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<b>Technical Note    LIGO-T990047-00-D    06/23/99</b>
<b>The LHO 2k IFO PSL BURT Setup</b>
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*Distribution of this draft:*  
Detector

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# 1 The PSL BURT Setup

BURT is the EPICS utility used to backup and restore the settings of various modules in the 2X5 PSL electronics rack. This document describes how to save the PSL settings prior to a shutdown of the laser. The document assumes that the PSL operator is already logged on and is familiar with some aspects of the UNIX operating system.

Commands issued by the operator are highlighted **thus**.

## 2 Backing Up The LHO 2k IFO PSL IOC

The following steps should be performed, from a CDSnet computer, in order to obtain a backup of the current PSL settings.

- Issue the command **xhost + hanford1**.
- Log onto hanford1.
- Issue the command **setenv DISPLAY host:0.0**, where “host” is the name of the CDSnet computer that you are logged on from.

At this stage the EPICS environment should be setup by the operator issuing the command:

```
setup epics/release/r3.12.2.baja47.tornado
```

After issuing the above command, you should see the following on the screen:

```
Setup for SparcWorks complete.  
Setup for GNU Tools complete.  
Setup for Tornado 1.0.1 Complete.  
Setup for epics 3.12.2 Baja47 Solaris Complete.  
Epics r3.12.2 Baja47 Tornado setup complete.
```

Due to a quirk in the EPICS setup, the following command should also be issued.

```
setup vw
```

The computer should reply with:

```
Setup for VxWorks 5.2 for M68k complete.
```

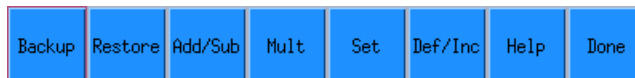
The operator should change directory to where the PSL BURT files are located.

```
cd /opt/CDS/a/epics/apple/Hanford/w2kPsl/burt/rel
```

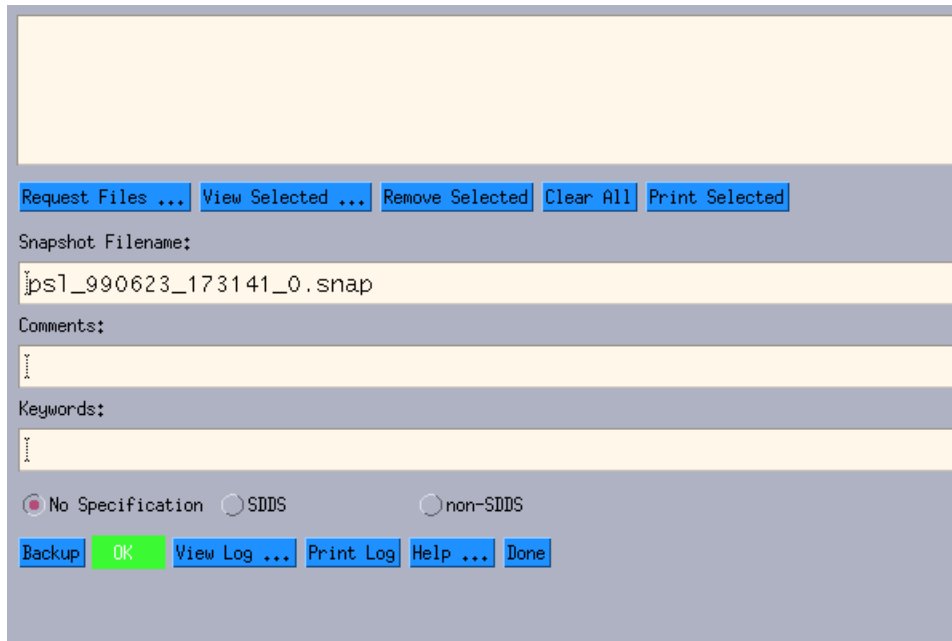
The operator is now in a position to save the PSL settings. Issue the command to start the backup and restore tool.

```
burtgoeey &
```

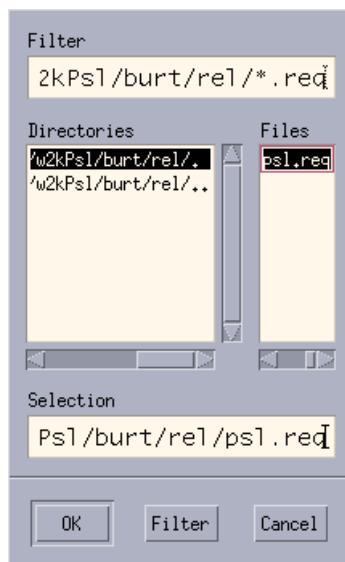
The following window should appear on the screen.



