RHIC Accelerator Controls Section
Alcove 1009C Wiring Diagrams
BNL Drawing Number 94028714

Brookhaven National Laboratory, Upton, New York 11973

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

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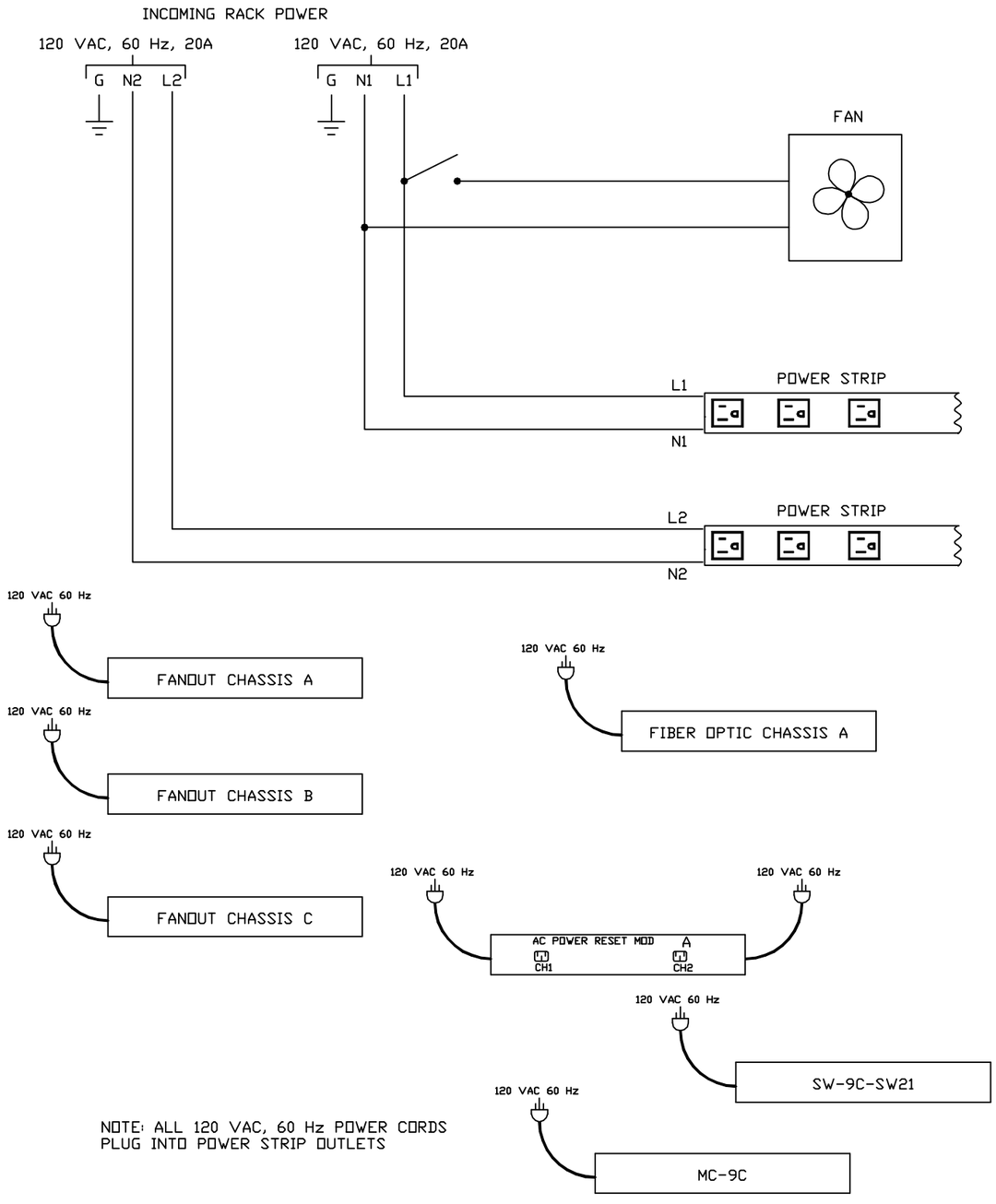
REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 4/17/01 11:05 AM 8714_01.dwg



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

RACK R09C08

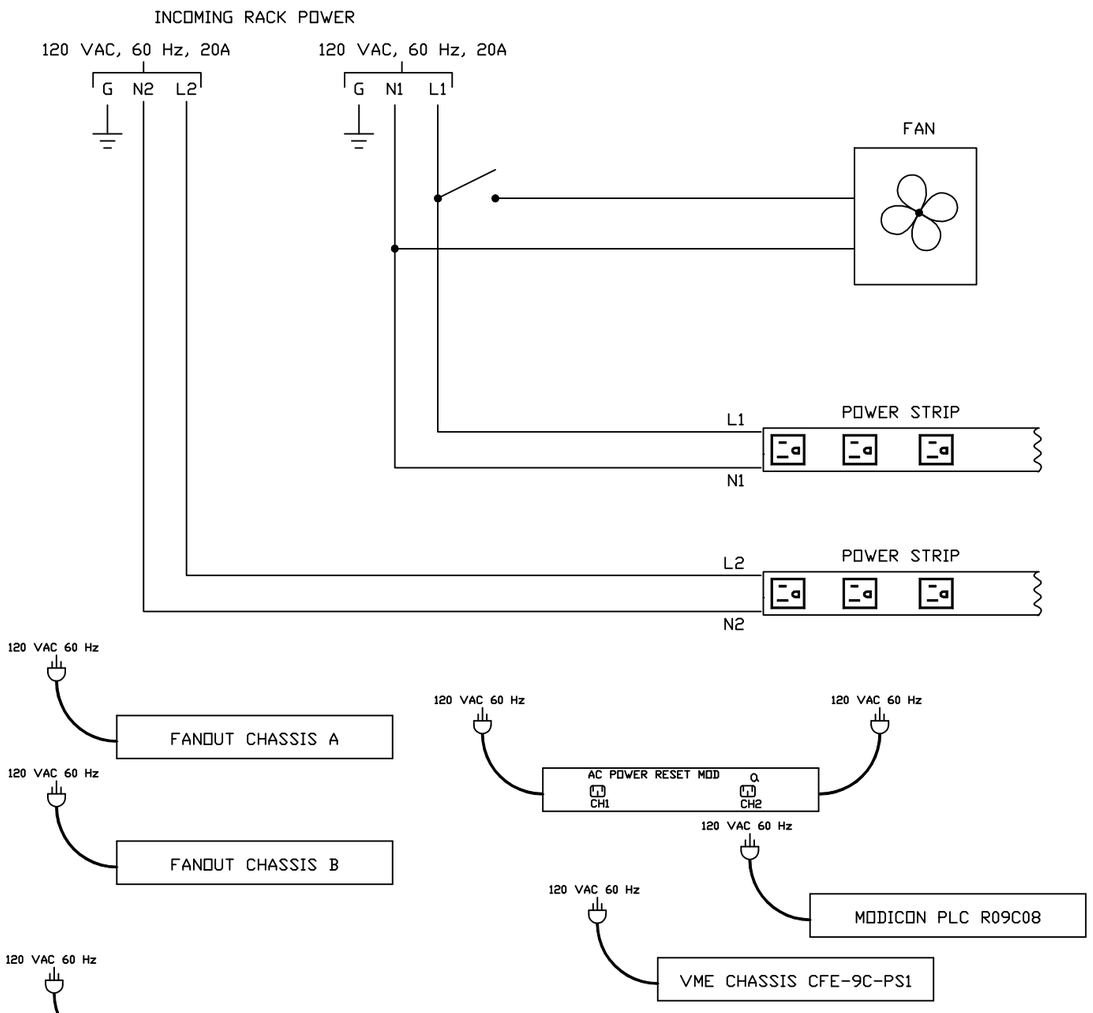
QTY REQD -3	QTY REQD -2	QTY REQD -1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MATL DWG NO./PNL NO.
		2		12	9 PIN NULL MODEM CABLE ASSY, 6 FT., BLACK BOX	CBPS92897
		102		11	CABLE ASSY, POWER SUPPLY TO MADC A/D I/O PANEL (3 CABLES/PS)	
		34		10	CABLE ASSY, LOW RES PS IF MODULE TO POWER SUPPLY	
		1		9	PERMIT 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
		9		4	MADC A/D I/O CABLE	94028216
		19		3	TRANSITION MODULE P2 RIBBON CABLE, V115, V120	94028159
		3		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	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
	DRAWN BY Ed Koropsak	3/19/98	UPTON, N.Y. 11973
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	DESIGN APPROVAL		ALCOVE 1009C, RACK R09C08
	ENGINEER APPROVAL R. MICHNOFF	3/19/98	POWER DISTRIBUTION
	SUPVR. APPROVAL		SIZE D — 94028714 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN	MATERIAL: ———	SCALE: NA	WEIGHT: – SHEET 1 OF 53

*AUTOCAD

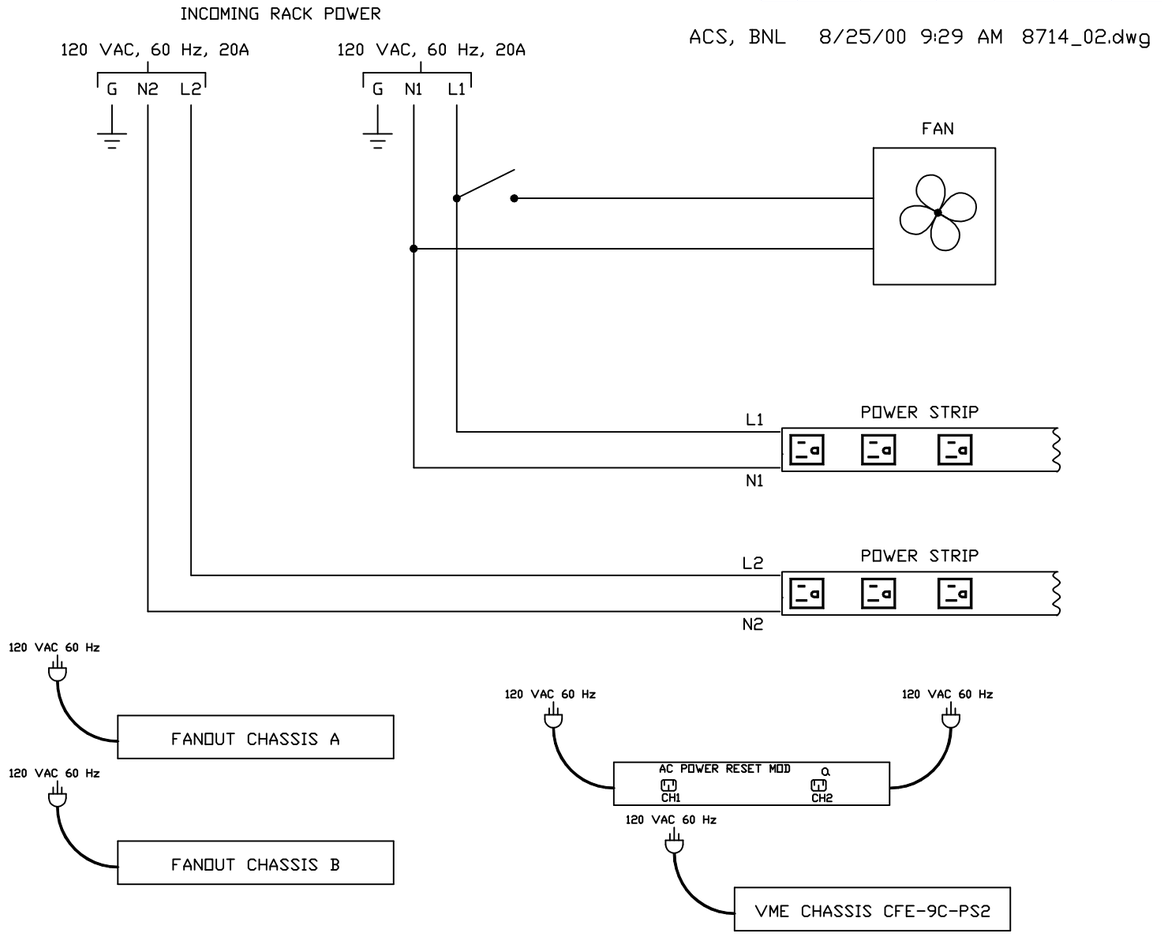
REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/25/00 9:29 AM 8714_02.dwg



RACK R09C09

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



RACK R09C10

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

-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	
	DRAWN BY Venegas	8/13/99	UPTON, N.Y. 11973	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM	
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	DESIGN APPROVAL		ALCOVE 1009C, RACK R09C09, R09C10	
	ENGINEER APPROVAL R. MICHNOFF	10/27/97	POWER DISTRIBUTION	
	SUPVR. APPROVAL		SIZE D — 94028714 — REV. A	
NA FINISH; BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER	
OUTSTANDING ECN			MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 2	

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

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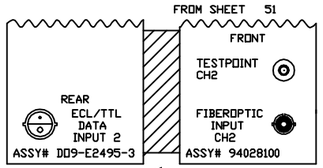
VMIVME 4122
BLDG #: 1009C
RACK #: R09C09
CHASSIS # CFE-9C-PS1
SLOT # 20

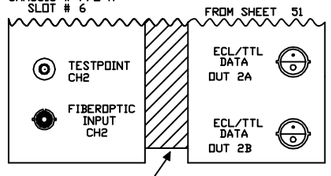
MULTIMODE FIBER OPTIC TRANSMITTER

BLDG # 1009C
RACK # R009C08
CHASSIS # F/O A
SLOT # 5



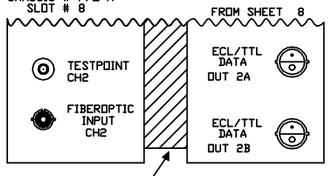
FIBER OPTIC RECEIVER

BLDG # 1009C
RACK # R009C08
CHASSIS # F/O A
SLOT # 6



FIBER OPTIC RECEIVER

BLDG # 1009C
RACK # R009C08
CHASSIS # F/O A
SLOT # 8



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

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

Q.A. CATEGORY A-3		DATE
DRAWN BY	Ed Koropsak	3/19/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/19/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

