

SheevaPlug ????????? Linux ??????CPU ?? Marvell ?????? ARM ?????????

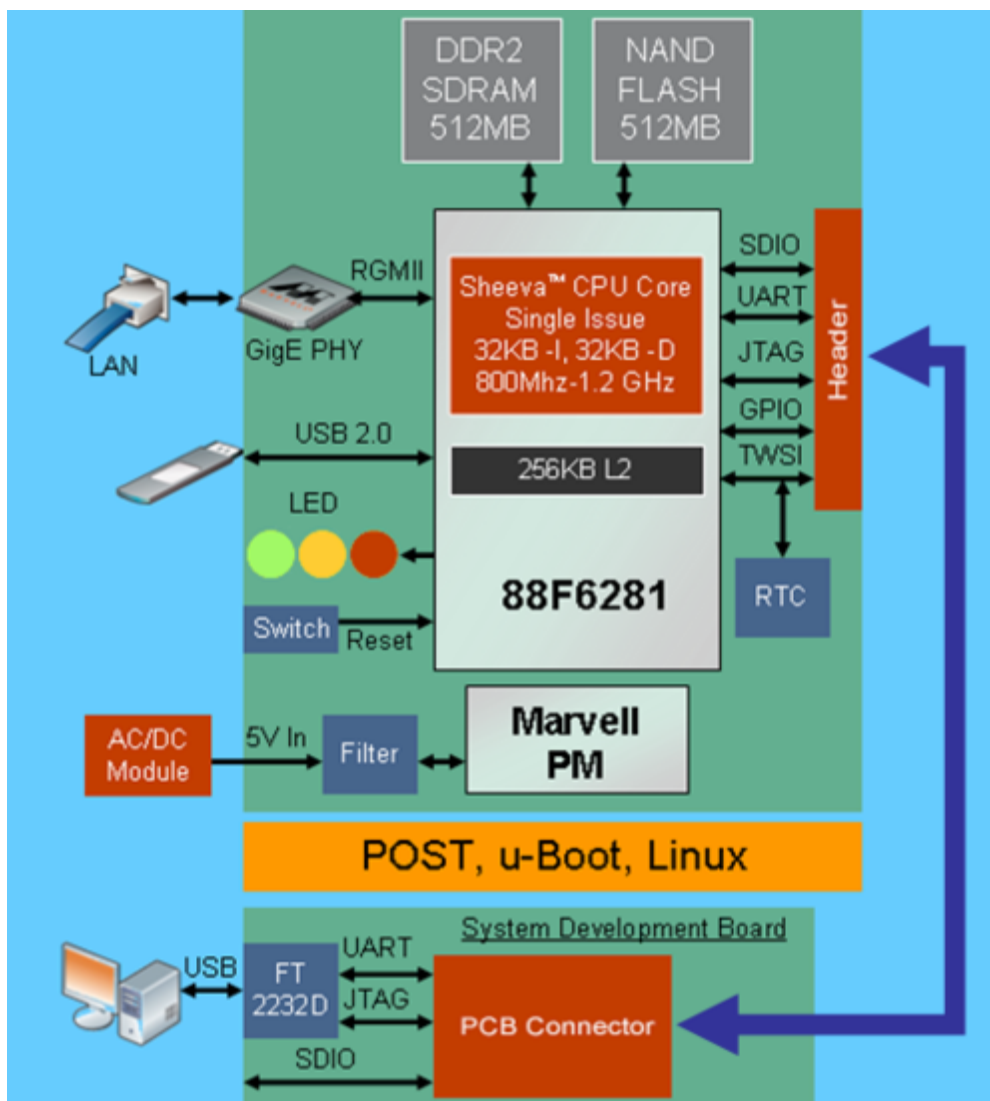


- CPU ???Marvell RISC Architecture ARM 1.2 GHz
- RAM ???DDR2 512MB
- NAND FLASH?512MB
- ??????USB2.0 x1, SDHC x1
- 1000/100 ??
- ?????? 5W
- ??? Linux 2.6.x
- ?????? Ubuntu
- ?????Gigabit Network x1, JTAG mini USB
- ?????110mm (L) x 69.5mm (W) x 48.5 mm (H)

Plug Computer ????????? Linux?? IP PBX ??????????
 Marvell ????????????????? Plug Computer???????????????????????????????????? "free your imagination"??????
<http://plugcomputer.org/> ?

