RHIC Accelerator Controls Section
Alcove 1001C Wiring Diagrams
BNL Drawing Number 94028458

Brookhaven National Laboratory, Upton, New York 11973

Created By: Phil Pape
Last Updated 6/12/03

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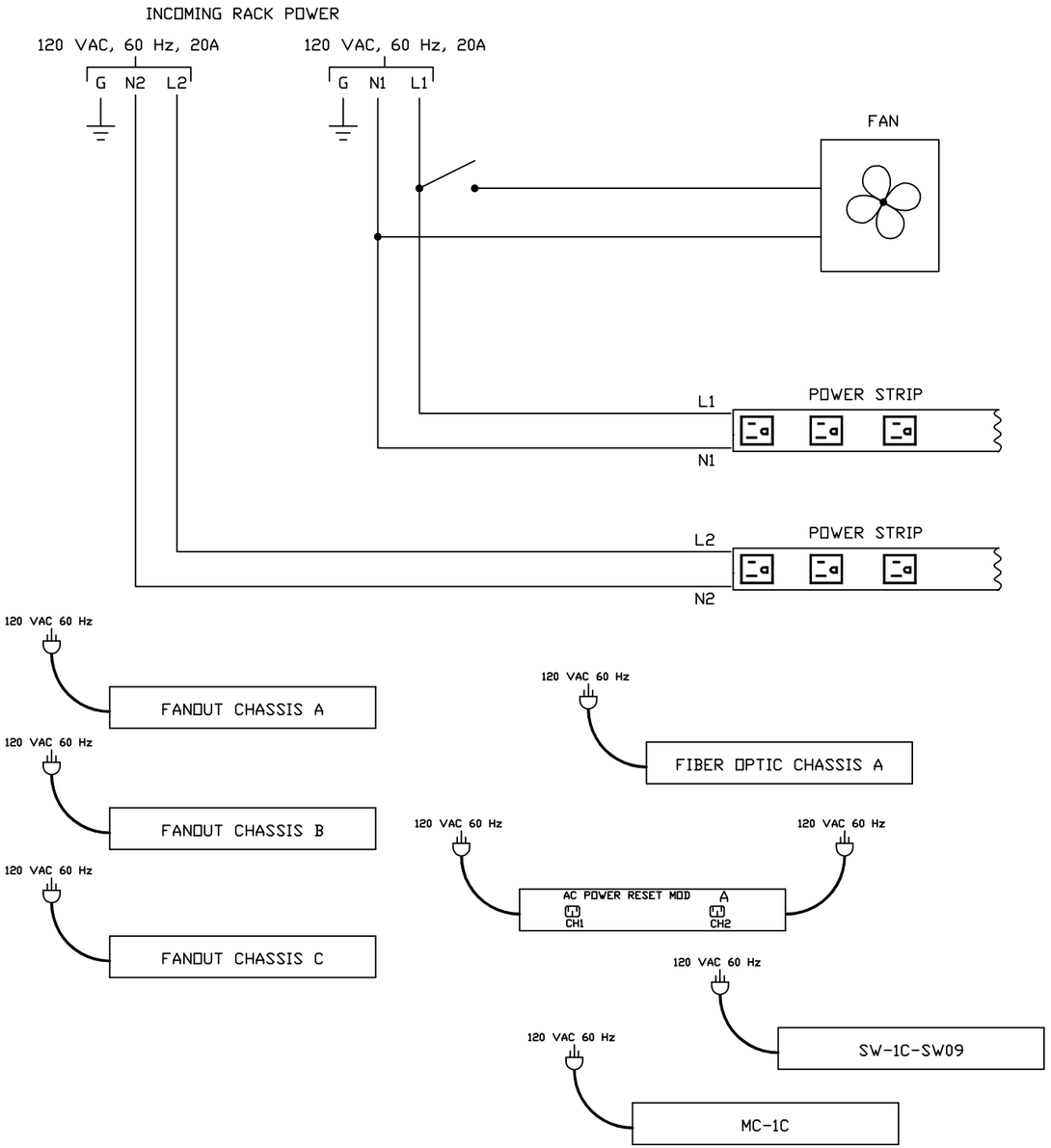
NOTE: Sheets 22-27 are Blank
Sheets 39-46 are Blank

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

C-A, BNL 7/6/01 10:54 AM 8458_01.dwg



NOTE: ALL 120 VAC, 60 Hz POWER CORDS
PLUG INTO POWER STRIP OUTLETS

RACK R01C08

-3 QTY REQD	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.
		102		11	CABLE ASSY, POWER SUPPLY TO MADC A/D I/O PANEL (3 CABLES/PS)	
		34		10	CABLE ASSY, LOW RES PS IF MODULE TO POWER SUPPLY	
		1		9	PERMIT SYSTEM INTERFACE CABLE, T120 TO PERMIT SYSTEM INTERFACE PANEL	D09-E2225-2
		33		8	SERIAL LINK TWINAX CABLE, LENGTH AS REQUIRED	94028176
		36		7	SERIAL LINK TWINAX CABLE, 1 FT	94028176
		34		6	DUPLEX MULTIMODE FIBER OPTIC CABLE, T115 TO LOW RES PS INTERFACE MODULE	94028249
		13		5	SINGLE MODE FIBER OPTIC CABLE	94028251
		8		4	MADC A/D I/O CABLE	94028216
		19		3	TRANSITION MODULE P2 RIBBON CABLE, V115, V120	94028159
		2		2	MADC V113 TO V114 P2 INTERFACE RIBBON CABLE	94028218
		3		1	NETWORK CABLE TO FEC	

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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, RACK R01C08
POWER DISTRIBUTION

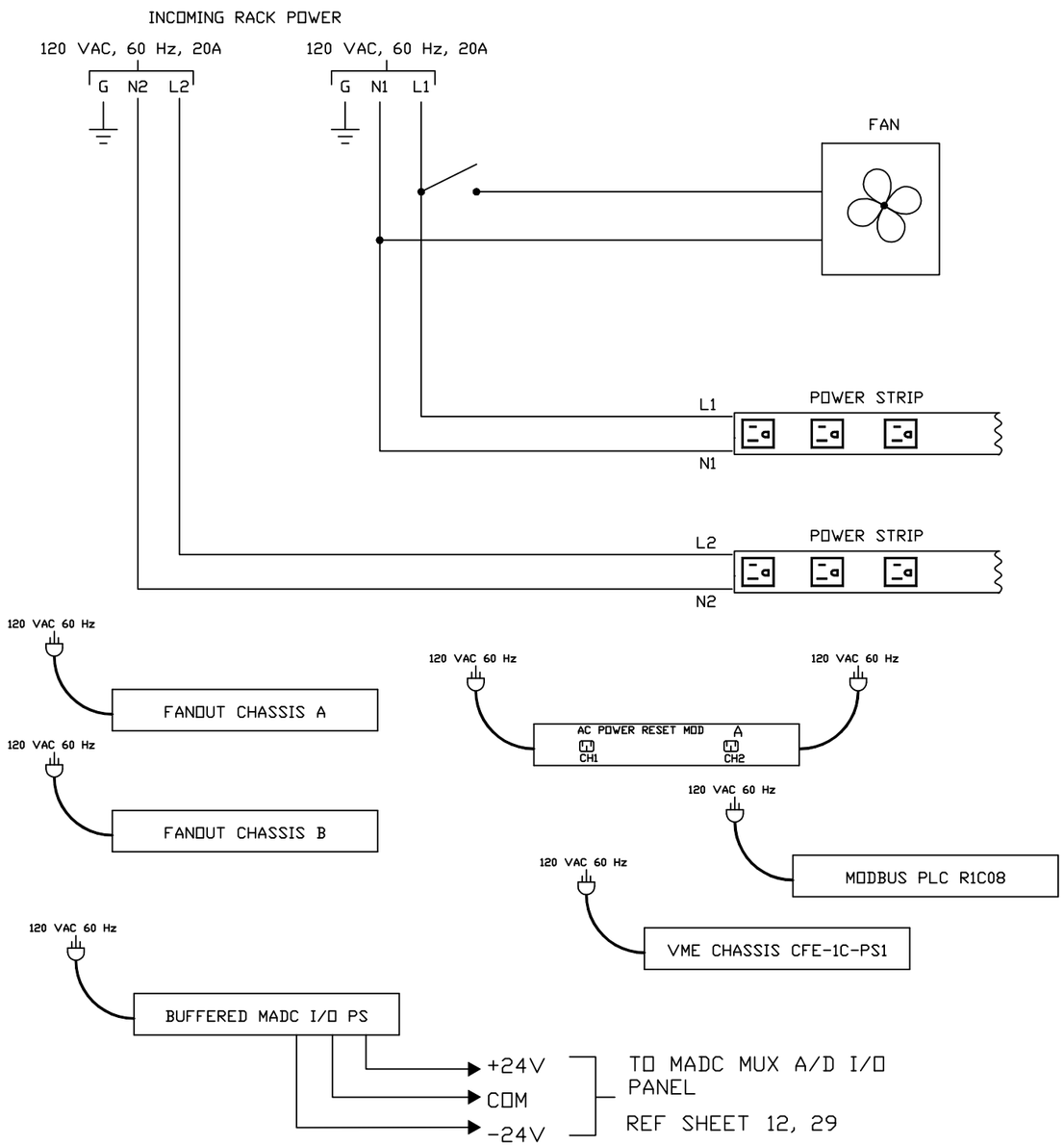
SIZE D | 94028458 DRAWING NUMBER | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 1 OF 52

*AUTOCAD

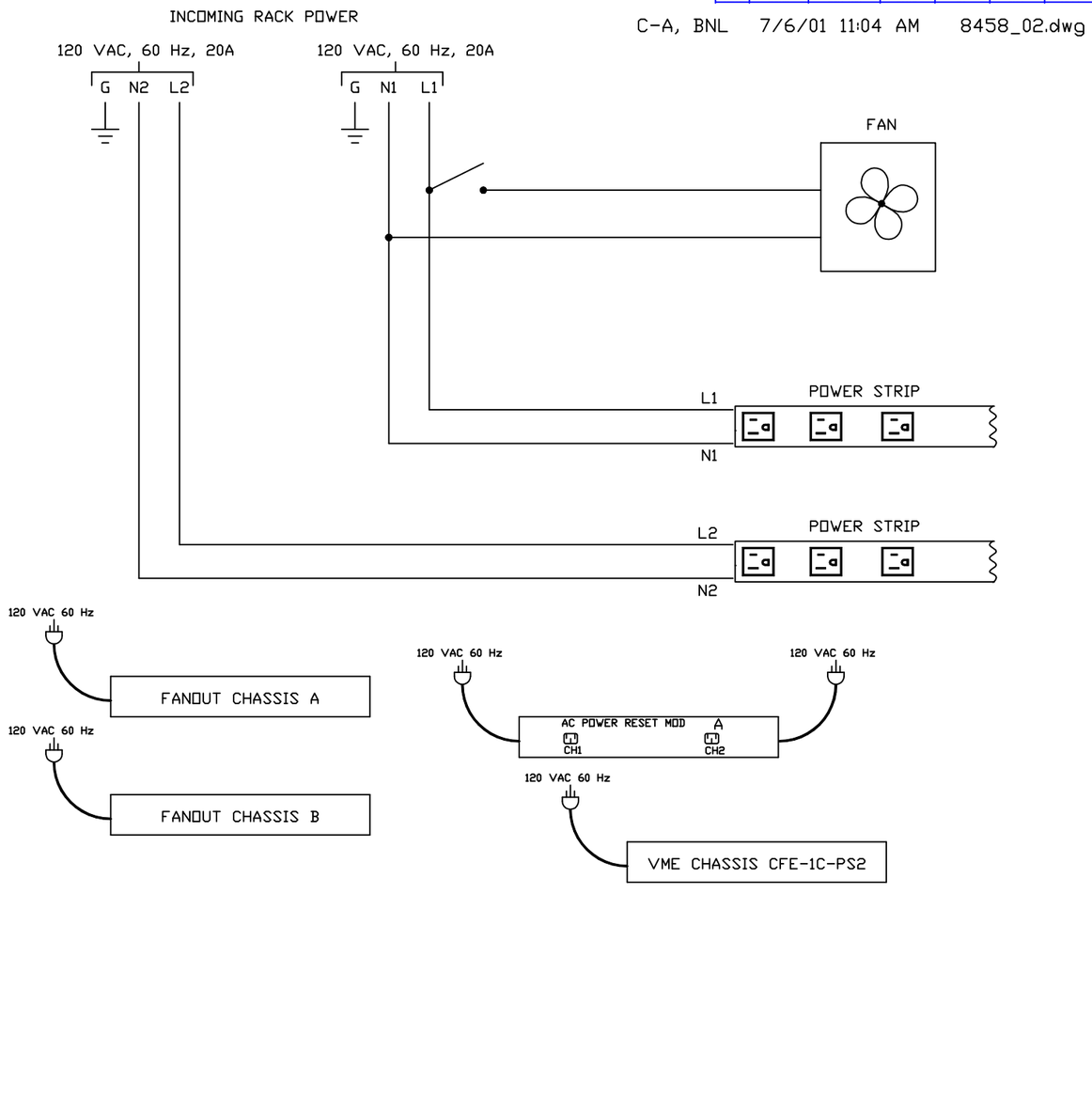
REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

C-A, BNL 7/6/01 11:04 AM 8458_02.dwg



NOTE: ALL 120 VAC, 60 Hz POWER CORDS PLUG INTO POWER STRIP OUTLETS EXCEPT VME 6U CHASSIS.

RACK R01C09



NOTE: ALL 120 VAC, 60 Hz POWER CORDS PLUG INTO POWER STRIP OUTLETS EXCEPT VME 6U CHASSIS.

