D10 TUNNEL

D:S4D101 COM: 1 DH21-PHS (ED-288110), 2 DP21-PHS (ED-288110), 3 DH22-PHS (ED-288110), 4 DP22-PHS (ED-288110)

D:S4D102 COM: 1 DV21-PHS (ED-288110), 2 DP23-PHS (ED-288110), 3 DV22-PHS (ED-288110), 4 DP24-PHS (ED-288110)

D:S4D103 COM: 1 DV11-PHS (ED-288110), 2 DP11-PHS (ED-288110), 3 DV12-PHS (ED-288110), 4 DP12-PHS (ED-288110)

D:S6D104 COM: 1 DH11-PHS (ED-288110), 2 DP13-PHS (ED-288110), 3 DH12-PHS (ED-288110), 4 DP14-PHS (ED-288110), 5, 6

D:S6D105 COM: 1 DH41-PHS (ED-288111), 2 DP41-PHS (ED-288111), 3 DH42-PHS (ED-288111), 4 DP42-PHS (ED-288111), 5, 6

D:S4D106 COM: 1 DV41-PHS (ED-288111), 2 DP43-PHS (ED-288111), 3 DV42-PHS (ED-288111), 4 DP44-PHS (ED-288111)

D:S4D107 COM: 1 DV31-PHS (ED-288111), 2 DP31-PHS (ED-288111), 3 DV32-PHS (ED-288111), 4 DP32PHS (ED-288111)

D:S4D108 COM: 1 DH31-PHS (ED-288111), 2 DP33-PHS (ED-288111), 3 DH32-PHS (ED-288111), 4 DP34-PHS (ED-288111)

A20-2 STUB ROOM

A:S2A220 COM: 1, 2 CP48-TRO (ED-266131), CP48-PHS (ED-266130)

A10-2 STUB ROOM

D:S6D121 COM: 1 DP3-TRO (EE-288113), 2 DP4-TRO (EE-288113), 3 DH3-TRO (EE-288113), 4 DV3-TRO (EE-288113), 5 DV4-TRO (EE-288113), 6 DH4-TRO (EE-288113)

D:S8D100 COM: 1, 2, 3, 4, 5, 6, 7, 8

PENETRATION

PENETRATION

A10-1 STUB ROOM

A:SWA101 AVANTEK APT8066M802

A:S6A113 COM: 1 CH1-TRO (ED-288201), 2 CH2-TRO (ED-288201), 3 CH3-TRO (ED-288201), 4 CV1-TRO (ED-288202), 5 CV2-TRO (ED-288202), 6 CV3-TRO (ED-288202)

A:S6A112 COM: 1 CH1-PHS (ED-288201), 2 CH2-PHS (ED-288201), 3 CH3-PHS (ED-288201), 4 CV1-PHS (ED-288202), 5 CV2-PHS (ED-288202), 6 CV3-PHS (ED-288202)

25DB 20DB

A:S8A110 COM: 8, 5, 4, 1, 6, 2, 3, 7

*1DB LOSS @ 2GHZ
2DB LOSS @ 4GHZ

D:S6D111 COM: 1 DP1-TRO (EE-288112), 2 DP2-TRO (EE-288112), 3 DH1-TRO (EE-288112), 4 DV1-TRO (EE-288112), 5 DV2-TRO (EE-288112), 6 DH2-TRO (EE-288112)

AP10 SERVICE BUILDING (CONTROL ROOM)

AGILENT E4445A SPECTRUM ANALYZER #1
ACNET: D:SB11SA
TRIGGER: D:SA11T

IN → DC BLOCK MIDWEST uWAVE NO. 3524 → A:S41SB3 COM: 1, 2, 3, 4 → 10DB → SA TEST INPUT

NA TEST OUTPUT F.P.

