

Linux Mounting Instructions
OnSpec Electronic, Inc.

REVISION HISTORY		
Date	Version	Reason for Change
June 25, 2001	1.0	First version
June 26, 2001	1.1	Updated with Matt's suggestions
June 26, 2001	1.2	Explained Multi-LUN devices in detail
October 3, 2001	1.3	Changes in /etc/fstab entries
October 5, 2001	1.4	Instructions to access the device under user login

Steps to manually mount a USB Mass Storage device on RedHat Linux 7.1 (Kernel 2.4, KDE and GNOME sessions)

Note:

The following instructions can be applied for USB Mass Storage Devices (Bulk Only Transport Devices) only.

1. Login as **root**.
2. Plug in the device.
3. Go to the Terminal window and make sure it is detected as a SCSI device by typing the command "cat /proc/scsi/scsi". For example the Memory Stick Reader is seen as:

Attached devices:

Host: scsi0 Channel: 00 Id: 00 Lun: 00

Vendor: OEI-USB Model: Memory Stick Rev: 0108

Type: Direct-Access ANSI SCSI revision: 02

4. Create a directory for the device. For example, it can be /root/mnt/memstick for Memory Stick.

Note:

If you are planning to login as a **user** and use the device, you need to create a directory under /home/**user** since the root directory cannot be accessed under a **user** login. For example, if your **user** login is "qasystem", the directory created can be /home/qasystem/memstick.

5. Add this device to the file /etc/fstab in the following syntax:

```
/dev/sdnf      mount-directory      auto noauto,user    0 0
```

where

n - the device index (entered in sequence for each device at /proc/scsi/scsi file as a, b, c, d etc respectively)

f - the partition number if it is a hard disk formatted device. Multi-partitioned devices will have multiple entries. For floppy formatted media, this option is not used (i.e. first device in /proc/scsi/scsi is entered as just /dev/sda).

Depending on the login to be used, the entry for Memory Stick described above is:

```
/dev/sda1      /root/mnt/memstick      auto noauto,user    0 0
```

Or

```
/dev/sda1      /home/qasystem/memstick      auto noauto,user    0 0
```

Since the Memory Stick device in this example is detected as the first SCSI device at /proc/scsi/scsi and the media has hard disk format, the entry in /etc/fstab is sda1. If the device is listed as the second SCSI device and floppy formatted, then the entry will be sdb.

6. Now, the device can be manually mounted using the command "mount mount-dir" from the Terminal Window. Depending on the login to be used, the entry for Memory Stick described above is mounted as:

```
"mount /root/mnt/memstick"
```

Or

```
"mount /home/qasystem/memstick"
```

The device can also be mounted from Desktop by right-clicking on the icon and choosing "Mount".

7. For multi-LUN devices, if the file /proc/scsi/scsi does not show all the LUNs, the non-zero LUNs have to be attached to SCSI bus using the command:

```
echo "scsi add-single-device R C T L" > /proc/scsi/scsi
```

where,

R - SCSI controller number (shown as scsi0, 1 etc in /proc/scsi/scsi file)

C - Channel number - always 0

T - Target number - always 0

L - LUN number

For example, when a 4-in-1 Kiosk is plugged in, the entries in /proc/scsi/scsi will be:

Attached devices:

Host: scsi0 Channel: 00 Id: 00 Lun: 00

Vendor: OEI-USB Model: MMC/SD Rev: 0104

Type: Direct-Access ANSI SCSI revision: 02

LUN 1 can be added to /proc/scsi/scsi, using the command,

```
echo "scsi add-single-device 0 0 0 1" > /proc/scsi/scsi
```

Now, the entries in /proc/scsi/scsi will be:

Attached devices:

Host: scsi0 Channel: 00 Id: 00 Lun: 00

Vendor: OEI-USB Model: MMC/SD Rev: 0104

Type: Direct-Access ANSI SCSI revision: 02

Host: scsi0 Channel: 00 Id: 00 Lun: 01

Vendor: OEI-USB Model: SmartMedia Rev: 0104

Type: Direct-Access ANSI SCSI revision: 02

LUN 2 & LUN 3 can be added in the same way and mounted to give multiple icons.

Note:

1. If USB device is unplugged the old entries in /proc/scsi/scsi may not go away. When the device is re-plugged, there may be ghost entries for the device. The new entries have to be used to mount the device again. This also applies when the system is restarted since the SCSI sequence may vary after restart. So, the mounting has to be done again as per the new sequence.
2. The device can also be manually mounted using the following command from the Terminal window without changing the /etc/fstab file,

```
"mount -t auto /dev/sdnf mount-directory"
```

Depending on the login to be used, the entry for Memory Stick described above is mounted as:

```
"mount -t auto /dev/sda1 /root/mnt/memstick"
```

Or

```
"mount -t auto /dev/sda1 /home/qasystem/memstick"
```

In this method, you may not see the icon on the desktop. But the contents can be accessed from file manager.

3. Even if there is an entry in /etc/fstab, the device may have to be mounted (Step 6 Only) after every restart.
4. Choose the “Unmount” option by right-clicking the icon to flush the cache before removing the media.
5. Media change can be done by unmounting the current media and remounting the device after inserting the new media.