FNAL SY120 BEAM LINE

On file as: "Extracted Beam 5MayO4" (on Zip disk: "Switchyard 120-3")

DRAFT

All Dipoles between F17-4 and F34-5 powered by HP3US located at F3.

F-17-4, F-18-2, F-18-3, F-18-4, F-18-5, F-19-2, F-19-3, F-19-4, F-19-5, F-21-2, F-21-3, F-21-4, F-21-5, F-22-2, F-22-3, F-22-4, F-22-5, F-23-2, F-23-3, F-23-4, F-23-5, F-24-2, F-24-3, F-24-4, F-24-5, F-25-2, F-25-3, F-25-4, F-25-5

F-26-2, F-26-3, F-26-4, F-26-5, F-27-2, F-27-3, F-27-4, F-27-5, F-28-2, F-28-3, F-28-4, F-28-5, F-29-2, F-29-3, F-29-4, F-29-5, F-32-2, F-32-3, F-32-4, F-32-5, F-33-2, F-33-3, F-33-4, F-33-5, F-34-2, F-34-3, F-34-4, F-34-5

All Dipoles between F 35-2 and F48-4 powered by HP3DS located at F4.

F-35-2, F-35-3, F-35-4, F-35-5, F-36-2, F-36-3, F-36-4, F-36-5, F-37-2, F-37-3, F-37-4, F-37-5, F-38-2, F-38-3, F-38-4, F-38-5, F-39-2, F-39-3, F-39-4, F-39-5, F-42-2, F-42-3, F-42-4, F-42-5, F-43-2, F-43-3, F-43-4, F-43-5

F-44-2, F-44-3, F-44-4, F-44-5, F-45-2, F-45-3, F-45-4, F-45-5, F-46-2, F-46-3, F-46-4, F-46-5, F-47-2, F-47-3, F-47-4, F-47-5, F-48-3, F-48-4

Switchyard Critical Device Names:
S:HP3US (power supply @ F3)
S:HP4DS (power supply @ F4)

All Quads powered by QP3 located at F4

F-18-1, F-19-1, F-21-1, F-22-1, F-23-1, F-24-1, F-25-1, F-26-1, F-27-1, F-28-1, F-29-1, F-32-1, F-33-1, F-34-1, F-35-1, F-36-1, F-37-1, F-38-1, F-39-1, F-42-1, F-43-1, F-44-1, F-45-1, F-46-1, F-47-1, Q49B, Q49A, Q49D

S:MF21
VPF21
QF21
HF19(4)
VTF19
gate valve
HPF19
QF19
HF18(4)
VPF18R
VPF18
QF18
to AP1 line
(double strength B2)
beam pipe crotch
F17B3
VTF17 (this supply trips @ ~ 9 A)
HTF17 (this supply trips @ ~ 9 A)
HPF17
I:MF17
HPF17/VPF17
QF17
start of P3/end of P3
I:HVF12 (4)
TORF16
MR BPM (v)
QF16
I:HVF12 (4)
MR BPM (h)
QF15
I:HVF12 (4)
MR BPM (v)
QF14
I:HVF12 (4)
QF13
I:HVF12 (4)
MR BPM (v)
QF12
I:FFSPIL/I:MSPILL
I:HVF11 (2)
QF11B
I:HTF11 } 8 Amp max.
I:VTF11 } other S18 <10> trims are 20 Amp supplies except for VTF17 (30 Amp) & VTF19 (50Amp)
BPM (v)
BPM (h)
QF11A
BPM (v)
T:ILAM
toroid 714
I:Q714
Q13 I:Q713
Q12 I:Q712
Q11 I:Q711
MW712A
trim
Q10 I:Q710
(2)
Q9
(2)
Q8
(2)
Q7
MW707?
(2) I:HV703
I:Q703
bpm
Q6
(2)
Q5
(2)
Q4
I:H703
(2)
bpm?
bpm?
Q3
TOR702
HP7020
bpm?
Q2 I:Q702
I:V701
bpm?
Q1 I:Q701
LM701
LM522H
LM522G
LM522F
LAM522C
LM522E
LM522D
LAM522B
I:LAM52
LM522C
Q522
LM522B
LM522A
LAM522A
LM521B
H522
TAR521
TOR521
LM521A
Q521
LM520E
ES520B
LM520D
ES520A
LM520C
LM520B
K520B
K520A
LM520A