A:S21SB2 COM: 1, 2 → OUT → DC BLOCK MIDWEST uWAVE NO. 3524 → HP8720C NETWORK ANALYZER #2 → IN → DC BLOCK MIDWEST uWAVE NO. 3524 → A:S41SB4 COM: 1, 2, 3, 4 → 10DB → NA TEST INPUT

WDBDPUV
WDBDPUH
A:S21SB1 COM: 1, 2

1-8GHZ ARRA N3-5200-2

PENETRATION *2DB LOSS

PENETRATION *2DB LOSS

1-8GHZ ARRA N3-5200-2

AP30 SERVICE BUILDING

SP24-PF3 2-4 GHZ → NARDA 4314-2 → KDI YL-33 → SM46-PF3 4-6 GHZ
SP24-PFS 2-4 GHZ PF SUM → NARDA 4314-2 → KDI YL-33 PF SUM → SM46-PFS 4-6 GHZ
SP24-PF2 2-4 GHZ → NARDA 4314-2 → KDI YL-33 → SM46-PF2 4-6 GHZ
SP24-PF1 2-4 GHZ → NARDA 4314-2 → KDI YL-33 → SM46-PF1 4-6 GHZ

STDP 8000-EE-170265

A:S83SB4 COM: 1, 2, 3, 4, 5, 6, 7, 8
A:S83SB2 COM: 1, 2, 3, 4, 5, 6, 7, 8

A:SWA301 JCA24-3112 G ~ 34 DB

PENETRATION

CAMAC 177 CRATE 34 SLOT 12 CH. 4 → EXT. TRIG → SA2 AGILENT E4445A SPECTRUM ANALYZER RACK-B33R03
ACNET: D:SB3ISA
TRIGGER: D:SA31T
VIDEO: D:SA31VO

IN → DC BLOCK MIDWEST uWAVE NO. 3524 → A:S43SB3 COM: 1, 2, 3, 4
LOCAL IN NO.2, F.P.
CP24-TRI (ED-170273)

A:S63SB1 COM: 1 SPARE, 2 CP24-TRO (ED-170273), 3 SP24-FSW (ED-170265), 4 SM46-FSW (ED-170265), 5 SM46-TRO (ED-170265), 6 SP24-TRO (ED-170265)

A:S23SB5 COM: 1 SP24-TRI (ED-170265), 2 SM46-TRI (ED-170265)

A10-2 STUB ROOM

D:S8D125 COM: 1 DP3-TRI (EE-288113), 2 DP4-TRI (EE-288113), 3 DH3-TRI (EE-288113), 4 DV3-TRI (EE-288113), 5 DV4-TRI (EE-288113), 6 DH4-TRI (EE-288113), 7 SPARE, 8

D:S6D126 COM: 1 DP3-SCH (EE-288113), 2 DP4-SCH (EE-288113), 3 DH3-SCH (EE-288113), 4 DV3-SCH (EE-288113), 5 DV4-SCH (EE-288113), 6 DH4-SCH (EE-288113)

A10-1 STUB ROOM

5 DB → 4-8GHZ → KDI/TRIANGLE YL-48N

D:S4D114 COM: 1 DH1-FIL (EE-288112), 2 DV1-FIL (EE-288112), 3 DV2-FIL (EE-288112), 4 DH2-FIL (EE-288112)

D:S8D116 COM: 1 DP1-TRI (EE-288112), 2 DP2-TRI (EE-288112), 3 DH1-TRI (EE-288112), 4 DV1-TRI (EE-288112), 5 DV2-TRI (EE-288112), 6 DH2-TRI (EE-288112), 7 CV1-PUS (ED-288202), 8 SPARE

A:S8A115 COM: 1, 2, 3, 6, 8, 4, 7, 5

A:S6A118 COM: 1 CH1-TRI (ED-288201), 2 CH2-TRI (ED-288201), 3 CH3-TRI (ED-288201), 4 CV1-TRI (ED-288202), 5 CV2-TRI (ED-288202), 6 CV3-TRI (ED-288202)