RACK R01C10

-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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1001C, RACK R01C09, R01C10

POWER DISTRIBUTION

SIZE D | 94028458 | REV. A

DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 2 OF 52

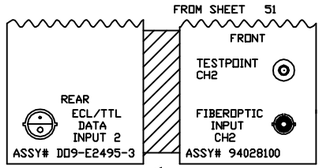
REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 12/3/99 1:47 PM 8458_03.dwg

VMIVME 4122
BLDG #: 1001C
RACK #: R01C09
CHASSIS # CFE-1C-PS1
SLOT # 20

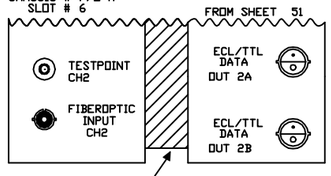
MULTIMODE FIBER OPTIC TRANSMITTER

BLDG # 1001C
RACK # R01C08
CHASSIS # F/O A
SLOT # 5



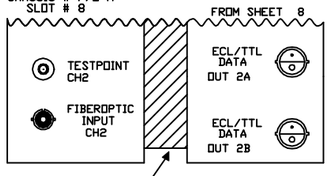
FIBER OPTIC RECEIVER

BLDG # 1001C
RACK # R01C08
CHASSIS # F/O A
SLOT # 6



FIBER OPTIC RECEIVER

BLDG # 1001C
RACK # R01C08
CHASSIS # F/O A
SLOT # 8



-3	-2	-1 QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

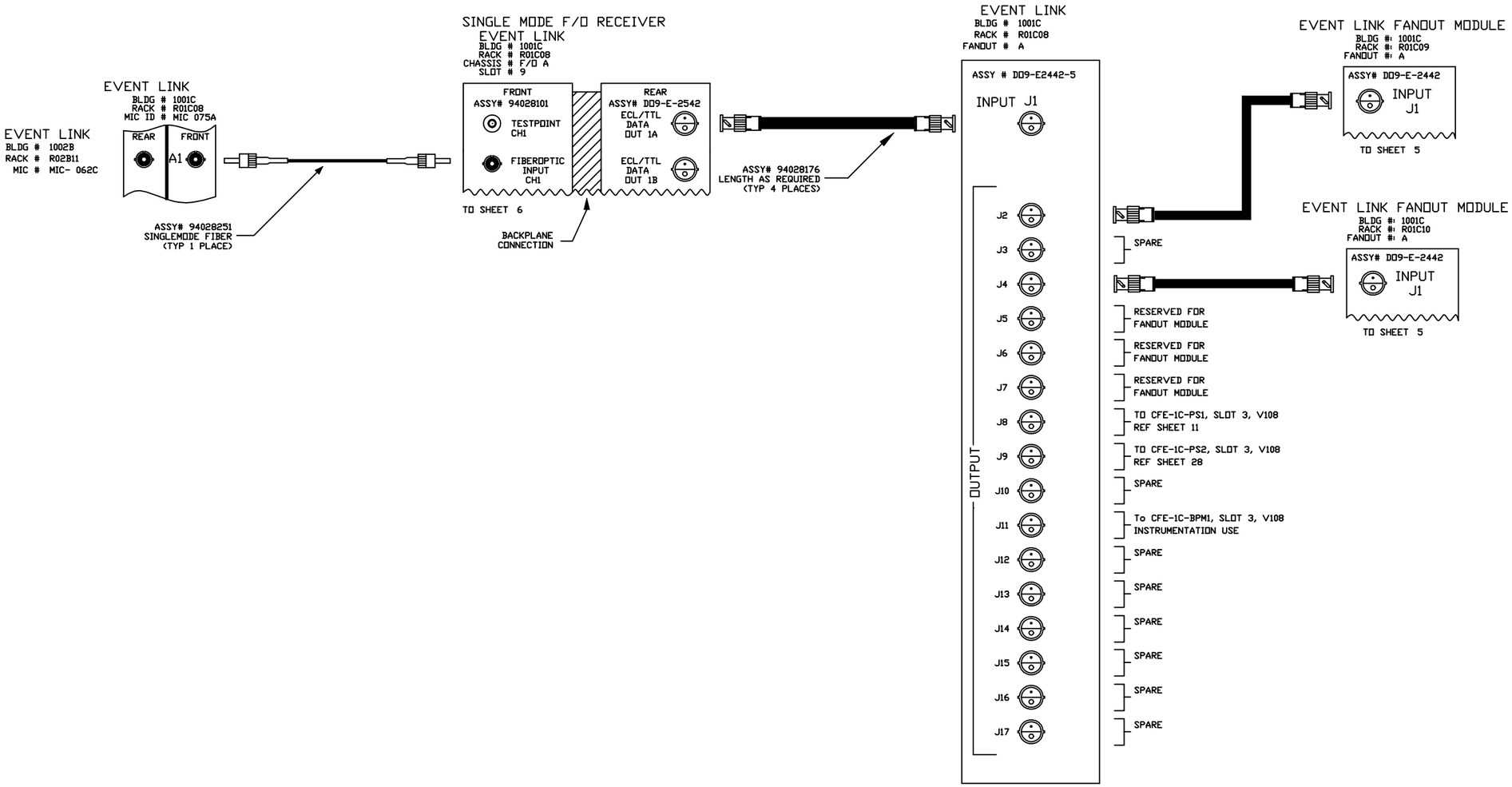
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C
SPARE F/O RCVR/XMIT CHANNELS

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 3 OF 53

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 5/28/03 9:27 AM 8458_04.dwg



-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	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY: Phil Pape	10/30/97	UPTON, N.Y. 11973
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL		ALCOVE 1001C
ENGINEER APPROVAL: R. MICHNOFF	10/30/97	EVENT LINK
SUPVR. APPROVAL		SIZE D — 94028458 — REV. A
NEXT ASSEMBLY		DRAWING NUMBER
		MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 4

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/13/99 9:14 AM 8458_05.dwg

EVENT LINK FANOUT MODULE

BLDG # 1001C
RACK # R01C09
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

J2	To CFE-1C-PS1, SLOT 21, V120 REF SHEET 51
J3	To CFE-1C-PS1, SLOT 4, V113 REF SHEET 12
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	SPARE
J9	To CFE-1C-PS1, SLOT 14, T115 REF SHEET 21
J10	To CFE-1C-PS1, SLOT 13, T115 REF SHEET 20
J11	To CFE-1C-PS1, SLOT 12, T115 REF SHEET 19
J12	To CFE-1C-PS1, SLOT 11, T115 REF SHEET 18
J13	To CFE-1C-PS1, SLOT 10, T115 REF SHEET 17
J14	To CFE-1C-PS1, SLOT 9, T115 REF SHEET 16
J15	To CFE-1C-PS1, SLOT 8, T115 REF SHEET 15
J16	To CFE-1C-PS1, SLOT 7, T115 REF SHEET 14
J17	To CFE-1C-PS1, SLOT 6, T115 REF SHEET 13

EVENT LINK FANOUT MODULE

BLDG # 1001C
RACK # R01C10
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

J2	TO CFE-1C-PS2, SLOT 20, V102 REF SHEET 48
J3	To CFE-1C-PS2, SLOT 4, V113 REF SHEET 29
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	SPARE
J9	To CFE-1C-PS2, SLOT 14, T115 REF SHEET 38
J10	To CFE-1C-PS2, SLOT 13, T115 REF SHEET 37
J11	To CFE-1C-PS2, SLOT 12, T115 REF SHEET 36
J12	To CFE-1C-PS2, SLOT 11, T115 REF SHEET 35
J13	To CFE-1C-PS2, SLOT 10, T115 REF SHEET 34
J14	To CFE-1C-PS2, SLOT 9, T115 REF SHEET 33
J15	To CFE-1C-PS2, SLOT 8, T115 REF SHEET 32
J16	To CFE-1C-PS2, SLOT 7, T115 REF SHEET 31
J17	To CFE-1C-PS2, SLOT 6, T115 REF SHEET 30

-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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C
EVENT LINK

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 5 of 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 5/28/03 9:29 AM 8458_06.dwg

RTDL
BLDG # 1002B
RACK # R02B11
MIC # MIC- 062C

RTDL
BLDG # 1001C
RACK # R01C08
MIC ID # MIC 075A
REAR
FRONT
A2

ASSY# 94028251
SINGLEMODE FIBER
(TYP 1 PLACE)

SINGLE MODE F/O RECEIVER
REAL TIME DATA LINK
BLDG # 1001C
RACK # R01C08
CHASSIS # F/O A
SLOT # 9
TESTPOINT CH2
FIBEROPTIC INPUT CH2
FROM SHEET 4
ECL/TTL DATA OUT 2A
ECL/TTL DATA OUT 2B
BACKPLANE CONNECTION

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 4 PLACES)

RTDL FANOUT MODULE
BLDG # 1001C
RACK # R01C08
FANOUT # B
ASSY # DD9-E2442-5
INPUT J1
OUTPUT
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
J17
SPARE
RESERVED FOR FANOUT MODULE
RESERVED FOR FANOUT MODULE
RESERVED FOR FANOUT MODULE
TO CFE-1C-PS1, SLOT 3, V108
REF SHEET 11
TO CFE-1C-PS2, SLOT 3, V108
REF SHEET 28
SPARE
TO CFE-1C-BPM1, SLOT 3, V108
INSTRUMENTATION USE
SPARE
SPARE
SPARE
SPARE
SPARE

RTDL FANOUT MODULE
BLDG #: 1001C
RACK #: R01C09
FANOUT #: B
ASSY# DD9-E-2442
INPUT J1
TO SHEET 7

RTDL FANOUT MODULE
BLDG #: 1001C
RACK #: R01C10
FANOUT #: B
ASSY# DD9-E-2442
INPUT J1
TO SHEET 7

-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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C
REAL TIME DATA LINK

SIZE	DRAWING NUMBER	REV.
D	94028458	A

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

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

RTDL FANOUT MODULE

BLDG # 1001C
RACK # R01C09
FANOUT # B

FROM SHEET 6
ASSY # DD9-E2442-5

OUTPUT

J2	SPARE
J3	SPARE
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	SPARE
J9	To CFE-1C-PS1, SLOT 14, T115 REF SHEET 21
J10	To CFE-1C-PS1, SLOT 13, T115 REF SHEET 20
J11	To CFE-1C-PS1, SLOT 12, T115 REF SHEET 19
J12	To CFE-1C-PS1, SLOT 11, T115 REF SHEET 18
J13	To CFE-1C-PS1, SLOT 10, T115 REF SHEET 17
J14	To CFE-1C-PS1, SLOT 9, T115 REF SHEET 16
J15	To CFE-1C-PS1, SLOT 8, T115 REF SHEET 15
J16	To CFE-1C-PS1, SLOT 7, T115 REF SHEET 14
J17	To CFE-1C-PS1, SLOT 6, T115 REF SHEET 13

RTDL FANOUT MODULE

BLDG # 1001C
RACK # R01C10
FANOUT # B

FROM SHEET 6
ASSY # DD9-E2442-5

OUTPUT

J2	SPARE
J3	SPARE
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	SPARE
J9	To CFE-1C-PS2, SLOT 14, T115 REF SHEET 38
J10	To CFE-1C-PS2, SLOT 13, T115 REF SHEET 37
J11	To CFE-1C-PS2, SLOT 12, T115 REF SHEET 36
J12	To CFE-1C-PS2, SLOT 11, T115 REF SHEET 35
J13	To CFE-1C-PS2, SLOT 10, T115 REF SHEET 34
J14	To CFE-1C-PS2, SLOT 9, T115 REF SHEET 33
J15	To CFE-1C-PS2, SLOT 8, T115 REF SHEET 32
J16	To CFE-1C-PS2, SLOT 7, T115 REF SHEET 31
J17	To CFE-1C-PS2, SLOT 6, T115 REF SHEET 30

-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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C
REAL TIME DATA LINK

SIZE D
94028458
DRAWING NUMBER
REV. A

MATERIAL: ———— SCALE: NA WEIGHT: – SHEET 7 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Schoenfeld, Controls 11/4/2003 12:03 PM 8458_08.dwg

RESET LINK
BLDG # 1002B
RACK # R02B11
MIC # MIC- 062C

REAR FRONT A3

RESET LINK
BLDG # 1001C
RACK # R01C08
MIC ID # MIC 075A

ASSY# 94028251
SINGLEMODE FIBER
(TYP 1 PLACE)

SINGLE MODE F/O RECEIVER

RESET LINK
BLDG # 1001C
RACK # R01C08
CHASSIS # F/O A
SLOT # 8

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 3

BACKPLANE CONNECTION

ASSY# 94028176
LENGTH AS REQUIRED

RESET LINK
BLDG # 1001C
RACK # R01C08
FANOUT # C

ASSY # DD9-E2442-5

INPUT J1

OUTPUT

J2 RESERVED FOR FANOUT MODULE
J3 RESERVED FOR FANOUT MODULE
J4 RESERVED FOR FANOUT MODULE
J5 RESERVED FOR FANOUT MODULE
J6 RESERVED FOR FANOUT MODULE
J7 RESERVED FOR FANOUT MODULE
J8 TO CFE-1C-PS1, SLOT 3, V108 REF SHEET 11
J9 TO CFE-1C-PS2, SLOT 3, V108 REF SHEET 28
J10 TO AC POWER RESET FOR CFE-1C-BPM1 R01C13
J11 TO CFE-1C-BPM1, SLOT 3, V108 INSTRUMENTATION USE
J12 TO AC POWER RESET RACK R01C12
J13 TO AC POWER RESET RACK R01C11
J14 SPARE
J15
J16
J17

AC POWER RESET
BLDG #: 1001C
RACK #: R01C09
MODULE #: A
ASSY# DD9-E2653
RESET LINK

AC POWER RESET
BLDG #: 1001C
RACK #: R01C10
MODULE #: A
ASSY# DD9-E2653
RESET LINK

AC POWER RESET
BLDG #: 1001C
RACK #: R01C08
MODULE #: A
ASSY# DD9-E2653
RESET LINK

TO NETWORK HARDWARE

-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 Phil Pape 10/30/97
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL R. MICHNOFF 10/30/97
SUPVR. APPROVAL
NEXT ASSEMBLY

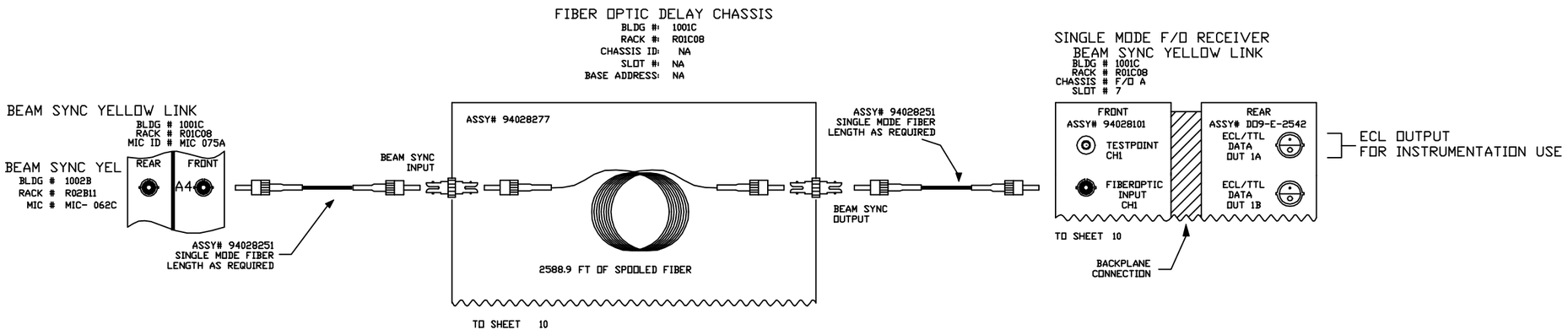
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C
RESET LINK

SIZE D
94028458
DRAWING NUMBER
REV. A
MATERIAL: ———— SCALE: NA WEIGHT: — SHEET 8 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 4/13/99 3:53 PM 8458_09.dwg



-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./DWG. 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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C
BEAM SYNC YELLOW LINK

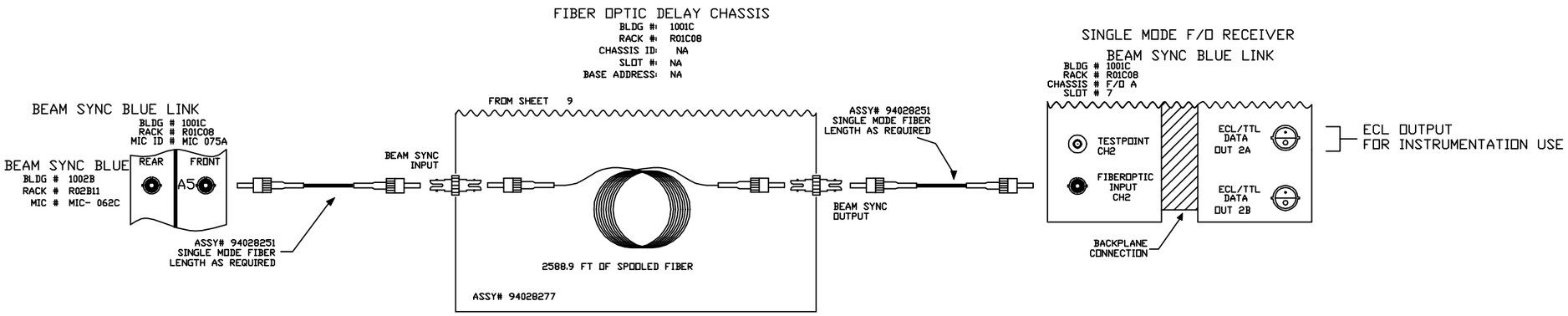
SIZE D | 94028458 | REV. A
DRAWING NUMBER

MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 9 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 4/13/99 3:55 PM 8458_10.dwg



-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PNL 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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	✓
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1001C

