RHIC Accelerator Controls Section
Alcove 1011B Wiring Diagrams
BNL Drawing Number 94028490

Brookhaven National Laboratory, Upton, New York 11973

Created By: Ed Koropsak
Last Updated 6/18/03

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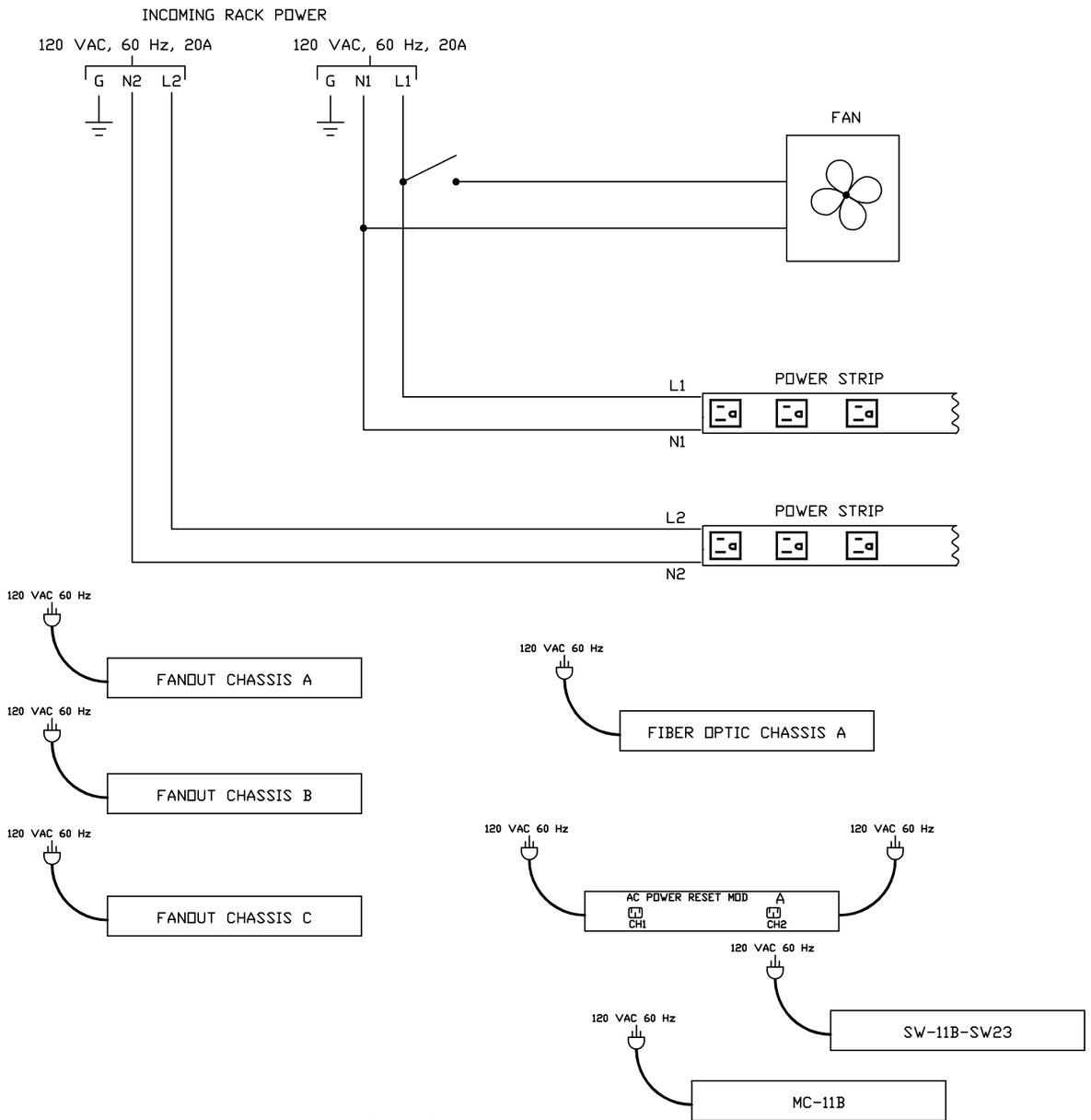
NOTE: Sheets 31, 34, 35 are Blank

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 1:05 PM 8490_01.dwg



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

RACK R011B08

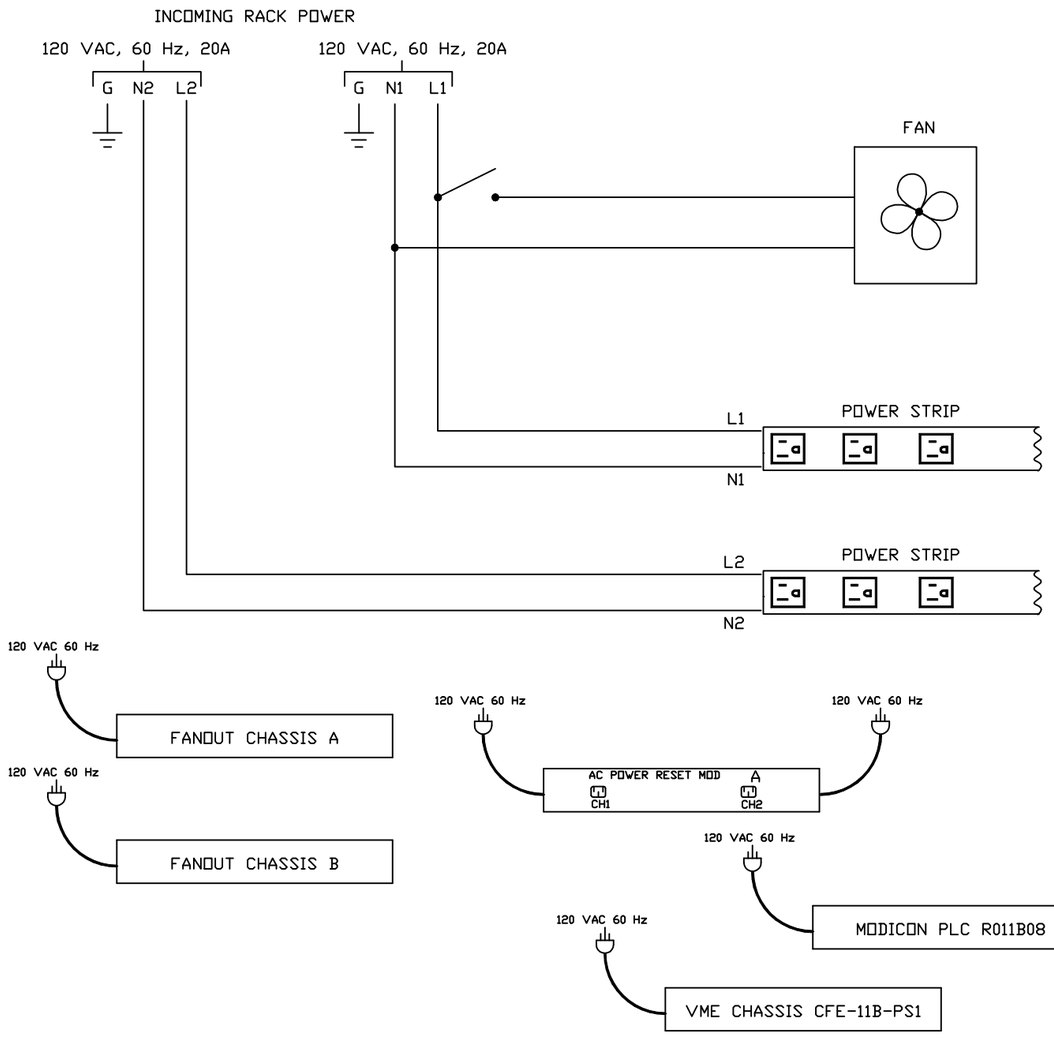
-3 QTY REQD	-2 QTY REQD	-1 QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.
		90		11	CABLE ASSY, POWER SUPPLY TO MADC A/D I/O PANEL (3 CABLES/PS)	
		30		10	CABLE ASSY, LOW RES PS IF MODULE TO POWER SUPPLY	
		1		9	PERMIT SYSTEM INTERFACE CABLE, T120 TO PERMIT SYSTEM INTERFACE PANEL	D09-E2225-2
		33		8	SERIAL LINK TWINAX CABLE, LENGTH AS REQUIRED	94028176
		32		7	SERIAL LINK TWINAX CABLE, 1 FT	94028176
		30		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
		17		3	TRANSITION MODULE P2 RIBBON CABLE, V115, V120	94028159
		2		2	MADC V113 TO V114 P2 INTERFACE RIBBON CABLE	94028218
		2		1	ETHERNET CABLE TO FEC	

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 Ed Koropsak	2/24/98	UPTON, N.Y. 11973	
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM	
	DESIGN APPROVAL		ALCOVE 1011B, RACK R011B08	
	ENGINEER APPROVAL R. MICHNOFF	2/24/98	POWER DISTRIBUTION	
	SUPVR. APPROVAL		SIZE D	94028490 REV. A
NA FINISH	BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY	DRAWING NUMBER	
OUTSTANDING ECN			MATERIAL: ——— SCALE: NA WEIGHT: –	SHEET 1

*AUTOCAD

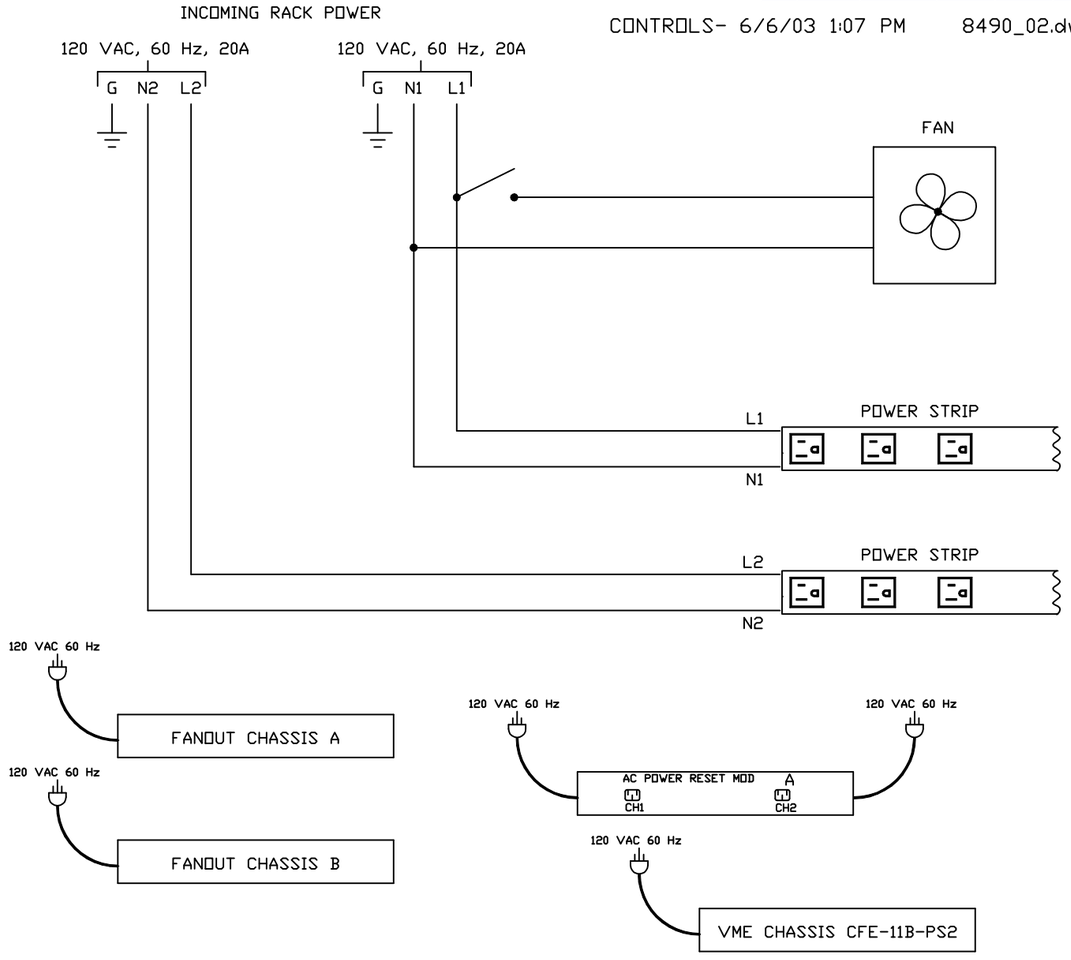
REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 1:07 PM 8490_02.dwg



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

RACK R011B09



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

RACK R011B10

-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

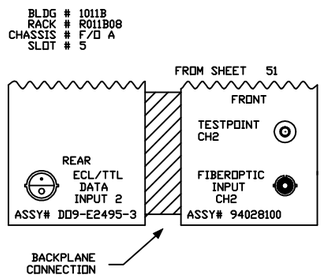
Q.A. CATEGORY A-3		DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Ed Koropsak	2/24/98	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1011B, RACK R011B09, R011B10
ENGINEER APPROVAL	R. MICHNOFF	2/24/98	POWER DISTRIBUTION
SUPVR. APPROVAL			SIZE D — 94028490 — REV. A
NEXT ASSEMBLY			DRAWING NUMBER

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

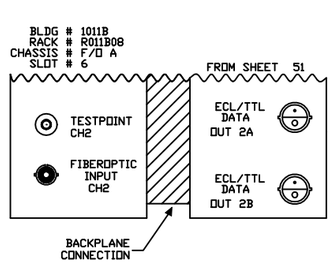
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

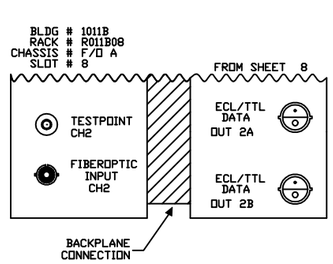
MULTIMODE FIBER OPTIC TRANSMITTER



FIBER OPTIC RECEIVER



FIBER OPTIC RECEIVER



-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°

OUTSTANDING ECN

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

Q.A. CATEGORY A–3		DATE
DRAWN BY	Phil Pape	8/7/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/7/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B
SPARE F/O RCVR/XMIT CHANNELS