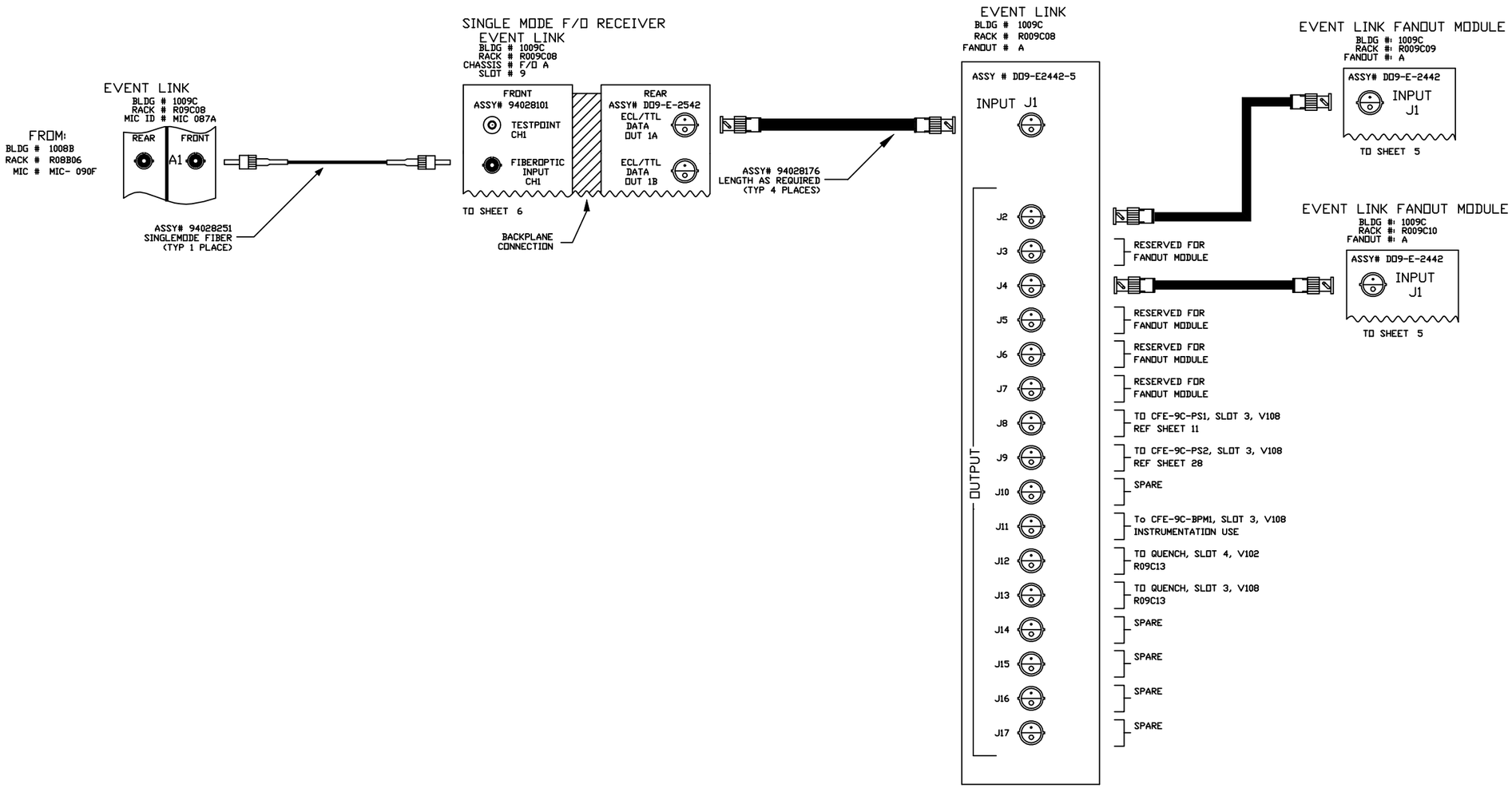
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
SPARE F/O RCVR/XMIT CHANNELS

SIZE D | DRAWING NUMBER 94028714 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 3 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/5/03 10:28 AM 8714_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	3/19/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/19/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
EVENT LINK

SIZE D | 94028714 | REV. A
DRAWING NUMBER

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 4/17/01 11:09 AM 8714_05.dwg

EVENT LINK FANOUT MODULE

BLDG # 1009C
RACK # R09C09
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

J2	To CFE-9C-PS1, SLOT 21, V120	REF SHEET 51
J3	To CFE-9C-PS1, SLOT 4, V113	REF SHEET 12
J4	To CFE-9C-PS1, SLOT 16, V113	REF SHEET 12
J5	SPARE	
J6	SPARE	
J7	SPARE	
J8	To CFE-9C-PS1, SLOT 15, T115	REF SHEET 22
J9	To CFE-9C-PS1, SLOT 14, T115	REF SHEET 21
J10	To CFE-9C-PS1, SLOT 13, T115	REF SHEET 20
J11	To CFE-9C-PS1, SLOT 12, T115	REF SHEET 19
J12	To CFE-9C-PS1, SLOT 11, T115	REF SHEET 18
J13	To CFE-9C-PS1, SLOT 10, T115	REF SHEET 17
J14	To CFE-9C-PS1, SLOT 9, T115	REF SHEET 16
J15	To CFE-9C-PS1, SLOT 8, T115	REF SHEET 15
J16	To CFE-9C-PS1, SLOT 7, T115	REF SHEET 14
J17	To CFE-9C-PS1, SLOT 6, T115	REF SHEET 13

EVENT LINK FANOUT MODULE

BLDG # 1009C
RACK # R009C10
FANOUT # A

FROM SHEET 4
ASSY # DD9-E2442-5

OUTPUT

J2	To CFE-9C-PS2, SLOT 20, V102	REF SHEET 48
J3	To CFE-9C-PS2, SLOT 4, V113	REF SHEET 29
J4	SPARE	
J5	SPARE	
J6	SPARE	
J7	SPARE	
J8	To CFE-9C-PS2, SLOT 145 T115	REF SHEET 39
J9	To CFE-9C-PS2, SLOT 14, T115	REF SHEET 38
J10	To CFE-9C-PS2, SLOT 13, T115	REF SHEET 37
J11	To CFE-9C-PS2, SLOT 12, T115	REF SHEET 36
J12	To CFE-9C-PS2, SLOT 11, T115	REF SHEET 35
J13	To CFE-9C-PS2, SLOT 10, T115	REF SHEET 34
J14	To CFE-9C-PS2, SLOT 9, T115	REF SHEET 33
J15	To CFE-9C-PS2, SLOT 8, T115	REF SHEET 32
J16	To CFE-9C-PS2, SLOT 7, T115	REF SHEET 31
J17	To CFE-9C-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

DRAWN BY	Ed Koropsak	3/19/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/19/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
EVENT LINK

SIZE D | DRAWING NUMBER 94028714 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 5 of 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/5/03 10:30 AM 8714_06.dwg

FROM:
BLDG # 1008B
RACK # R08B06
MIC # MIC- 090F

RTDL
BLDG # 1009C
RACK # R009C08
MIC ID # MIC 087A
REAR | FRONT
A2

ASSY# 94028251
SINGLEMODE FIBER
(TYP 1 PLACE)

SINGLE MODE F/O RECEIVER
REAL TIME DATA LINK
BLDG # 1009C
RACK # R009C08
CHASSIS # F/O A
SLOT # 9

TESTPOINT CH2
FIBEROPTIC INPUT CH2
BACKPLANE CONNECTION

FROM SHEET 4
ECL/TTL DATA OUT 2A
ECL/TTL DATA OUT 2B

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 4 PLACES)

RTDL FANOUT MODULE
BLDG # 1009C
RACK # R009C08
FANOUT # B
ASSY # DD9-E2442-5
INPUT J1
OUTPUT
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
J17

RESERVED FOR FANOUT MODULE
RESERVED FOR FANOUT MODULE
RESERVED FOR FANOUT MODULE
TO CFE-9C-PS1, SLOT 3, V108
REF SHEET 11
TO CFE-9C-PS2, SLOT 3, V108
REF SHEET 28
SPARE
To CFE-9C-BPM1, SLOT 3, V108
INSTRUMENTATION USE
TO QUENCH, SLOT 3, V108
R09C13
SPARE
SPARE
SPARE
SPARE
SPARE

RTDL FANOUT MODULE
BLDG #: 1009C
RACK #: R009C09
FANOUT #: B
ASSY# DD9-E-2442
INPUT J1
TO SHEET 7

RTDL FANOUT MODULE
BLDG #: 1009C
RACK #: R009C10
FANOUT #: B
ASSY# DD9-E-2442
INPUT J1
TO SHEET 7

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

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

Q.A. CATEGORY A-3		DATE
DRAWN BY	Ed Koropsak	3/19/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/19/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
REAL TIME DATA LINK

SIZE D | DRAWING NUMBER 94028714 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: — | SHEET 6

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/25/00 9:34 AM 8714_07.dwg

RTDL FANOUT MODULE

BLDG # 1009C
RACK # R009C09
FANOUT # B

FROM SHEET 6
ASSY # DD9-E2442-5

OUTPUT

J2	SPARE
J3	SPARE
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	To CFE-9C-PS1, SLOT 15, T115 REF SHEET 22
J9	To CFE-9C-PS1, SLOT 14, T115 REF SHEET 21
J10	To CFE-9C-PS1, SLOT 13, T115 REF SHEET 20
J11	To CFE-9C-PS1, SLOT 12, T115 REF SHEET 19
J12	To CFE-9C-PS1, SLOT 11, T115 REF SHEET 18
J13	To CFE-9C-PS1, SLOT 10, T115 REF SHEET 17
J14	To CFE-9C-PS1, SLOT 9, T115 REF SHEET 16
J15	To CFE-9C-PS1, SLOT 8, T115 REF SHEET 15
J16	To CFE-9C-PS1, SLOT 7, T115 REF SHEET 14
J17	To CFE-9C-PS1, SLOT 6, T115 REF SHEET 13

RTDL FANOUT MODULE

BLDG # 1009C
RACK # R09C10
FANOUT # B

FROM SHEET 6
ASSY # DD9-E2442-5

OUTPUT

J2	SPARE
J3	SPARE
J4	SPARE
J5	SPARE
J6	SPARE
J7	SPARE
J8	To CFE-9C-PS2, SLOT 145 T115 REF SHEET 39
J9	To CFE-9C-PS2, SLOT 14, T115 REF SHEET 38
J10	To CFE-9C-PS2, SLOT 13, T115 REF SHEET 37
J11	To CFE-9C-PS2, SLOT 12, T115 REF SHEET 36
J12	To CFE-9C-PS2, SLOT 11, T115 REF SHEET 35
J13	To CFE-9C-PS2, SLOT 10, T115 REF SHEET 34
J14	To CFE-9A-PS2, SLOT 9, T115 REF SHEET 33
J15	To CFE-9A-PS2, SLOT 8, T115 REF SHEET 32
J16	To CFE-9A-PS2, SLOT 7, T115 REF SHEET 31
J17	To CFE-9A-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°
FINISH: NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A-3		DATE
DRAWN BY	Ed Koropsak	3/19/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/19/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

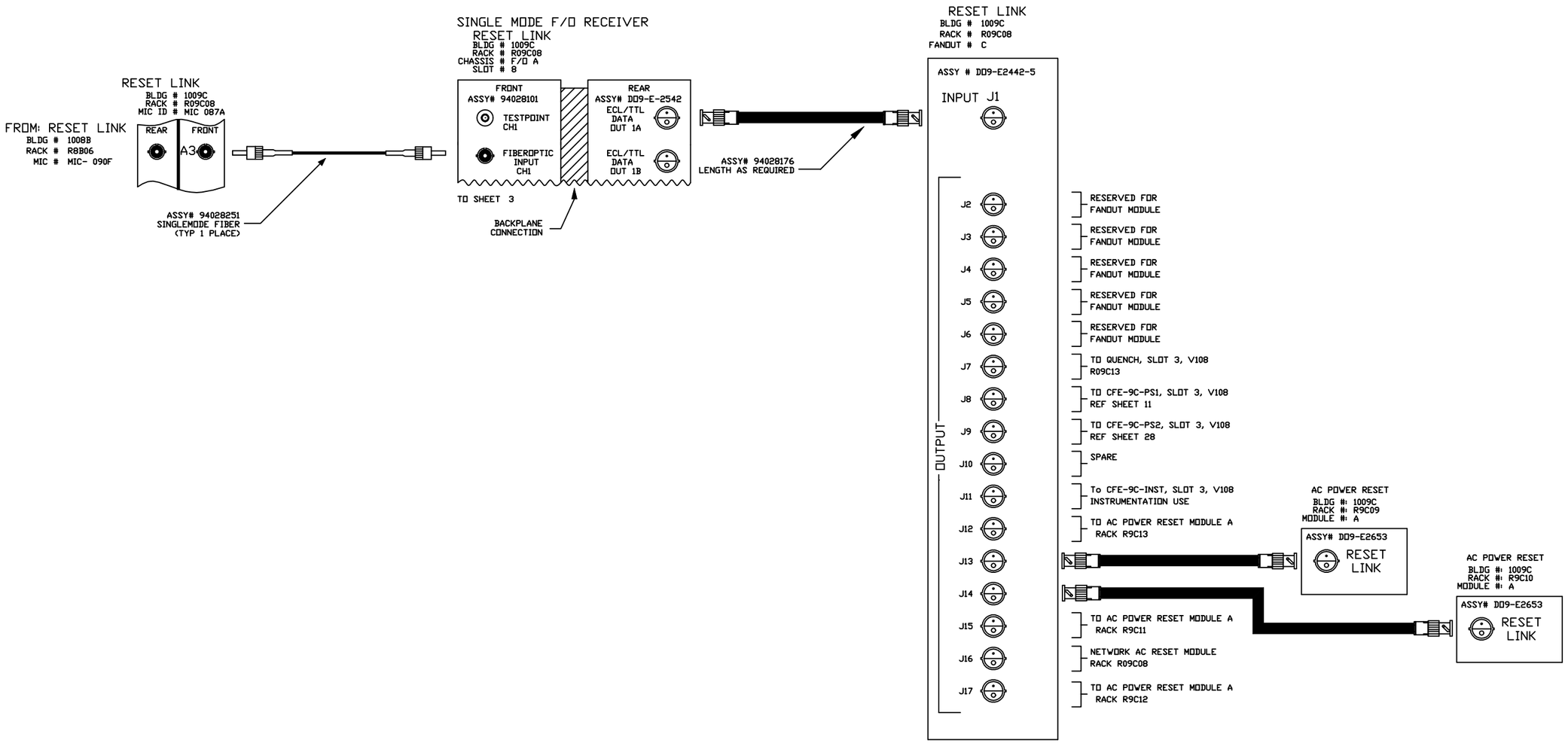
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
REAL TIME DATA LINK

SIZE D | DRAWING NUMBER 94028714 | REV. A
MATERIAL: ——— | SCALE: NA | WEIGHT: – | SHEET 7 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/5/03 10:35 AM 8714_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

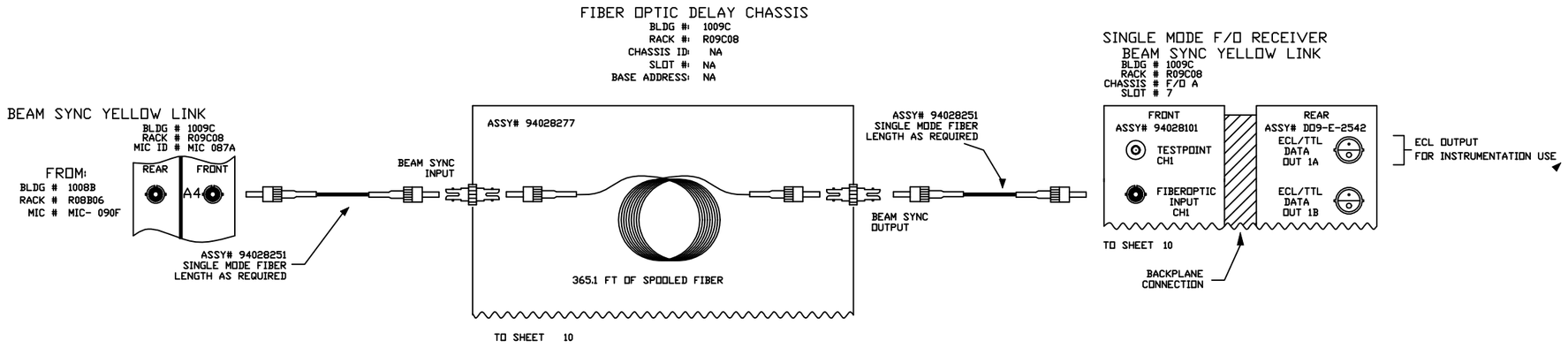
OUTSTANDING ECN

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY Venegas	8/13/99	UPTON, N.Y. 11973
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL		ALCOVE 1009C
ENGINEER APPROVAL R. MICHNOFF	10/27/97	RESET LINK
SUPVR. APPROVAL		SIZE D — 94028714 — REV. A
NEXT ASSEMBLY		DRAWING NUMBER
		MATERIAL: ——— SCALE: NA WEIGHT: — SHEET 8

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/25/00 9:37 AM 8714_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°

OUTSTANDING ECN

NA FINISH

BREAK SHARP EDGES
MAX. XX MIN. XX

Q.A. CATEGORY A–3		DATE
DRAWN BY	Ed Koropsak	3/19/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/19/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
BEAM SYNC YELLOW LINK

