C-A Controls Section
Tandem Alcove Diagrams
BNL Drawing Number Not Assigned

Brookhaven National Laboratory, Upton, New York 11973

Created By: Ralph Schoenfeld
Last Updated: 10/21/03

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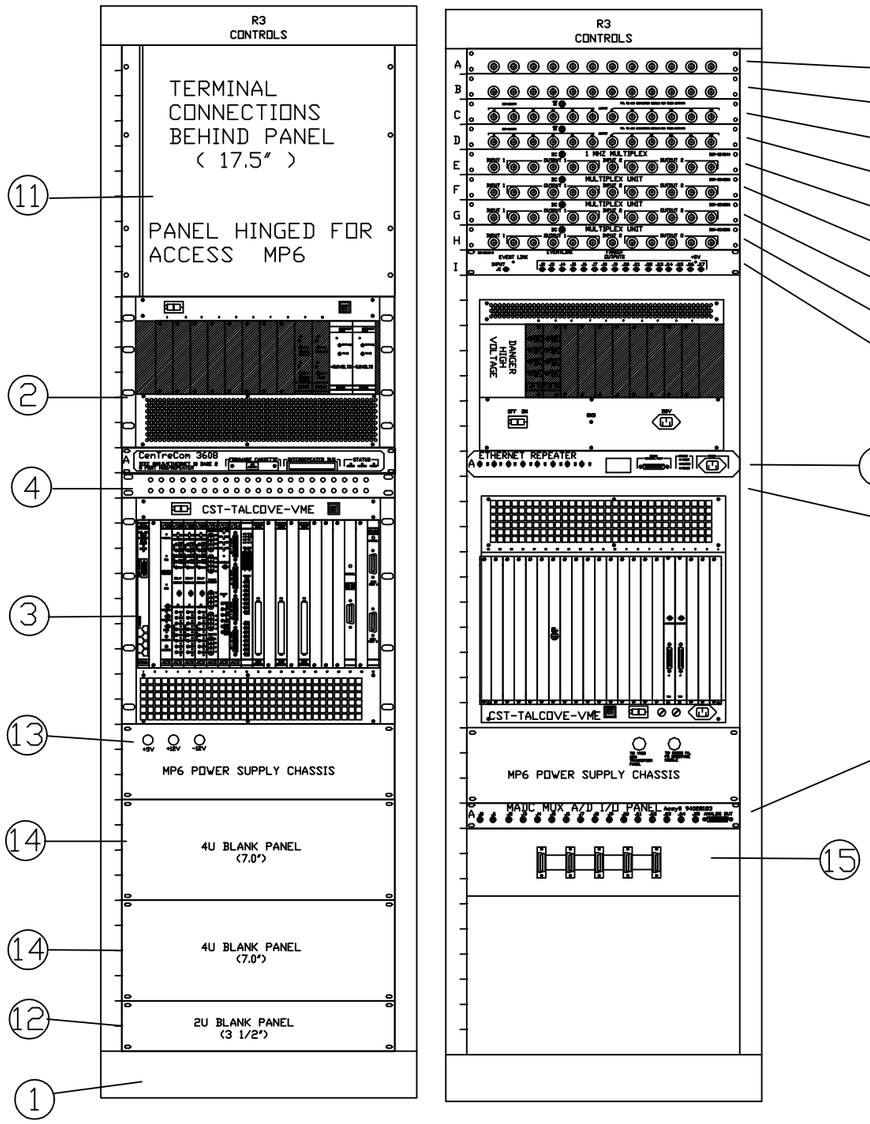
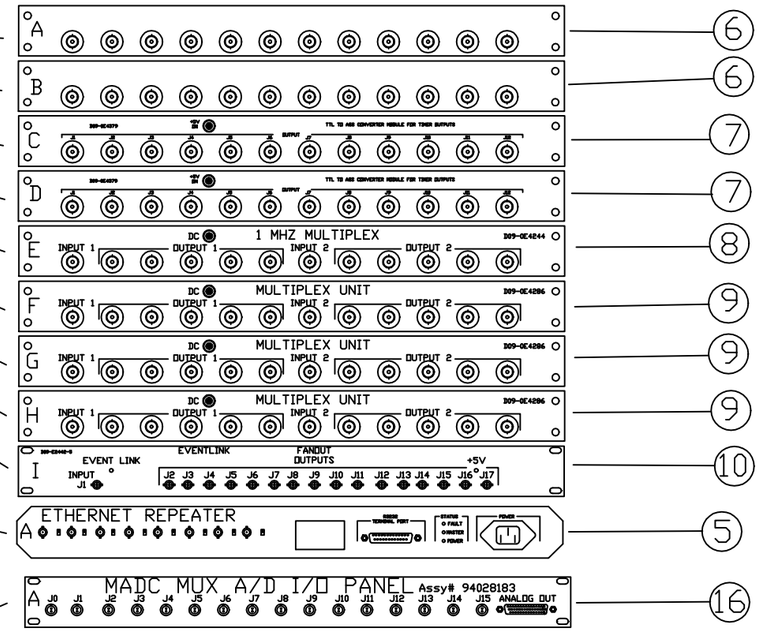
REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/26/2003 9:54 AMR3_TALCOVE_RACK.dwg





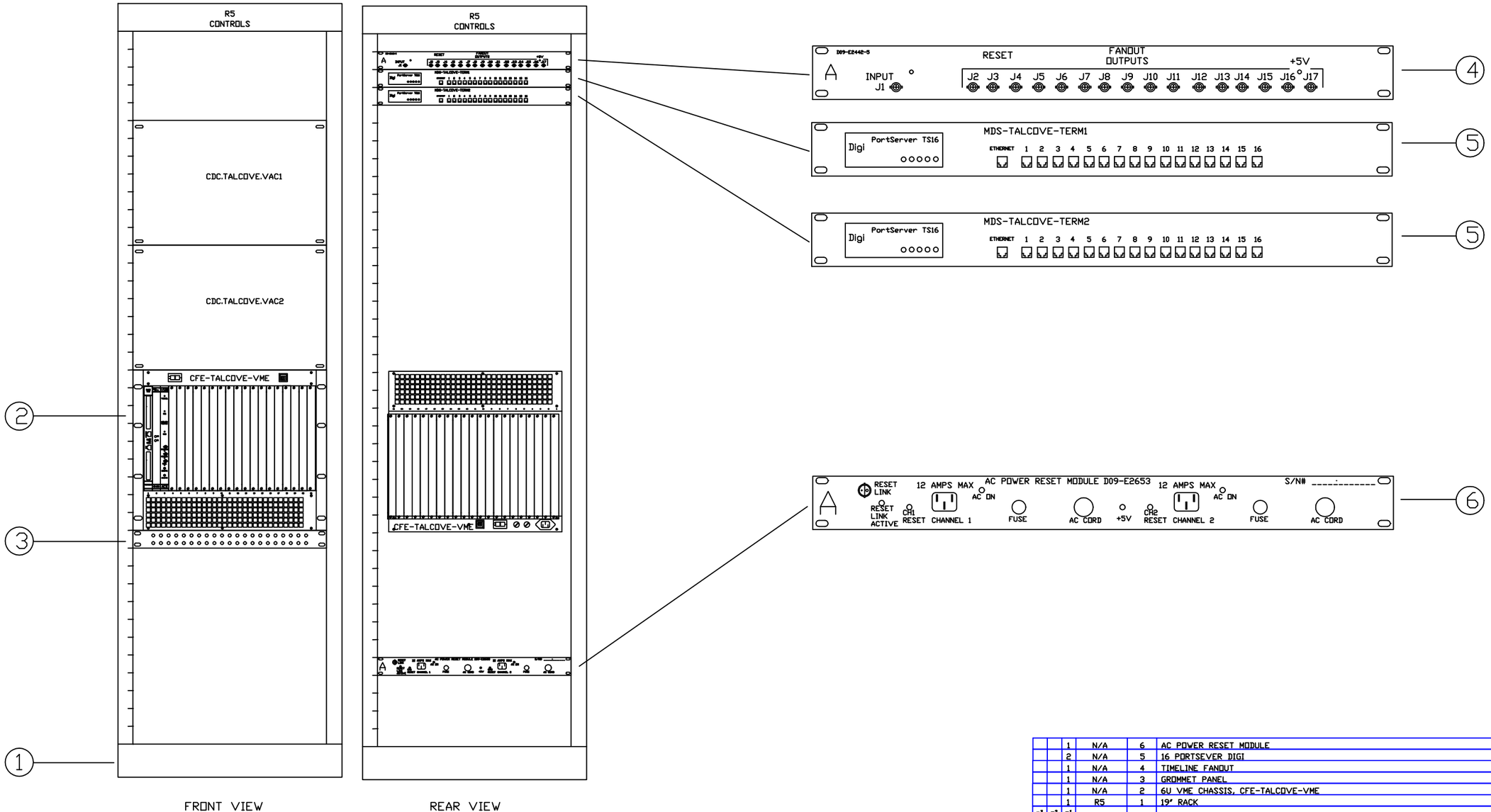
		1	N/A	16	MADC I/O PANEL		XXXXX
		1	N/A	15	488 BUS PANEL		
		2	N/A	14	4U PANEL (7")		A-45507
		1	N/A	13	MP6 POWER SUPPLY CHASSIS		XXXXXX
		1	N/A	12	2U PANEL (3.5")		A-4XXXXXX
		1	N/A	11	10U PANEL (17.5") HINGED PANEL		
		1	N/A	10	TIMELINE FANOUT		D09-E2442
		3	N/A	9	MULTIPLEX UNIT		D09-0E4286
		1	N/A	8	1 MHZ MULTIPLEX		D09-0E4244
		2	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, CST-TALCO-VME		N/A
		1	N/A	2	F/O CHASSIS		N/A
		1	HITL 1	1	19" RACK		N/A
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION		MAT'L DWG NO./INV. NO.
QTY REQD							

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY SCHOENFELD	9/02/03	UPTON, N.Y. 11973	
DECIMAL TOLERANCES X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RACK R3 LAYOUT FOR TALCOVE CONTROL SYSTEM	
	DESIGN APPROVAL			
	ENGINEER APPROVAL		R3 TALCOVE RACK	
	SUPVR. APPROVAL		SIZE D	R3_TALCOVE_RACK.DWG REV. A
NA FINISH	BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY	DRAWING NUMBER	
OUTSTANDING ECN			MATERIAL: ——	SCALE: FULL WEIGHT: — SHEET 1

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/26/2003 9:55 AM R5_TALCOVE_RACK.dwg



QTY REQD -3	QTY REQD -2	QTY REQD -1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.
		1	N/A	6	AC POWER RESET MODULE	D09-E2653
		2	N/A	5	16 PORTSEVER DIGI	7000742
		1	N/A	4	TIMELINE FANOUT	D09-E2442
		1	N/A	3	GROMMET PANEL	N/A
		1	N/A	2	6U VME CHASSIS, CFE-TALCOVE-VME	N/A
		1	R5	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°

