USER_RESTORE

Overview

This application allows a user to restore the positions of all motors and LVDTs to a configuration that has previously been saved by either this application or MOTORTEST. The current configuration of motor and LVDT positions is displayed in the display window. After opening a saved configuration file, any differences between the configuration file and the current device positions are highlighted in color. The user may then decide to restore all of the motor positions (available to all users) or restore the motor positions one by one (authorized users only).

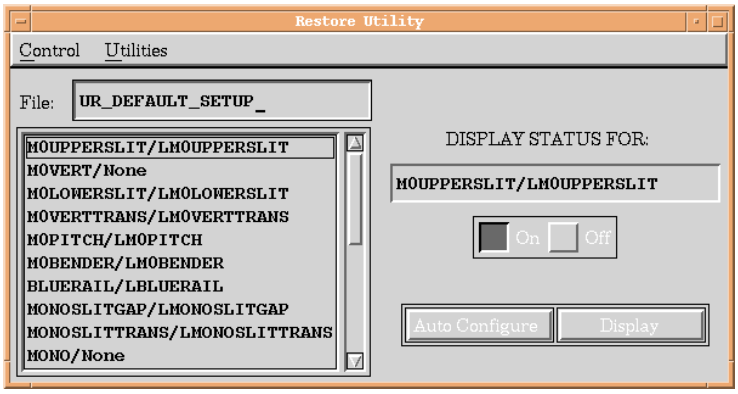
Quick Reference for Users

This section provides simple instructions for the USER_RESTORE functions that are most relevant to users.

1. To run USER_RESTORE, type USER_RESTORE at the VMS prompt:

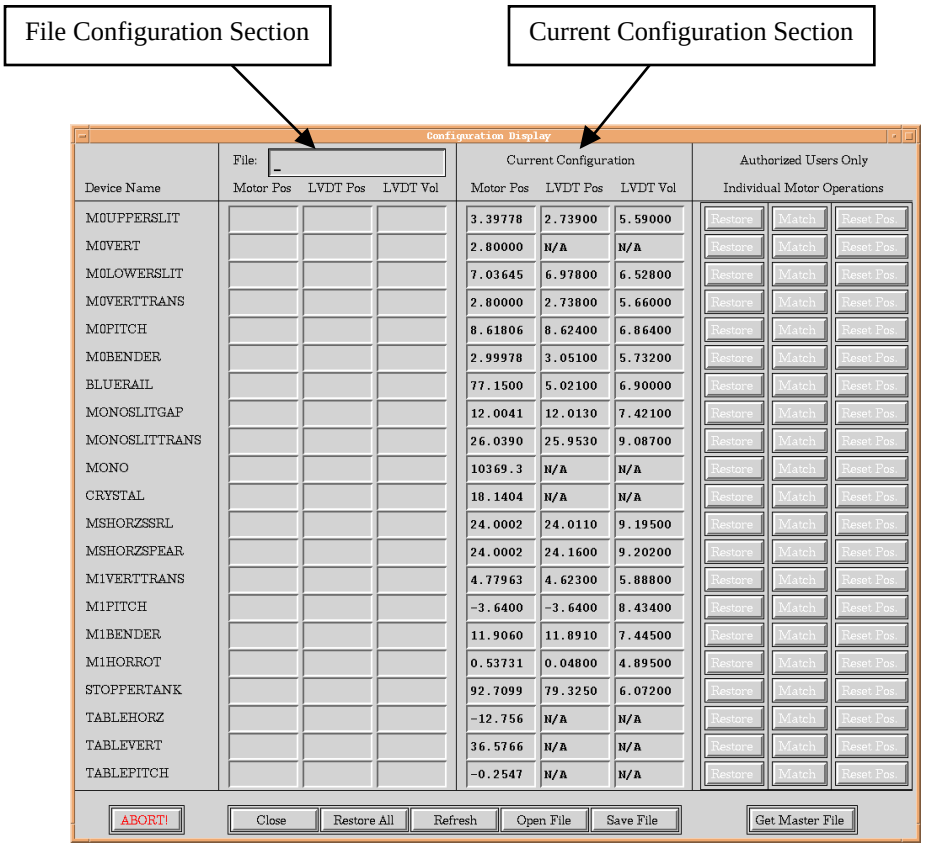
   $ USER_RESTORE

   The Setup Window and Display Window will appear.



Setup Window

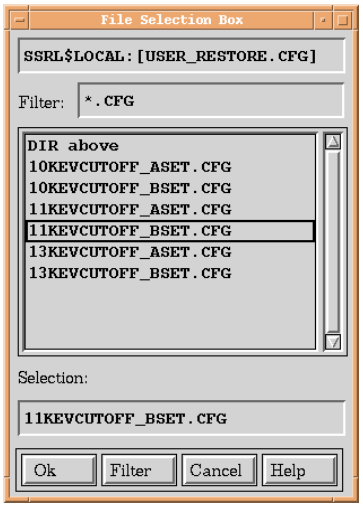
The Setup Window displays the list of motors that can be selected and deselected for restoration. In most cases, the pre-selected list of motors is sufficient, and this window can be ignored.