D:S6D117 COM: 1 DP1-SCH (EE-288112), 2 DP2-SCH (EE-288112), 3 DH1-SCH (EE-288112), 4 DV1-SCH (EE-288112), 5 DV2-SCH (EE-288112), 6 DH2-SCH (EE-288112)

A:S6A119 COM: 1 CH1-SCH (ED-288201), 2 CH2-SCH (ED-288201), 3 CH3-SCH (ED-288201), 4 CV1-SCH (ED-288202), 5 CV2-SCH (ED-288202), 6 CV3-SCH (ED-288202)

A20-2 STUB ROOM

A:S4A221 COM: 1, 2 CP48-TRI (ED-266131), 3 CP48-SCH (ED-266131), 4 SPARE

A50 TUNNEL

A:S4A501 COM: 1 CP48-FB1 (ED-266132), 2 CP48-FB2 (ED-266132), 3 CP48-FB3 (ED-266132), 4 CP48-FB4 (ED-266132)

A60 STUB ROOM

A:S4A605 COM: 1 SP12- SCH (EE-208480), 2 SP23-SCH (EE-208480), 3 CP24-SCH (ED-170272), 4 CP24-VER (ED-170271)

A:S6A300 COM: 1, 2, 3, 4, 5, 6

D:S6D309 COM: 1 DP1- FIL (EE-288274), 2 DP2- FIL (EE-288274), 3 DP3- FIL (EE-288274), 4 DP4- FIL (EE-288274), 5 DP14- FIL (EE-288274), 6 BAD PORT- Unusable

A30 STUB ROOM

1-8GHZ ARRA N3-5200-2

1-8GHZ ARRA N3-5200-2

A:S8A300 COM: 1, 2, 3, 4, 5, 6, 7, 8

D:S8D300 COM: 1, 2, 3, 4, 5, 6, 7, 8

A60 TUNNEL

A:S4A601 COM: 1 SP01-PHS (EE-208480), 2 SP02-PHS (EE-208480), 3 SP03-PHS (EE-208480), 4 SP04-PHS (EE-208480) — 30DB

A:S2A602 COM: 1 CP24-INR (ED-170271), 2 CP24-OTR (ED-170271) — 10DB

A:S2A603 COM: 1 SP05-PHS (EE-208480), 2 SP06-PHS (EE-208480) — 30DB

A:S4A604 COM: 1 SP07-PHS (EE-208480), 2 SP08-PHS (EE-208480), 3 SP09-PHS (EE-208480), 4 SP10-PHS (EE-208480) — 30DB

A60 STUB ROOM

A:S6A600 COM: 1, 2, 3, 4, 5, 6

*NOTES:

1) SYSTEM DESIGNATIONS ARE AS FOLLOWS:
   'C' REPRESENTS CORE SYSTEMS
   'D' REPRESENTS DEBUNCHER SYSTEMS
   'S' REPRESENTS STACKTAIL SYSTEMS
   'P' REPRESENTS MOMENTUM SYSTEMS
   'H' REPRESENTS A HORIZONTAL SYSTEM
   'V' REPRESENTS A VERTICAL SYSTEM
   'FB' REPRESENTS FANBACK
   'TRI' REPRESENTS TRANSFER SWITCH IN (SW MUX OUT/NA IN)
   'TRO' REPRESENTS TRANSFER SWITCH OUT (SWITCH MUX IN/NA OUT)
   'SCH' REPRESENTS SCHOTTKY SCAN SIGNAL
   'PF' REPRESENTS PASSIVE FILTER
   'PU' REPRESENTS PICKUP TEST INPUTS
   'PHS' REPRESENTS PHASING INPUT

2) ALL [A] CABLES ARE 1/2" FOAM HELIAX
   ALL [B] CABLES ARE 1/2" SUPERFLEX
   ALL [C] CABLES ARE SF142B STRIPLEX
   ALL [D] CABLES ARE 7/8" HELIAX
   ALL [E] CABLES ARE 1/4" HELIAX
   ALL [F] CABLES ARE 1/4" Cu SEMI-RIGID HARDLINE
   ALL [G] CABLES ARE 0.141" FLEXLINE