???? Plug Computer ????????????????????????????????????? ARM CPU ????????? x86 ?????????
 ????????? Plug Computer ??? Asterisk ????????? FreePBX ?????????????????
<http://www.plugpbx.org/>

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SheevaPlug ?????

- [\[Blog@OSSLab\]????5W????IP PBX??](#)
- [SheevaPlug ???](#)

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- [Install Debian on sheevaplug](#)
- [Install ubuntu](#)
- [Plug Computer Console](#)
- [PlugPBX](#)
- [PlugPBX ???? - Sipp](#)
- [SheevaPlug ???](#)
- [U-Boot ??](#)
- [??uboot](#)

- [Install Asterisk/FreePBX on SheevaPlug](#)

???
 ??? SheevaPlug ?????? Ubuntu ?????? 512MB NAND Flash?
 SSH Login: **root / nosoup4u**
 ?? mini-USB ?? SheevaPlug
 ?? SheevaPlug ?????????????????????? Ubuntu??????
 1. ??? DHCP Server???????? IP ?????
 Ubuntu ?????? DHCP ?????? DHCP Server ? IP ?????? SheevaPlug ??? IP ?????? PuTTY ?
 SSH ??? SheevaPlug?
 2. ? Windows ?????? FTDI 2232 ?????? Windows ??? mini-USB cable ? RS232 ??? SheevaPlug??
 Linux ?????? [Serial terminal](#)?

????????????????????????????????

```
// ?? FTDI 2232 Driver
```

[SheevaPlug_Host_SWsupportPackageWindowsHost1.2.zip](#)

Driver ???????????????? SheevaPlug ??????? WindowsXP ? mini-USB ????? WindowsXP ??????????????????????
 ???WindowsXP ?????????????????????????
 driver?

```
// ????? COM ?????
? SheevaPlug ??????? WindowsXP ? mini-USB ???
WindowsXP > ?? > ?? > ??? > ?????? > ??????? > ???? > ??????
```

??? (COM ? LPT)
--> USB Serial Port (COM9)

NOTE: ?????? COM9????????????????????

```
// ? PuTTY ??????
?? PuTTY?
```

Connection type : Serial
Serial line : COM9
Speed : 115200

??????????????? Enter????????? debian ??????

??? Ubuntu ??????
// ???????

```
root@debian:~# cat /etc/lsb-release
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=9.04
DISTRIB_CODENAME=jaunty
DISTRIB_DESCRIPTION="Ubuntu jaunty (development branch)"
```

```
root@debian:~# uname -a
Linux debian 2.6.22.18 #1 Thu Mar 19 14:46:22 IST 2009 armv5tejl GNU/Linu
```

```
// CPU
```

```
root@debian:~# cat /proc/cpuinfo
Processor      : ARM926EJ-S rev 1 (v5l)
BogoMIPS      : 1192.75
Features       : swp half thumb fastmult edsp
CPU implementer : 0x56
CPU architecture: 5TE
CPU variant    : 0x2
CPU part       : 0x131
CPU revision   : 1
Cache type     : write-back
Cache clean    : cp15 c7 ops
Cache lockdown : format C
Cache format    : Harvard
I size         : 16384
I assoc        : 4
I line length   : 32
I sets         : 128
D size         : 16384
D assoc        : 4
D line length   : 32
D sets         : 128
```

```
Hardware       : Feroceon-KW
Revision       : 0000
Serial         : 0000000000000000
```

```
// RAM
```

```
root@debian:~# cat /proc/meminfo
MemTotal:      515636 kB
MemFree:       486128 kB
Buffers:        0 kB
Cached:        12352 kB
SwapCached:     0 kB
Active:        10400 kB
Inactive:       6316 kB
SwapTotal:      0 kB
SwapFree:       0 kB
Dirty:          0 kB
Writeback:      0 kB
AnonPages:      4380 kB
Mapped:         2804 kB
Slab:           9844 kB
```

```

SReclaimable: 796 kB
SUnreclaim: 9048 kB
PageTables: 216 kB
NFS_Unstable: 0 kB
Bounce: 0 kB
CommitLimit: 257816 kB
Committed_AS: 8576 kB
VmallocTotal: 122880 kB
VmallocUsed: 564 kB
VmallocChunk: 122296 kB