BEAM SYNC BLUE LINK

SIZE D | 94028458 | REV. A

DRAWING NUMBER

MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 10 OF 52

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 3:55 PM 8458_11.dwg

FRONT END COMPUTER

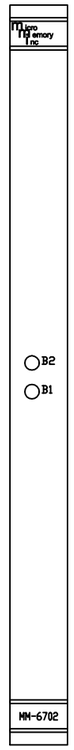
BLDG #: 1001C
RACK #: R01C09
CHASSIS ID: CFE-1C-PS1
SLOT#: 1
FEC NAME: cfe-1c-ps1

ETHERNET NETWORK

REF. NETWORK DIAGRAM

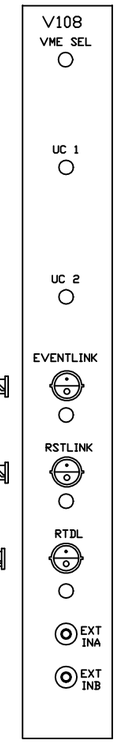
MM-6702 MEMORY MODULE

BLDG #: 1001C
RACK #: R01C09
CHASSIS ID: CFE-1C-PS1
SLOT #: 2
A32 BASE ADDRESS: 80000000



DEVICE: V108 UTILITY MODULE

BLDG #: 1001C
RACK #: R01C09
CHASSIS ID: CFE-1C-PS1
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000



ASSY# 94028094

EVENT LINK

BLDG #: 1001C
RACK #: R01C08
FANOUT #: A

OUTPUT J8

RESET LINK

BLDG #: 1001C
RACK #: R01C08
FANOUT #: C

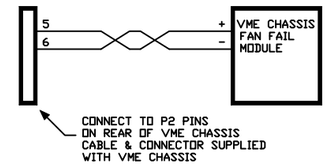
OUTPUT J8

REAL TIME DATA LINK

BLDG #: 1001C
RACK #: R01C08
FANOUT #: B

OUTPUT J8

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)



JUMPER LIST

1. REMOVE E1.
2. INSTALL E15.
3. SW3 CLOSE ALL POSITIONS. LOWER LIMIT=XX000000
4. SW2 CLOSE POSITIONS 7 AND 8. UPPER LIMIT=XX3FFFFE
5. SW1 OPEN POSITION 1. BASE=B0XXXXXX
6. INSTALL E14 AND E25 TO ENABLE BATTERIES
7. SW4 ALL OPEN.
8. SW5 ALL OPEN.
9. SW6 ALL OPEN.

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
E57-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

MADC MUX A/D IO PANEL

BLDG #: 100XX
RACK #: R01C09
PANEL #: MADC A/D IO PANEL A

ROOM TEMP SENSOR

POWER FROM BUFFERED MADC POWER SUPPLY
+24 V
GND

FR SHEET15
J15
CHAN 15
ROOM TEMP 1001C

V199

BLDG #: 1001C
RACK #: R01C09
CHASSIS ID: CFE-1C-PS1
SLOT #: 19

MADC 5VDC OUT

LEMO TWO CONDUCTOR CABLE ASSEMBLY

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C10
PANEL #: MADC A/D IO PANEL D

FR SHEET 54
J15
CH 63
VOLTAGE
CFE-1C-PS1 5VDC

-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	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1001C, VME CHASSIS CFE-1C-PS1

FT END COMP/V108 UTIL MODULE

SIZE D | 94028458 | REV. A

DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 11

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

C-A, BNL 7/6/01 11:15 AM 8458_12.dwg

MADC CONTROLLER
RACK#: R01C09
CHASSIS ID: CFE-1C-PS1
SLOT #: 4
A24 BASE ADDRESS: 0XF0540000
A32 BASE ADDRESS: 0X2400000

V113
VME SEL
SYS FAIL
CPU RUN
ADC ERR
EVENTLINK
RESET
EXT TRIG INPUTS 0 1 2 3
SCAN TRIG OUT0
SCAN TRIG OUT1

ASSY# 94028138

EVENT LINK
BLDG #: 1001C
RACK #: R01C09
FANOUT #: A

OUTPUT J3

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 1 PLACE)

P2 INTERFACE RIBBON CABLE
ASSY# 94028218

MADC A/D MODULE
RACK#: R01C09
CHASSIS ID: CFE-1C-PS1
SLOT #: 5
CONFIGURATION: +/- 10V

V114
CHAN 0 - 15
CHAN 16 - 31
CHAN 32 - 47
CHAN 48 - 63

ASSY# 94028226

MADC A/D IO CABLE
ASSY# 94028216
(TYP 4 PLACES)

MADC MUX A/D IO PANEL
BLDG #: 1001C
RACK #: R01C09
PANEL #: MADC A/D IO PANEL A
ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH.2
TO SHEET 13

MADC MUX A/D IO PANEL
BLDG #: 1001C
RACK #: R01C09
PANEL #: MADC A/D IO PANEL B
ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH.2
TO SHEET 15

MADC MUX A/D IO PANEL
BLDG #: 1001C
RACK #: R01C09
PANEL #: MADC A/D IO PANEL C
ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH.2
TO SHEET 18

MADC MUX A/D IO PANEL
BLDG #: 1001C
RACK #: R01C09
PANEL #: MADC A/D IO PANEL D
ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH.2
TO SHEET 20

V113 JUMPERS INSTALLED

E3-E4

V113
BASE ADDRESS DIP SWITCHES

A24 BASE — A32 BASE
A18 A19 A20 A21 A22 A23 | A24 A25 A26 A27 A28 A29 A30 A31
SW1 SW2
PUSH SWITCH IN DIRECTION SHOWN

V114 JUMPERS INSTALLED

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

ALL OTHER JUMPERS OUT

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

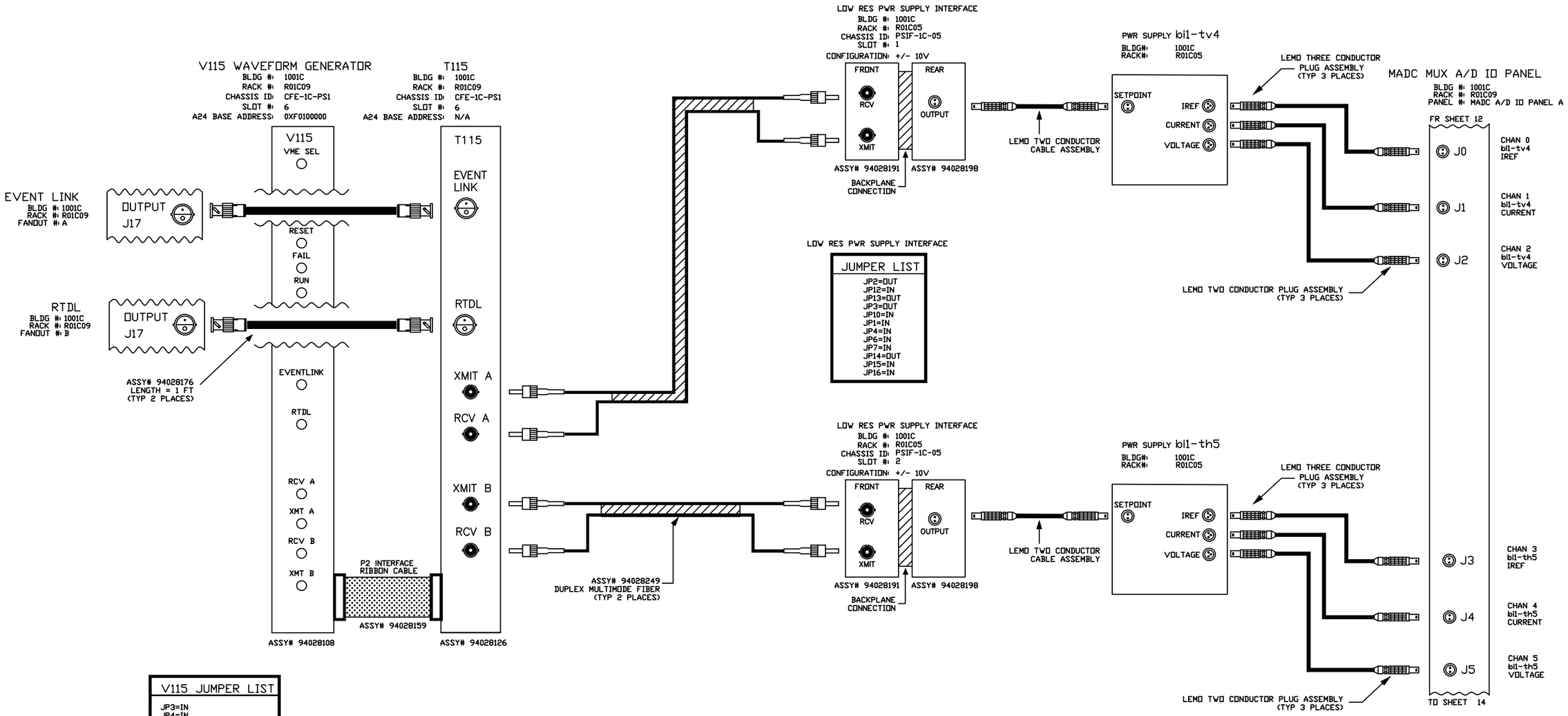
INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMAL TOLERANCES
.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE ± .5°
FINISH NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY Phil Pape	10/30/97	UPTON, N.Y. 11973
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL		ALCOVE 1001C, VME CHASSIS CFE-1C-PS1
ENGINEER APPROVAL R. MICHNOFF	10/30/97	MADC SYSTEM
SUPVR. APPROVAL		SIZE D — 94028458 — REV. A
NEXT ASSEMBLY		DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: – SHEET 12 OF 52

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 3:56 PM 8458_13.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=IN JB1-A18=IN

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			

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

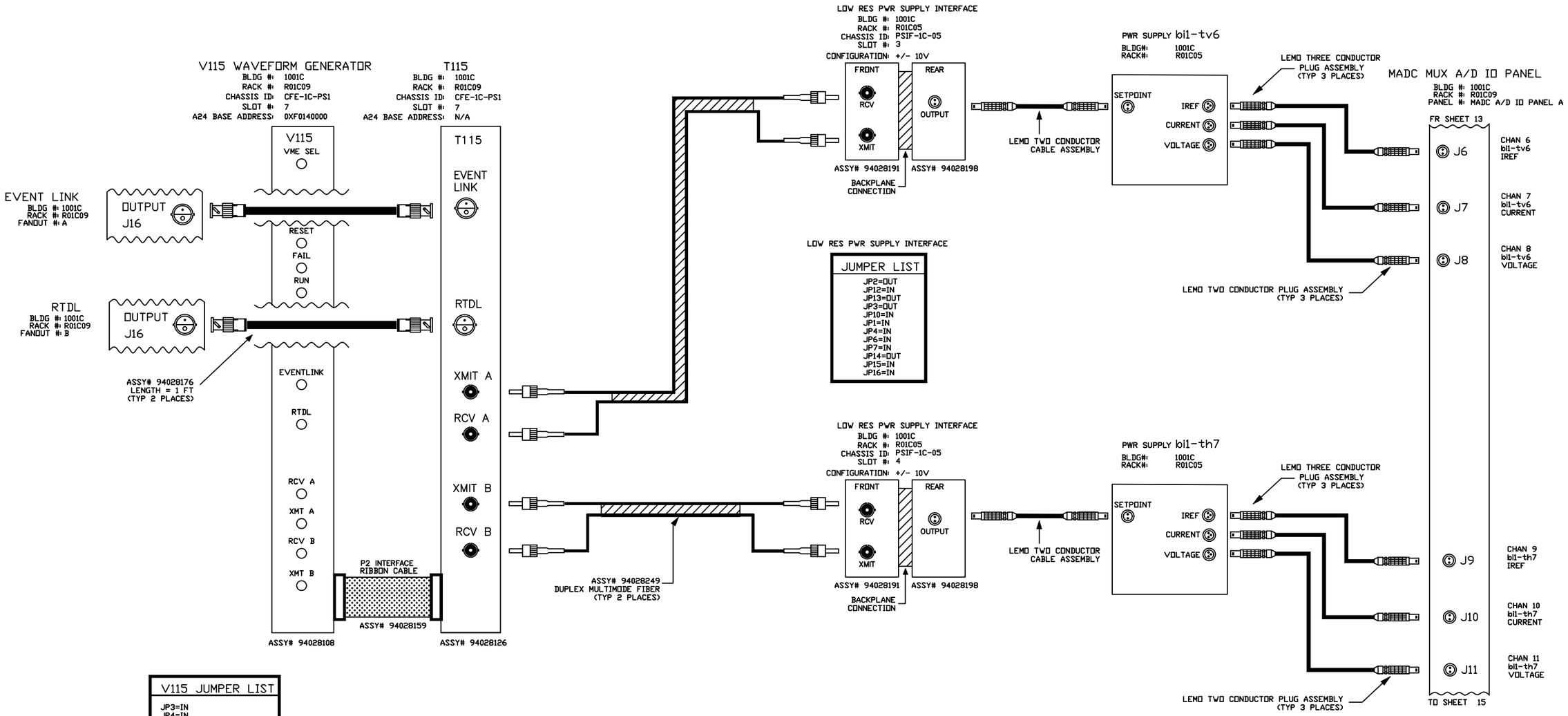
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS1
POWER SUPPLY bi1-tv4/bi1-th5

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 13

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 3:58 PM 8458_14.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=IN JB1-A18=OUT

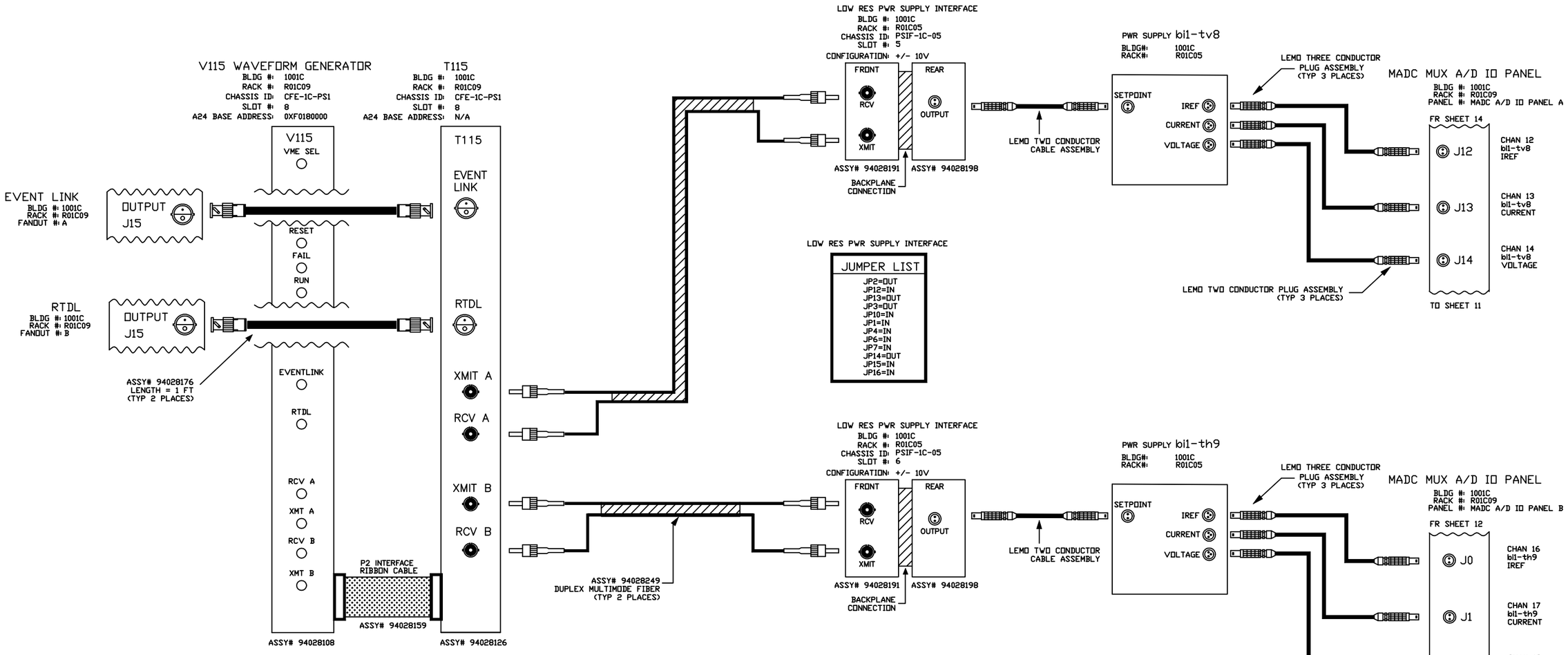
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.
QTY REQD						

