C-A Controls Division
Hitl1 Chassis and Wiring
BNL Drawing Number XXXXX

Brookhaven National Laboratory, Upton, New York 11973

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

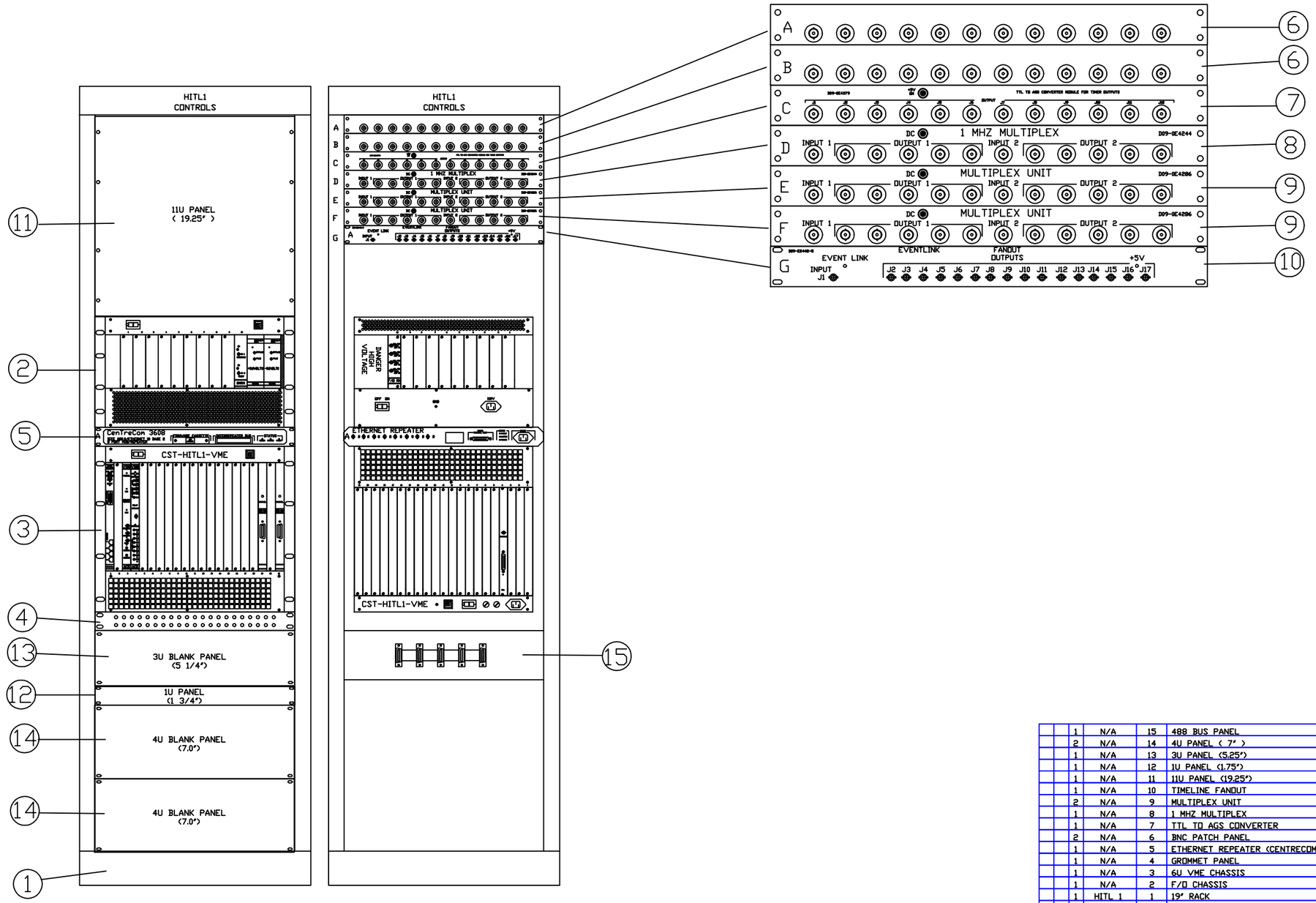
Hitl1 Rack and Chassis Layout

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

VME Chassis CST-HITL1-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 8:38 AM		hit1_rk.dwg	