```

// Installed Package

```

root@debian:~# dpkg -l
Desired=Unknown/Install/Remove/Purge/Hold
| Status=Not/Inst/Cfg-files/Unpacked/Failed-cfg/Half-inst/trig-aWait/Trig-pend
|/ Err?=(none)/Hold/Reinst-required/X=both-problems (Status,Err: uppercase=bad)
||/ Name          Version          Description
+++-----
ii adduser        3.110ubuntu2    add and remove users and groups
ii apt            0.7.19ubuntu1   Advanced front-end for dpkg
ii apt-utils      0.7.19ubuntu1   APT utility programs
ii base-files     5ubuntu1        Debian base system miscellaneous files
ii base-passwd    3.5.19          Debian base system master password and group
ii bash           3.2-4ubuntu1    The GNU Bourne Again SHell
ii belocs-locales 2.4-4ubuntu2    tools for compiling locale data files
ii bsduutils      1:2.14-1ubuntu Basic utilities from 4.4BSD-Lite
ii busybox-initra 1:1.10.2-2ubun Standalone shell setup for initramfs
ii bzip2          1.0.5-1ubuntu1  high-quality block-sorting file compressor -
ii ca-certificate 20080809        Common CA certificates
ii console-setup  1.28ubuntu4     Set up the font and the keyboard on the cons
ii console-termin 4.26-2.1        Fixed-width fonts for fast reading on the Li
ii coreutils      6.10-6ubuntu1   The GNU core utilities
ii cpio           2.9-14ubuntu1   GNU cpio -- a program to manage archives of
ii cron           3.0pl1-105ubun management of regular background processing
ii cryptsetup     2:1.0.6-7ubunt configures encrypted block devices
ii dash           0.5.4-12ubuntu POSIX-compliant shell
ii debconf        1.5.24ubuntu2   Debian configuration management system
ii debconf-i18n   1.5.24ubuntu2   full internationalization support for debcon
ii debianutils    2.30ubuntu2     Miscellaneous utilities specific to Debian
ii dhcp3-client   3.1.1-5ubuntu1  DHCP client
ii dhcp3-common   3.1.1-5ubuntu1  common files used by all the dhcp3* packages
ii diff           2.8.1-12ubuntu File comparison utilities
ii dmsetup        2:1.02.27-4ubu The Linux Kernel Device Mapper userspace lib
ii dosfstools     3.0.1-1         utilities for making and checking MS-DOS FAT
ii dpkg           1.14.24ubuntu1  Debian package management system
ii e2fslibs       1.41.3-1ubuntu ext2 filesystem libraries
ii e2fsprogs      1.41.3-1ubuntu ext2/ext3/ext4 file system utilities