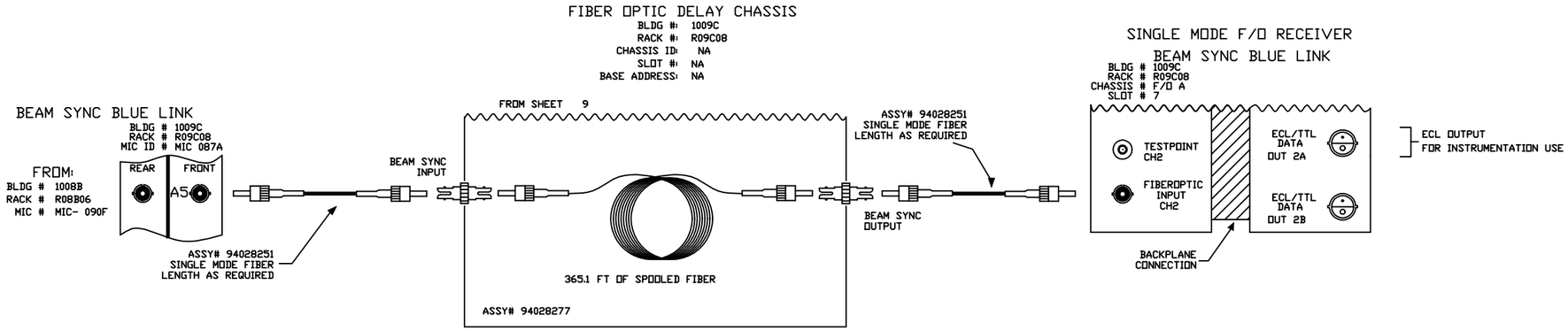
SIZE D | 94028714 DRAWING NUMBER | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

ACS, BNL 8/25/00 9:39 AM 8714_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
DRAWN BY	Ed Koropsak	3/19/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/19/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
BEAM SYNC BLUE LINK

SIZE D
94028714
DRAWING NUMBER
REV. A

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

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:01 AM 8714_11.dwg

FRONT END COMPUTER
BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT#: 1
FEC NAME: cfe-9c-ps1

RESET
LINK USER
FAIL SCON
COM2 — TO COM1 ON PS2, TO SHEET 28
COM1 — TO COM2 ON PS2, TO SHEET 28
KYBD
MSE
ETHERNET
PMC
POWER-3e

ETHERNET NETWORK
REF. NETWORK DIAGRAM

DEVICE: MM-6702 MEMORY MODULE
BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 2
A24 BASE ADDRESS: XXX

B2
B1
MM-6702

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 #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000

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

EVENT LINK
BLDG #: 1009C
RACK #: R09C08
FANOUT #: A
OUTPUT J8

RESET LINK
BLDG #: 1009C
RACK #: R09C08
FANOUT #: C
OUTPUT J8

REAL TIME DATA LINK
BLDG #: 1009C
RACK #: R09C08
FANOUT #: B
OUTPUT J8
ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)

5 — + VME CHASSIS FAN FAIL MODULE
6 — −
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 #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL E
FR SHEET25
J15
CHAN 15
ROOM TEMP
1009C

V199
BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 19
MADC 5VDC OUT

LEMO TWO CONDUCTOR CABLE ASSEMBLY

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C10
PANEL #: MADC A/D IO PANEL A
FR SHEET 54
J15
CH 15
VOLTAGE
CFE-9C-PS1 5VDC

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

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

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY	
DRAWN BY: Venegas	8/13/99	UPTON, N.Y. 11973	
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM	
DESIGN APPROVAL		ALCOVE 1009C, VME CHASSIS CFE-9C-PS1	
ENGINEER APPROVAL: R. MICHNOFF	10/21/97	CPU/MEMORY /V108 UTIL MODULE	
SUPVR. APPROVAL		NEXT ASSEMBLY	SIZE D — 94028714 — REV. A
		DRAWING NUMBER	
		MATERIAL: —	SCALE: NA — WEIGHT: — — SHEET 11

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 4/17/01 11:41 AM 8714_12.dwg

EVENT LINK
BLDG #: 1009C
RACK #: R09C09
FANOUT #: A

OUTPUT J3

MADC CONTROLLER
RACK#: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 4
A24 BASE ADDRESS: 540000
A32 BASE ADDRESS: 24000000

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

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 1 PLACE)

P2 INTERFACE RIBBON CABLE
ASSY# 94028218

ASSY# 94028138

MADC A/D MODULE
RACK#: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 5
CONFIGURATION: +/- 10V

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

ASSY# 94028226

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL A

ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH. 2

TO SHEET 13

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL B

ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH. 2

TO SHEET 15

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL C

ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH. 2

TO SHEET 18

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL D

ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH. 2

TO SHEET 20

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

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

EVENT LINK
BLDG #: 1009C
RACK #: R09C09
FANOUT #: A

OUTPUT J4

MADC CONTROLLER
RACK#: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 16
A24 BASE ADDRESS: 580000
A32 BASE ADDRESS: 28000000

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

ASSY# 94028176
LENGTH AS REQUIRED
(TYP 1 PLACE)

P2 INTERFACE RIBBON CABLE
ASSY# 94028218

ASSY# 94028138

MADC A/D MODULE
RACK#: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 17
CONFIGURATION: +/- 10V

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

ASSY# 94028226

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL E

ASSY# 94028670 ANALOG OUTPUT
+24V
COM
-24V
FROM BUFFERED MADC I/O POWER SUPPLY REF SH. 2

TO SHEET 22

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	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L SPEC 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	4/17/01
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	4/17/01
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
1009C, VME CHASSIS CFE-9C-PS1
MADC SYSTEM

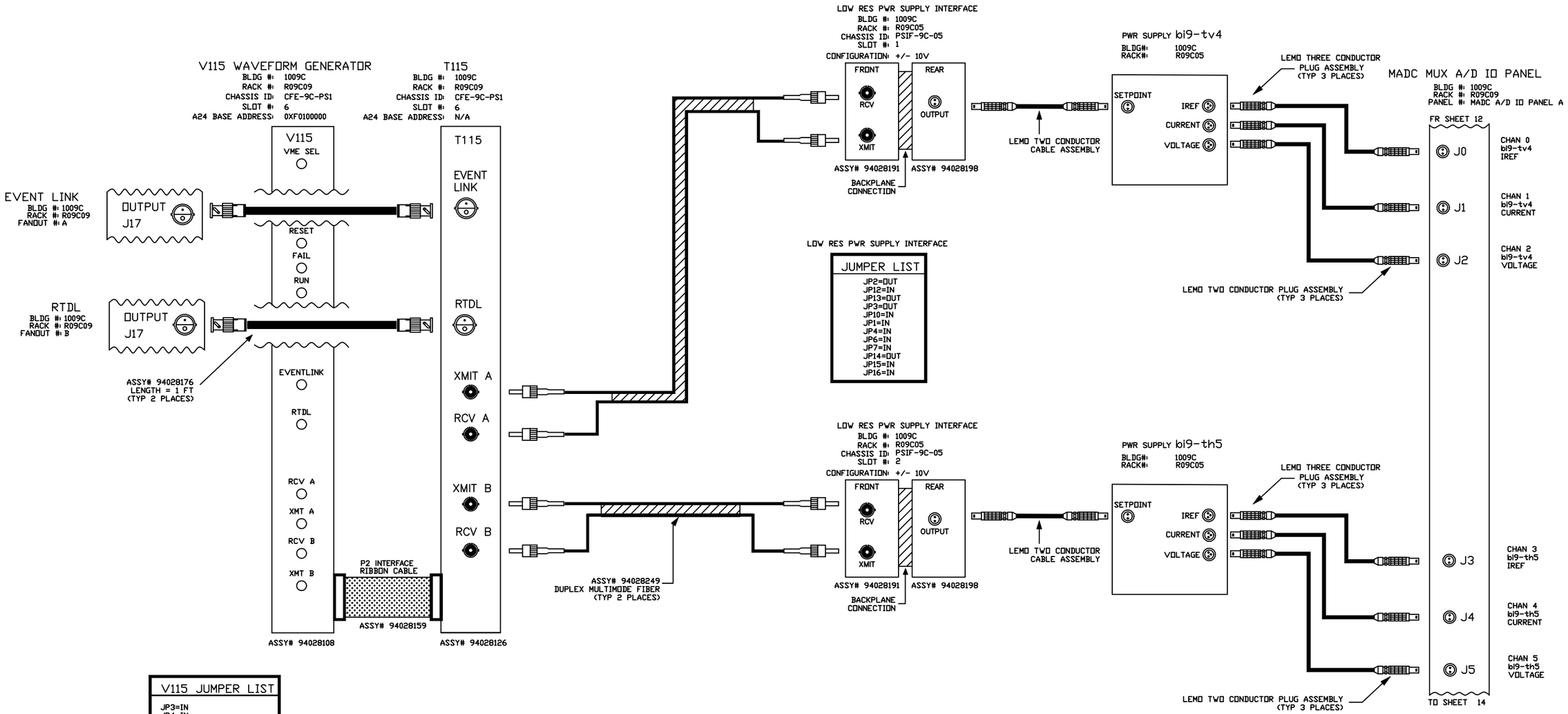
SIZE D
94028714
DRAWING NUMBER
REV. A

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

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:03 AM 8714_13.dwg



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

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

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

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Ed Koropsak	3/19/98	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	3/19/98	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS1
PWR SPPLY bi9-tv4/bi9-th5

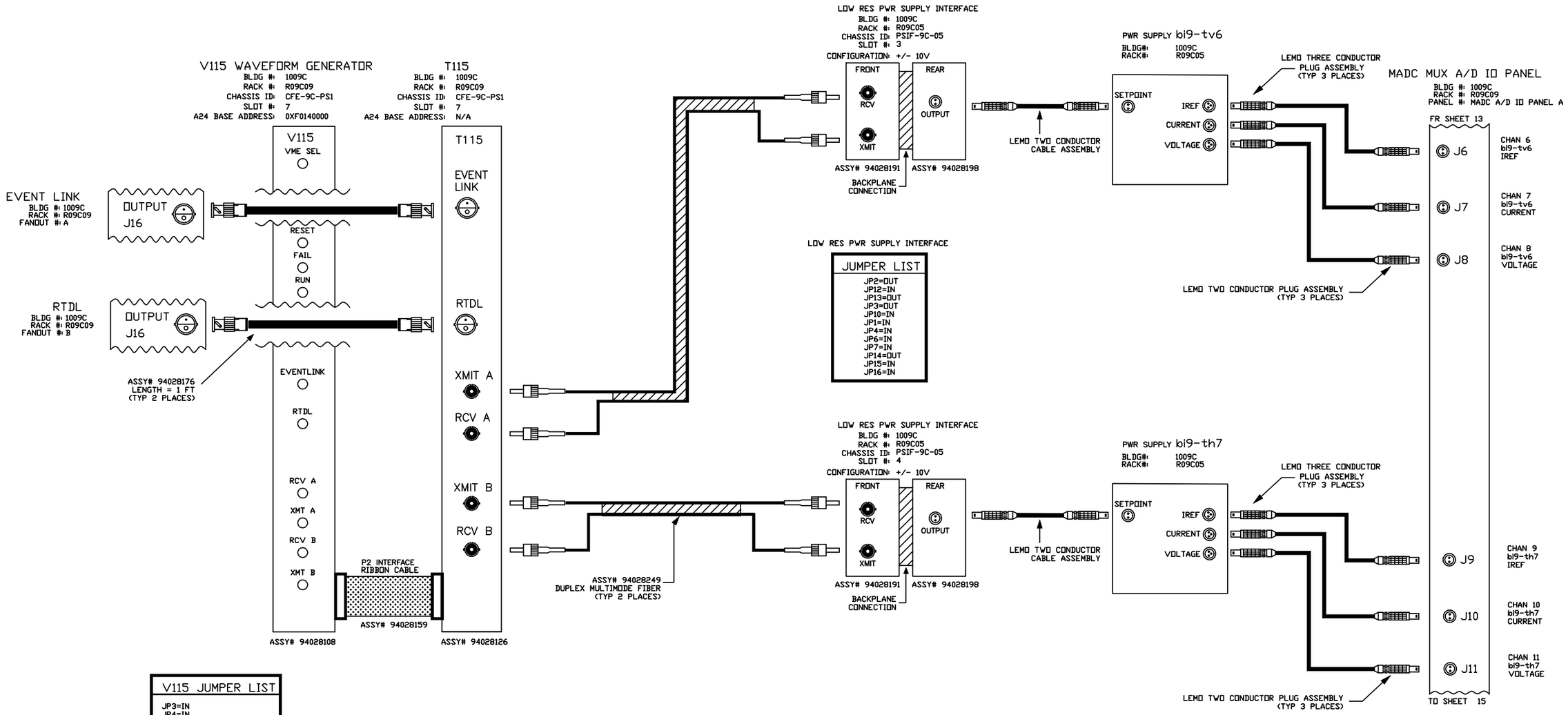
SIZE	DRAWING NUMBER	REV.
D	94028714	A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:06 AM 8714_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

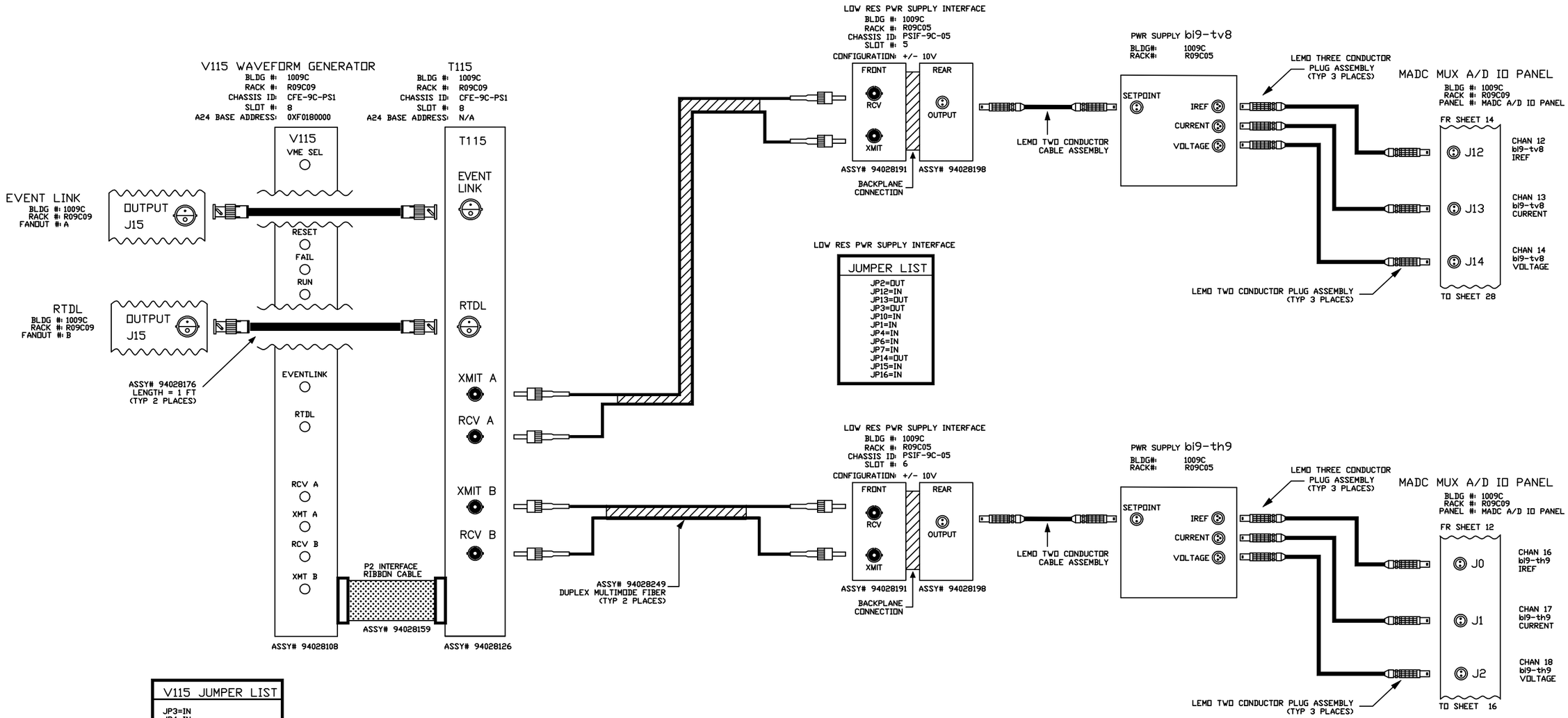
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./PRL NO.
QTY REQD						