FINISH: NA

BREAK SHARP EDGES MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY A-3

DRAWN BY	SCHOENFELD	9/02/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

NEXT ASSEMBLY

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UPTON, N.Y. 11973

RACK R5 LAYOUT FOR TALCOVE
CONTROL SYSTEM
R5 TALCOVE RACK

SIZE D | R5_TALCOVE_RACK.DWG | REV. A

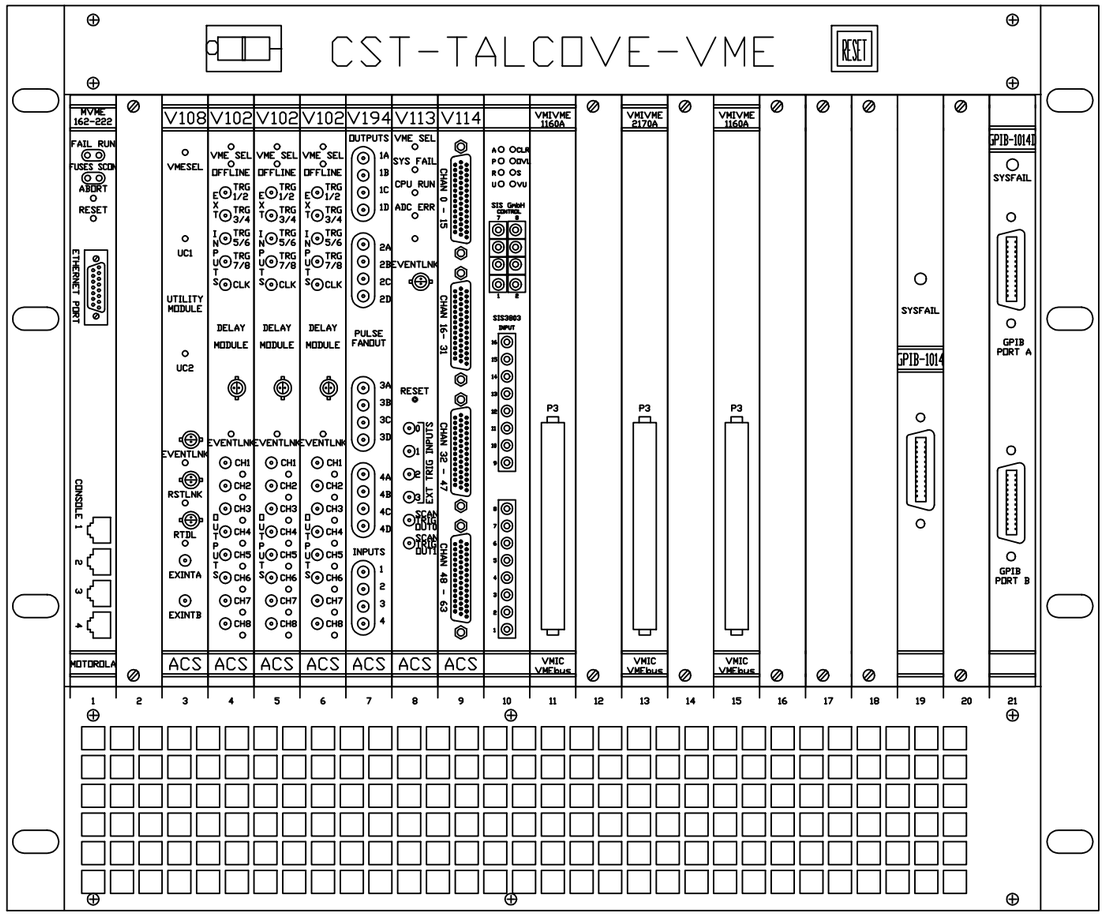
DRAWING NUMBER

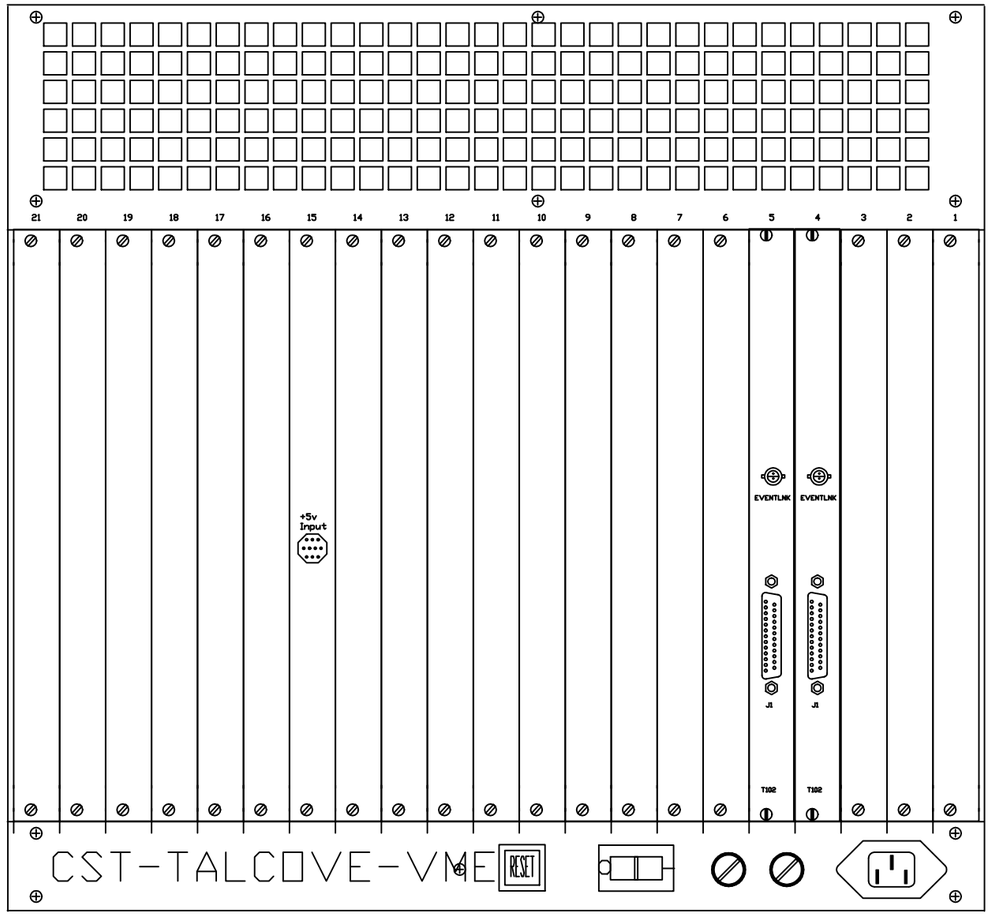
MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 2

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/10/2003 3:29 PM CST_TALCOVE_VME.dwg





NOTE:
1. ALL UNUSED SLOTS, FRONT & REAR

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.
		1		SLOT 10	16	SCALAR SIS3803 0X8383000	X
		1		SLOT 15	15	ISOLATED +5v PWR SUPPLY TRANSISTION PANEL	X
		24		see note 1	14	VME BLANK PANEL (ELECTRO SPACE ESFE-29850	
		2		SLOT 4, 5	13	T102 TRANSISTION MODULE	X
		1		SLOT 21	12	GPIB 1014D DUAL IEEE 488 CONTROLLER BD.	GPIB 1014 D
		1		SLOT 19	11	GPIB 1014 IEEE 488 CONTROLLER	GPIB 1014
		1		SLOT 15	10	VMIVME 1160A 403D DIGITAL INPUT BD.	VMIVME 1160A 403D
		1		SLOT 13	9	VMIVME 2170A 210D DIGITAL OUTPPUT BD.	VMIVME 2170A 210D
		1		SLOT 11	8	VMIVME 1160 200D DIGITAL INPUT BD.	VMIVME 1160 200D
		1		SLOT 9	7	V114 MADC A/D CONVERTER MODULE	94028226
		1		SLOT 8	6	V113 MADC CONTROLLER MODULE	94028140
		1		SLOT 7	5	V194	X
		3		SLOT 4-6	4	V102 DELAY MODULE	X
		1		SLOT 3	3	V108 UTILITY MODULE	94028094
		1		SLOT 1	2	FRONT END COMPUTER	MVME 162-222
		1		N/A	1	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

DRAWN BY	SCHOENFELD	9/02/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

NEXT ASSEMBLY

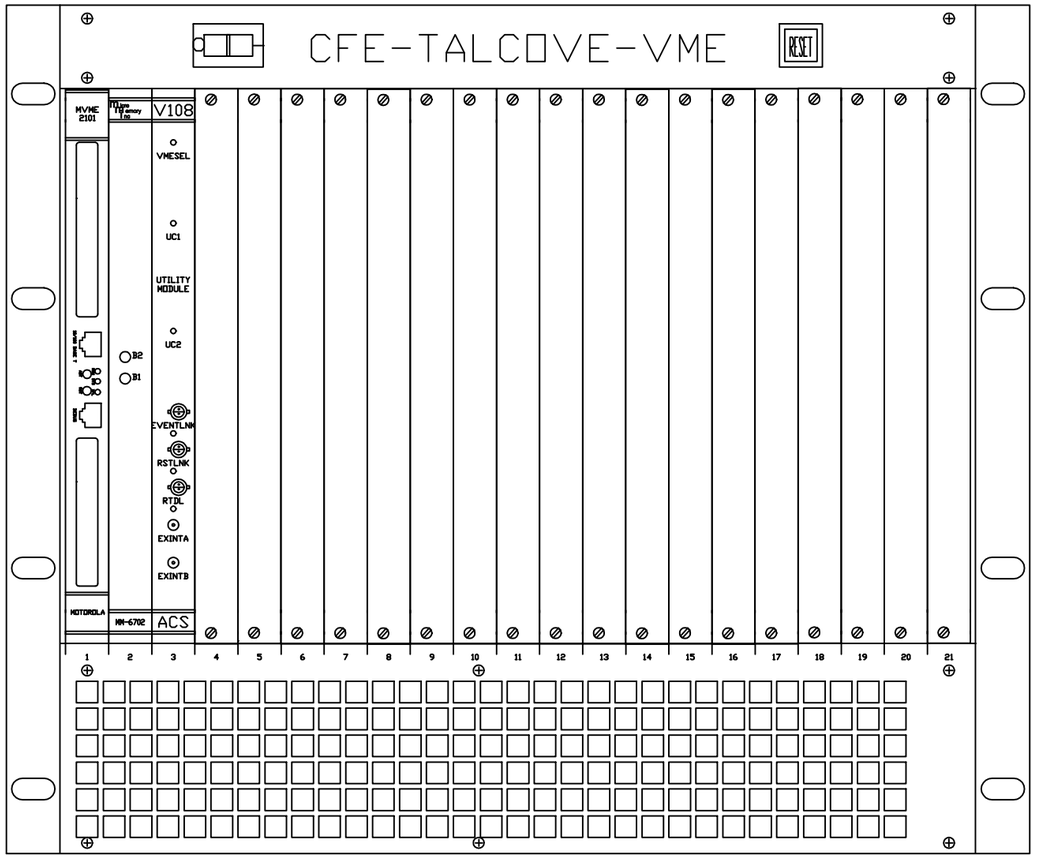
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS CHASSIS LAYOUT
CONTROLS SYSTEM
CST-TALCOVE-VME