```

- ii eject 2.1.5+deb1+cvs ejects CDs and operates CD-Changers under Li
- ii file 4.26-2 Determines file type using "magic" numbers
- ii findutils 4.4.0-2ubuntu3 utilities for finding files--find, xargs
- ii gcc-4.3-base 4.3.2-2ubuntu1 The GNU Compiler Collection (base package)
- ii gnupg 1.4.9-3ubuntu1 GNU privacy guard - a free PGP replacement
- ii gpgv 1.4.9-3ubuntu1 GNU privacy guard - signature verification t
- ii grep 2.5.3~dfsg-6ub GNU grep, egrep and fgrep
- ii gzip 1.3.12-6ubuntu The GNU compression utility
- ii hashalot 0.3-5 Read and hash a passphrase
- ii hostname 2.95 utility to set/show the host name or domain
- ii ifupdown 0.6.8ubuntu15 high level tools to configure network interf
- ii initramfs-tool 0.92bubuntu18 tools for generating an initramfs
- ii initscripts 2.86.ds1-61ubu Scripts for initializing and shutting down t
- ii iproute 20080725-2 networking and traffic control tools
- ii iputils-ping 3:20071127-1 Tools to test the reachability of network ho
- ii kbd 1.14.1-4ubuntu Linux console font and keytable utilities
- ii klibc-utils 1.5.14-1~exp1u small utilities built with klibc for early b
- ii klogd 1.5-5ubuntu2 Kernel Logging Daemon
- ii language-pack- 1:8.10+2008102 translation updates for language English
- ii language-pack- 1:8.10+2008102 translations for language English
- ii laptop-detect 0.13.7ubuntu1 attempt to detect a laptop
- ii less 418-1 Pager program similar to more
- ii libacl1 2.2.47-2 Access control list shared library
- ii libatm1 2.4.1-17.2 shared library for ATM (Asynchronous Transfe
- ii libattr1 1:2.4.43-1 Extended attribute shared library
- ii libblkid1 1.41.3-1ubuntu block device id library
- ii libbz2-1.0 1.0.5-1ubuntu1 high-quality block-sorting file compressor l
- ii libc6 2.9-0ubuntu7 GNU C Library: Shared libraries
- ii libcap1 1:1.10-14build support for getting/setting POSIX.1e capabil
- ii libcomerr2 1.41.3-1ubuntu common error description library
- ii libcups2 1.3.9-11ubuntu Common UNIX Printing System(tm) - libs
- ii libcurl3-gnutl 7.18.2-8ubuntu Multi-protocol file transfer library (GnuTLS
- ii libdb4.2 4.2.52+dfsg-5 Berkeley v4.2 Database Libraries [runtime]
- ii libdb4.6 4.6.21-12 Berkeley v4.6 Database Libraries [runtime]
- ii libdb4.7 4.7.25-6ubuntu Berkeley v4.7 Database Libraries [runtime]
- ii libdevmapper1. 2:1.02.27-4ubu The Linux Kernel Device Mapper userspace lib
- ii libedit2 2.11~20080614- BSD editline and history libraries
- ii libfribidi0 0.10.9-1 Free Implementation of the Unicode BiDi algo
- ii libgcc1 1:4.3.2-2ubunt GCC support library
- ii libgcrypt11 1.4.1-2ubuntu1 LGPL Crypto library - runtime library
- ii libgnutls26 2.4.2-4 the GNU TLS library - runtime library
- ii libgpg-error0 1.4-2ubuntu7 library for common error values and messages
- ii libgpm2 1.20.4-3ubuntu General Purpose Mouse - shared library
- ii libidn11 1.10-3 GNU libidn library, implementation of IETF I
- ii libkeyutils1 1.2-9 Linux Key Management Utilities (library)
- ii libklibc 1.5.14-1~exp1u minimal libc subset for use with initramfs
- ii libkrb53 1.6.dfsg.4~bet MIT Kerberos runtime libraries
- ii libldap-2.4-2 2.4.11-0ubuntu OpenLDAP libraries
- ii liblocale-gett 1.05-4build1 Using libc functions for internationalizatio
- ii liblockfile1 1.08-3 NFS-safe locking library, includes dotlockfi

