RHIC Accelerator Controls Section
Alcove 1011A Wiring Diagrams
BNL Drawing Number 94028474

Brookhaven National Laboratory, Upton, New York 11973

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

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

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

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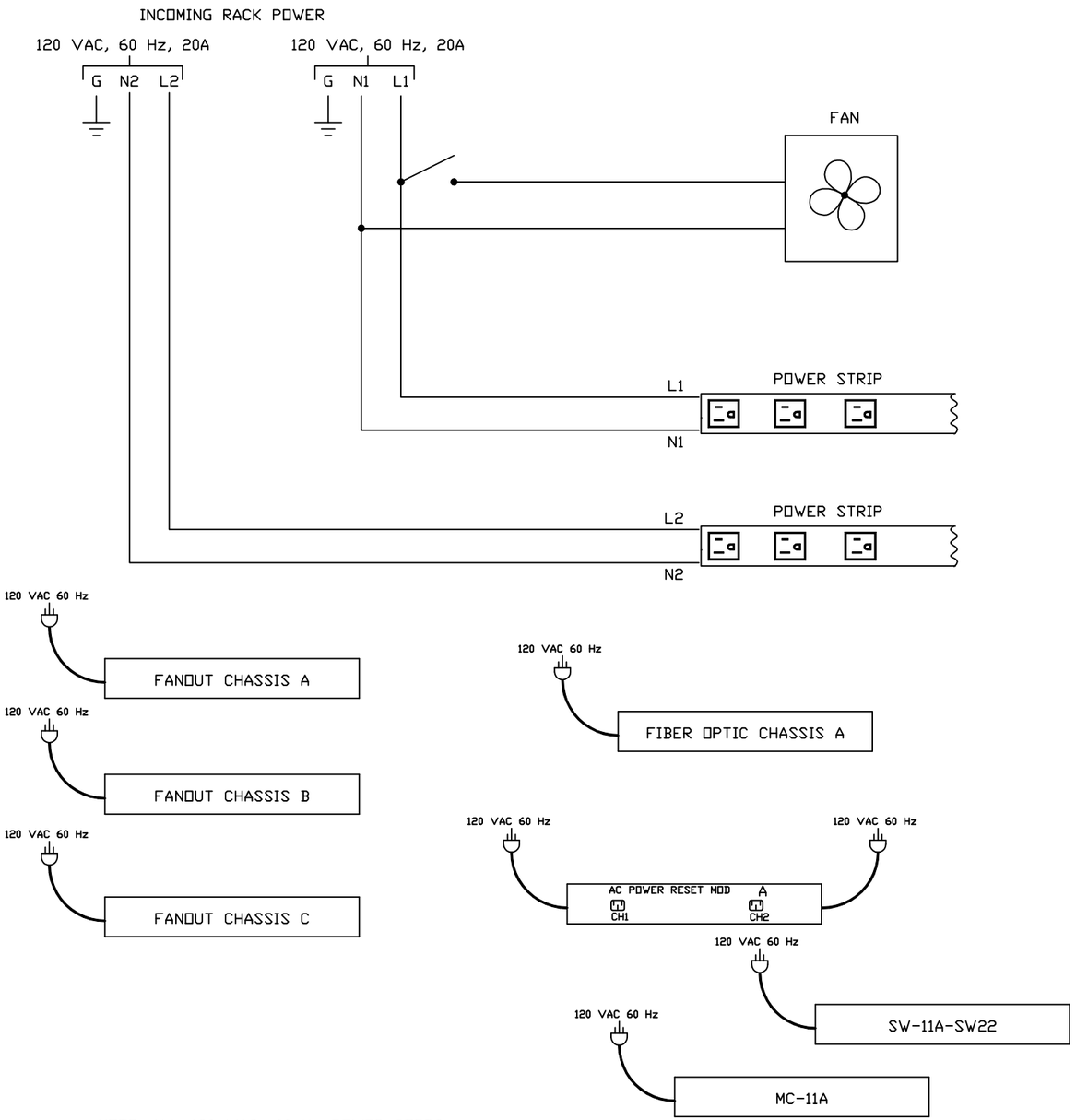

NOTE: ALL 120 VAC, 60 Hz POWER CORDS PLUG INTO POWER STRIP OUTLETS

RACK R011A08

QTY REQD -3	QTY REQD -2	QTY REQD -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
		2		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	Ed Koropsak	2/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/20/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, RACK R011A08
POWER DISTRIBUTION

SIZE D | 94028474 | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

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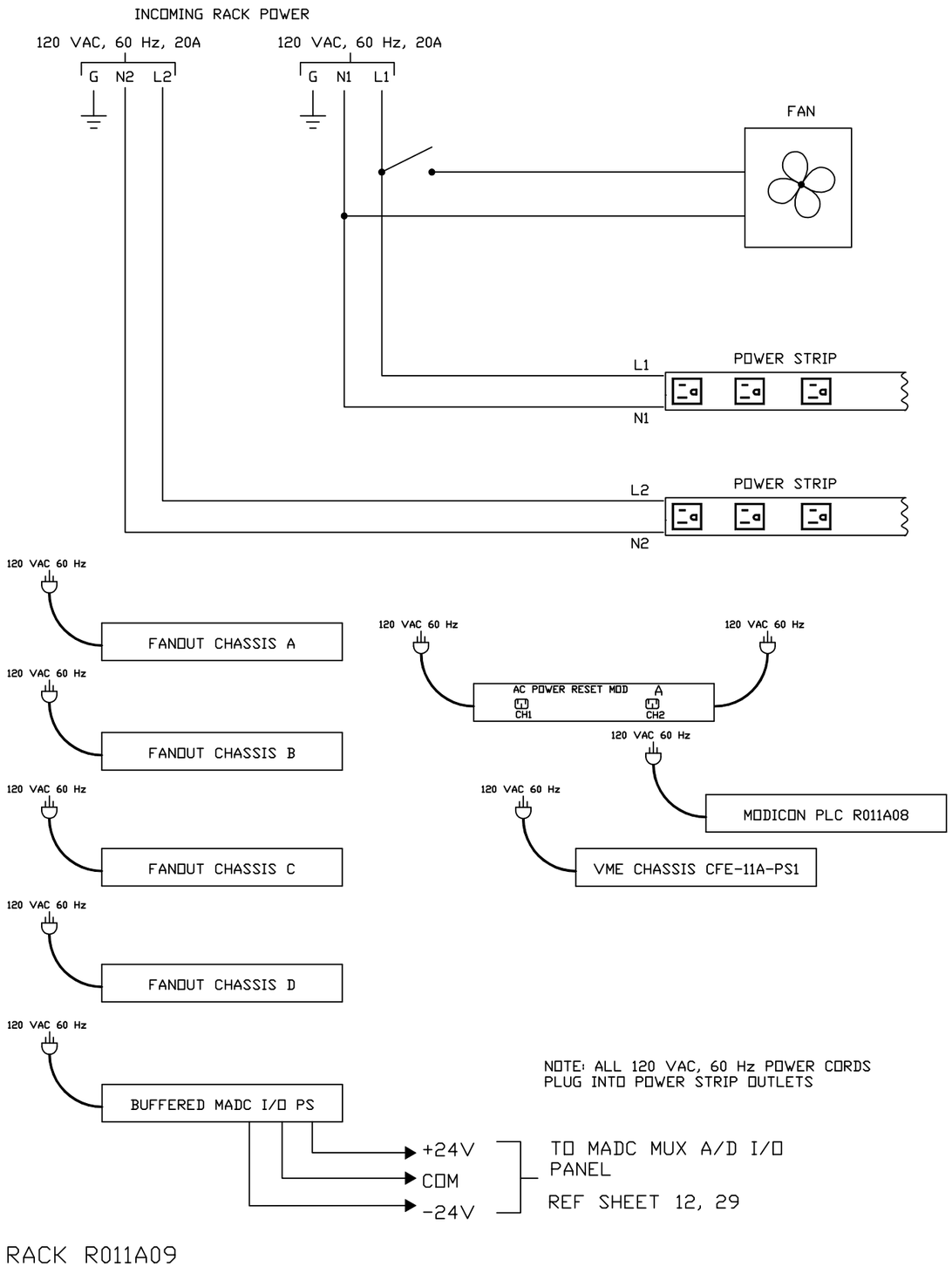
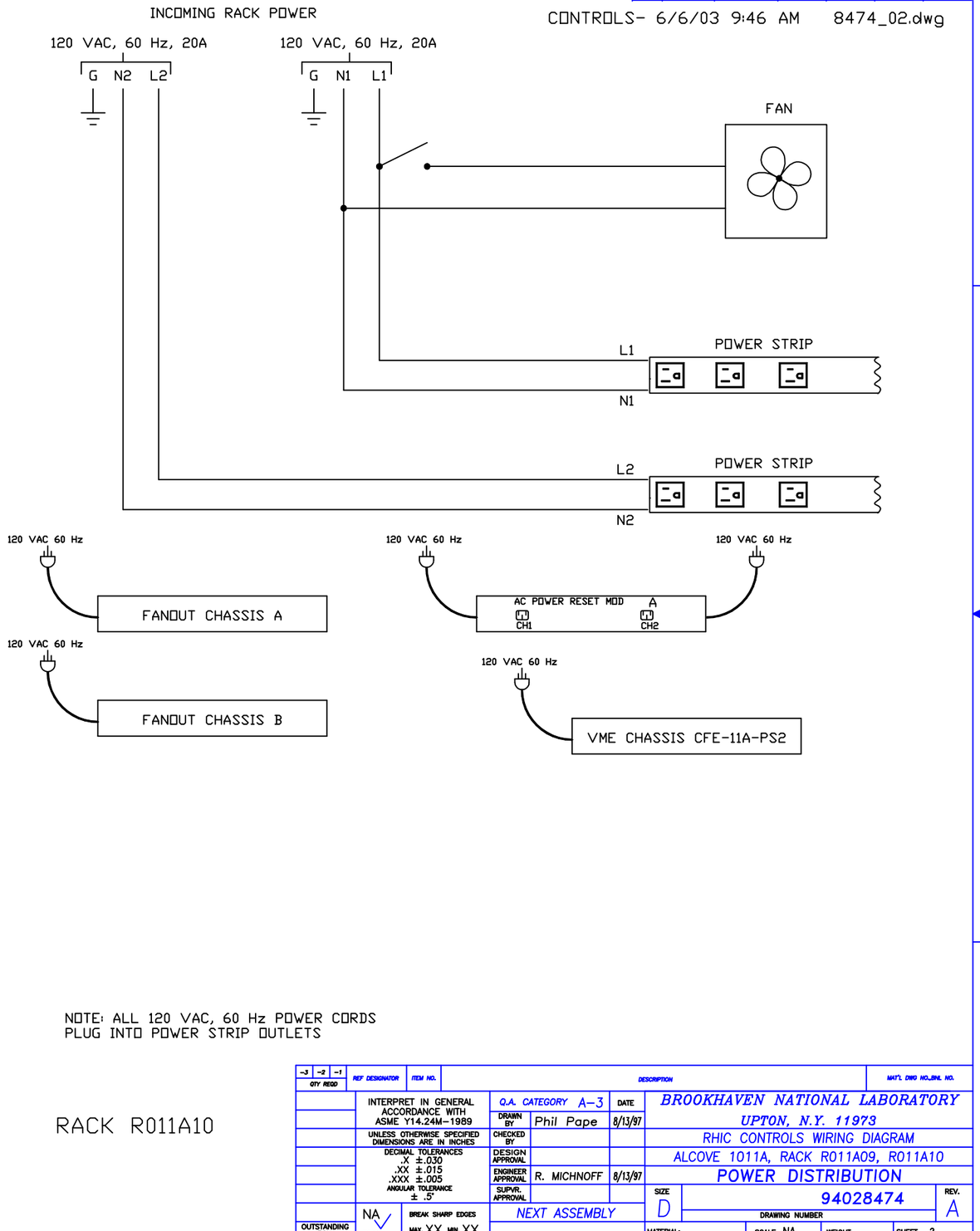




-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.

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	8/13/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/13/97	
SUPVR. APPROVAL			

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, RACK R011A09, R011A10
POWER DISTRIBUTION

SIZE D | 94028474 | REV. A
DRAWING NUMBER

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

*AUTOCAD

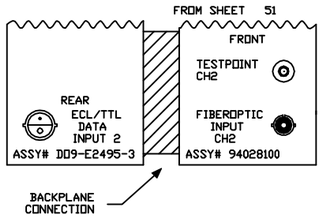
REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 12/3/99 2:10 PM 8474_03.dwg

VMIVME 4122
BLDG #: 1011A
RACK #: R11A09
CHASSIS # CFE-11A-PS1
SLOT # 20

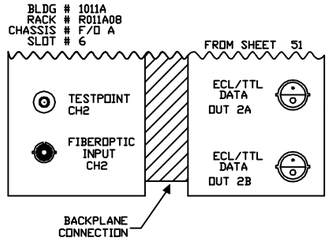
MULTIMODE FIBER OPTIC TRANSMITTER

BLDG # 1011A
RACK # R011A08
CHASSIS # F/O A
SLOT # 5



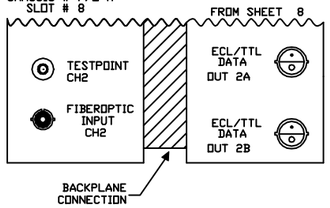
FIBER OPTIC RECEIVER

BLDG # 1011A
RACK # R011A08
CHASSIS # F/O A
SLOT # 6



FIBER OPTIC RECEIVER

BLDG # 1011A
RACK # R011A08
CHASSIS # F/O A
SLOT # 8



-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	8/13/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/13/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

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

SIZE D | 94028474 | REV. A
DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 3 OF 53

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

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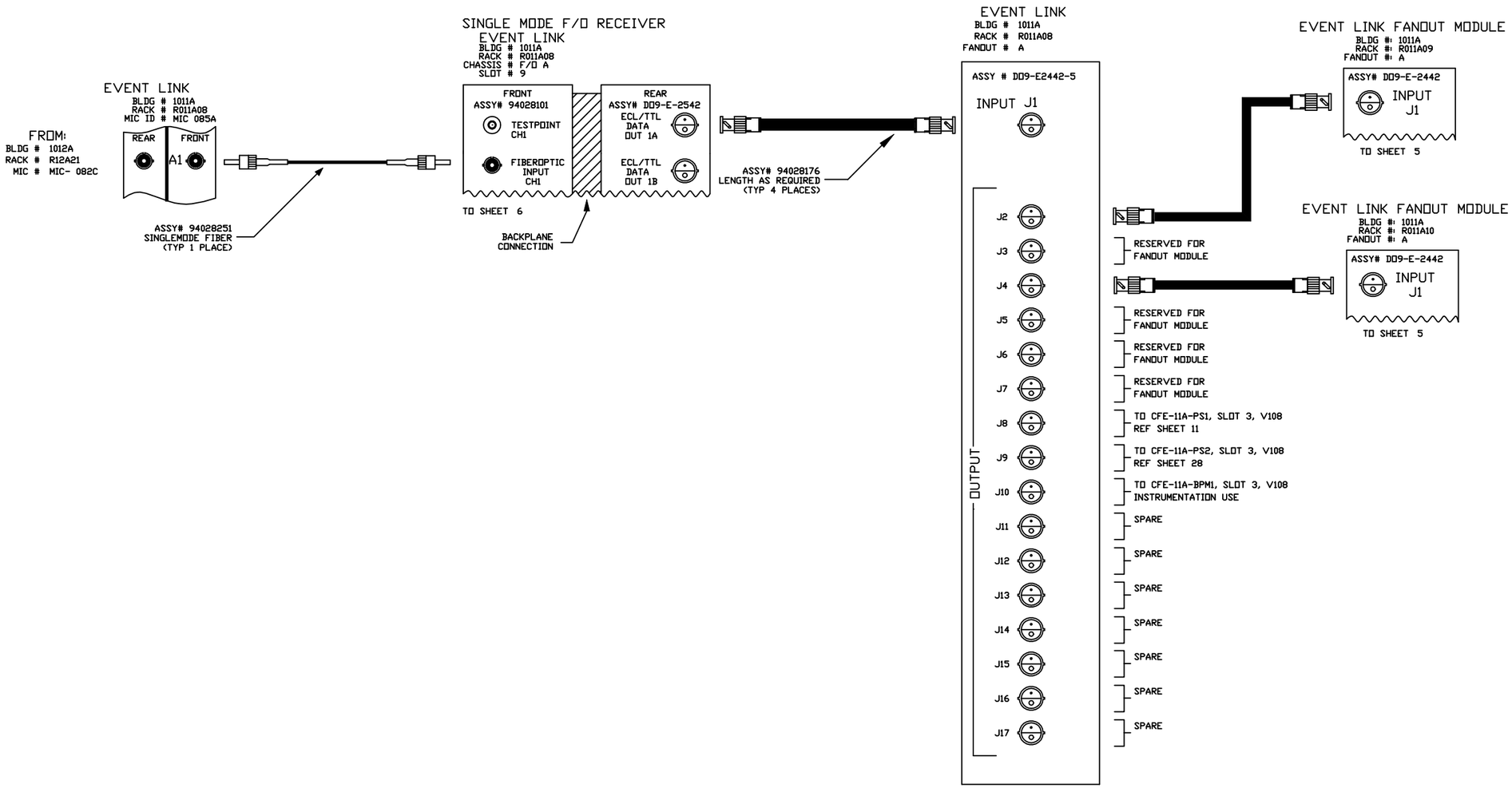

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./DWG NO.