Display Window

In the Display Window, the current configuration is displayed in the middle. The file configuration is displayed to the left of the current configuration. If no file has been opened, this section is left blank.

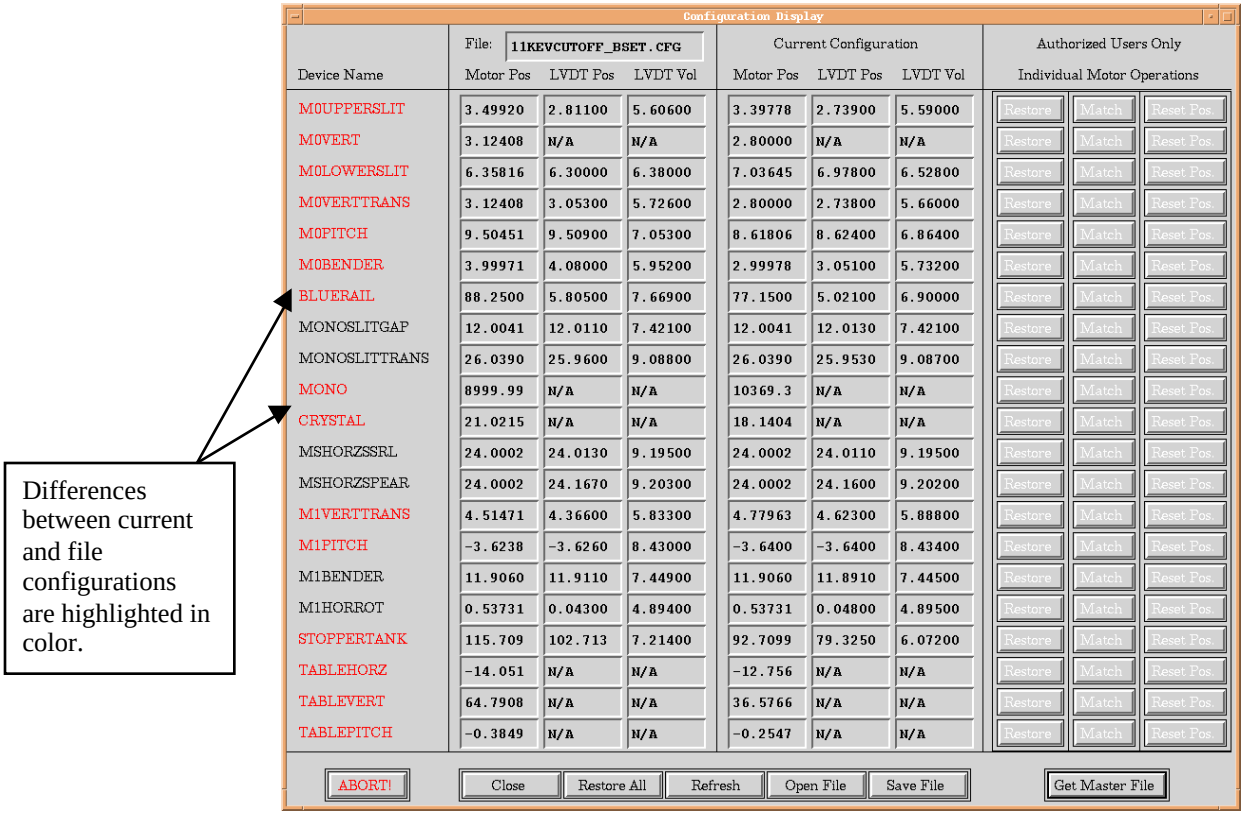
2. Click on either the **Open File** or **Get Master File** buttons to choose the restoration file.



File Selection Box

The names of the master files indicate the cutoff energy of the configuration as well as the crystal set being used. For example, to change to the 11 keV cutoff while using crystal set B, select the 11KEVCUTOFF_BSET.CFG master file.

3. After selecting a file and clicking the **Ok** button, the positions that were saved in the file will appear in the display window.



Display Window after a configuration file has been opened

4. To restore the current configuration to the configuration in the file, click on the **Restore All** button.

Note: Before restoring any configuration, USER_RESTORE closes M0TOPSLT. When it closes, it hits a hardware limit and gives an error message that says, "Error moving M0TOPSLT. Continue restoring?" Click the "Ok" button to continue restoring. M0TOPSLT is moved to the saved position after all other motors have been restored.

To highlight differences between the saved configuration and the current configuration, the device names in the left-hand column of the display window are color-coded.

Black – The motor is currently at the same position as in the saved configuration and the current LVDT position/voltage is within tolerance of the saved LVDT position/voltage.
Red – The motor is currently at a position different from the saved position.

