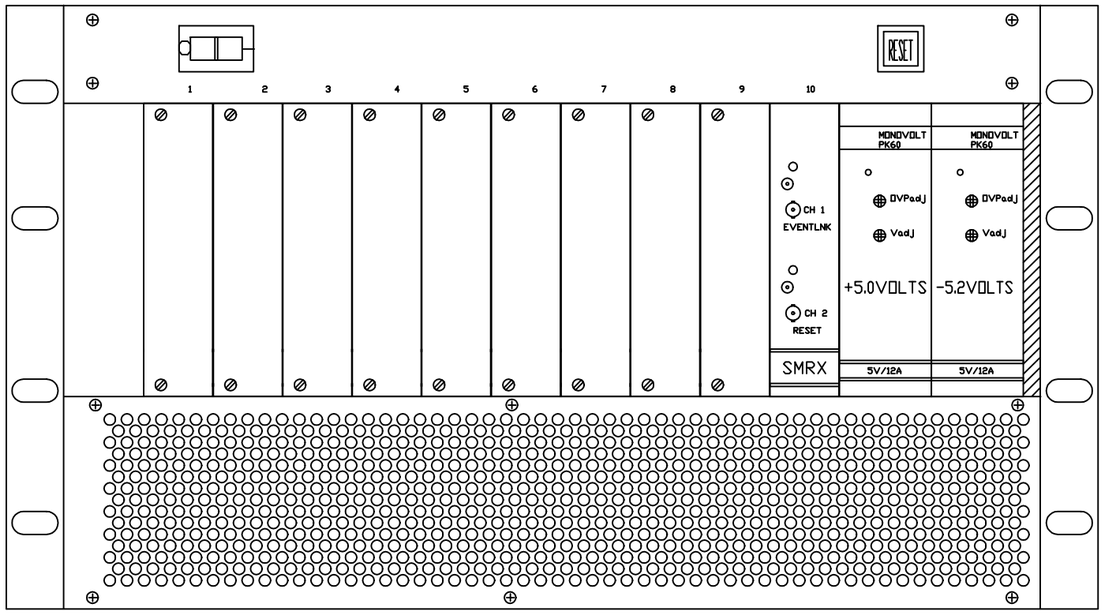
MATERIAL: | SCALE: | WEIGHT: | SHEET 2

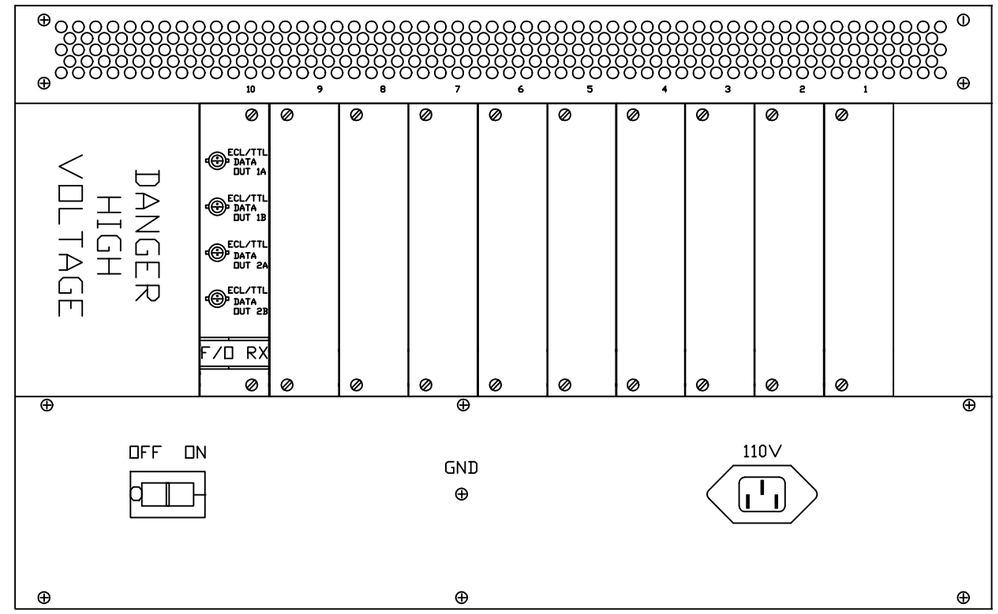
FILE "HITL2CST"