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Ed Koropsak	3/19/98	UPTON, N.Y. 11973
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		ALCOVE 1009C, CFE-9C-PS1
	ENGINEER APPROVAL R. MICHNOFF	3/19/98	PWR SPPLY bi9-tv6/bi9-th7
	SUPVR. APPROVAL		SIZE D — 94028714 — 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 9:05 AM 8714_15.dwg



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

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./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	3/19/98	
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL R. MICHNOFF	3/19/98	
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1009C, CFE-9C-PS1

PWR SPPLY bi9-tv8/bi9-th9

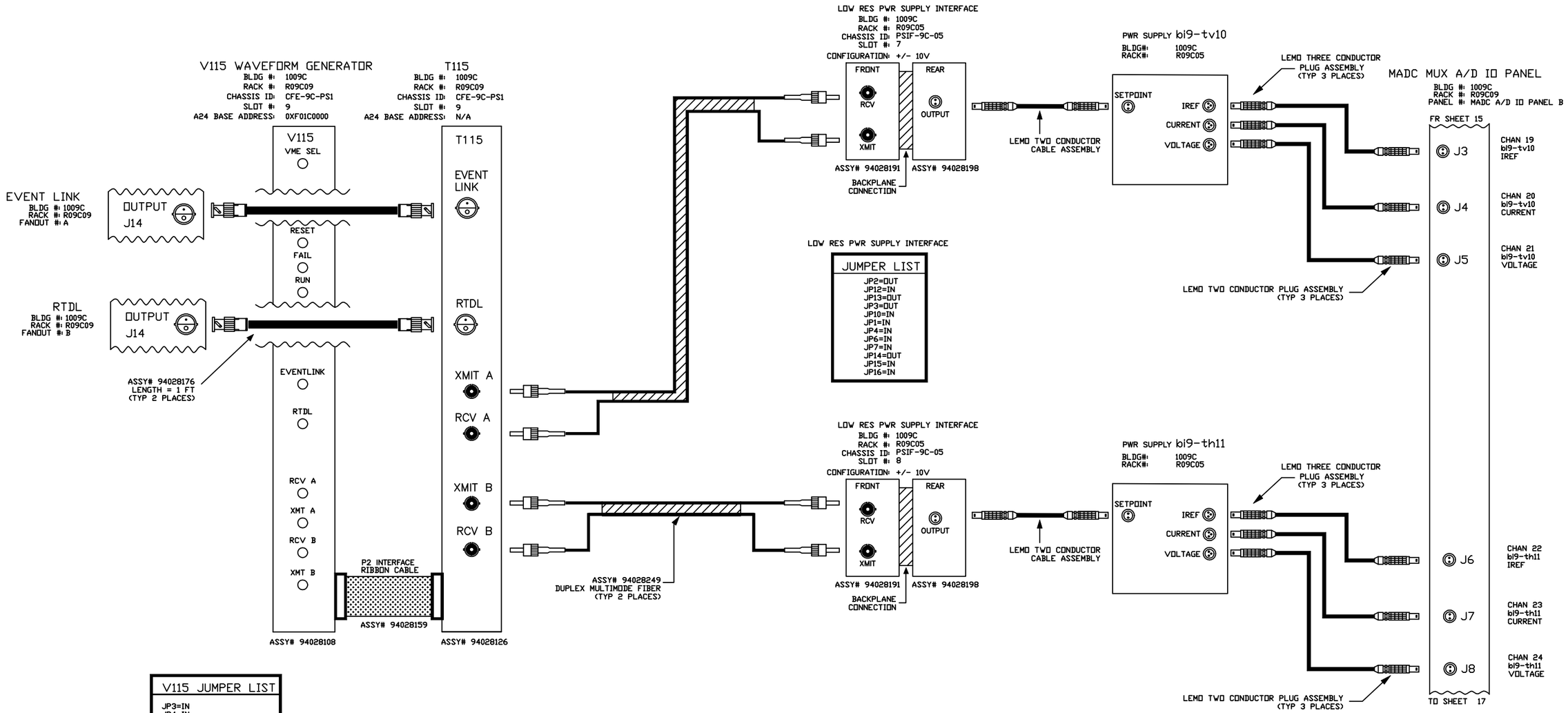
SIZE D | 94028714 | REV. A

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

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:07 AM 8714_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	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	Ed Koropsak	3/19/98	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	3/19/98	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS1
PWR SPPLY bi9-tv10/bi9-th11

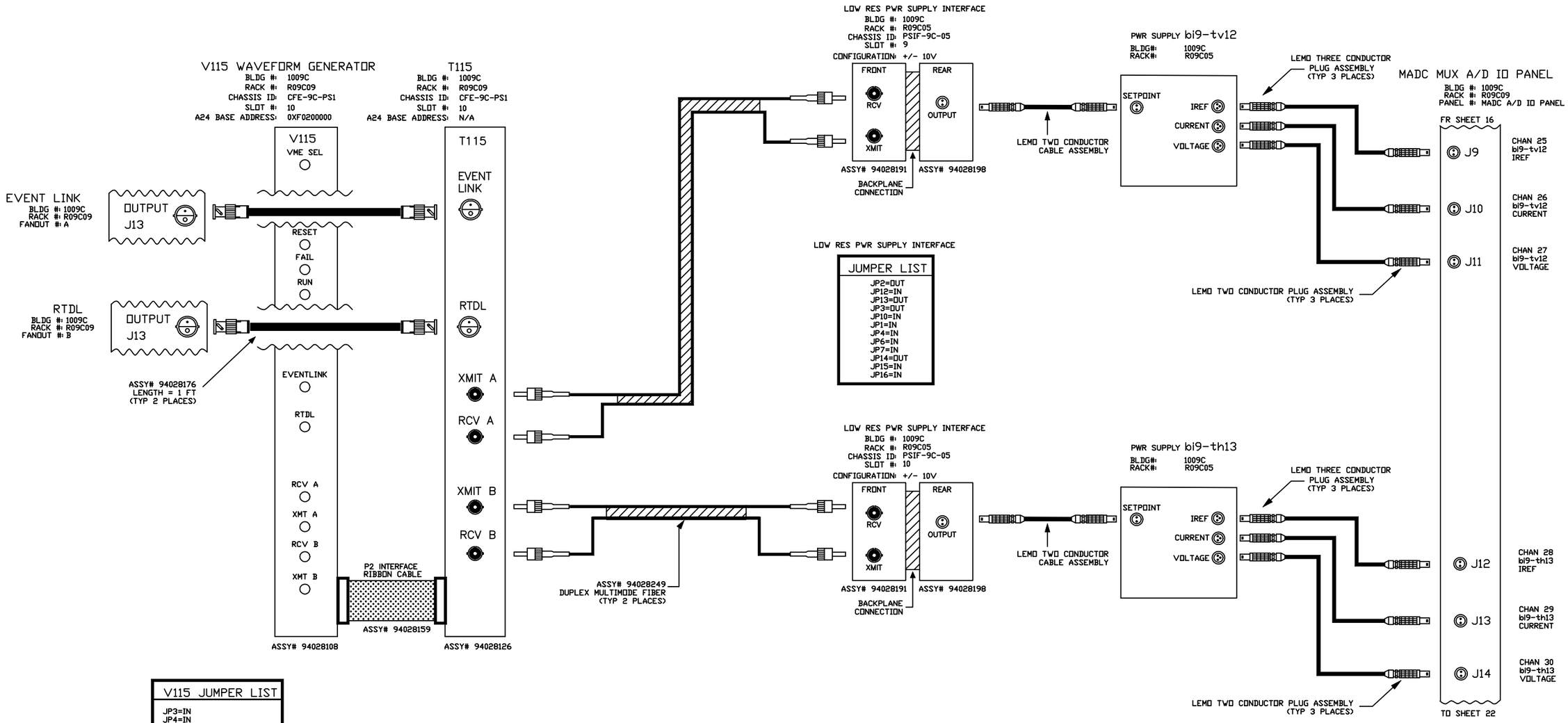
SIZE	DRAWING NUMBER	REV.
D	94028714	A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:09 AM 8714_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

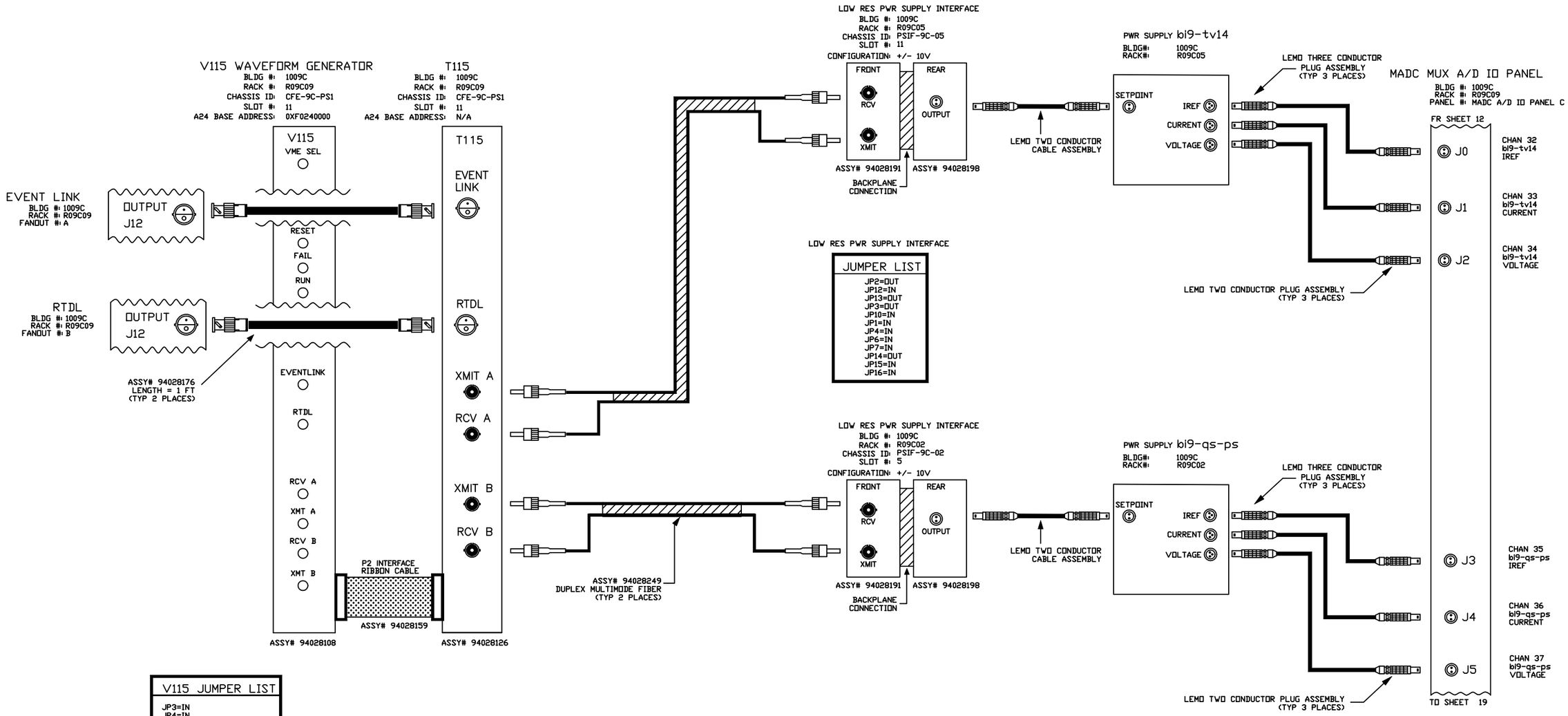
NEXT ASSEMBLY

Q.A. CATEGORY A-3		DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Ed Koropsak	3/19/98	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1009C, CFE-9C-PS1
ENGINEER APPROVAL	R. MICHNOFF	3/19/98	PWR SPLY bi9-tv12/bi9-th13
SUPVR. APPROVAL			SIZE D — DRAWING NUMBER 94028714 — REV. A
MATERIAL: ———	SCALE: NA	WEIGHT: –	SHEET 17

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:10 AM 8714_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

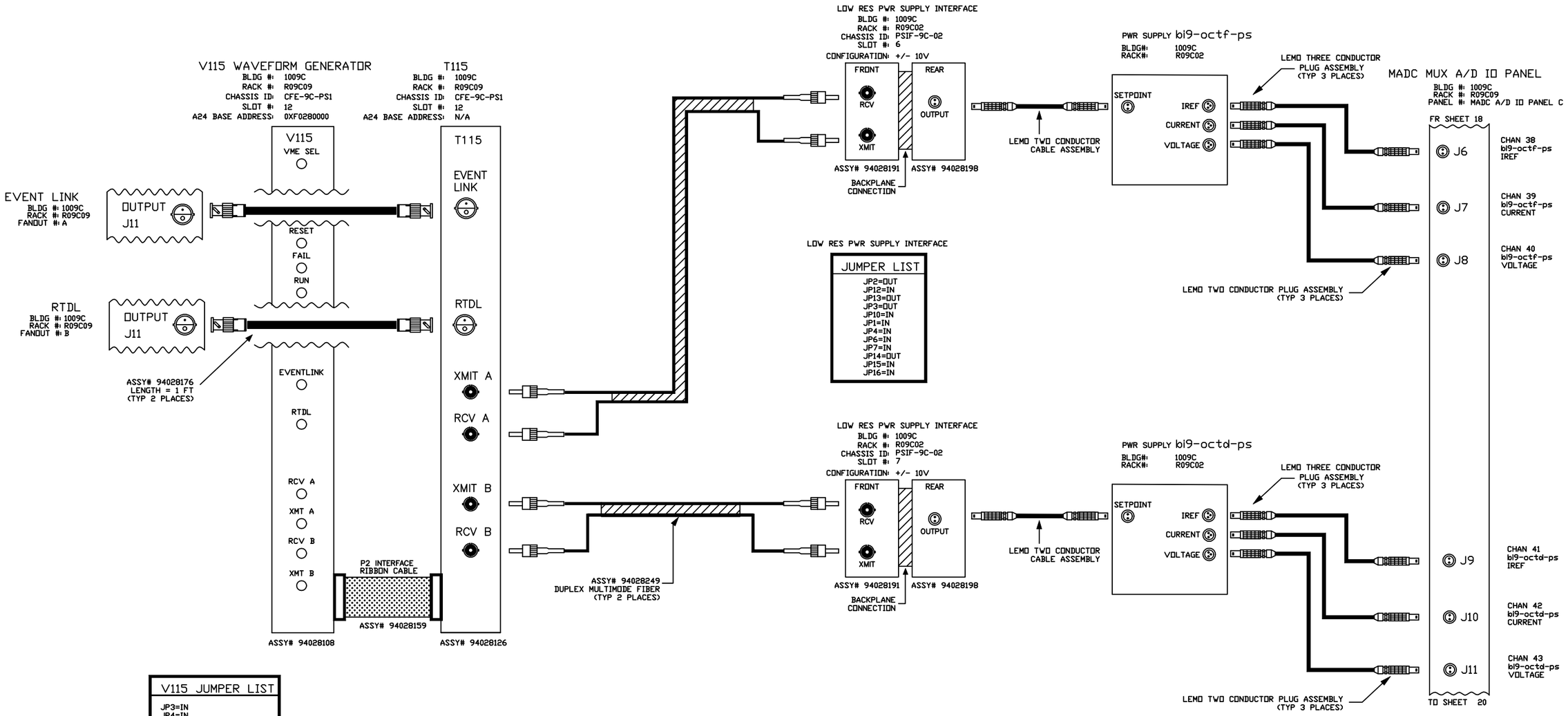
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./INL NO.
QTY REQD						

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Ed Koropsak	3/19/98	UPTON, N.Y. 11973
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		ALCOVE 1009C, CFE-9C-PS1
	ENGINEER APPROVAL R. MICHNOFF	2/19/98	PWR SUPLY bi9-tv14/bi9-qs-ps
	SUPVR. APPROVAL		SIZE D — 94028714 — REV. A
NA FINISH	BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY	DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: —— SCALE: NA WEIGHT: — SHEET 18