QTY REQD -3	QTY REQD -2	QTY REQD -1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO.,BNL NO.
		1	N/A	15	488 BUS PANEL	
		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
		2	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 1	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

		DATE
DRAWN BY	VENEGAS	6/2/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, N.Y. 11973

RACK LAYOUT FOR HITL1
CONTROL SYSTEM

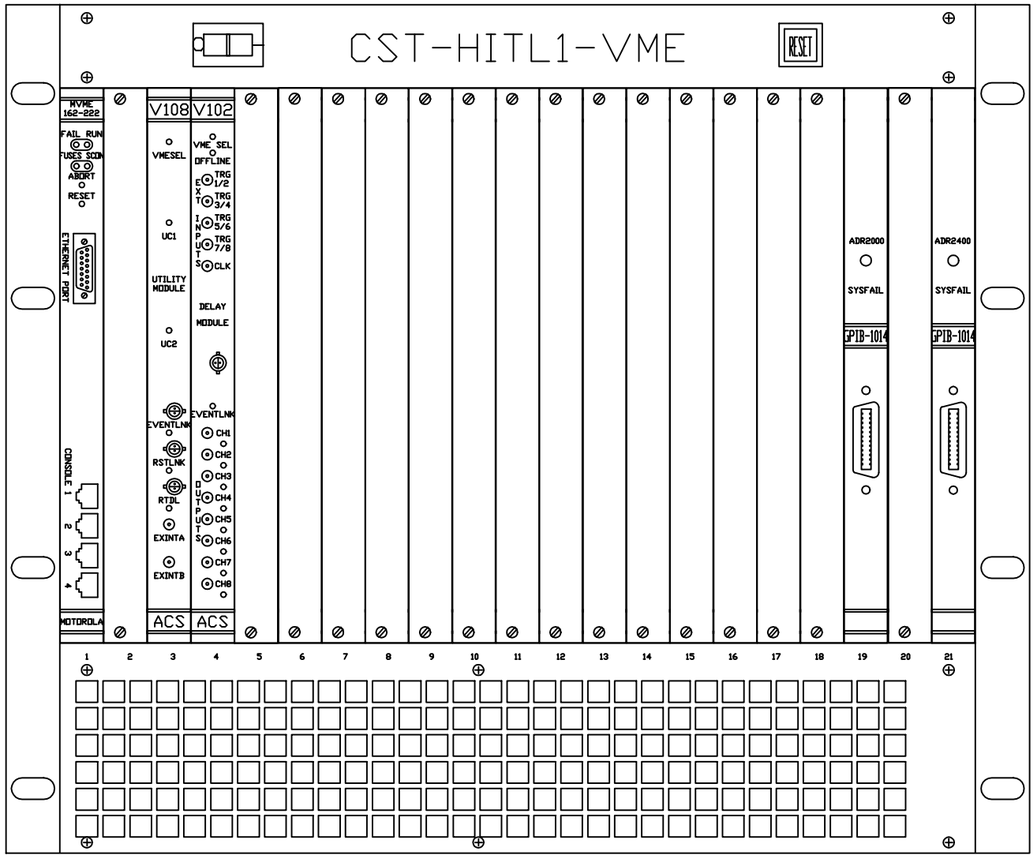
SIZE | DRAWING NUMBER | REV.
MATERIAL: | SCALE: | WEIGHT: | SHEET 1

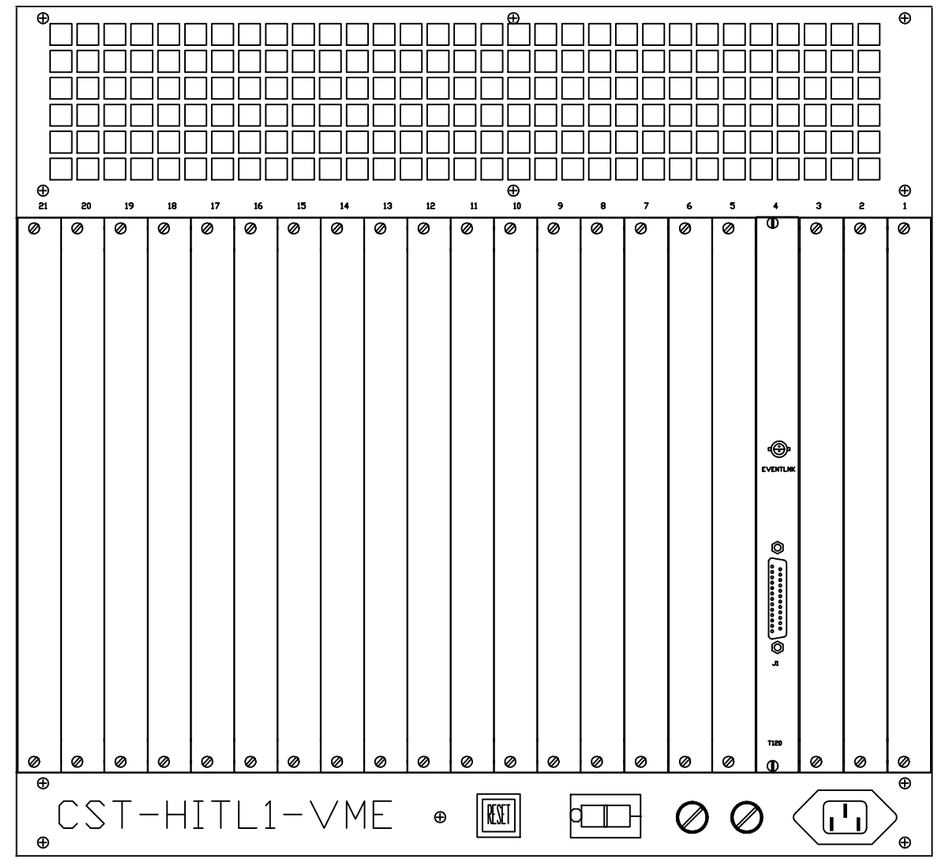
FILE "HIT1_RK.DWG"

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

BNL, BNL 4/20/00 8:36 AM hit1_cst.dwg





NOTE 1: FOR UNUSED SLOTS

-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L. DWG NO.,BNL NO.
		X	X	X	X	X
		35	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	V102 DECODER MODULE	94028070
		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

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°

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		
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ENGINEER APPROVAL		
SUPVR. APPROVAL		

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UPTON, N.Y. 11973

TANDEM LINE VME CONTROL CHASSIS

HITL 1

SIZE D

DRAWING NUMBER

REV.