*AUTOCAD

| REV. | ZONE | ECN NO. | DATE | BY | CKR | APP. |
|---|---|---|---|---|---|---|

BNL, BNL 4/20/00 8:43 AM hitl1f_o.dwg




NOTE 1: FILLER PANELS FOR UNUSED SLOTS

| QTY REQD -3 | QTY REQD -2 | QTY REQD -1 | REF DESIGNATOR | ITEM NO. | DESCRIPTION | MAT'L DWG NO./BNL NO. |
|---|---|---|---|---|---|---|
| | | 18 | NOTE 1 | 6 | 3U X 6HP BLANK PANEL | ESFE-3032 |
| | | 1 | SLOT 12 | 5 | MONOVOLT P.S. -5.2V | X |
| | | 1 | SLOT 11 | 4 | MONOVOLT P.S. +5V | X |
| | | 1 | SLOT 10 | 3 | 3U FIBER OPTIC TRANSITION MODULE (TTL) | D09-E2542 |
| | | 1 | SLOT 10 | 2 | 3U FIBER OPTIC SINGLE MODE RECEIVER | 94028101 |
| | | 1 | N/A | 1 | 3U FIBER OPTIC CHASSIS | 94028261 |

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMAL TOLERANCES
.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE
± .5°

OUTSTANDING ECN

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

Q.A. CATEGORY A-3

| | | DATE |
|---|---|---|
| DRAWN BY | VENEGAS | 04/29/97 |
| CHECKED BY | | |
| DESIGN APPROVAL | | |
| ENGINEER APPROVAL | | |
| SUPVR. APPROVAL | | |

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TANDEM LINE F/O CHASSIS
(TALCO, HITL1, HITL2, AND HITL3)