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:11 AM 8714_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./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	3/19/98	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	3/19/98	
SUPVR. APPROVAL			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS1
bi9-octf-ps/bi9-octd-ps

SIZE	DRAWING NUMBER	REV.
D	94028714	A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 19

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:14 AM 8714_20.dwg

V115 WAVEFORM GENERATOR

BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 13
A24 BASE ADDRESS: 0XF02C0000

T115

BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-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 #: 1009C
RACK #: R09C09
FANOUT #: A

RTDL
BLDG #: 1009C
RACK #: R09C09
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 #: 1009C
RACK #: R09C02
CHASSIS ID: PSIF-9C-02
SLOT #: 8
CONFIGURATION: +/- 10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198

BACKPLANE CONNECTION

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1009C
RACK #: R09C01
CHASSIS ID: PSIF-9C-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 #: 1009C
RACK #: R09C09
CHASSIS #: CFE-9C-PS1
SLOT #: 20
FR SHEET 53

CHAN 1

TO SHEET 37

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY bi9-qgt-ps

BLDG#: 1009C
RACK#: R09C02

SETPOINT
IREF
CURRENT
VOLTAGE
INPUT
OUTPUT
JUMP VOLTAGE

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL C
FR SHEET 19

J12 — CHAN 44 bi9-qgt-ps IREF
J13 — CHAN 45 bi9-qgt-ps CURRENT
J14 — CHAN 46 bi9-qgt-ps VOLTAGE
J15 — CHAN 47 bi9-qgt-ps JUMP VOLTAGE

PWR SUPPLY bi9-tv2

BLDG#: 1009C
RACK#: R09C01

SETPOINT
IREF
CURRENT
VOLTAGE

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

LEMO TWO CONDUCTOR CABLE ASSEMBLY

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL D
FR SHEET 12

J0 — CHAN 48 bi9-tv2 IREF
J1 — CHAN 49 bi9-tv2 CURRENT
J2 — CHAN 50 bi9-tv2 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 Ed Koropsak 3/19/98
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL R. MICHNOFF 3/19/98
SUPVR. APPROVAL
NEXT ASSEMBLY

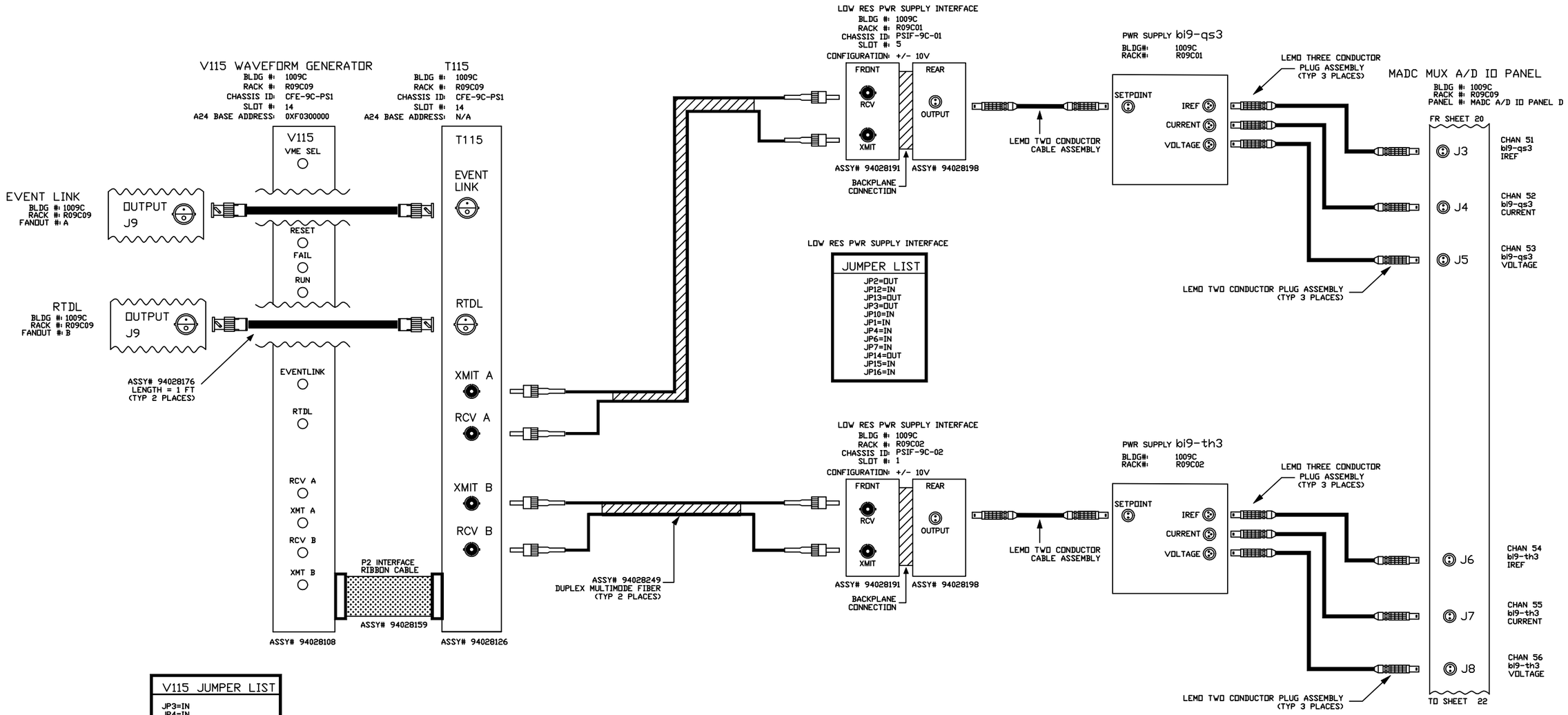
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS1
PWR SPLY bi9-qgt-ps/bi9-tv2

SIZE D | 94028714 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 20

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:15 AM 8714_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./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 Ed Koropsak	3/20/98	UPTON, N.Y. 11973	
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM	
DESIGN APPROVAL		ALCOVE 1009C, CFE-9C-PS1	
ENGINEER APPROVAL R. MICHNOFF	2/20/98	PWR SPLY bi9-qs3/bi9-th3	
SUPVR. APPROVAL		SIZE D	94028714 REV. A
NEXT ASSEMBLY		DRAWING NUMBER	
		MATERIAL: ———	SCALE: NA WEIGHT: – SHEET 21

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/4/03 4:17 PM 8714_22.dwg

V115 WAVEFORM GENERATOR (J)
BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 15
A24 BASE ADDRESS: 0XF0340000

T115
BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 15
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 #: 1009C
RACK #: R09C09
FANOUT #: A
OUTPUT J8

RTDL
BLDG #: 1009C
RACK #: R09C09
FANOUT #: B
OUTPUT J8

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 #: 1009C
RACK #: R09C05
CHASSIS ID: PSIF-9C-05
SLOT #: 13
CONFIGURATION: 0 to +10V
FRONT
RCV
XMIT
REAR
OUTPUT
ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

LOW RES PWR SUPPLY INTERFACE
JUMPER LIST
JP2=IN
JP12=OUT
JP13=IN
JP3=IN
JP10=IN
JP1=IN
JP4=IN
JP6=IN
JP7=IN
JP14=OUT
JP15=IN
JP16=IN

LOW RES PWR SUPPLY INTERFACE
BLDG #: 1009C
RACK #: R09C05
CHASSIS ID: PSIF-9C-05
SLOT #: 14
CONFIGURATION: 0 to +10V
FRONT
RCV
XMIT
REAR
OUTPUT
ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY bi9-snk7-1
BLDG#: 1009C
RACK#: R09C07
SETPOINT
IREF
CURRENT
VOLTAGE
ERROR
IGROUND

INTERFACE CARD AT PS

LEMO TWO CONDUCTOR PLUG ASSEMBLY
(TYP 5 PLACES)

PWR SUPPLY bi9-snk7-2
BLDG#: 1009C
RACK#: R09C07
SETPOINT
IGROUND
IREF
CURRENT
VOLTAGE
ERROR

LEMO TWO CONDUCTOR CABLE ASSEMBLY

INTERFACE CARD AT PS

LEMO TWO CONDUCTOR PLUG ASSEMBLY
(TYP 5 PLACES)

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL D
FR SHEET 21
J9 CHAN 57 bi9-snk7-1 IREF
J10 CHAN 58 bi9-snk7-1 CURRENT
J11 CHAN 59 bi9-snk7-1 VOLTAGE
TO SHEET 22

FR SHEET 17
J15 CHAN 31 bi9-snk7-1 ERROR

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL B

FR SHEET 12
J0 CHAN 0 bi9-snk7-1 IGROUND
J1 CHAN 1 bi9-snk7-2 IGROUND
TO SHEET 39

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL E

MADC MUX A/D IO PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL D
FR SHEET 22
J12 CHAN 60 bi9-snk7-2 IREF
J13 CHAN 61 bi9-snk7-2 CURRENT
J14 CHAN 62 bi9-snk7-2 VOLTAGE
J15 CHAN 63 bi9-snk7-2 ERROR

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=OUT

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	3/20/98	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	3/20/98	
SUPVR. APPROVAL			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS1
PS bi9-snk7-1/bi9-snk7-2

SIZE D | DRAWING NUMBER 94028714 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 22

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:36 AM 8714_28.dwg

FRONT END COMPUTER
BLDG #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT#: 1
FEC NAME: cfe-9c-ps2

RESET
LINK USER
FAIL SCON
COM2
TO COM1 ON PS1
TO SHEET 11
COM1
TO COM2 ON PS1
TO SHEET 11
KYBD
MSE
ETHERNET
ETHERNET NETWORK
REF. NETWORK DIAGRAM
PMC
POWER-3e

DEVICE: MM-6702 MEMORY MODULE
BLDG #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 2
A24 BASE ADDRESS: XXX

B2
B1
MM-6702

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 #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 3
A24 BASE ADDRESS: 0XF0004000

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

EVENT LINK
BLDG #: 1009C
RACK #: R09C08
FANOUT #: A
OUTPUT J9

RESET LINK
BLDG #: 1009C
RACK #: R09C08
FANOUT #: C
OUTPUT J9

REAL TIME DATA LINK
BLDG #: 1009C
RACK #: R09C08
FANOUT #: B
OUTPUT J9
ASSY# 94028176
LENGTH AS REQUIRED
(TYP 3 PLACES)

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

JUMPER LIST

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

Remote reset pulls VME SYS Reset.
E58-E60, E59-E61

A24 BASE ADDRESS= 4000h
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 #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 19

MADC MUX A/D ID PANEL
BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D ID PANEL A

MADC 5VDC OUT
LEMO TWO CONDUCTOR CABLE ASSEMBLY
FR SHEET 15
J15
CH 15
VOLTAGE
CFE-9C-PS2 5VDC

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

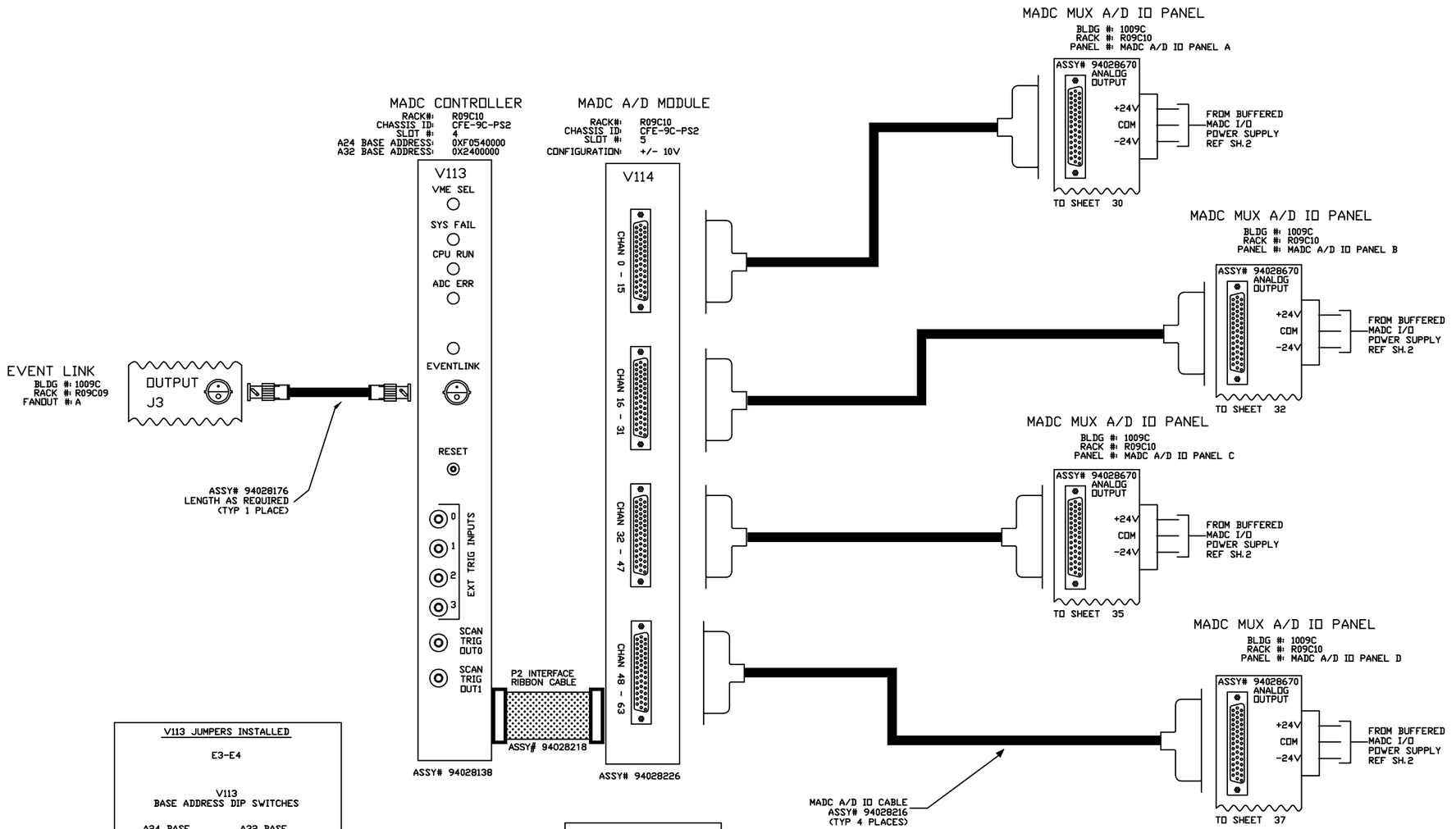
INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005
ANGULAR TOLERANCE ± .5'
OUTSTANDING ECN
NA FINISH
BREAK SHARP EDGES MAX. XX MIN. XX

Q.A. CATEGORY A-3		DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Venegas	8/13/99	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1009C, VME CHASSIS CFE-9C-PS2
ENGINEER APPROVAL	R. MICHNOFF	10/21/97	CPU/MEMORY /V108 UTIL MODULE
SUPVR. APPROVAL			94028714
NEXT ASSEMBLY			SIZE D, REV. A, DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: –	SHEET 28

