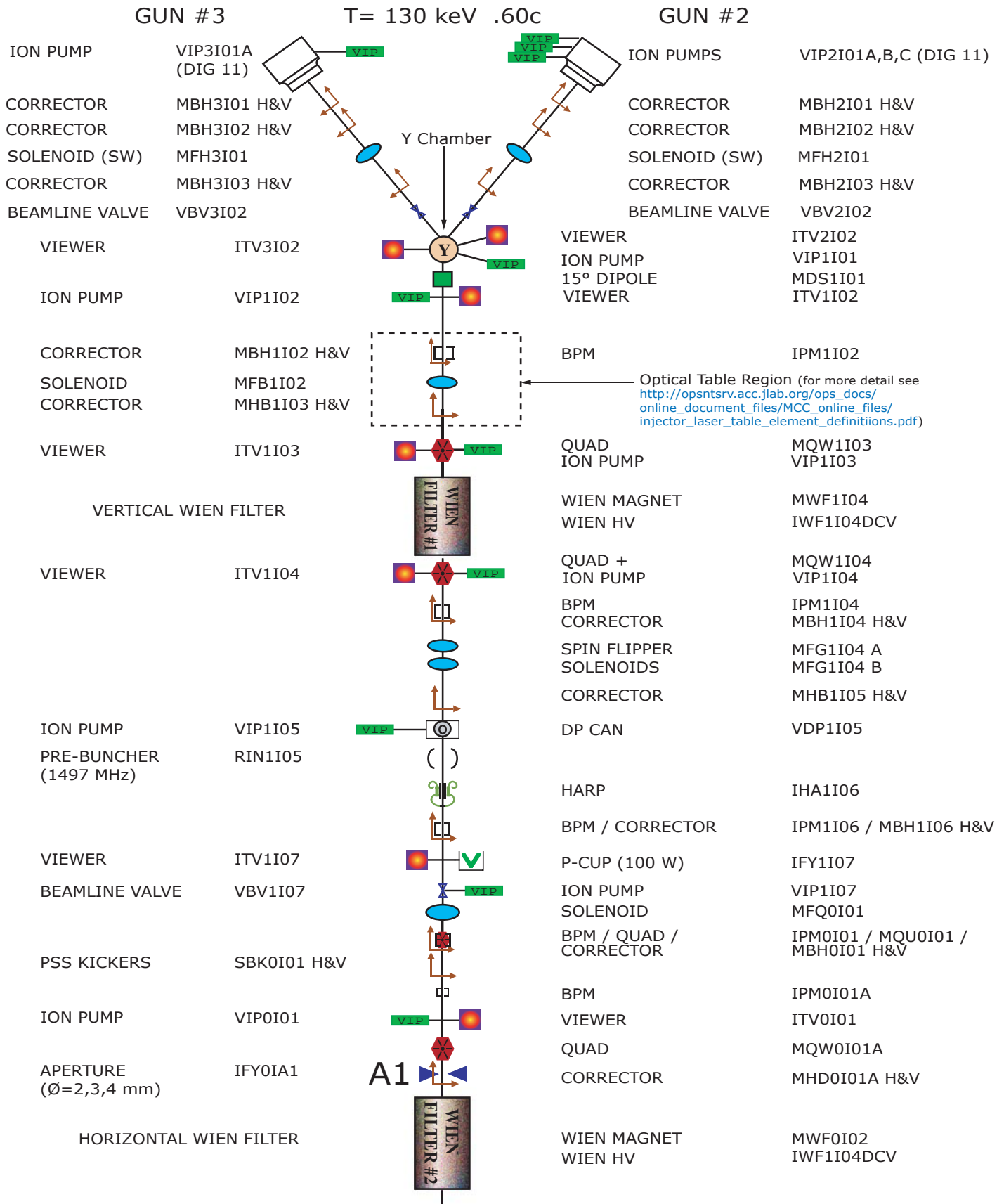


INJECTOR QUICK REFERENCE DRAWING

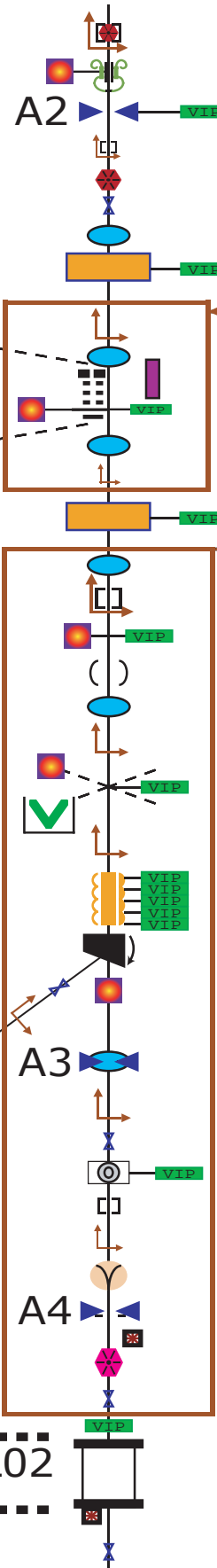
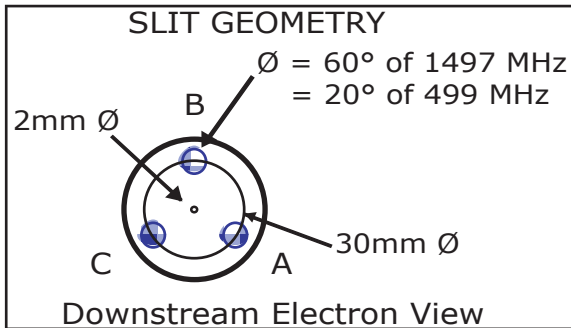


CORRECTOR MBH0I02 H&V