Blue – The difference between the LVDT's current position/voltage and its saved position/voltage is greater than the allowed tolerance, but the motor's current position is the same as the saved position.
White – The motor's current scale is different from the scale that has been saved. No operations are available if the motor's scale is different from the saved scale.

In-Depth Reference

In order to run USER_RESTORE, a command file must be executed when the user logs in to the beam line computer. Using a privileged account, edit the SSRL$LOCAL:[MANAGER]SSRL$LOGIN.COM file and add the following command:

```
$ @SSRL$LOCAL:[USER_RESTORE]USER_RESTORE_CONFIG.COM
```

By executing USER_RESTORE_CONFIG.COM:
1. A subdirectory of the login directory, [.USER_RESTORE_FILES], is created if necessary. This is the default location for configuration files.
2. The following logical is assigned:
   - UR_DEFAULT_SETUP – default setup file which contains the list of motors and LVDTs to display
3. The following symbol is assigned:
   - USER_RESTORE – runs the USER_RESTORE executable

Basic Operation
1. Run USER_RESTORE by typing USER_RESTORE at the VMS prompt:

   ```
   $ USER_RESTORE
   ```

2. To select the motors and LVDT-Motor pairs to be displayed, close the Display Window by clicking on the **Close** button. To select a motor, highlight the selection in the scroll list and, if necessary, click the **On** button. Deselect motors by clicking the **Off** button.
   Note: The default setup already contains the beamline motors commonly involved in configuration changes. Motor/LVDT-Motor selection is only necessary if the user wishes to change the configuration of a subset of these motors.
3. Click on the **Display** button to re-open the display window if necessary.
4. Click on **Open** or **Get Master File** to select a saved file containing the desired configuration information and click **Ok** in the file selection box to open the file.
5. To restore all motor positions, click on the button labeled **Restore All**.
6. If you are an authorized user, to restore motor positions individually, click on the **Restore** button corresponding to the motor that is to be restored.

Note: When **Restore All** is pressed, the M0TOPSLT motor is moved to -2.0 before any other motors are restored. After M0TOPSLT is closed, all other motors appearing in the display window are then restored to their file positions. Finally, M0TOPSLT is reopened to the position stored in the configuration file.

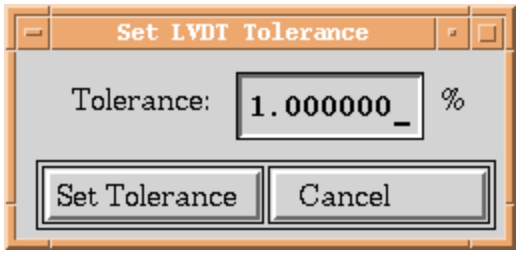
Saving and Restoring Custom Configurations
To save the current configuration, press the **Save** button located at the bottom of the Display Window and either select an existing file to overwrite, or enter in a new file name.

To restore one of these custom configurations, first restore the appropriate master file (i.e., the master file with the desired cutoff energy and crystal set) and then restore the custom configuration.

Setup Window Menu Choices

- **Control Menu**
  - **Open** – Opens an ASCII text file containing the list of motors and LVDT-Motor pairs to select from and flags indicating whether or not (1 or 0) to display that particular device or device pair.
  - **Save** – Saves the current list of motors, LVDTs, and the display flag for each device or pair of devices to an ASCII text file specified by the user.
  - **Exit** – Exits the application.

- **Utilities Menu**
  - **Set Tolerance** – Provides a text field for the user to enter a new tolerance value. The tolerance is entered as the allowable percent difference between the saved LVDT position and the current LVDT position.



Set Tolerance Window

Setup Window Controls

- **On/Off –** These buttons indicate whether or not to display the device that is currently highlighted in the scroll list.
- **AutoConfigure -** Creates a new list of devices to select from by finding all motors and, if applicable, their associated LVDT partners.
- **Display -** Opens the display window and displays the current positions of the selected motors and LVDTs.

Display Window Controls (Available to all users)

- **Abort** – Aborts all actions.
- **Close -** Closes the display window.

- **Restore All -** Restores all motors whose current position differs from the position in the saved configuration file.
- **Refresh -** Updates the current configuration information display for all selected motors and LVDTs.
- **Open File -** Opens a configuration file, created by either this application or the MOTORTEST application, and displays the positions for all selected motors and LVDTs that have been saved in the file. Default directory is the [.USER_RESTORE_FILES] subdirectory.
- **Save File -** Saves the current configuration to an ASCII text file.
- **Get Master File –** Opens a configuration file, created by either this application or the MOTORTEST application, and displays the positions for all selected motors and LVDTs that have been saved in the file. Default directory is the master directory where all master configuration files are stored.

Display Window Controls (Available to authorized users only)

- **Restore -** Restores the position of the corresponding motor if different from the position in the configuration file.
- **Match** - If the current LVDT position differs from the LVDT saved position, moves the motor until the current LVDT position is within the user-specified tolerance of the saved LVDT position.
- **Reset Pos.** - Resets the current motor position to the motor position saved in the file.