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Ed Koropsak	2/20/98	UPTON, N.Y. 11973
DECIMAL TOLERANCES X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		ALCOVE 1011A
	ENGINEER APPROVAL R. MICHNOFF	2/20/98	EVENT LINK
	SUPVR. APPROVAL		SIZE D — 94028474 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 4 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/13/99 2:21 PM 8474_05.dwg

EVENT LINK FANOUT MODULE

BLDG # 1011A
RACK # R011A09
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

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

EVENT LINK FANOUT MODULE

BLDG # 1011A
RACK # R011A10
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

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

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

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M–1989
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005
ANGULAR TOLERANCE ± .5'

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

Q.A. CATEGORY A–3		DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Ed Koropsak	2/23/98	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1011A
ENGINEER APPROVAL	R. MICHNOFF	2/23/98	EVENT LINK
SUPVR. APPROVAL			
NEXT ASSEMBLY			SIZE D — 94028474 — REV. A
			DRAWING NUMBER
			MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 5 of 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

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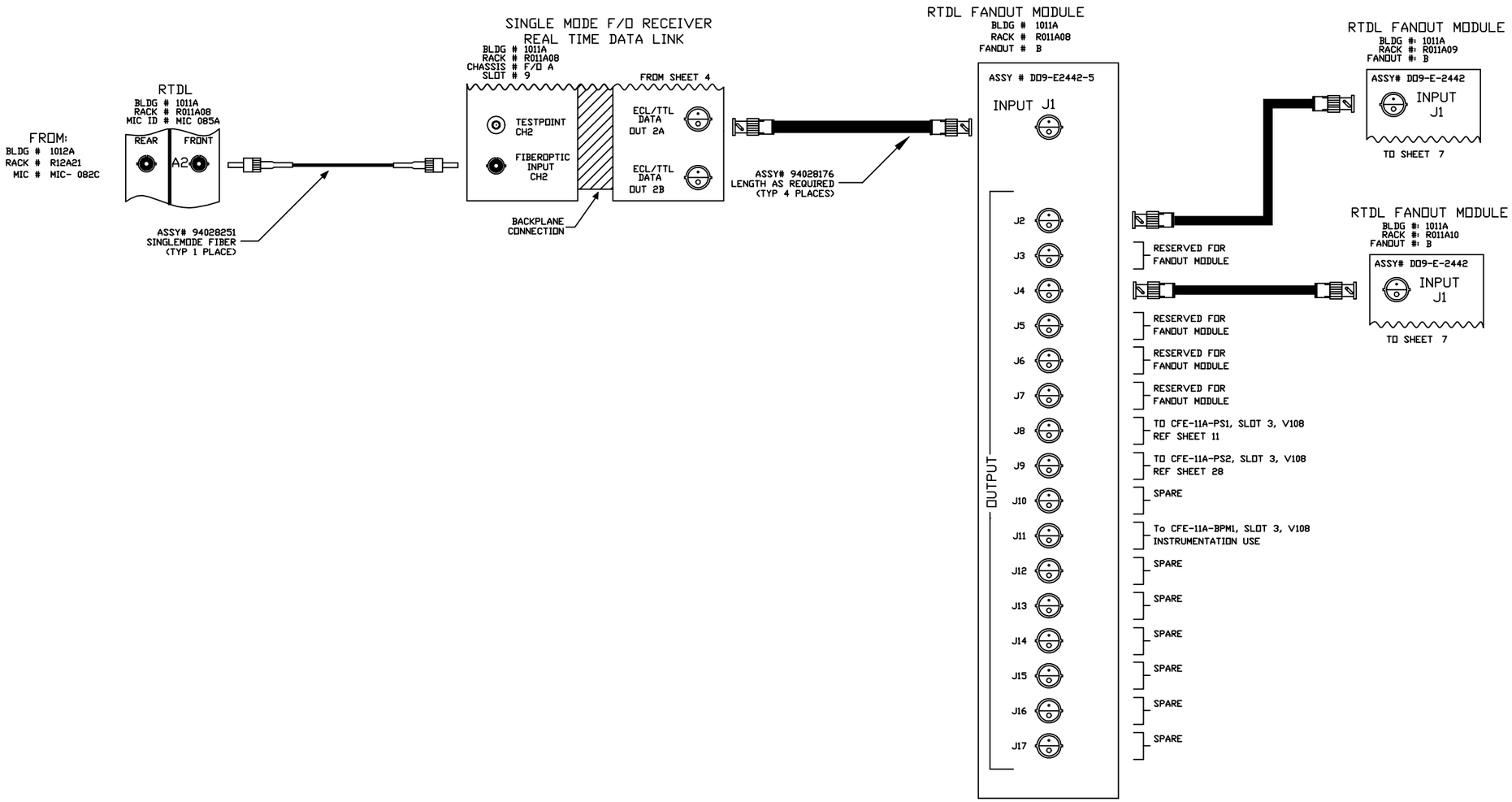


-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./DWG NO.

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	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A
REAL TIME DATA LINK

SIZE D
94028474
DRAWING NUMBER
REV. A

MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 6 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/13/99 2:26 PM 8474_07.dwg

RTDL FANOUT MODULE

BLDG # 1011A
RACK # R011A09
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-11A-PS1, SLOT 14, T115 REF SHEET 21
J10	To CFE-11A-PS1, SLOT 13, T115 REF SHEET 20
J11	To CFE-11A-PS1, SLOT 12, T115 REF SHEET 19
J12	To CFE-11A-PS1, SLOT 11, T115 REF SHEET 18
J13	To CFE-11A-PS1, SLOT 10, T115 REF SHEET 17
J14	To CFE-11A-PS1, SLOT 9, T115 REF SHEET 16
J15	To CFE-11A-PS1, SLOT 8, T115 REF SHEET 15
J16	To CFE-11A-PS1, SLOT 7, T115 REF SHEET 14
J17	To CFE-11A-PS1, SLOT 6, T115 REF SHEET 13

RTDL FANOUT MODULE

BLDG # 1011A
RACK # R011A10
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-11A-PS2, SLOT 14, T115 REF SHEET 38
J10	To CFE-11A-PS2, SLOT 13, T115 REF SHEET 37
J11	To CFE-11A-PS2, SLOT 12, T115 REF SHEET 36
J12	To CFE-11A-PS2, SLOT 11, T115 REF SHEET 35
J13	To CFE-11A-PS2, SLOT 10, T115 REF SHEET 34
J14	To CFE-11A-PS2, SLOT 9, T115 REF SHEET 33
J15	To CFE-11A-PS2, SLOT 8, T115 REF SHEET 32
J16	To CFE-11A-PS2, SLOT 7, T115 REF SHEET 31
J17	To CFE-11A-PS2, SLOT 6, T115 REF SHEET 30

-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	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A
REAL TIME DATA LINK

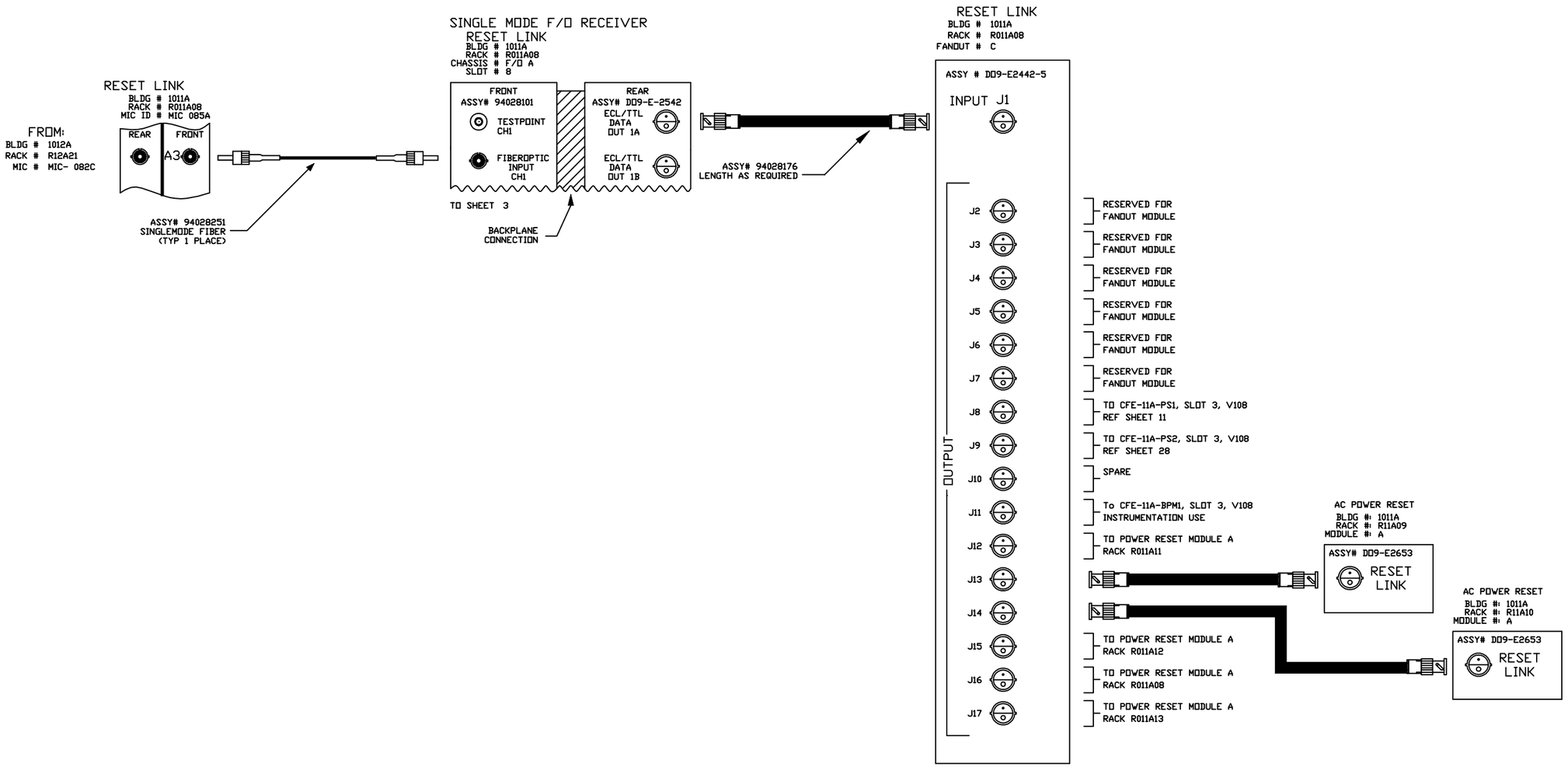
SIZE D
94028474
DRAWING NUMBER
REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 11:20 AM 8474_08.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 Ed Koropsak	2/23/98	UPTON, N.Y. 11973
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL		ALCOVE 1011A
ENGINEER APPROVAL R. MICHNOFF	2/23/98	RESET LINK
SUPVR. APPROVAL		SIZE D — 94028474 — REV. A
NEXT ASSEMBLY		DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: – SHEET 8

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

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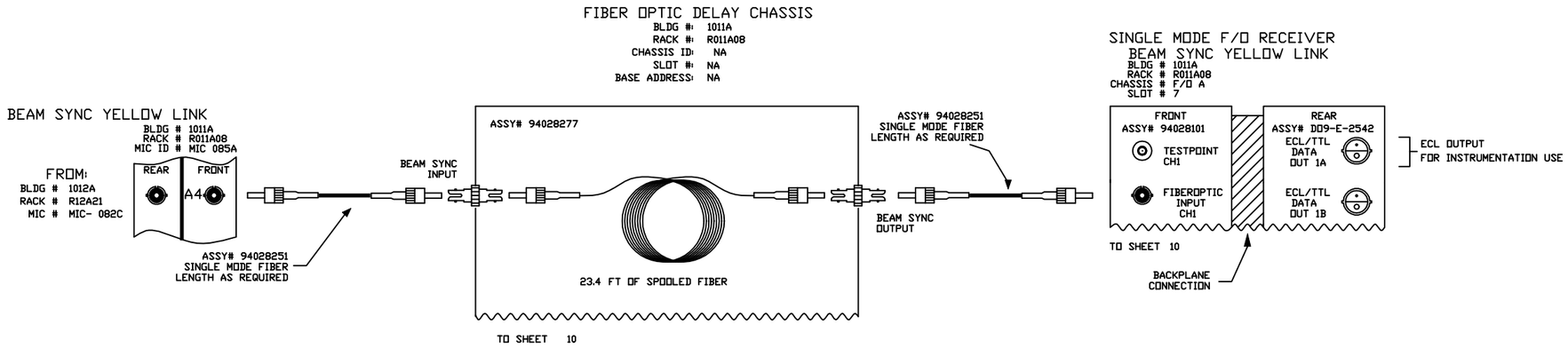


-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.