 VIEWER ITV0I02
 APERTURE IFY0IA2
 (Ø=4,6,8 mm)

CHOPPER #1 (499 MHz)

MASTER SLIT
 SLIT A
 SLIT B
 SLIT C
 VIEWER
 CENTER PLUG

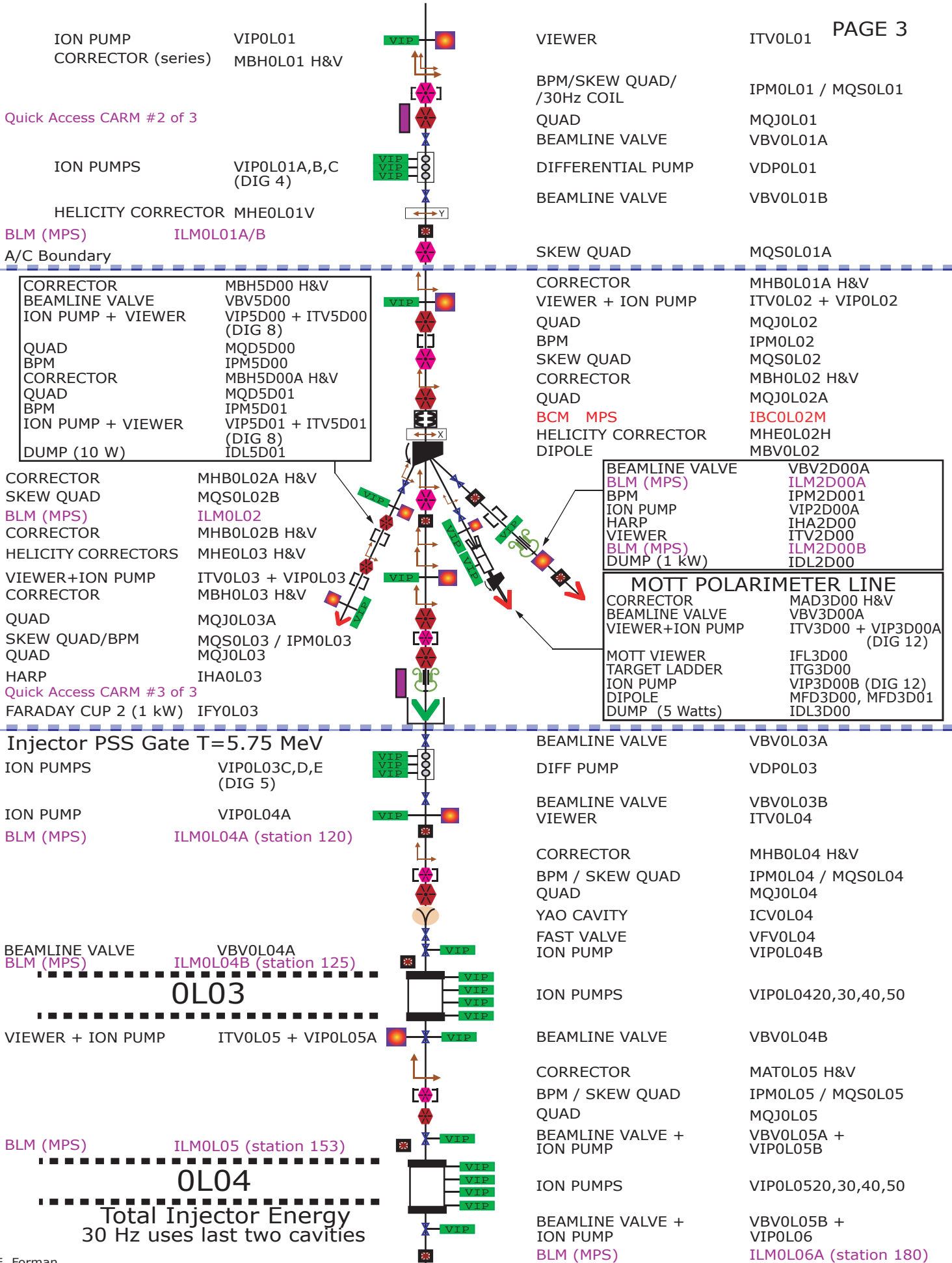
CHOPPER #2 (499 MHz)