SIZE D | CST_TALCOVE_VME.DWG | REV. A
DRAWING NUMBER
MATERIAL: ——— | SCALE: FULL | WEIGHT: – | SHEET 3

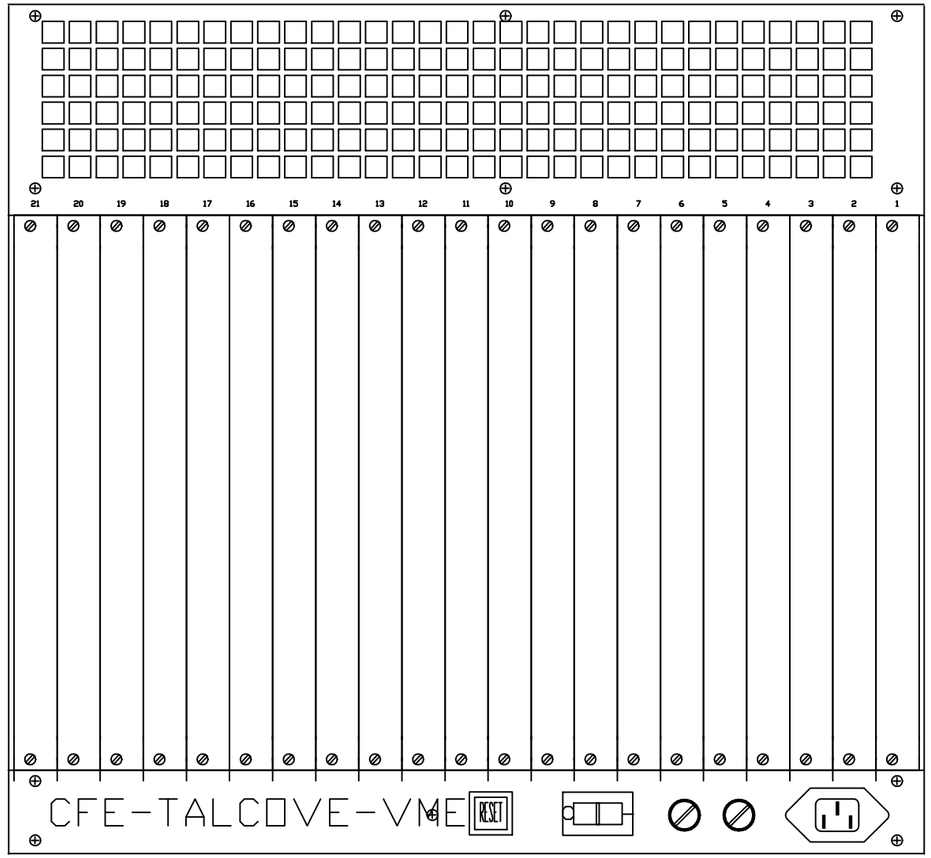
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/20/2003 11:25 AMCFE_TALCOVE_VME.dwg



FRONT VIEW



REAR VIEW

NOTE:

1. ALL UNUSED SLOTS, FRONT AND REAR

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.
		39	see note 1		5	VME BLANK PANEL (ELECTRO SPACE ESFE-29850	
		1	SLOT 3		4	V108 UTILITY MODULE	94028094
		1	SLOT 2		3	MM-6702C MEMORY MODULE	
		1	SLOT 1		2	FRONT END COMPUTER	MVME2101-1
		1	N/A		1	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

NEXT ASSEMBLY

DRAWN BY	SCHOENFELD	9/02/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

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

TALCOVE CONTROLS

TALCOVE BLDG

CFE-TALCOVE-VME

SIZE D | CFE_TALCOVE_VME.DWG | REV. A

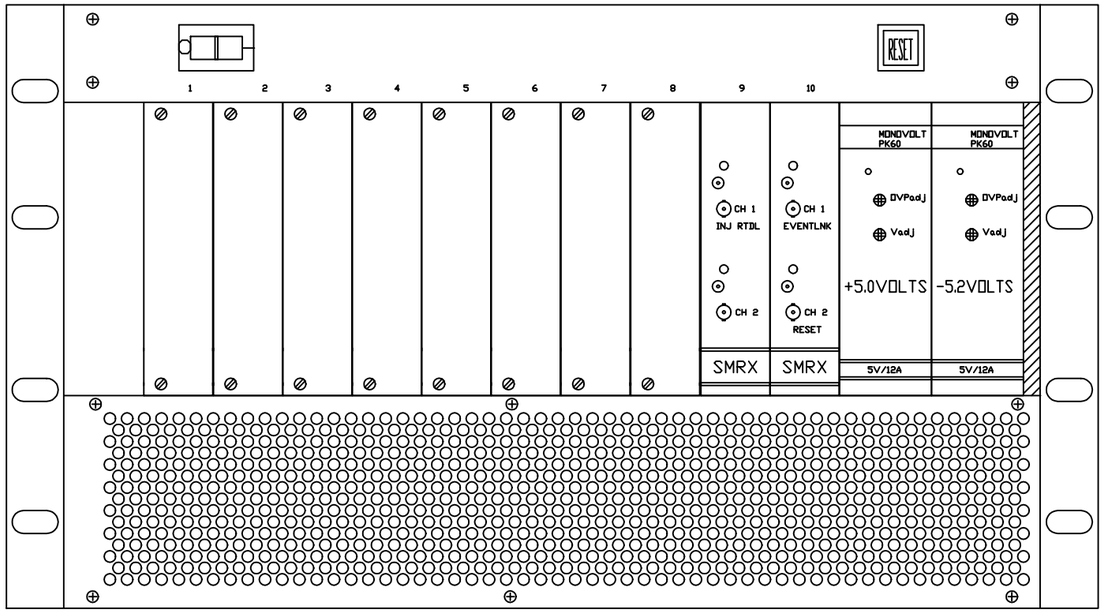
DRAWING NUMBER

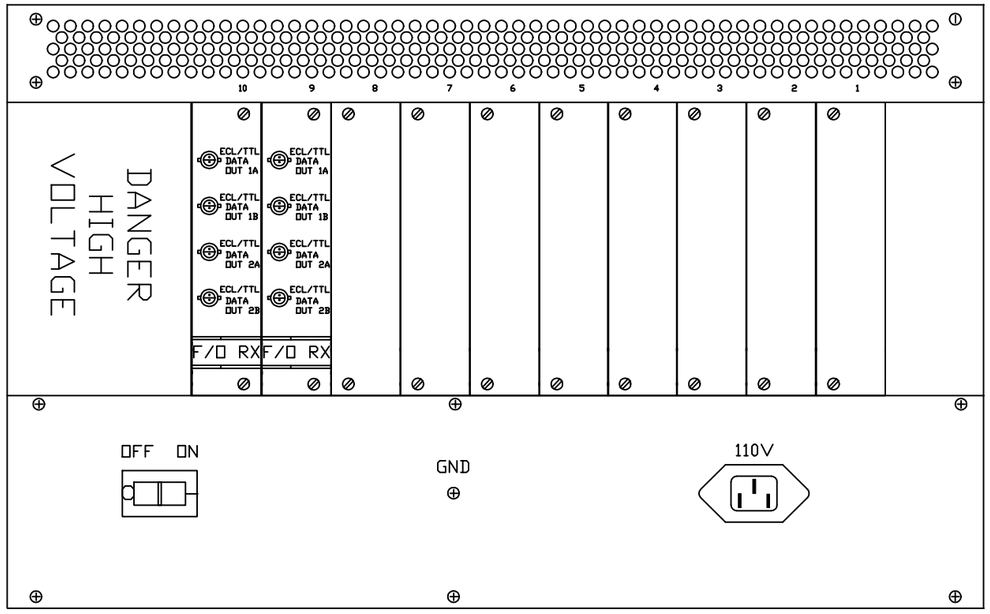
MATERIAL: ——— | SCALE: NA | WEIGHT: — | SHEET 4

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/26/2003 10:01 AM FIBER_CHASSIS.dwg





NOTE 1: FILLER PANELS FOR UNUSED SLOTS

-3	-2	-1	QTY REQD	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
		2	SLOT 9,10	3	3U FIBER OPTIC TRANSISTION MODULE (TTL)		DD9-E2542
		2	SLOT 9,10	2	3U FIBER OPTIC SINGLE MODE RECIEVER		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'

FINISH: NA ✓ BREAK SHARP EDGES MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY A-3

		DATE
DRAWN BY	SCHOENFELD	9/02/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

C-A CONTROLS CHASSIS LAYOUT

TALCOVE

TANDEM LINE FIBER OPTIC CHASSIS

SIZE D | FIBER_CHASSIS.DWG | REV. A
DRAWING NUMBER

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

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:52 PM TERMPANEL_WIRING.dwg

INPUT 1

1 10 20 30 40 50 64

INPUT 2

1 10 20 30 40 50 64

1 10 20 30 40 50 64

TO MP6 CHASSIS LOAD

64 PIN RIBBON CABLE TO:
VMIC 1160 slot 11
harp / cup status
SEE SHEET 13

64 PIN RIBBON CABLE TO:
VMIC 1160 slot 15
vacuum valve status
SEE SHEET 15

64 PIN RIBBON CABLE TO:
MP6 POWER SUPPLY CHASSIS
SEE SHEET 14

gnd to shell

50 pin Dsub

PA

1 5 10 15 20 25

26 30 35 40 45 50

gnd to shell

50 pin Dsub

PB

1 5 10 15 20 25

26 30 35 40 45 50

MP6 VACUUM CONTROLLER
7 READBACKS TO DIGI 16 PORTSERVER
RACK R5 MDS-TALCOVE-TERM2
SEE SHEET 21

QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.
X	X	X	X	X
X	X	X	X	X
2	X	3	50 PIN DSUB to 50 PIN DSUB CABLE	X
192	2	2	UNIVERAL TERMINAL BLOCK	A-55600
2	X	1	50 pin Dsub to Terminal block	X