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	Ed Koropsak	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A
BEAM SYNC YELLOW LINK

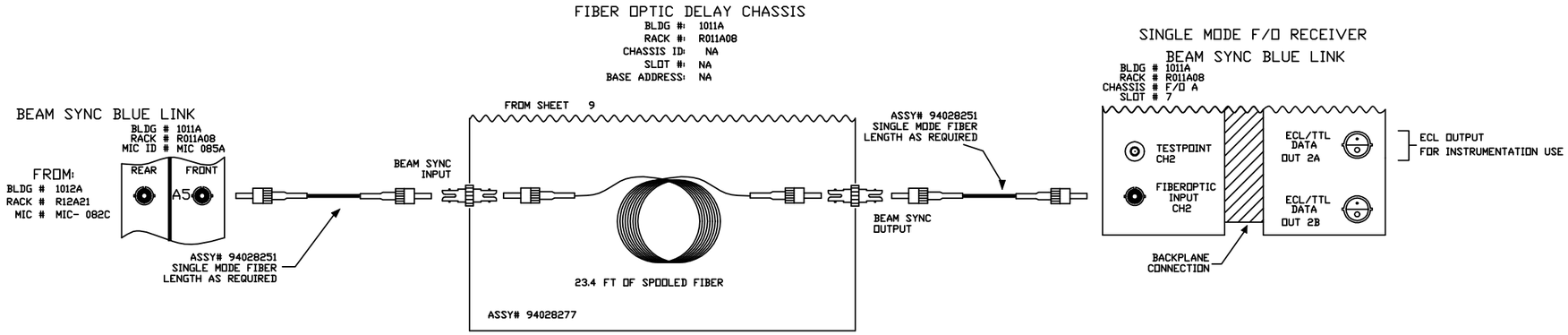
SIZE D | 94028474 | REV. A
DRAWING NUMBER

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/13/99 2:43 PM 8474_10.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	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A
BEAM SYNC BLUE LINK

SIZE D | 94028474 DRAWING NUMBER | REV. A

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

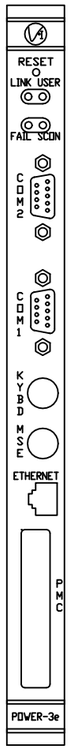
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 10:52 AM 8474_11.dwg

FRONT END COMPUTER

BLDG #: 1011A
RACK #: R011A09
CHASSIS ID: CFE-11A-PS1
SLOT#: 1
FEC NAME: cfe-11a-ps1

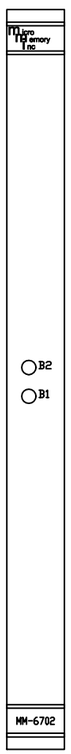


ETHERNET NETWORK

REF. NETWORK DIAGRAM

DEVICE: MM-6702 MEMORY MODULE

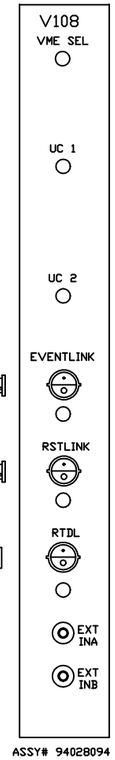
BLDG #: 1011A
RACK #: R11A09
CHASSIS ID: CFE-11A-PS1
SLOT #: 2
A24 BASE ADDRESS: XXX



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 #: 1011A
RACK #: R011A09
CHASSIS ID: CFE-11A-PS1
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000



ASSY# 94028094

EVENT LINK
BLDG #: 1011A
RACK #: R011A08
FANOUT #: A

OUTPUT J8

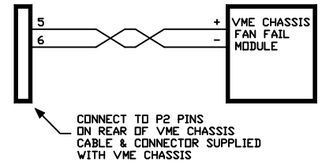
RESET LINK
BLDG #: 1011A
RACK #: R011A08
FANOUT #: C

OUTPUT J8

REAL TIME DATA LINK
BLDG #: 1011A
RACK #: R011A08
FANOUT #: B

OUTPUT J8

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

ROOM TEMP SENSOR

POWER FROM BUFFERED MADC POWER SUPPLY
+24 V
GND

MADC MUX A/D IO PANEL

BLDG #: 1011A
RACK #: R011A09
PANEL #: MADC A/D IO PANEL A

FR SHEET15

J15

15
ROOM TEMP
1011A

V199
BLDG #: 1011A
RACK #: R011A09
CHASSIS ID: CFE-11A-PS1
SLOT #: 19

MADC 5VDC OUT

LEMO TWO CONDUCTOR CABLE ASSEMBLY

MADC MUX A/D IO PANEL

BLDG #: 1011A
RACK #: R011A10
PANEL #: MADC A/D IO PANEL D

FR SHEET 54

J15

CH 63
VOLTAGE
CFE-11A-PS1 5VDC

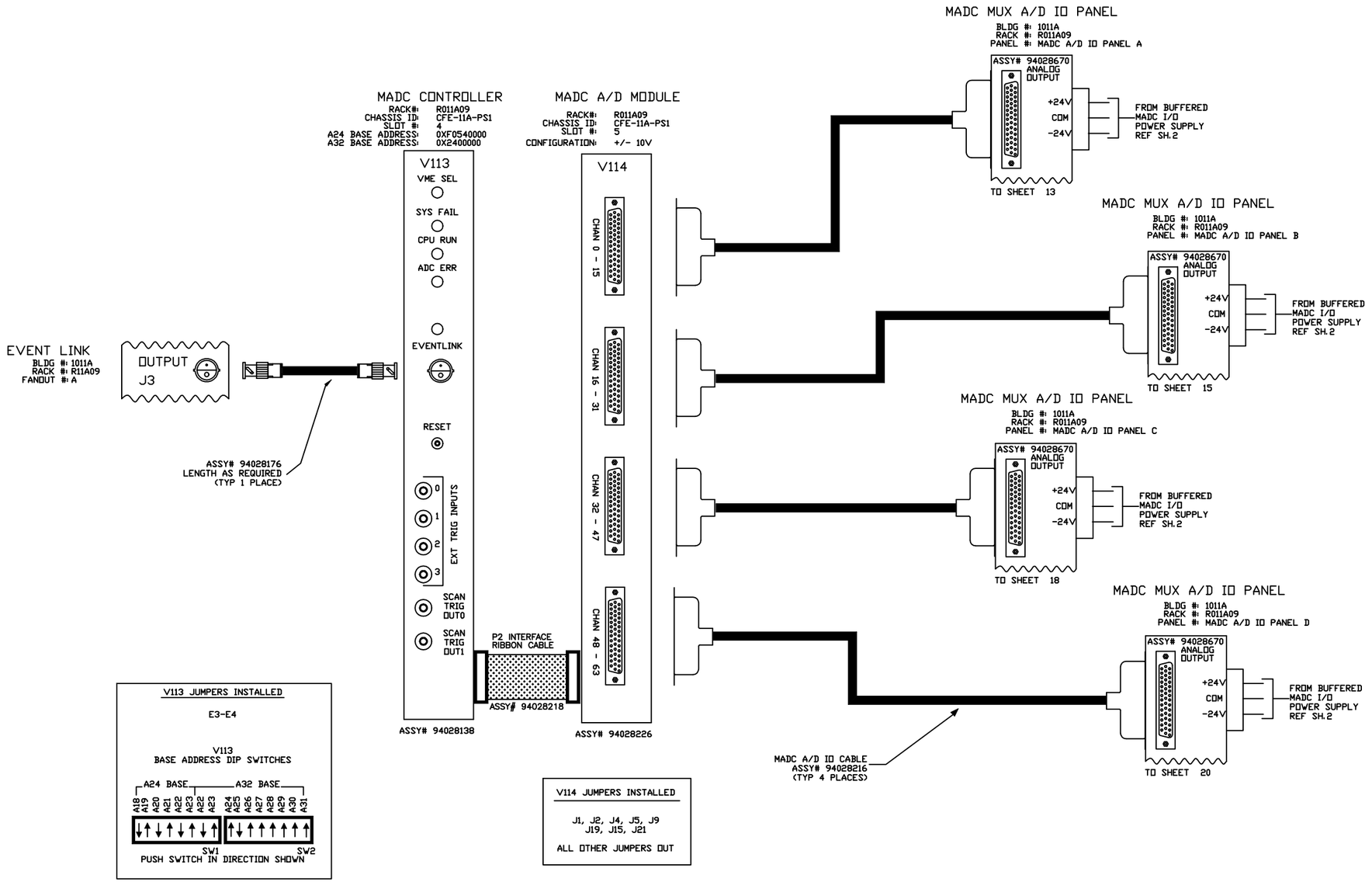
-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./BNL NO.

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Ed Koropsak	2/23/98	UPTON, N.Y. 11973	
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM	
	DESIGN APPROVAL		ALCOVE 1011A, VME CHASSIS CFE-11A-PS1	
	ENGINEER APPROVAL R. MICHNOFF	2/23/98	FT END COMP/V108 UTIL MODULE	
	SUPVR. APPROVAL		SIZE D	94028474 REV. A
NA FINISH	BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY	DRAWING NUMBER	
OUTSTANDING ECN			MATERIAL: — SCALE: NA WEIGHT: — SHEET 11	

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 10:28 AM 8474_12.dwg



V113 JUMPERS INSTALLED

E3-E4

V113
BASE ADDRESS DIP SWITCHES

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	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

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

MADC SYSTEM

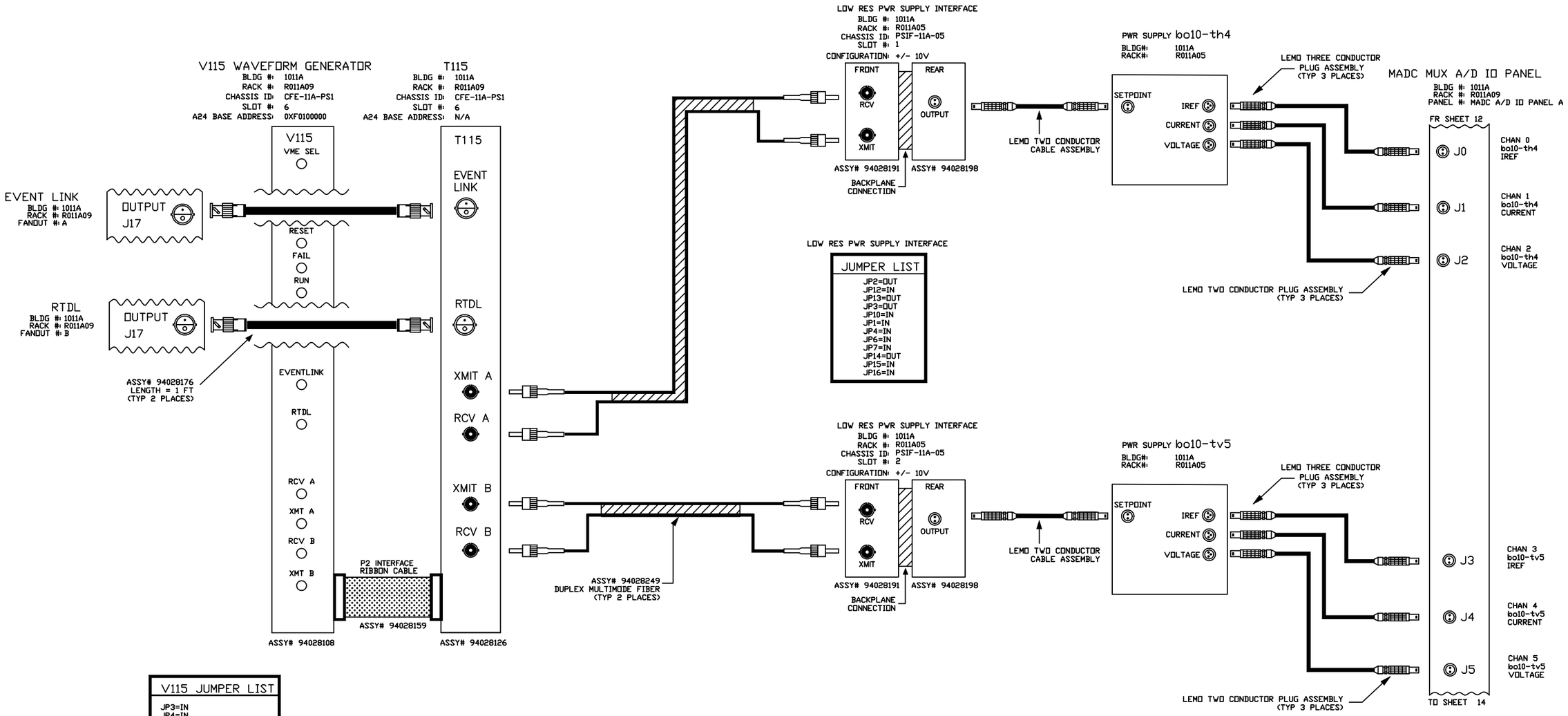
SIZE D — 94028474 — REV. A
DRAWING NUMBER

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 11:01 AM 8474_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

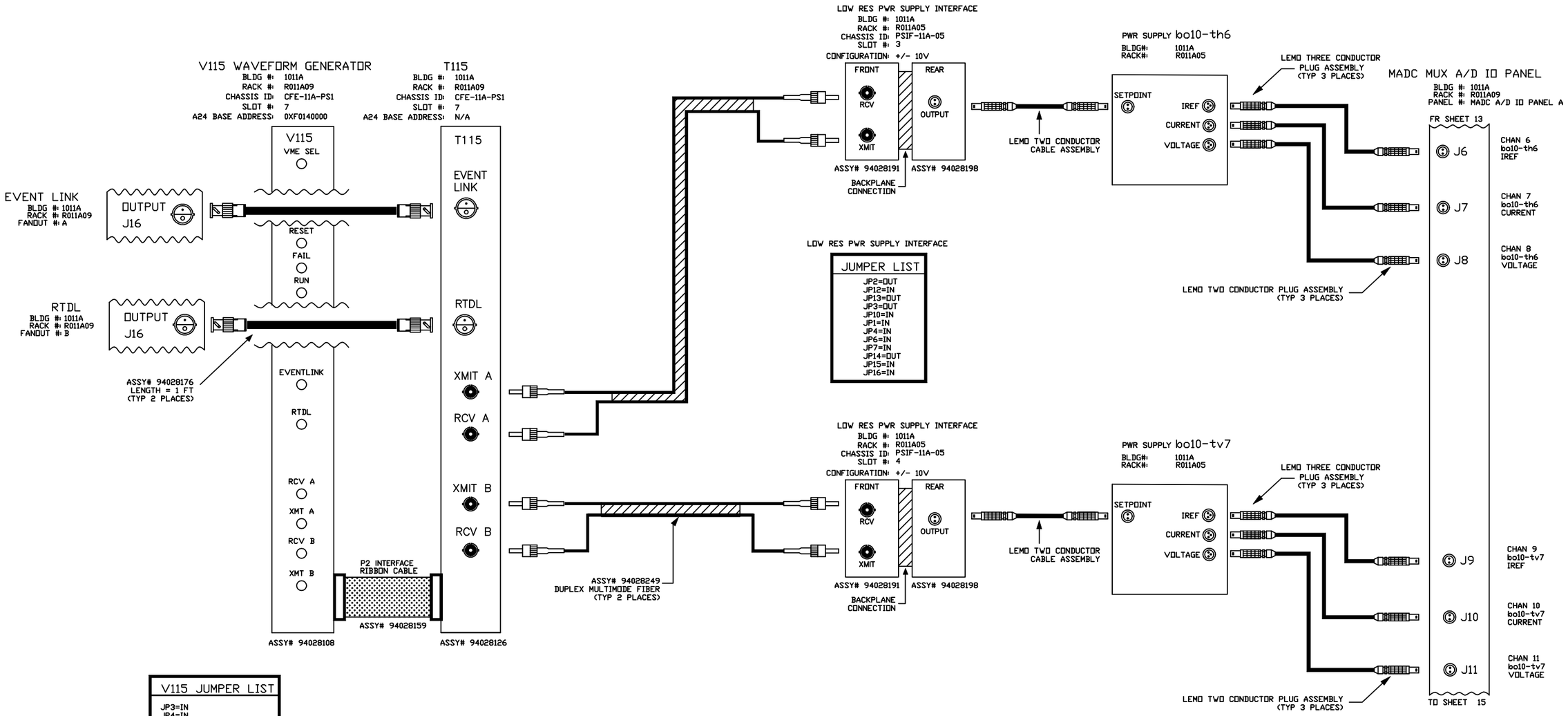
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.
QTY REQD						