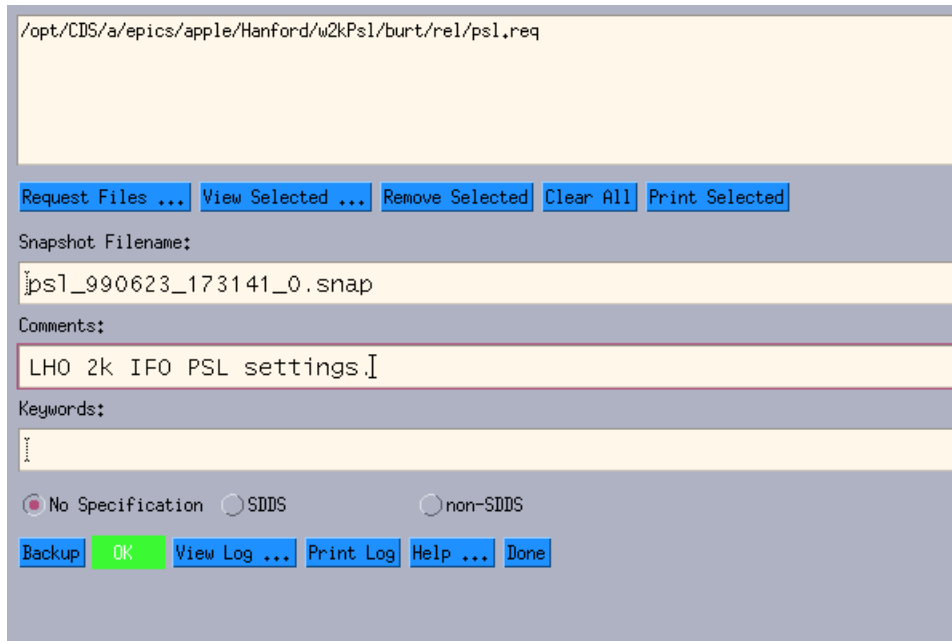
Depress the “Backup” button to bring up the following window.



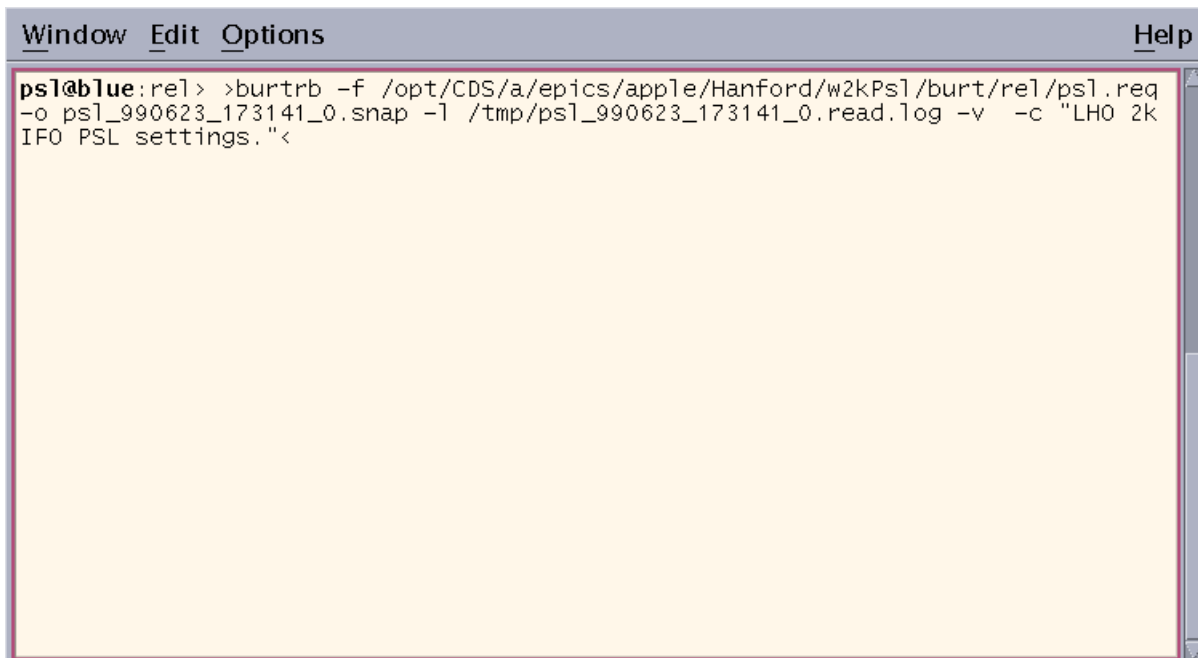
The “request” file should now be selected. Depress the “Request Files ...” button to bring up the following window.