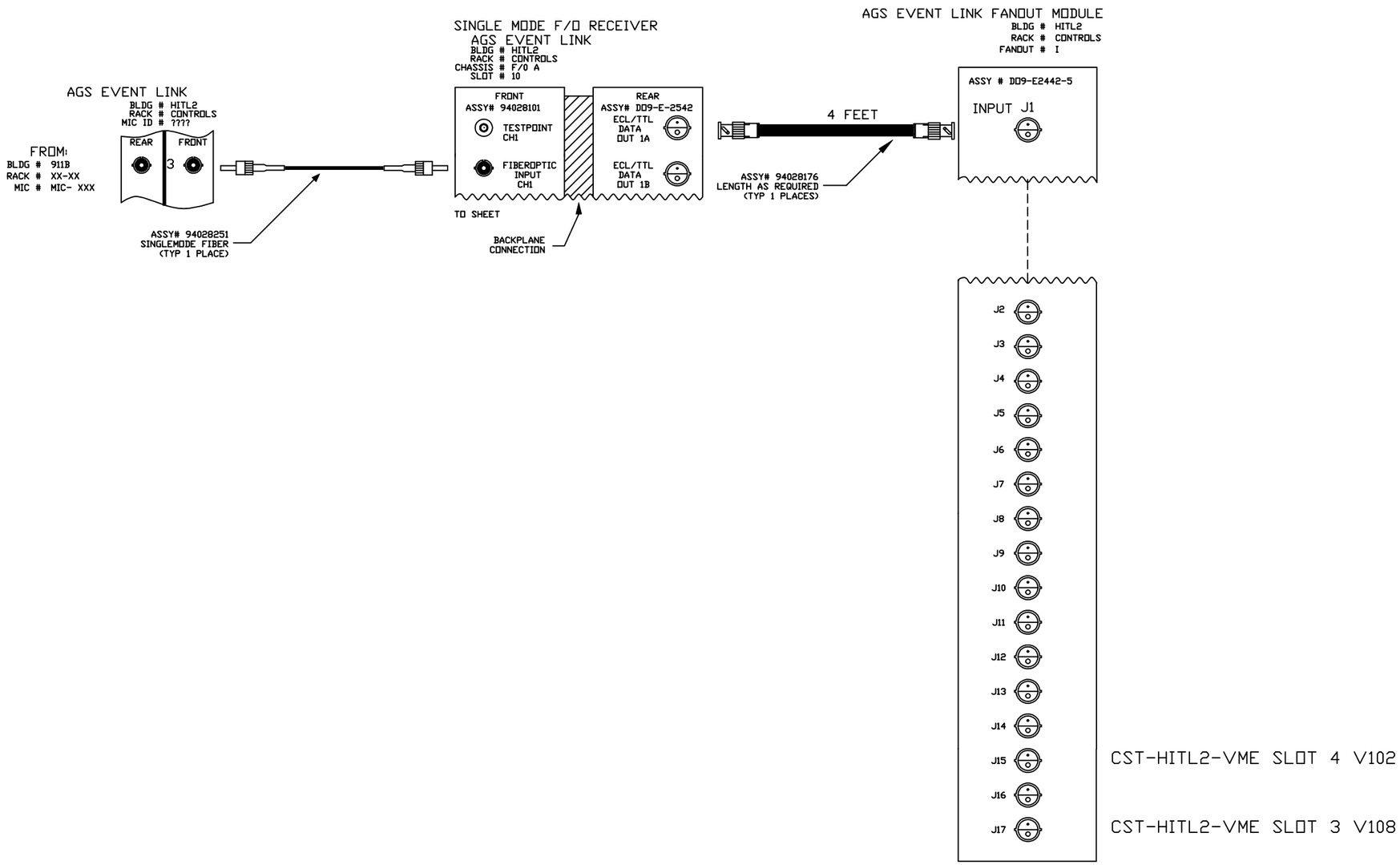
SIZE D
DRAWING NUMBER
REV. A

MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 3

FILE "HITL1F_O"

1 *AUTOCAD

BNL, BNL 4/20/00 10:31 AM hitl2wi.dwg




| REV. | ZONE | ECN NO. | DATE | BY | CKR | APP. |
|---|---|---|---|---|---|---|

| -3 | -2 | -1 | REF DESIGNATOR | ITEM NO. | DESCRIPTION | MAT'L DWG NO.,BNL NO. |
|---|---|---|---|---|---|---|
| QTY REQD | | | | | | |

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMAL TOLERANCES
.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE
± .5°

NA FINISH

BREAK SHARP EDGES MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY A-3

| | | DATE |
|---|---|---|
| DRAWN BY | VENEGAS | 12/11/97 |
| CHECKED BY | | |
| DESIGN APPROVAL | | |
| ENGINEER APPROVAL | | |
| SUPVR. APPROVAL | | |

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UPTON, N.Y. 11973

AGS CONTROLS WIRING DIAGRAM

HITL 2

AGS EVENT LINK

SIZE D

DRAWING NUMBER

REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 4

FILE "HITL2WI.DWG"