- ii liblzo2-2 2.03-1 data compression library
- ii libmagic1 4.26-2 File type determination library using "magic"
- ii libncurses5 5.7+20081220-1 shared libraries for terminal handling
- ii libncursesw5 5.7+20081220-1 shared libraries for terminal handling (wide)
- ii libnewt0.52 0.52.2-11.3ubu Not Erik's Windowing Toolkit - text mode win
- ii libpam-modules 1.0.1-5ubuntu1 Pluggable Authentication Modules for PAM
- ii libpam-runtime 1.0.1-5ubuntu1 Runtime support for the PAM library
- ii libpam0g 1.0.1-5ubuntu1 Pluggable Authentication Modules library
- ii libpcre3 7.8-2ubuntu1 Perl 5 Compatible Regular Expression Library
- ii libpopt0 1.14-4 lib for parsing cmdline parameters
- ii libreadline5 5.2-3build1 GNU readline and history libraries, run-time
- ii libsasl2-2 2.1.22.dfsg1-2 Cyrus SASL - authentication abstraction libr
- ii libsasl2-modul 2.1.22.dfsg1-2 Cyrus SASL - pluggable authentication module
- ii libselinux1 2.0.65-5 SELinux shared libraries
- ii libsepol1 2.0.30-2 Security Enhanced Linux policy library for c
- ii libslang2 2.1.3-3ubuntu3 The S-Lang programming library - runtime ver
- ii libsqlite3-0 3.5.9-6 SQLite 3 shared library
- ii libss2 1.41.3-1ubuntu command-line interface parsing library
- ii libssl0.9.8 0.9.8g-15ubunt SSL shared libraries
- ii libstdc++6 4.3.2-2ubuntu1 The GNU Standard C++ Library v3
- ii libtalloc1 1.2.0~git20080 hierarchical pool based memory allocator
- ii libtasn1-3 1.5-1 Manage ASN.1 structures (runtime)
- ii libtext-charwi 0.04-5build1 get display widths of characters on the term
- ii libtext-iconv- 1.7-1build1 converts between character sets in Perl
- ii libtext-wrapi1 0.06-6 internationalized substitute of Text::Wrap
- ii libusb-0.1-4 2:0.1.12-13 userspace USB programming library
- ii libuuid1 1.41.3-1ubuntu universally unique id library
- ii libvolume-id1 136-4 volume identification library
- ii libwbclient0 2:3.2.5-3ubunt client library for interfacing with winbind
- ii libwrap0 7.6.q-16 Wietse Venema's TCP wrappers library
- ii libx11-6 2:1.1.5-2ubunt X11 client-side library
- ii libx11-data 2:1.1.5-2ubunt X11 client-side library
- ii libxau6 1:1.0.4-1 X11 authorisation library
- ii libxcb-xlib0 1.1-1.1 X C Binding, Xlib/XCB interface library
- ii libxcb1 1.1-1.1 X C Binding
- ii libxdmcp6 1:1.0.2-3 X11 Display Manager Control Protocol library
- rc libxext6 2:1.0.4-1 X11 miscellaneous extension library
- rc libxmuu1 2:1.0.4-1 X11 miscellaneous micro-utility library
- ii locales 2.7.9-5 common files for locale support
- ii lockfile-progs 0.1.11ubuntu2 Programs for locking and unlocking files and
- ii login 1:4.1.1-6ubunt system login tools
- ii logrotate 3.7.7-2ubuntu1 Log rotation utility
- ii lsb-base 3.2-20ubuntu2 Linux Standard Base 3.2 init script function
- ii lsb-release 3.2-20ubuntu2 Linux Standard Base version reporting utilit
- ii lzma 4.43-14ubuntu1 Compression method of 7z format in 7-Zip pro
- ii makedev 2.3.1-88 creates device files in /dev
- ii mawk 1.3.3-13ubuntu a pattern scanning and text processing langu
- ii mime-support 3.44-1 MIME files 'mime.types' & 'mailcap', and sup
- ii mktemp 1.5-9 tool for creating temporary files
- ii module-init-to 3.3-pre11-4ubu tools for managing Linux kernel modules