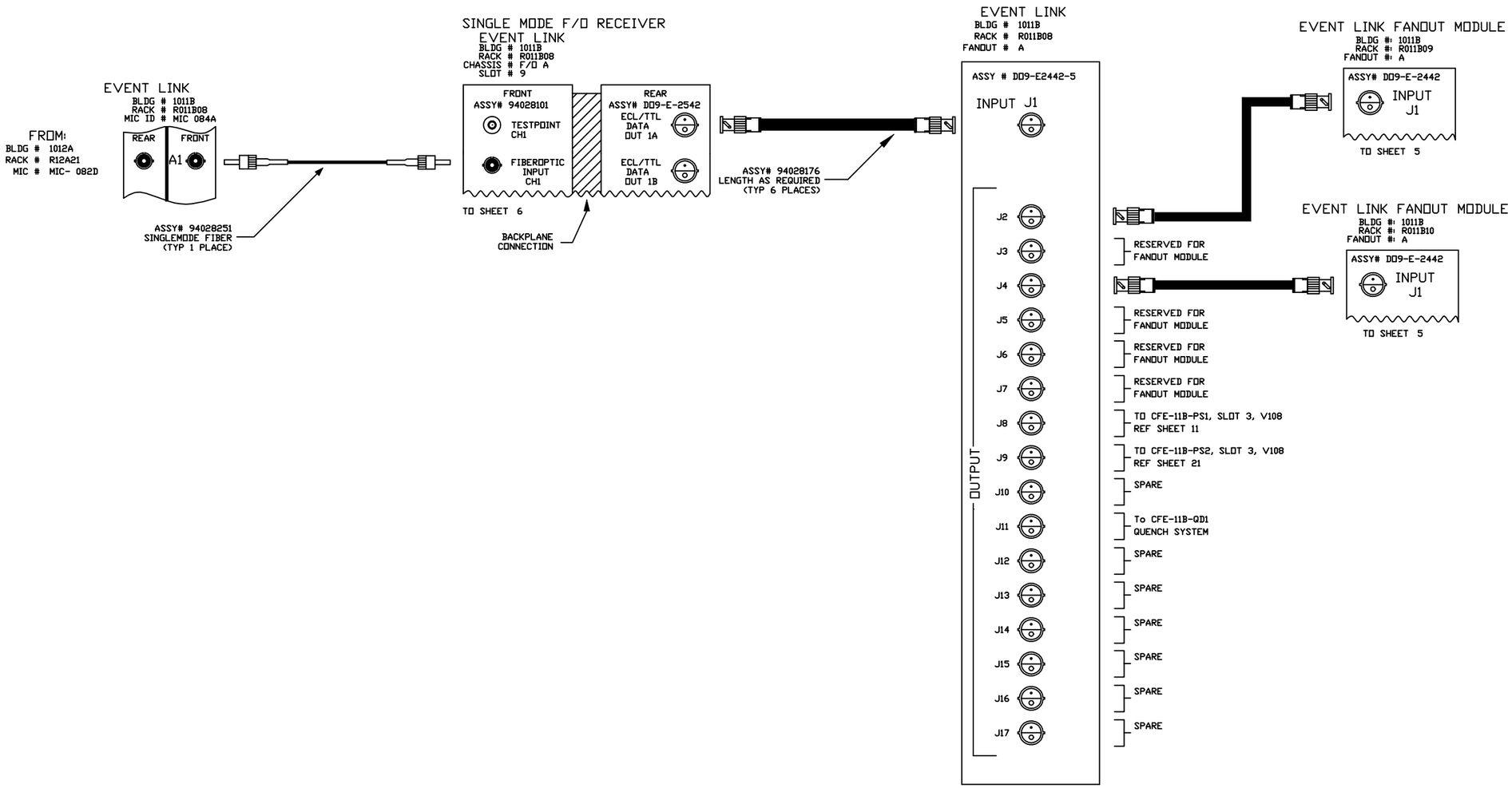
SIZE D | 94028490 | REV. A
DRAWING NUMBER

MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 3 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/16/99 10:57 AM 8490_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
DRAWN BY	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B
EVENT LINK

SIZE D | 94028490 | REV. A
DRAWING NUMBER

MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 4 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/16/99 11:06 AM 8490_05.dwg

EVENT LINK FANOUT MODULE

BLDG # 1011B
RACK # R011B09
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

J2	To CFE-11B-PS1, SLOT 21, V120 REF SHEET 36
J3	To CFE-11B-PS1, SLOT 4, V113 REF SHEET 12
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	SPARE
J9	SPARE
J10	To CFE-11B-PS1, SLOT 13, T115 REF SHEET 20
J11	To CFE-11B-PS1, SLOT 12, T115 REF SHEET 19
J12	To CFE-11B-PS1, SLOT 11, T115 REF SHEET 18
J13	To CFE-11B-PS1, SLOT 10, T115 REF SHEET 17
J14	To CFE-11B-PS1, SLOT 9, T115 REF SHEET 16
J15	To CFE-11B-PS1, SLOT 8, T115 REF SHEET 15
J16	To CFE-11B-PS1, SLOT 7, T115 REF SHEET 14
J17	To CFE-11B-PS1, SLOT 6, T115 REF SHEET 13

EVENT LINK FANOUT MODULE

BLDG # 1011B
RACK # R011B10
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

J2	To CFE-11B-PS2, SLOT 20, V102 REF SHEET 33
J3	To CFE-11B-PS2, SLOT 4, V113 REF SHEET 22
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	SPARE
J9	SPARE
J10	To CFE-11B-PS2, SLOT 13, T115 REF SHEET 30
J11	To CFE-11B-PS2, SLOT 12, T115 REF SHEET 29
J12	To CFE-11B-PS2, SLOT 11, T115 REF SHEET 28
J13	To CFE-11B-PS2, SLOT 10, T115 REF SHEET 27
J14	To CFE-11B-PS2, SLOT 9, T115 REF SHEET 26
J15	To CFE-11B-PS2, SLOT 8, T115 REF SHEET 25
J16	To CFE-11B-PS2, SLOT 7, T115 REF SHEET 24
J17	To CFE-11B-PS2, SLOT 6, T115 REF 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
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	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B
EVENT LINK

SIZE D
94028490
DRAWING NUMBER
REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 5 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

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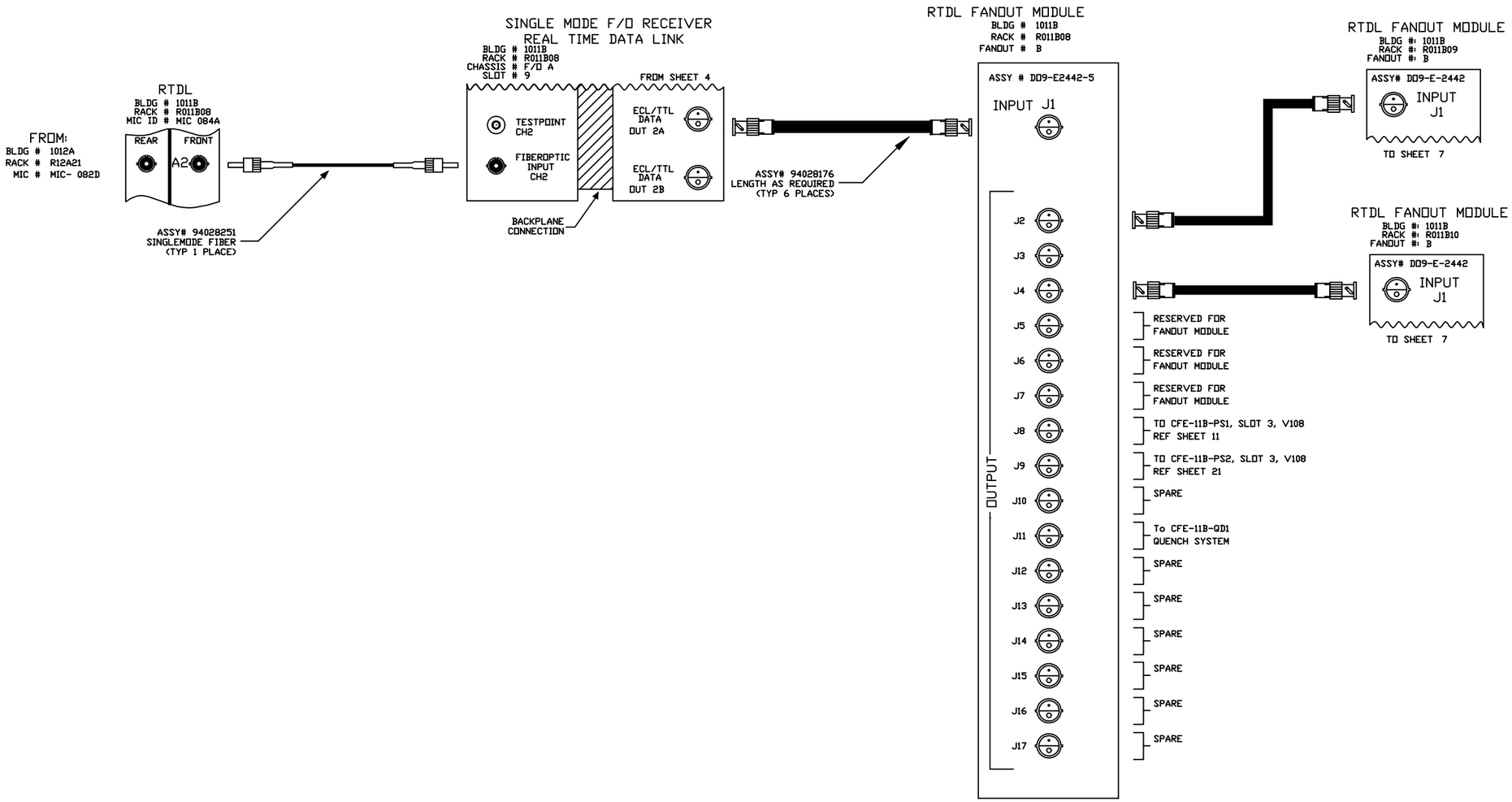


-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./DWG NO.
QTY REQD						

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	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B
REAL TIME DATA LINK

SIZE D | 94028490 | REV. A
DRAWING NUMBER

MATERIAL: ——— | SCALE: NA | WEIGHT: — | SHEET 6 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/16/99 11:42 AM 8490_07.dwg

RTDL FANOUT MODULE

BLDG # 1011B
RACK # R011B09
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	SPARE
J10	To CFE-11B-PS1, SLOT 13, T115 REF SHEET 20
J11	To CFE-11B-PS1, SLOT 12, T115 REF SHEET 19
J12	To CFE-11B-PS1, SLOT 11, T115 REF SHEET 18
J13	To CFE-11B-PS1, SLOT 10, T115 REF SHEET 17
J14	To CFE-11B-PS1, SLOT 9, T115 REF SHEET 16
J15	To CFE-11B-PS1, SLOT 8, T115 REF SHEET 15
J16	To CFE-11B-PS1, SLOT 7, T115 REF SHEET 14
J17	To CFE-11B-PS1, SLOT 6, T115 REF SHEET 13

RTDL FANOUT MODULE

BLDG # 1011B
RACK # R011B10
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	SPARE
J10	To CFE-11B-PS2, SLOT 13, T115 REF SHEET 30
J11	To CFE-11B-PS2, SLOT 12, T115 REF SHEET 29
J12	To CFE-11B-PS2, SLOT 11, T115 REF SHEET 28
J13	To CFE-11B-PS2, SLOT 10, T115 REF SHEET 27
J14	To CFE-11B-PS2, SLOT 9, T115 REF SHEET 26
J15	To CFE-11B-PS2, SLOT 8, T115 REF SHEET 25
J16	To CFE-11B-PS2, SLOT 7, T115 REF SHEET 24
J17	To CFE-11B-PS2, SLOT 6, T115 REF SHEET 23

-3 QTY REQD	-2	-1	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	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

DATE

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE1011B
REAL TIME DATA LINK

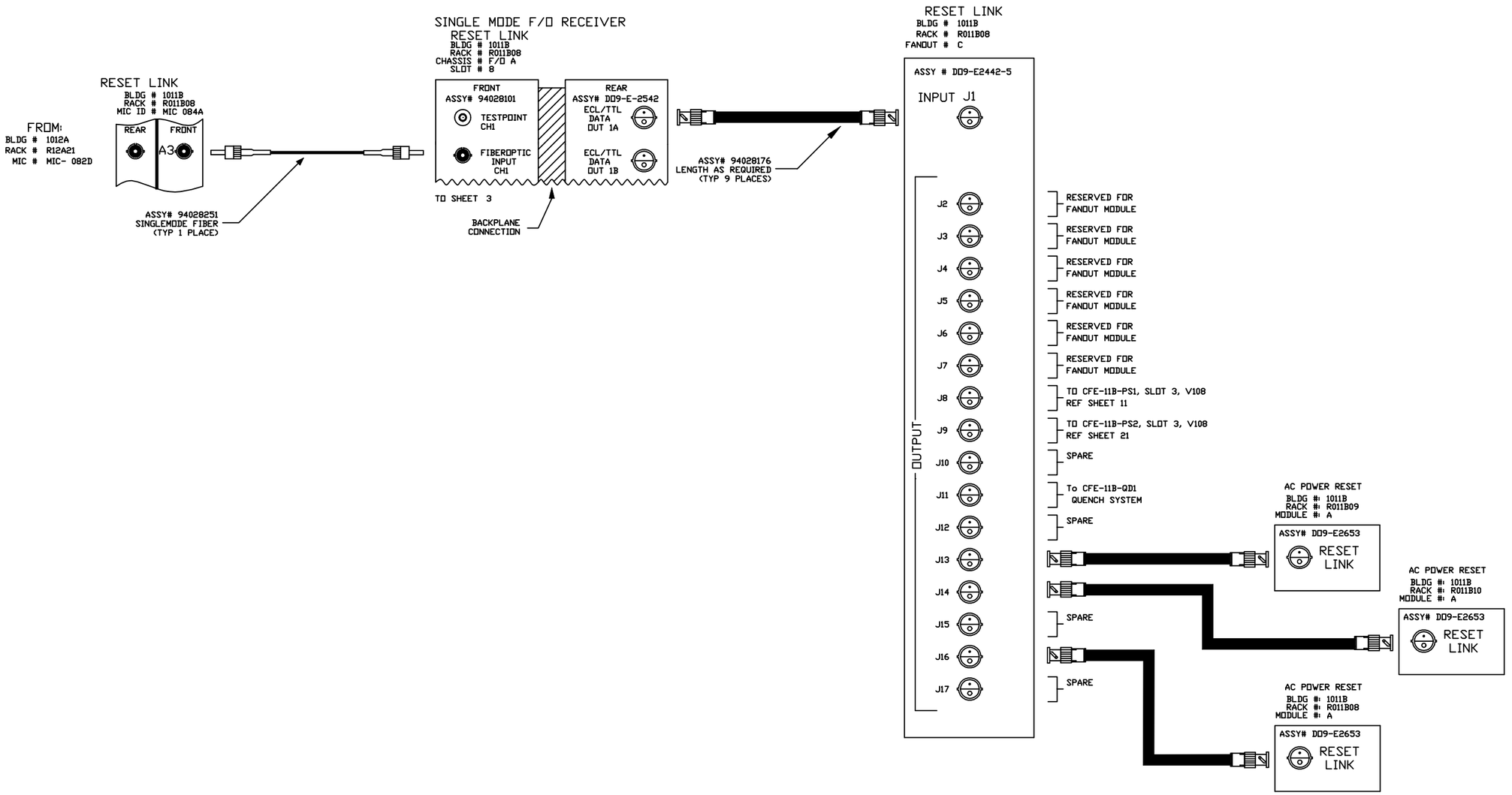
SIZE D
94028490
DRAWING NUMBER
REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 7 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 1:11 PM 8490_08.dwg



