

# FY24 Omega Schedule

## OMEGA

## OMEGA EP

1st Quarter

Rev. 26, 12 July 2024

1st Quarter

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
2-Oct-23	BWA PB	PB	DT Cryo 60 SG5	HaP 60 SG5		Cryo_RhoR-24A OffsetTargetBiermann-24A	C. Stoeckl P. Heuer	11 5.5
4w			D2 NLUF 6 SG5, 4w	Focus Scan 60 PD600				
9-Oct-23						PradMagRecon-24A FocusScan-Cal-24A	J. Griff-McMahon M. Heimbueger	11
2w		Peryo MAT 12 SG8	MFDS/GJ LBS 30 None, 2w	GJ NLUF 30 None, 2w	BWA PB	D2MultiShock-24A NernstEff-24A PistonGenlonSpec-24A	Z. Sprowal S. Malko D. Schaeffer	11 11 11
16-Oct-23								
23-Oct-23	Target	Target	PB	DT Cryo 60 SG5-650		Cryo-Optimization-24A	L. Ceurvorst	11
30-Oct-23						Maintenance Week		
APS								
2w								
6-Nov-23		DT NLUF 12 IDI, 2w		TNB SG8-Flat, 2w		WeibelMerge-24A GreenImprint-24A	C. Li L. Ceurvorst	11 5.5
2w								
13-Nov-23		Joint/GJ TNB 14 SG5, 2w	Joint TNB 60 SG5	MFDS/GJ TNB 35 none, 2w	BWA PB	PumpProp-J-24A NeutronTime-J-24A NernstFL-24A	K. McMillen C. Stoeckl C. Bruulsema	11 11 11
20-Nov-23	PB	DT Cryo 60 SG5-650		Holiday	Holiday	Cryo-Shockignition-24A	J. Knauer	11
27-Nov-23		D2 NLUF 60 SG5	DT DRSV 60 SG5	HaP 60 SG5		Multilon-24A Xylene_calibration-24A / ASBO-T0-Cal-24A BosquePH-24A	T. Evans Martinez / Kabadi R. Van Dervort	11 5.5 11
4-Dec-23								
CT&F Maint								
11-Dec-23		HED Cal	HaP	LBS	OHRV	HED-Cal-24A AuLTE-24A DACHydroMix-24A	M. Heimbueger E. Marley T. Suer	11 11 5.5
18-Dec-23	OHRV	OHRV TNB 10 SG5	DT TNB 60 SG5	DT TNB 60 SG5		OHRV-ImprintDetail-24A DSrhoR-24A NucD-24A	J. Peebles/S. Ali Z. Mohamed H. Geppert-Kleinrath	11 11 11
25-Dec-23	Holiday					Maintenance Week		
CT&F Maint								

Days per quarter 22

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
2-Oct-23								
9-Oct-23		Target	CMAP 4UV	TNB 4UV		Fluence Conditioning IronSilicate-EP-24A MagLIF-EP-24A	T. Duffy M. Gomez	7 7
16-Oct-23			HaP 4UV	Target		ModCons-EP-24A UV Pointing	A. Rasmus J. O'Sullivan	7
23-Oct-23			CMAP 4UV	MAT 4UV	MAT 4UV	CMAPBMO-EP-24A TRXRD-EP-24A LiFMelt-EP-24A	M. Nakajima D. Polsin A. LaPierre	7 7 7
30-Oct-23								
APS		Laser	Laser	Target		SPDP Cal SP UV Timing-EP-24A	J. O'Sullivan R. Brown	
6-Nov-23			GJ NLUF 2SP	HaP 2SP		DLA-XRay-EP-24A NWFoamBL-EP-24A	L. Willingale A. Do	7 7
13-Nov-23			GJ TNB Joint	TNB Joint	Laser	PumpProp-J-24A NeutronTime-J-24A PEPC Contrast	K. McMillen C. Stoeckl	3.5 3.5
20-Nov-23			NLUF 2SP		Holiday	PrintedFoamLPI-EP-24A	S. Tochitsky	7
27-Nov-23			MIFEDS HaP 2SP		MAT SL dds	MultiProbe-EP-24A HeatEOS-EP-24A	S. Batha S. Jiang	7 7
4-Dec-23				MAT 4UV	HaP 4UV	HEXRD-EP-24A StalkEMP-EP-24A	S. Clark P. Heuer	7 7
11-Dec-23			LBS 4UV	MAT 4UV		FeStrength-EP-24A FeMelt-EP-24A	G. Righi A. Coleman	7 7
18-Dec-23			NLUF 4UV	DRSV 4UV	MAT 4UV	SiliXRD-EP-24A PlanarRelease-EP-24A BBResponse-EP-24A	D. Kim D. Barnak N. Kabadi	7 7 7
25-Dec-23	Holiday							