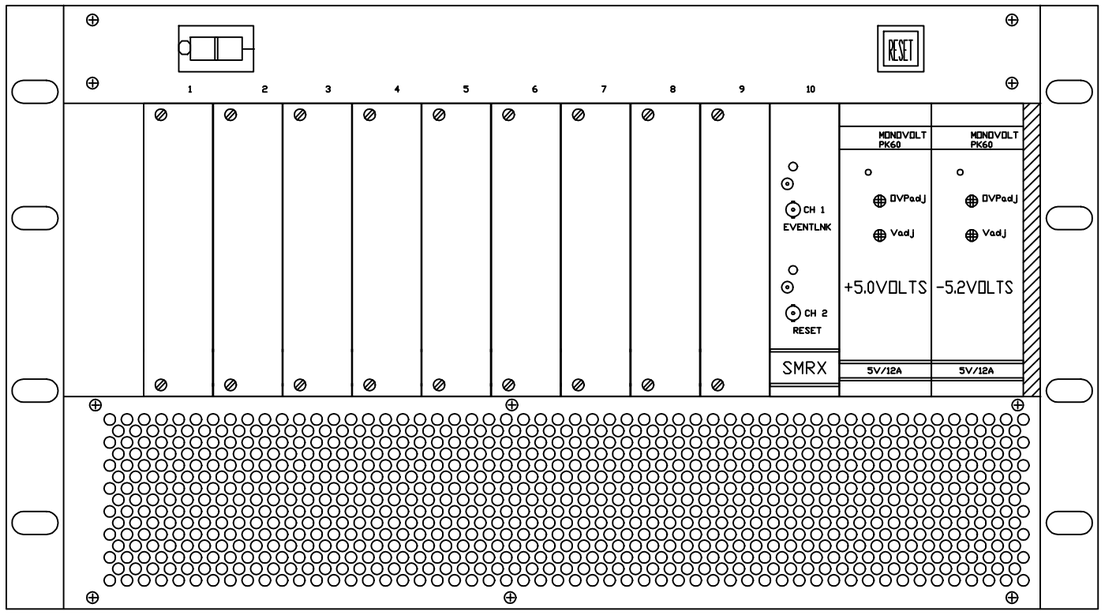
MATERIAL: SCALE: WEIGHT: SHEET 2

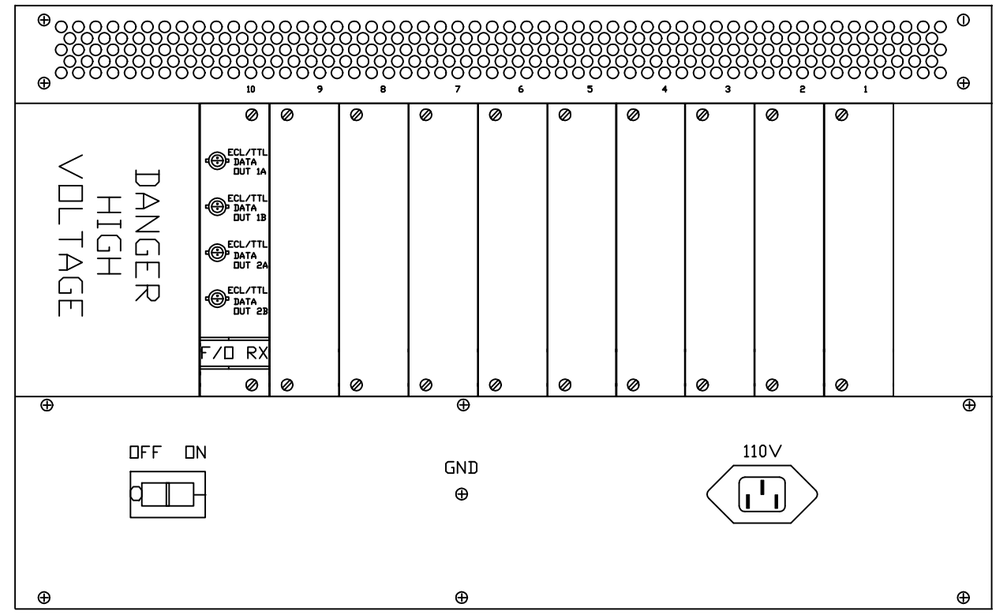
FILE "HIT1_CST"

*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

-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MATL 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

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°

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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UPTON, N.Y. 11973