3) SWITCH TYPE AND IDENTIFICATION: A:S8 A30 2
   SYSTEM-- ACCUMULATOR (A) OR DEBUNCHER (D)
   # OF THROWS
   LOCATION
   SWITCH # AT THAT LOCATION

SP2T BY TELEDYNE MICROWAVE, CS32N6E
SP4T BY DYNATECH, #04-113E29-1 OR BY WAVECOM #043-B237-D10-3B1
SP6T BY DYNATECH, #06-113E29-1 OR BY WAVECOM #063-B237-D10-3B1
SP8T BY DYNATECH, #L8-113E29-1

8/7/09

REV.	DESCRIPTION	DRAWN APPD.	DATE
K	ADDED AMP AFTER S43SB2 STDP SWITCH	WJM	12/7/95
L	ADDED CV LASER LINK SIGNALS, CHANGED A:S6A106 TO 8-THROW (A:SR8T08) FOR TRI & SCH, TRO ON A:S6A101	WJM	12/7/95
M	MAJOR SYSTEM CHANGES/UPGRADE - REDRAWN	WJM	6/20/97
N	NEW 4-8GHZ CORE BETATRON SYSTEMS	WJM	12/15/97
P	SPLITTER & PAD ADDITION BTWN S8A115/S4D114	WJM	4/29/02
Q	CP-24 VER & CV1-PUS SWITCH ADDITIONS	WJM	5/4/05
R	AP30 SWITCH CHANGES FOR NEW STDP ML PLATE	WJM	8/8/05
S	REMOVED STACKTAIL DELTA KICKER FANBACKS & 1st STACKTAIL KICKER FANBACK IS NOW 2-4 CORE FANBACK	WJM	4/3/06
T	CHANGED 4-8 GHz CORE MOMENTUM FANBACK FROM 2-THROW TO 4-THROW (A:S4A501)	WJM	4/9/09
		WJM	8/7/09

ITEM NO.	PART NO.	DESCRIPTION OR SIZE	QTY. REQ.
	PARTS LIST		

UNLESS OTHERWISE SPECIFIED: FRACTIONS ±/-, DECIMALS ±/-, ANGLES ±/-

1. BREAK ALL SHARP EDGES 1/64 MAX.
2. DO NOT SCALE DRAWING
3. DIMENSIONING IN ACCORD WITH ANSI Y14.5 STD'S

√ MAX. ALL MACHINED SURFACES

ORIGINATOR	R. J. PASQUINELLI	
DRAWN	WESLEY MUELLER	3/29/95
CHECKED		
APPROVED		
USED ON		
MATERIAL-		

FERMI NATIONAL ACCELERATOR LABORATORY
UNITED STATES DEPARTMENT OF ENERGY

ANTI-PROTON SOURCE NETWORK/SPECTRUM ANALYZER SWITCH MULTIPLEXER

SCALE	FILMED	DRAWING NUMBER	REV.
		8000-ED-170256	T

A30 TUNNEL

A:S6A301 COM: 1 CP24-FB2(ED-170273), 2 SP02-FB(EE-170266), 3 SP03-FB(EE-170266), 4 SP04-FB(EE-170266), 5, TANK 1 6

A:S6A302 COM: 1 SP05-FB(EE-170266), 2 SP06FB(EE-170266), 3 SP07-FB(EE-170266), 4 SP08-FB(EE-170266), 5, TANK 2 6

A:S6A303 COM: 1 SP09-FB(EE-170266), 2 SP10-FB(EE-170266), 3 SP11-FB(EE-170266), 4 SP12-FB(EE-170266), 5 CH1-FB(ED-288201), TANK 3 6 CH2-FB(ED-288201)

A:S6A304 COM: 1 SP13-FB(EE-170266), 2 SP14-FB(EE-170266), 3 SP15-FB(EE-170266), 4 SP16-FB(EE-170266), 5 CH3-FB(ED-288201), TANK 6 6 CV1-FB(ED-288202)