Days per quarter 19

	Maint & Reconfiguration
	Thermonuclear Burn (TNB)
	Materials (MAT)
	Hydrodynamics and Properties (HaP)
	Outputs, Survivability, and Effects (OSE)
	University Basic Science (NLUF)
	CEA
	System Shots- reduced shot crew
	Other
	Reserved - unfunded
	Contingency
	Laboratory Basic Science (LBS)

	Other
	CMAP
	LNET
	APL
	ARPA-E
	DTRA
	Rutherford (RAL)
	OFES
	AWE

Hash shading indicates Joint shots

CP	Co-prop
LC	OMEGA single beam from lower compressor
UC	OMEGA single beam from upper compressor
BL	EP Backlighter single beam (UC or LC)
SL	EP Sidelighter
T-OPA	Tunable OPA
TOP-9	Tunable OPA Joint shots
PB	Power Balance
SSG	Small Signal Gain, F-Cal
BWA	Blast window assembly replacement

## FY24 Omega Schedule

### OMEGA

### OMEGA EP

2nd Quarter

Rev. 26, 12 July 2024

2nd Quarter

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
1-Jan-24	Holiday					Maintenance Week		
4w								
8-Jan-24		HaP	TNB	MFDS NLUF	BWA PB	SpectraThomson-24A AuSphere-24A MagOmegaEff-24A	E. Marley G. Swadling V. Valenzuela-Villaseca	11 11 11
15-Jan-24	Holiday			DT OSE				
4w				60 SG5		EnergeticNeutrons-24A	B. Aguirre	5.5
22-Jan-24		MFDS OSE		MFDS NLUF		SRSXray-24A MagRadShock-24A	P. Poole G. Rigon	11 11
29-Jan-24		TNB	BDE HaP	MAT		CISFoamImprint-24A CyIDRT-24A CuXFS-24A	J. Peebles J. Dowd T. Cordova	5.5 11 5.5
4w		MFDS NLUF	MAT	MFDS TNB	BWA PB	MagCShockPar-J-24A FlyerEOS-24A MagMix-24A	M. Manuel F. Coppari H. Sio	11 5.5 11
12-Feb-24		HaP	GJ NLUF	MAT	OHRV	MultiModeInt-24A PlonFront-24A XRFe-24A	P. Nilson C. Kuranz P. Kozlowski	11 11 11
19-Feb-24	OHRV	TNB				DSPlanar-24B	A. Rasmus	11
26-Feb-24		TNB	OSE	MAT		CBET-Mitigation-24A GasPipeMHD-24A FoilXAFS-24A	D. Turnbull L. Leal M. Signor	11 5.5 5.5
4-Mar-24		HaP	MFDS/GJ OSE	MFDS LBS	BWA PB	XFOL-24A HighMASHock-24A BCoilCompress-24A	A. Elshafiey G. Swadling M. Bailly-Grandvaux	11 11 11
11-Mar-24	Laser	Laser	PB					
18-Mar-24		DT TNB	DT TNB	NLUF		SymmetryControl-24A DT_nTOF_Calib-24A FeThermCon-24A	K. Churnetski V. Glebov J. Wicks	11 11 11
25-Mar-24		LBS	GJ TNB	MFDS/GJ LBS		ParticleVisc-24A PonderFlucts-24A GasJetMagShock-24A	A. Gleason Froula / Milder P. Heuer	11 11 11