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

SIZE D | DRAWING NUMBER | REV. A

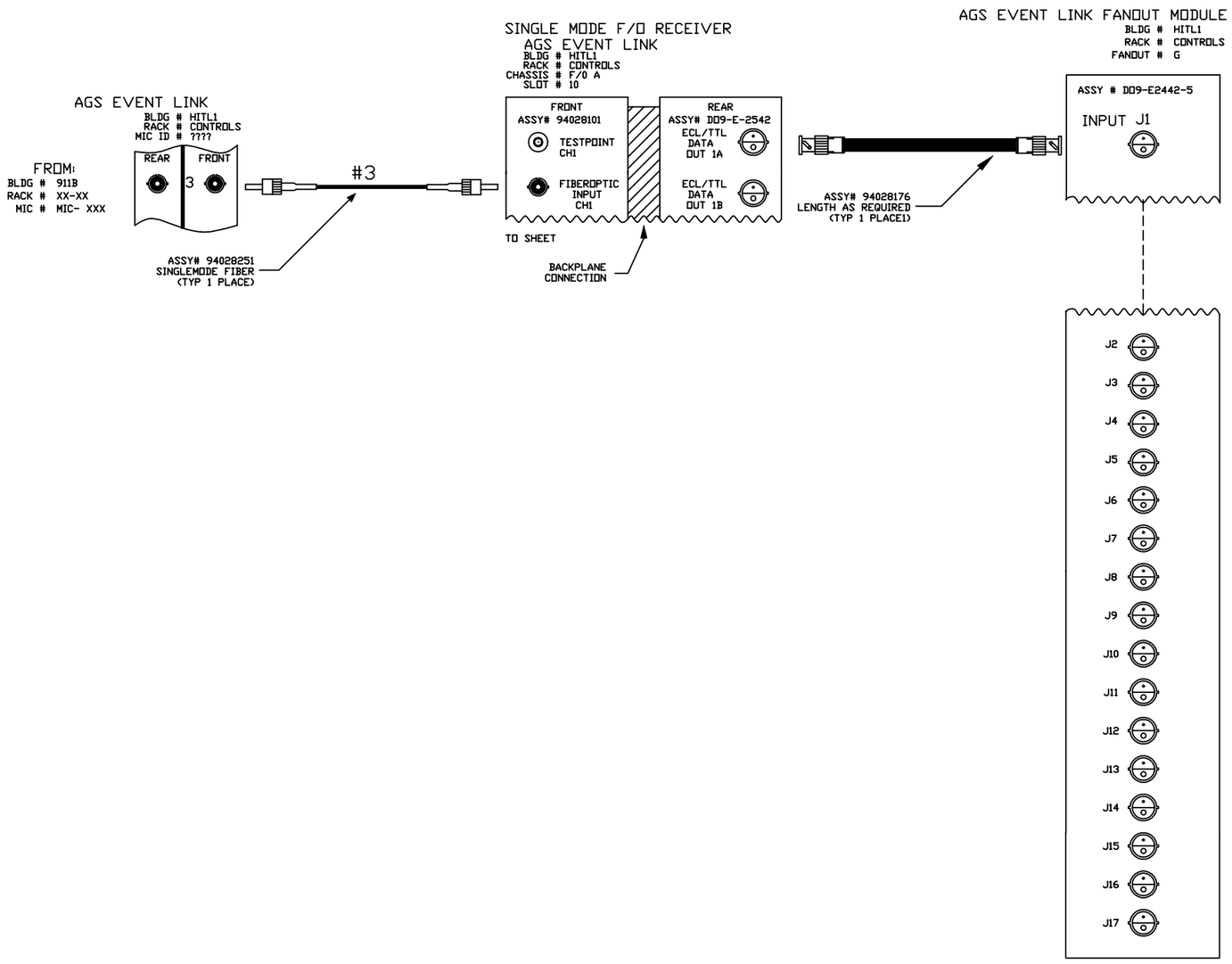
MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 3

FILE "HITL1F_O"

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

BNL, BNL 4/20/00 8:44 AM hitl1wi.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	5/28/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	5/13/97