-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

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	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B
RESET LINK

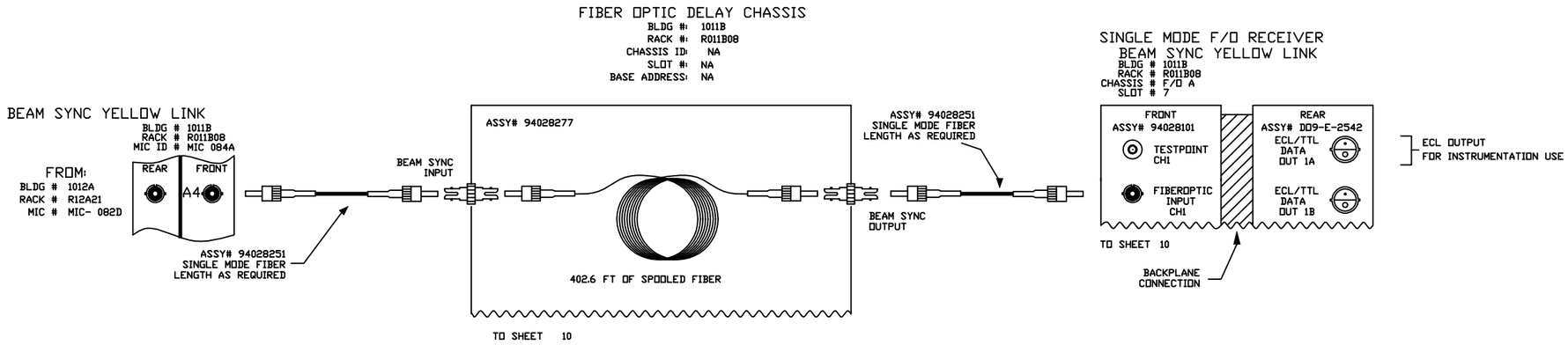
SIZE D | 94028490 | REV. A
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 8

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/16/99 1:18 PM 8490_09.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°

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY A–3		DATE
DRAWN BY	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B
BEAM SYNC YELLOW LINK

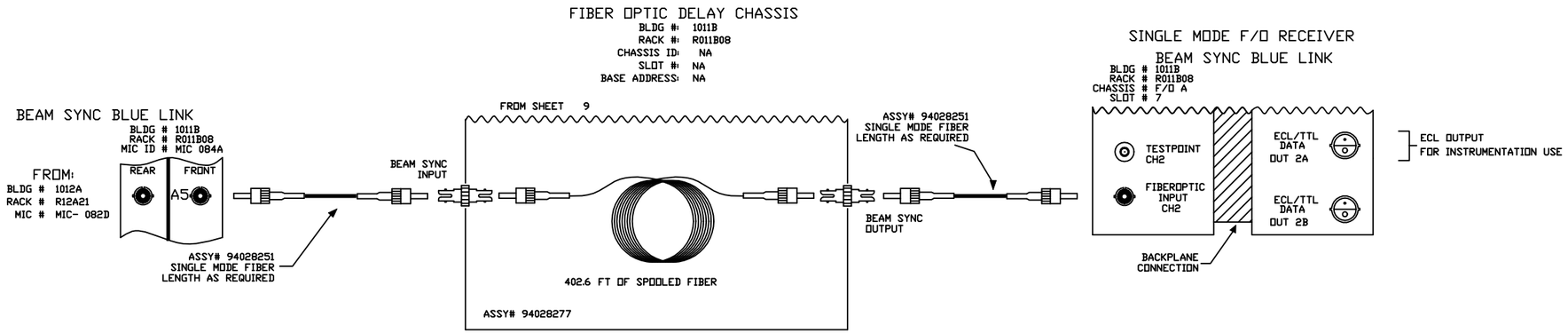
SIZE D | 94028490 | REV. A
DRAWING NUMBER

MATERIAL: ———— SCALE: NA WEIGHT: – SHEET 9 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/16/99 1:19 PM 8490_10.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°

OUTSTANDING ECN

NA
FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

Q.A. CATEGORY A–3		DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Ed Koropsak	2/24/98	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1011B
ENGINEER APPROVAL	R. MICHNOFF	2/24/98	BEAM SYNC BLUE LINK
SUPVR. APPROVAL			94028490
NEXT ASSEMBLY			DRAWING NUMBER

SIZE D | REV. A

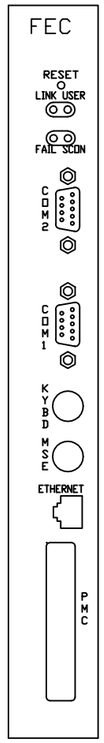
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 10 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:44 PM 8490_11.dwg

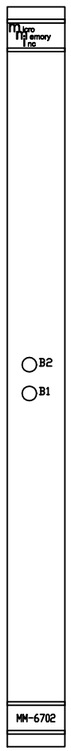
FRONT END COMPUTER
BLDG #: 1011B
RACK #: R011B09
CHASSIS ID: CFE-11B-PS1
SLOT#: 1
FEC NAME: cfe-11b-ps1



ETHERNET NETWORK

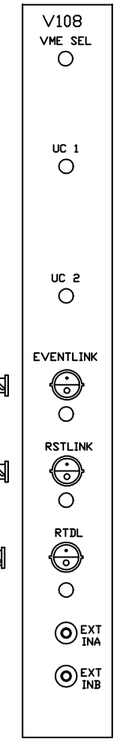
REF. NETWORK DIAGRAM

DEVICE: MM-6702 MEMORY MODULE
BLDG #: 1011B
RACK #: R11B09
CHASSIS ID: CFE-11B-PS1
SLOT #: 2
A24 BASE ADDRESS: XXX



JUMPER LIST
1. REMOVE E1.
2. INSTALL E15.
3. SW3 CLOSE ALL POSITIONS.
4. SW2 CLOSE POSITIONS 7 AND 8.
5. SW1 CLOSE POSITIONS 2-8.
6. INSTALL E14 AND E25 TO ENABLE BATTERIES

DEVICE: V108 UTILITY MODULE
BLDG #: 1011B
RACK #: R011B09
CHASSIS ID: CFE-11B-PS1
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000



ASSY# 94028094

EVENT LINK
BLDG #: 1011B
RACK #: R011B08
FANOUT #: A

OUTPUT J8

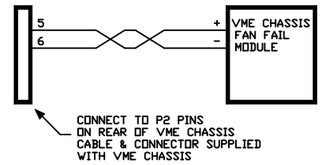
RESET LINK
BLDG #: 1011B
RACK #: R011B08
FANOUT #: C

OUTPUT J8

REAL TIME DATA LINK
BLDG #: 1011B
RACK #: R011B08
FANOUT #: B

OUTPUT J8

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)



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 #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL A

FR SHEET15

ROOM TEMP SENSOR

POWER FROM BUFFERED MADC POWER SUPPLY
+24 V
GND

J15

CHAN 15
ROOM TEMP
1011B

V199
BLDG #: 1011B
RACK #: R011B09
CHASSIS ID: CFE-11B-PS1
SLOT #: 19

MADC 5VDC OUT

LEMO TWO CONDUCTOR CABLE ASSEMBLY

MADC MUX A/D IO PANEL
BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL D

FR SHEET 38

J15

CH 63
VOLTAGE
CFE-11B-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°

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY	A-3	DATE
DRAWN BY	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, VME CHASSIS CFE-11B-PS1
FT END COMP/V108 UTIL MODULE

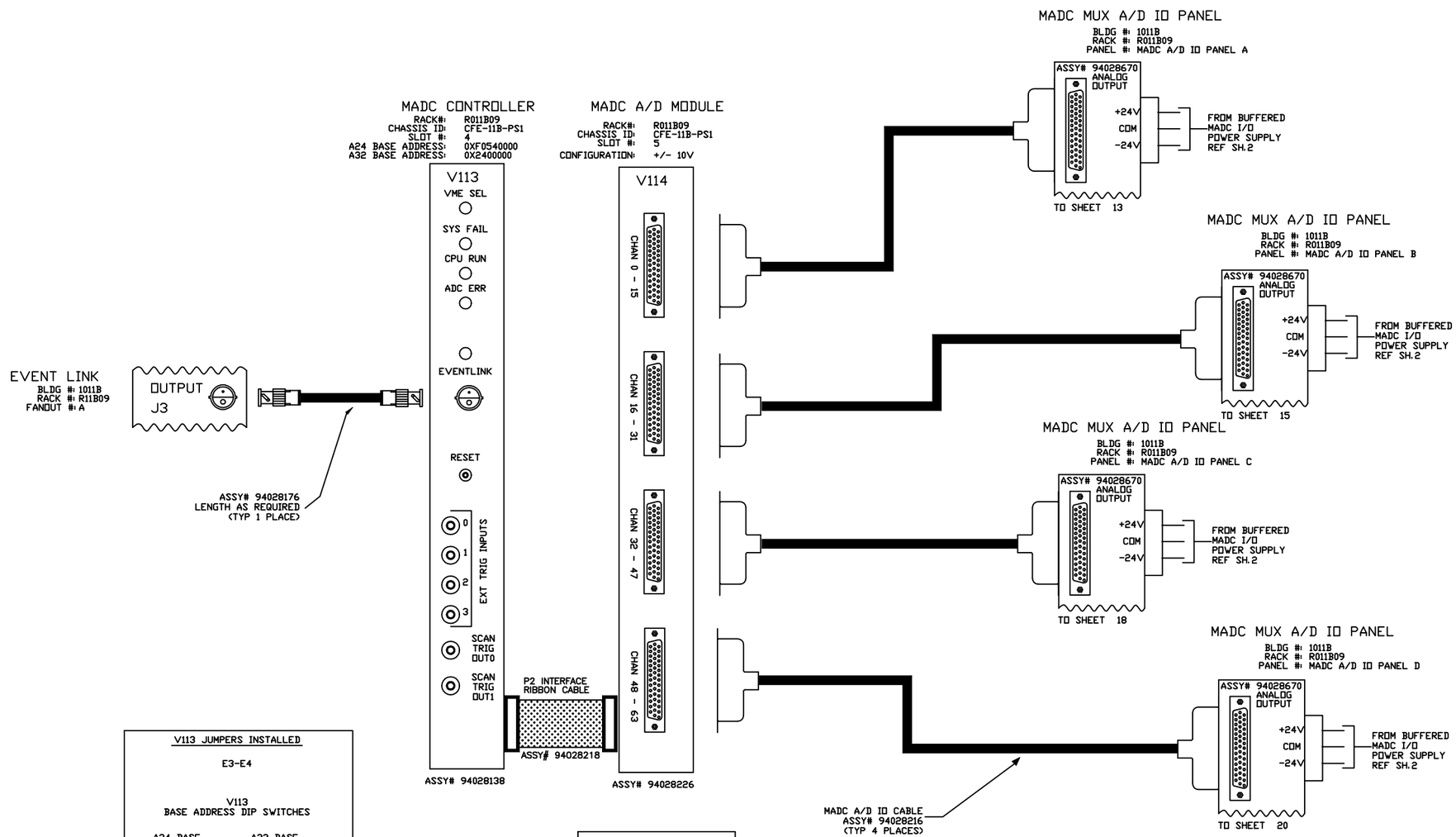
SIZE D | 94028490 | REV. A
DRAWING NUMBER

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

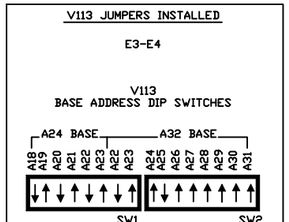
CONTROLS- 6/6/03 1:20 PM 8490_12.dwg



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	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1011B, VME CHASSIS CFE-11B-PS1

MADC SYSTEM

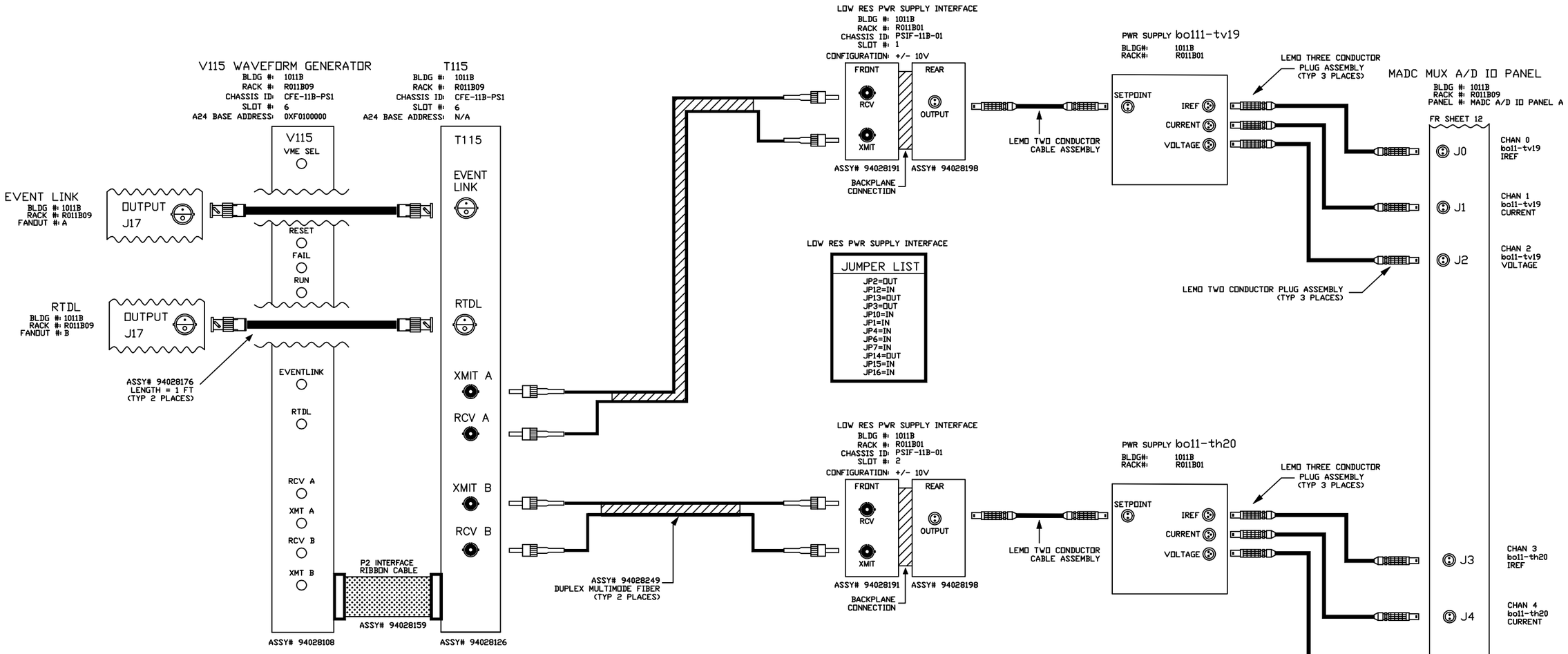
SIZE D | 94028490 DRAWING NUMBER | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 12

