

# SPES PROJECT

## **LAMBDA ESS Power Supply Installation and Configuration Procedure on Fedora Core 8 Linux**

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- Project Only
  - All
  - Project Director
  - Technical Director
  - Technical Integration Manager

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### Revision History

Revision	Date	Prepared by	Description
0	25 August 2008	Mauro Giacchini	Original Issue

REVIEWED:

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Lead Controls Engineer

APPROVED:

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## **1. Introduction**

### **1.1 Identification**

This document is the installation procedure for the EPICS Lambda ESS Power Supply device support module on Fedora Core 8 Linux. The ESS device support module implements an interface to EPICS.

This document describes the installation of the ESS device support module under EPICS R3.14.9, running on Fedora Core 8 2.6.23.1-42.

### **1.2 Purpose**

The purpose of this document is to define a set of prerequisites and reproducible steps that must be carried out in order to install the ESSLAMB (mean ESS-Lambda) device support module with EPICS R3.14.9 on a Fedora Core 8 2.6.23.1-42 platform.

### **1.3 Document Overview**

Section 2 lists the names and locations of referenced documents.

Section 3 lists the hardware and software prerequisites which must be in place prior to carrying out the installation.

Section 4 defines the steps which must be carried out in order to install the software.

### **1.4 Abbreviations**

EPICS	Experimental Physics and Industrial Control System
RTS	The DeviceMaster RTS family of device server enables browser-based remote port/device monitoring and configuration and provides an application software platform for local processing. The DeviceMaster RTS product is a network-attached solid-state embedded device server that delivers exceptional price, performance and reliability. RS-232/422/485 serial devices can be network-enabled with the DeviceMaster RTS device serve

### **1.5 Definitions**

None

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## 2. Referenced Documents

### 2.1 External Documents

EPICS: Input/Output Controller Application  
Developer's Guide, Release 3.14.9

EPICS Record Reference Manual, EPICS Release 3.14

Control RTS User's Guide

LAMBDA ESS User's Guide

### 2.2 Web-Site References

EPICS web site:

<http://www.aps.anl.gov/epics/>

EPICS web site at LNL:

<http://www.lnl.infn.it/~epics/>

Control web site:

<http://www.control.com/products/family/dmrts>

LAMBDA web site:

[http://www.lambda-hp.com/product\\_html/esspower.htm](http://www.lambda-hp.com/product_html/esspower.htm)

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### 3. Prerequisites

#### 3.1 Hardware Prerequisites

There must be a minimum of one ESS connected to the computer system through the Control RTS.

#### 3.2 Software Prerequisites

##### 3.2.1 Linux and EPICS

The Fedora Core 8 Linux operating system must have been previously installed. Note: the software should work on any Linux distro, we only run in on Fedora.

The NSLINK software by Control has to be installed and setup. EPICS 3.14.9 must have been installed. Also, the Stream v.2.3 and Asyn v.4.9 modules driver must be installed. MEDM and VDCT may help to test the installation.

##### 3.2.2 Installation tar-ball

An installation tar-ball must be available in the Spes File Server Repository, containing the following files:

- *ESSLAMB\_dd\_mm\_yy.tar.gz*

### 4. Installation

#### 4.1 Pre-Installation Steps

Ensure that you have installed EPICS 3.14.9.

Using the installed NSLINK software select the RS232 port using:

nslinktool-> Config Driver->Edit and tick on the selected port. Restart the driver and verify the new port configuration.

1. Ensure that you have the appropriate EPICS environment variables setup, and a modified /etc/profile as follows:

```
export EPICS_HOST_ARCH=linux-x86
```

2. Make immediately available the new set-up:

```
$ source /etc/profile
```

#### 4.2 ESSLAMB device support module Installation

The ESSLAMB device software is built by carrying out the following steps:

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1. Obtain the ESSLAMB\_ *dd\_mm\_yy.tar.gz*. From ther Spes File Server.
2. Untar the ball
3. Change to the directory which contains the driver:

```
$ cd ESSLAMB
```

4. Adjust the configuration files to pint out the right installation places:.

```
$ cd configure
$ vi RELEASE
....
EPICS_BASE=/opt/epics/base-3.14.9
ASYN=/opt/epics/modules/asyn-4.9
STREAM=/opt/epics/modules/StreamDevice
```

5. Save the modified RELEASE file.
6. Going up to re-build

```
$ cd ../
$ make clean all
```

7. Check the output from the “make” command for errors. In particular, check for error messages that might indicate unsupported device types or record types.
8. The default configurations about the port used have to be adjusted modifying the *st.cmd*.