Days per quarter 25

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
1-Jan-24	Holiday							
8-Jan-24		Laser	Target	Target		PID Mitigation UV focusing 4UV Timing-EP-24A / T-OPA	K. Bauer J. O'Sullivan R. Brown	
15-Jan-24	Holiday			CMAP 4UV				
22-Jan-24		HaP 4UV	NLUF 4UV	OSE 4UV		PertSchockVisc-EP-24A ModCons-EP-24B SulfXRd-EP-24A StarBright-EP-24A	N. Acharya A. Rasmus D. Shim P. Poole	7 7 7 7
29-Jan-24		Laser	Target	Laser		SPDP Cal SP UV Timing-EP-24B/debris test T-OPA	J. O'Sullivan R. Brown/J. Peebles	
5-Feb-24		MFDS NLUF Joint dds	Laser	Laser		MagCShockPar-J-24A BL, SL FSM T-OPA	M. Manuel	3.5
12-Feb-24		HaP 2SP	HaP 2SP	NLUF 2SP		UHEDCu-EP-24A Con_Chan-EP-24A MagFidDyn-24A	A. Raymond M. VanDusen-Gross K. Krushelnick	7 7 7
19-Feb-24		TNB 2SP	MAT 2SP	MAT 2SP		MultiDevEP-EP-24A ArcHEBL-EP-24A XtrmTHz-24-EP-24A	C. Stoeckl M. Hill G. Bruhaug	7 7 7
26-Feb-24		NLUF SL dds	MAT SL dds	LBS SL dds	MFDS/GJ	PhotoPlasma-EP-24A TinPairRT-EP-24A NernstDynamo-24A	R. Mancini Y.J. Kim J. Davies	7 7 7
4-Mar-24		HaP 4UV	LBS 4UV	HaP 4UV		MMZPI-EP-24A BMO-EP-24A NWFOamBL-EP-24B	A. Do M. Nakajima A. Do	7 7 7
11-Mar-24		MAT 4UV	TNB 4UV	LBS 4UV		AblatorDev-EP-24A MagLIF-EP-24B AuSlurry-EP-24A	R. Smith M. Gomez R. Smith	7 7 7
18-Mar-24		NLUF 4UV		Laser		FeThemCon-EP-24A PEPC Contrast	J. Wicks	7
25-Mar-24								

Days per quarter 20.5

	Maint & Reconfiguration		Other
	Thermonuclear Burn (TNB)		CMAP
	Materials (MAT)		LNET
	Hydrodynamics and Properties (HaP)		APL
	Outputs, Survivability, and Effects (OSE)		ARPA-E
	University Basic Science (NLUF)		DTRA
	CEA		Rutherford (RAL)
	System Shots- reduced shot crew		OFES
	Other		AWE
	Reserved - unfunded		
	Contingency		
	Laboratory Basic Science (LBS)		

Hash shading indicates Joint shots

CP	Co-prop
LC	OMEGA single beam from lower compressor
UC	OMEGA single beam from upper compressor
BL	EP Backlighter single beam (UC or LC)
SL	EP Sidelighter
T-OPA	Tunable OPA
TOP-9	Tunable OPA Joint shots
PB	Power Balance
SSG	Small Signal Gain, F-Cal
BWA	Blast window assembly replacement