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:45 PM 8490_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°
FINISH NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN
NEXT ASSEMBLY

Q.A. CATEGORY A-3	DATE	
DRAWN BY Phil Pape	8/7/97	
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL R. MICHNOFF	8/7/97	
SUPVR. APPROVAL		

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS1
POWER SUPPLY bo11-tv19/bo11-th20

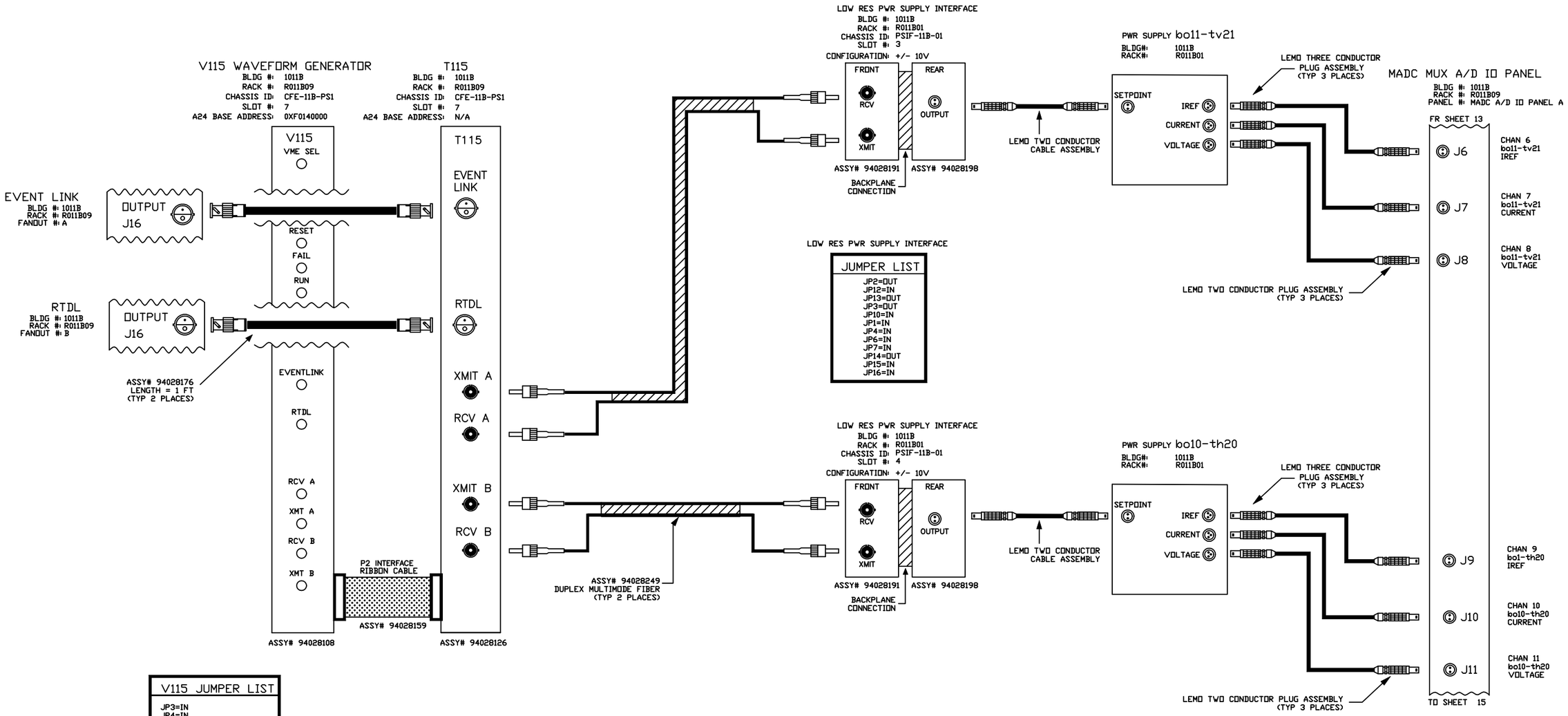
SIZE D | DRAWING NUMBER 94028490 | REV. A

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

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:46 PM 8490_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	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
NEXT ASSEMBLY

Q.A. CATEGORY A-3		DATE	
DRAWN BY	Phil Pape	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS1
PWR SUPLY bo11-tv21/bo10-th20

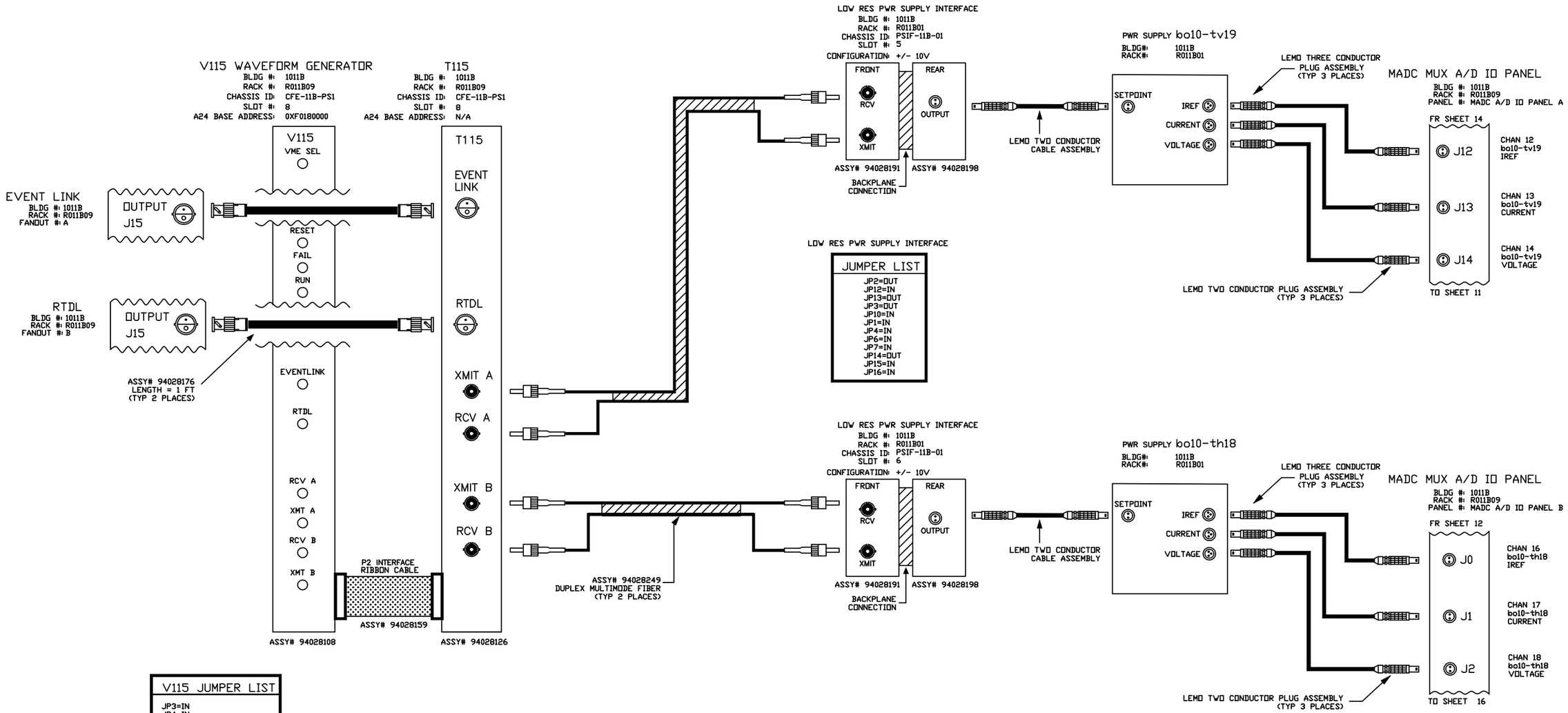
SIZE D | 94028490 | REV. A
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 14

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:47 PM 8490_15.dwg



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

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	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS1
POWER SUPPLY bo10-tv19/bo10-th18

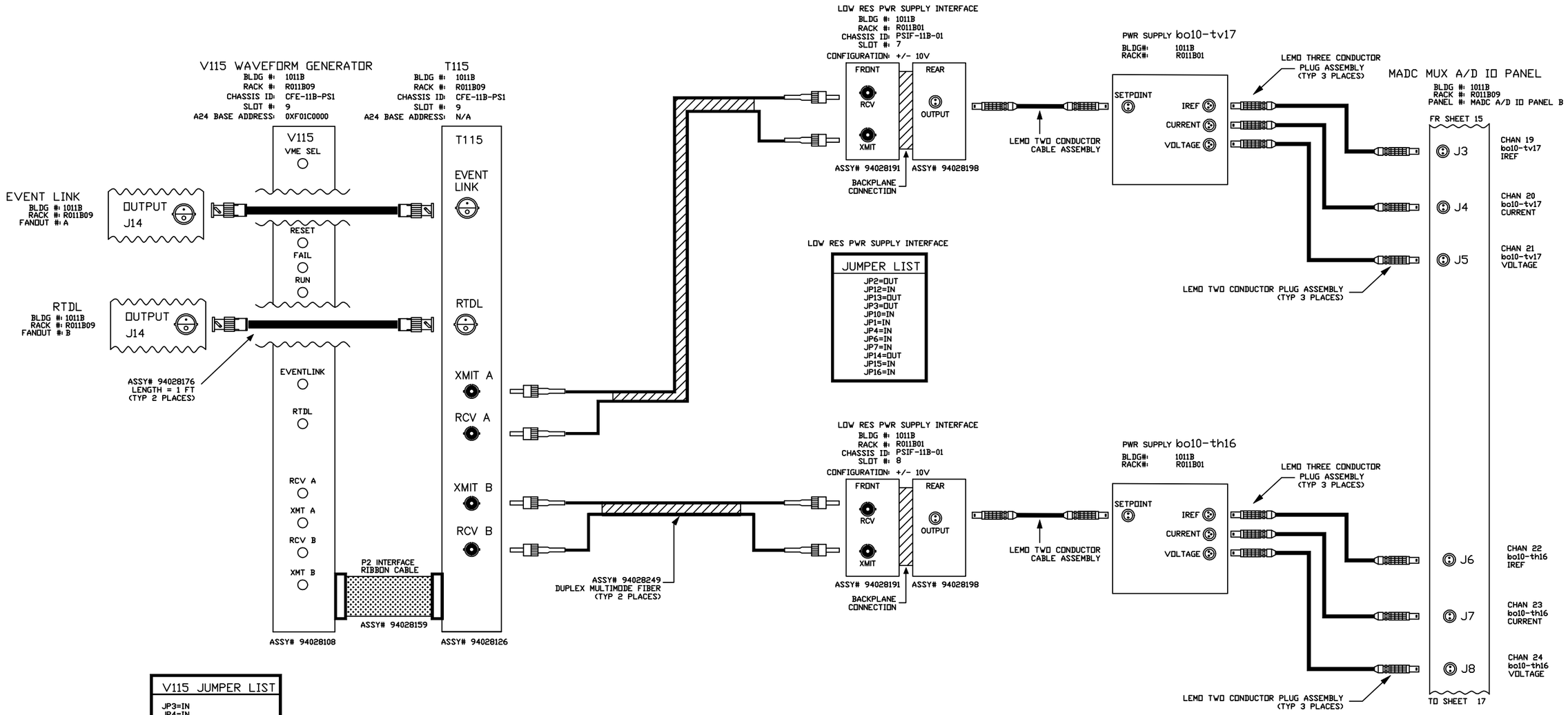
SIZE D | DRAWING NUMBER 94028490 | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:47 PM 8490_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	8/7/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/7/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS1
POWER SUPPLY bo10-tv17/bo10-th16

SIZE D | 94028490 | REV. A

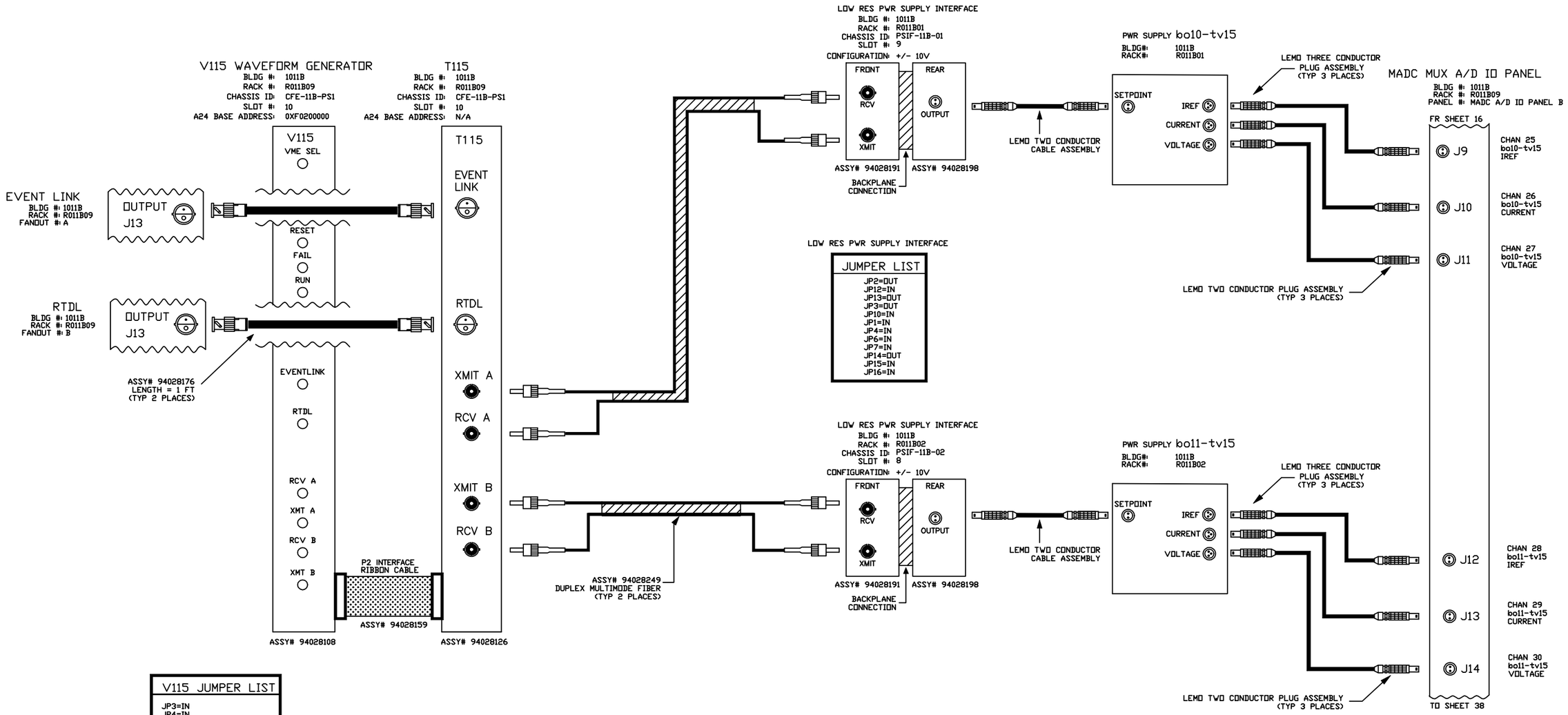
DRAWING NUMBER

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:50 PM 8490_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./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	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 17

