

# slave laser PID nominal values (crystal part)

2016/09 – F. Cleva

Crystal 1 on laser head 2 (Spare @ Nice, (PSL-LAS-0101-01))

Lab temp = 20°C, slave output power = 20 W, that is ~20 W pump on the crystal 1

Voltage are referenced to the associated black pins (\*), are expressed in Volts

Peltier Status	V_PinBlack_J1	V_PinGrey_J1	V_PinBlack_J2	V_PinGrey_J2	V_pinYellow_J2	Current (A)
Full load(**)	-	0	-	20	25	1.8
Standby(**)	-	10	-	1.3	25	0
Nominal(**)	-	7	-	8	25	0.4

(\*) Full load: we set the crystal Temp to 15 °C for few minutes

(\*) standby: we set the crystal Temp to 26 °C for few minutes

(\*) nominal load: we set the crystal Temp to 22 °C

(\*\*) see next slide for pin identification

# Peltier current values on 2016-09-12 @ Cascina (PSL-LAS-0101-03)

Diode 1/Crystal 1 Tcrystal = 22 °C, I\_Diode = 34.0A -> out1\_PID = 20% = 1.2 A

Diode 1/Crystal 1 Tcrystal = 25 °C, I\_Diode = 34.0A -> out1\_PID = 50% = 0.8 A

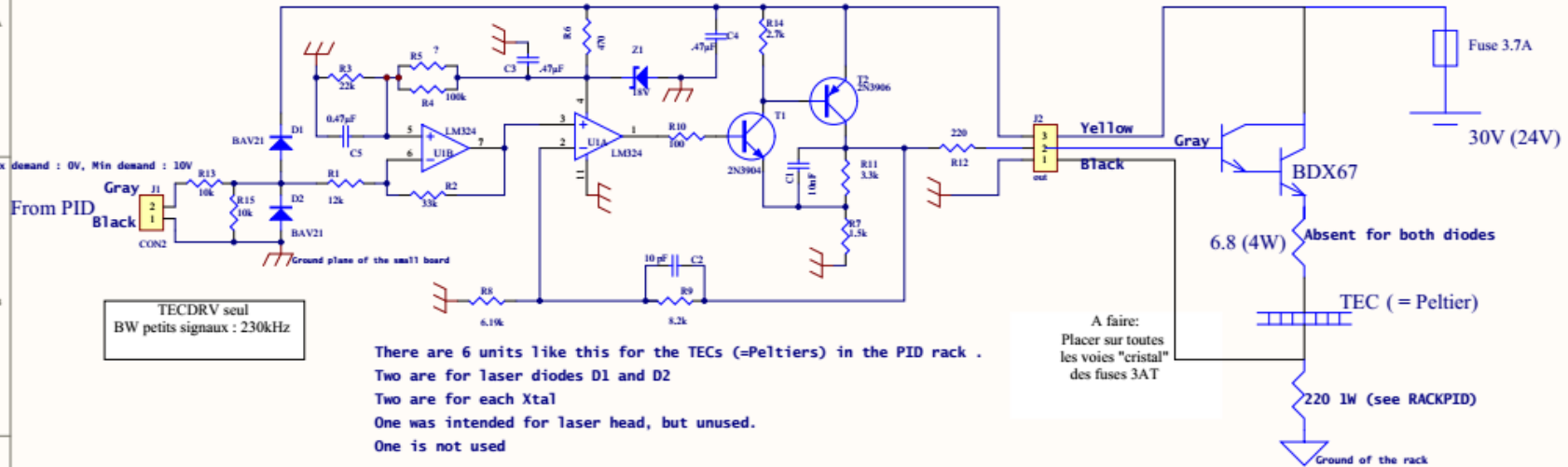
Diode 2/Crystal 2 Tcrystal = 22 °C, I\_Diode = 35.4A -> out1\_PID = 20% = 1.2 A