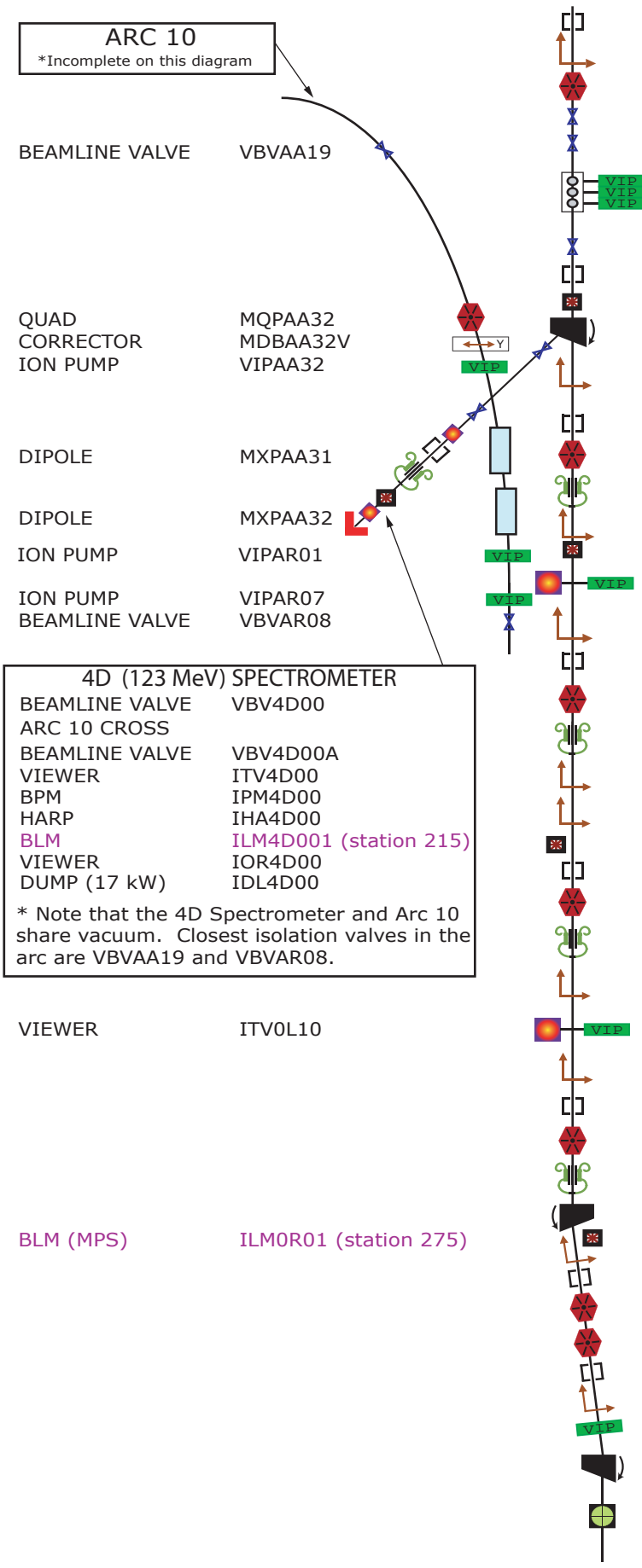


BPM / QUAD IPM0I02 / MQU0I02
 HARP (disconnected) IHA0I02
 ION PUMP VIP0I02
 CORRECTOR / BPM MBH0I02A H&V / IPM0I02A
 QUAD MQU0I02A
 BEAMLINE VALVE VBV0I02
 SOLENOID MFA0I03
 ION PUMP VIP0I03 (DIG 7)
 EARTH CORRECTING COIL MED0I03
 CORRECTOR MBH0I03 H&V
 SOLENOID MFD0I04
 Quick Access CARM #1 of 3
 VIEWER + ION PUMP ITV0I04 + VIP0I04 (DIG 2)
 SOLENOID(same supply as MFD0I04) MFD0I04A
 CORRECTOR MBH0I04 H&V
 ION PUMP VIP0I04A (DIG 7)
 EARTH CORRECTING COIL MEE0I05
 SOLENOID MFA0I05
 CORRECTOR/BPM MBH0I05 H&V / IPM0I05
 VIEWER + ION PUMP ITV0I05 + VIP0I05 (DIG 3)
 RF BUNCHER CAVITY (1497 MHz)
 SOLENOID MFA0I06
 CORRECTOR MBH0I06 H&V
 VIEWER ITV0I06
 ION PUMP VIP0I06 (DIG 3)
 FARADAY CUP #1 (100W) IFY0I06
 CORRECTOR MAD0I06A H&V
 CAPTURE ION PUMPS VIP0I06A,B,C,D,E (DIG 3)
 DIPOLE MBO0I06
 VIEW SCREEN ITV0I06A
 APERTURE (Ø=6mm) / SOLENOID IFY0IA3 / MFL0I07
 CORRECTOR MAD0I07 H&V
 BEAMLINE VALVE VBV0I07
 DP CAN + ION PUMP VDP0I07 + VIP0I07 (DIG 4)
 BPM IPM0I07
 CORRECTOR MBH0I07A H&V
 YAO CAVITY ICV0I07
 APERTURE (Ø=6.5mm) IFY0IA4
 BLM (MPS) ILM0I07
 SKEW QUAD MQS0I07
 BEAMLINE VALVE VBV0L00A
 ION PUMP VIP0L00
 BLM (MPS) ILM0L01A
 BEAMLINE VALVE VBV0L00B

130 keV/500 keV SPECTROMETER
 BEAMLINE VALVE VBV1D00
 CORRECTOR MAD1D00 H&V
 BROCK CAVITY ICB1D00
 HARP (DISCONNECTED) IHA1D00