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

NEXT ASSEMBLY

DRAWN BY	SCHOENFELD	9/02/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

DATE

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

C-A CONTROLS WIRING DIAGRAM

TALCOVE

TERMINAL WIRING PANEL

SIZE D

TERMPANEL_WIRING.DWG

DRAWING NUMBER

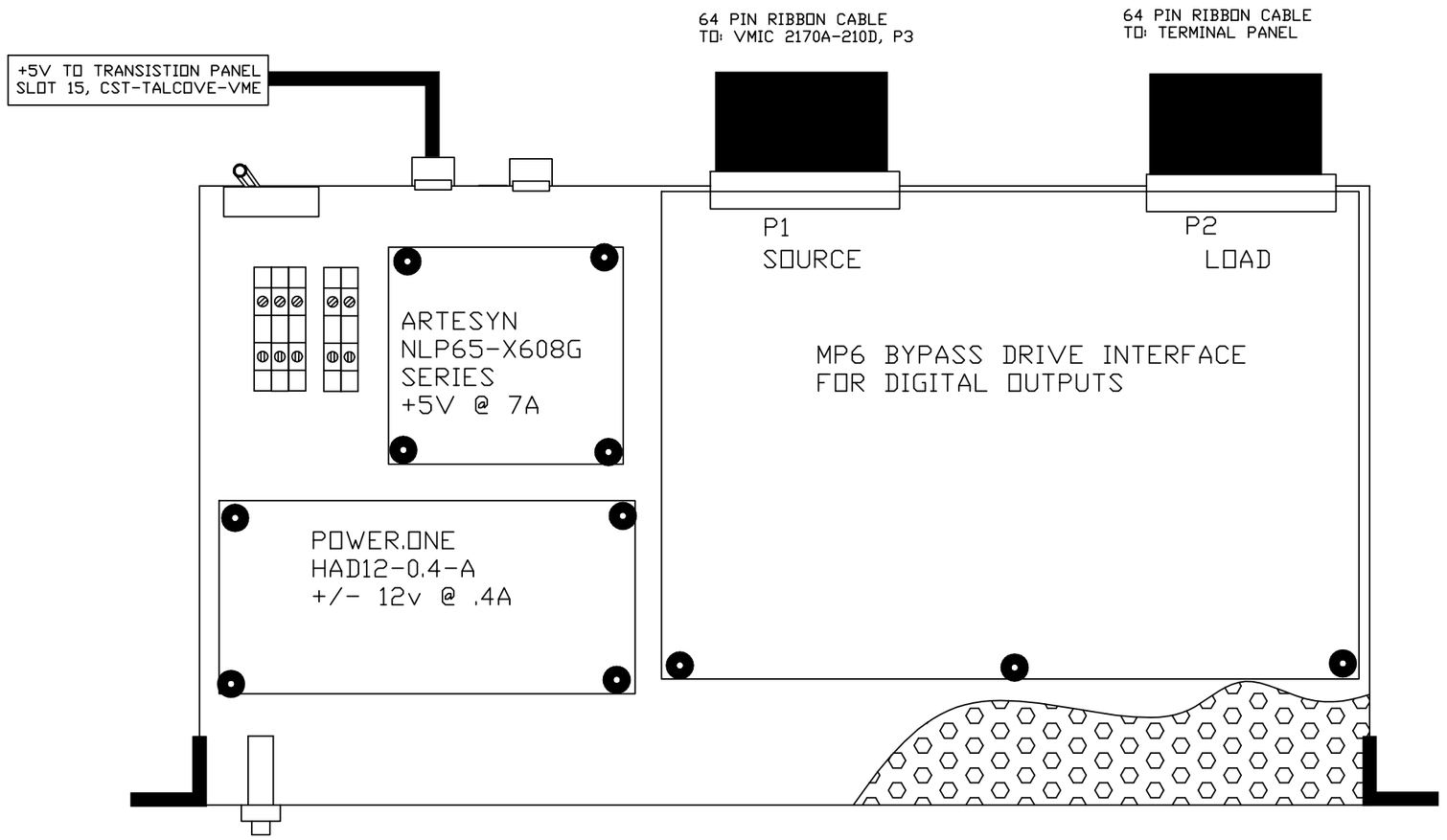
REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/20/2003 11:28 AM MP6_CHASSIS.dwg



QTY REQD -3	QTY REQD -2	QTY REQD -1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.
		X	X	X	X	X
		X	X	X	X	X
		1	X	3	POWER ONE +/- 12V POWER SUPPLY @.4A	HAD12-0.4-A
		1	X	2	ARTESYN +5V POWER SUPPLY @ 7A	NLP65-X608G
		1	X	1	FLEX BOX	X

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 SCHOENFELD 9/02/03

CHECKED BY

DESIGN APPROVAL

ENGINEER APPROVAL

SUPVR. APPROVAL

NEXT ASSEMBLY

DATE

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

C-A CONTROLS DIAGRAM

TALCOVE

MP6 POWER SUPPLY CHASSIS

SIZE D

MP6_CHASSIS.DWG

DRAWING NUMBER

REV. A

MATERIAL: ——— SCALE: FULL WEIGHT: — SHEET 7

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:48 PM EVENT_LINK.dwg

BOOSTER EVENT LINK
BLDG # 901A
RACK # WALL MOUNTED
MIC ID # WIC #17
REAR FRONT
3

BOOSTER EVENT LINK
BLDG # 911B
RACK # 5053
MIC # WIC #14

ASSY# 94028251
SINGLEMODE FIBER
(TYP 1 PLACE)

SINGLE MODE F/O RECEIVER
BOOSTER EVENT LINK
BLDG # 901A
RACK # R3
CHASSIS # F/O A
SLOT # 10

FRONT
ASSY# 94028101
TESTPOINT CH1
FIBEROPTIC INPUT CH1

REAR
ASSY# DD9-E-2542
ECL/TTL DATA OUT 1A
ECL/TTL DATA OUT 1B

TO SHEET 6

BACKPLANE CONNECTION

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 1 PLACE)

BOOSTER EVENT LINK FANOUT MODULE
BLDG # 901A
RACK # R3
FANOUT # I

ASSY # DD9-E2442-5
INPUT J1

V108
BLDG #: 901A
RACK #: R5
CHASSIS ID: CFE-TALCOVE-VME
SLOT#: 3

EVENTLINK

TO SHEET 23

J2 TO CST-TALCOVE-VME SLOT 8 V113 (SEE SHEET 17)
J3 TO CST-TALCOVE-VME SLOT 6 V102 (SEE SHEET 15)
J4 TO CST-TALCOVE-VME SLOT 5 T102 (SEE SHEET 13)
J5 TO CST-TALCOVE-VME SLOT 4 T102 (SEE SHEET 12)
J6 TO CST-TALCOVE-VME SLOT 3 V108 (SEE SHEET 11)
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
J17

-3	-2	-1 QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./SPEC NO.

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
NEXT ASSEMBLY

DRAWN BY	SCHOENFELD	9/02/03
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DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

DATE

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
TALCOVE
BOOSTER EVENT LINK

SIZE D | EVENT_LINK.DWG | REV. A
DRAWING NUMBER

MATERIAL: ——— | SCALE: FULL | WEIGHT: – | SHEET 8

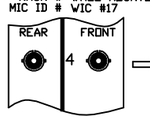
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:46 PM RESET_LINK.dwg

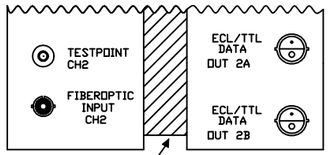
RESET LINK
BLDG # 911B
RACK # 5053
MIC # WIC #14

RESET LINK
BLDG # 901A
RACK # WALL MOUNTED
MIC ID # WIC #17



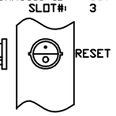
ASSY# 94028251
SINGLEMODE FIBER
(TYP 1 PLACE)

SINGLE MODE F/O RECEIVER
RESET LINK
BLDG # 901A
RACK # R3
CHASSIS # F/O CHASSIS A
SLOT # 10



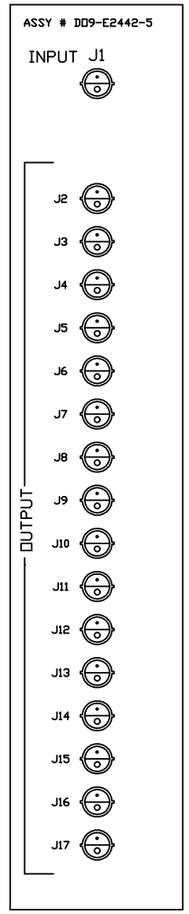
BACKPLANE
CONNECTION

V108
BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 3

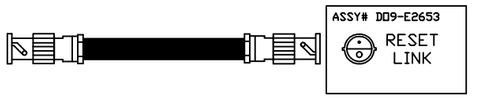


TO SHEET 11

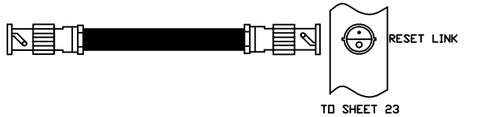
RESET LINK
BLDG # 901A
RACK # R5
FANOUT # A



AC POWER RESET
BLDG #: 901A
RACK #: R5
MODULE #: A



V108
BLDG #: 901A
RACK #: R5
CHASSIS ID: CFE-TALCOVE-VME
SLOT#: 3



TO SHEET 23

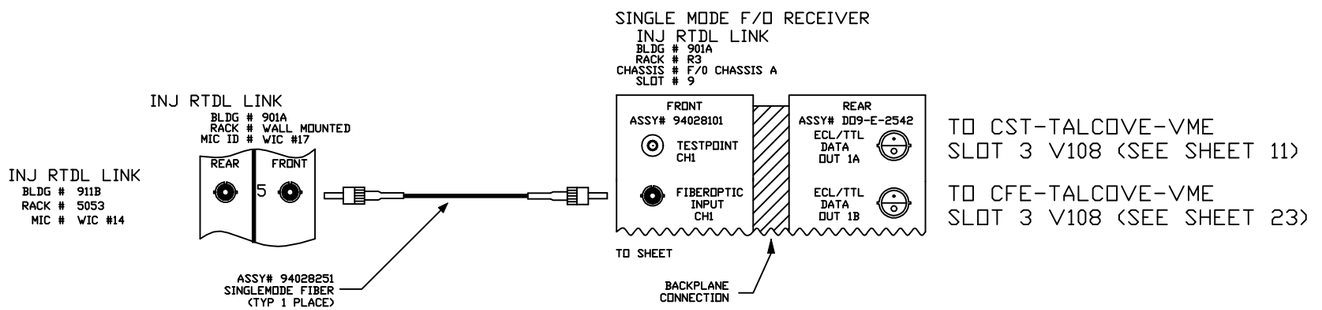
-3 -2 -1 QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY SCHOENFELD	9/02/03	UPTON, N.Y. 11973
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		C-A CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		TALCOVE
	ENGINEER APPROVAL		RESET LINK
	SUPVR. APPROVAL		SIZE D — RESET_LINK.DWG — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: —— SCALE: FULL WEIGHT: – SHEET 9

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/2/2003 2:35 PM RTDL_LINK.dwg



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

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	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	SCHOENFELD	9/02/03	UPTON, N.Y. 11973
CHECKED BY			C-A CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			TALCOVE
ENGINEER APPROVAL			INJ RTDL LINK
SUPVR. APPROVAL			SIZE D · RTDL_LINK.DWG · REV. A
NEXT ASSEMBLY			DRAWING NUMBER

MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 10

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/2/2003 2:44 PM CST_FT_END_V108.dwg

FRONT END COMPUTER
BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 1
FEC NAME: acnfecXXX