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

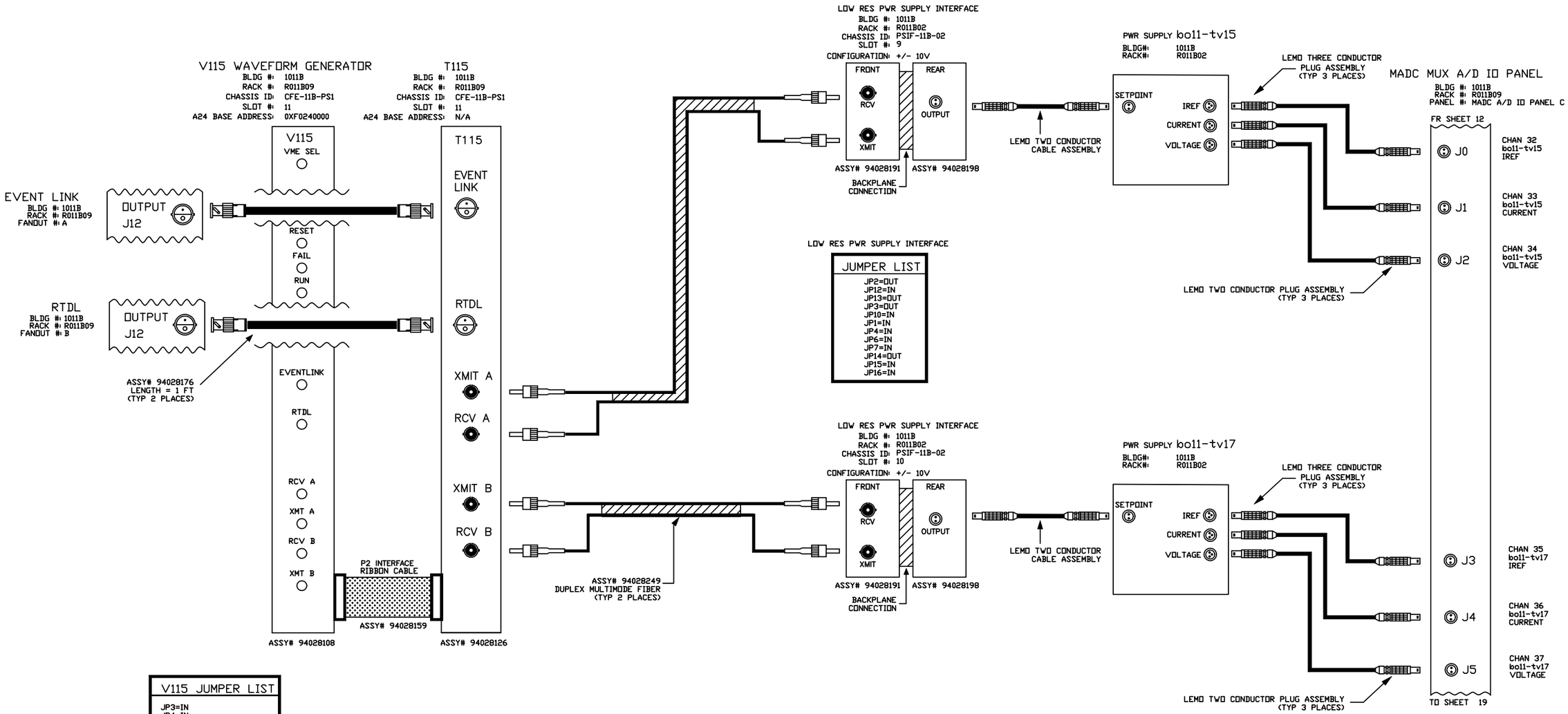
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS1
POWER SUPPLY bo10-tv15/bo11-tv15

SIZE D | 94028490 | REV. A
DRAWING NUMBER

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:51 PM 8490_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./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	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS1
POWER SUPPLY bo11-tv15/bo11-tv17

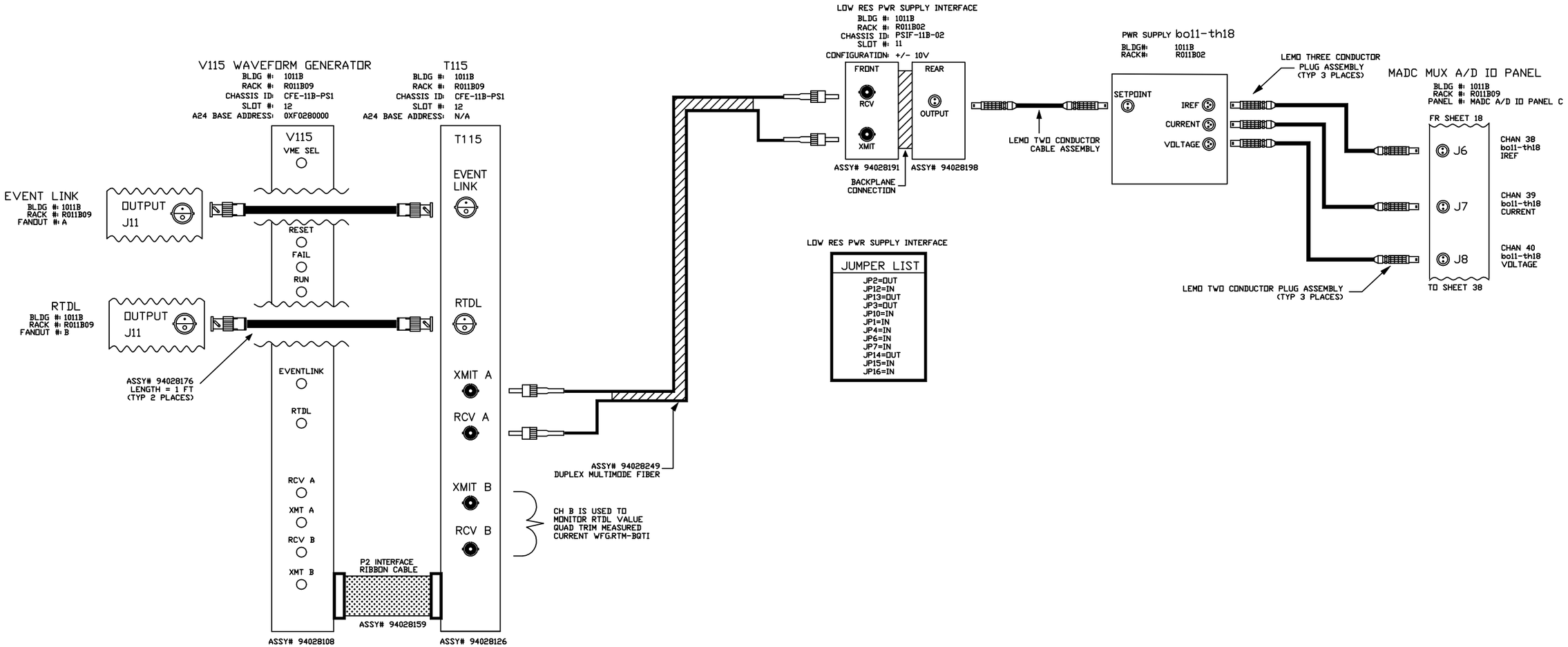
SIZE D | DRAWING NUMBER 94028490 | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 18

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:55 PM 8490_19.dwg



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

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 ASSOCIATED UNIVERSITIES, INC. UPTON, N.Y. 11973
DRAWN BY: Phil Pape	8/7/97	RHIC CONTROLS WIRING DIAGRAM
CHECKED BY		ALCOVE 1011B, CFE-11B-PS1
DESIGN APPROVAL		POWER SUPPLY bo11-th18
ENGINEER APPROVAL: R. MICHNOFF	8/7/97	
SUPVR. APPROVAL		SIZE D — 94028490 — REV. A
NEXT ASSEMBLY		DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: — SHEET 19

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 1:59 PM 8490_20.dwg

V115 WAVEFORM GENERATOR

BLDG #: 1011B
RACK #: R011B09
CHASSIS ID: CFE-11B-PS1
SLOT #: 13
A24 BASE ADDRESS: 0XF02C0000

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

ASSY# 94028108

T115

BLDG #: 1011B
RACK #: R011B09
CHASSIS ID: CFE-11B-PS1
SLOT #: 13
A24 BASE ADDRESS: N/A

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

ASSY# 94028126

EVENT LINK
BLDG #: 1011B
RACK #: R011B09
FANOUT #: A

OUTPUT J10

RTDL
BLDG #: 1011B
RACK #: R011B09
FANOUT #: B

OUTPUT J10

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

P2 INTERFACE RIBBON CABLE
ASSY# 94028159

ASSY# 94028249
DUPLEX MULTIMODE FIBER
(TYP 2 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

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1011B
RACK #: R011B01
CHASSIS ID: PSIF-11B-01
SLOT #: 12
CONFIGURATION: +/- 10V

FRONT
RCV
XMIT
REAR
OUTPUT

ASSY# 94028191
ASSY# 94028198

BACKPLANE CONNECTION

LEMO TWO CONDUCTOR CABLE ASSEMBLY

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

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1011B
RACK #: R011B01
CHASSIS ID: PSIF-11B-01
SLOT #: 13
CONFIGURATION: +/- 10V

FRONT
RCV
XMIT
REAR
OUTPUT

ASSY# 94028191
ASSY# 94028198

BACKPLANE CONNECTION

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY bo11-sxf-ps

BLDG#: 1011B
RACK#: R011B04

SETPOINT
IREF
CURRENT
VOLTAGE
ERROR
GRD CURRENT

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL C

FR SHEET 38

J12 CHAN 44 bo11-sxf-ps IREF
J13 CHAN 45 bo11-sxf-ps CURRENT
J14 CHAN 46 bo11-sxf-ps VOLTAGE
J15 CHAN 47 bo11-sxf-ps ERROR

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL D

FR SHEET 20

J5 CHAN 53 bo11-sxf-ps GRD CURRENT

TO SHEET 38

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

PWR SUPPLY bo11-sxd-ps

BLDG#: 1011B
RACK#: R011B05

SETPOINT
IREF
CURRENT
VOLTAGE
ERROR
GRD CURRENT

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL D

FR SHEET 12

J0 CHAN 48 bo11-sxd-ps IREF
J1 CHAN 49 bo11-sxd-ps CURRENT
J2 CHAN 50 bo11-sxd-ps VOLTAGE
J3 CHAN 51 bo11-sxd-ps ERROR
J4 CHAN 52 bo11-sxd-ps GRD CURRENT

TO SHEET 20

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

-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

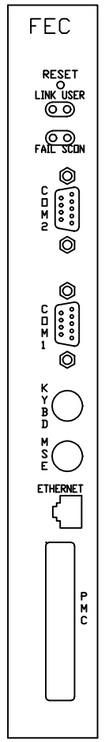
Q.A. CATEGORY A-3		DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Phil Pape	8/7/97	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1011B, CFE-11B-PS1
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	P/S bo11-sxf-ps/bo11-sxd-ps
SUPVR. APPROVAL			SIZE D — 94028490 — REV. A
			DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: —	SHEET 20

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:01 PM 8490_21.dwg

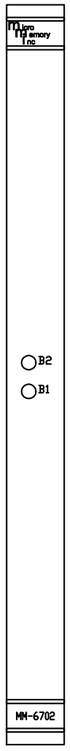
FRONT END COMPUTER
BLDG #: 1011B
RACK #: R011B10
CHASSIS ID: CFE-11B-PS2
SLOT#: 1
FEC NAME: cfe-11b-ps2



ETHERNET NETWORK

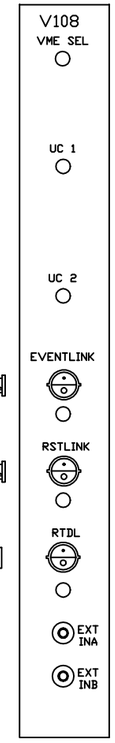
REF. NETWORK DIAGRAM

DEVICE: MM-6702 MEMORY MODULE
BLDG #: 1011B
RACK #: R11B10
CHASSIS ID: CFE-11B-PS2
SLOT #: 2
A24 BASE ADDRESS: XXX



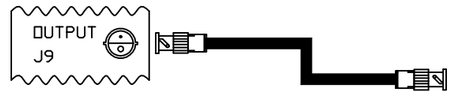
JUMPER LIST
1. REMOVE E1.
2. INSTALL E15.
3. SW3 CLOSE ALL POSITIONS.
4. SW2 CLOSE POSITIONS 7 AND 8.
5. SW1 CLOSE POSITIONS 2-8.
6. INSTALL E14 AND E25 TO ENABLE BATTERIES

DEVICE: V108 UTILITY MODULE
BLDG #: 1011B
RACK #: R011B10
CHASSIS ID: CFE-11B-PS2
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000



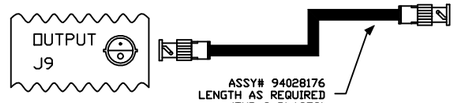
ASSY# 94028094

EVENT LINK
BLDG #: 1011B
RACK #: R011B08
FANOUT #: A

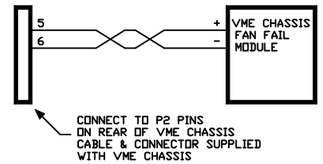


RESET LINK
BLDG #: 1011B
RACK #: R011B08
FANOUT #: C

REAL TIME DATA LINK
BLDG #: 1011B
RACK #: R011B08
FANOUT #: B



ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)



JUMPER LIST

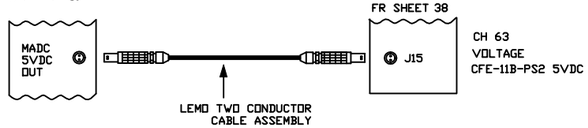
E25 through E50 are configured for remote reset address at the time of board acceptance test.
DO NOT MODIFY!