Highlight the “request” file which contains the settings to be saved. The PSL request file `psl.req` contains all the settings for all the servo cards employed by the PSL. The output of the backup request is to write a “snap” file — in this example the snap file is called `psl_990623_173141_0.snap`. Comments and keywords can be entered in the appropriate areas, if desired, as shown below.



The “Backup” button should now be depressed to save the PSL settings. The window in which the burtgoeoy command was entered, should appear something like:



The result of the above will be a “snap” file called psl\_990623\_173141\_0.snap

### 3 Request Files

The following is the PSL request file "psl.req". At the time of writing this document, the request file was located under /opt/CDS/a/epics/apple/Hanford/w2kPsl/burt/rel.

```
H2:PSL-FSS_PHCON
H2:PSL-FSS_PHFLIP
H2:PSL-FSS_RFADJ
H2:PSL-FSS_VCOTESTSW
H2:PSL-FSS_VCOWIDESW
H2:PSL-FSS_VCOMODLEVEL
H2:PSL-FSS_RAMP
H2:PSL-FSS_INOFFSET
H2:PSL-FSS_MGAIN
H2:PSL-FSS_SLOWDC
H2:PSL-FSS_SW1
H2:PSL-FSS_SW2
H2:PSL-FSS_FASTGAIN
H2:PSL-PMC_PHCON
H2:PSL-PMC_PHFLIP
H2:PSL-PMC_RFADJ
H2:PSL-FSS_RAMP
H2:PSL-PMC_INOFFSET
H2:PSL-PMC_GAIN
H2:PSL-PMC_RAMP
H2:PSL-PMC_SW1
H2:PSL-PMC_SW2
H2:PSL-PMC_BLANK
H2:PSL-ISS_SW1
H2:PSL-ISS_ISET
H2:PSL-ISS_SW2
H2:PSL-ISS_GAIN
```

### 4 Snap Files

The following is the snap file resulting from the backup request outlined in this document.

```
--- Start BURT header
Time: Tue Jun 23 17:34:14 1999
Login ID: psl (PSL account)
Eff UID: 1006
Group ID: 10
Keywords:
Comments: LHO 2k IFO PSL settings.
Type: Absolute
Directory /opt/CDS/a/epics/apple/Hanford/w2kPsl/burt/rel
Req File: /opt/CDS/a/epics/apple/Hanford/w2kPsl/burt/rel/psl.req
--- End BURT header
H2:PSL-FSS_PHCON 1 3.2600000000000000e+00
H2:PSL-FSS_PHFLIP 1 180
H2:PSL-FSS_RFADJ 1 6.0000000000000000e+00
H2:PSL-FSS_VCOTESTSW 1 BLANK
```

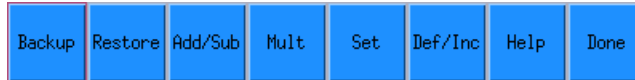
```

H2:PSL-FSS_VCOWIDESW 1 WIDEBAND
H2:PSL-FSS_VCOMODLEVEL 1 5.000000000000000e+00
H2:PSL-FSS_RAMP 1 ACQUIRE
H2:PSL-FSS_INOFFSET 1 -1.754000000000000e-01
H2:PSL-FSS_MGAIN 1 1.350873999999999e+00
H2:PSL-FSS_SLOWDC 1 1.101003885269165e+00
H2:PSL-FSS_SW1 1 NORMAL
H2:PSL-FSS_SW2 1 DISABLED
H2:PSL-FSS_FASTGAIN 1 3.900000000000000e+00
H2:PSL-PMC_PHCON 1 4.727800000000000e+00
H2:PSL-PMC_PHFLIP 1 180
H2:PSL-PMC_RFADJ 1 5.000000000000000e+00
H2:PSL-FSS_RAMP 1 ACQUIRE
H2:PSL-PMC_INOFFSET 1 -2.797000000000000e+00
H2:PSL-PMC_GAIN 1 7.000000000000000e+00
H2:PSL-PMC_RAMP 1 -2.531575679779053e+00
H2:PSL-PMC_SW1 1 OFF
H2:PSL-PMC_SW2 1 OFF
H2:PSL-PMC_BLANK 1 NORMAL
H2:PSL-ISS_SW1 1 OFF
H2:PSL-ISS_ISET 1 -7.999999999999991e+00
H2:PSL-ISS_SW2 1 OFF
H2:PSL-ISS_GAIN 1 0.000000000000000e+00

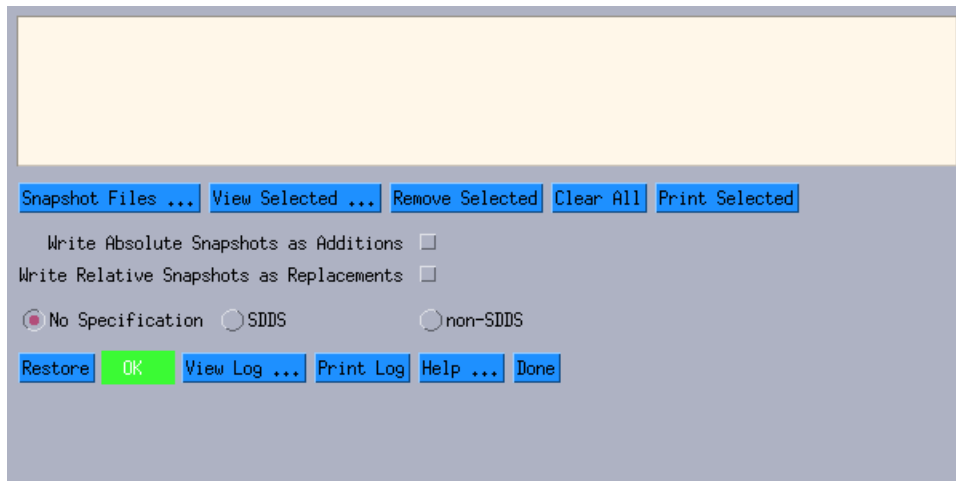
```