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	8/13/97	RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1011A, CFE-11A-PS1
	DESIGN APPROVAL		
	ENGINEER APPROVAL R. MICHNOFF	8/13/97	PWR SPPLY bo10-th4/bo10-tv5
	SUPVR. APPROVAL		SIZE D — 94028474 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			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 11:03 AM 8474_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

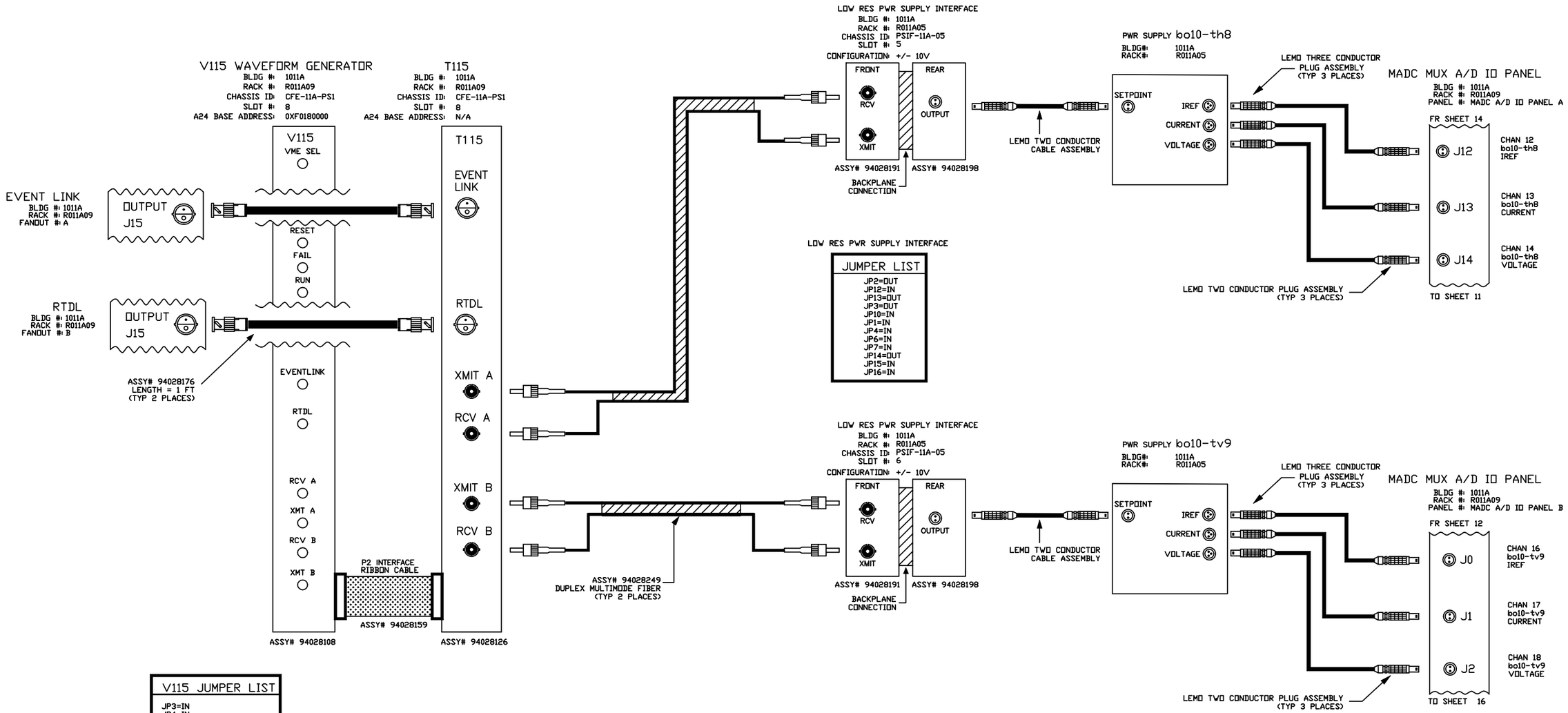
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.
QTY REQD						

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	8/13/97	RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1011A, CFE-11A-PS1
	DESIGN APPROVAL		
	ENGINEER APPROVAL R. MICHNOFF	8/13/97	PWR SPPLY bo10-th6/bo10-tv7
	SUPVR. APPROVAL		SIZE D — 94028474 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: —— SCALE: NA WEIGHT: — SHEET 14

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:03 AM 8474_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	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	8/13/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/13/97	
SUPVR. APPROVAL			

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS1
PWR SPPLY bo10-th8/bo10-tv9

SIZE D | 94028474 | REV. A

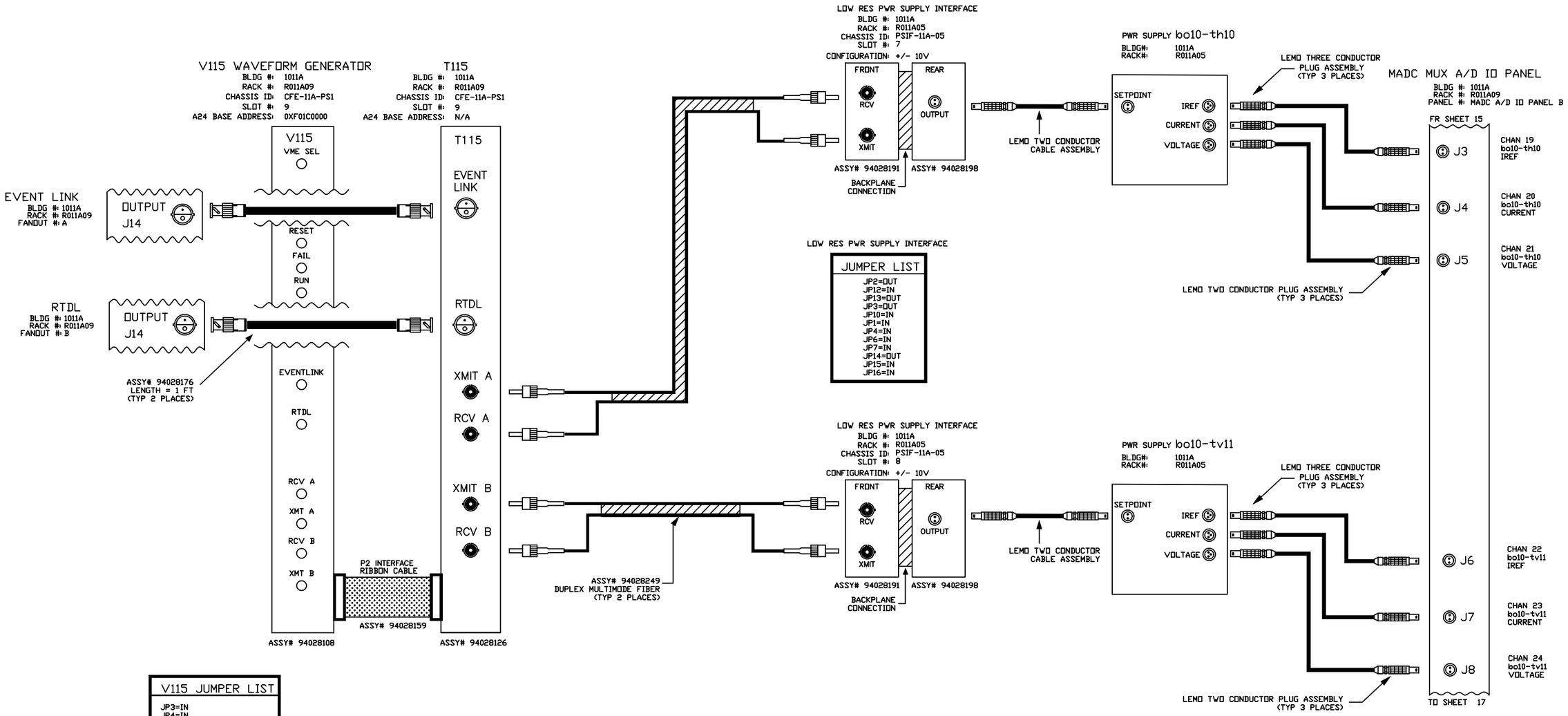
DRAWING NUMBER

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:04 AM 8474_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./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

DRAWN BY	Phil Pape	8/13/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/13/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS1
PWR SPPLY bo10-th10/bo10-tv11

SIZE D | 94028474 | REV. A

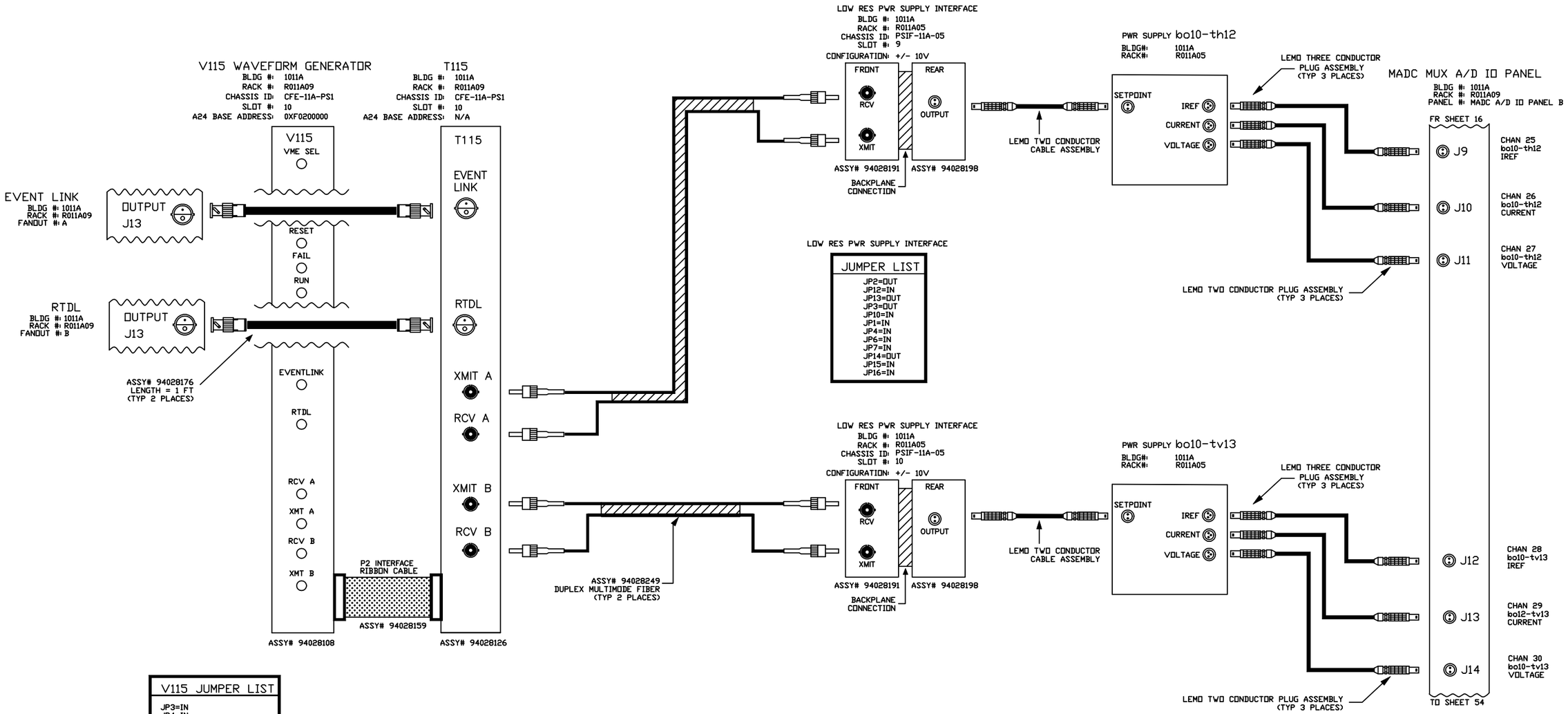
DRAWING NUMBER

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

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:06 AM 8474_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

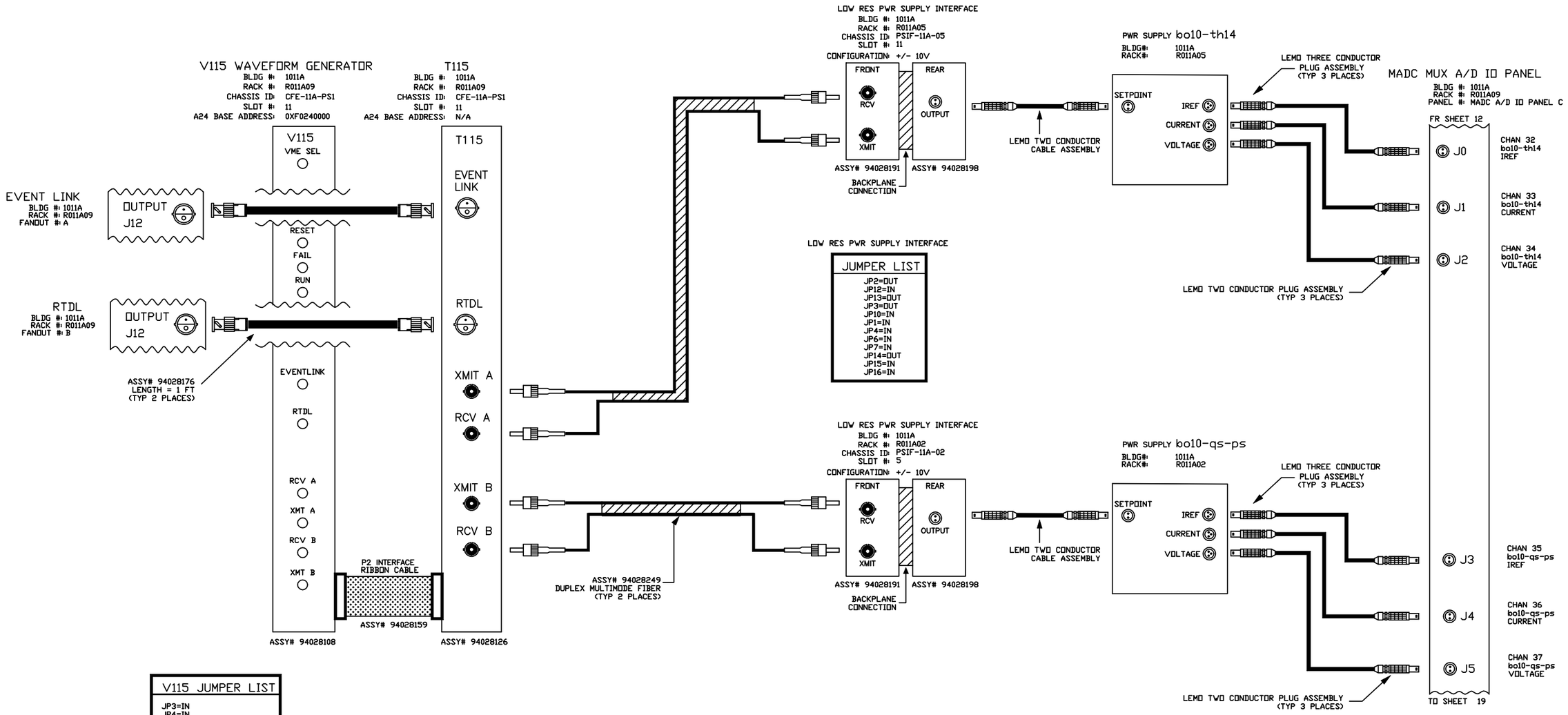
-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	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	8/27/97	RHIC CONTROLS WIRING DIAGRAM	
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1011A, CFE-11A-PS1	
	DESIGN APPROVAL			
	ENGINEER APPROVAL R. MICHNOFF	8/27/97	PWR SPLY bo10-th12/bo10-tv13	
	SUPVR. APPROVAL		SIZE D	94028474 REV. A
NA FINISH BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER	
OUTSTANDING ECN			MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 17	