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

V199
BLDG #: 1011B
RACK #: R011B10
CHASSIS ID: CFE-11B-PS2
SLOT #: 19

MADC MUX A/D IO PANEL
BLDG #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL D



-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	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

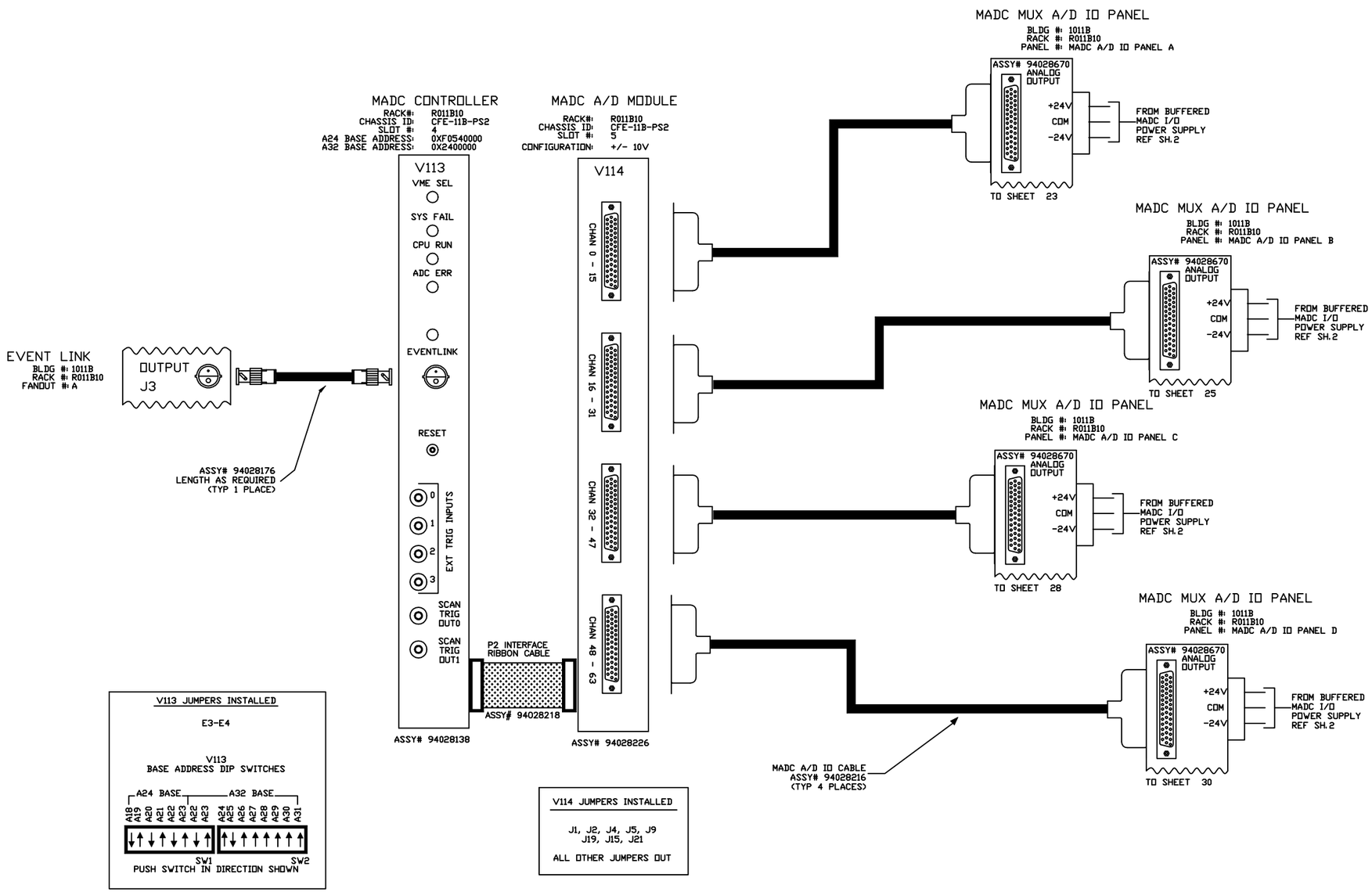
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, VME CHASSIS CFE-11B-PS2
FT END COMP/V108 UTIL MODULE
SIZE D | 94028490 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 21

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 2:20 PM 8490_22.dwg



V113 JUMPERS INSTALLED

E3-E4

V113
BASE ADDRESS DIP SWITCHES

A24 BASE — A32 BASE

A18 A19 A20 A21 A22 A23 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°

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

OUTSTANDING ECN

NEXT ASSEMBLY

Q.A. CATEGORY	A-3	DATE
DRAWN BY	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

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

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1011B, VME CHASSIS CFE-11B-PS2

MADC SYSTEM

SIZE D | 94028490 | REV. A

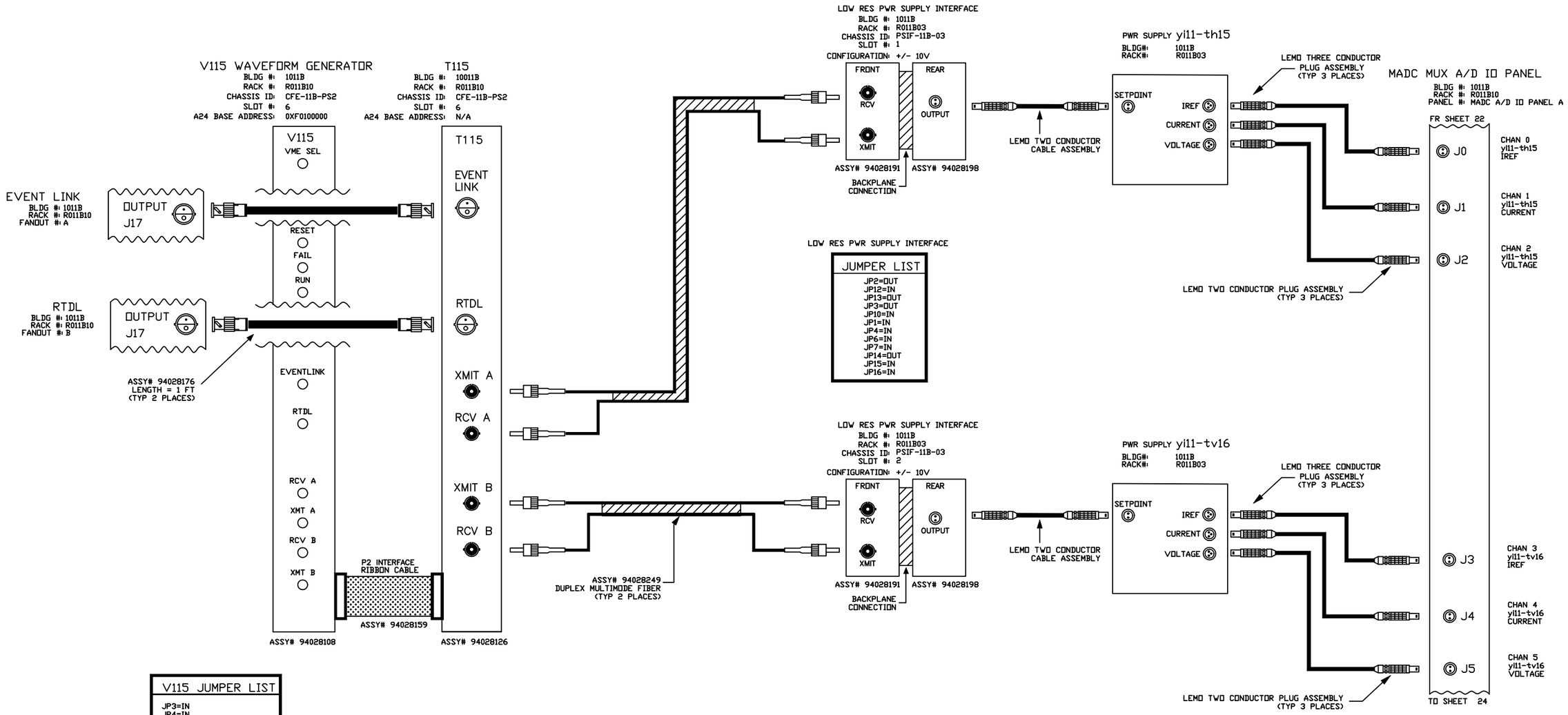
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 22

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:02 PM 8490_23.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°
FINISH NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN
NEXT ASSEMBLY

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Phil Pape	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS2
POWER SUPPLY yi11-th15/yi11-tv16

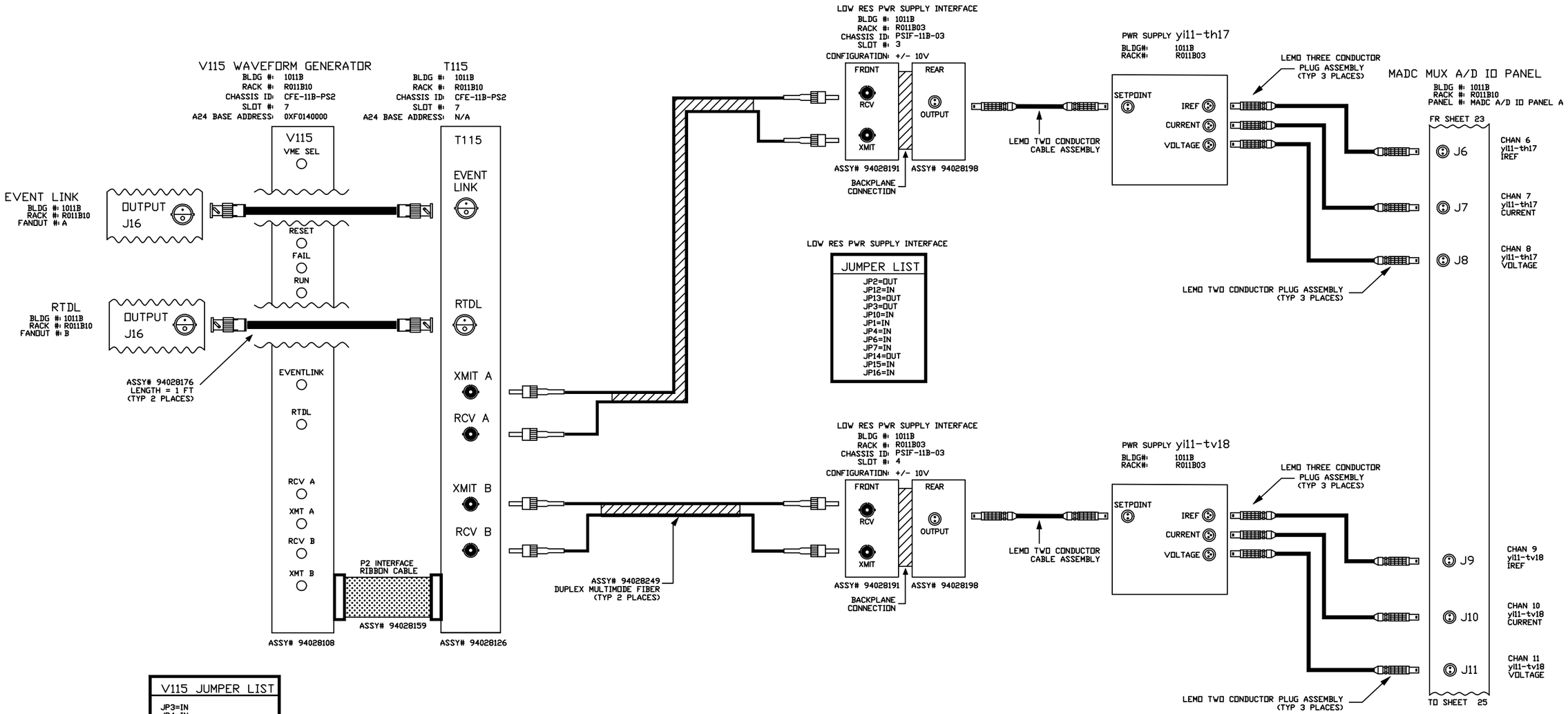
SIZE	DRAWING NUMBER	REV.
D	94028490	A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 23

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:03 PM 8490_24.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°
NA FINISH
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN
NEXT ASSEMBLY

Q.A. CATEGORY A-3		DATE	
DRAWN BY	Phil Pape	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			

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

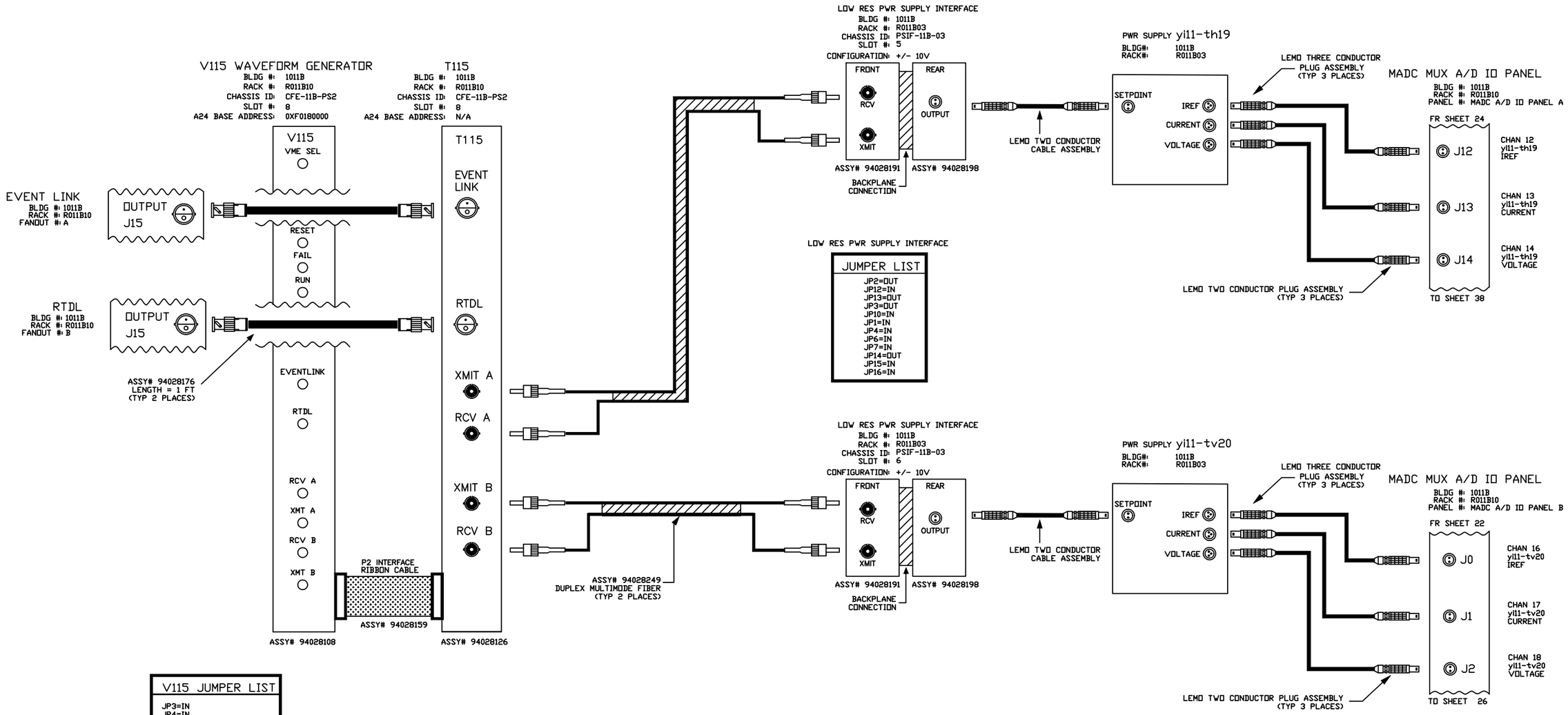
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS2
POWER SUPPLY yi11-th17/yi11-tv18