MVME162
FAIL RUN
FUSES SCON
ABORT
RESET
ETHERNET PORT
CONSOLES 1 2 3 4

ETHERNET NETWORK TRANSCEIVER REF. NETWORK DIAGRAM
INMAC PART # 08207

RESET LINK
BLDG # 911B
RACK # 5053
MIC # MIC- WIC #14

RESET LINK
BLDG # 901A
RACK # WALL MOUNTED
MIC ID # WIC #17
REAR FRONT 4

SINGLE MODE F/O RECEIVER
RESET LINK
BLDG # 901A
RACK # R3
CHASSIS # F/O CHASSIS A
SLOT # 10
TESTPOINT CH2
FIBEROPTIC INPUT CH2
ECL/TTL DATA OUT 2A
ECL/TTL DATA OUT 2B
BACKPLANE CONNECTION

EVENT LINK
BLDG #: 901A
RACK #: R3
FANOUT #: 1
OUTPUT J17

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)

INJ RTDL LINK
BLDG # 911B
RACK # 5053
MIC # MIC- WIC #14

INJ RTDL LINK
BLDG # 901A
RACK # WALL MOUNTED
MIC ID # WIC #17
REAR FRONT 5

SINGLE MODE F/O RECEIVER
INJ RTDL LINK
BLDG # 901A
RACK # R3
CHASSIS # F/O CHASSIS A
SLOT # 9
FRONT
ASSY# 94028101
TESTPOINT CH1
FIBEROPTIC INPUT CH1
REAR
ASSY# DD9-E-2542
ECL/TTL DATA OUT 1A
ECL/TTL DATA OUT 1B
BACKPLANE CONNECTION

DEVICE: V108 UTILITY MODULE
BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 3
A24 BASE ADDRESS: 0XF04000

V108
VME SEL
UC 1
UC 2
EVENTLINK
RSTLINK
RTDL
EXT INA
EXT INB
ASSY# 94028094

5 6 + − VME CHASSIS FAN FAIL MODULE
CONNECT TO P2 PINS ON REAR OF VME CHASSIS CABLE & CONNECTOR SUPPLIED WITH VME CHASSIS

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

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

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 SCHOENFELD 9/02/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
CST-TALCOVE-VME
FT END COMP /V108 UTIL MODULE
SIZE D
CST_FT_END_V108
DRAWING NUMBER
REV. A
MATERIAL: —— SCALE: FULL WEIGHT: — SHEET 11

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:39 PM V102_1_WIRING.dwg

T102
BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 4 REAR
BASE ADDRESS: N/A

V102 DELAY MODULE #1
BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 4
A16 BASE ADDRESS: 0XFFFFE600

BOOSTER EVENT LINK
BLDG #: 901A
RACK #: R3
FANOUT #: I

OUTPUT J16

4 FEET

ASSY# 94028176
LENGTH AS REQUIRED

EVENTLINK

UNUSED

V102
VME SEL
OFFLINE
TRG 1/2
TRG 3/4
TRG 5/6
TRG 7/8
CLK
EXT INPUTS
EVENTLINK
CH1
CH2
CH3
CH4
CH5
CH6
CH7
CH8
OUTPUTS

J1

T102

ASSY# 94028070

V102 DELAY MODULE JUMPER LIST

A16 BASE ADDRESS 0XFFFFE600	
JP1=OUT JP2=OUT JP3=OUT JP4=IN JP5=OUT JP6=IN JP7=OUT	
EVENT	INPUT
JP8=OUT JP9=IN JP10=IN	
JP11=IN JP12=OUT JP13=OUT JP14=IN	

TTL TO AGS MODULE
LOCATION: TALCOVE
RACK: R3
POSITION: C

RG-58U CABLE
LENGTH AS REQUIRED
(TYP 5 PLACES)

1 MHZ J1
J2
J3
J4
TALCO.10HZ J5
TALCO.B_ON J6
TALCO.TBE J7
TALCO.B_OF J8
CHOPPER_ON J9
CHOPPER_WD J10
CHOP_DP_ON J11
CHOP_DP_WD J12

DEVICE: D09-0E-4244
BLDG #: 901A
RACK #: R3
POSITION: E
INPUT 2
TO SHEET 14

DEVICE: 10 HZ INPUT
BLDG #: 901A
RACK #: R2
POSITION: CDC.TALCOVE.INS
INPUT 1

DEVICE: D09-0E-4286
BLDG #: 901A
RACK #: R3
POSITION: G
INPUT 1
TO SHEET 14

DEVICE: D09-0E-4286
BLDG #: 901A
RACK #: R3
POSITION: E
INPUT 1
TO SHEET 14

DEVICE: D09-0E-4286
BLDG #: 901A
RACK #: R3
POSITION: G
INPUT 2
TO SHEET 14

DEVICE: D09-0E-4286
BLDG #: 901A
RACK #: R3
POSITION: H
INPUT 1
TO SHEET 14

DEVICE: D09-0E-4286
BLDG #: 901A
RACK #: R3
POSITION: H
INPUT 2
TO SHEET 14

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

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°
FINISH NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A–3		DATE
DRAWN BY	SCHOENFELD	9/02/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C–A CONTROLS WIRING DIAGRAM
CST–TALCOVE–VME
V102 DELAY MODULE # 1

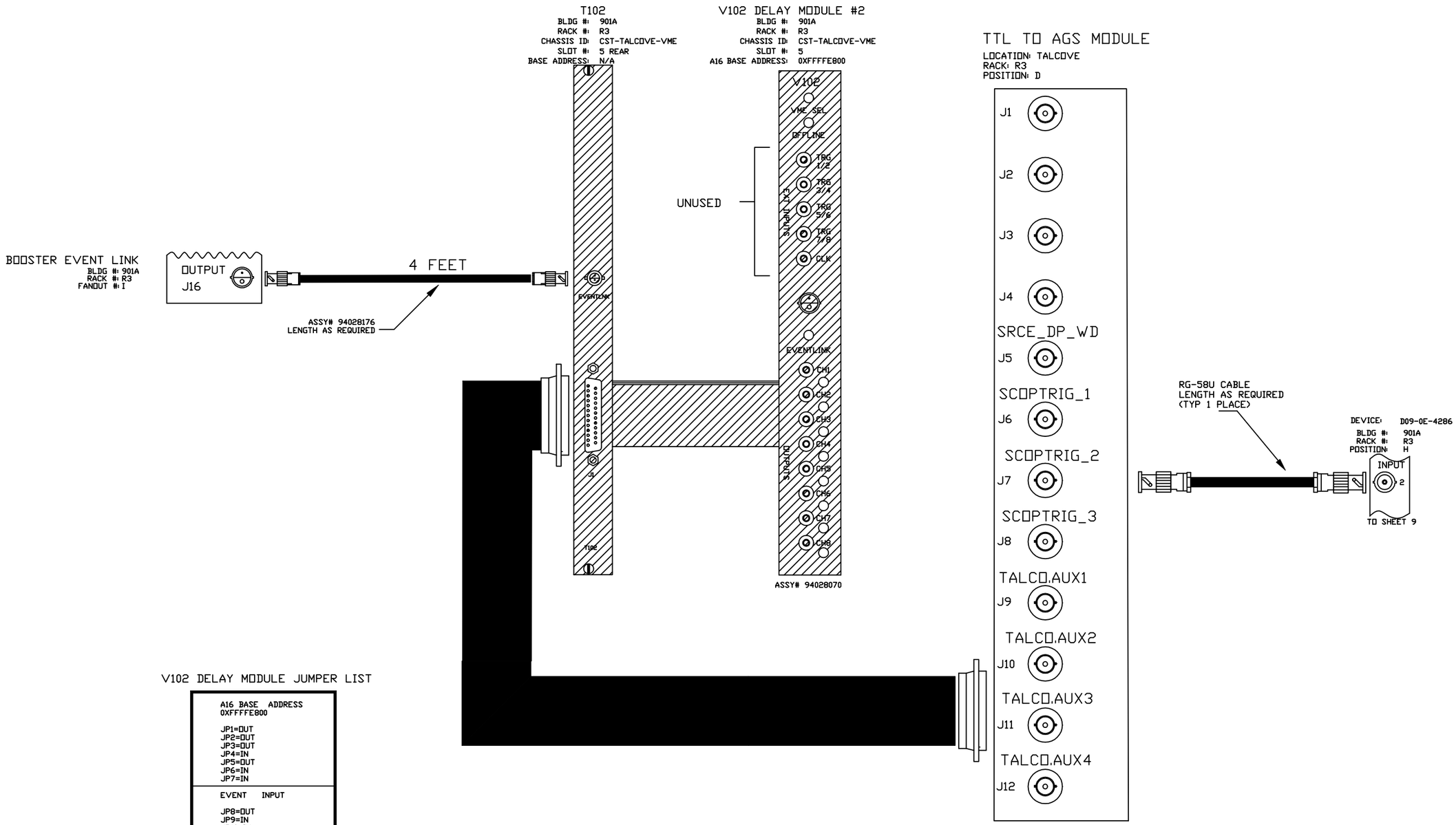
SIZE D
V102_1_WIRING.DWG
DRAWING NUMBER
REV. A

MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 12

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:38 PM V102_2_WIRING.dwg



V102 DELAY MODULE JUMPER LIST

A16 BASE ADDRESS 0XFFFFE800 JP1=OUT JP2=OUT JP3=OUT JP4=IN JP5=OUT JP6=IN JP7=IN	
EVENT	INPUT
JP8=OUT JP9=IN JP10=IN	
JP11=IN JP12=OUT JP13=OUT JP14=IN	

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

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	SCHOENFELD	9/02/03	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL			
SUPVR. APPROVAL			

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

C–A CONTROLS WIRING DIAGRAM

CST–TALCOVE–VME

V102 DELAY MODULE # 2

SIZE	DRAWING NUMBER	REV.
D	V102_2_WIRING.DWG	A

MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 13

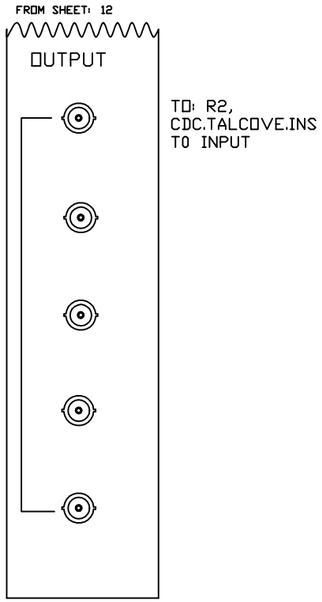
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:35 PM MUX_OUT_WIRING.dwg