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY ASSOCIATED UNIVERSITIES, INC. UPTON, N.Y. 11973
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Phil Pape	10/30/97	RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1001C, CFE-1C-PS1
	DESIGN APPROVAL		POWER SUPPLY bi1-tv6/bi1-th7
	ENGINEER APPROVAL R. MICHNOFF	10/30/97	SIZE D — 94028458 — REV. A
	SUPVR. APPROVAL		DRAWING NUMBER
NA FINISH — BREAK SHARP EDGES — MAX. XX MIN. XX	NEXT ASSEMBLY		MATERIAL: —— SCALE: NA WEIGHT: — SHEET 14
OUTSTANDING ECN			

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 3:59 PM 8458_15.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=OUT JB1-A18=IN

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS1
POWER SUPPLY bi1-tv8/bi1-th9

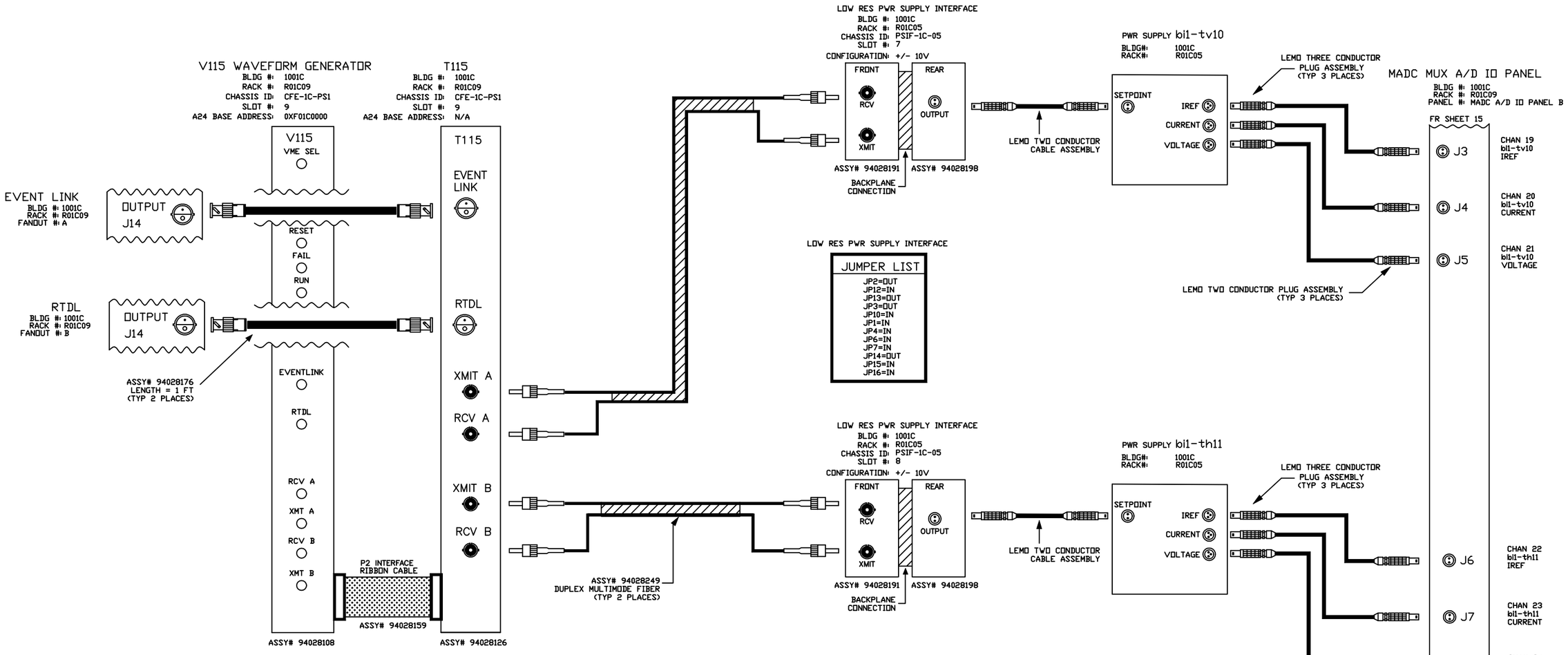
SIZE	DRAWING NUMBER	REV.
D	94028458	A

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

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 4:00 PM 8458_16.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=OUT JB1-A18=OUT

-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS1
POWER SUPPLY bi1-tv10-/bi1-th11

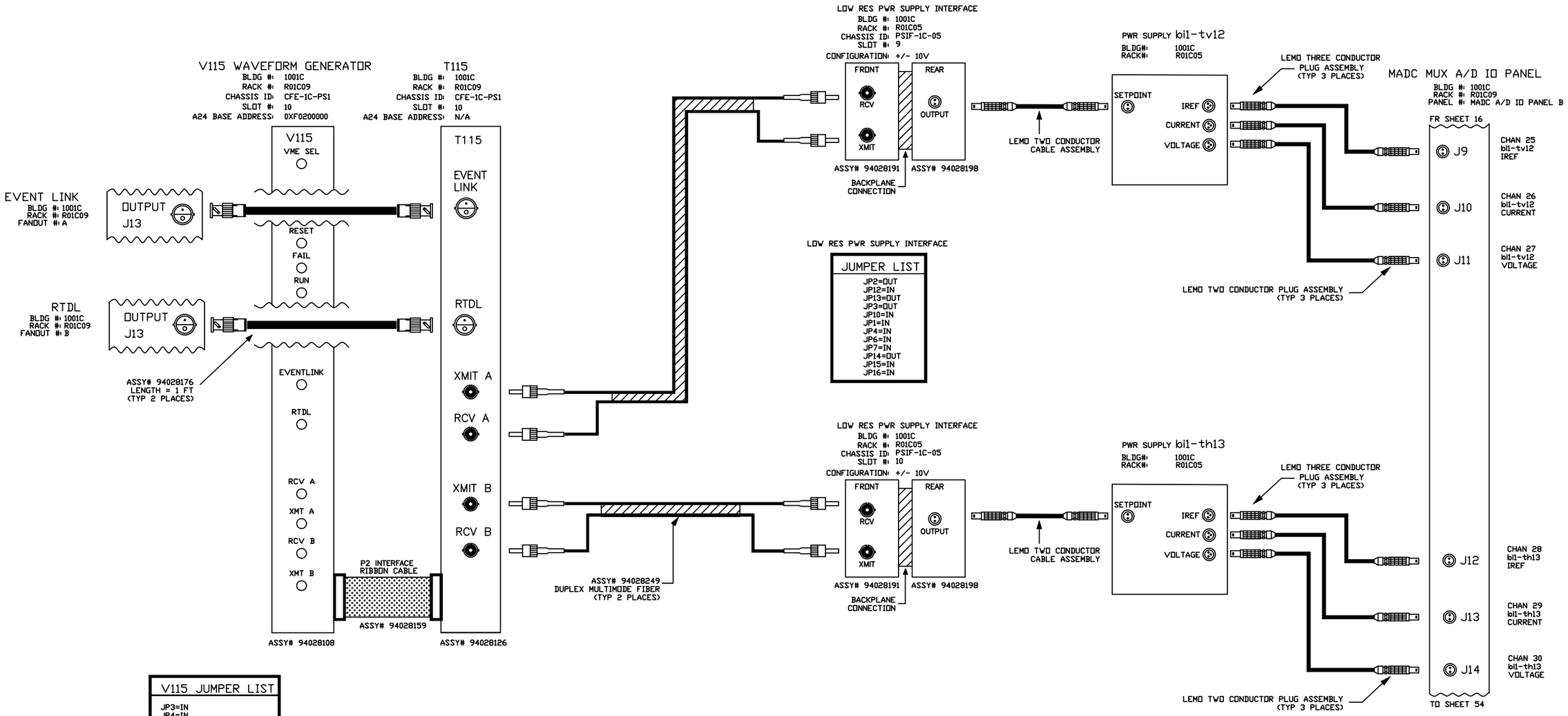
SIZE D | DRAWING NUMBER 94028458 | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 16

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 4:02 PM 8458_17.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=IN JB1-A19=IN JB1-A18=IN

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

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

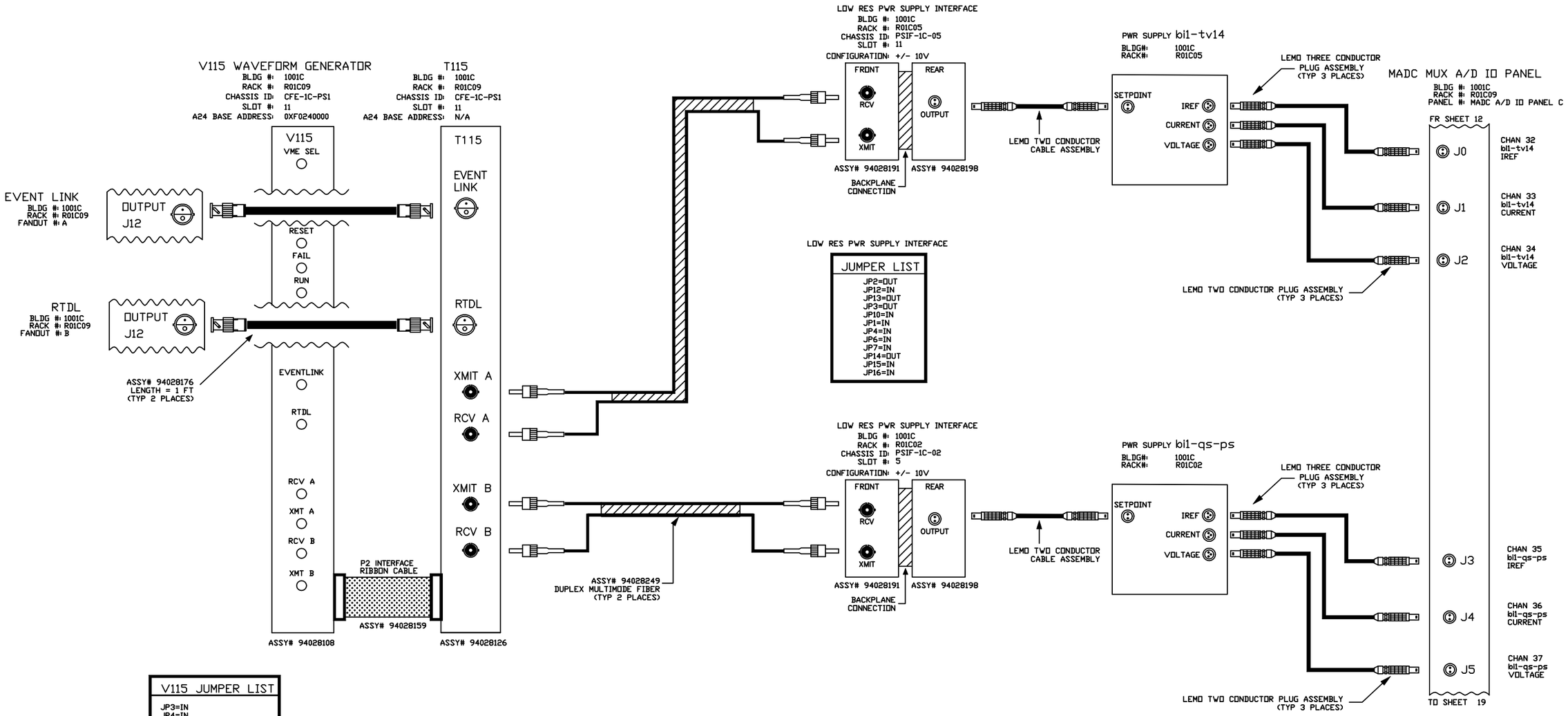
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS1
POWER SUPPLY bi1-tv12/bi1-th13

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 17

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 4:06 PM 8458_18.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=IN JB1-A19=IN JB1-A18=OUT

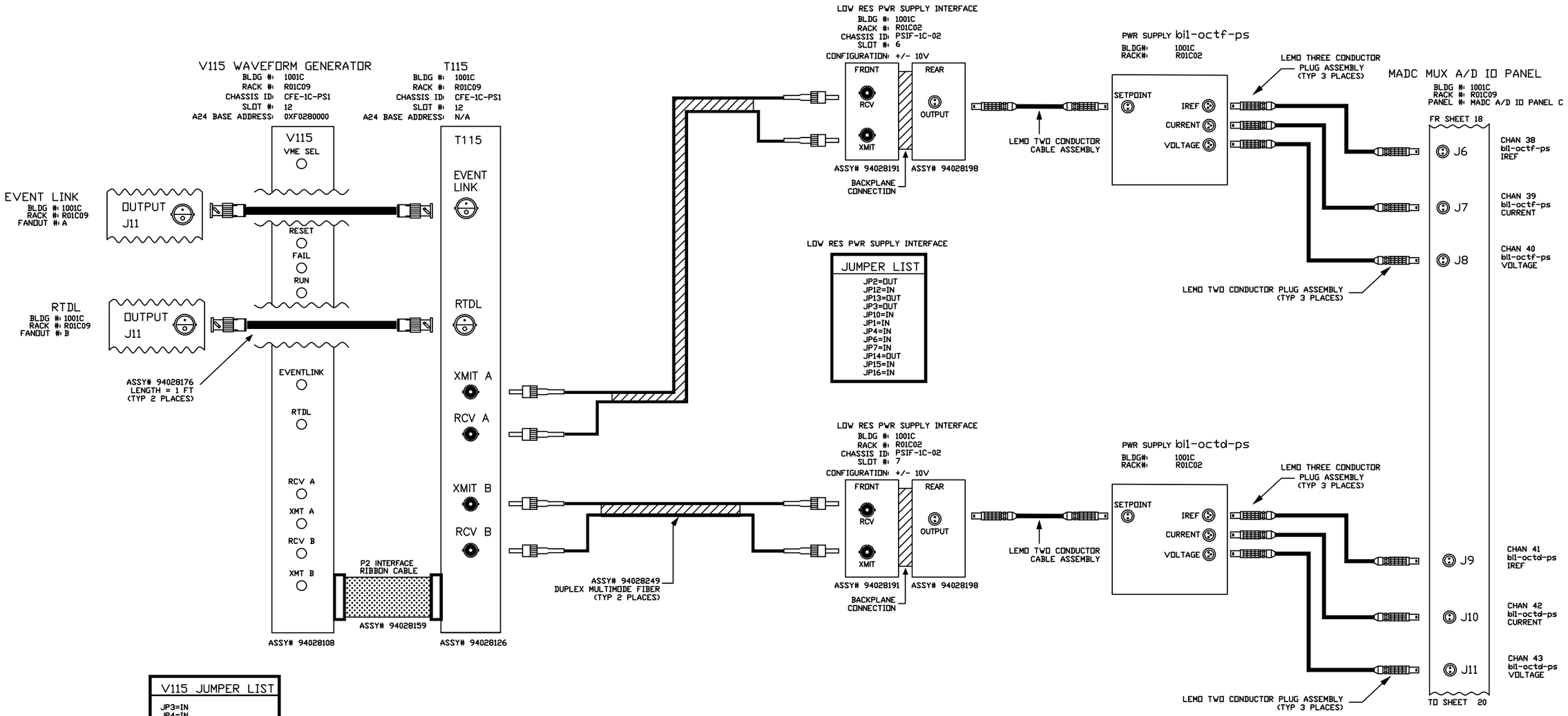
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./INV. NO.
QTY REQD						