 VIEWER + ITV1D00
 ION PUMP VIP1D00 (DIG 3)
 500 keV Dump (1 kW) IDL1D00

1/4 CRYOMODULE 0L02
 T= 5.75 MeV

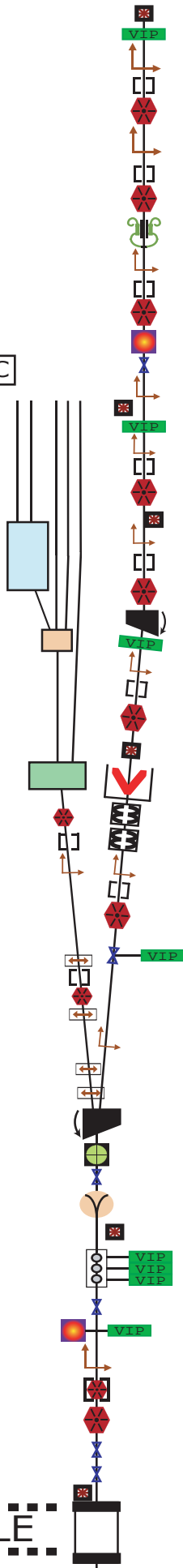




- | | |
|-----------------------|------------------------|
| BPM | IPM0L06 |
| CORRECTORS | MDB0L06H & MDJ0L06V |
| QUAD | MQD0L06 |
| FAST VALVE | VFV0L06 |
| BEAMLINE VALVE | VBV0L06A |
| DIFF PUMP + ION PUMPS | VDP0L06 + VIP0L06A,B,C |
| BEAMLINE VALVE | VBV0L06B |
| BPM | IPM0L06A |
| BLM (MPS) | ILM0L06B (station 190) |
| DIPOLE | MBF0L06 "SPECTROMETER" |
| CORRECTORS | MDB0L07H & MDJ0L07V |
| BPM | IPM0L07 |
| QUAD | MQB0L07 |
| HARP | IHA0L07 |
| CORRECTOR | MAT0L07V |
| BLM (MPS) | ILM0L07 (station 210) |
| VIEWER + ION PUMP | ITV0L08 + VIP0L08 |
| CORRECTORS | MDB0L08H & MDJ0L08V |
| BPM | IPM0L08 |
| QUAD | MQB0L08 |
| HARP | IHA0L08 |
| CORRECTOR | MAT0L08 H&V |
| CORRECTORS | MDB0L09H & MDJ0L09V |
| BLM (MPS) | ILM0L09 (station 240) |
| BPM | IPM0L09 |
| QUAD | MQB0L09 |
| HARP | IHA0L09B |
| CORRECTOR | MAT0L09H |
| ION PUMP | VIP0L10 |
| CORRECTORS | MDB0L10H & MDJ0L10V |
| BPM | IPM0L10 |
| QUAD | MQB0L10 |
| HARP | IHA0L10 |
| CHICANE DIPOLE | MBL0R01 |
| CORRECTOR | MAT0R01 H&V |
| BPM | IPM0R01 |
| QUAD | MQD0R01 |
| QUAD | MQD0R02 |
| BPM | IPM0R02 |
| CORRECTOR | MAT0R02 H&V |
| ION PUMP | VIP0R02 |
| CHICANE DIPOLE | MBL0R02 |
| SLM | ISR0R02 |