## FY24 Omega Schedule

### OMEGA

3rd Quarter

Rev. 26, 12 July 2024

### OMEGA EP

3rd Quarter

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
1-Apr-24						Maintenance Week		
3w 8-Apr-24			NLUF 26 IDI	MFDS/GJ TNB 5 SG8, 3w	BWA	PumpFluor-24A MagCBET-J-24A	C. Krauland B. Pollock	11 11
15-Apr-24 OLUG	PB	Laser	DT Cryo 60 SG5-650	P6-P7 OSE 36 none		Cryo-SubscaleThickIce-24A PPlumeDev-24A	L. Ceurvorst L. Barmore	11 5.5
3w 22-Apr-24	SLUI	D2 TNB 60 SG5, 3w	MAT 10 IDI	NLUF 26 SG5-650	OHRV	Multibeam-24A CylinderGbar-24A ThermalCond-24A	D. Edgell T. Doepfner T. White	11 11 11
29-Apr-24	OHRV	OHRV HaP 10 SG5-650	TNB 60 SG5-650	P6-P7 MAT 50 SG5-650		BosqueSI-24A WCapImp-24A MultiTempXAFS-24A	R. Van Dervort E. Marley M. Signor	11 11 11
6-May-24 Annual FASC		Pcryo MAT 6 SG8-Flat	MAT 12 SG8	MFDS/D2 TNB 60 SG5	BWA PB P9 TO 2w	H2Ice-24A QzRaman-24A MagSDD-24A	A. Schwemmlein M. Marshall Barnak / Moody	11 11 11
13-May-24	PB	DT Cryo 60 SG5	DT OSE 60 SG5	D2 HaP 60 SG5		CryoBL-J-24A MLYieldOptimization-24A ImploPropSpec-24 A	C. Stoeckl Forrest / Aguirre E. Smith	11 11 11
2w 20-May-24		LBS 20 SG5, 2w		HaP 40 SG5		TDyno-24A CyIDRT-24B	P. Tzeferacos J. Dowd	11 11
2w 27-May-24	Holiday		GJ TNB 14 SG5, 2w	Joint NLUF 54 SG5	P4/P9 BWA	PumpProp-J-24B ProtonFI-J-24A	K. McMillen M. Bailly-Grandvaux	11 11
2w 3-Jun-24		GJ LBS 10 SG5, 2w	TNB 12 SG5	TNB SG5-650, 2w	BWA P9 to 4w	Heatflux-24A TargetDefects-24A LateWeibel-24A	D. Turnbull R. Shah G. Sutcliffe	11 11 11
10-Jun-24	PB	Laser	DT Cryo 60 SG5	D2 NLUF 60 SG5		Cryo-Optimization-24B Multilon-24B	J. Knauer T. Evans	11 11
17-Jun-24		DRSV 39 SG5	Holiday	LBS 12 SG8		SphericalRelease-24A DACHydroMix-24B	D. Barnak T. Suer	5.5 5.5
4w 24-Jun-24		LBS 20 SG5, 4w	MFDS/GJ HaP 11 SG5, 4w	Pcryo TNB 12 SG8		LaserShock-24B GasJetMagShock-24B CryoAblation-24A	C. Bruulsema P. Heuer Z. Mohamed	11 11 11

Days per quarter 28.5

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
1-Apr-24				Laser		Main Cavity Holdoff		
8-Apr-24			Laser	MFDS/GJ TNB Joint T9		T-OPA MagCBET-J-24A	B. Pollock	3.5
15-Apr-24 OLUG		LBS 4UV	NLUF 4UV	MAT 4UV		BBReflectEP-24A ExoPlanet-EP-24A MgOLiqXRD-EP-24A	N. Kabadi T. Duffy T. Suer	7 7 7
22-Apr-24		NLUF 4UV	HaP 4UV	MAT 4UV		DynVortRing-EP-24A ModCons-EP-24C CuXRD-EP-24A	M. Wadas A. Rasmus A. Coleman	7 7 7
29-Apr-24		Laser	Target	TNB 2SP		SPDP Cal SP UV Timing-EP-24C TimeDepTNSA-EP-24A	J. O'Sullivan R. Brown R. Simpson	7
6-May-24 Annual FASC			TNB 2SP	HaP 2SP	HaP 2SP	SP_ShellinFlight-EP-24A MultiProbe-EP-24B FieldSink-EP-24A	D. Haberberger S. Batha J. Peebles	7 7 7
13-May-24	Cryo Joint	Cryo Joint	Laser	LBS CoProp		CryoBL-J-24A PID Study TNSAion-EP-24A	C. Stoeckl C. Forrest	7 7
20-May-24		TNB CoProp	Laser	HaP 2SP		TeBoost-EP-24A CoProp FSM Opacity-EP-24A	E. Grace E. Marley	7 7
27-May-24	Holiday		TNB Joint CoP	NLUF Joint		PumpProp-J-24B ProtonFI-J-24A	K. McMillen M. Bailly-Grandvaux	3.5 3.5
3-Jun-24		Target	MAT 4UV	CMAF 4UV		Fluence Conditioning LiFDoubleShock-EP-24A DiamondHeat-EP-24A	T. Voiz M. Signor	7 7
10-Jun-24			L Net 4UV	LBS 4UV		FoamIFES-EP-24A PlanetIntViscosity-EP-24A	C. Kuranz R. Smith	7 7
17-Jun-24			Holiday					
24-Jun-24								