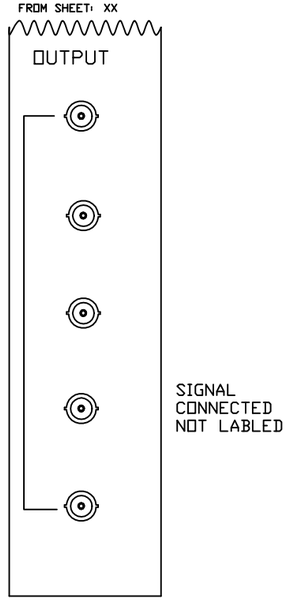
D09-E-4244 MUX
BLDG #: 901A
RACK #: R3
POSITION: E INPUT 1
SIGNAL: TALCD.TBE

FROM SHEET: 12



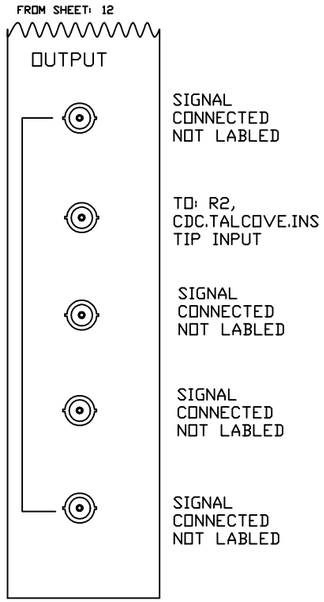
D09-E-4244
BLDG #: 901A
RACK #: R3
POSITION: F INPUT 1
SIGNAL: T0

FROM SHEET: XX



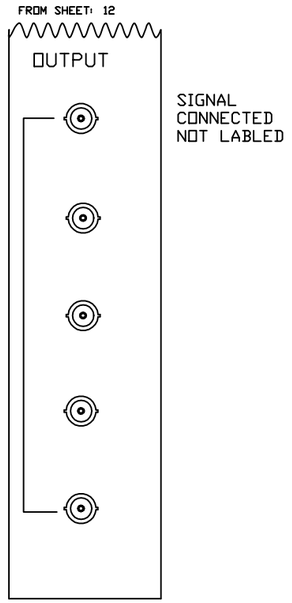
D09-E-4286
BLDG #: 901A
RACK #: R3
POSITION: G INPUT 1
SIGNAL: TALCD.B_DN

FROM SHEET: 12



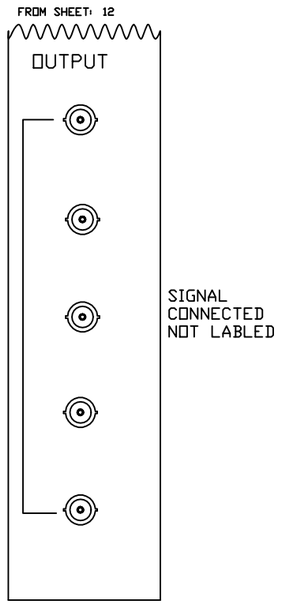
D09-E-4286
BLDG #: 901A
RACK #: R3
POSITION: H INPUT 1
SIGNAL: CHOPPER_DN

FROM SHEET: 12



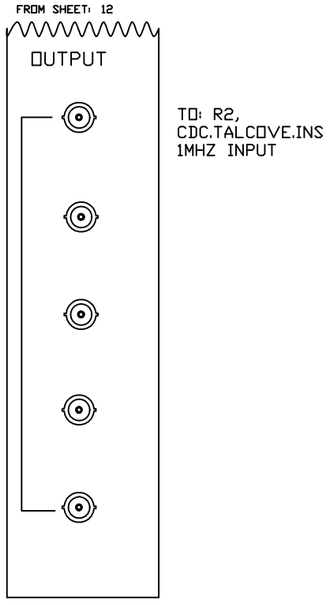
D09-E-4286
BLDG #: 901A
RACK #: R3
POSITION: H INPUT 2
SIGNAL: SCOPETRIG_2

FROM SHEET: 12



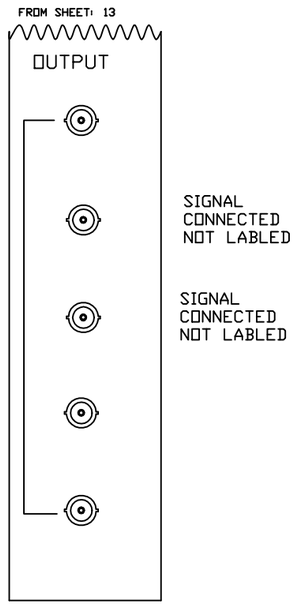
D09-E-4244
BLDG #: 901A
RACK #: R3
POSITION: E INPUT 2
SIGNAL: 1 MHZ

FROM SHEET: 12



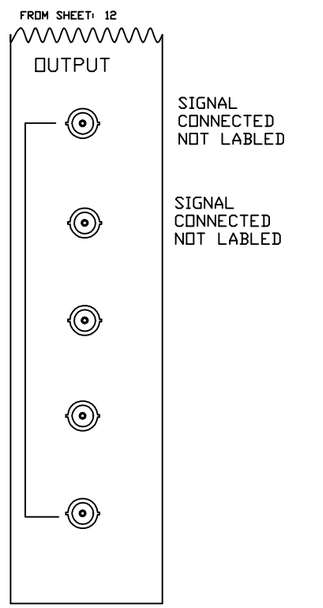
D09-E-4244
BLDG #: 901A
RACK #: R3
POSITION: H INPUT 2
SIGNAL: CHOP_DP_DN

FROM SHEET: 13



D09-E-4286
BLDG #: 901A
RACK #: R3
POSITION: G INPUT 2
SIGNAL: TALCD.B_DF

FROM SHEET: 12



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

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 SCHOENFELD 9/02/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C–A CONTROLS WIRING DIAGRAM
TALCOVE
MULTIPLEXER OUTPUTS
SIZE D
MUX_OUT_WIRING.DWG
DRAWING NUMBER
REV. A
MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 14

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:45 PM V102_3_WIRING.dwg

V102 DELAY MODULE #3

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 6
A16 BASE ADDRESS: 0XFFFFEA00

V102
VME SEL
OFFLINE
EXT INPUTS
TRG 1/2
TRG 3/4
TRG 5/6
TRG 7/8
CLK
EVENTLINK
OUTPUTS
CH1
CH2
CH3
CH4
CH5
CH6
CH7
CH8

ASSY# 94028070

V113

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 8

SCAN TRIG 0

FROM: SHEET 17

BOOSTER EVENT LINK

BLDG #: 901A
RACK #: R3
FANOUT #: I

OUTPUT J14

FROM: SHEET 1

6 FEET

ASSY# 94028176
LENGTH AS REQUIRED

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX

INPUT 13 — INTERGRATE

V194

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 7
BASE ADDRESS: N/A

INPUTS 1 2 3 4

TO: SHEET 16

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX

INPUT 8 — CUP/XFMR INTERGRATE START

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX

INPUT 11 — CUP/XFMR INTERGRATE STOP

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX

INPUT 14 — CHANNEL ADVANCE

SIS3803

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 10

INPUT #3

TO: SHEET 18

V113

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 8

EXT TRIG 0

TO: SHEET 17

V102 DELAY MODULE JUMPER LIST

A16 BASE ADDRESS 0XFFFFEA00
JP1=OUT JP2=OUT JP3=OUT JP4=IN JP5=OUT JP6=IN JP7=OUT
EVENT INPUT
JP8=OUT JP9=IN JP10=IN
JP11=IN JP12=OUT JP13=OUT JP14=IN

-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 SCHOENFELD 9/02/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C–A CONTROLS WIRING DIAGRAM
CST–TALCOVE–VME
V102 DELAY MODULE # 3

SIZE D
V102_3_WIRING.DWG
DRAWING NUMBER
REV. A

MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 15

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/2/2003 2:49 PM V194_WIRING.dwg

V194

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 7
BASE ADDRESS: N/A

V194
OUTPUTS
1A
1B
1C
1D
2A
2B
2C
2D
PULSE FANOUT
3A
3B
3C
3D
4A
4B
4C
4D
INPUTS
1
2
3
4

ASSY# 94028196

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX
INPUT 16 HOLD

V113

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 8
C H EXT TRIG 1
TO: SHEET 12

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX
INPUT 12 SCAN TRIGGER

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX
INPUT 15 RESET

DEVICE: PATCH PANEL
BLDG #: 901A
RACK #: R2
POSITION: XX
INPUT 6 CUP/XFRMR RESET

V102 #3

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 6
C H 2
FROM: SHEET 10

V102 #3

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 6
C H 5
FROM: SHEET 10

V194 JUMPER LIST

E1-E2 DGND, OUT
E3-E4 AGND, IN
E5-E6 DGND, OUT
E7-E8 AGND, IN

-3 -2 -1 QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PM NO.

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
NEXT ASSEMBLY

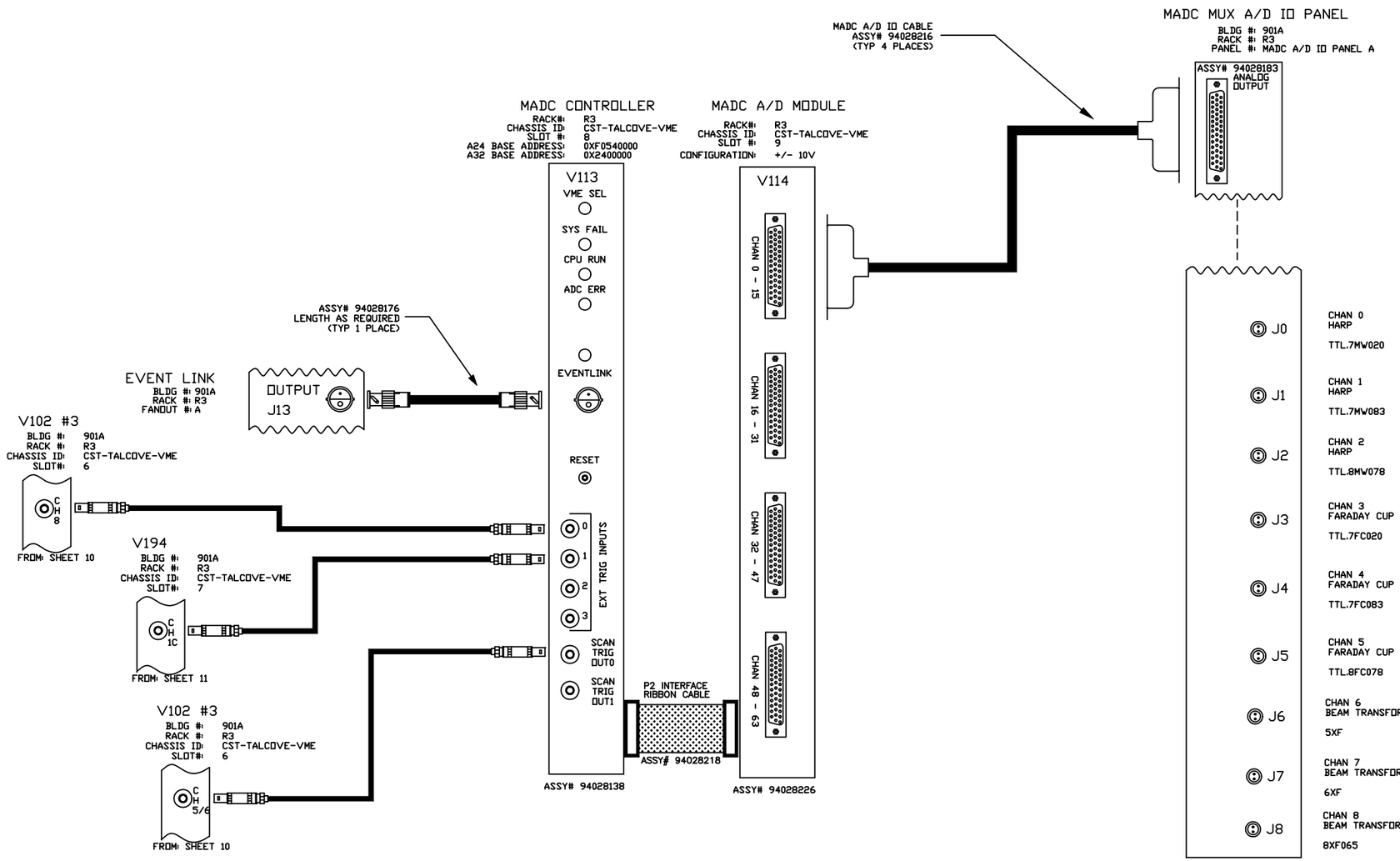
Q.A. CATEGORY A-3 DATE
DRAWN BY SCHOENFELD 9/02/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
CST-TALCOVE-VME
V194 MODULE
SIZE D V194_WIRING.DWG REV. A
DRAWING NUMBER
MATERIAL: —— SCALE: FULL WEIGHT: — SHEET 16