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:15 AM 8474_18.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=OUT
JB1-A20=IN
JB1-A19=IN
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	8/27/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/27/97	
SUPVR. APPROVAL			

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS1
PWR SUPLY bo10-th14/bo10-qs-ps

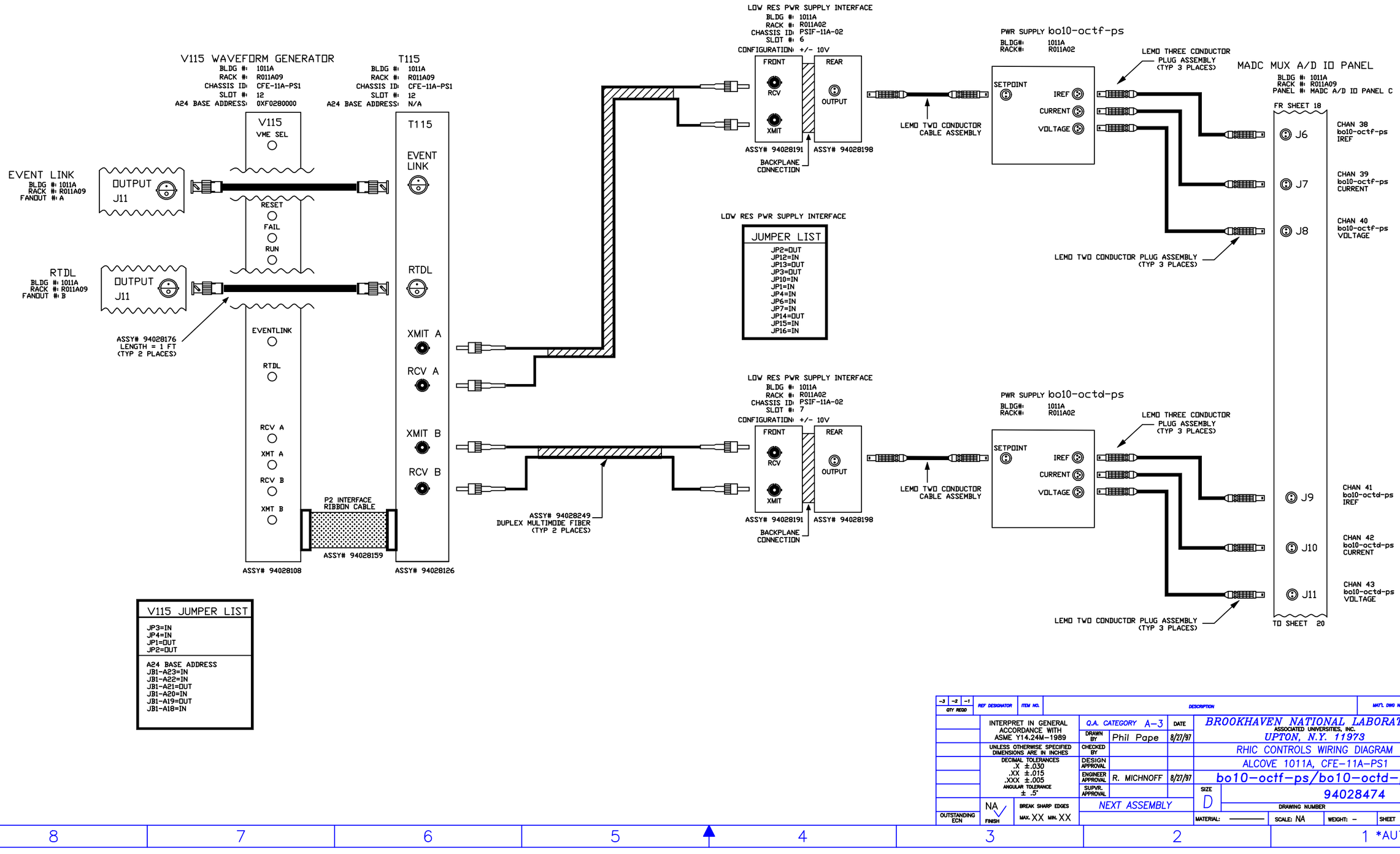
SIZE D | DRAWING NUMBER 94028474 | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:15 AM 8474_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

DRAWN BY	Phil Pape	8/27/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/27/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS1
bo10-octf-ps/bo10-octd-ps

SIZE D | 94028474 | REV. A
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 11:17 AM 8474_20.dwg

V115 WAVEFORM GENERATOR

BLDG #: 1011A
RACK #: R011A09
CHASSIS ID: CFE-11A-PS1
SLOT #: 13
A24 BASE ADDRESS: 0XF02C0000

T115

BLDG #: 1011A
RACK #: R011A09
CHASSIS ID: CFE-11A-PS1
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 #: 1011A
RACK #: R011A09
FANOUT #: A

OUTPUT
J10

RTDL
BLDG #: 1011A
RACK #: R011A09
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)

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1011A
RACK #: R011A02
CHASSIS ID: PSIF-11A-02
SLOT #: 8
CONFIGURATION: +/- 10V

FRONT
RCV
XMIT

REAR
OUTPUT

ASSY# 94028191
ASSY# 94028198

BACKPLANE CONNECTION

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1011A
RACK #: R011A01
CHASSIS ID: PSIF-11A-01
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 #: 1011A
RACK #: R11A09
CHASSIS #: CFE-11A-PS1
SLOT #: 20
FR SHEET 53

CHAN 1

TO SHEET 37

PWR SUPPLY bo10-qgt-ps

BLDG#: 1011A
RACK#: R11A02

SETPOINT
IREF
CURRENT
VOLTAGE

INPUT
OUTPUT
JUMP VOLTAGE

LEMO TWO CONDUCTOR CABLE ASSEMBLY

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1011A
RACK #: R011A09
PANEL #: MADC A/D IO PANEL C

FR SHEET 19

J12 — CHAN 44 bo10-qgt-ps IREF
J13 — CHAN 45 bo10-qgt-ps CURRENT
J14 — CHAN 46 bo10-qgt-ps VOLTAGE
J15 — CHAN 47 bo10-qgt-ps JUMP VOLTAGE

PWR SUPPLY bo10-th2

BLDG#: 1011A
RACK#: R011A01

SETPOINT
IREF
CURRENT
VOLTAGE

LEMO TWO CONDUCTOR CABLE ASSEMBLY

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1011A
RACK #: R011A09
PANEL #: MADC A/D IO PANEL D

FR SHEET 12

J0 — CHAN 48 bo10-th2 IREF
J1 — CHAN 49 bo10-th2 CURRENT
J2 — CHAN 50 bo10-th2 VOLTAGE

TO SHEET 21

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 8/27/97
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL R. MICHNOFF 8/27/97
SUPVR. APPROVAL
NEXT ASSEMBLY

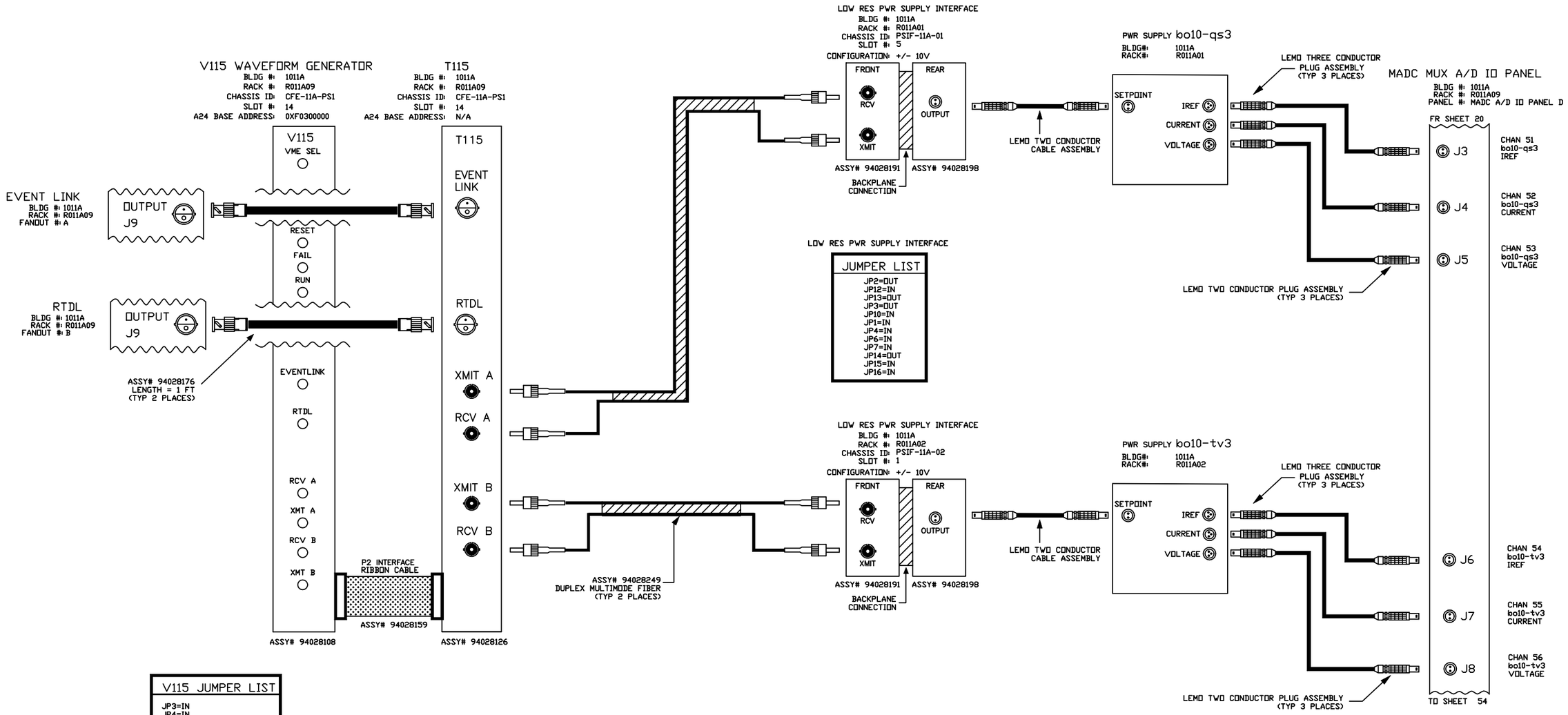
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS1
PWR SPLY bo10-qgt-ps/bo10-th2

SIZE D
94028474
REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 20

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:18 AM 8474_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	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	8/27/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/27/97	
SUPVR. APPROVAL			

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS1
PWR SPLY bo10-qs3/bo10-tv3

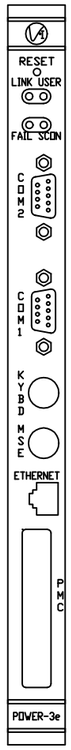
SIZE D | 94028474 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 21

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:27 AM 8474_28.dwg

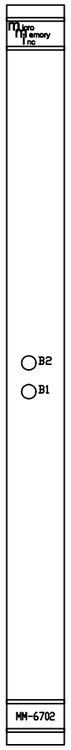
FRONT END COMPUTER
BLDG #: 1011A
RACK #: R011A10
CHASSIS ID: CFE-11A-PS2
SLOT#: 1
FEC NAME: cfe-11a-ps2



ETHERNET NETWORK

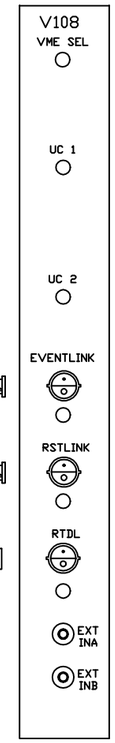
REF. NETWORK DIAGRAM

DEVICE: MM-6702 MEMORY MODULE
BLDG #: 1011A
RACK #: R11A10
CHASSIS ID: CFE-11A-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 #: 1011A
RACK #: R011A10
CHASSIS ID: CFE-11A-PS2
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000



ASSY# 94028094

EVENT LINK
BLDG #: 1011A
RACK #: R011A08
FANOUT #: A

OUTPUT J9

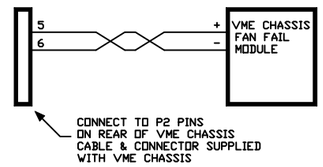
RESET LINK
BLDG #: 1011A
RACK #: R011A08
FANOUT #: C

OUTPUT J9

REAL TIME DATA LINK
BLDG #: 1011A
RACK #: R011A08
FANOUT #: B

OUTPUT J9

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)



JUMPER LIST

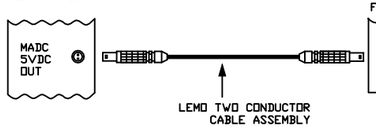
E25 through E50 are configured for remote reset address at the time of board acceptance test.
DO NOT MODIFY!