Days per quarter 19.5

Maint & Reconfiguration	Other
Thermonuclear Burn (TNB)	CMAF
Materials (MAT)	LNET
Hydrodynamics and Properties (HaP)	APL
Outputs, Survivability, and Effects (OSE)	ARPA-E
University Basic Science (NLUF)	DTRA
CEA	Rutherford (RAL)
System Shots- reduced shot crew	OFES
Other	AWE
Reserved - unfunded	
Contingency	
Laboratory Basic Science (LBS)	

Hash shading indicates Joint shots

CP	Co-prop
LC	OMEGA single beam from lower compressor
UC	OMEGA single beam from upper compressor
BL	EP Backlighter single beam (UC or LC)
SL	EP Sidelighter
T-OPA	Tunable OPA
TOP-9	Tunable OPA Joint shots
PB	Power Balance
SSG	Small Signal Gain, F-Cal
BWA	Blast window assembly replacement

## FY24 Omega Schedule

### OMEGA

#### 4th Quarter

Rev. 26, 12 July 2024

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
1-Jul-24				Holiday		Maintenance Week		
8-Jul-24	BWA PB <small>P9 to 3w</small>	Laser	PB	DT Cryo <small>60 SG5</small>		Cryo-Optimization-24D	J. Knauer	11
15-Jul-24		HaP <small>20 none</small>	Pcryo MAT <small>6 SG8-Flat</small>	D2 OSE <small>60 SG5</small>		MultiModelInt-24B H2Ice-24B MLYieldOptimization-24B	P. Nilson A. Schwemlein C. Forrest	11 11 11
22-Jul-24		LBS <small>59 SG5, 3w</small>	Beam Timing <small>60 SG5, 3w</small>	TNB <small>60 SG5</small>		CBET-Mitigation-24B BeamTiming-Cal-24A BeamletsAbsorption-24A	D. Edgell W. Donaldson D. Turnbull	11 11
29-Jul-24		TNB <small>15 IDI</small>	MAT <small>12 SG8-Flat</small>	NLUF <small>26 IDI</small>	BWA PB <small>P9 to 4w</small>	DSPlanar-24C RamanPhases-24A PumpFluor-24B	M. Huff A. LaPierre C. Krauland	11 11 5.5
5-Aug-24	PB	MPD/DT Cryo <small>60 SG5</small>	MAT <small>32 SG8, 4w</small>	TNB <small>60 SG5</small>		Cryo_FlashFreeze_ReturnShock-24A CuXFS-24B / BeamBending-24A CISfoamImp-24B / HiZ_imp_CIS-24A	C. Forrest Cordova / Bruulsema Peebles / Karasik	11 11 11
12-Aug-24		PRUVS HaP <small>38 None, 4w</small>	H10-H11 APL <small>40 none</small>	DT OSE <small>60 SG5</small>		SpectraThomson-24B APLPD-24A EnergeticNeutrons-24B	E. Marley Davis / King B. Aguirre	11 11 11
19-Aug-24		OSE <small>10 IDI</small>	CEA <small>59 SG5, 4w</small>	MFDS LBS <small>40 PD800</small>	BWA PB <small>P9 to 2w</small>	SolarCellESD-24A CEA_XRSRC-24A BCoilCompress-24B	K. Widmann A. Grolleau M. Bailly-Grandvaux	11 11 11
26-Aug-24	PB	DT Cryo <small>60 SG5</small>	DT NLUF <small>60 SG5</small>	HaP <small>12 IDI</small>	MAT <small>12 IDI</small>	Cryo-Subcool-RbRt1-24A OnionMix-24A XFOL-24B FlyerEOS-24B	C. Stoekli Gatu-Johnson / Reichelt A. Elshafiey F. Coppari	11 11 11 5.5
2-Sep-24	Holiday		NLUF <small>SG5-650, 2w</small>	TNB <small>6 SG5</small>	FLX <small>P9 to 3w</small>	ResistiveB-24A TargetDefects-24B	S. Dannhoff R. Shah	11 11
9-Sep-24	Laser	FLX Target	FLX Target	FLX/GJ TNB <small>12 SG5, 3w</small>	BWA PB <small>P9 to 2w</small>	FLUX-Activation-24A FLUX-Activation-24B FLUX-PumpProbe-24A		11
16-Sep-24	Target	Target	PB	DT Cryo <small>60 SG5-650</small>		Cryo-Optimization-24C	L. Ceurvorst	11
23-Sep-24		NLUF <small>16 none</small>	Pcryo TNB <small>40 SG5</small>	D2 TNB <small>20 none</small>	DRSV <small>30 SG5</small>	Silicates-XRD-24A Cryo-WetFoam-24A JetInD2-24A HybridSpherical-24A	D. Kim M. Rosenberg P. Nilson L. Ceurvorst	11 11 11 5.5