SIZE D | 94028490 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 24

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:07 PM 8490_25.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	8/8/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/8/97	
SUPVR. APPROVAL			

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS2
POWER SUPPLY yi11-th19/yi11-tv20

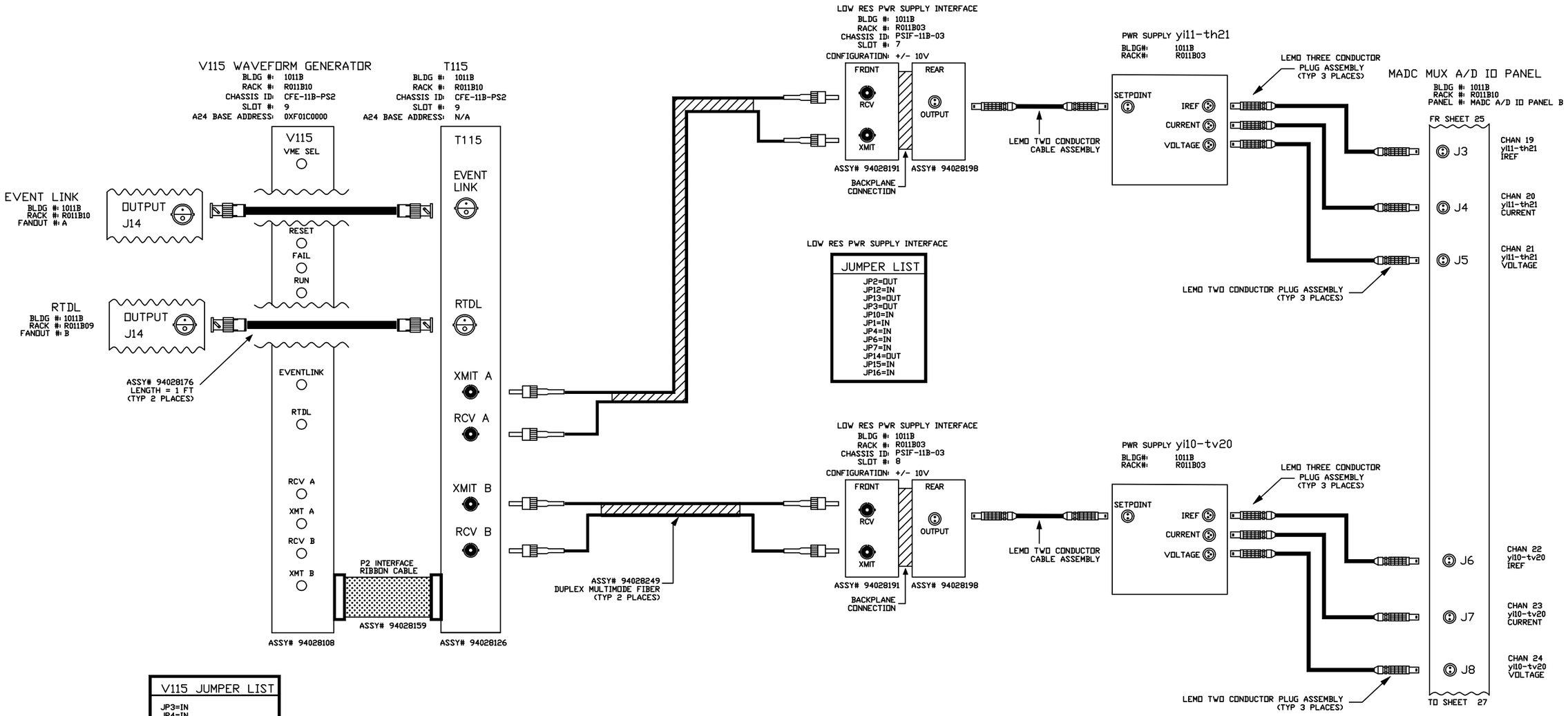
SIZE	DRAWING NUMBER	REV.
D	94028490	A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 25

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:07 PM 8490_26.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 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	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

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

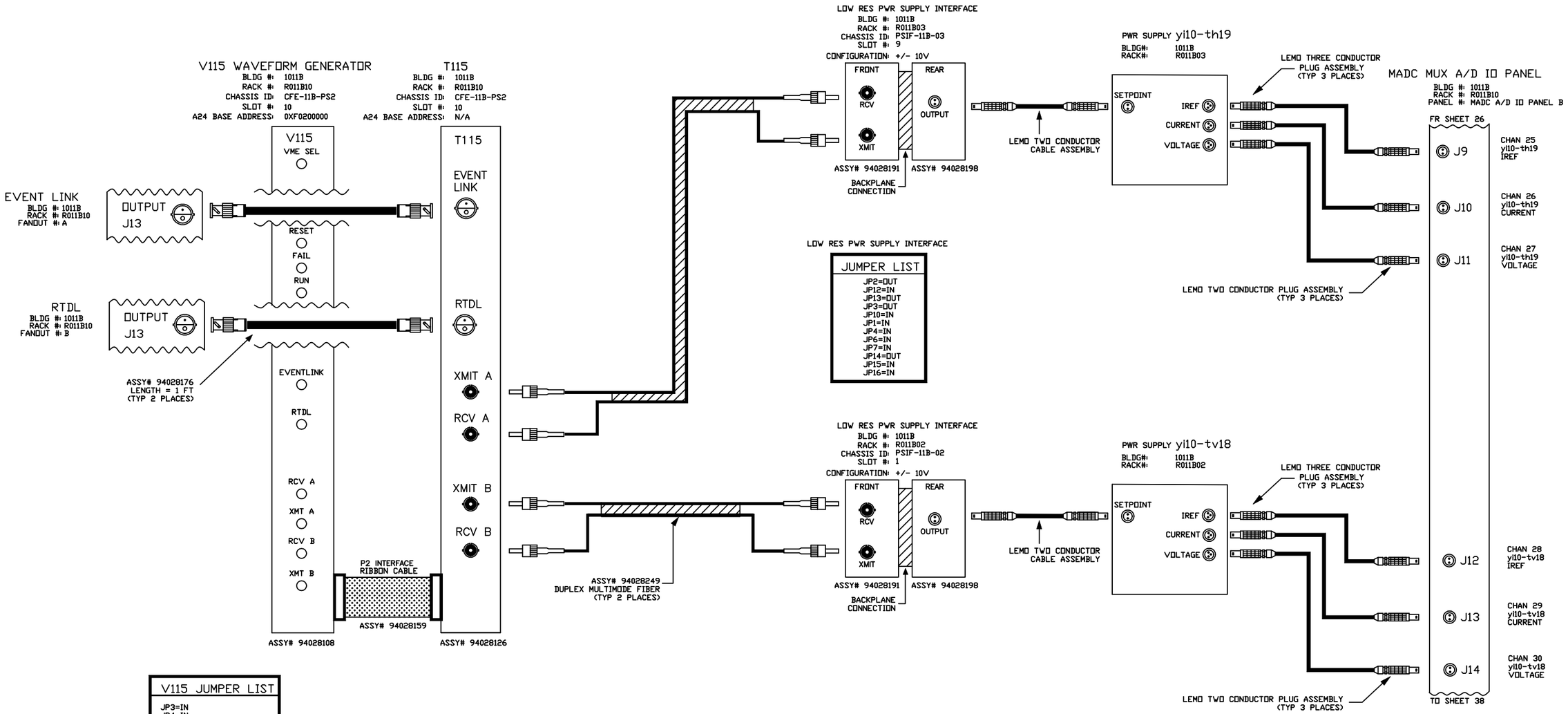
RHIC CONTROLS WIRING DIAGRAM
BLDG. 1011B, CFE-11B-PS2
POWER SUPPLY yi11-th21/yi10-tv20

SIZE D | 94028490 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 26

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:09 PM 8490_27.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
NEXT ASSEMBLY

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Phil Pape	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			

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

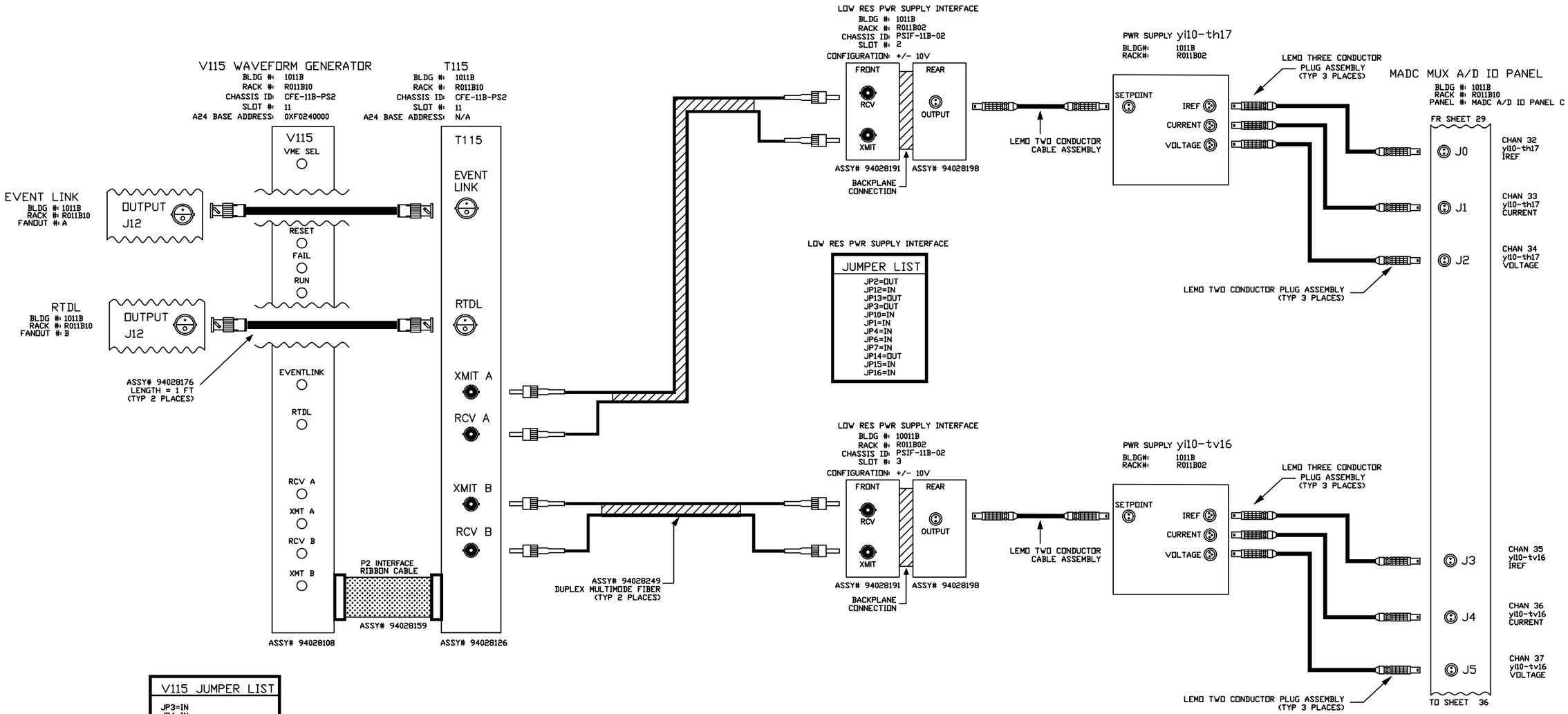
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS2
POWER SUPPLY yi10-th19/yi10-tv18

SIZE D | DRAWING NUMBER 94028490 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 27

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:10 PM 8490_28.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./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	8/7/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/7/97	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS2
POWER SUPPLY yi10-th17/yi10-tv16