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

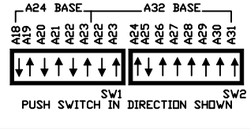
ACS, BNL 8/25/00 10:23 AM 8714_29.dwg



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

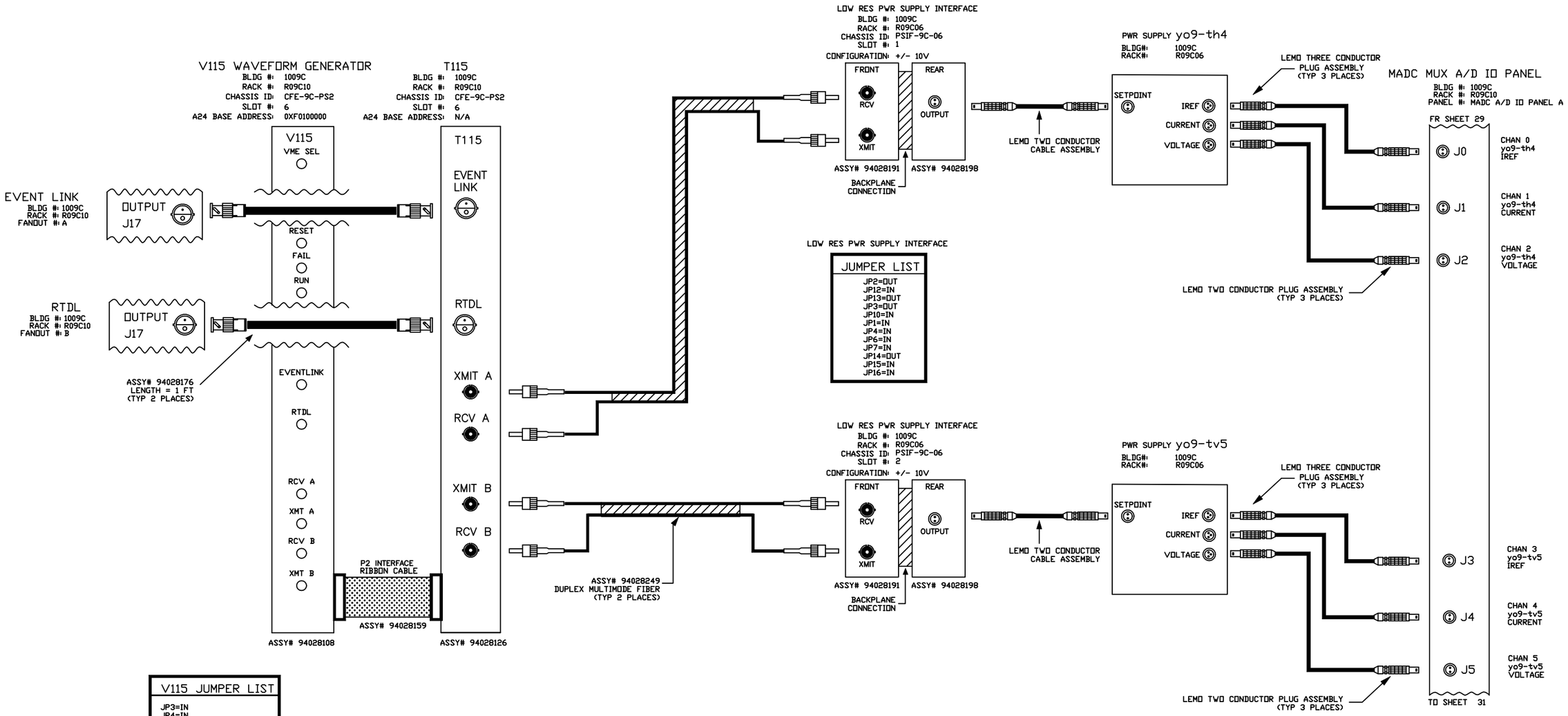
OUTSTANDING ECN

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY Ed Koropsak	3/20/98	UPTON, N.Y. 11973
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL		ALCOVE 1009C, VME CHASSIS CFE-9C-PS2
ENGINEER APPROVAL R. MICHNOFF	3/20/98	MADC SYSTEM
SUPVR. APPROVAL		SIZE D — 94028714 — REV. A
NEXT ASSEMBLY		DRAWING NUMBER
MATERIAL: ———	SCALE: NA	WEIGHT: – SHEET 29 OF 52

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:38 AM 8714_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

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	3/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/20/98/97
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS2
PWR SPLY yo9-th4/yo9-tv5

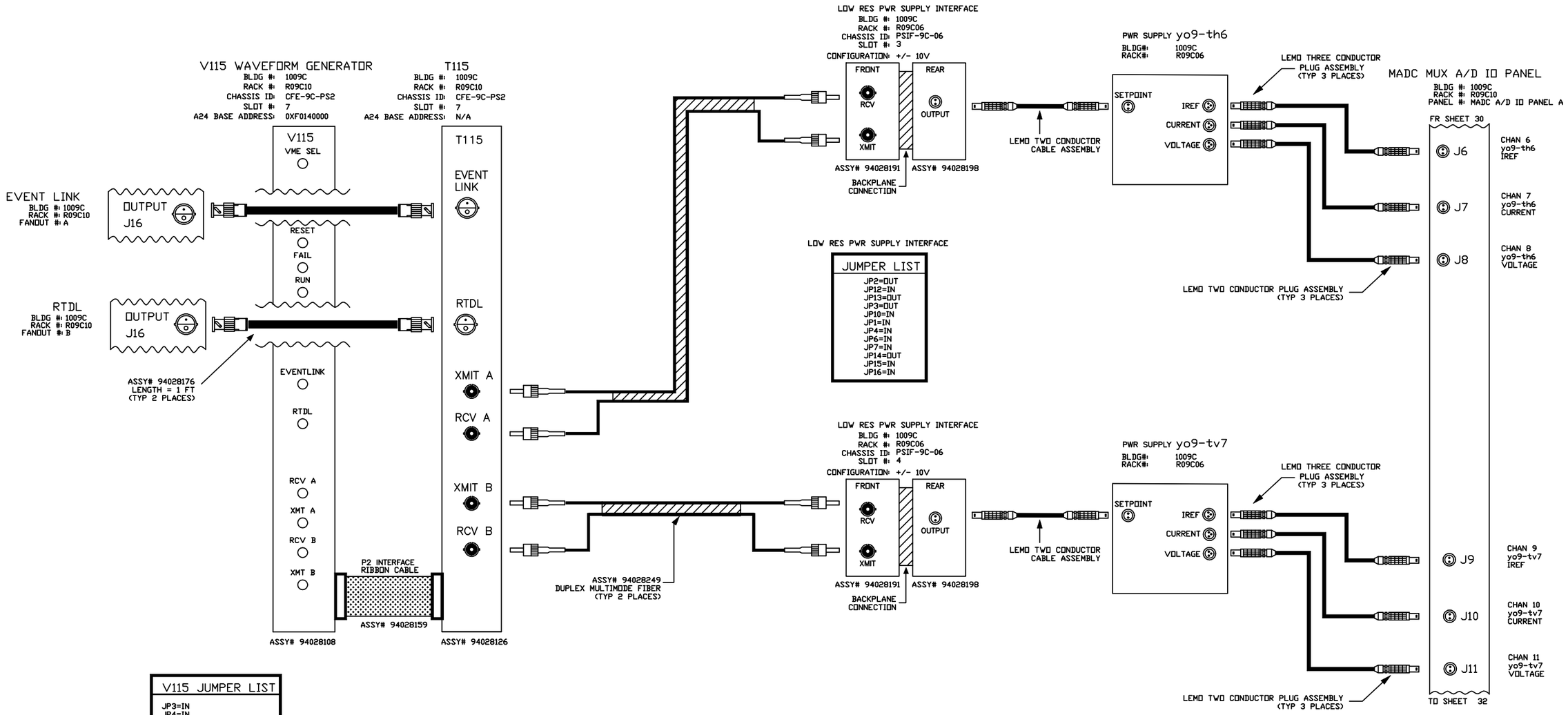
SIZE D | DRAWING NUMBER 94028714 | REV. A

MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 30

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:39 AM 8714_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

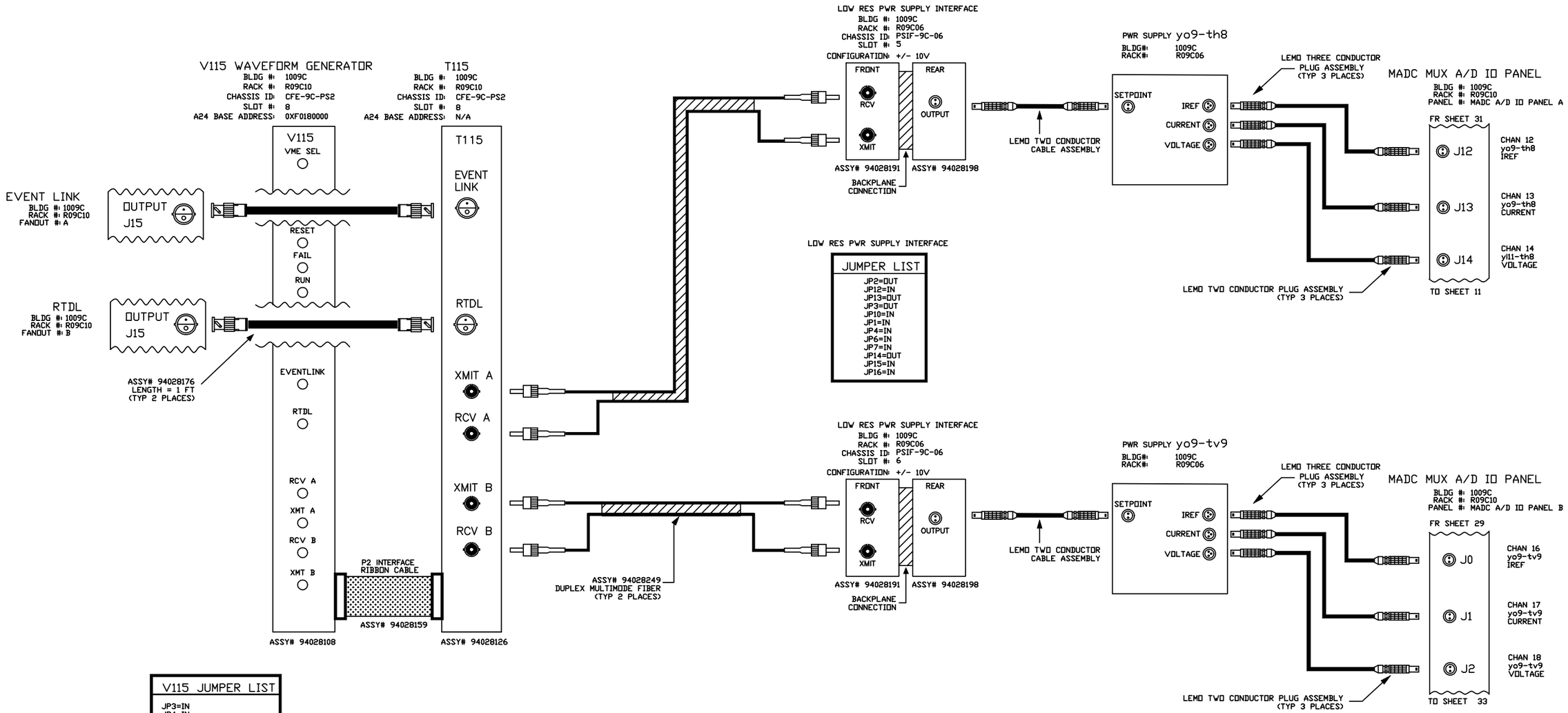
-3	-2	-1	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./INL NO.
QTY REQD						

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989	Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY Ed Koropsak	3/20/98	UPTON, N.Y. 11973
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		ALCOVE 1009C, CFE-9C-PS2
	ENGINEER APPROVAL R. MICHNOFF	3/20/98	PWR SPLY yo9-th6/yo9-tv7
	SUPVR. APPROVAL		SIZE D — 94028714 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: —— SCALE: NA WEIGHT: — SHEET 31

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:40 AM 8714_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.

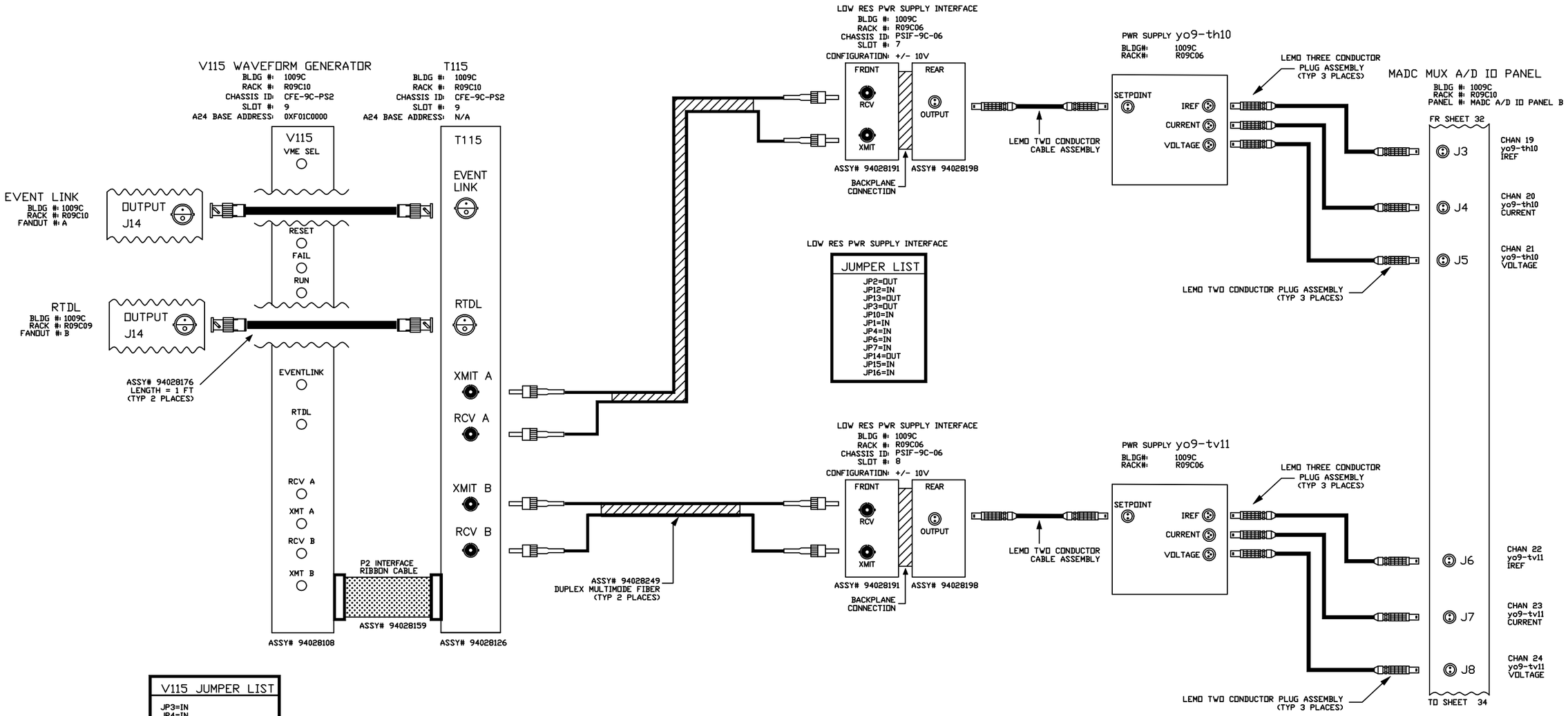
INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005
ANGULAR TOLERANCE ± .5°
NA FINISH
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN

Q.A. CATEGORY A-3	DATE	BROOKHAVEN NATIONAL LABORATORY	
DRAWN BY Ed Koropsak	3/20/98	UPTON, N.Y. 11973	
CHECKED BY		RHIC CONTROLS WIRING DIAGRAM	
DESIGN APPROVAL		ALCOVE 1009C, CFE-9C-PS2	
ENGINEER APPROVAL R. MICHNOFF	3/20/98	PWR SPLY yo9-th8/yo9-tv9	
SUPVR. APPROVAL		SIZE D	94028714 REV. A
NEXT ASSEMBLY		DRAWING NUMBER	
		MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 32	

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:41 AM 8714_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./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°
FINISH: NA
BREAK SHARP EDGES MAX. XX MIN. XX
OUTSTANDING ECN
NEXT ASSEMBLY

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Ed Koropsak	3/20/98	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	3/20/98	
SUPVR. APPROVAL			

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS2
PWR SPLY yo9-th10/yo9-tv11