Days per quarter 28.5  
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### OMEGA EP

#### 4th Quarter

Week Starting	Mon	Tue	Wed	Thur	Fri	Campaign(s)	PI	No. shots
1-Jul-24				Holiday				
8-Jul-24			Target	HaP 4UV		4UV Timing-EP-24B ModCons-EP-24D	A. Rasmus	7
15-Jul-24		MAT 4UV	TNB 4UV	MAT 4UV		ComplexStructures-EP-24A HybridFoam-EP-24B LantDiff-EP-24A	H. Wadhurawa L. Ceurvorst C. McCoy	7 7 7
22-Jul-24		MAT 4UV	NLUF 4UV	Laser		HydroMix-EP-24A PhotoPlasma-EP-24B TMPS Integration/ Cavity Holdoffs	T. Suer R. Mancini	7 7
29-Jul-24		Laser	Laser	Target		TMPS Activation SPDP Cal SP UV Timing-EP-24D	M. Barcysz J. O'Sullivan R. Brown	
5-Aug-24		TNB 2SP	HaP 2SP	HaP 2SP		PlanarFoamImprint-EP-24A Con_Chann-EP-24B UHEDCu-EP-24B	J. Peebles M. VanDusen-Gross A. Raymond	7 7 7
12-Aug-24		TNB 2SP dds	OSE 2SP dds			DNRadio-EP-24A MeVGamma-EP-24A	M. Selwood D. Rusby	7 7
19-Aug-24		TNB 2SP	Laser	Target		ZapImp-EP-24A TMPS Activation Fluence Conditioning	L. Ceurvorst	7
26-Aug-24		MAT SL dds		MAT SL dds		HeatEOS-EP-24B TinPairRT-EP-24B	S. Jiang Y.J. Kim	7 7
2-Sep-24	Holiday		CMAP 4UV	LNet 4UV		DiamondHeat-EP-24B FoamIFES-EP-24B	M. Signor C. Kuranz	7 7
9-Sep-24		LBS 4UV	DRSV 4UV	NLUF 4UV		BMO-EP-24B SP_ShellinFlight-EP-24B SulfXRD-EP-24B	M. Nakajima D. Haberberger D. Shim	7 7 7
16-Sep-24		L Net 4UV	CMAP 4UV	MAT 4UV		QuasarLab-EP-24A H2Reflect-EP-24A ViscPert-EP-24A	D. Riley N. Kabadi H. Pantell	7 7 7
23-Sep-24								

Days per quarter 22  
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	Maint & Reconfiguration
	Thermonuclear Burn (TNB)
	Materials (MAT)
	Hydrodynamics and Properties (HaP)
	Outputs, Survivability, and Effects (OSE)
	University Basic Science (NLUF)
	CEA
	System Shots- reduced shot crew
	Other
	Reserved - unfunded
	Contingency
	Laboratory Basic Science (LBS)

	Other
	CMAP
	LNET
	APL
	ARPA-E
	DTRA
	Rutherford (RAL)
	OFES
	AWE

Hash shading indicates Joint shots

CP	Co-prop
LC	OMEGA single beam from lower compressor
UC	OMEGA single beam from upper compressor
BL	EP Backlighter single beam (UC or LC)
SL	EP Sidelighter
T-OPA	Tunable OPA
TOP-9	Tunable OPA Joint shots
PB	Power Balance
SSG	Small Signal Gain, F-Cal
BWA	Blast window assembly replacement