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

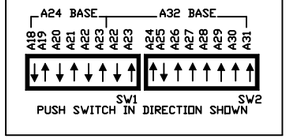
Ralph Schoenfeld, Controls 9/2/2003 2:50 PM MADC_WIRING_1.dwg



V113 JUMPERS INSTALLED

E3-E4

V113
BASE ADDRESS DIP SWITCHES



PUSH SWITCH IN DIRECTION SHOWN

V114 JUMPERS INSTALLED

J1, J2, J4, J5, J9
J19, J15, J21

ALL OTHER JUMPERS OUT

-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	Q.A. CATEGORY A–3	DATE	BROOKHAVEN NATIONAL LABORATORY
	DRAWN BY SCHOENFELD	9/02/03	UPTON, N.Y. 11973
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CHECKED BY		C–A CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	DESIGN APPROVAL		TALCOVE
	ENGINEER APPROVAL		MADC WIRING
	SUPVR. APPROVAL		SIZE D — MADC_WIRING_1.DWG — REV. A
OUTSTANDING ECN	NA FINISH	BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY — DRAWING NUMBER
			MATERIAL: — SCALE: FULL WEIGHT: – SHEET 17

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

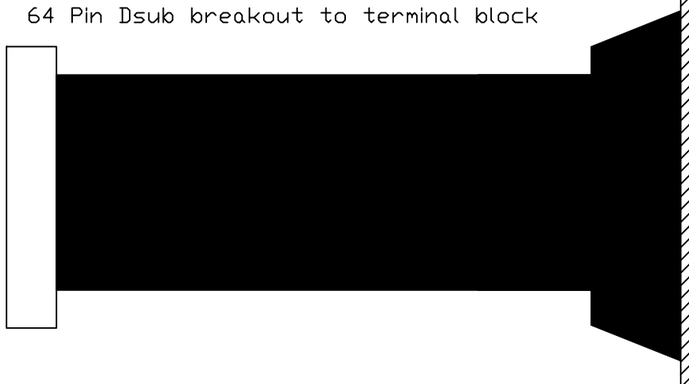
Ralph Schoenfeld, Controls 9/2/2003 2:52 PM INPUT_1_WIRE.dwg

VMIC 1160 200 D
BLDG #: 901
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 11
BASE ADDRESS: FFFFE000

VMI 1160

P3

64 Pin Dsub breakout to terminal block



INPUT 1

P3- C1	1	Out Status Lo
P3- A1		Out Status Hi
P3- C2		In Status Lo
P3- A2		In Status Hi
P3- C3		Rem/Loc Status Lo
P3- A3		Rem/Loc Status Hi
P3- C4		Out Status Lo
P3- A4		Out Status Hi
P3- C5		In Status Lo
P3- A5		In Status Hi
P3- C6		Rem/Loc Status Lo
P3- A6		Rem/Loc Status Hi
P3- C7		Out Status Lo
P3- A7		Out Status Hi
P3- C8		In Status Lo
P3- A8		In Status Hi
P3- C9		Rem/Loc Status Lo
P3- A9		Rem/Loc Status Hi
P3- C10		Out Status Lo
P3- A10		Out Status Hi
P3- C11		In Status Lo
P3- A11		In Status Hi
P3- C12		Rem/Loc Status Lo
P3- A12		Rem/Loc Status Hi
P3- C13		Hi Volt Status Lo
P3- A13		Hi Volt Status Hi
P3- C14		Out Status Lo
P3- A14		Out Status Hi
P3- C15		In Status Lo
P3- A15		In Status Hi
P3- C16		Rem/Loc Status Lo
P3- A16		Rem/Loc Status Hi
P3- C17		Hi Volt Status Lo
P3- A17		Hi Volt Status Hi
P3- C18		Out Status Lo
P3- A18		Out Status Hi
P3- C19		In Status Lo
P3- A19		In Status Hi
P3- C20		Rem/Loc Status Lo
P3- A20		Rem/Loc Status Hi
P3- C21		Hi Volt Status Lo
P3- A21		Hi Volt Status Hi
P3- C22		SPARE
P3- A22		
P3- C23		
P3- A23		
P3- C24		SPARE
P3- A24		
P3- C25		
P3- A25		
P3- C26		SPARE
P3- A26		
P3- C27		
P3- A27		
P3- C28		SPARE
P3- A28		
P3- C29		
P3- A29		
P3- C30		
P3- A30		
P3- C31		
P3- A31		
P3- C32		
P3- A32	64	

TTL.7MW020.PDS
TTL.7MW083.PDS
TTL.8MW078.PDS
TTL.7FC020.PDS
TTL.7FC083.PDS
TTL.8FC078.PDS

The following jumpers are installed:
J1, J3, J5, J7, J9, J11, J13, J15, J17, J19, J21, J23, J25,
J27, J29, J31, J33, J35, J37, J39, J41, J43, J45, J47,
J49, J51, J53, J55, J57, J59, J61, J63

U35
SW 1-3 OFF
SW 4-8 ON

U34
SW 1-8 ON

J65 /AM2 short Nonpriviledge I/O access

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

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
DRAWN BY: SCHOENFELD 9/02/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
TALCOVE
VMIC 1160 INPUT BD #1

SIZE D | INPUT_1_WIRE.DWG | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 18

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/2/2003 2:52 PM OUTPUT_WIRE.dwg

VMIC 2170A-210D
BLDG #: 901
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 13
BASE ADDRESS: FFFFE100

VMI 2170A

The following jumpers are installed:
A12, A11, A10, A9, A7, A6, A5, A4, A3, A2

JA1 short Nonpriviledge I/O access

P3

P3

64 Pin DIN Ribbon Cable

64 Pin Dsub breakout to terminal block

P1

P2

MP6 DRIVER INTERFACE BD.

MP6 Power Supply Chassis
SEE SHEET 18

P3- C1				1
P3- A1				Harp_1 Cmd Hi, Harp_1 Cmd Lo — TTL.7MW020.POS
P3- C2				
P3- A2				Harp_2 Cmd Hi, Harp_2 Cmd Lo — TTL.7MW083.POS
P3- C3				
P3- A3				Harp_3 Cmd Hi, Harp_3 Cmd Lo — TTL.8MW078.POS
P3- C4				
P3- A4				FaradayCup_1 Cmd Hi, FaradayCup_1 Cmd Lo — TTL.7FC020.POS
P3- C5				
P3- A5				FaradayCup_2 Cmd Hi, FaradayCup_2 Cmd Lo — TTL.7FC083.POS
P3- C6				10
P3- A6				FaradayCup_3 Cmd Hi, FaradayCup_3 Cmd Lo — TTL.8FC078.POS
P3- C7				
P3- A7				Harp gain Cmd Hi, Harp gain Cmd Lo — TTL.HARP_GAIN_MP6
P3- C8				
P3- A8				Cup/Xfmr gain bit 1 Cmd Hi, Cup/Xfmr gain bit 1 Cmd Lo — TTL.FC_GAIN_MP6
P3- C9				
P3- A9				
P3- C10				
P3- A10				Mode Cmd Hi, Mode Cmd Lo — TTL.MODE_MP6
P3- C11				20
P3- A11				
P3- C12				SPARE
P3- A12				
P3- C13				
P3- A13				
P3- C14				
P3- A14				
P3- C15				
P3- A15				30
P3- C16				SPARE
P3- A16				
P3- C17				
P3- A17				
P3- C18				
P3- A18				
P3- C19				
P3- A19				SPARE
P3- C20				
P3- A20				40
P3- C21				
P3- A21				
P3- C22				
P3- A22				
P3- C23				
P3- A23				
P3- C24				SPARE
P3- A24				
P3- C25				Cup/Xfmr gain bit 2 Cmd Hi, Cup/Xfmr gain bit 2 Cmd Lo — TTL.FC_GAIN_VER_MP6
P3- A25				50
P3- C26				
P3- A26				
P3- C27				
P3- A27				SPARE
P3- C28				
P3- A28				
P3- C29				
P3- A29				
P3- C30				
P3- A30				
P3- C31				SPARE
P3- A31				
P3- C32				
P3- A32				64

-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°
OUTSTANDING ECN
NA FINISH
BREAK SHARP EDGES MAX. XX MIN. XX

Q.A. CATEGORY A–3 DATE
DRAWN BY SCHOENFELD 9/02/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C–A CONTROLS WIRING DIAGRAM
TALCOVE
VMIC 2170DA–210D
SIZE D
OUTPUT_WIRE.DWG
DRAWING NUMBER
REV. A
MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 19

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/2/2003 2:53 PM INPUT_2_WIRE.dwg

TRANSISTION PANEL
BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 15
BASE ADDRESS: N/A

VMIC 1160- 403D
BLDG #: 901
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 15
AXX BASE ADDRESS: FFFFE020

VMI 1160

P2 P3

64 Pin Dsub breakout to terminal block

To: MP6 Power Supply Chassis
SEE SHEET 18

A
B

P2-C30 +5V
P2-C31 GND

The following jumpers are installed:
J2, J4, J6, J8, J10, J12, J14, J16, J18, J20, J22, J24, J26,
J28, J30, J32, J34, J36, J38, J40, J42, J44, J46, J48,
J50, J52, J54, J56, J58, J60, J62, J64