Key to Symbols

- Cerenkov counter
- ABORT loss monitor (trips beam permit at 7.5 V)
- Loss monitor
- Septa
- Horizontal BPM
- Vertical BPM
- BPM associated with quad
- Main bending dipole (this one bends UP or West)
- Trim dipole
- Pulsed dipole
- Horizontally focusing quad
- Vertically focusing quad
- SWIC or Multiwire or PWC
- Scanning target
- Lambertson (this one bends upper beam East)
- Aperture restriction (usually a magnet that's not used anymore)
- Collimator
- Gate valve
- Ion profile monitor
- RF monitor
- vacuum window
- scraper
- absorber (dump)
- SEM
- NOT READY FOR USE
- target
- scintillator
- target wheel
- sweeping magnet
- water pressure
- pin hole collimator
- vacuum pipe
- quad (polarity unspecified)
- ion chamber
- hodoscope
- kicker
- C magnet
- collimator

Max. Amps (all @ 1.6 sec. time bump)
H (520, 522, 524) mult: +9, -3, +14A
H (606, 608, 610) mult: +27, +12, +27A
H (618, 620, 622) mult: +18, +4, +6A
H (220, 222, 224) mult: -17, +1, -13A
H320 +8A
H322 +12A
H402 +7A
H606 current can be lowered H(602, 604) = -8, +9A
H610 current can be lowered H(612, 614) = +7, -7A
H220 current can be lowered H(216, 218) = -8, -3A
Entries by Chuck Brown, M. I. E-log of 14:17:05, 22JanO4