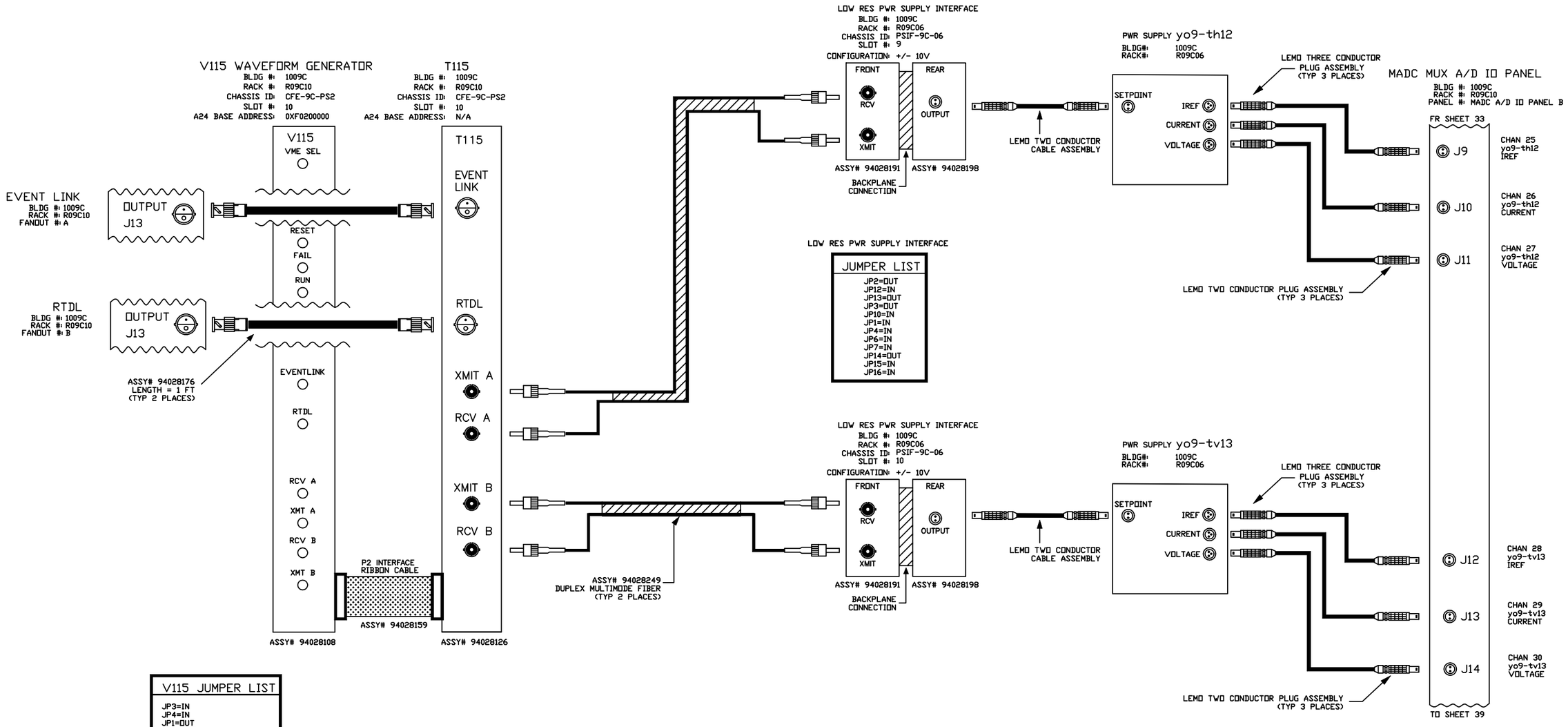
SIZE	DRAWING NUMBER	REV.
D	94028714	A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:43 AM 8714_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

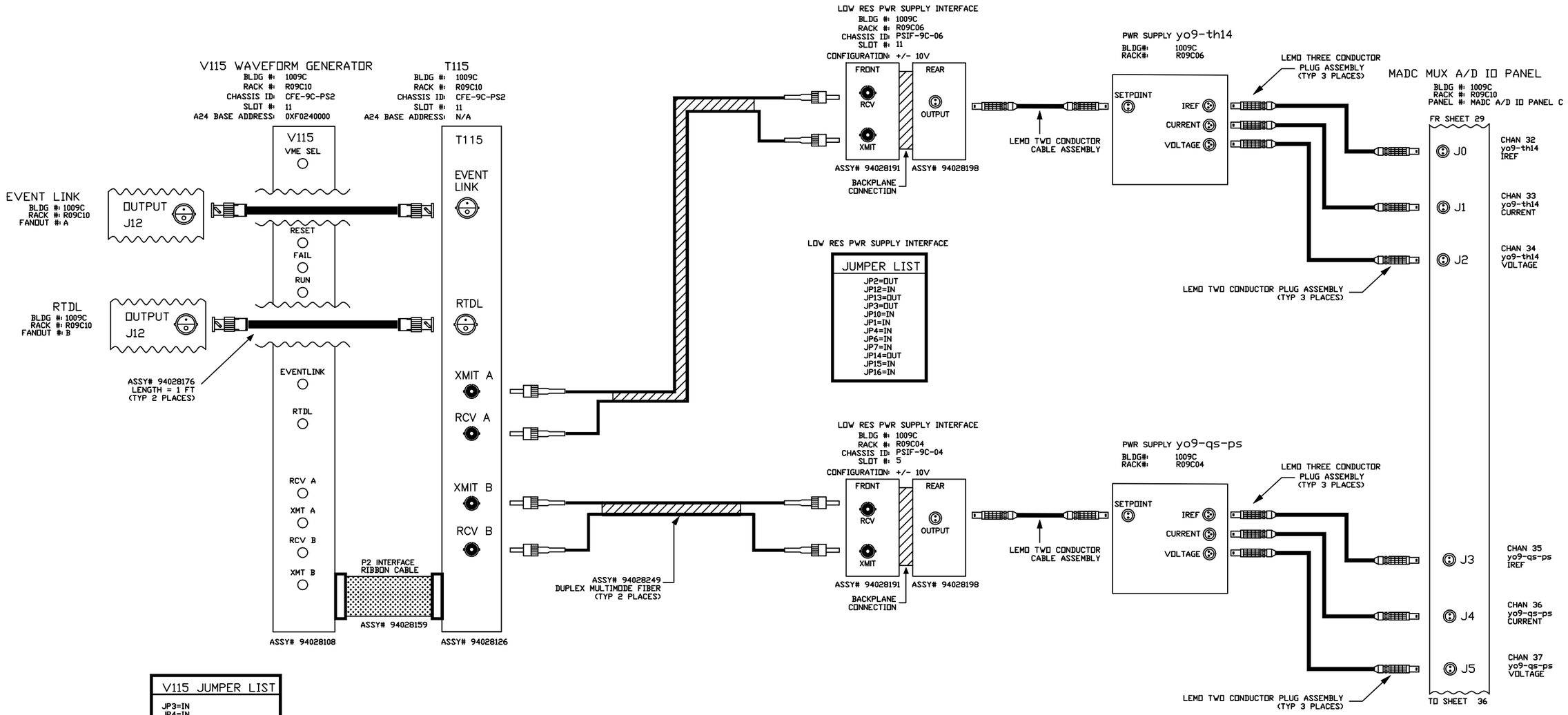
NEXT ASSEMBLY

Q.A. CATEGORY A-3		DATE	BROOKHAVEN NATIONAL LABORATORY
DRAWN BY	Ed Koropsak	3/20/98	UPTON, N.Y. 11973
CHECKED BY			RHIC CONTROLS WIRING DIAGRAM
DESIGN APPROVAL			ALCOVE 1009C, CFE-9C-PS2
ENGINEER APPROVAL	R. MICHNOFF	3/20/98	PWR SPLY yo9-th12/yo9-tv13
SUPVR. APPROVAL			SIZE D — DRAWING NUMBER 94028714 — REV. A
MATERIAL: ———	SCALE: NA	WEIGHT: –	SHEET 34

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:44 AM 8714_35.dwg



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

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

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°

NA FINISH

BREAK SHARP EDGES MAX. XX MIN. XX

OUTSTANDING ECN

Q.A. CATEGORY A-3

DRAWN BY	Ed Koropsak	3/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/20/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS2
PWR SUPPLY yo9-th14/yo9-qs-ps

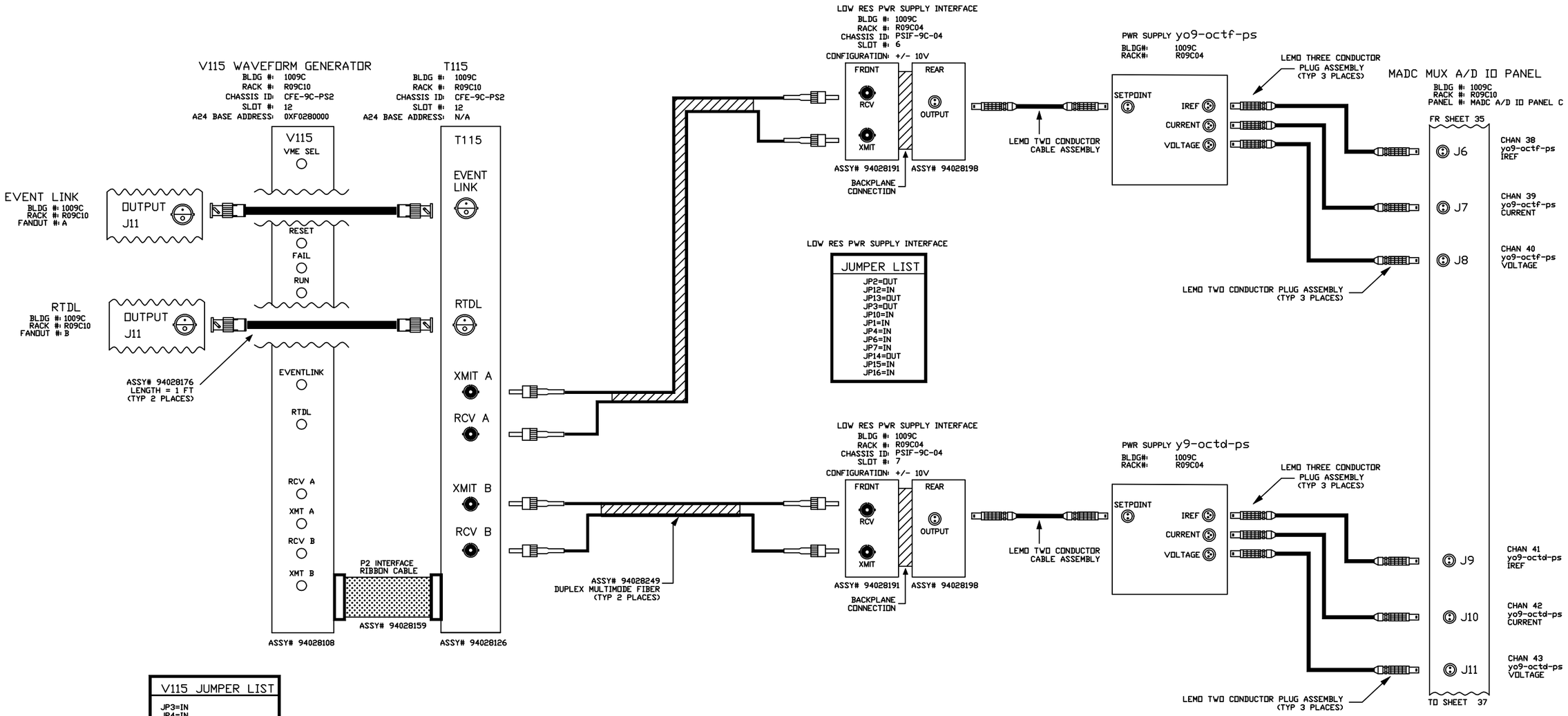
SIZE D | 94028714 | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:45 AM 8714_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

DRAWN BY	Ed Koropsak	3/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/20/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS2
PWRSPLY yo9-octf-ps/yo9-octd-ps

SIZE D | 94028714 | REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 36

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:47 AM 8714_37.dwg

V115 WAVEFORM GENERATOR

BLDG #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 13
A24 BASE ADDRESS: 0XF02C0000

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

ASSY# 94028108

T115

BLDG #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 13
A24 BASE ADDRESS: N/A

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

ASSY# 94028126

P2 INTERFACE RIBBON CABLE
ASSY# 94028159

EVENT LINK
BLDG #: 1009C
RACK #: R09C10
FANOUT #: A
OUTPUT J10

RTDL
BLDG #: 1009C
RACK #: R09C10
FANOUT #: B
OUTPUT J10

ASSY# 94028176
LENGTH = 1 FT
(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 #: 1009C
RACK #: R09C04
CHASSIS ID: PSIF-9C-04
SLOT #: 8
CONFIGURATION: +/- 10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

ASSY# 94028249
DUPLEX MULTIMODE FIBER
(TYP 2 PLACES)

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 #: 1009C
RACK #: R09C03
CHASSIS ID: PSIF-9C-03
SLOT #: 1
CONFIGURATION: +/- 10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

VMIVME 4122

BLDG #: 1009C
RACK #: R09C09
CHASSIS # CFE-9C-PS1
SLOT # 20
FR SHEET 20

CHAN 2

TO SHEET 3

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY yo0-qgt-ps

BLDG#: 1009C
RACK#: R09C04

SETPOINT
IREF
CURRENT
VOLTAGE
INPUT
OUTPUT
JUMP VOLTAGE

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 5 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09C10
PANEL #: MADC A/D IO PANEL C
FR SHEET 36

J12	CHAN 44 yo9-qgt-ps IREF
J13	CHAN 45 yo9-qgt-ps CURRENT
J14	CHAN 46 yo9-qgt-ps VOLTAGE
J15	CHAN 47 yo9-qgt-ps JUMP VOLTAGE

PWR SUPPLY yo9-th2

BLDG#: 1009C
RACK#: R09C03

SETPOINT
IREF
CURRENT
VOLTAGE

LEMO THREE CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

LEMO TWO CONDUCTOR CABLE ASSEMBLY

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 3 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09CA10
PANEL #: MADC A/D IO PANEL D
FR SHEET 29

J0	CHAN 48 yo9-th2 IREF
J1	CHAN 49 yo9-th2 CURRENT
J2	CHAN 50 yo9-th2 VOLTAGE

TO SHEET 38

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

Q.A. CATEGORY	A-3	DATE	
DRAWN BY	Ed Koropsak	3/20/98	
CHECKED BY			
DESIGN APPROVAL			
ENGINEER APPROVAL	R. MICHNOFF	3/20/98	
SUPVR. APPROVAL			
NEXT ASSEMBLY			