SUPVR. APPROVAL		

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UPTON, N.Y. 11973

AGS CONTROLS WIRING DIAGRAM

HITL 1

AGS EVENT LINK

SIZE D | DRAWING NUMBER XXXXXXX | REV. A

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

FILE "HITL1WI.DWG"

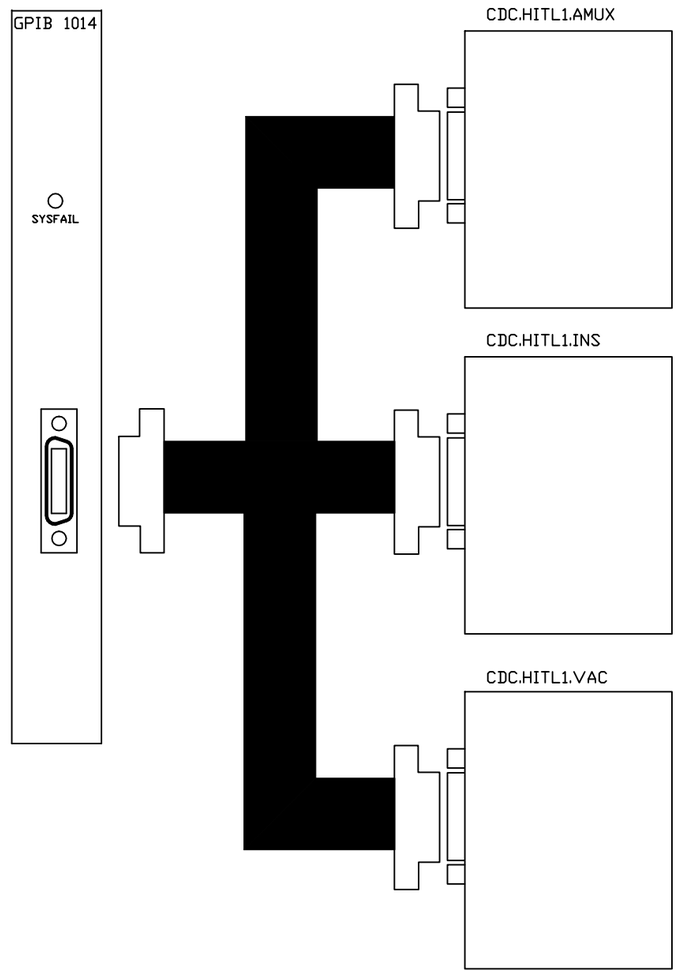
1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