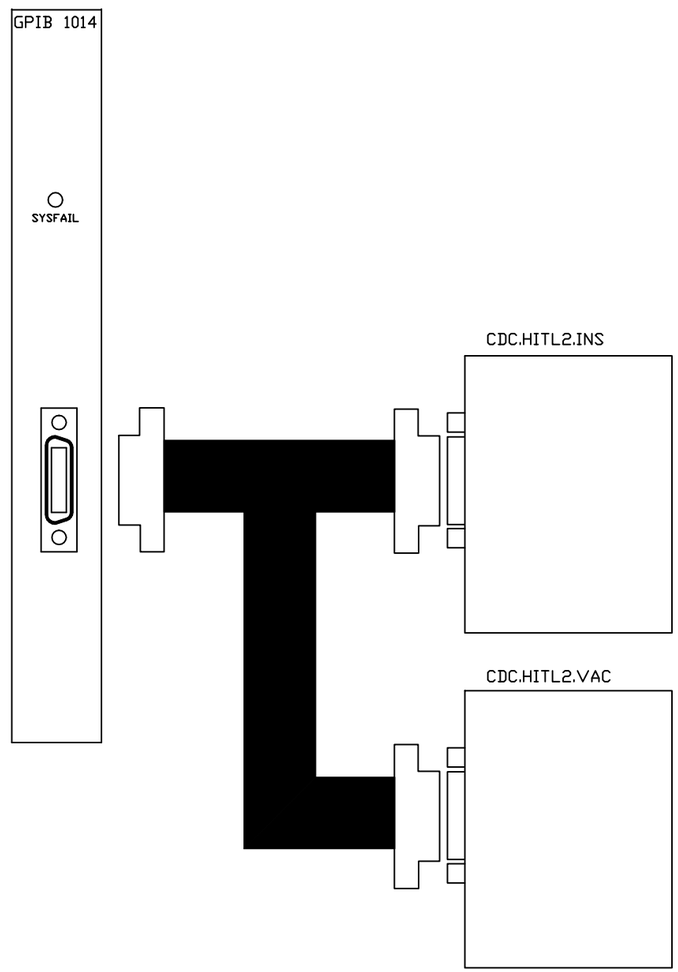
*AUTOCAD

| REV. | ZONE | ECN NO. | DATE | BY | CKR | APP. |
|---|---|---|---|---|---|---|

BNL, BNL 4/20/00 10:25 AM hit2_488.dwg

GPIB 1014 FOR 488 DEVICE CONTROLLERS

BLDG #: HITL2
RACK #: CONTROL
CHASSIS ID: CST-HITL2-VME
SLOT #: 19
A24 BASE ADDRESS: 0XF0002000




FILE "HITL2_488.DWG"

| -3 | -2 | -1 | REF DESIGNATOR | ITEM NO. | DESCRIPTION | MAT'L DWG NO.,BNL NO. |
|---|---|---|---|---|---|---|
| QTY REQD | | | | | | |

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMAL TOLERANCES
X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE
± .5°

NA FINISH — BREAK SHARP EDGES — MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY A-3

| | | DATE |
|---|---|---|
| DRAWN BY | VENEGAS | 5/29/97 |
| CHECKED BY | | |
| DESIGN APPROVAL | | |
| ENGINEER APPROVAL | | |
| SUPVR. APPROVAL | | |

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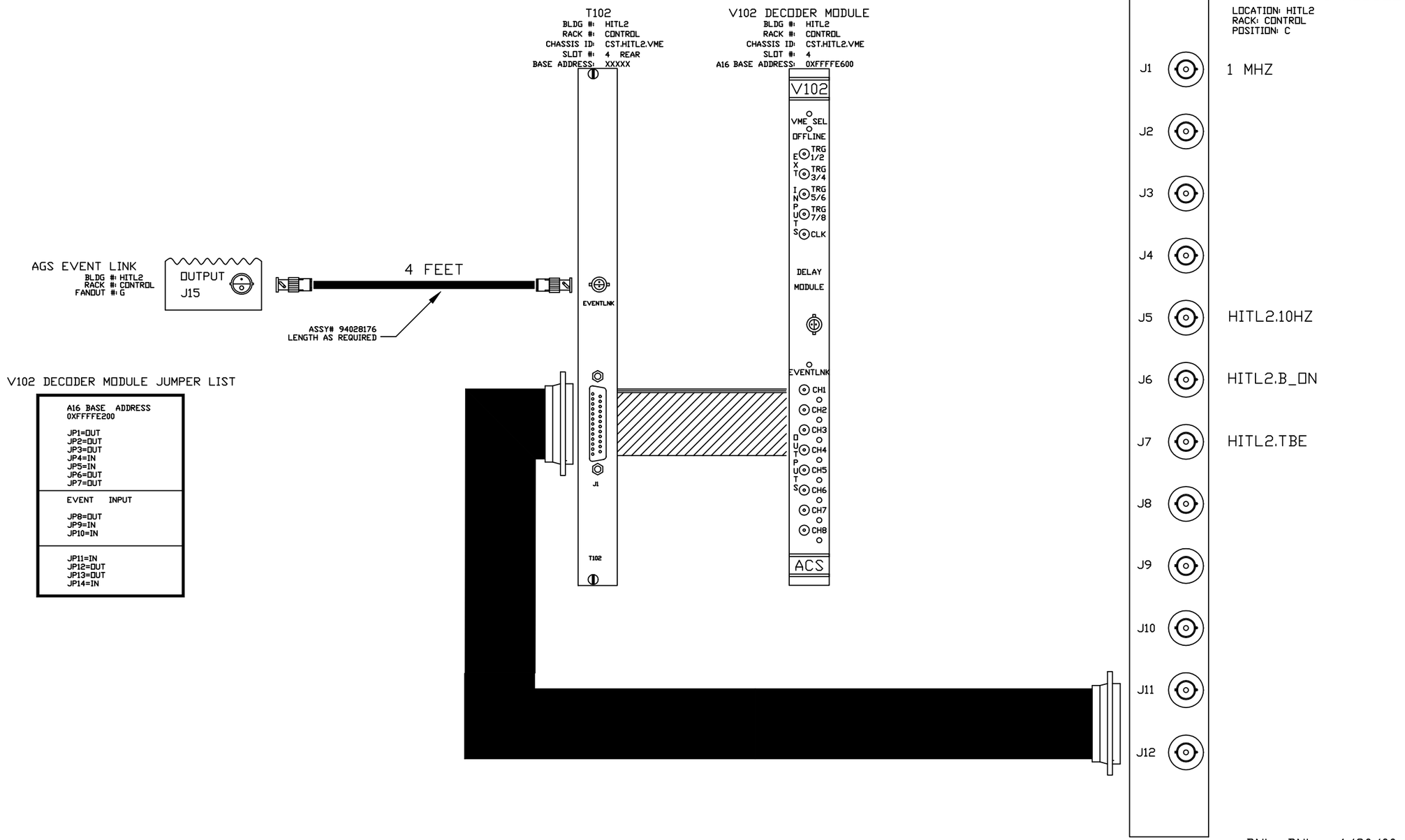
AGS CONTROLS WIRING DIAGRAM
BLDG. HITL2, VME CHASSIS CST-HITL2-VME
GPIB INTER FOR DEVICE CNTRLS