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DRAFT

LH201U (yellow loss mon. @ U.S. end, H201-1)
HT201
V201(2) LV201 (yellow loss mon. on top)
Q202
Q201 LQ201(yellow loss mon. ~1m from U.S. end)
gate valve
(long BPM) HP201
(long BPM) VP201
V105 LV105 (yellow loss mon. on top of V105)
H105 LH105 (yellow loss mon. on top of H105)
HP105 (long BPM)
VP105 (long BPM)
S:S105(old V100)
LS105U (yellow loss mon., approx. 1.5m U.S. of S105)
gate valve (for both lines)
MLAM(2) LMLAM2
LMLAM1(U.S. end of MLAM-1)
(old MLAM) S:S200
LMLAMU
HP200
VP200
C
from S. Y. Encl. B
LBDSMN (yellow loss mon. D.S. of gate valve)
gate valve
VT103 LVT103 (yellow loss mon. on top of VT101)
HP103 (long BPM)
VP103 (long BPM)
S:S103
LS103U (approx. 3m U.S. of S103)
LMESD (approx. 4m D.S. of septa)
LMES2D (D.S. end 2nd septa)
LMES1D (D.S. end 1st septa)
LMES1U (U.S. end 1st septa)
S:S102
LS102 (approx. 1.5m U.S. of septa)
Q102 LQ102U (U.S. end of Q102)
VT102 LVT102 (yellow loss mon., west side of VT102)
HP102 (long BPM)
VP102 (long BPM)
Q101 LQ101U (U.S. end of Q101)
Q100 LQ100U (yellow loss mon., U.S. end of Q100)
VT101 LVT101 (yellow loss mon., on top of VT101)
LH100D (yellow loss mon. 3m D.S. of HT100 & just D.S. of labyrinth to B)
HT100 LHT100 (yellow loss mon., on top of HT100)
LSHLD2 LBSHLD (yellow loss mon., approx. 1' D.S. of U.S. LH90D)
HP100 (long BPM)
VP100 (long BPM)
LBCOLU (yellow loss mon., on top at U.S. end of collimator)
B
VH94(2) LVH94D (yellow loss mon., D.S. end of VH94-2)
LVH94U (approx. 2' from U.S. end of VH94-1)
VT92 LVT92 (yellow loss mon., top of VT92)
S:S094 (multiwire, 1mm spacing) This multiwire can be left in the beam.
HP94 (long BPM)
VP94 (long BPM)
Transfer Hall
RF monitor NOT CONNECTED
LVP94B (approx. 3m U.S. of RF monitor)
LVP94A (approx. 6m U.S. of RF monitor)
LQ90D (approx. 1.5m D.S. of Q90)
Q90 LQ90 (yellow loss mon., on top of Q90)
V91 LV90D (yellow loss mon., D.S. end of V91)
H90 LH90(yellow loss mon., middle of H90)
S:O90
HP90 (long BPM)
VP90 (lnog BPM)
LVP90U(yellow loss mon., approx. 7m U.S. of VP90)
QF49D
QF49C
QF49B
VPF49R
HPF49R
ion profile monitor (NOT CONNECTED)
HF48(1.5)
QF49A
S:SF49
QF48 BLM48 (D.S. end of QF48)
vacuum window
HF47(4)
VPF47
QF47
INTERLOCKED GATE
HF46(4)
HPF46
QF46
HF45(4)
S:MF45
VPF45
QF45
HF44(4)
S:MF44
HPF44
QF44
HF43(4)
VPF43
QF43
HF42(4)
VPF42R
HPF42R
HPF42
QF42
HF39(4)
gate valve
VPF39
QF39
HF38(4)
HPF38
QF38
HF37(4)
VTF37 (max. current 20 Amps)
S:MF37
VPF37
QF37
HF36(4)
HTF36
HPF36
QF36
HF35(4)
VPF35
QF35
HF34(4)
HPF34R
HPF34
QF34
HF33(4)
VPF33R
VPF33
QF33
HF32(4)
HPF32
QF32
HF29(4)
gate valve
VPF29
QF29
HF28(4)
HPF28
QF28
HF27(4)
VTF27
S:MF27
VPF27
QF27
HF26(4)
HTF26
HPF26
QF26
HF25(4)
VPF25
QF25
HF24(4)
S:MF24
HPF24
QF24
HF23(4)
VPF23
QF23
HF22(4)
HPF22
QF22
HF21(4)