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 #: 1011A
RACK #: R011A10
CHASSIS ID: CFE-11A-PS2
SLOT #: 19

MADC MUX A/D ID PANEL
BLDG #: 1011A
RACK #: R011A09
PANEL #: MADC A/D ID PANEL D



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

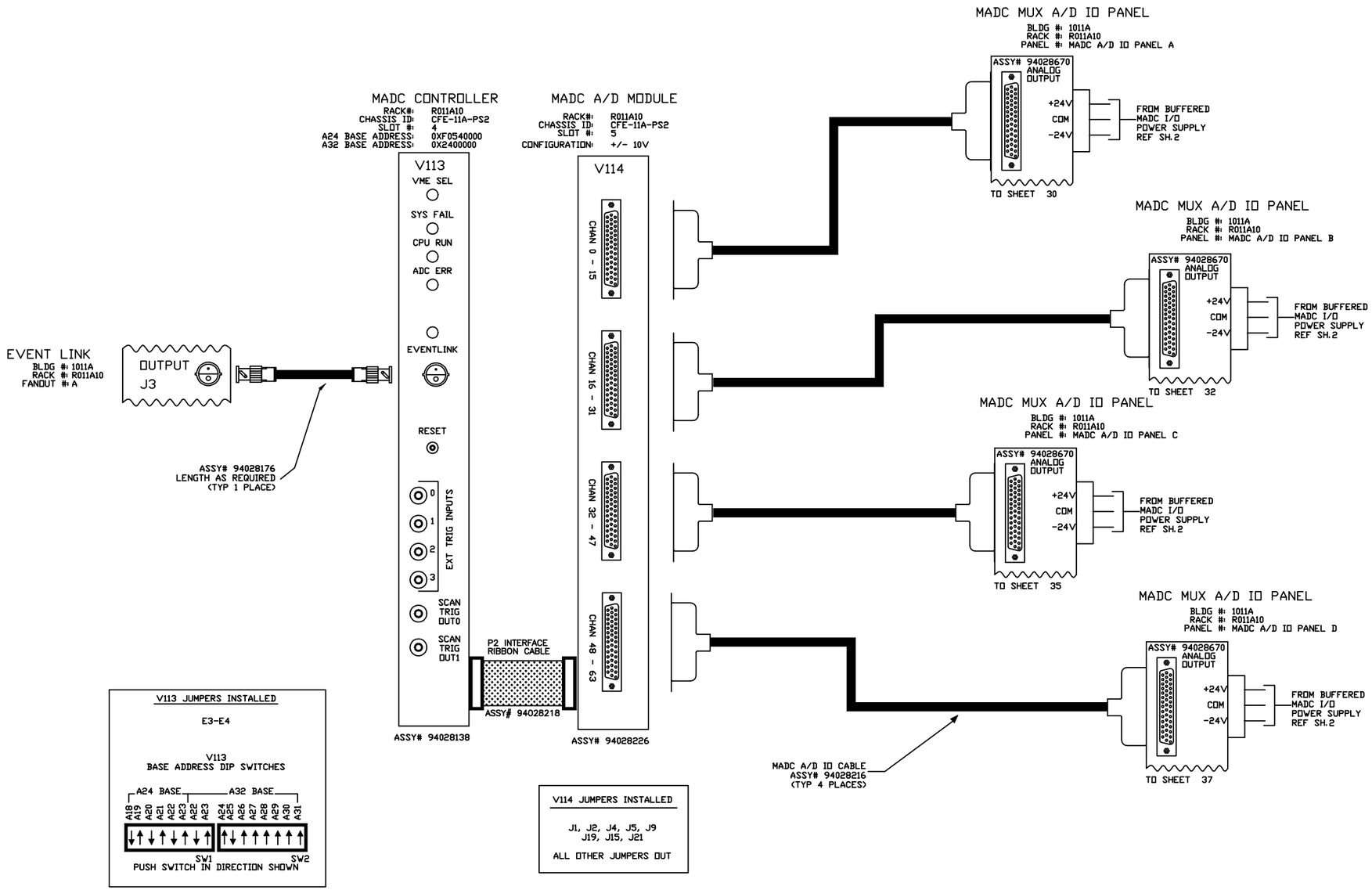
Q.A. CATEGORY	A-3	DATE
DRAWN BY	Ed Koropsak	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, VME CHASSIS CFE-11A-PS2
FT END COMP/V108 UTIL MODULE
SIZE D | 94028474 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 28

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 11:27 AM 8474_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	Ed Koropsak	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM

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

MADC SYSTEM

SIZE D | 94028474 | REV. A

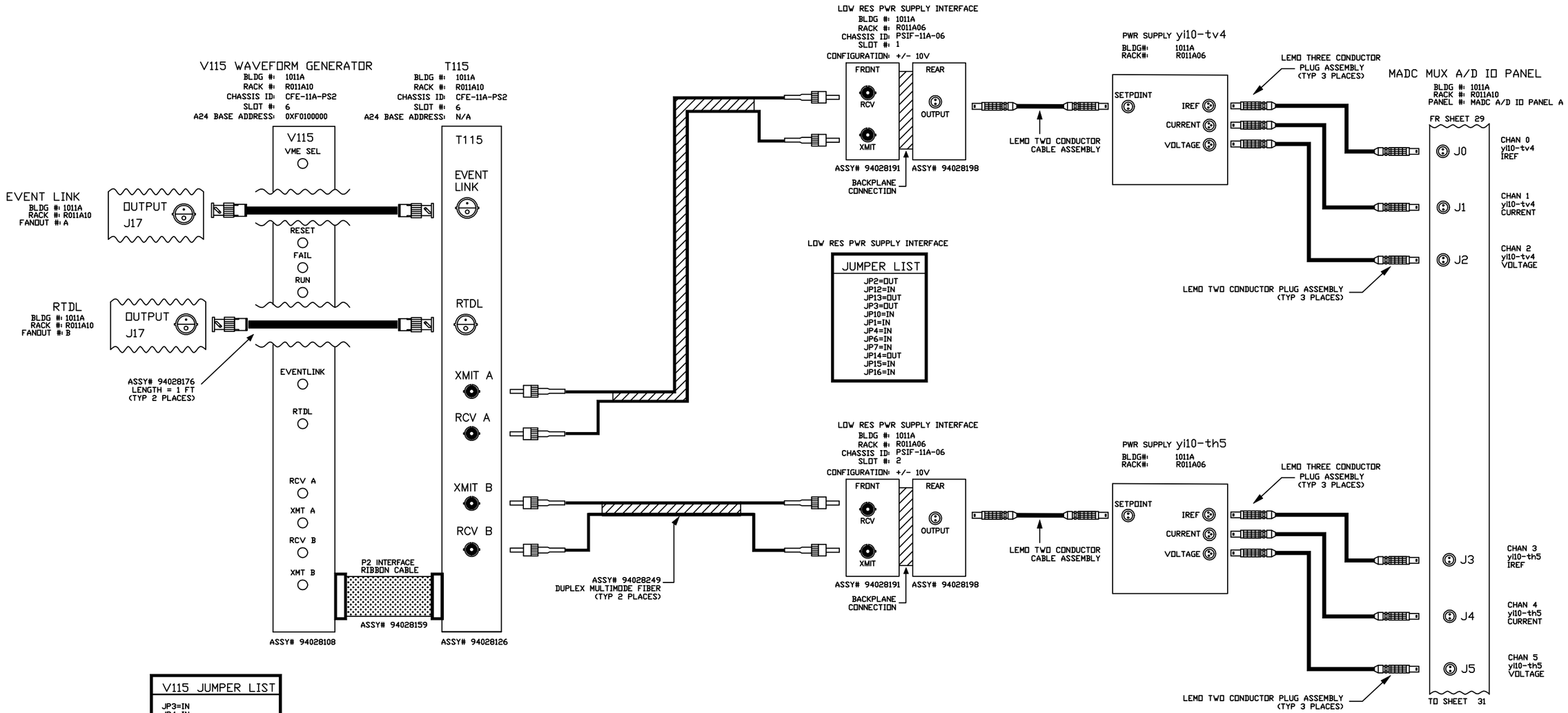
DRAWING NUMBER

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:28 AM 8474_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

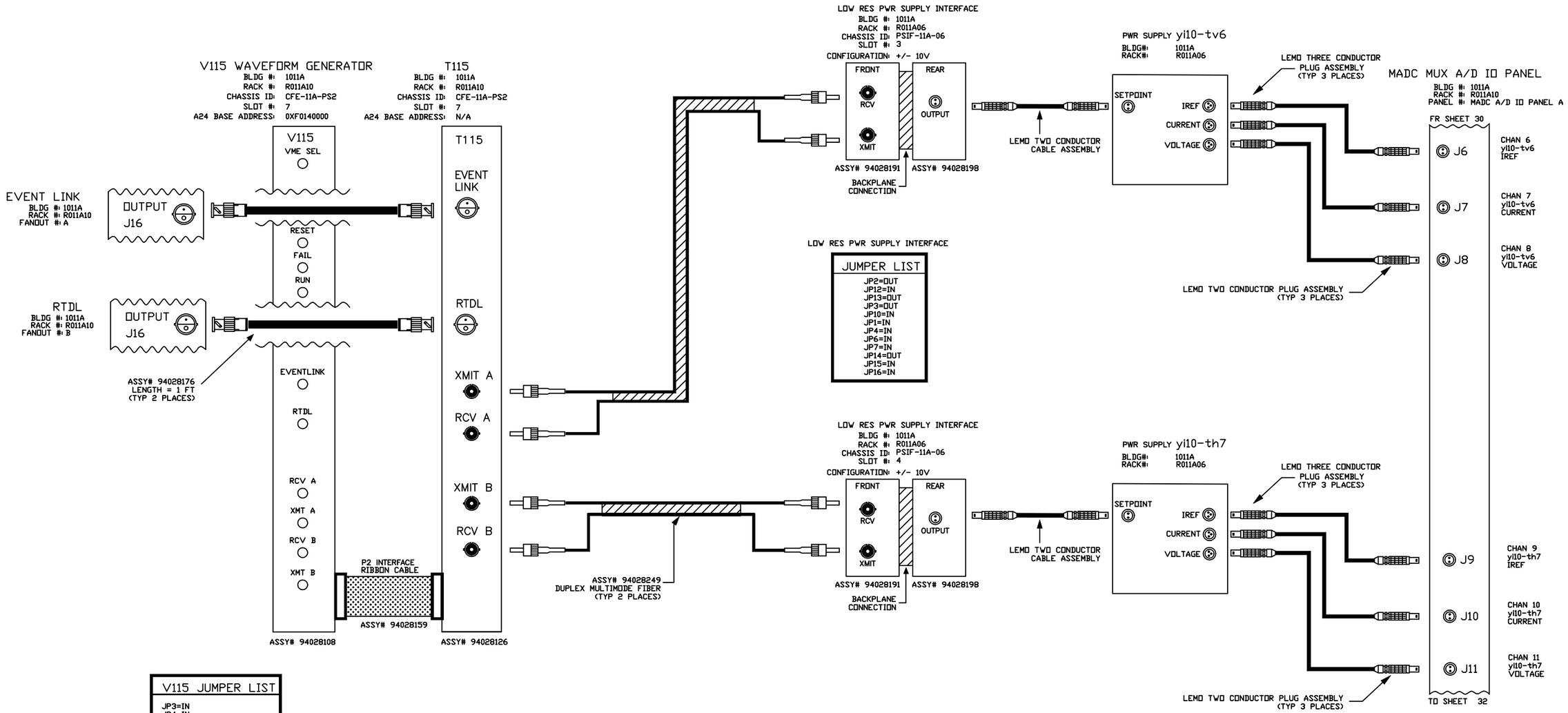
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.
QTY REQD						

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	8/27/97	RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1011A, CFE-11A-PS2
	DESIGN APPROVAL		
	ENGINEER APPROVAL R. MICHNOFF	8/27/97	PWR SPLY yi10-tv4/yi10-th5
	SUPVR. APPROVAL		SIZE D — 94028474 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: —— SCALE: NA WEIGHT: — SHEET 30

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:29 AM 8474_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°
NA FINISH
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Phil Pape	8/27/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/27/97	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

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

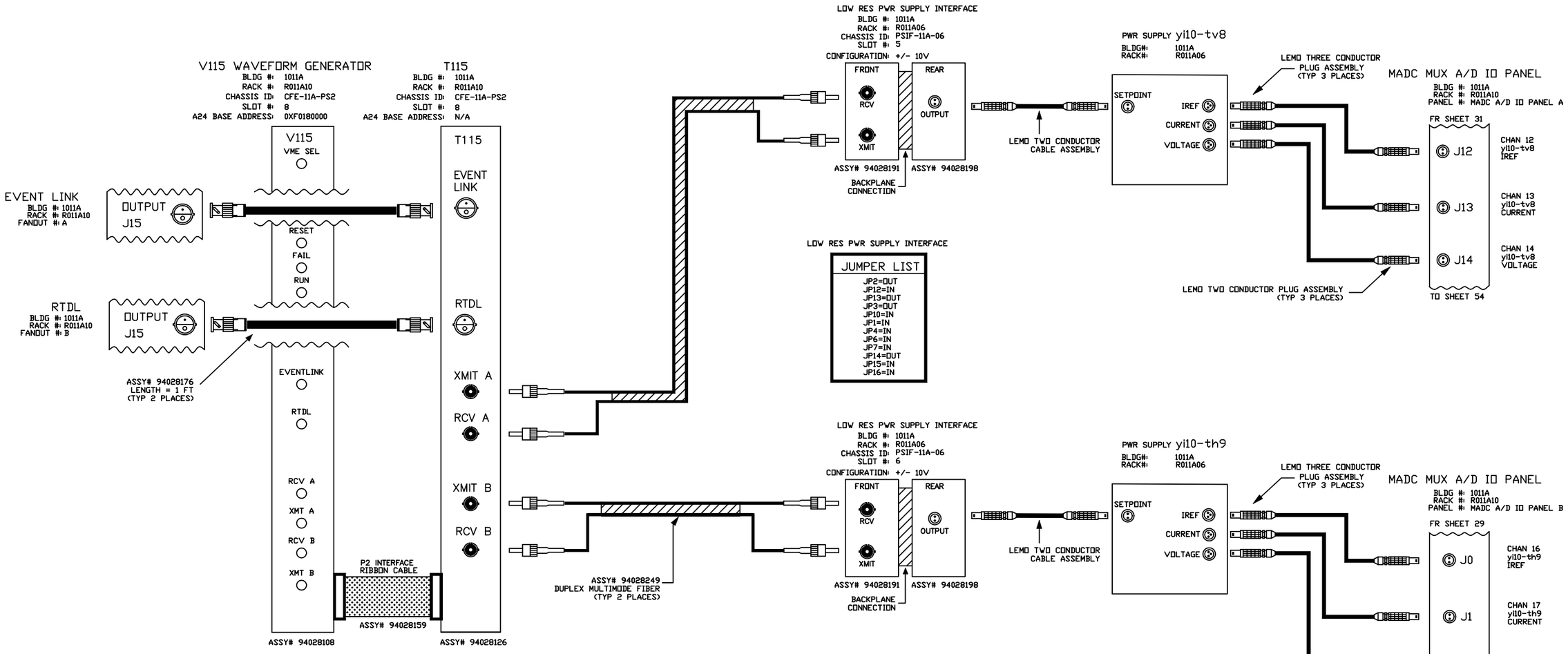
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS2
PWR SPLY yi10-tv6/yi10-th7

SIZE D | 94028474 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 31

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:31 AM 8474_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

Q.A. CATEGORY	A-3	DATE
DRAWN BY	Phil Pape	8/27/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/27/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

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

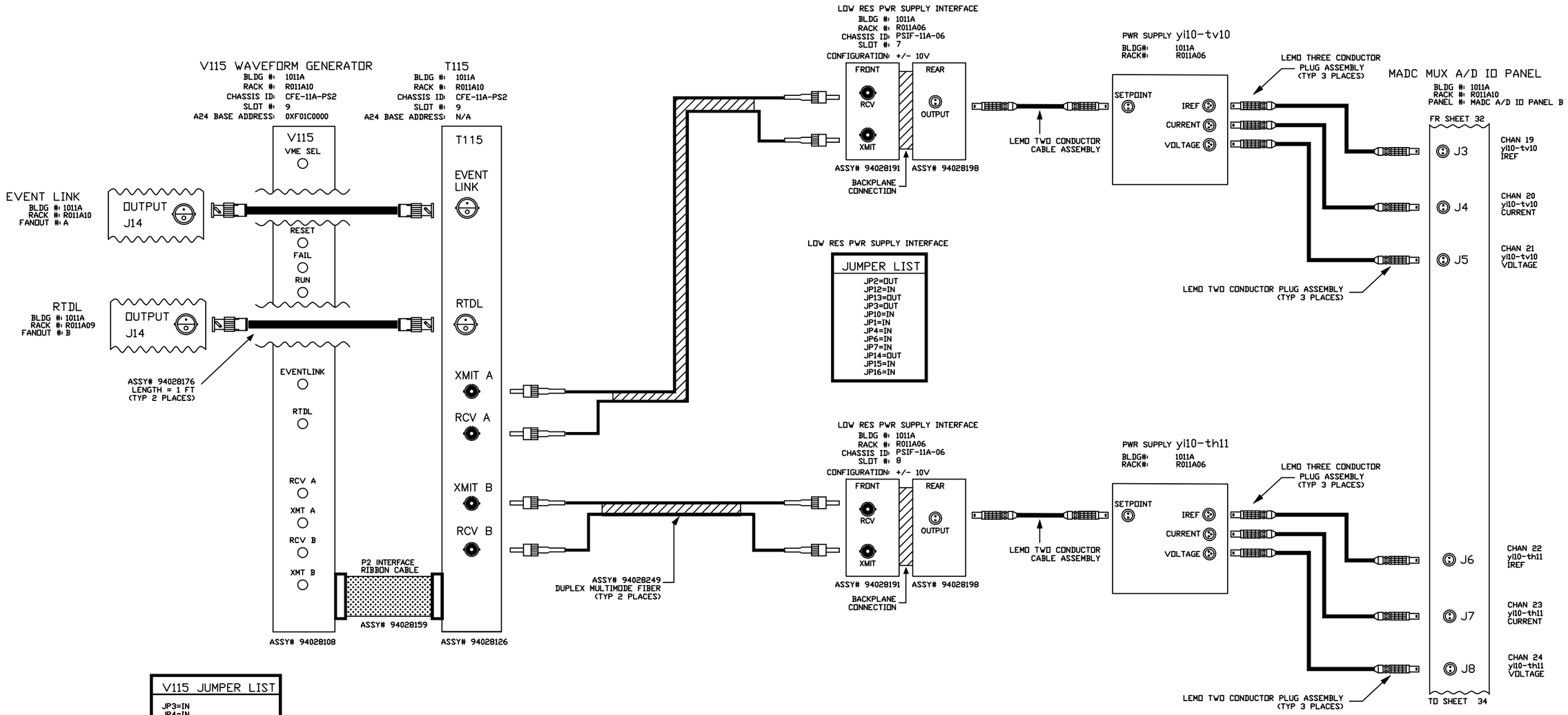
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS2
PWR SPLY yi10-tv8/yi10-th9