## 5 Restoring The LHO 2k IFO PSL Settings

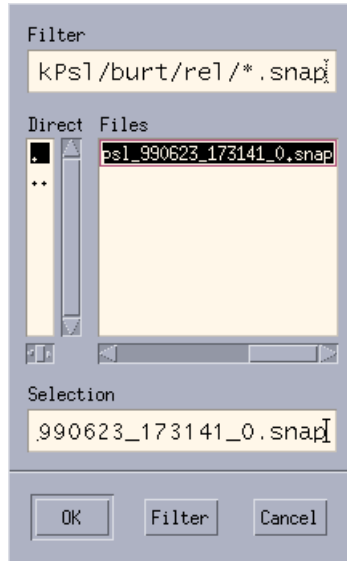
The following steps should be performed in order to restore the PSL settings from a BURT snap file. The burtgoeoy screen should be brought up as described above.



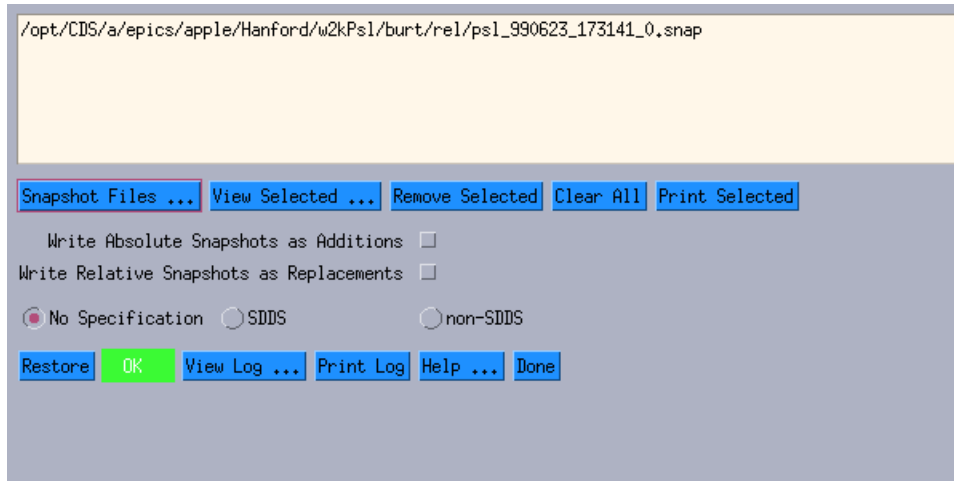
Depress the “Restore” button to bring up the following window.



The “snap” file containing the settings to be restored should now be decided on. Depress the “Snapshot Files ...” button to bring up the following window.



Highlight the “snap” file which contains the settings to be restored. In this example, the snap file is called psl\_990623\_173141\_0 .snap. The previous window should now look like:



Depress the “Restore” button to load the settings saved in the snap file. The window in which the burtgoeey command was issued, should appear something like:

```
ps1@blue:rel> >burtwb -f /opt/CDS/a/epics/apple/Hanford/w2kPs1/burt/rel/ps1_9906  
23_173141_0.snap -l /tmp/ps1_990623_173510_0.write.log -o /tmp/ps1_990623_173510  
_0.nowrite.snap -v <
```