U35
SW 1-3 OFF
SW 4-8 ON

U34
SW 1-2 ON
SW 3 OFF
SW 4-8 ON

INPUT 2

1	P3- C1	Out Status	
	P3- A1	Vac Valve 1	TVC.6VA007
	P3- C2	In Status	
	P3- A2	Vac Valve 1	
	P3- C3	Out Status	
	P3- A3	Vac Valve 2	TVC.6VP019
	P3- C4	In Status	
	P3- A4	Vac Valve 2	
	P3- C5	Out Status	
10	P3- A5	Vac Valve 3	TVC.7VP019
	P3- C6	In Status	
	P3- A6	Vac Valve 3	
	P3- C7	Out Status	
	P3- A7	Vac Valve 4	TVC.7VP021
	P3- C8	In Status	
	P3- A8	Vac Valve 4	
	P3- C9	Out Status	
	P3- A9	Vac Valve 5	TVC.7VP079
	P3- C10	In Status	
20	P3- A10	Vac Valve 5	
	P3- C11	Out Status	
	P3- A11	Vac Valve 6	TVC.8VP005
	P3- C12	In Status	
	P3- A12	Vac Valve 6	
	P3- C13	Out Status	
	P3- A13	Vac Valve 7	TVC.8VP077
	P3- C14	In Status	
	P3- A14	Vac Valve 7	
	P3- C15	Out Status	
30	P3- A15	Vac Valve 8	TVC.8VP081
	P3- C16	In Status	
	P3- A16	Vac Valve 8	
	P3- C17	Out Status	
	P3- A17	Vac Valve 9	TVC.9VP010
	P3- C18	In Status	
	P3- A18	Vac Valve 9	
	P3- C19	Out Status	
	P3- A19	Vac Valve 10	TVC.9VP015
	P3- C20	In Status	
40	P3- A20	Vac Valve 10	
	P3- C21	SPARE	
	P3- A21		
	P3- C22	SPARE	
	P3- A22		
	P3- C23	SPARE	
	P3- A23		
50	P3- C24	SPARE	
	P3- A24		
	P3- C25	SPARE	
	P3- A25		
	P3- C26	SPARE	
	P3- A26		
	P3- C27	SPARE	
	P3- A27		
	P3- C28	SPARE	
	P3- A28		
	P3- C29	SPARE	
	P3- A29		
	P3- C30	SPARE	
	P3- A30		
	P3- C31	SPARE	
	P3- A31		
	P3- C32	SPARE	
64	P3- A32		

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

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°
FINISH: NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN
NEXT ASSEMBLY

Q.A. CATEGORY A-3
DRAWN BY: SCHOENFELD DATE: 9/12/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
TALCOVE
VMIC 1160 INPUT BD #2
SIZE D INPUT_2_WIRE.DWG REV. A
DRAWING NUMBER
MATERIAL: —— SCALE: FULL WEIGHT: – SHEET 20

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:30 PM DIGI_VACUUM.dwg

MDS-TALCOVE-TERM1

BLDG # 901A
RACK # R5
IP # 130.199.111.160

ASSY # 50001185-01

ETHERNET

PORTSERVER TS 16

1	VACUUM CONTROLLER #1 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.1	OLD READBACK #1 TO CDC.TALCOVE.VAC1
2	VACUUM CONTROLLER #2 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.2	OLD READBACK #2 TO CDC.TALCOVE.VAC1
3	VACUUM CONTROLLER #3 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.3	OLD READBACK #3 TO CDC.TALCOVE.VAC1
4	VACUUM CONTROLLER #4 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.4	OLD READBACK #4 TO CDC.TALCOVE.VAC1
5	VACUUM CONTROLLER #5 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.5	OLD READBACK #5 TO CDC.TALCOVE.VAC1
6	VACUUM CONTROLLER #6 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.6	OLD READBACK #1 TO CDC.TALCOVE.VAC2
7	VACUUM CONTROLLER #7 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.7	OLD READBACK #2 TO CDC.TALCOVE.VAC2
8	VACUUM CONTROLLER #8 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.A.8	OLD READBACK #3 TO CDC.TALCOVE.VAC2
9		
10		
11		
12		
13		
14		
15		
16		

MDS-TALCOVE-TERM2

BLDG # 901A
RACK # R5
IP # 130.199.111.161

ASSY # 50001185-01

ETHERNET

PORTSERVER TS 16

1	VACUUM CONTROLLER #1 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.B.1	OLD READBACK TO TVC.MP6_GP1
2	VACUUM CONTROLLER #2 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.B.2	OLD READBACK TO TVC.MP6_GP2
3	VACUUM CONTROLLER #3 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.B.3	OLD READBACK TO TVC.MP6_GP3
4	VACUUM CONTROLLER #4 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.B.4	OLD READBACK TO TVC.MP6_GP4
5	VACUUM CONTROLLER #5 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.B.5	OLD READBACK TO TVC.MP6_GP5
6	VACUUM CONTROLLER #6 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.B.6	OLD READBACK TO TVC.MP6_GP6
7	VACUUM CONTROLLER #7 GRANVILLE PHILLIPS 303 vacgp303mod.talcove-vme.B.7	OLD READBACK TO TVC.MP6_GP7
8		
9		
10		
11		
12		
13		
14		
15	CFE-TALCOVE-VME RACK R5 SLOT 1 DEBUG	
16	CST-TALCOVE-VME RACK R3 SLOT 1 DEBUG	

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

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	SCHOENFELD	9/17/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

C–A CONTROLS WIRING DIAGRAM

TALCOVE

VACUUM READBACK

SIZE D | DIGI_VACUUM.DWG | REV. A
DRAWING NUMBER

MATERIAL: ——— | SCALE: FULL | WEIGHT: – | SHEET 21

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 10/22/2003 1:29 PM GPIB_1014.dwg

GPIB 1014 FOR 488 DEVICE CONTROLLERS

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 19
A24 BASE ADDRESS: 0XF0002000

GPIB 1014

SYSFAIL

GPIB 1014D FOR TRANSLATOR 488 CONNECTIONS

BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT #: 21
A24 BASE ADDRESS: 0XF0002400

GPIB 1014D

SYSFAIL

GPIB PORT: A

GPIB PORT: B

488 MANIFOLD TO DANFYSIK, BRUKER AND NMR GAUSSMETER

CDC.TALCO.INS

CONTROLLER
BLDG #: 901A
RACK #: R2
CHASSIS ID: CDC.TALCO.INS
SLOT #: N/A
BASE ADDRESS: IEEE= 22

CDC.TALCO.VAC 1

CONTROLLER
BLDG #: 901A
RACK #: R4
CHASSIS ID: CDC.TALCO.VAC1
SLOT #: N/A
BASE ADDRESS: IEEE= 19

READBACK'S ARE CONNECTED TO MDS-TALCOVE-TERM1

CDC.TALCO.VAC 2

CONTROLLER
BLDG #: 901A
RACK #: R4
CHASSIS ID: CDC.TALCO.VAC2
SLOT #: N/A
BASE ADDRESS: IEEE= 25

READBACK'S ARE CONNECTED TO MDS-TALCOVE-TERM1

IEEE 488 F/O Isolated Extender

F/O cable to IEEE 488 Isolater

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

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°

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

OUTSTANDING ECN

Q.A. CATEGORY A-3

NEXT ASSEMBLY

DRAWN BY	SCHOENFELD	9/02/03
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL		
SUPVR. APPROVAL		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

C-A CONTROLS WIRING DIAGRAM

BLDG. TALCOV, VME CHASSIS CST-TALCOVE-VME

GPIB INTER FOR DEVICE CNTRLS

SIZE D — GPIB_1014.DWG — REV. A

DRAWING NUMBER

MATERIAL: ——— SCALE: FULL WEIGHT: – SHEET 22

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Ralph Schoenfeld, Controls 9/2/2003 2:57 PM CFE_FT_END_V108.dwg

FRONT END COMPUTER
BLDG #: 901A
RACK #: R3
CHASSIS ID: CST-TALCOVE-VME
SLOT#: 1
FEC NAME: cfe-talcove-vme

MVME 2101

MOTOROLA

ETHERNET NETWORK

REF. NETWORK DIAGRAM

MEMORY BOARD
BLDG #: 901A
RACK #: R5
CHASSIS ID: CFE-TALCOVE-VME
SLOT #: 2
BASE ADDRESS:

MM-6702

B2

B1

EVENT LINK
BLDG # 901A
RACK # WALL MOUNTED
MIC ID # WIC #17

REAR 3 FRONT

EVENT LINK
BLDG # 911B
RACK # 5053
MIC # MIC- WIC #14

SINGLE MODE F/O RECEIVER
EVENT LINK
BLDG # 901A
RACK # R3
CHASSIS # F/O CHASSIS A
SLOT # 10

FRONT
ASSY# 94028101
TESTPOINT CH1
FIBEROPTIC INPUT CH1

REAR
ASSY# DD9-E-2542
ECL/TTL DATA OUT 1A
ECL/TTL DATA OUT 1B

BACKPLANE CONNECTION

RESET LINK
BLDG # 901A
RACK # WALL MOUNTED
MIC ID # WIC #17

REAR 4 FRONT

RESET LINK
BLDG # 911B
RACK # 5053
MIC # MIC- WIC #14

SINGLE MODE F/O RECEIVER
RESET LINK
BLDG # 901A
RACK # R3
CHASSIS # F/O CHASSIS A
SLOT # 10

TESTPOINT CH2
FIBEROPTIC INPUT CH2
ECL/TTL DATA OUT 2A
ECL/TTL DATA OUT 2B

BACKPLANE CONNECTION

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)

INJ RDTL LINK
BLDG # 901A
RACK # WALL MOUNTED
MIC ID # WIC #17

REAR 5 FRONT

INJ RDTL LINK
BLDG # 911B
RACK # 5053
MIC # MIC- WIC #14

SINGLE MODE F/O RECEIVER
INJ RDTL LINK
BLDG # 901A
RACK # R3
CHASSIS # F/O CHASSIS A
SLOT # 9

FRONT
ASSY# 94028101
TESTPOINT CH1
FIBEROPTIC INPUT CH1

REAR
ASSY# DD9-E-2542
ECL/TTL DATA OUT 1A
ECL/TTL DATA OUT 1B

BACKPLANE CONNECTION

V108 UTILITY MODULE
BLDG #: 901A
RACK #: R5
CHASSIS ID: CFE-TALCOVE-VME
SLOT #: 3
BASE ADDRESS: 0XF04000

V108
VME SEL
UC 1
UC 2
EVENTLINK
RSTLINK
RTDL
EXT INA
EXT INB

ASSY# 94028094

5 6 + -
VME CHASSIS FAN FAIL MODULE

CONNECT TO P2 PINS ON REAR OF VME CHASSIS CABLE & CONNECTOR SUPPLIED WITH VME CHASSIS

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

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

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°
FINISH: NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A-3
DRAWN BY: SCHOENFELD DATE: 09/02/03
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
CFE-TALCOVE-VME
FT END COMP /V108 UTIL MODULE
SIZE D CFE_FT_END_V108 REV. A
DRAWING NUMBER
MATERIAL: —— SCALE: FULL WEIGHT: – SHEET 23

*AUTOCAD