SIZE | DRAWING NUMBER | REV.

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 5

*AUTOCAD

| REV. | ZONE | ECN NO. | DATE | BY | CKR | APP. |
|---|---|---|---|---|---|---|




## V102 DECODER MODULE JUMPER LIST

| |
|---|
| A16 BASE ADDRESS<br>0XFFFFE200<br><br>JP1=OUT<br>JP2=OUT<br>JP3=OUT<br>JP4=IN<br>JP5=IN<br>JP6=OUT<br>JP7=OUT |
| EVENT INPUT<br><br>JP8=OUT<br>JP9=IN<br>JP10=IN |
| JP11=IN<br>JP12=OUT<br>JP13=OUT<br>JP14=IN |

BNL, BNL 4/20/00 10:28 AM hit2v102.dwg

HIT2V102.DWG

| -3 | -2 | -1 | REF DESIGNATOR | ITEM NO. | DESCRIPTION | MAT'L DWG NO.,BNL NO. |
|---|---|---|---|---|---|---|
| QTY REQD | | | | | | |

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

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.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE
± .5°

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

OUTSTANDING ECN

| | | |
|---|---|---|
| Q.A. CATEGORY A-3 | | DATE |
| DRAWN BY | VENEGAS | 12/11/97 |
| CHECKED BY | | |
| DESIGN APPROVAL | | |
| ENGINEER APPROVAL | | |
| SUPVR. APPROVAL | | |