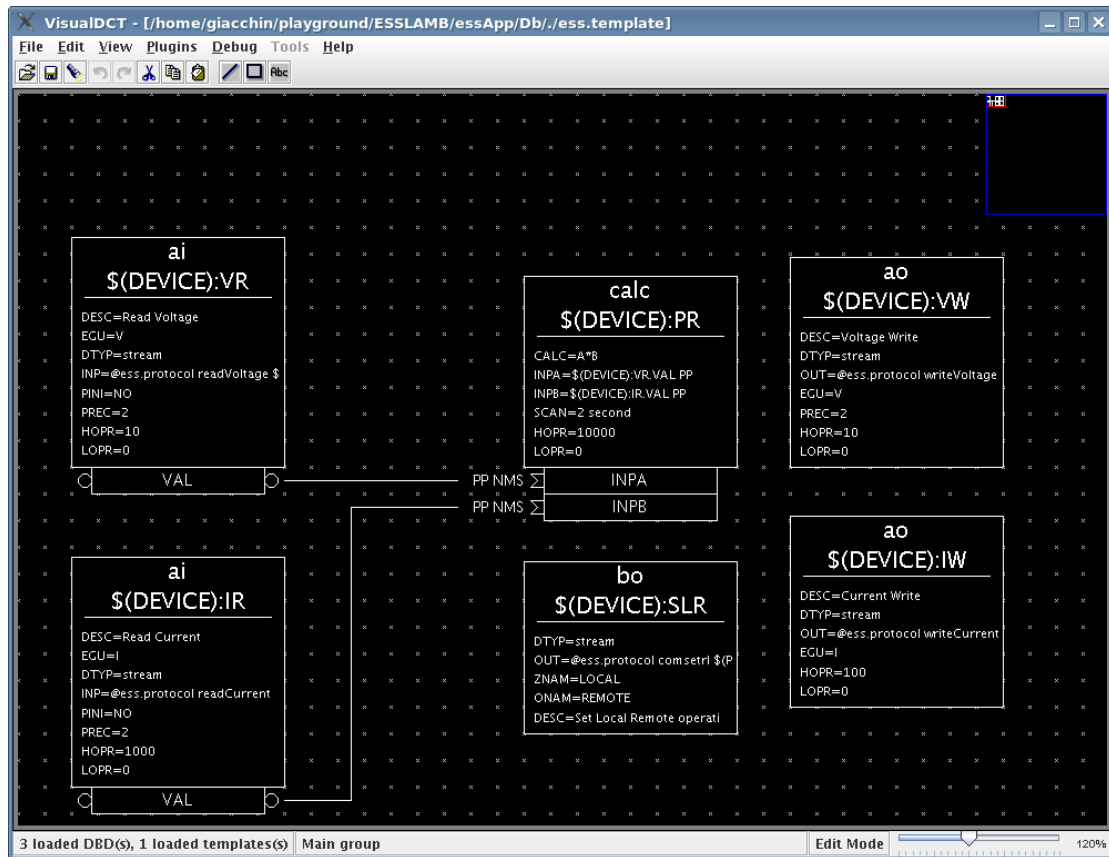
```
$ cd configure
$ vi ./iocBoot/iocess/st.cmd
....
## Load record instances and pass the RS232 address
dbLoadRecords("db/ess.template","DEVICE=ES1,PORT=L1")

## Pass the RS232 port address to Asyn module
drvAsynSerialPortConfigure("L1","/dev/ttySI1",0,0,0)
```

### 4.3 Post-Installation Steps

There are no post-installation steps required for the ESSLAMB driver itself. However, you may have a look to the database using VDCT: that's look like:

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If the MEDM display manager is not yet installed, it is suggested that this be installed to facilitate testing of EPICS running with the ESSLAMB driver.

#### 4.4 Using LAMBDA ESS Power Supply

Start-up the IOC:

```
$ cd ESSLAMB/iocBoot/iocess
$ ./st.cmd
```

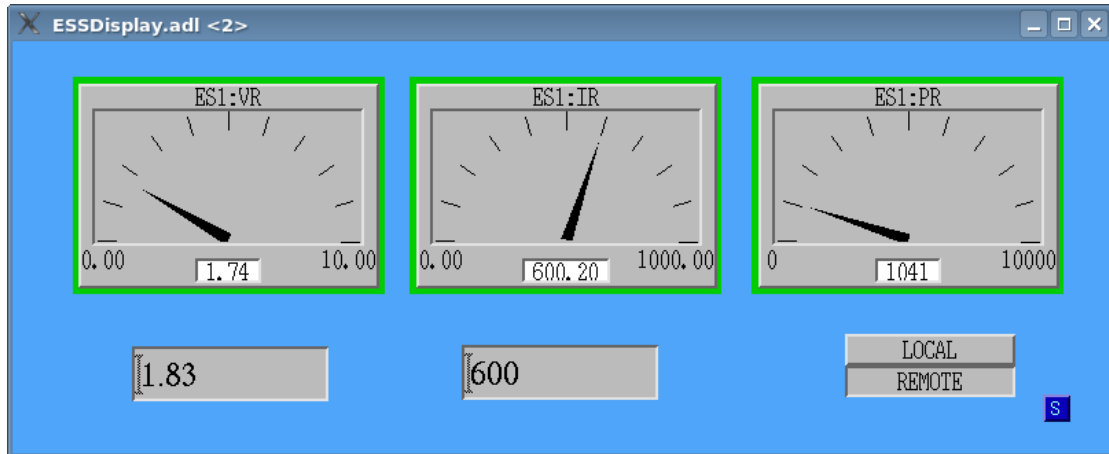
(Check for error messages after starting the IOC with the “./st.cmd” command.)

Start-up the MEDM panel by a script:

```
$ cd ESSLAMB/medm
$ ./medm_to_ess
```

the follow MEDM panel appear:

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The IOC should now be installed and running. Entering “exit” will terminate the ioc.