A:S6A305 COM: 1 SP17-FB(EE-170266), 2 SP18-FB(EE-170266), 3 SP19-FB(EE-170266), 4 SP20-FB(EE-170266), 5 CV2-FB(ED-288202), TANK 7 6 CV3-FB(ED-288202)

A:S6A306 COM: 1 SP21-FB(EE-170266), 2 SP22-FB(EE-170266), 3 SP23-FB(EE-170266), 4 SP24-FB(EE-170266), 5 SPARE, TANK 8 6 SPARE

A:S6A307 COM: 1 SP25-FB(EE-170266), 2 SP26-FB(EE-170266), 3 SP27-FB(EE-170266), 4 SP28-FB(EE-170266), 5, TANK 9 6

A:S6A308 COM: 1 SP29-FB(EE-170266), 2 SP30-FB(EE-170266), 3 SP31-FB(EE-170266), 4 CP24-FB(EE-170273), 5, TANK 10 6

D30 TUNNEL

D:S8D301 COM: 1 DP21-FB(EE-288114), 2 DH21-FB(EE-288114), 3 DP22-FB(EE-288114), 4 DH22-FB(EE-288114), 5 DP23-FB(EE-288114), TANK DH204 6 DH23-FB(EE-288114), 7 DP24-FB(EE-288114), 8 DH24-FB(EE-288114)

D:S8D302 COM: 1 DP25-FB(EE-288114), 2 DV21-FB(EE-288114), 3 DP26-FB(EE-288114), 4 DV22-FB(EE-288114), 5 DP27-FB(EE-288114), TANK DV203 6 DV23-FB(EE-288114), 7 DP28-FB(EE-288114), 8 DV24-FB(EE-288114)

D:S8D303 COM: 1 DP11-FB(EE-288115), 2 DV11-FB(EE-288115), 3 DP12-FB(EE-288115), 4 DV12-FB(EE-288115), 5 DP13-FB(EE-288115), TANK DV202 6 DV13-FB(EE-288115), 7 DP14-FB(EE-288115), 8 DV14-FB(EE-288115)

D:S8D304 COM: 1 DP15-FB(EE-288115), 2 DH11-FB(EE-288115), 3 DP16-FB(EE-288115), 4 DH12-FB(EE-288115), 5 DP17-FB(EE-288115), TANK DH201 6 DH13-FB(EE-288115), 7 DP18-FB(EE-288115), 8 DH14-FB(EE-288115)

D:S8D305 COM: 1 DP41-FB(EE-288116), 2 DH41-FB(EE-288116), 3 DP42-FB(EE-288116), 4 DH42-FB(EE-288116), 5 DP43-FB(EE-288116), TANK DH303 6 DH43-FB(EE-288116), 7 DP44-FB(EE-288116), 8 DH44-FB(EE-288116)

D:S8D306 COM: 1 DP45-FB(EE-288116), 2 DV41-FB(EE-288116), 3 DP46-FB(EE-288116), 4 DV42-FB(EE-288116), 5 DP47-FB(EE-288116), TANK DV304 6 DV43-FB(EE-288116), 7 DP48-FB(EE-288116), 8 DV44-FB(EE-288116)

D:S8D307 COM: 1 DP31-FB(EE-288117), 2 DV31-FB(EE-288117), 3 DP32-FB(EE-288117), 4 DV32-FB(EE-288117), 5 DP33-FB(EE-288117), TANK DV305 6 DV33-FB(EE-288117), 7 DP34-FB(EE-288117), 8 DV34-FB(EE-288117)

D:S8D308 COM: 1 DP35-FB(EE-288117), 2 DH31-FB(EE-288117), 3 DP36-FB(EE-288117), 4 DH32-FB(EE-288117), 5 DP37-FB(EE-288117), TANK DH306 6 DH33-FB(EE-288117), 7 DP38-FB(EE-288117), 8 DH34-FB(EE-288117)