BNL, BNL 4/20/00 8:37 AM hit1_488.dwg

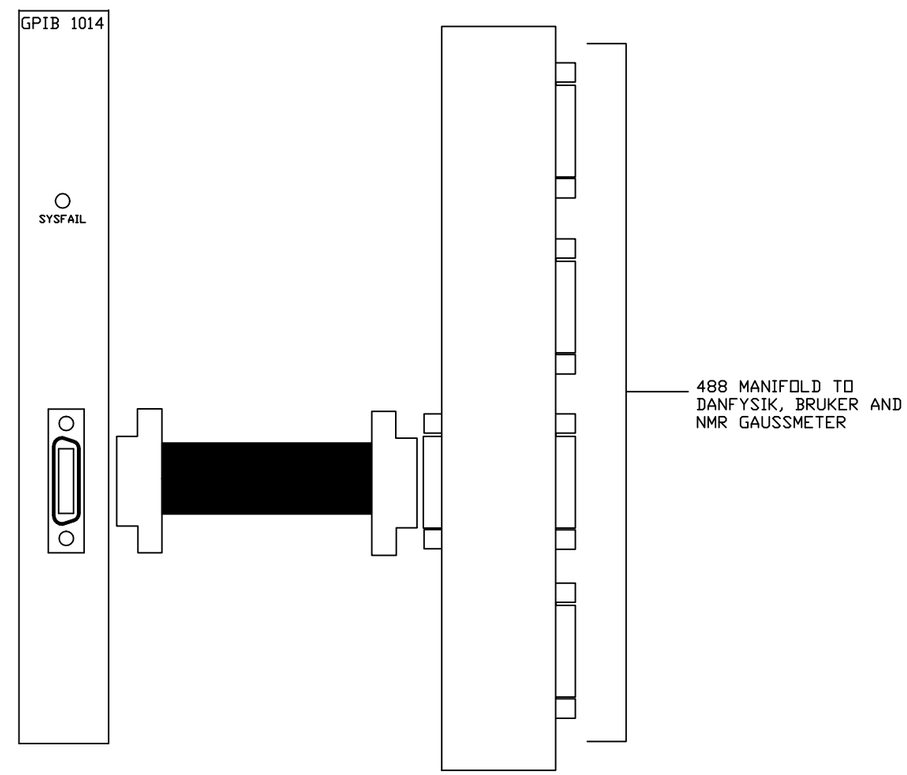
GPIB 1014 FOR 488 DEVICE CONTROLLERS

BLDG #: HITL1
RACK #: CONTROL
CHASSIS ID: CST-HITL1-VME
SLOT #: 19
A24 BASE ADDRESS: 0XF0002000



GPIB 1014 FOR TRANSLATOR 488 CONNECTIONS

BLDG #: HITL1
RACK #: CONTROL
CHASSIS ID: CST-HITL1-VME
SLOT #: 21
A24 BASE ADDRESS: 0XF0002400



FILE "HITL1_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
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DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