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY ASSOCIATED UNIVERSITIES, INC. UPTON, N.Y. 11973
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Phil Pape	10/30/97	RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1001C, CFE-1C-PS1
	DESIGN APPROVAL		POWER SUPPLY bi1-tv14/bi1-qs-ps
	ENGINEER APPROVAL R. MICHNOFF	10/30/97	SIZE D — 94028458 — REV. A
	SUPVR. APPROVAL		DRAWING NUMBER
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		MATERIAL: —— SCALE: NA WEIGHT: – SHEET 18
OUTSTANDING ECN			

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 4:07 PM 8458_19.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=IN JB1-A19=OUT JB1-A18=IN

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

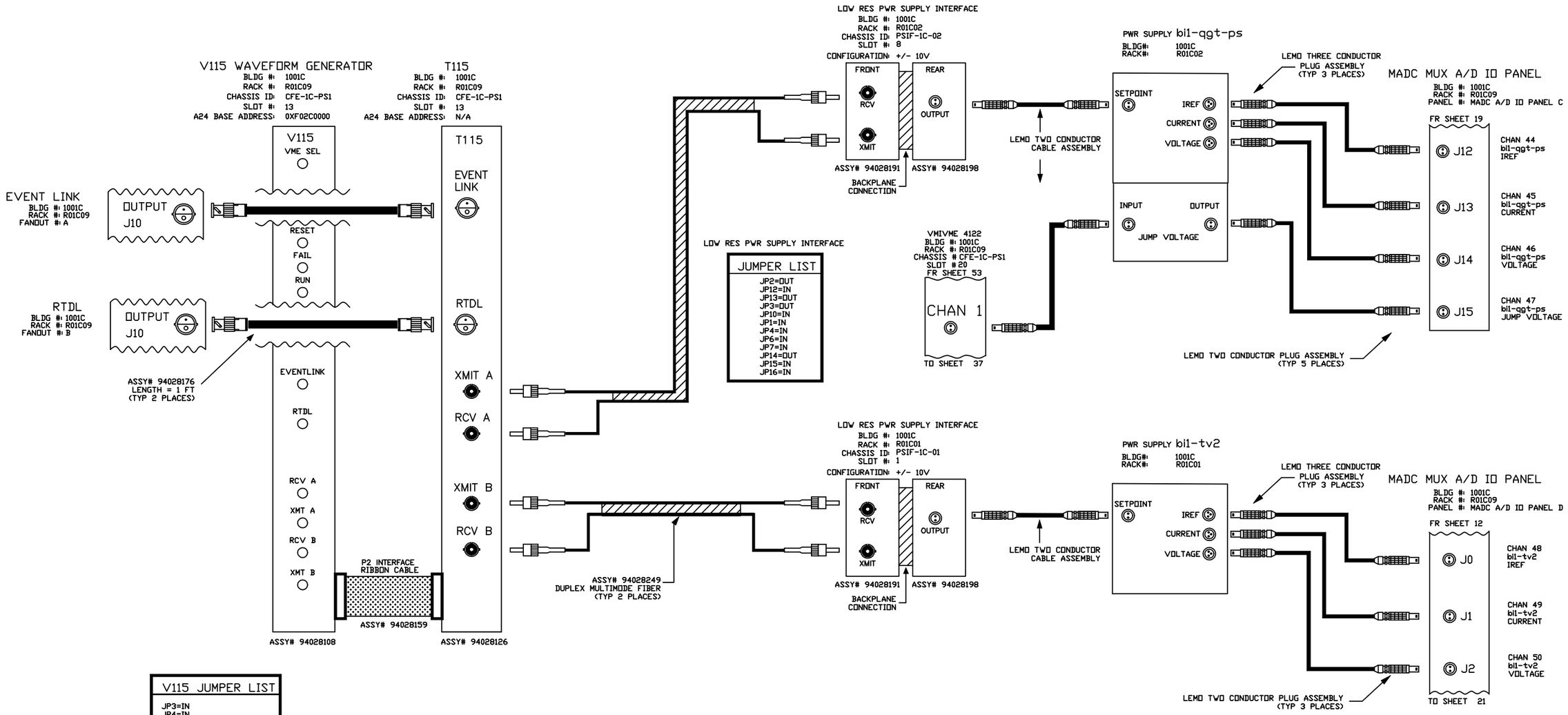
INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005
ANGULAR TOLERANCE ± .5°
NA FINISH
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY	
DRAWN BY Phil Pape	10/30/97	ASSOCIATED UNIVERSITIES, INC. UPTON, N.Y. 11973	
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM	
DESIGN APPROVAL		ALCOVE 1001C, CFE-1C-PS1	
ENGINEER APPROVAL R. MICHNOFF	10/30/97	PWRSPLY bi1-octf-ps/bi1-octd-ps	
SUPVR. APPROVAL		SIZE D — 94028458 — REV. A	
NEXT ASSEMBLY		DRAWING NUMBER	
		MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 19	

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 4:09 PM 8458_20.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=IN JB1-A19=OUT JB1-A18=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

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 Phil Pape 10/30/97

CHECKED BY

DESIGN APPROVAL

ENGINEER APPROVAL R. MICHNOFF 10/30/97

SUPVR. APPROVAL

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS1
PWR SPLY bi1-qgt-ps/bi1-tv2

SIZE D | 94028458 | REV. A

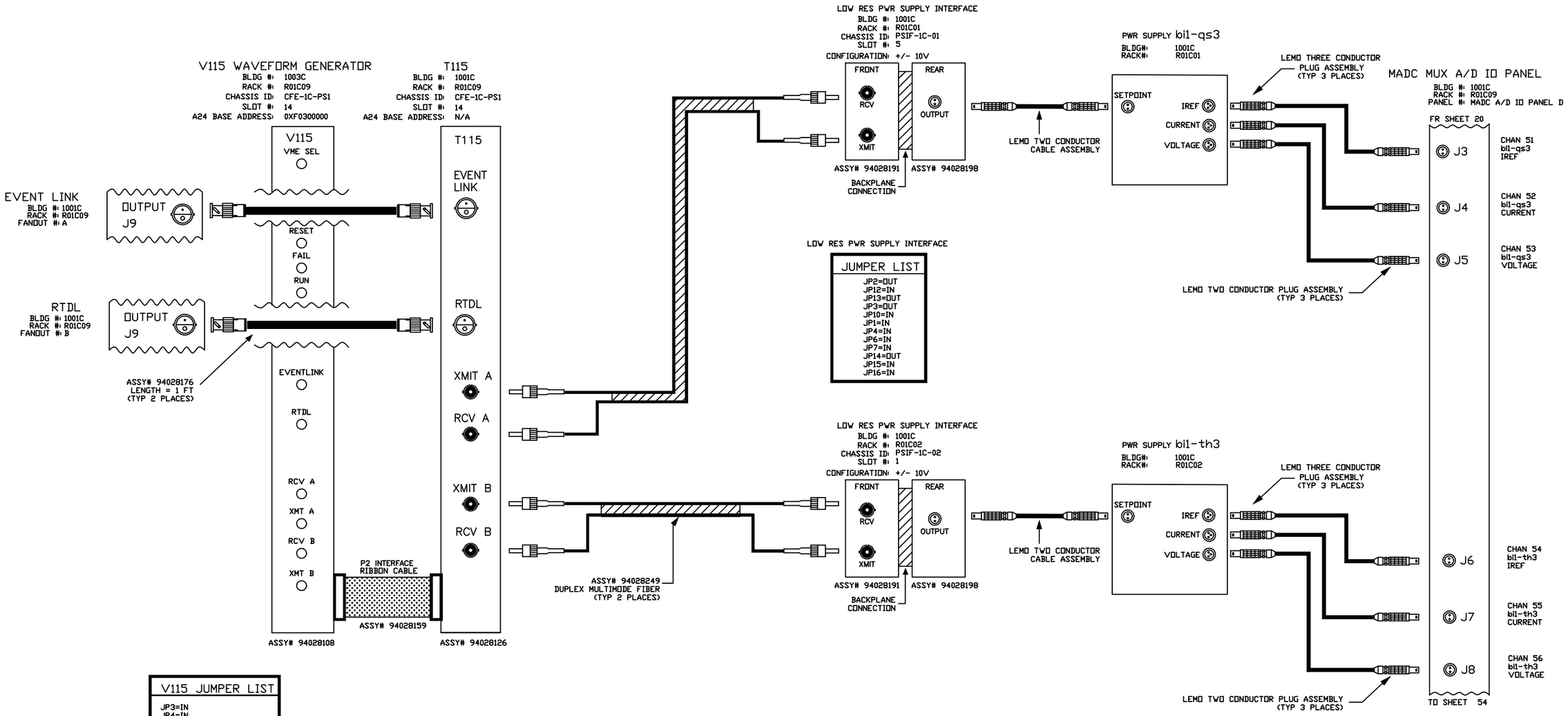
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 20

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/12/03 4:10 PM 8458_21.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=OUT JB1-A19=IN JB1-A18=IN

-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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 Phil Pape 10/30/97
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL R. MICHNOFF 10/30/97
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS1
POWER SUPPLY bi1-qs3/bi1-th3
SIZE D
94028458
REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 21

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

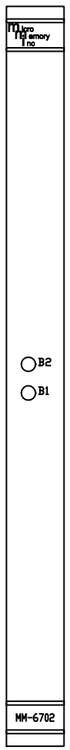
CONTROLS- 6/12/03 4:15 PM 8458_28.dwg

FRONT END COMPUTER
BLDG #: 1001C
RACK #: R01C10
CHASSIS ID: CFE-1C-PS2
SLOT#: 1
FEC NAME: cfe-1c-ps2

ETHERNET NETWORK

REF. NETWORK DIAGRAM

MM-6702 MEMORY MODULE
BLDG #: 1001C
RACK #: R01C10
CHASSIS ID: CFE-1C-PS2
SLOT #: 2
A32 BASE ADDRESS: 80000000



JUMPER LIST
1. REMOVE E1.
2. INSTALL E15.
3. SW3 CLOSE ALL POSITIONS. LOWER LIMIT=XX000000
4. SW2 CLOSE POSITIONS 7 AND 8. UPPER LIMIT=XX3FFFFE
5. SW1 OPEN POSITION 1. BASE=80XXXXXX
6. INSTALL E14 AND E25 TO ENABLE BATTERIES
7. SW4 ALL OPEN.
8. SW5 ALL OPEN.
9. SW6 ALL OPEN.

V199
BLDG #: 100C
RACK #: R01C10
CHASSIS ID: CFE-1C-PS2
SLOT #: 19

MADC 5VDC OUT

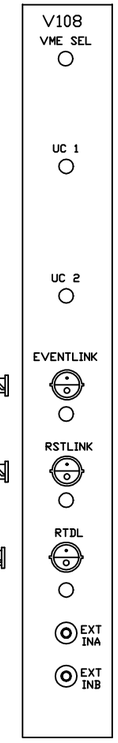
LEMO TWO CONDUCTOR CABLE ASSEMBLY

MADC MUX A/D ID PANEL
BLDG #: 1001C
RACK #: R01C09
PANEL #: MADC A/D ID PANEL D
FR SHEET 54

J15

CH 63
VOLTAGE
CFE-1C-PS2 5VDC

DEVICE: V108 UTILITY MODULE
BLDG #: 1001C
RACK #: R01C10
CHASSIS ID: CFE-1C-PS2
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000



ASSY# 94028094

EVENT LINK
BLDG #: 1001C
RACK #: R01C08
FANOUT #: A

OUTPUT J9

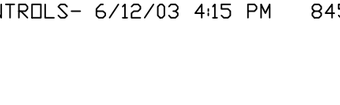
RESET LINK
BLDG #: 1001C
RACK #: R01C08
FANOUT #: C

OUTPUT J9

REAL TIME DATA LINK
BLDG #: 1001C
RACK #: R01C08
FANOUT #: B

OUTPUT J9

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)



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
E57-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	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	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, VME CHASSIS CFE-1C-PS2
FT END COMP/V108 UTIL MODULE

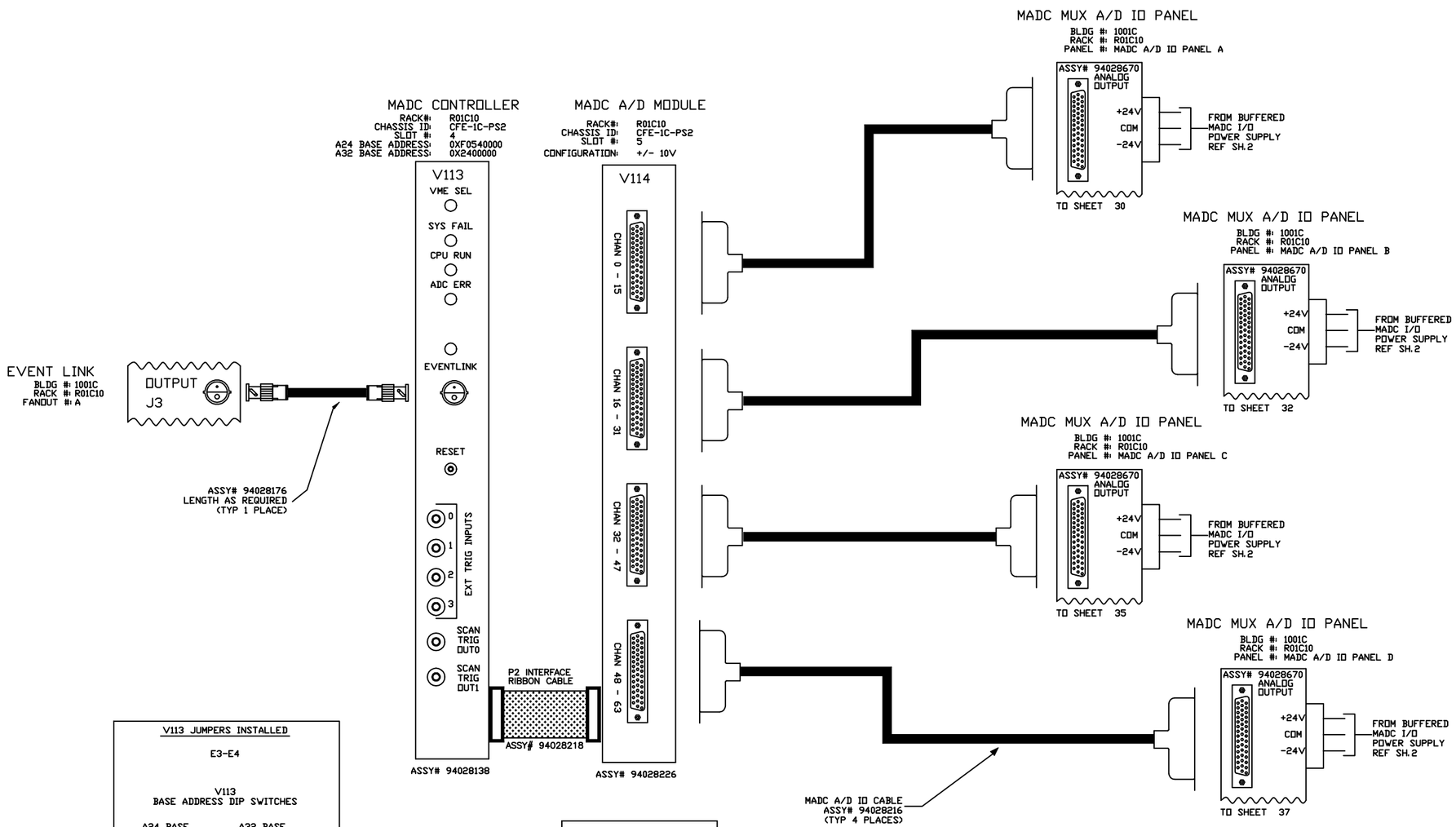
SIZE D | 94028458 | REV. A
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 28