- ii mount 2.14-1ubuntu4 Tools for mounting and manipulating filesystems
- ii mtd-tools 20080508-1ubuntu1 dummy package for transition purposes
- ii mtd-utils 20080508-1ubuntu1 Memory Technology Device Utilities
- ii nano 2.0.7-4 free Pico clone with some new features
- ii ncurses-base 5.7+20081220-1 basic terminal type definitions
- ii ncurses-bin 5.7+20081220-1 terminal-related programs and man pages
- ii net-tools 1.60-21ubuntu1 The NET-3 networking toolkit
- ii netbase 4.34ubuntu1 Basic TCP/IP networking system
- ii netcat 1.10-38 TCP/IP swiss army knife -- transitional pack
- ii netcat-traditional 1.10-38 TCP/IP swiss army knife
- ii ntpdate 1:4.2.4p4+dfsg client for setting system time from NTP servers
- ii openssh-client 1:5.1p1-4ubuntu1 secure shell client, an rlogin/rsh/rcp replacement
- ii openssh-server 1:5.1p1-4ubuntu1 secure shell server, an rshd replacement
- ii openssl 0.9.8g-15ubuntu1 Secure Socket Layer (SSL) binary and related
- ii passwd 1:4.1.1-6ubuntu1 change and administer password and group data
- ii perl-base 5.10.0-19ubuntu1 minimal Perl system
- ii procps 1:3.2.7-9ubuntu1 /proc file system utilities
- ii python 2.5.2-3ubuntu1 An interactive high-level object-oriented language
- ii python-minimal 2.5.2-3ubuntu1 A minimal subset of the Python language (default)
- ii python2.5 2.5.4-0ubuntu1 An interactive high-level object-oriented language
- ii python2.5-mini 2.5.4-0ubuntu1 A minimal subset of the Python language (very small)
- ii readline-common 5.2-3build1 GNU readline and history libraries, common files
- ii samba 2:3.2.5-3ubuntu1 a LanManager-like file and printer server for Unix
- ii samba-common 2:3.2.5-3ubuntu1 Samba common files used by both the server and the client
- ii sed 4.1.5-8 The GNU sed stream editor
- ii startup-tasks 0.3.9-8 definitions of essential tasks to run on startup
- ii sudo 1.6.9p17-1ubuntu1 Provide limited super user privileges to specific users
- ii syslogd 1.5-5ubuntu2 System Logging Daemon
- ii system-service 0.3.9-8 definitions of essential system services
- ii sysv-rc 2.86.ds1-61ubuntu1 System-V-like runlevel change mechanism
- ii sysvinit-utils 2.86.ds1-61ubuntu1 System-V-like utilities
- ii tar 1.20-1 GNU version of the tar archiving utility
- ii tasksel 2.73ubuntu13 Tool for selecting tasks for installation on Ubuntu
- ii tasksel-data 2.73ubuntu13 Official tasks used for installation of Debian
- ii tcpd 7.6.q-16 Wietse Venema's TCP wrapper utilities
- ii tzdata 2008i-3 time zone and daylight-saving time data
- ii ubuntu-keyring 2008.03.04 GnuPG keys of the Ubuntu archive
- ii ubuntu-minimal 1.131 Minimal core of Ubuntu
- ii ucf 3.0011 Update Configuration File: preserve user changes
- ii udev 136-4 rule-based device node and kernel event manager
- ii unzip 5.52-12ubuntu1 De-archiver for .zip files
- ii update-inetd 4.31 inetd configuration file updater
- ii upstart 0.3.9-8 event-based init daemon
- ii upstart-compat 0.3.9-8 compatibility for System-V-like init
- ii upstart-logd 0.3.9-8 boot logging daemon
- ii util-linux 2.14-1ubuntu4 Miscellaneous system utilities
- ii uuid-runtime 1.41.3-1ubuntu1 universally unique id library
- ii vim-common 2:7.2.079-1ubuntu1 Vi IMproved - Common files
- ii vim-tiny 2:7.2.079-1ubuntu1 Vi IMproved - enhanced vi editor - compact version