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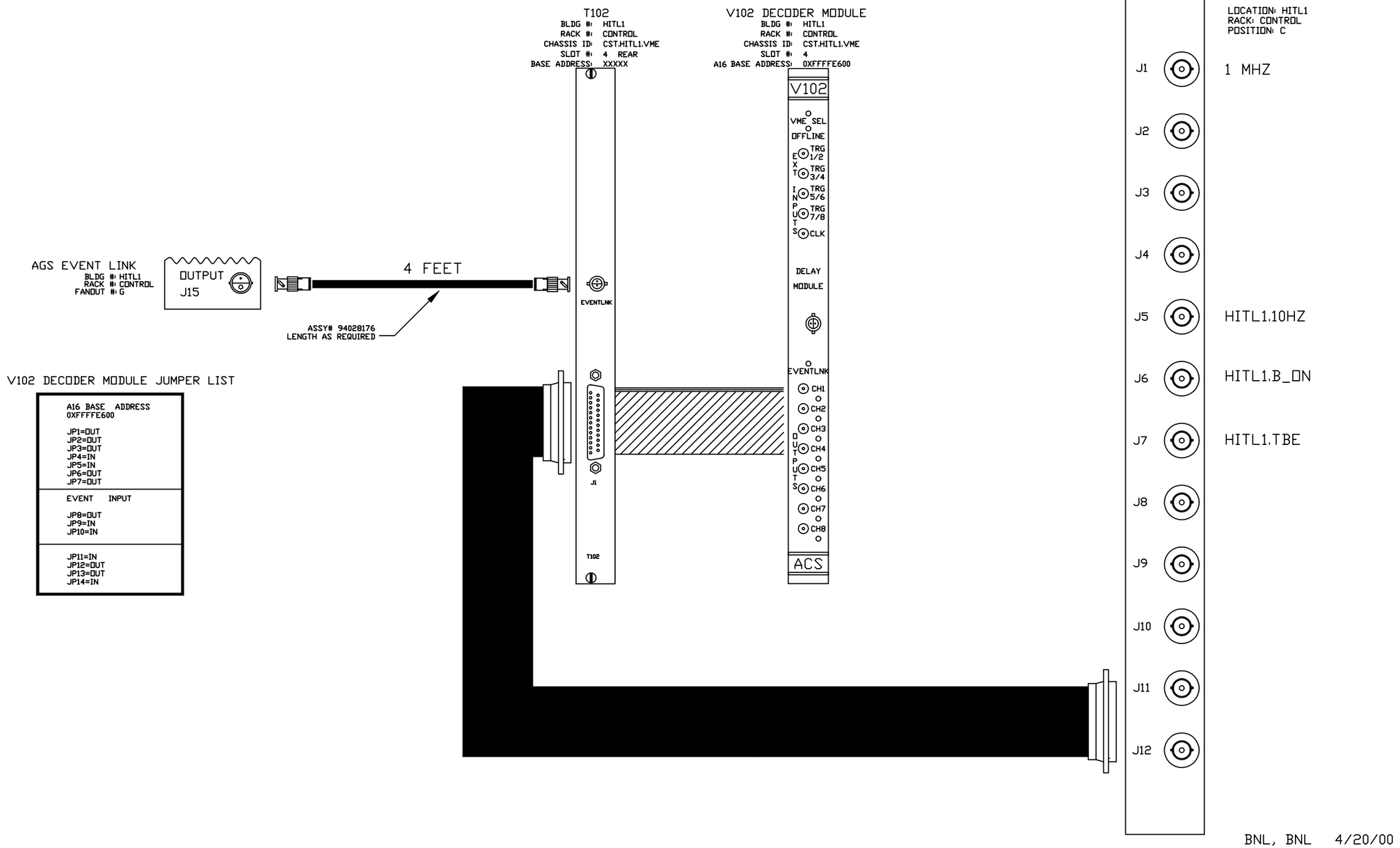
AGS CONTROLS WIRING DIAGRAM

BLDG. HITL1, VME CHASSIS CST-HITL1-VME

GPIB INTER FOR DEVICE CNTRLS

SIZE | REV.
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 5

1 *AUTOCAD



V102 DECODER MODULE JUMPER LIST

A16 BASE ADDRESS
0XFFFFE600

JP1=OUT
JP2=OUT
JP3=OUT
JP4=IN
JP5=IN
JP6=OUT
JP7=OUT

EVENT INPUT

JP8=OUT
JP9=IN
JP10=IN

JP11=IN
JP12=OUT
JP13=OUT
JP14=IN

BNL, BNL 4/20/00 8:40 AM hit1v102.dwg

HITL1V102.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
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ENGINEER APPROVAL		
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AGS CONTROLS WIRING DIAGRAM
BLDG. HITL1 CHASSIS CST-HITL1-VME
V102 DECODER MODULE