Diode 2/Crystal 2 Tcrystal = 25 °C, I\_Diode = 35.4A -> out1\_PID = 46% = 0.9-1.0 A

Rem.: Crystal2 PID has been suspected to be faulty (09/2016, logentry #34624)

Schema du TECDRV

Partie du schema hors Netlist



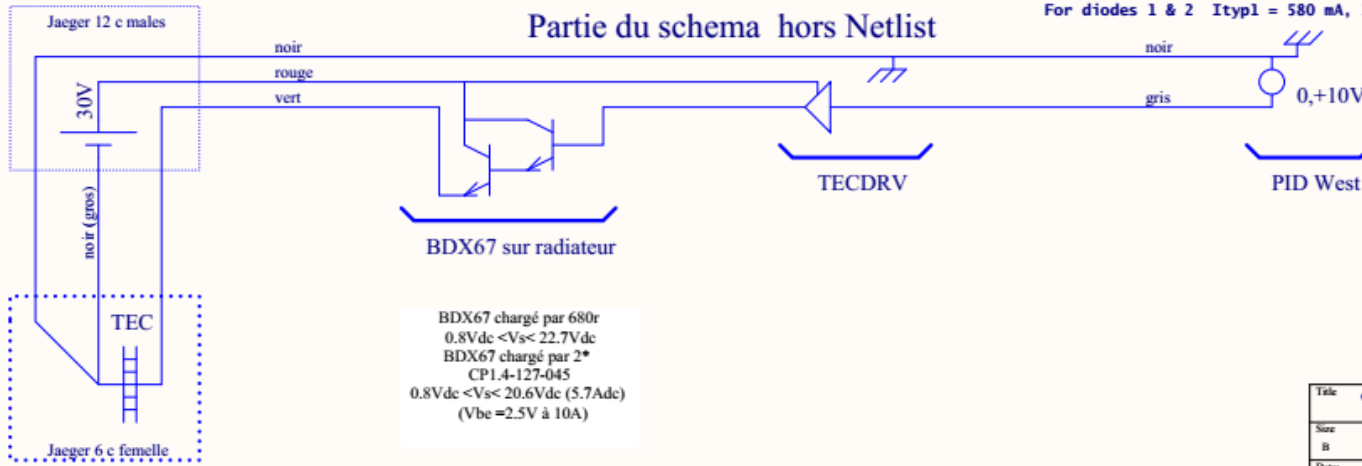
TECDRV seul  
BW petits signaux : 230kHz

There are 6 units like this for the TECs (=Peltiers) in the PID rack .  
Two are for laser diodes D1 and D2  
Two are for each Xtal  
One was intended for Laser head, but unused.  
One is not used

