Installing Debian on Plug Computers

This page describes how to install Debian 7 (wheezy) on plug computers, such as the SheevaPlug and GuruPlug.

The following devices are currently supported:

- DreamPlug
- GuruPlug Server Standard
- GuruPlug Server Plus
- SheevaPlug (the SheevaPlug Development Kit)
- SheevaPlug with eSATA
- Seagate FreeAgent DockStar (limited support: only if you added a serial console)

Please read the plug variants page to find out about the status of other plug computers.

The Debian installer doesn't currently support installations to on-board flash storage, but you can use it to install to USB, SD or eSATA. In order to proceed, you will therefore need either a USB stick (or disk), an SD card or an external disk with an eSATA port.

Preparation

Make sure to connect an Ethernet cable to your plug computer (if you haven't already) because the installer will download files from the Internet for the installation.

Upgrading U-Boot

You have to upgrade the u-boot boot loader before you can install Debian. Please visit the page describing the u-boot upgrade process to ensure that you have the right version of u-boot before proceeding with the installation of Debian.

Starting the Installer

First of all, you have to download the

installer. Download the uImage and uInitrd files and store them either on a USB stick, MMC/SD card or a TFTP server:

- DreamPlug: uImage and uInitrd
- GuruPlug: uImage and uInitrd
- SheevaPlug and SheevaPlug variants: uImage and uInitrd

Now connect the install medium (USB stick, SD card or eSATA disk) to your plug computer and connect a mini-USB connector in order to access the serial console. Start your plug computer and a few seconds later you should be able to connect to `/dev/ttyUSB1` with 115200 baud. If you need help accessing the serial console, check out this guide on the Plug Computer wiki. When you get serial output, press a key to interrupt the boot process so you can load the installer.

The instructions for loading the installer depend on where you want to load the installer from. Also note that you may have to replace `fatload` with `ext2load` in case you used the ext2 or ext3 filesystem on your USB stick or MMC card.

Note for GuruPlug and DreamPlug users: MMC/SD cards show up as USB devices. Therefore, if you're using a MMC/SD card, make sure to follow the instructions for USB devices and not for MMC/SD. Furthermore, you'll have to use a different device ID: `0:1` is the internal microSD, `1:1` the external SD card and `2:1` an external USB device, like a USB stick.

- USB: If you stored the installer on a USB stick, please use:

```
usb start
fatload usb 0:1 0x00800000 /uImage
fatload usb 0:1 0x01100000 /uInitrd
```

- SD: for MMC/SD cards, use:

```
mmc init
fatload mmc 0:1 0x00800000 /uImage
fatload mmc 0:1 0x01100000 /uInitrd
```

- TFTP: if you want to load the installer via the network from a TFTP server, use this:

```
setenv serverip 192.168.1.2
setenv ipaddr 192.168.1.147
tftpboot 0x00800000 uImage
tftpboot 0x01100000 uInitrd
```

Of course, you have to replace `192.168.1.2` with the IP address of your TFTP server.

Finally, start the installer:

```
setenv bootargs console=ttyS0,115200n8 base
bootm 0x00800000 0x01100000
```

The Installation

The installation itself should be pretty standard and you can follow the [installation guide](#). The installer knows about all supported plug computers and will create a bootable kernel and ramdisk at the end of the installation. The installer will also offer a partition layout that is known to work. If you want to choose a different layout, make sure that you create a small (ca. 150 MB) `/boot` partition with the `ext2` filesystem.

When the installation is done, you have to configure u-boot so it will automatically boot Debian. Interrupt the boot process of u-boot and enter the following commands. For USB, use this:

```
setenv bootargs_console console=ttyS0,11520
setenv bootcmd_usb 'usb start; ext2load usb
setenv bootcmd 'setenv bootargs $(bootargs_
saveenv
```
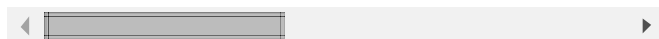
If you're using an SD card, use these commands instead:

```
setenv bootargs_console console=ttyS0,11520
setenv bootcmd_mmc 'mmc init; ext2load mmc
setenv bootcmd 'setenv bootargs $(bootargs_
saveenv
```
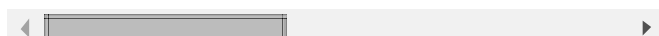
Finally, use these commands to boot from eSATA:

```
setenv bootargs_console console=ttyS0,11520
setenv bootcmd_sata 'ide reset; ext2load id
setenv bootcmd 'setenv bootargs $(bootargs_
saveenv
```
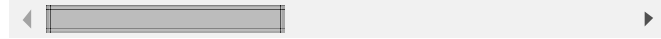
The commands above use `0:1` to refer to your boot partition. This indicates device `0` and partition `1`. Depending on your configuration and device, you may have to specify a different boot partition. Please refer to the explanation on how to find out your boot partition in case your device does not boot with `0:1`.

Your plug computer is now ready to boot Debian from USB, SD or eSATA and it will automatically do so whenever you turn on the plug computer. You can now type the following command to boot:

```
run bootcmd
```

Go back to my Debian on Plug Computer page.

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