WEST RECOMBINER / NORTH LINAC

BLM (MPS)	ILM0R05
DIPOLE	MZAAR03
DIPOLE	MXT4R05
DIPOLE	MXR2R06
QUAD BPM CORRECTOR	MQN1L00 IPM1L00 MBT1L00 H&V
CORRECTOR BPM QUAD CORRECTOR	MBT1L01H IPM1L01 MQN1L01 MCB1L01H
CORRECTOR CORRECTOR	MCB1L01AH MCA1L01H
DIFF. PUMPING STATION	VDP1L01
VIEWER	ITV1L02



BLM (MPS)	ILM0R03 (station 312)
ION PUMP	VIP0R02A
CORRECTOR	MATOR03 H&V
BPM	IPM0R03
QUAD	MQD0R03
CORRECTOR	MATOR04 H&V
BPM	IPM0R04
QUAD	MQD0R04
HARP	IHA0R05
CORRECTOR	MATOR05 H&V
BPM	IPM0R05
QUAD	MQD0R05
VIEWER	ITV0R05
BEAMLINE VALVE	VRV0R05
CORRECTOR	MIM0R05 H&V
ION PUMP	VIP0R06
CORRECTOR	MATOR06 H&V
BPM	IPM0R06
QUAD	MQD0R06
BLM (MPS, lead shielded)	ILM0R06 (station 363)
CORRECTOR	MATOR07 H&V
BPM	IPM0R07
QUAD	MQD0R07
CHICANE DIPOLE	MBL0R03
ION PUMP	VIP0R08
CORRECTOR	MATOR08 H&V
BPM	IPM0R08
QUAD	MQD0R08
BLM	ILM0R08
INSERTABLE DUMP (17 kW)	IDL0R08
BCM (MPS)	IBC0R08
BCM (PSS)	SBC0R08
CORRECTOR	MATOR09 H&V
BPM	IPM0R09
QUAD	MQD0R09
BEAMLINE VALVE + ION PUMP	VBV0R09 + VIP0R09
CORRECTOR	MIM0R09 H&V
CHICANE DIPOLE	MBL0R04
SLM	ISR0R09
BEAMLINE VALVE	VBV1L00A
YAO CAVITY	ICV1L01
BLM	ILM1L01 (station 385)
ION PUMPS	VIP1L01A,B,C
BEAMLINE VALVE	VBV1L01
ION PUMP	VIP1L02
CORRECTOR	MAT1L02 H&V
BPM / SKEW QUAD	IPM1L02 / MQS1L02
QUAD	MQD1L02
FAST VALVE	VFV1L02
BEAMLINE VALVE	VBV1L02A
BLM	ILM1L02 (station 413)

1L02 CRYOMODULE

Source Material Used:

12 GeV Song Sheets:	ACC-000-2845-001	rev. -
	ACC-000-2845-002	rev. 4
	ACC-000-2845-003	rev. 11
	ACC-000-2845-004	rev. 9
	ACC-000-2845-029	rev. 7

CEBAF Element Database queried at various times

Mike Spata's notes on CED corrections dated 9/27/2013

Joe Grames' notes on the beam line up to the PSS Gate from 10/1/2013

Revisions to the this document from Yan Wang received 10/8/2013

Revisions to this document from Joe Grames received 10/16/2013

Notes on injector ion pumps from Marcy Stutzman and Phil Adderley received 10/16/2013

Revisions to song sheet from Yan Wang received 10/18/2013

Numerous personal inspections of the beam line and conversations with others