- ii whiptail 0.52.2-11.3ubuntu1 Displays user-friendly dialog boxes from shell

```
rc x11-common 1:7.4~5ubuntu1 X Window System (X.Org) infrastructure
ii xkb-data 1.3-2ubuntu5 X Keyboard Extension (XKB) configuration data
ii zlib1g 1:1.2.3.3.dfsg compression library - runtime
```

```
// Disk usage
```

```
root@debian:~# df -h
```

```
Filesystem      Size  Used Avail Use% Mounted on
rootfs          507M  148M  360M  30% /
tmpfs           252M    0 252M   0% /lib/init/rw
varrun          252M   36K 252M   1% /var/run
varlock         252M    0 252M   0% /var/lock
udev            252M   8.0K 252M   1% /dev
tmpfs           252M    0 252M   0% /dev/shm
tmpfs           252M    0 252M   0% /var/cache/apt
```

```
root@debian:~# mount
```

```
rootfs on / type rootfs (rw)
tmpfs on /lib/init/rw type tmpfs (rw,nosuid,mode=0755)
/proc on /proc type proc (rw,noexec,nosuid,nodev)
sysfs on /sys type sysfs (rw,noexec,nosuid,nodev)
varrun on /var/run type tmpfs (rw,nosuid,mode=0755)
varlock on /var/lock type tmpfs (rw,noexec,nosuid,nodev,mode=1777)
udev on /dev type tmpfs (rw,mode=0755)
tmpfs on /dev/shm type tmpfs (rw,nosuid,nodev)
devpts on /dev/pts type devpts (rw,noexec,nosuid,gid=5,mode=620)
tmpfs on /var/cache/apt type tmpfs (rw,noatime)
```

```
// top
```

```
top - 02:28:18 up 2:24, 1 user, load average: 0.22, 0.15, 0.10
Tasks: 34 total, 1 running, 33 sleeping, 0 stopped, 0 zombie
Cpu(s): 0.0%us, 0.0%sy, 0.0%ni,100.0%id, 0.0%wa, 0.0%hi, 0.0%si, 0.0%st
Mem: 515636k total, 30784k used, 484852k free, 0k buffers
Swap: 0k total, 0k used, 0k free, 13104k cached
```

```
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
1 root 18 0 2896 1896 576 S 0.0 0.4 0:51.94 init
2 root 10 -5 0 0 0 S 0.0 0.0 0:00.00 kthreadd
3 root 34 19 0 0 0 S 0.0 0.0 0:00.00 ksoftirqd/0
4 root 10 -5 0 0 0 S 0.0 0.0 0:00.00 events/0
5 root 20 -5 0 0 0 S 0.0 0.0 0:00.01 khelper
50 root 16 -5 0 0 0 S 0.0 0.0 0:00.00 kblockd/0
53 root 10 -5 0 0 0 S 0.0 0.0 0:00.00 khubd
55 root 10 -5 0 0 0 S 0.0 0.0 0:00.06 kmmcd
69 root 25 0 0 0 0 S 0.0 0.0 0:00.00 crypto
70 root 25 0 0 0 0 S 0.0 0.0 0:00.00 crypto_ret
75 root 20 0 0 0 0 S 0.0 0.0 0:00.00 pdflush
```

```

76 root    15  0  0  0  0 S 0.0 0.0 0:00.86 pdflush
77 root    15 -5  0  0  0 S 0.0 0.0 0:00.00 kswapd0
78 root    15 -5  0  0  0 S 0.0 0.0 0:00.00 aio/0
215 root   11 -5  0  0  0 S 0.0 0.0 0:00.06 mtddblockd
216 root   20 -5  0  0  0 S 0.0 0.0 0:00.00 nftld
239 root   11 -5  0  0  0 S 0.0 0.0 0:00.00 kcryptd/0

```

??? UBoot ??

U-Boot 1.1.4 (Mar 19 2009 - 16:06:59) Marvell version: 3.4.16

NOTE:

??? UBoot ????? SDHC ????????? UBoot ??????? [U-Boot ??](#)

FAQ

????? U-Boot ?????? NAND ? Ubuntu ???????

Ans : ????? U-Boot ??????????

Marvell>> resetenv

Marvell>> reset

...

...

Marvell>> setenv bootcmd 'nand read.e 0x800000 0x100000 0x400000; bootm 0x800000'

Marvell>> setenv bootargs console=ttyS0,115200

mtddparts=nand_mtd:0x400000@0x100000(ulmage),0x1fb00000@0x500000(rootfs) rw root=/dev/mtddblock1
rw

Marvell>> saveenv

Marvell>> reset

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- [\[PlugPBX\] SheevaPlug Setup](#)
- [\[PlugComputer\] PlugWiki](#)
- [\[PlugComputer\] Forum](#)
- [Upgrading SheevaPlug's U-Boot](#)
- [Debian on Plug Computers like the SheevaPlug](#)
- [A Note On Setting Up the SheevaPlug Linux Plug Computer](#)