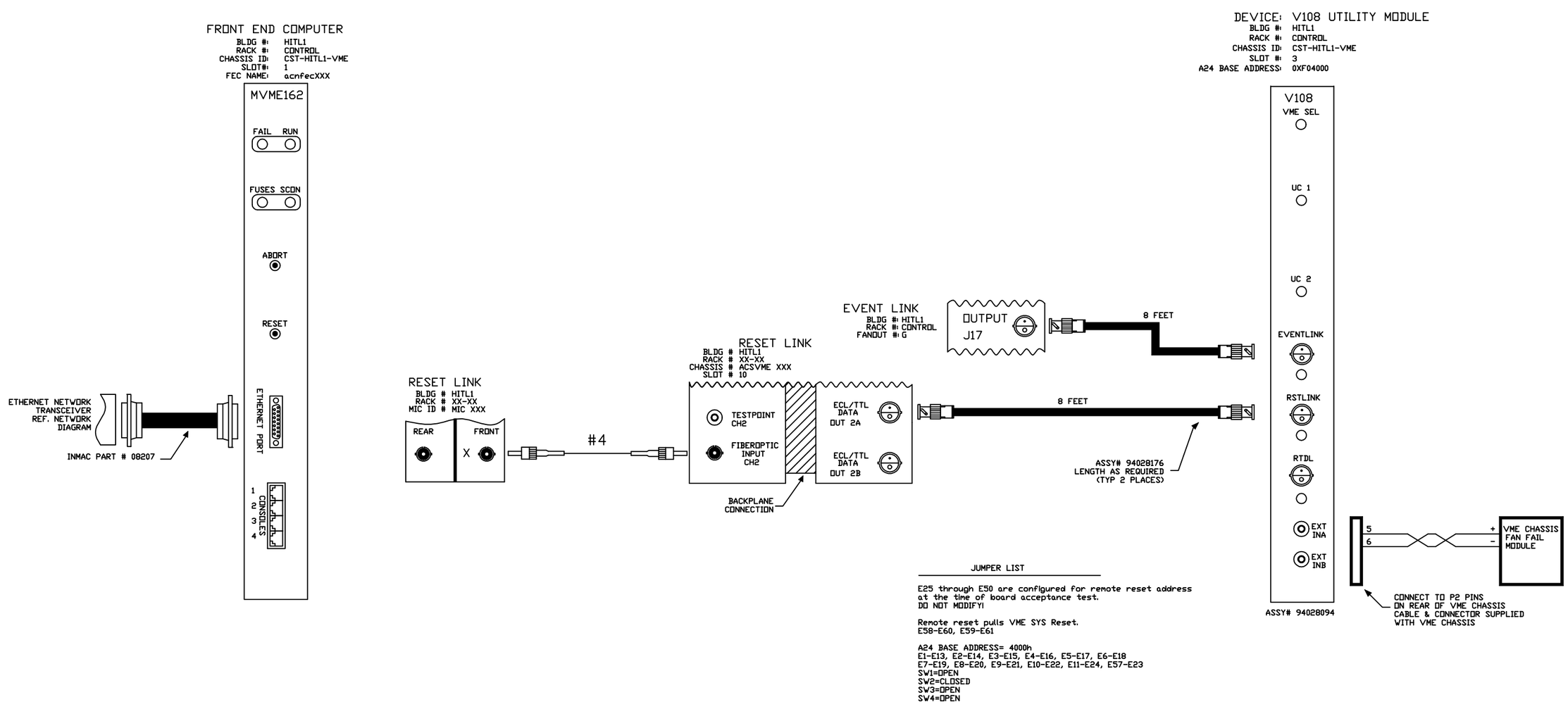
SIZE D | DRAWING NUMBER | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

BNL, BNL 4/20/00 8:42 AM hit1v108.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

HITL1V108.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		

NEXT ASSEMBLY

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UPTON, N.Y. 11973

AGS CONTROLS WIRING DIAGRAM
HITL1, VME CHASSIS CST-HITL1-VME
FT END COMP/V108 UTIL MODULE

SIZE D — DRAWING NUMBER — REV. A

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

*AUTOCAD