SIZE D | 94028474 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 32

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:37 AM 8474_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	8/27/97	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	8/27/97	
SUPVR. APPROVAL			

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS2
PWR SPLY yi10-tv10/yi10-th11

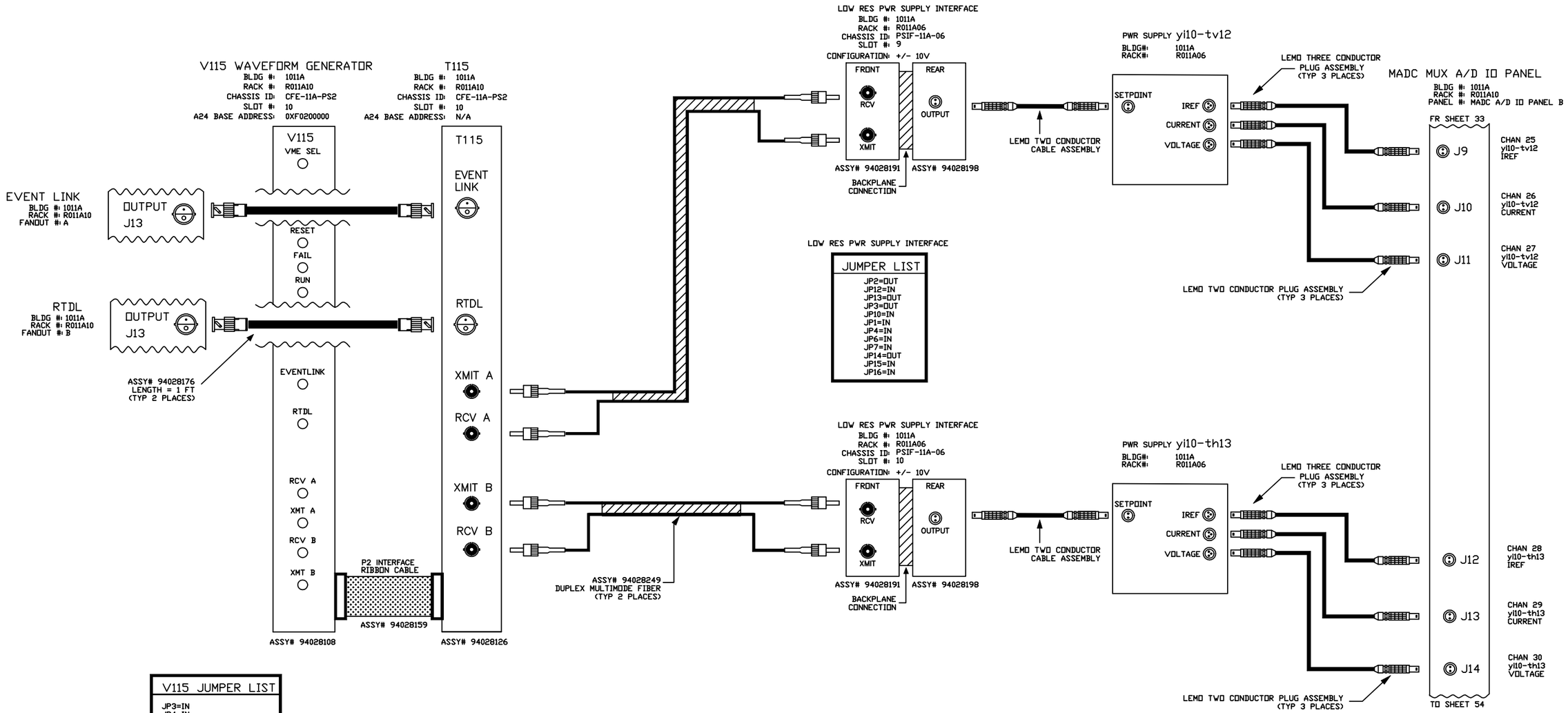
SIZE D | 94028474 | REV. A
DRAWING NUMBER

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:38 AM 8474_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
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	8/27/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/27/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

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

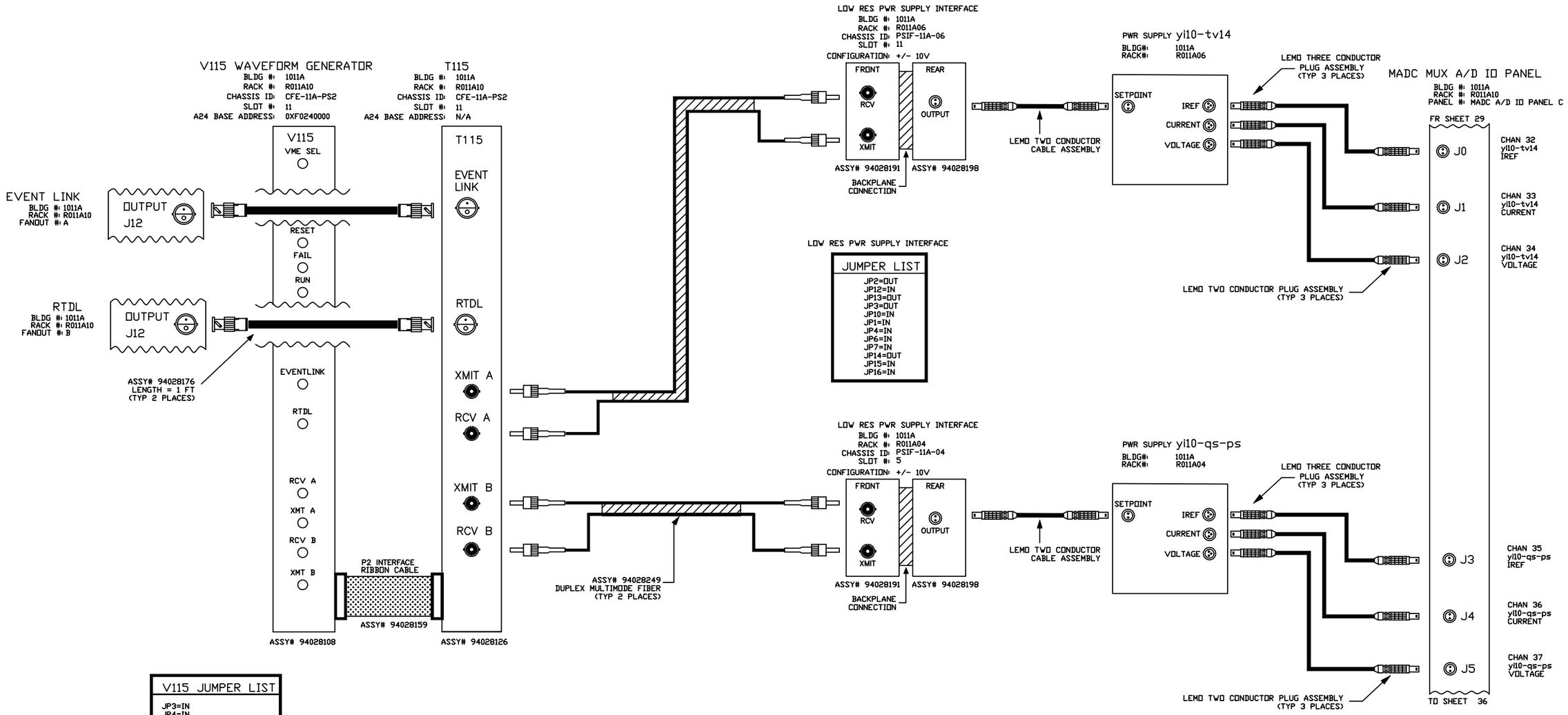
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS2
PWR SPLY yi10-tv12/yi10-th13

SIZE D | 94028474 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 34

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:40 AM 8474_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

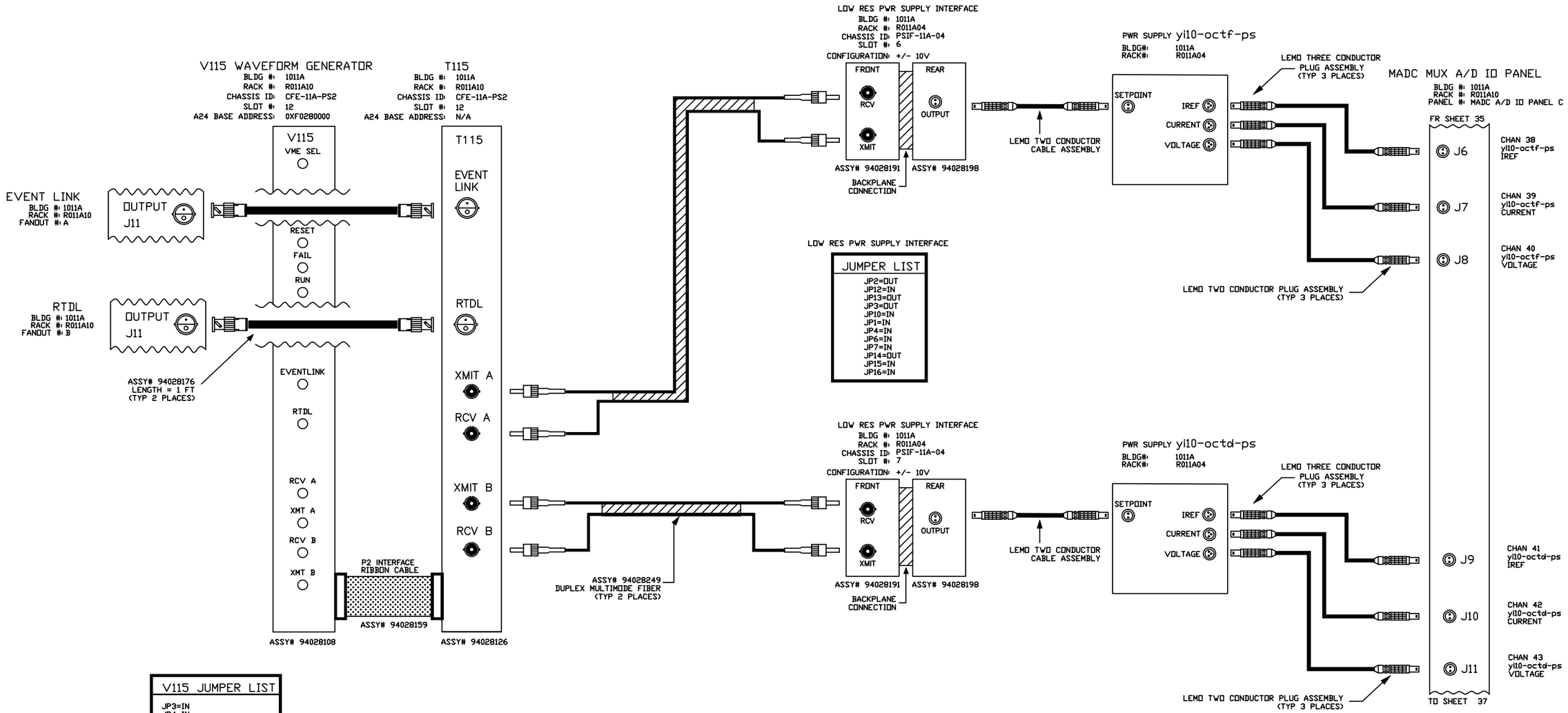
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.
QTY REQD						

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	8/27/97	RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		ALCOVE 1011A, CFE-11A-PS2
	DESIGN APPROVAL		
	ENGINEER APPROVAL R. MICHNOFF	8/27/97	PWR SUPPLY yi10-tv14/yi10-qs-ps
	SUPVR. APPROVAL		SIZE D — 94028474 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: —— SCALE: NA WEIGHT: – SHEET 35

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:41 AM 8474_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./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

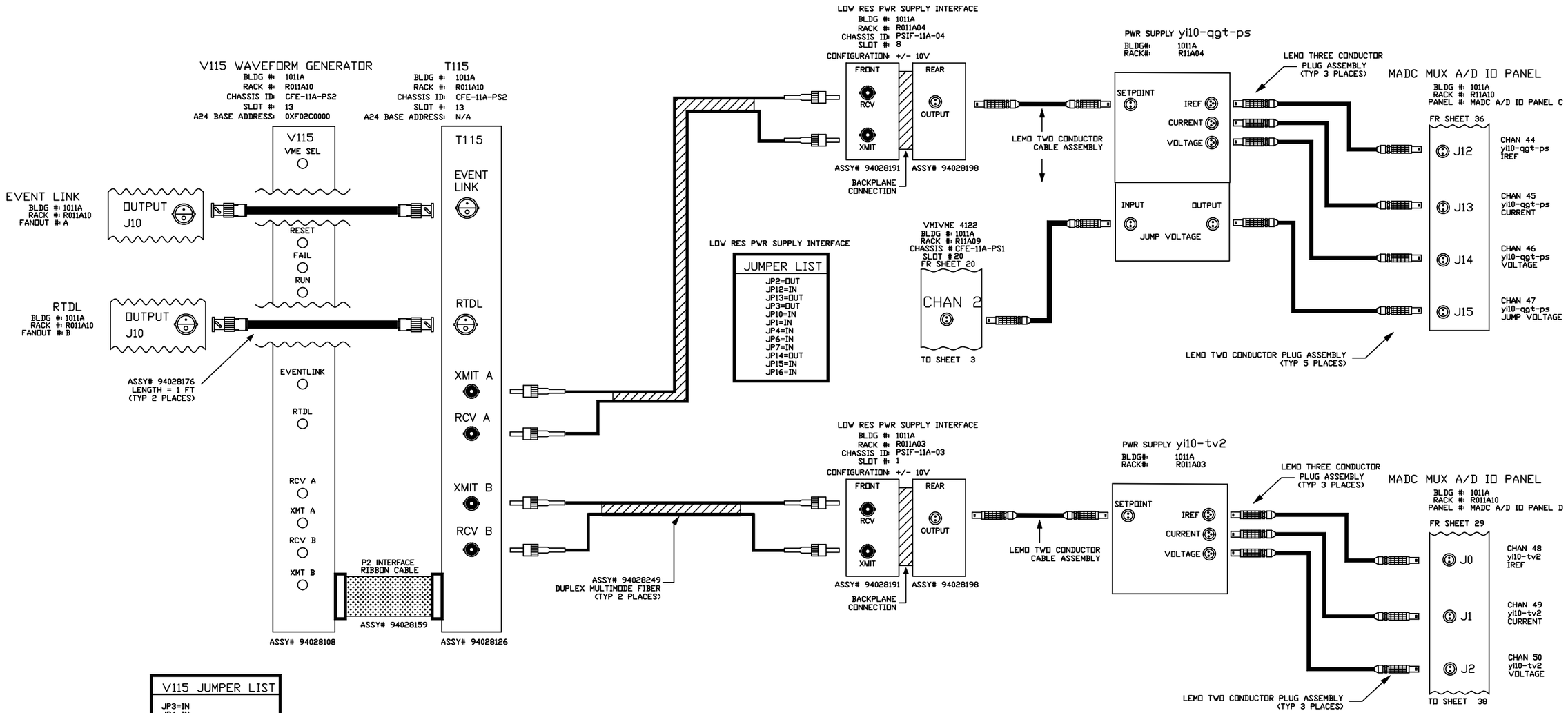
Q.A. CATEGORY	A-3	DATE
DRAWN BY	Phil Pape	8/27/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/27/97
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS2
PWRSPLY yi10-octf-ps/yi10-octd-ps
SIZE D
94028474
REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 36