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

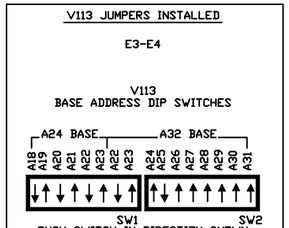
C-A, BNL 7/6/01 11:41 AM 8458_29.dwg



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	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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1001C, VME CHASSIS CFE-1C-PS2

MADC SYSTEM

SIZE D | 94028458 | REV. A

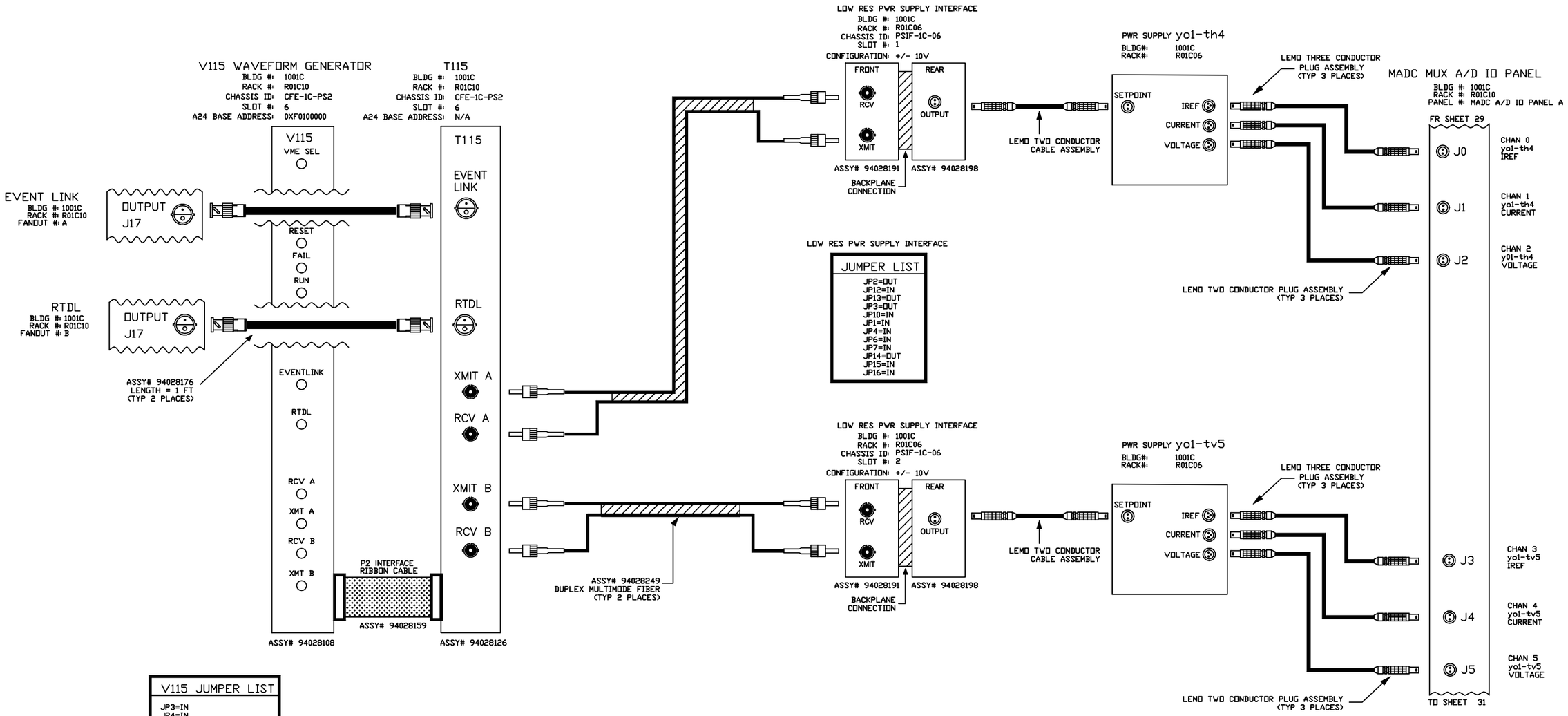
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 29 OF 52

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:09 AM 8458_30.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=IN JB1-A18=IN

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			

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

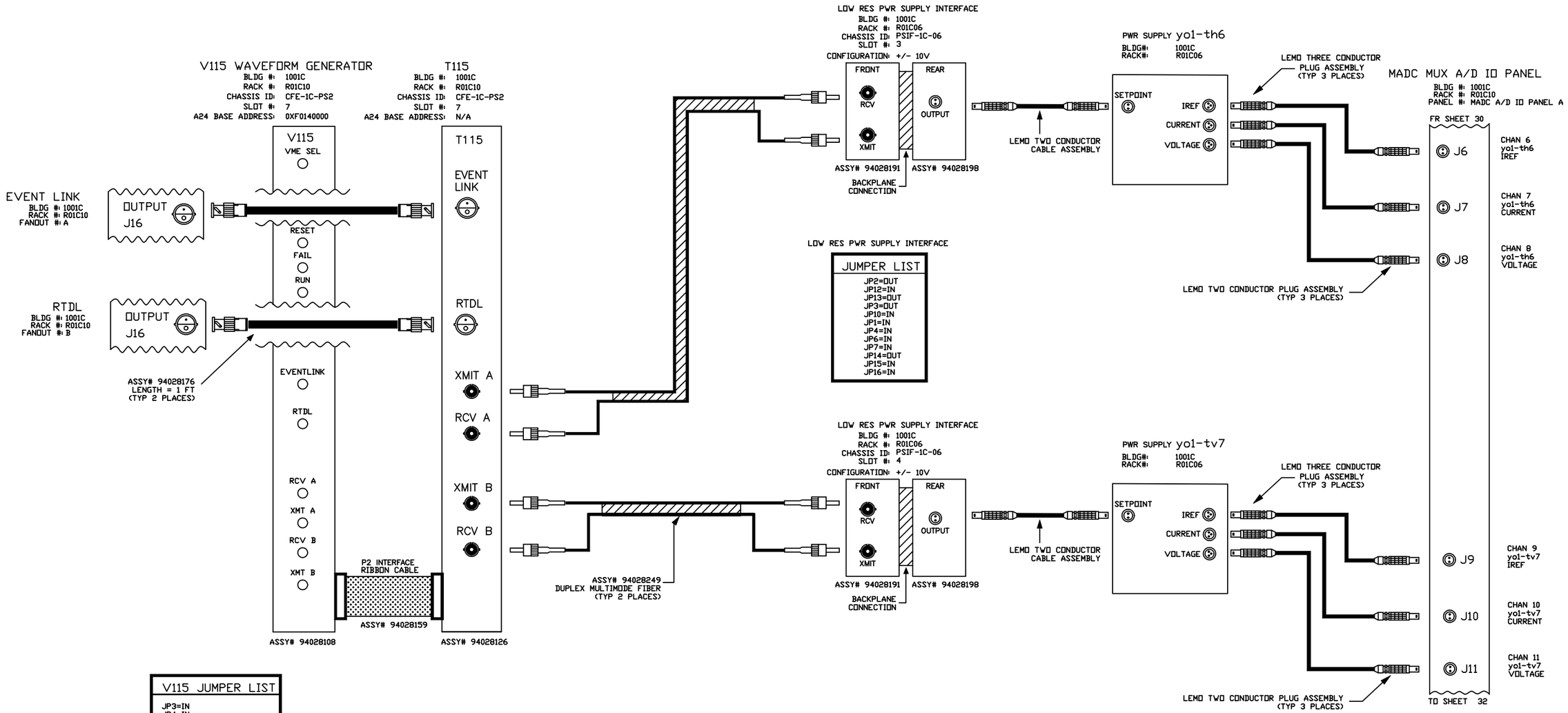
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS2
POWER SUPPLY yo1-th4/yo1-tv5

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 30

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:12 AM 8458_31.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=IN JB1-A18=OUT

-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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°
FINISH NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN
NEXT ASSEMBLY

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			

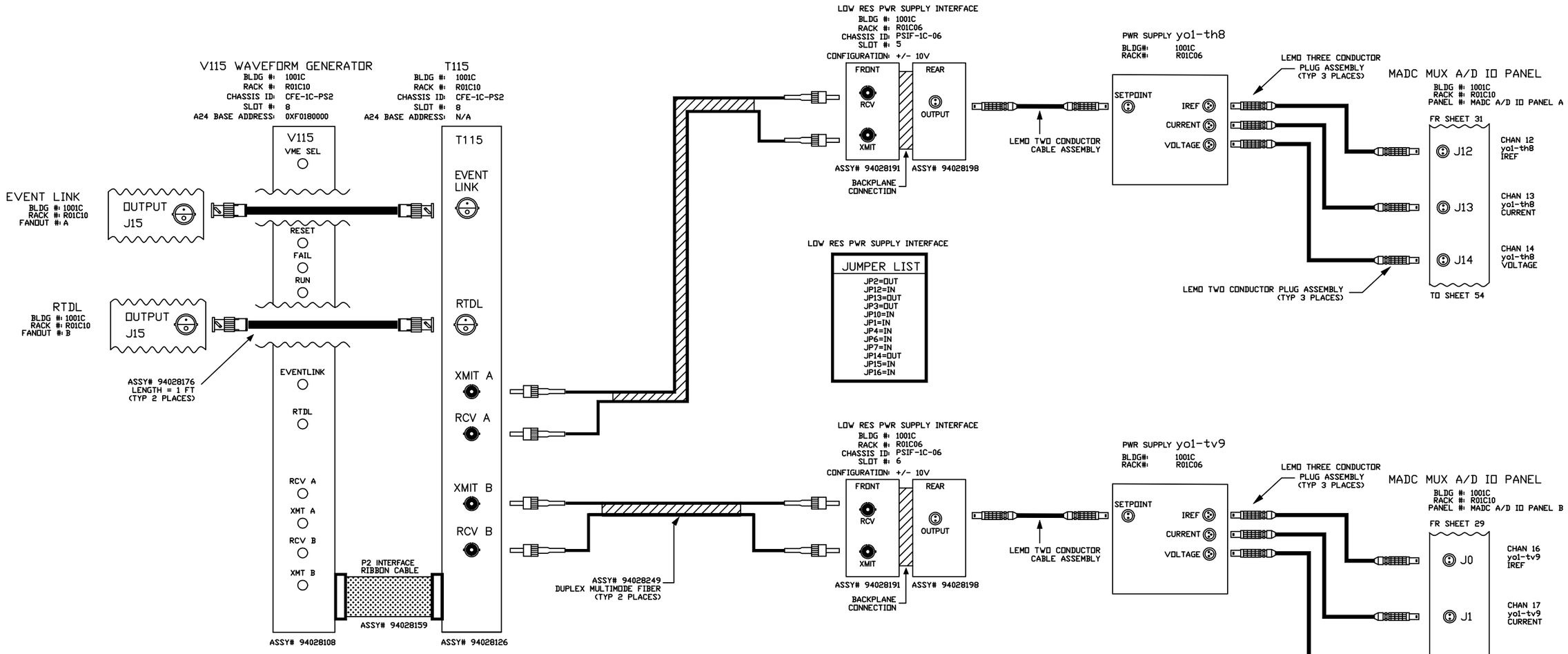
BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS2
POWER SUPPLY yo1-th6/yo1-tv7

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 31

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:14 AM 8458_32.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=OUT JB1-A18=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
NEXT ASSEMBLY

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			

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

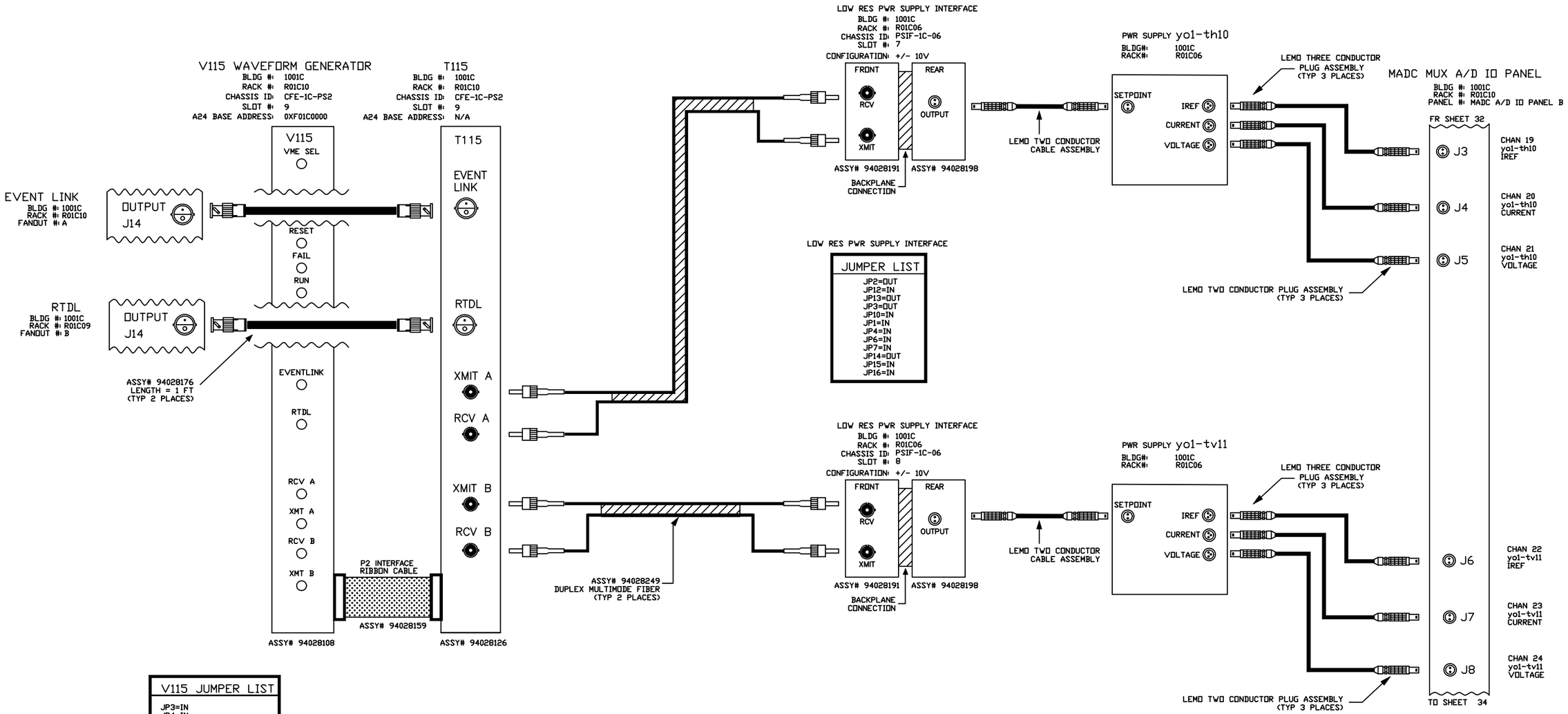
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS2
POWER SUPPLY yo1-th8/yo1-tv9

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 32

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:16 AM 8458_33.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=IN JB1-A20=OUT JB1-A19=OUT JB1-A18=OUT

-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS2
POWER SUPPLY yo1-th10/yo1-tv11