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DRAFT

MC7AN2 "Rosie"
MC7AN1 "Jolly Green Giant"
E907 target
MC7WC1
MC7HD2
yield to E907 Experiment MC7T01
MC7BC3
MC7CR2
MC7BC2
MC7CR1
MC7BC1
MC7HD1
MC7T00
MC7
MC6Q4-2
MC6D-4
MC6Q5
MC6D-3
MC6Q4-1
MC6H2
MC6V2
MC6CV vertical collimator
MT6BBS
MT6SC4
MT6PWC3
MT6SC3
MTSCDC
beam stop
MT6 Section 2
MC6HT1
MC6VT1
MC6Q3
MC6D-2
MC6Q2
MC6D-1
MC6Q1(2)
MT6PWC2
MT6SC2
MT6SC1
MT6PWC1
MTSCC
Tune on this rate
MT6 Section 1
MC6ABS
MC6T1 target
MC6WC1
MC6IC
MT5E
MT5SC
MT5Q2
MT5Q1
MT5V
M05
MC5U(3)
MC5H1
MC5V1
Use these to tune beam on MC6T1 target and MC7T01 yield
MC5Q2
MC5Q1
MC5LM1
MC5WC1
MT4SWDC
MT4PWCHV(?)
MT4SC2
MT4CC
MT4Q2
MT4Q1
MT4CON
MT4SC1
MT4PWC
MT4PWCHV
M04
MT4CON:
position 0: empty
position 1: 3 sheets of lead - total of 5/16"
position 2: 1 sheet of lead - total of 3/32"
position 3: 2 sheets of lead - total of 3/16"
MC4LM2
MC4LM1
1000' area
MT3CN2
MT3U
MT3W
MTPCDC
MT3SW
MT3SC
MT3CON
MT3PWC
MT3CH
750' area
MT3CN2:
position 0: empty
position 1: 3 sheets of lead - total of 5/16"
position 2: 2" polyethylene
position 3: 2 sheets of lead - total of 3/16"
MT3CON:
position 0: empty
position 1: 3 sheets of lead - total of 5/16"
position 2: 5 sheets of lead - total of 3/4"
position 3: 1 3/8" aluminum
MT3PUH
MT3PDH
MT3PUV
MT3PDV
MT3FCH
vacuum pipe
500' alcove
MT3V
MT3Q2
MT3HC
MT3Q1
M03
MC3LM2
MC3CH Intensity collimator for MC
MC3LM1
MC3CV Intensity collimator for MC
600' area
MT2WU
MT2V
MT2WD2
MT2BD
MT2W1D1
MT2Q2
MT2Q1
M02
400' area
MC2V
MC2H
Use these to tune to MC5WC
MC2WC
MC2Q2
MC2Q1
MC2LM
80' Cu TARGET TRAIN COLLI -MATOR
Z=0
MC collimator (absorbs MT if MW1W is off) (absorbs MC if MC1D is off) (absorbs ME if ME1E is off)
MT primary target
MT1TARG
MW1LM1
MW1
MW1SEM
long res. BPM (v)?
MC Absorber (Dump)
MC1D2
MC1
MC1SEM
MC1LBP
ME (off)
Tunes MW horizontally (very narrow Lambertson)
MW1W(6)
MO1LBP2
MW1 shield
MO1TLM
MO1SH1
M11
MO1D(7)
MOO
MO1LD7
MO1LD1
MO1BP1
M01
MW/MT
ME (off)
MC
VERT
AA35.4/9.4.
SM11
FS
100%
MOOLM
LF3DS
S:S230
MOOU(3)
LV230
LF3US
F3
LF2DS
MOOV
MOOH
LMOOV
LMOOH
Use these to tune beam to MC
HP220
VP220
(V220)
S:S220
LF2US
F2
(FSEP tunes MW vertically, & provides a triple split)
LF1DS
FSEP(8)
LFES1, LFES2, LFES3, LFES4, LFES5, LFES6, LFES7, LFES8
FSCCI is F Sector septa vacuum
LFES1U
HP210
VP210
H210
LH210
Q210
LQ210
S:S210
V210(2)
LV210
LF1US
F1 manhole
C
LCNDS (yellow loss mon., agianst D.S. wall of S.Y. Encl. C)
gate valve
(long BPM) HP208
(long BPM) VP208
S:S208 (old H204)
V204(2) LV204(yellow loss mon., ~6" from U.S. end V204)
Q208
Q207 LH203 (yellow loss mon. ~6" from U.S. end of H203)
H203
S:DMPWPR (dump water pressure)
absorber (dump)
LH202D (yellow loss mon. ~2' from D.S. od H202-14)
H202(14)
LH202U(yellow loss mon., ~1' from U.S. end H202-1)
Q206
S:S206 (old Q203)
(long BPM) HP206
(long BPM) VP206
LS206 (yellow loss mon., just U.S. of VP206)
gate valve
S203 (old V310)
Q205 LQ205 (yellow loss mon., ~ 6" from U.S. end of Q205)
VT202
Q204 LQ204 (yellow loss mon., ~1' U.S. of Q204)
(long BPM) HP202
(long BPM) VP202
LDUMP (loss mon. against wall)
SYDINT (a. k. a. SYDUMP)
S:S202 (old Q201)
LS202 (yellow loss mon., ~1m U.S. of S202)
S:S106 (old MUSEP)
HP106
VP106
HT202
Q203
H201(14) LH201D (yellow loss mon ~0.5m from D.S. H201-14)
LVP106 (yellow loss mon., 2m U.S. of VP106)