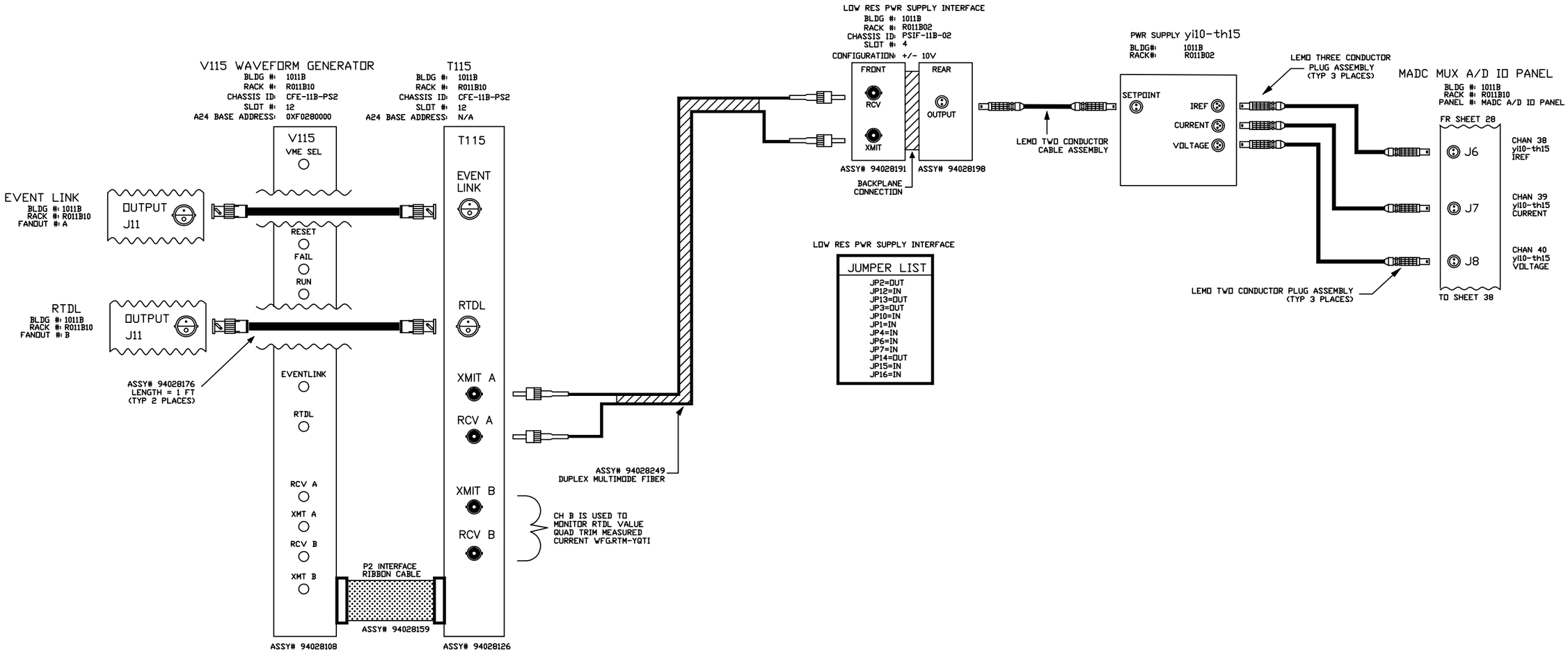
SIZE D | DRAWING NUMBER 94028490 | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:11 PM 8490_29.dwg



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

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./INT. 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	8/7/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/7/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS2
POWER SUPPLY yi10-th15

SIZE D
94028490
REV. A
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 29

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:14 PM 8490_30.dwg

V115 WAVEFORM GENERATOR

BLDG #: 1011B
RACK #: R011B10
CHASSIS ID: CFE-11B-PS2
SLOT #: 13
A24 BASE ADDRESS: 0XF02C0000

T115

BLDG #: 1011B
RACK #: R011B10
CHASSIS ID: CFE-11B-PS2
SLOT #: 13
A24 BASE ADDRESS: N/A

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

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

EVENT LINK
BLDG #: 1011B
RACK #: R011B10
FANOUT #: A
OUTPUT J10

RTDL
BLDG #: 1011B
RACK #: R011B10
FANOUT #: B
OUTPUT J10

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

P2 INTERFACE RIBBON CABLE
ASSY# 94028159

ASSY# 94028108
ASSY# 94028126

ASSY# 94028249
DUPLEX MULTIMODE FIBER
(TYP 2 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

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1011B
RACK #: R011B03
CHASSIS ID: PSIF-11B-03
SLOT #: 12
CONFIGURATION: +/- 10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

LEMO TWO CONDUCTOR CABLE ASSEMBLY

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

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1011B
RACK #: R011B03
CHASSIS ID: PSIF-11B-03
SLOT #: 13
CONFIGURATION: +/- 10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY yi11-sxf-ps

BLDG#: 1011B
RACK#: R011B06

SETPOINT
IREF
CURRENT
VOLTAGE
ERROR
GRD CURRENT

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL C

FR SHEET 38

J12	CHAN 44 yi11-sxf-ps IREF
J13	CHAN 45 yi11-sxf-ps CURRENT
J14	CHAN 46 yi11-sxf-ps VOLTAGE
J15	CHAN 47 yi11-sxf-ps ERROR

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL D

FR SHEET 30

J5	CHAN 53 yi11-sxf-ps GRD CURRENT

TO SHEET 38

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

PWR SUPPLY yi11-sxd-ps

BLDG#: 1011B
RACK#: R011B07

SETPOINT
IREF
CURRENT
VOLTAGE
ERROR
GRD CURRENT

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL D

FR SHEET 22

J0	CHAN 48 yi11-sxd-ps IREF
J1	CHAN 49 yi11-sxd-ps CURRENT
J2	CHAN 50 yi11-sxd-ps VOLTAGE
J3	CHAN 51 yi11-sxd-ps ERROR
J4	CHAN 52 yi11-sxd-ps GRD CURRENT

TO SHEET 30

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

-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

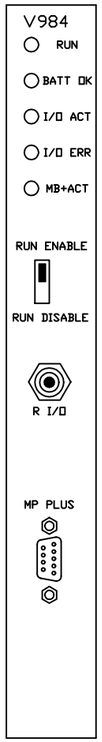
Q.A. CATEGORY A-3
DRAWN BY: Phil Pape 8/7/97
CHECKED BY:
DESIGN APPROVAL:
ENGINEER APPROVAL: R. MICHNOFF 8/7/97
SUPVR. APPROVAL:
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B, CFE-11B-PS2
PWR SPLY yi11-sxf-ps/yi11-sxd-ps
SIZE D
94028490
REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 30

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

V984
BLDG #: 1011B
RACK #: R11B10
CHASSIS ID: CFE-11B-PS2
SLOT #: 21
AXX BASE ADDRESS: XXXXXXXX



-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

DRAWN BY	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

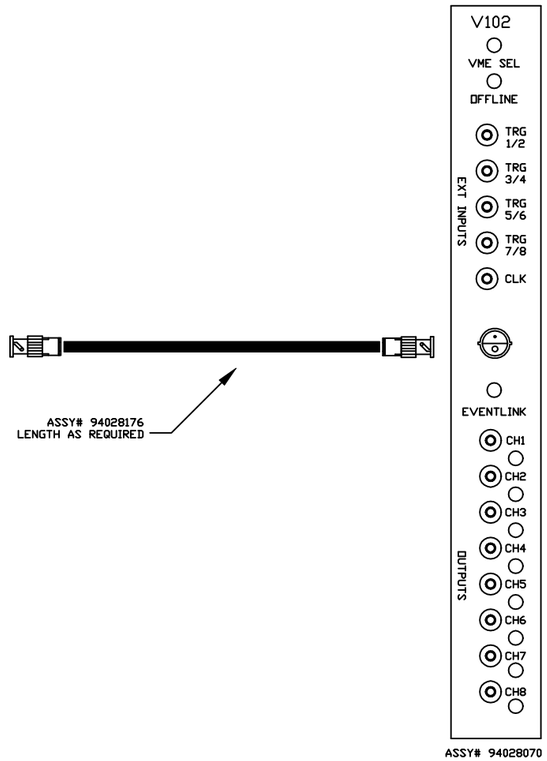
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B CHASSIS CFE-11B-PS2
MODICON VME PLC

SIZE D
94028490
REV. A
DRAWING NUMBER
MATERIAL: ———— SCALE: NA WEIGHT: – SHEET 32 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

V102 DELAY MODULE
BLDG #: 1011B
RACK #: R011B10
CHASSIS ID: CFE-11B-PS2
SLOT #: 20
A16 BASE ADDRESS: 0XFFFFE600



ASSY# 94028070

EVENT LINK
BLDG #: 1011B
RACK #: R011B09
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°
NA FINISH
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A-3		DATE
DRAWN BY	Ed Koropsak	2/24/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/24/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

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

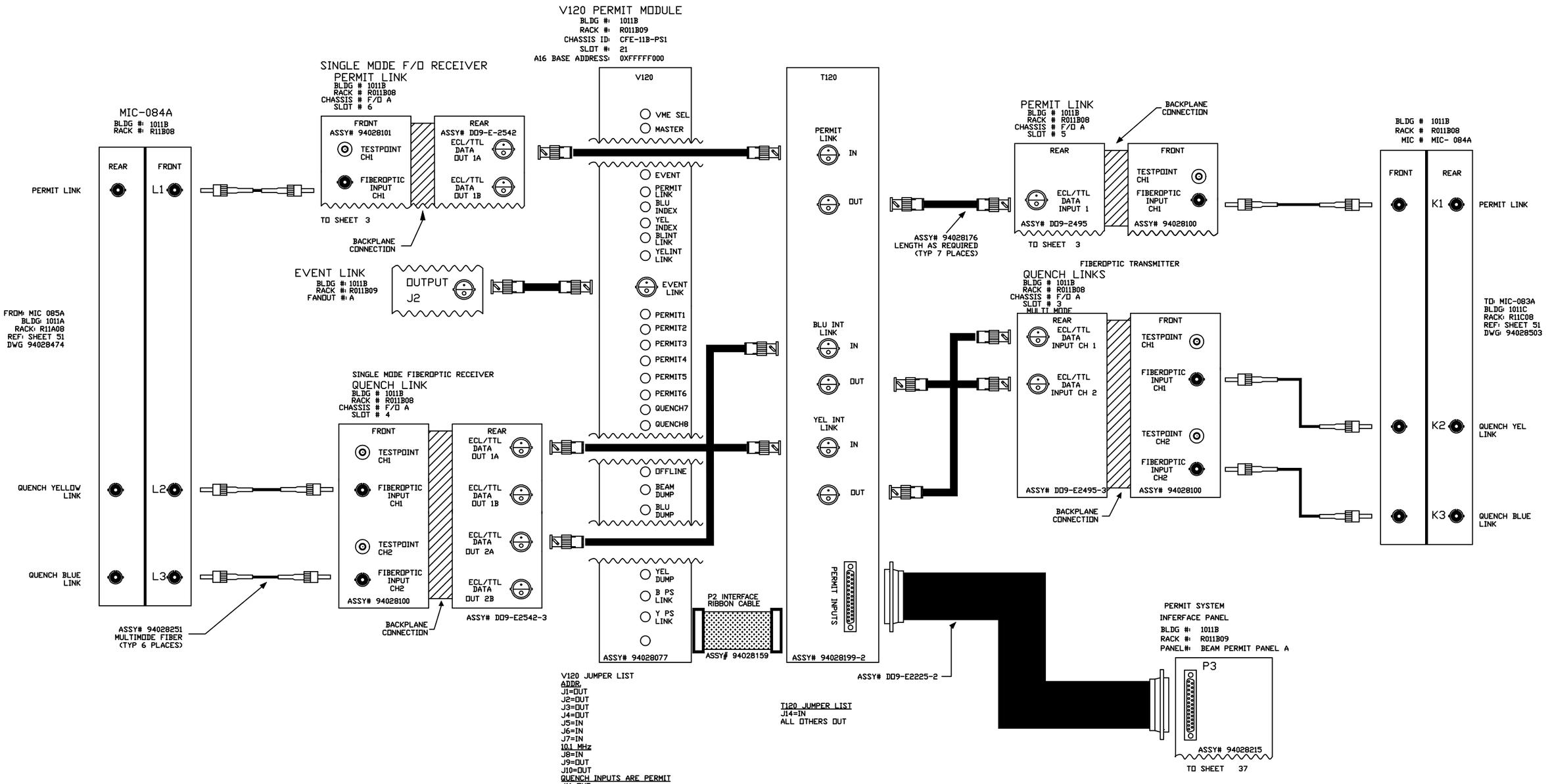
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011B CHASSIS CFE-11B-PS2
V102 DELAY MODULE

SIZE D
94028490
DRAWING NUMBER
REV. A
MATERIAL: ———— SCALE: NA WEIGHT: – SHEET 33 OF 38

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/16/99 2:20 PM 8490_36.dwg



V120 JUMPER LIST

ADDR.
J1=OUT
J2=OUT
J3=OUT
J4=OUT
J5=IN
J6=IN
J7=IN

10.1 MHz
J8=IN
J9=OUT
J10=OUT

QUENCH INPUTS ARE PERMIT
J11=OUT

MASTER
J12=OUT

QUENCH DISABLE
J13=OUT
J14=OUT

T120 JUMPER LIST

J14=IN
ALL OTHERS 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	Ed Koropsak	2/24/98	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	2/24/98	
SUPVR. APPROVAL			

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1011B, CHASSIS CFE-11B-PS1

V120/T120 PERMIT SYSTEM

SIZE D | 94028490 | REV. A

DRAWING NUMBER

MATERIAL: —— SCALE: NA WEIGHT: — SHEET 36 OF 38

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 2:46 PM 8490_37.dwg

PERMIT SYSTEM INTERFACE MODULE

BLDG #: 1011B
RACK #: R011B09
PANEL #: PERMIT I/F PANEL A

FROM SHEET 36

ASSY # 94028215

BEAM PERMIT SYSTEM

OUTPUTS

- PERMIT LEVEL
- BLUE
- YELLOW
- 1 — TO QUENCH SEXT
- 2
- 3
- 4

INPUTS

- 5
- 6 — TO CORR POWER SUPPLY
- 7 BLUE QUENCH — TO QUENCH SYSTEM
- 8 YELLOW QUENCH — TO QUENCH SYSTEM

-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	8/7/97	UPTON, N.Y. 11973
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		ALCOVE 1011B, RACK R011B09
	ENGINEER APPROVAL: R. MICHNOFF	8/7/97	PERMIT SYSTEM INTERFACE PANEL
	SUPVR. APPROVAL		SIZE D — 94028490 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 37

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 2:05 PM 8490_38.dwg

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL B

FR SHEET 17

- J15 — CHAN 31 SPARE

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL C

FR SHEET 19

- J9 — CHAN 41 SPARE
- J10 — CHAN 42 SPARE
- J11 — CHAN 43 SPARE

TO SHEET 20

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B09
PANEL #: MADC A/D IO PANEL D

FR SHEET 20

- J6 — CHAN 54 SPARE
- J7 — CHAN 55 SPARE
- J8 — CHAN 56 SPARE
- 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 21

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL A

FR SHEET 25

- J15 — CHAN 15 SPARE

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL B

FR SHEET 27

- J15 — CHAN 31 SPARE

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL C

FR SHEET 29

- J9 — CHAN 41 SPARE
- J10 — CHAN 42 SPARE
- J11 — CHAN 43 SPARE

TO SHEET 30

MADC MUX A/D IO PANEL

BLDG #: 1011B
RACK #: R011B10
PANEL #: MADC A/D IO PANEL D

FR SHEET 30

- J6 — CHAN 54 SPARE
- J7 — CHAN 55 SPARE
- J8 — CHAN 56 SPARE
- 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./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°

FINISH: NA

BREAK SHARP EDGES
MAX. XX MIN. XX

OUTSTANDING ECN

NEXT ASSEMBLY

Q.A. CATEGORY A–3		DATE
DRAWN BY	Ed Koropsak	3/18/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/18/98
SUPVR. APPROVAL		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1011B

SPARE MADC INPUTS

SIZE D — 94028490 — REV. A

DRAWING NUMBER

MATERIAL: ———— SCALE: NA WEIGHT: – SHEET 38

*AUTOCAD