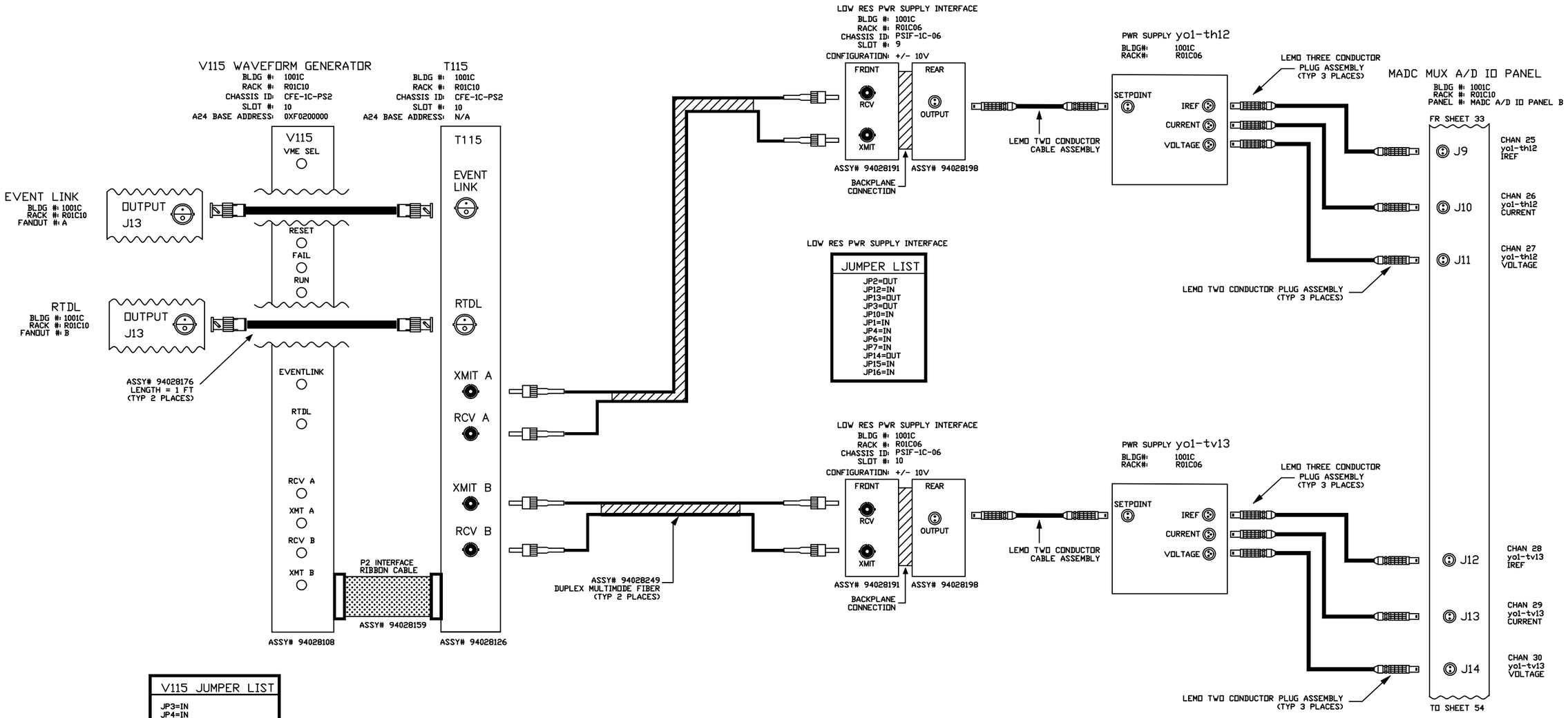
SIZE D | 94028458 | REV. A
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 33

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:17 AM 8458_34.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=IN JB1-A19=IN JB1-A18=IN

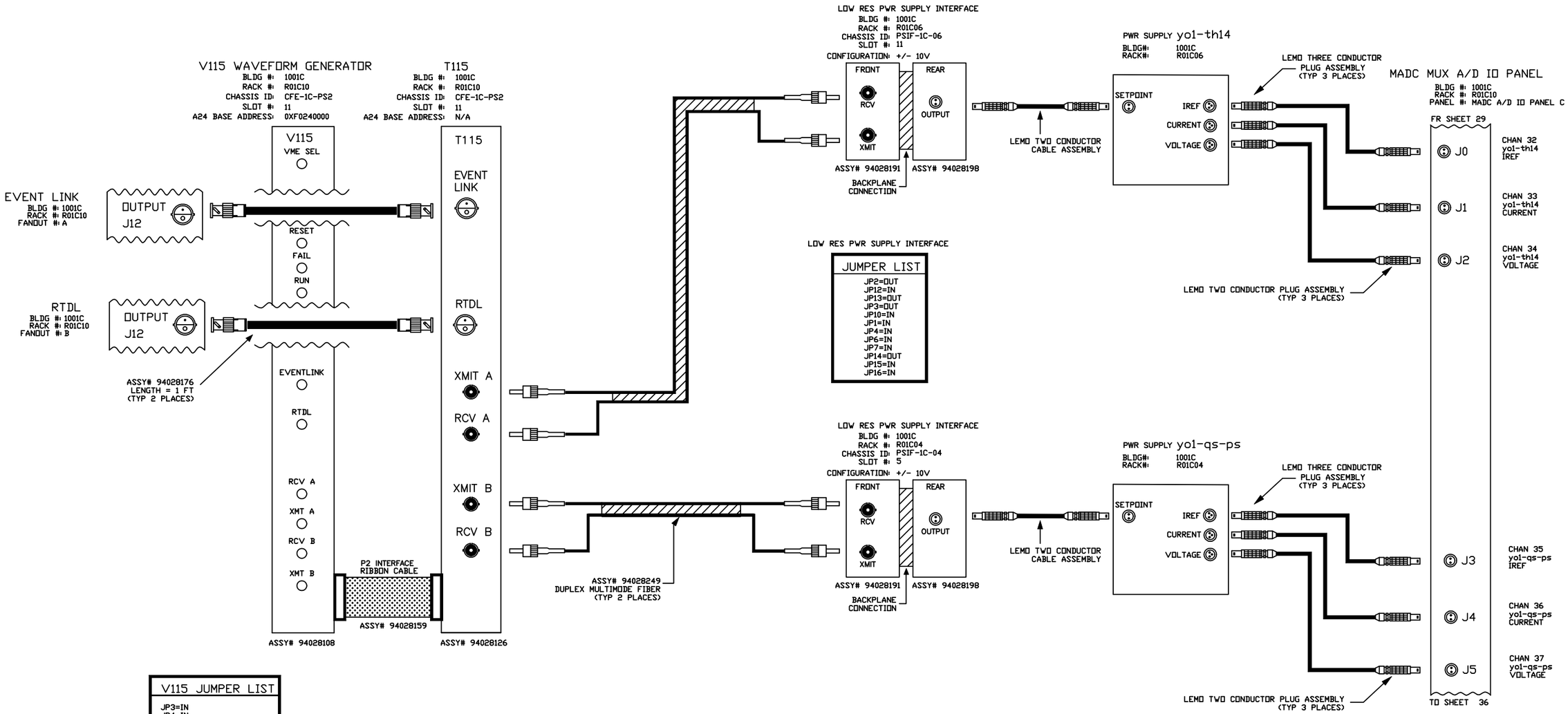
-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY ASSOCIATED UNIVERSITIES, INC. UPTON, N.Y. 11973
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Phil Pape	10/30/97	RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1001C, CFE-1C-PS2
	DESIGN APPROVAL		POWER SUPPLY yo1-th12/yo1-tv13
	ENGINEER APPROVAL R. MICHNOFF	10/30/97	SIZE D — 94028458 — REV. A
NA FINISH	SUPVR. APPROVAL		DRAWING NUMBER
BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		MATERIAL: —— SCALE: NA WEIGHT: – SHEET 34
OUTSTANDING ECN			

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:24 AM 8458_35.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=IN JB1-A19=IN JB1-A18=OUT

-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./INL 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 Phil Pape 10/30/97

CHECKED BY

DESIGN APPROVAL

ENGINEER APPROVAL R. MICHNOFF 10/30/97

SUPVR. APPROVAL

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1001C, CFE-1C-PS2

PWR SUPPLY yo1-th14/yo1-qs-ps

SIZE D | 94028458 | REV. A

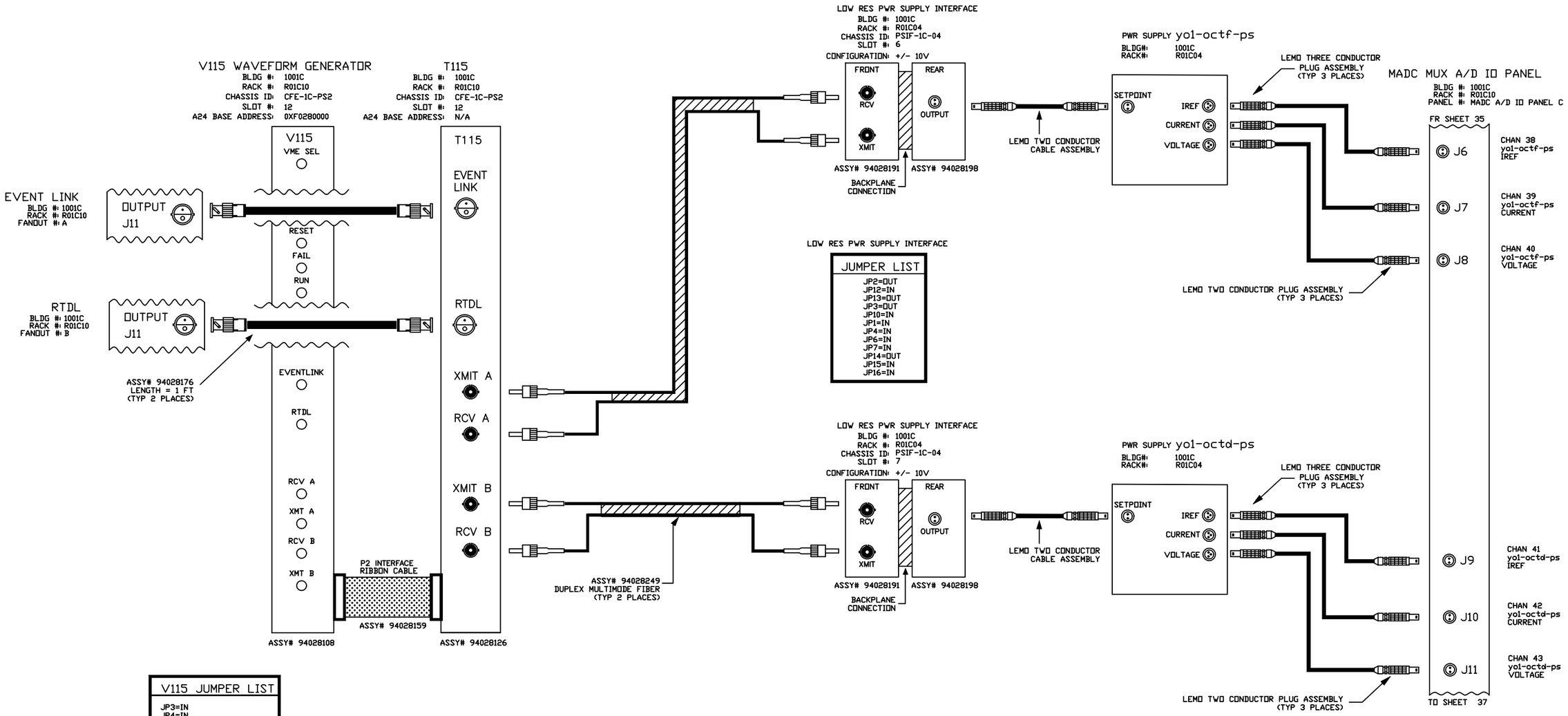
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 35

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:26 AM 8458_36.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=IN JB1-A19=OUT JB1-A18=IN

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS2
PWRSPLY yo1-octf-ps/yo1-octd-ps

SIZE D | 94028458 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 36

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:27 AM 8458_37.dwg

V115 WAVEFORM GENERATOR

BLDG #: 1001C
RACK #: R01C10
CHASSIS ID: CFE-1C-PS2
SLOT #: 13
A24 BASE ADDRESS: 0XF02C0000

V115
VME SEL
RESET
FAIL
RUN
EVENTLINK
RTDL
RCV A
XMT A
RCV B
XMT B

ASSY# 94028108

EVENT LINK
BLDG #: 1001C
RACK #: R01C10
FANOUT #: A

OUTPUT J10

RTDL
BLDG #: 1001C
RACK #: R01C10
FANOUT #: B

OUTPUT J10

ASSY# 94028176
LENGTH = 1 FT
(TYP 2 PLACES)

P2 INTERFACE RIBBON CABLE

ASSY# 94028159

T115

BLDG #: 1001C
RACK #: R01C10
CHASSIS ID: CFE-1C-PS2
SLOT #: 13
A24 BASE ADDRESS: N/A

T115
EVENT LINK
RTDL
XMIT A
RCV A
XMT A
RCV B
XMT B

ASSY# 94028126

ASSY# 94028249
DUPLEX MULTIMODE FIBER
(TYP 2 PLACES)

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1001C
RACK #: R01C04
CHASSIS ID: PSIF-1C-04
SLOT #: 8
CONFIGURATION: +/- 10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1001C
RACK #: R01C03
CHASSIS ID: PSIF-1C-03
SLOT #: 1
CONFIGURATION: +/- 10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

LOW RES PWR SUPPLY INTERFACE

JUMPER LIST

JP2=OUT
JP12=IN
JP13=OUT
JP3=OUT
JP10=IN
JP1=IN
JP4=IN
JP6=IN
JP7=IN
JP14=OUT
JP15=IN
JP16=IN

VMIVME 4122

BLDG #: 1001C
RACK #: R01C09
CHASSIS # CFE-1C-PS1
SLOT # 20
FR SHEET 20

CHAN 2

TO SHEET 3

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY yo1-qgt-ps

BLDG#: 1001C
RACK#: R01C04

SETPOINT
IREF
CURRENT
VOLTAGE
INPUT
OUTPUT
JUMP VOLTAGE

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C10
PANEL #: MADC A/D IO PANEL C

FR SHEET 36

J12 — CHAN 44 yo1-qgt-ps IREF
J13 — CHAN 45 yo1-qgt-ps CURRENT
J14 — CHAN 46 yo1-qgt-ps VOLTAGE
J15 — CHAN 47 yo1-qgt-ps JUMP VOLTAGE

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

PWR SUPPLY yo1-th2

BLDG#: 1001C
RACK#: R01C03

SETPOINT
IREF
CURRENT
VOLTAGE

LEMO TWO CONDUCTOR CABLE ASSEMBLY

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C10
PANEL #: MADC A/D IO PANEL D

FR SHEET 29

J0 — CHAN 48 yo1-th2 IREF
J1 — CHAN 49 yo1-th2 CURRENT
J2 — CHAN 50 yo1-th2 VOLTAGE

TO SHEET 38

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

V115 JUMPER LIST

JP3=IN
JP4=IN
JP1=OUT
JP2=OUT

A24 BASE ADDRESS
JB1-A23=IN
JB1-A22=IN
JB1-A21=OUT
JB1-A20=IN
JB1-A19=OUT
JB1-A18=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
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 Phil Pape 10/30/97
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL R. MICHNOFF 10/30/97
SUPVR. APPROVAL
NEXT ASSEMBLY