A faire:  
Placer sur toutes  
les voies "cristal"  
des fuses 3AT

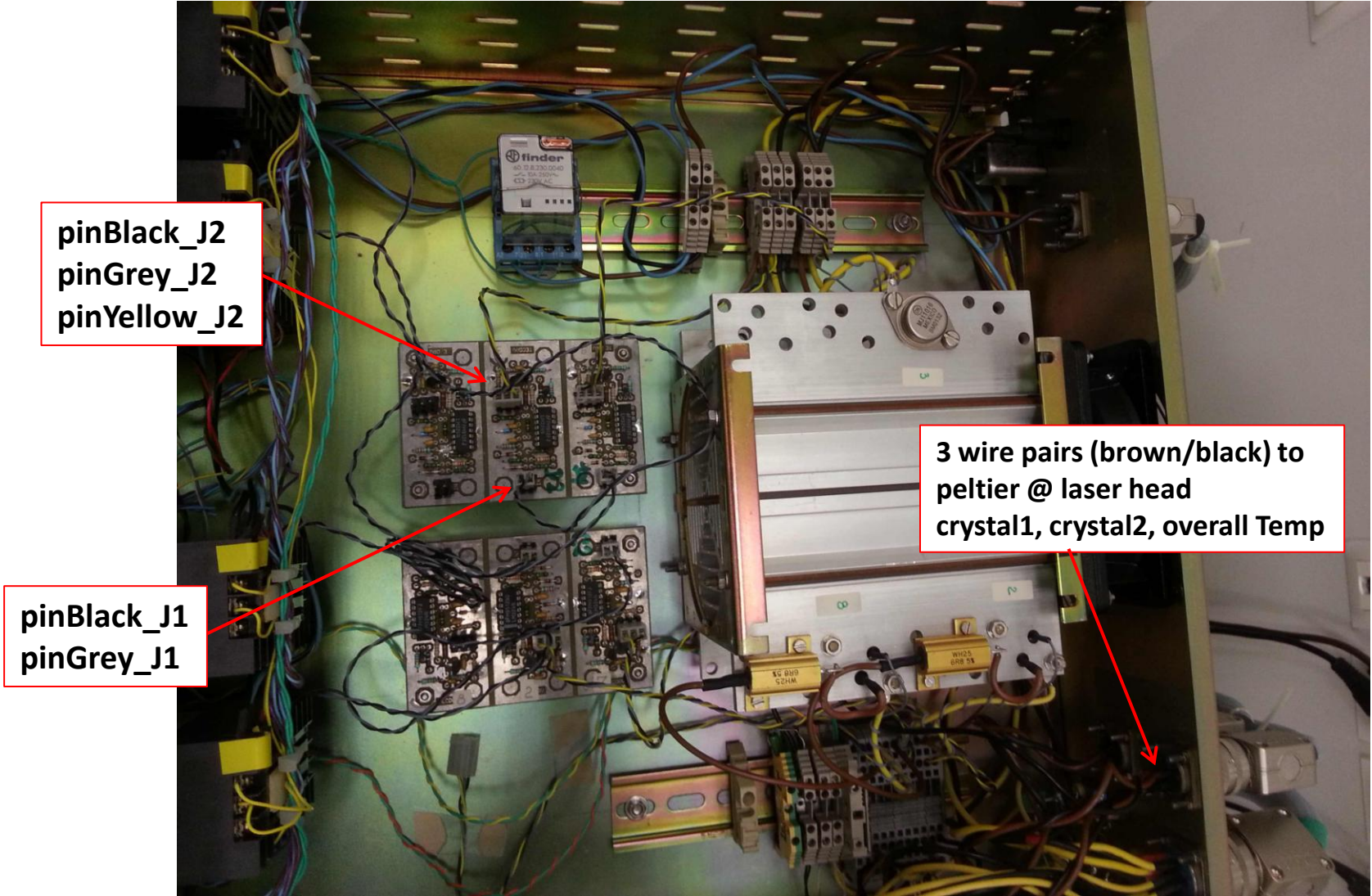
For Xtals 1 & 2  $I_{max}=2A$ ,  $I_{typ}=.7A$   
Vxtal typical = 7.3V at Xtal, 7.5V in PID rack  
For diodes 1 & 2  $I_{typ1} = 580 mA$ ,  $I_{typ2} = 2.7 A$ ,  $V_{typ} = 6V$

Partie du schema hors Netlist



BDX67 chargé par 680r  
 $0.8Vdc < V_s < 22.7Vdc$   
BDX67 chargé par 2\*  
CP1.4-127-045  
 $0.8Vdc < V_s < 20.6Vdc (5.7Ade)$   
( $V_{be} = 2.5V$  à  $10A$ )

Title		
TECDRV		
Size	Number	Revision
B		
Date:	21/07/2008	Sheet of
File:	C:\84\HEMAS\งาน\laser20w\TECDRV	Drawn By:



pinBlack\_J2  
pinGrey\_J2  
pinYellow\_J2

pinBlack\_J1  
pinGrey\_J1

3 wire pairs (brown/black) to  
peltier @ laser head  
crystal1, crystal2, overall Temp