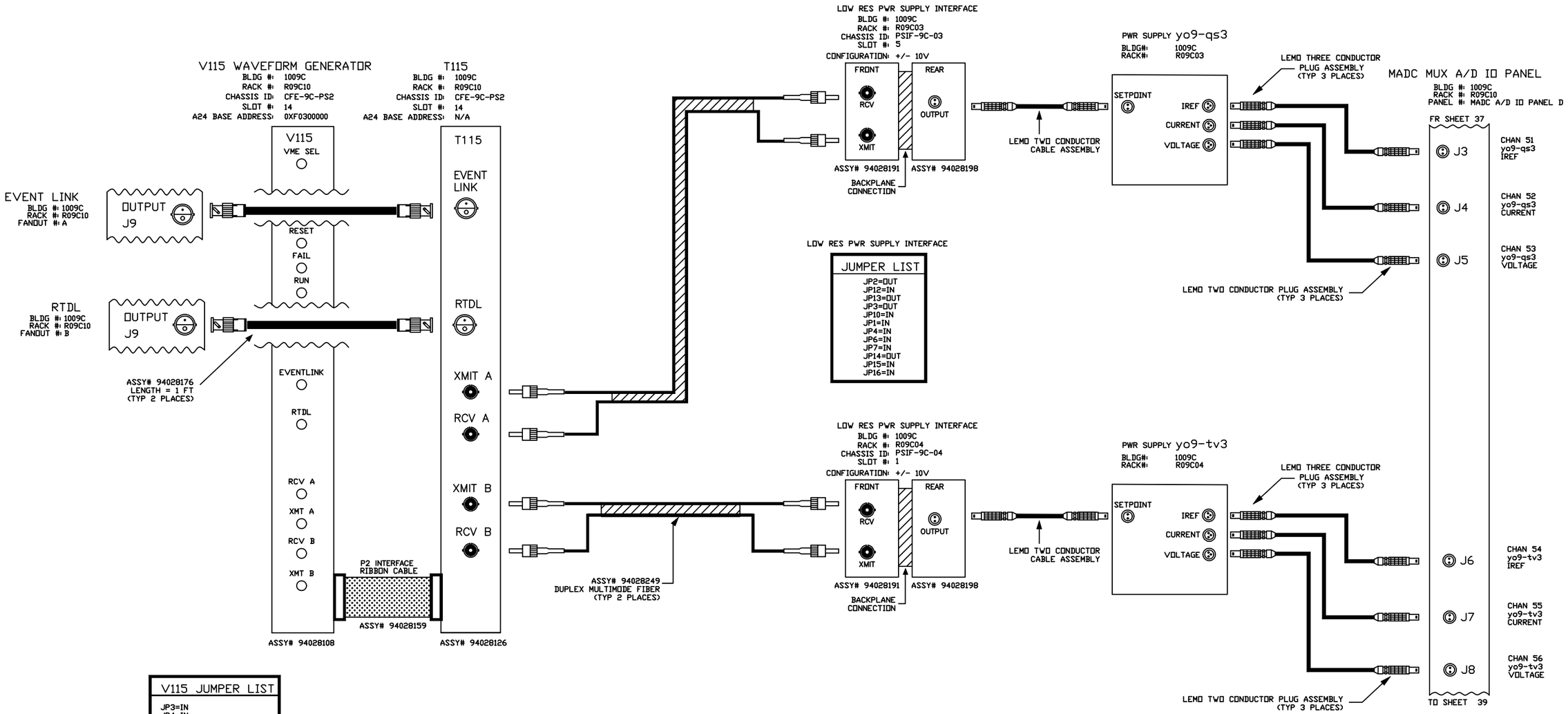
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS2
PWR SPLY yo9-qgt-ps/yo9-th2

SIZE D | 94028714 | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 37

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:48 AM 8714_38.dwg



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

-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./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	Ed Koropsak	3/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/20/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS2
PWR SPLY yo9-qs3/yo9-tv3

SIZE D | DRAWING NUMBER 94028714 | REV. A

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

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:49 AM 8714_39.dwg

V115 WAVEFORM GENERATOR

BLDG #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 15
A24 BASE ADDRESS: 0XF0340000

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

ASSY# 94028108

EVENT LINK
BLDG #: 1009C
RACK #: R09C10
FANOUT #: A

OUTPUT J8

RTDL
BLDG #: 1009C
RACK #: R09C10
FANOUT #: B

OUTPUT J8

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

P2 INTERFACE RIBBON CABLE
ASSY# 94028159

T115

BLDG #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 15
A24 BASE ADDRESS: N/A

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

ASSY# 94028126

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=OUT

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1009C
RACK #: R09C06
CHASSIS ID: PSIF-9C-06
SLOT #: 13
CONFIGURATION: 0 to +10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

ASSY# 94028249
(TYP 2 PLACES)

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY yo9-snk7-1

BLDG#: 1009C
RACK#: R09C07

SETPOINT
IREF
CURRENT
VOLTAGE
ERROR
IGROUND

INTERFACE CARD AT PS

LOW RES PWR SUPPLY INTERFACE

JUMPER LIST

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

LOW RES PWR SUPPLY INTERFACE

BLDG #: 1009C
RACK #: R09C06
CHASSIS ID: PSIF-9C-06
SLOT #: 14
CONFIGURATION: 0 to +10V

FRONT: RCV, XMIT
REAR: OUTPUT

ASSY# 94028191
ASSY# 94028198
BACKPLANE CONNECTION

LEMO TWO CONDUCTOR CABLE ASSEMBLY

PWR SUPPLY yo9-snk7-2

BLDG#: 1009C
RACK#: R09C07

SETPOINT
IGROUND
IREF
CURRENT
VOLTAGE
ERROR

INTERFACE CARD AT PS

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09C10
PANEL #: MADC A/D IO PANEL D

FR SHEET 38

J9 — CHAN 57 yo9-snk7-1 IREF
J10 — CHAN 58 yo9-snk7-1 CURRENT
J11 — CHAN 59 yo9-snk7-1 VOLTAGE

TO SHEET 39

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 4 PLACES)

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09C10
PANEL #: MADC A/D IO PANEL B

FR SHEET 34

J15 — CHAN 31 yo9-snk7-1 ERROR

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D IO PANEL E

FR SHEET 22

J2 — CHAN 2 yo9-snk7-1 IGROUND
J3 — CHAN 3 yo9-snk7-2 IGROUND

TO SHEET 54

MADC MUX A/D IO PANEL

BLDG #: 1009C
RACK #: R09C10
PANEL #: MADC A/D IO PANEL D

FR SHEET 39

J12 — CHAN 60 yo9-snk7-2 IREF
J13 — CHAN 61 yo9-snk7-2 CURRENT
J14 — CHAN 62 yo9-snk7-2 VOLTAGE
J15 — CHAN 63 yo9-snk7-2 ERROR

LEMO TWO CONDUCTOR PLUG ASSEMBLY (TYP 4 PLACES)

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

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

Q.A. CATEGORY A-3

		DATE
DRAWN BY	Ed Koropsak	3/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/20/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C, CFE-9C-PS2
P/S yo9-snk7-1/yo9-snk7-2

SIZE D
94028714
REV. A
DRAWING NUMBER
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 39

8 7 6 5 4 3 2 1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 4/19/01 9:53 AM 8714_47.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	3/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/20/98
SUPVR. APPROVAL		

NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1009C CHASSIS CFE-9C-PS3

SIZE	DRAWING NUMBER	REV.
D	94028714	A

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

1 *AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

V102 DELAY MODULE

BLDG #: 1009C
RACK #: R09C10
CHASSIS ID: CFE-9C-PS2
SLOT #: 20
A16 BASE ADDRESS: 0XFFFFE600

ASSY# 94028070

EVENT LINK
BLDG #: 1009C
RACK #: R09C10
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	3/20/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/20/98
SUPVR. APPROVAL		

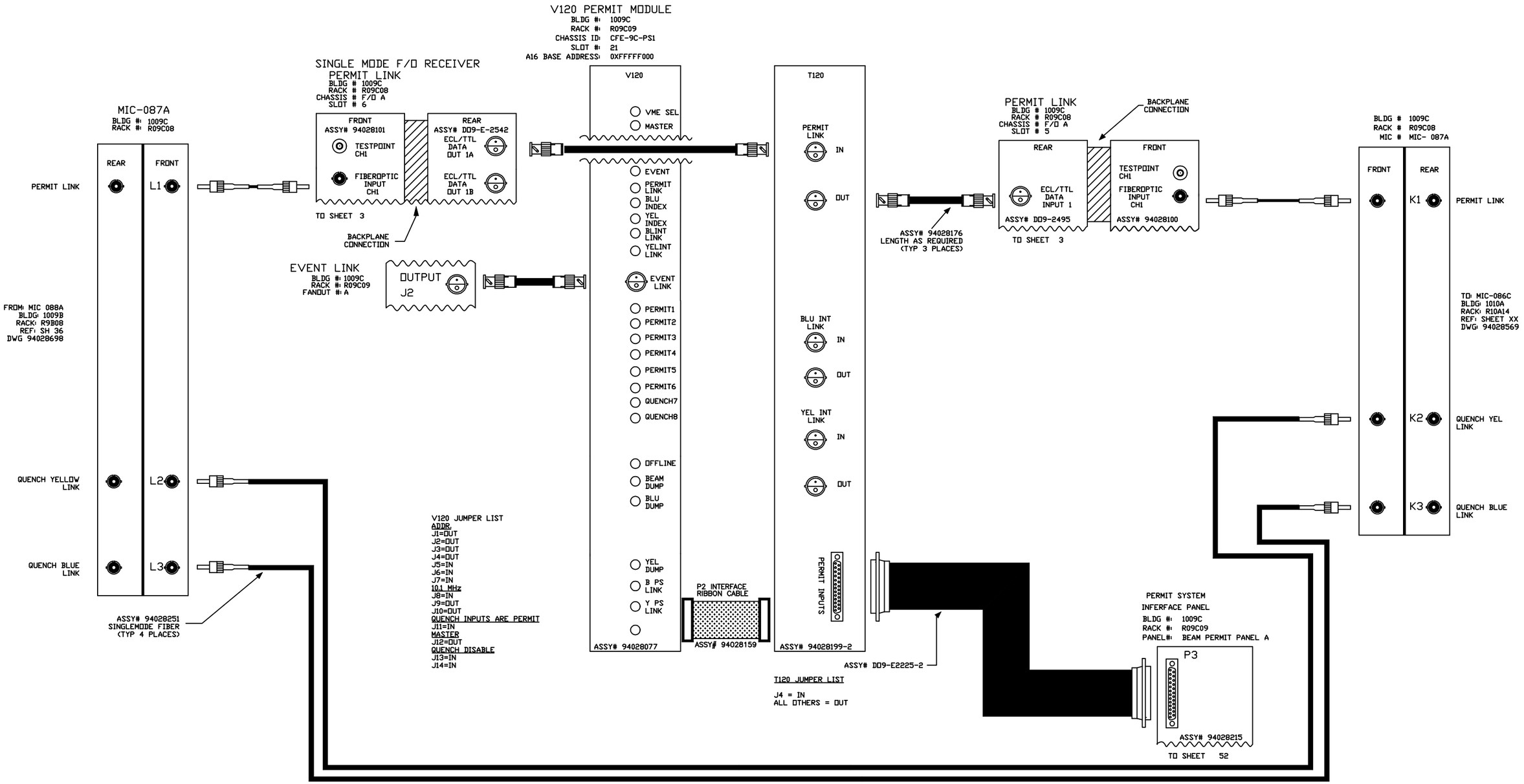
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C CHASSIS CFE-9C-PS2
V102 DELAY MODULE

SIZE D
94028714
DRAWING NUMBER
REV. A
MATERIAL: ———
SCALE: NA
WEIGHT: –
SHEET 48 OF 52

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

Controls 8/13/99 1:19 PM 8714_51.dwg



-3	-2	-1	QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	MAT'L DWG NO./ITM. 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	Venegas	8/13/99
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	11/4/97
SUPVR. APPROVAL		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

RHIC CONTROLS WIRING DIAGRAM

ALCOVE 1003C, CHASSIS CFE-9C-PS1

V120/T120 PERMIT SYSTEM

SIZE D | 94028714 | REV. A

DRAWING NUMBER

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

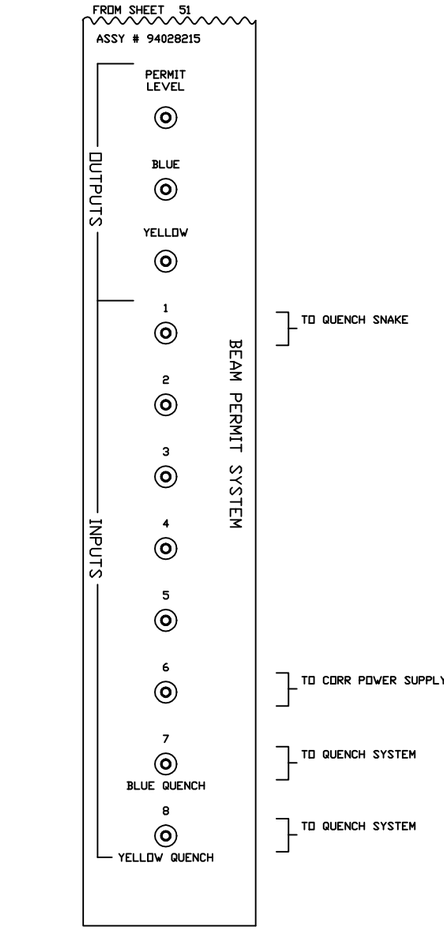
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/6/03 9:08 AM 8714_52.dwg

PERMIT SYSTEM INTERFACE MODULE

BLDG #: 1009C
RACK #: R09C09
PANEL #: PERMIT I/F PANEL A



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

INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M–1989	Q.A. CATEGORY A–3	DATE	BROOKHAVEN NATIONAL LABORATORY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY: Ed Koropsak	3/20/98	UPTON, N.Y. 11973
DECIMAL TOLERANCES .X ±.030 .XX ±.015 .XXX ±.005 ANGULAR TOLERANCE ± .5°	CHECKED BY		RHIC CONTROLS WIRING DIAGRAM
	DESIGN APPROVAL		ALCOVE 1009C, RACK R09C09
	ENGINEER APPROVAL: R. MICHNOFF	3/20/97	PERMIT SYSTEM INTERFACE PANEL
	SUPVR. APPROVAL		SIZE D — 94028714 — REV. A
NA FINISH — BREAK SHARP EDGES MAX. XX MIN. XX	NEXT ASSEMBLY		DRAWING NUMBER
OUTSTANDING ECN			MATERIAL: —— SCALE: NA WEIGHT: – SHEET 52

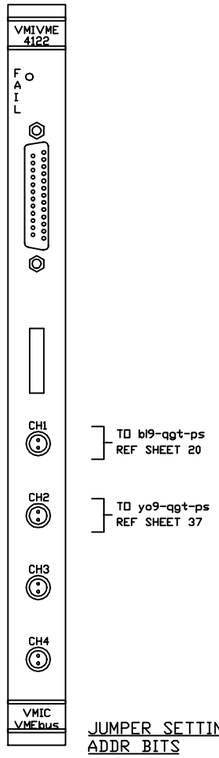
*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 4/11/01 3:53 PM 8714_53.dwg

VMIVME 4122 ANALOG OUTPUT MODULE

BLDG #: 1009C
RACK #: R09C09
CHASSIS ID: CFE-9C-PS1
SLOT #: 20
A16 BASE ADDRESS: 0x0200
CONFIGURATION: -10 TO +10 VOLTS



TO bl9-qgt-ps REF SHEET 20

TO yo9-qgt-ps REF SHEET 37

JUMPER SETTINGS

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

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

-3	-2	-1 QTY REQD	REF DESIGNATOR	ITEM NO.	DESCRIPTION	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 11/29/99
CHECKED BY
DESIGN APPROVAL
ENGINEER APPROVAL R. MICHNOFF 11/29/99
SUPVR. APPROVAL
NEXT ASSEMBLY

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
C-A CONTROLS WIRING DIAGRAM
ALCOVE 1009C, RACK R09C09
GAMMA-T ANALOG SIGNAL

SIZE D | 94028714 DRAWING NUMBER | REV. A
MATERIAL: ——— SCALE: NA WEIGHT: – SHEET 53 OF 53

*AUTOCAD

REV.	ZONE	ECN NO.	DATE	BY	CKR	APP.

CONTROLS- 6/18/03 9:55 AM 8714_54.dwg

MADC MUX A/D ID PANEL

BLDG #: 1009C
RACK #: R09C09
PANEL #: MADC A/D ID PANEL E

FR SHEET 39

J4	CHAN 2 SPARE
J5	CHAN 5 SPARE
J6	CHAN 6 SPARE
J7	CHAN 7 SPARE
J8	CHAN 8 SPARE
J9	CHAN 9 SPARE
J10	CHAN 10 SPARE
J11	CHAN 11 SPARE
J12	CHAN 12 SPARE
J13	CHAN 13 SPARE
J14	CHAN 14 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 OTHERMISE 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	3/18/98
CHECKED BY		
DESIGN APPROVAL		
ENGINEER APPROVAL	R. MICHNOFF	3/18/98
SUPVR. APPROVAL		
NEXT ASSEMBLY		

BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973
RHIC CONTROLS WIRING DIAGRAM
ALCOVE 1009C
SPARE MADC INPUTS

SIZE D | 94028714 | REV. A
DRAWING NUMBER

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

*AUTOCAD