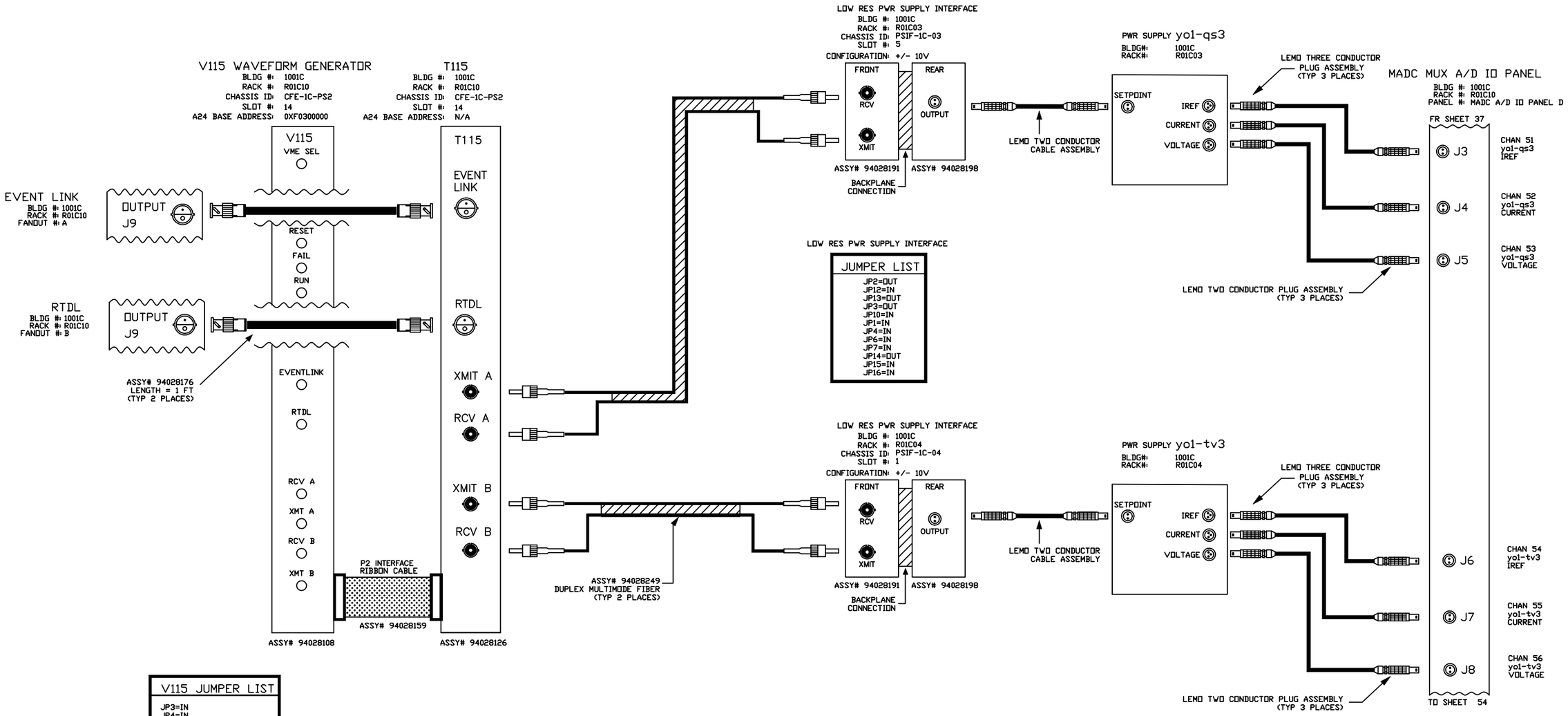
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS2
PWR SPLY yo1-qgt-ps/yo1-th2

SIZE D
94028458
REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 37

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:30 AM 8458_38.dwg



V115 JUMPER LIST
JP3=IN JP4=IN JP1=OUT JP2=OUT
A24 BASE ADDRESS JB1-A23=IN JB1-A22=IN JB1-A21=OUT JB1-A20=OUT JB1-A19=IN JB1-A18=IN

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL 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	Phil Pape	10/30/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	10/30/97	
SUPVR. APPROVAL			

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CFE-1C-PS2
POWER SUPPLY yo1-qs3/yo1-tv3

SIZE D | DRAWING NUMBER 94028458 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

C-A, BNL 7/6/01 11:45 AM 8458_47.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	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1001C CHASSIS CFE-1C-PS3

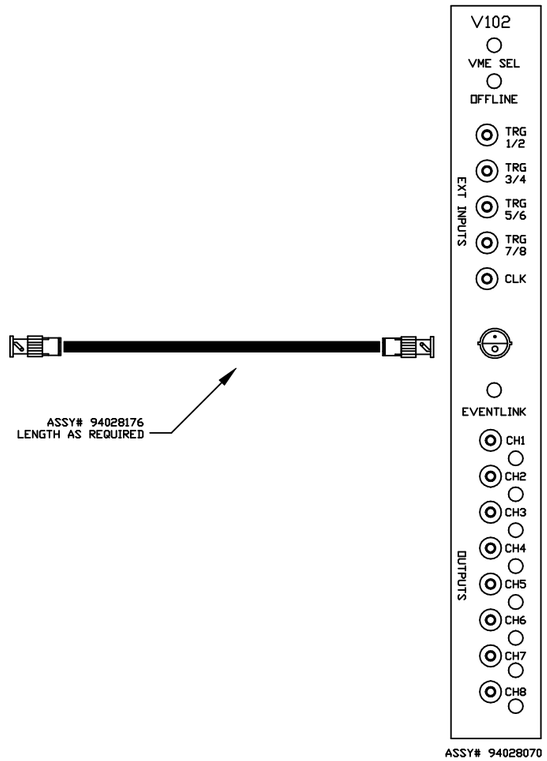
SIZE	DRAWING NUMBER	REV.
D	94028458	A

MATERIAL: ———— SCALE: NA WEIGHT: – SHEET 47

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

V102 DELAY MODULE
BLDG #: 1001C
RACK #: R01C10
CHASSIS ID: CFE-1C-PS2
SLOT #: 20
A16 BASE ADDRESS: 0XFFFFE600



ASSY# 94028070

EVENT LINK
BLDG #: 1001C
RACK #: R01C10
FANOUT #: A

OUTPUT
J2

ASSY# 94028176
LENGTH AS REQUIRED

V102 DELAY MODULE JUMPER LIST

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

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

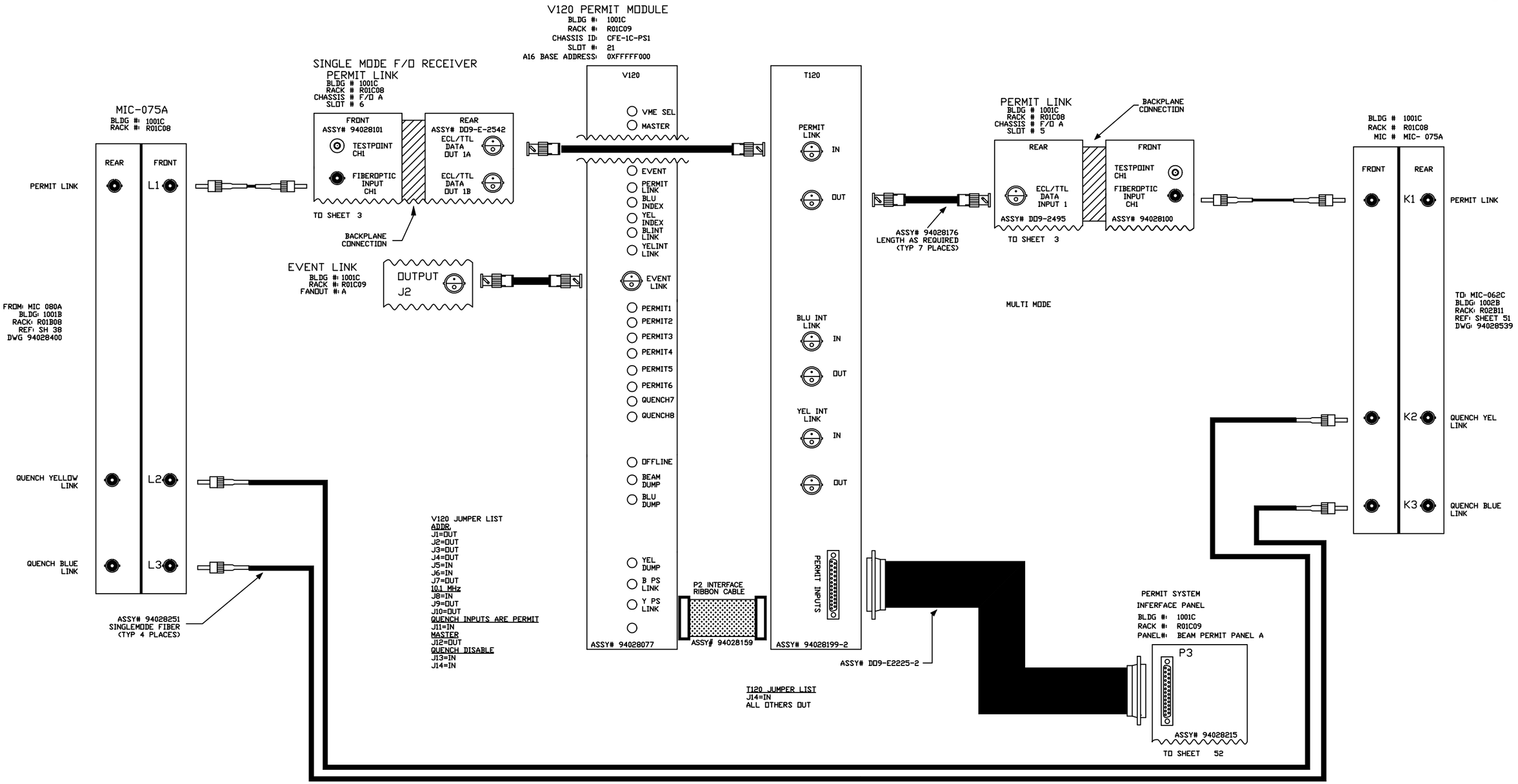
INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMAL TOLERANCES
.X ±.030
.XX ±.015
.XXX ±.005
ANGULAR TOLERANCE
± .5°
FINISH: NA
BREAK SHARP EDGES
MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY ASSOCIATED UNIVERSITIES, INC. UPTON, N.Y. 11973
DRAWN BY: Phil Pape	10/30/97	RHIC CONTROLS WIRING DIAGRAM
CHECKED BY		ALCOVE 1001C CHASSIS CFE-1C-PS3
DESIGN APPROVAL		V102 DELAY MODULE
ENGINEER APPROVAL: R. MICHNOFF	10/30/97	
SUPVR. APPROVAL		SIZE: D — 94028458 — REV: A
NEXT ASSEMBLY		DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: – — SHEET 48 OF 52

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/13/99 9:30 AM 8458_51.dwg



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	DATE
DRAWN BY	Phil Pape	10/30/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/30/97
SUPVR. APPROVAL		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1001C, CHASSIS CFE-1C-PS1
V120/T120 PERMIT SYSTEM

SIZE D
94028458
REV. A
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 51 OF 52

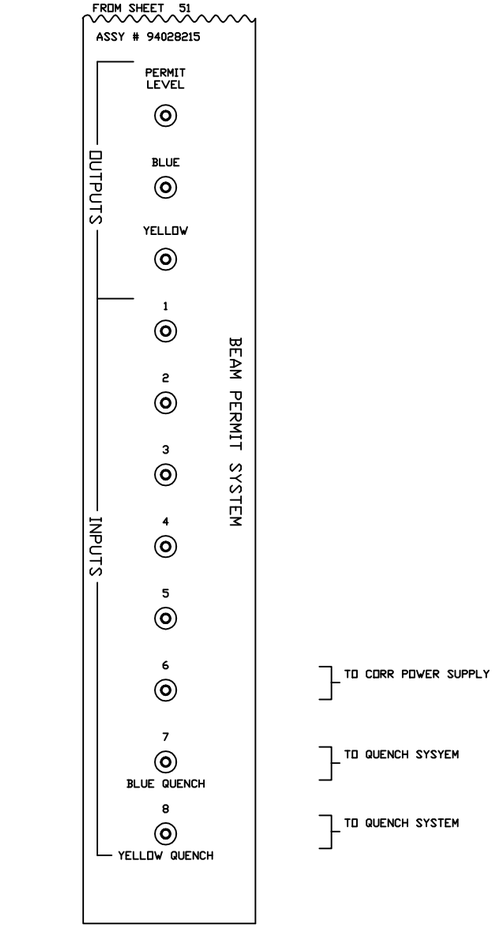
1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 5/28/03 10:22 AM 8458_52.dwg

PERMIT SYSTEM INTERFACE MODULE

BLDG #: 1001C
RACK #: R01C09
PANEL #: PERMIT I/F PANEL A



-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: Phil Pape	10/30/97	UPTON, N.Y. 11973
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		ALCOVE 1001C, RACK R01C09
	ENGINEER APPROVAL: R. MICHNOFF	10/30/97	PERMIT SYSTEM INTERFACE PANEL
	SUPVR. APPROVAL		SIZE D — 94028458 — REV. A
NA FINISH; BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 52

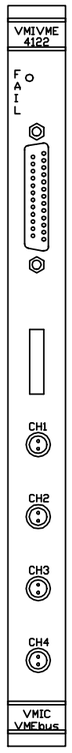
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 4/11/01 3:21 PM 8458_53.dwg

VMIVME 4122 ANALOG OUTPUT MODULE

BLDG #: 1001C
RACK #: R01C09
CHASSIS ID: CFE-1C-PS1
SLOT #: 20
A16 BASE ADDRESS: 0x0200
CONFIGURATION: -10 TO +10 VOLTS



TO bll-qgt-ps
REF SHEET 20

TO yol-qgt-ps
REF SHEET 37

JUMPER SETTINGS

ADDR BITS	-10V TO +10V
E11 (A7): IN	E1: 2-3
E12 (A8): IN	E3: 2-3
E13 (A9): OUT	E4: OUT
E14 (A10): IN	E5: OUT
E15 (A11): IN	E6: 2-3
E16 (A12): IN	E7: 2-3
E17 (A13): IN	E8: 1-2
E18 (A14): IN	E9: OUT
E19 (A15): IN	E10: OUT

NOTE: PIN 1 OF JUMPERS IS DESIGNATED BY A SQUARE PAD ON THE SOLDER SIDE OF THE BOARD

-3	-2	-1 QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MATL 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		DATE
DRAWN BY	Ed Koropsak	11/29/99
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	11/29/99
SUPVR. APPROVAL		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
ALCOVE 1001C, RACK R01C09
GAMMA-T ANALOG SIGNAL

SIZE D | 94028458 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 53 OF 53

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/13/03 8:33 AM 8458_54.dwg

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C09
PANEL #: MADC A/D IO PANEL B

FR SHEET 17

J15 — CHAN 31 SPARE

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C09
PANEL #: MADC A/D IO PANEL D

FR SHEET 21

J9 — CHAN 57 SPARE
J10 — CHAN 58 SPARE
J11 — CHAN 59 SPARE
J12 — CHAN 60 SPARE
J13 — CHAN 61 SPARE
J14 — CHAN 62 SPARE

TO SHEET 28

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C10
PANEL #: MADC A/D IO PANEL A

FR SHEET 32

J15 — CHAN 15 SPARE

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C10
PANEL #: MADC A/D IO PANEL B

FR SHEET 34

J15 — CHAN 31 SPARE

MADC MUX A/D IO PANEL

BLDG #: 1001C
RACK #: R01C10
PANEL #: MADC A/D IO PANEL D

FR SHEET 38

J9 — CHAN 57 SPARE
J10 — CHAN 58 SPARE
J11 — CHAN 59 SPARE
J12 — CHAN 60 SPARE
J13 — CHAN 61 SPARE
J14 — CHAN 62 SPARE

TO SHEET 11

-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	Phil Pape	10/31/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	10/31/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1001C

SPARE MADC INPUTS

SIZE D — DRAWING NUMBER 94028458 — REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 54

*AUTOCAD