NEXT ASSEMBLY

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**UPTON, N.Y. 11973**

AGS CONTROLS WIRING DIAGRAM
BLDG. HITL2 CHASSIS CST-HITL2-VME
**V102 DECODER MODULE**

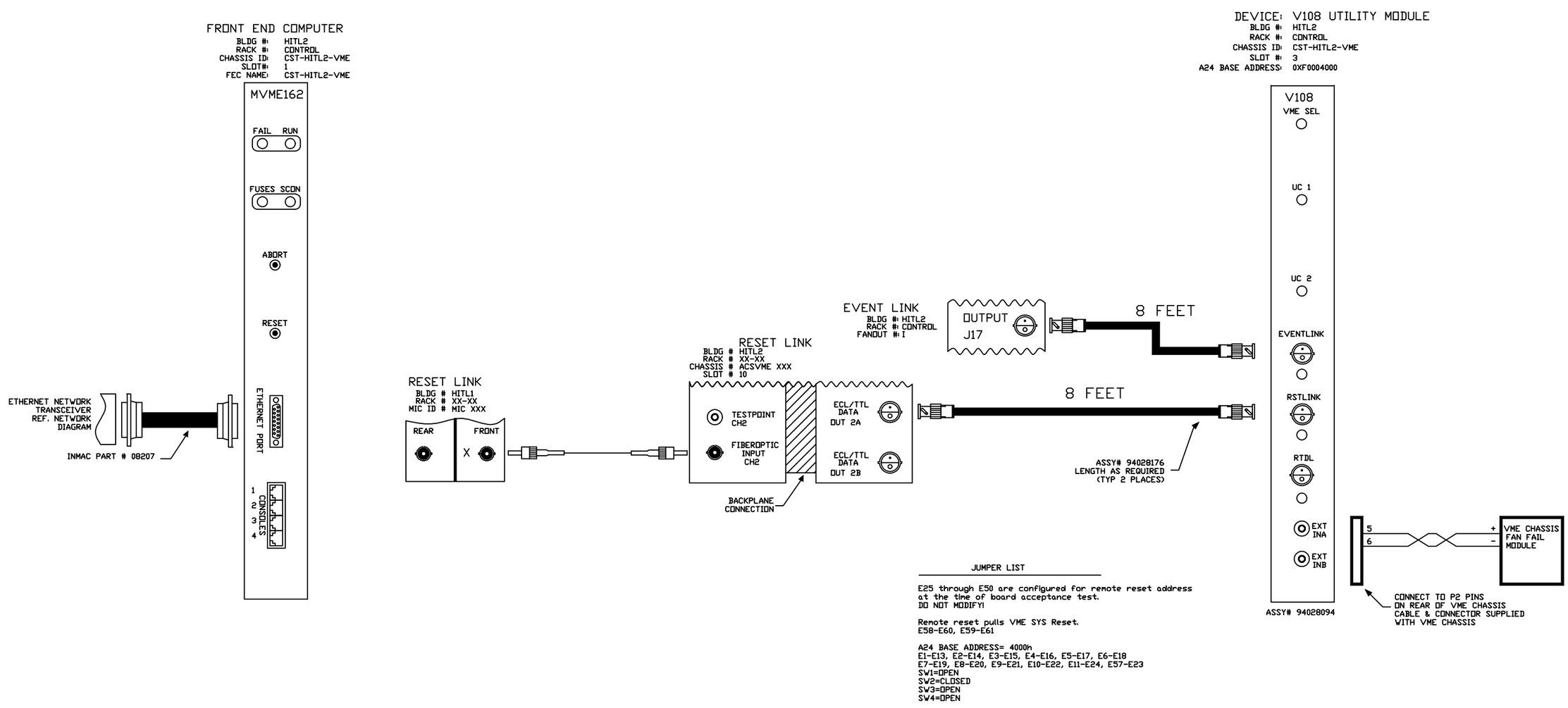
SIZE D | DRAWING NUMBER | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 6

*AUTOCAD

| REV. | ZONE | ECN NO. | DATE | BY | CKR | APP. |
|---|---|---|---|---|---|---|

BNL, BNL 4/20/00 10:30 AM hit2v108.dwg




JUMPER LIST

E25 through E50 are configured for remote reset address at the time of board acceptance test.
DO NOT MODIFY!

Remote reset pulls VME SYS Reset.
E58-E60, E59-E61

A24 BASE ADDRESS= 4000h
E1-E13, E2-E14, E3-E15, E4-E16, E5-E17, E6-E18
E7-E19, E8-E20, E9-E21, E10-E22, E11-E24, E57-E23
SW1=OPEN
SW2=CLOSED
SW3=OPEN
SW4=OPEN

HIT2V108.DWG

| -3 | -2 | -1 | REF DESIGNATOR | ITEM NO. | DESCRIPTION | MAT'L DWG NO.,BNL NO. |
|---|---|---|---|---|---|---|
| QTY REQD | | | | | | |

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMAL TOLERANCES
.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE ± .5°

NA FINISH
BREAK SHARP EDGES
MAX. XX MIN. XX

OUTSTANDING ECN

| Q.A. CATEGORY A-3 | | DATE |
|---|---|---|
| DRAWN BY | VENEGAS | 12/11/97 |
| CHECKED BY | | |
| DESIGN APPROVAL | | |
| ENGINEER APPROVAL | | |
| SUPVR. APPROVAL | | |
| NEXT ASSEMBLY | | |

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UPTON, N.Y. 11973

AGS CONTROLS WIRING DIAGRAM
HITL2, VME CHASSIS CST-HITL2-VME
FT END COMP/V108 UTIL MODULE

SIZE D | DRAWING NUMBER XXXXXXX | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 7

*AUTOCAD