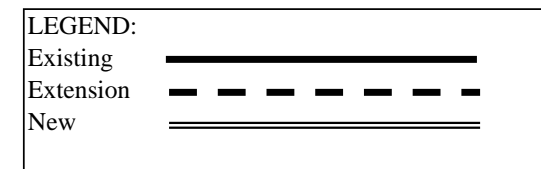
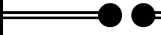
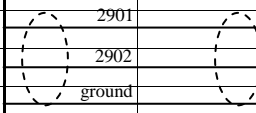
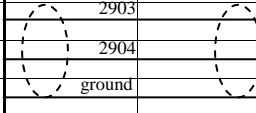


MODULE	NAME	SIGNAL TYPE	TERMINAL NO.	CABLE NO.	BREAKOUT BOX	LOI CONTROL
Driver Anode Supply	anode voltage	analog	X1 terminal (SH No.G-14)	CBL-A1		
	anode current	analog		CBL-A2		
	anode current	analog	Tektronix A6303+AM503	CBL-A2new		
G1 Supply	G1 voltage			CBL-A3		
	G1 voltage	analog	monitor output	CBL-A3new		
	G1 current			CBL-A4		
G2 Supply	G2 voltage	analog	monitor output	CBL-A5		
	G2 current	analog	monitor output	CBL-A6		
Driver Heater	heater current	analog	HPD BNC	CBL-A7		
Final Anode Supply	anode voltage	analog	BR J2	CBL-A8		
			BR J2	CBL-A8new		
Final Anode Supply	anode current	analog	BR J3	CBL-A9		
			BR-J3	CBL-A9new		
Grid Voltage Monitor/ Upstream	voltage			CBL-A10		incorporation into MCR cavity lock system
	RF voltage	analog	HPD BNC	CBL-A10new-sp.3		
Grid Current Monitor	current			CBL-A11		
Final Heater	heater current	analog	HPD BNC	CBL-A12		
300W Amplifier				CBL-A13		
Bias Supply	voltage			CBL-A14		
	current			CBL-A15		
Gap Voltage Monitor/ Upperstream	RF voltage	analog	Cavity Voltage Divider	CBL-A16		incorporation into MCR cavity lock system
				CBL-A16new-sp.2		
Cavity Input Current Monitor Pearson 310	RF current	analog	HPD BNC	CBL-A17		incorporation into MCR cavity lock system?
				CBL-A17new-sp.4		
Grid Switcher	TTL trigger		Grid Switcher BNC input	sp.1		
Gap Voltage Monitor/ Downstream				sp.5		
Grid Input Current		analog		sp.6		Pearson CT110 0.1V/amp.
APN 50-ohm output	RF voltage	analog	APN 50-ohm attenuator	CBL-A16		test view, 5/22/08



		cable no.	LOI control rack		breakout box		HPD	CAVITY
Grid Volt (RF)	new			new				
Gap Volt (RF)	extension	CBL-A16+						
	new							
Cavity Input Current (RF)	extension	CBL-A17+						
	new							
Driver Heater Current	extension	CBL-A7+						
Final Heater Current	extension	CBL-A12+						

MODULE	NAME	SIGNAL TYPE	TERMINAL	CABLE	LINE NO. (colour)	Breakout box 1	LINE NO. (colour)	LOI CONTROL				
								TB	Pin	SH	Label	
HPD Water Manifold	flow common	contact	TB1-N1	CBL-120 12-core with shield	N24A (red)		red	TB7	56	PLC		
	flow1. 4648 anode + heat exchanger conductivity (hardwiring) + temperature (hardwiring) + chiller flow (softwiring) --> I343		1		X06A (white)		white		55	SH15	X343	
	flow2. 4648 G1		2		X06B (black)		black		57		X344	
	flow3. 4648 G2		3		X06C (green)		green		59		X345	
	flow4. 4648 filament		4		X06D (yellow)		yellow		61		X346	
	flow5. 4648 filament grnd		5		X06E (brown)		brown		63		X347	
	flow6. liquid resistor				X06F (blue)		blue		65		X348	
	flow7. grid switcher				X063 (gray)		gray		43		X336	
	flow8. 1643 anode + buck regulator flow (softwiring)		8		X064 (purple)		purple		45		X337	
	flow9. see CBL-128				X065 (orange)		orange		47		X338	
	flow10. shunt resistor		10		X066 (pink)		pink		49		X339	
	flow11. shield	shield sheath					X067 (light green)	light green		51		X340
grid switcher	temp						TB6	63	SH13	X304		
								64				
buck regulator	flow						TB6	71	SH13	X308		
								72				
HPD	door1	contact	X020	CBL-121 12-core with shield	red		red	TB6	1	SH12	X233	
	door2		X021		white		white		2		X234	
	door common		N24A		black		black		3			
	door3		X022		green		green		4		X235	
	door4		X023		yellow		yellow		5		X236	
	door5		X024		brown		brown		7		X237	
	door6		X025		blue		blue		8		X238	
	door7		X026		gray		gray		10		X239	
	door8		X027		purple		purple		11		X240	
	door9		X028		orange		orange		13		X241	
	door10		X029		pink		pink		14		X242	
	door11		X02A		light green		light green		16		X243	
door12	shield sheath											
HPD	door12	contact	X02B	CBL-122 12-core with shield	red		X02B (red)	TB6	17	SH11	X244	
	blower		X065		white		X068 (white)	TB7	53	SH15	X341	
	P5	+5V	P5		black		P5 (black)	TB6	73	SH11		
	fan1		0101		green		X02C (green)		19		X245	
	common		N5		yellow		N5 (yellow)		21			
	fan2		0102		brown		X02D (brown)		20		X246	
	fan3		0103		blue		X02E (blue)		22		X247	
	fan4		0104		gray		X02F (gray)		23		X248	
		shield sheath										
HPD Water Manifold	conductivity	contact	TB2-35	CBL-128 12-core with shield	red		red	TB6	35	SH12	X254	
			-36		white		white		36			
	flow9. cavity flow + conductivity	contact	-37		black		black		37		X255	
			-38		green		green		38			
	flow	contact			yellow		yellow		39		X256	
					brown		brown		40			
	+24V	+24V			blue		blue		51	TB5	P24A	
	-24V	-24V			gray		gray		52		N24A	
	conductivity	analog			purple		purple		53		SH29	F3AD08-IN-CH.2
					orange		orange		54			
			pink	pink								
	shield sheath			light green	light green							
								55		ground		

MODULE	NAME	SIGNAL TYPE	CABLE	Breakout box	CABLE GROUPING	LOI CONTROL								
HPD Water Manifold	conductivity	contact	CBL-128 12-core with shield			TB6	35			PLC SH12	X254			
	(spare)	contact					36				X255			
							37							
							38							
	flow	contact							TB5	39			X256	
	+24V	+24V								51			P24A	
	-24V	-24V								52			N24A	
	conductivity	analog								53			PLC SH29	F3AD08-IN-CH.2
	shield sheath					54								
						55								
195kW Chiller for BURLE 4648	flow	contact	CBL-129 12-core with shield			TB6	49			PLC SH12	X261			
							50				X262			
	conductivity	contact					51							
	(spare)	contact					52				X263			
	+24V	+24V							TB4	53				
	-24V	-24V								54			P24A	
	conductivity	analog								51			N24A	
		shield sheath								52				
						53			PLC SH29	F3AD08-IN-CH.3				
						54								
						55								
52kW Chiller for Cavity			12-core with shield											
52kW Chiller for Liquid Resistor			12-core with shield											