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:42 AM 8474_37.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 8/27/97

CHECKED BY

DESIGN APPROVAL

ENGINEER APPROVAL R. MICHNOFF 8/27/97

SUPVR. APPROVAL

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A, CFE-11A-PS2
PWR SPLY yi10-qgt-ps/yi10-tv2

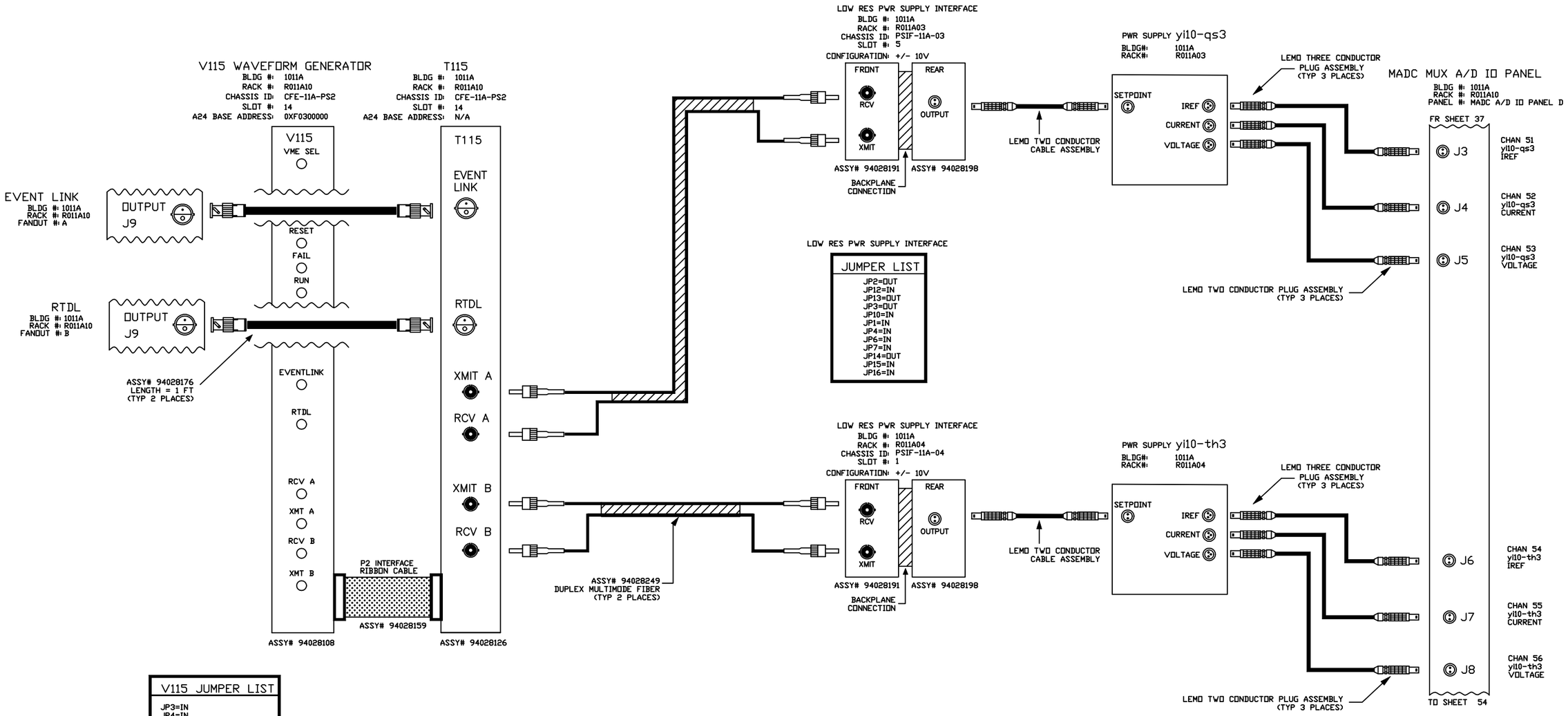
SIZE D | 94028474 | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 37

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:43 AM 8474_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	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	8/27/97
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	8/27/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1011A, CFE-11A-PS2

PWR SPLY yi10-qs3/yi10-th3

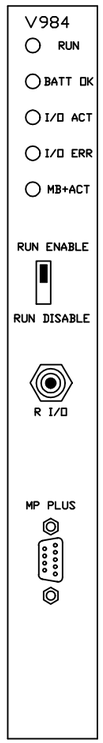
SIZE D | 94028474 | REV. A

DRAWING NUMBER

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

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.



-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	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

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

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1011A CHASSIS CFE–11A–PS2

MODICON VME PLC

SIZE D

94028474

DRAWING NUMBER

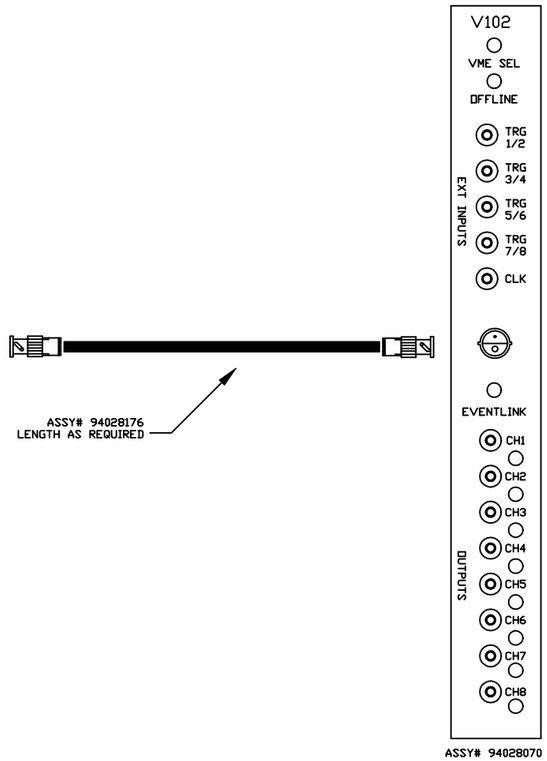
REV. A

MATERIAL: ———— SCALE: NA WEIGHT: – SHEET 47 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

V102 DELAY MODULE
BLDG #: 1011A
RACK #: R011A10
CHASSIS ID: CFE-11A-PS2
SLOT #: 20
A16 BASE ADDRESS: 0XFFFFE600



ASSY# 94028070

EVENT LINK
BLDG #: 1011A
RACK #: R011A10
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
NEXT ASSEMBLY

Q.A. CATEGORY A-3		DATE
DRAWN BY	Ed Koropsak	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

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

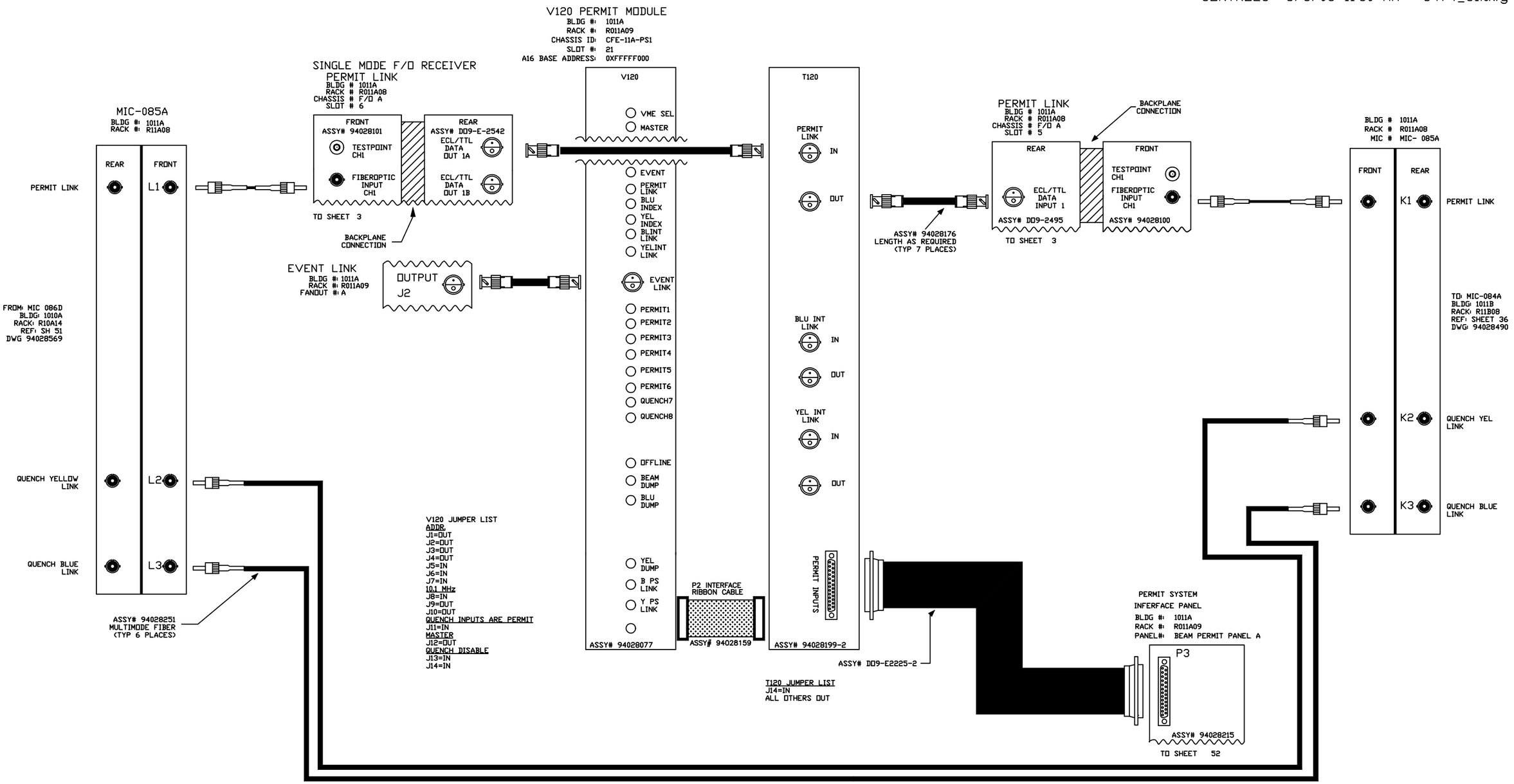
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1011A CHASSIS CFE-11A-PS2
V102 DELAY MODULE

SIZE D
94028474
DRAWING NUMBER
REV. A
MATERIAL: ———
SCALE: NA
WEIGHT: –
SHEET 48 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 11:30 AM 8474_51.dwg



-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MATL DWG NO./PNL 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	2/23/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	2/23/98
SUPVR. APPROVAL		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1011A, CHASSIS CFE-11A-PS1

V120/T120 PERMIT SYSTEM

SIZE D

94028474

DRAWING NUMBER

REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 11:34 AM 8474_52.dwg

PERMIT SYSTEM INTERFACE MODULE

BLDG #: 1011A
RACK #: R011A09
PANEL #: PERMIT I/F PANEL A

FROM SHEET 51

ASSY # 94028215

BEAM PERMIT SYSTEM

OUTPUTS

- PERMIT LEVEL
- BLUE
- YELLOW

INPUTS

- 1
- 2
- 3
- 4
- 5
- 6 — TO CORR POWER SUPPLY
- 7 — BLUE QUENCH — TO QUENCH SYSTEM
- 8 — YELLOW QUENCH — TO QUENCH SYSTEM

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

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY Phil Pape	8/27/97	UPTON, N.Y. 11973
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL		ALCOVE 1011A, RACK R011A09
ENGINEER APPROVAL R. MICHNOFF	8/27/97	PERMIT SYSTEM INTERFACE PANEL
SUPVR. APPROVAL		SIZE D — 94028474 — REV. A
NEXT ASSEMBLY		DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: – SHEET 52

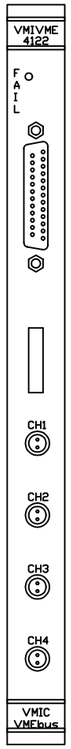
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

C-A Controls 4/12/01 3:29 PM 8474_53.dwg

VMIVME 4122 ANALOG OUTPUT MODULE

BLDG #: 1011A
RACK #: R11A09
CHASSIS ID: CFE-11A-PS1
SLOT #: 20
A16 BASE ADDRESS: 0x0200
CONFIGURATION: -10 TO +10 VOLTS



TO bo10-qgt-ps
REF SHEET 20

TO yi10-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	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	11/29/99	UPTON, N.Y. 11973
CHECKED BY			C-A CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1011A, RACK R11A09
ENGINEER APPROVAL	R. MICHNOFF	11/29/99	GAMMA-T ANALOG SIGNAL
SUPVR. APPROVAL			SIZE D — 94028474 — REV. A
NEXT ASSEMBLY			DRAWING NUMBER

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 53 OF 53

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 11:35 AM 8474_54.dwg

MADC MUX A/D IO PANEL
BLDG #: 1011A
RACK #: R011A09
PANEL #: MADC A/D IO PANEL B

FR SHEET 17

J15 — CHAN 31 SPARE

MADC MUX A/D IO PANEL
BLDG #: 1011A
RACK #: R011A09
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 #: 1011A
RACK #: R011A10
PANEL #: MADC A/D IO PANEL A

FR SHEET 32

J15 — CHAN 15 SPARE

MADC MUX A/D IO PANEL
BLDG #: 1011A
RACK #: R011A10
PANEL #: MADC A/D IO PANEL B

FR SHEET 34

J15 — CHAN 31 SPARE

MADC MUX A/D IO PANEL
BLDG #: 1011A
RACK #: R011A10
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./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	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Ed Koropsak	3/6/98	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1011A
ENGINEER APPROVAL	R. MICHNOFF	3/6/98	SPARE MADC INPUTS
SUPVR. APPROVAL			
NEXT ASSEMBLY			SIZE D — 94028474 — REV. A
			DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: –	SHEET 54

*AUTOCAD