

GPS – NTP for Debian

First, install the required Debian package for `gps` and `ntp`:

```
apt-get install gpsd gpsd-clients ntp
add a timeserver to the /etc/ntp-conf
```

I used one from the Phoenix public library

```
#Phoenix Public Library
server ntp2.phoenixpubliclibrary.org
```

Add the `gps` unit to the `ntp.conf`. Mine is a usb GlobalSat BU-353

```
server 127.127.28.0 minpoll 4 maxpoll 4
fudge 127.127.28.0 time1 0.435 refid GPS – Note the 0.435. If you get falseticker, use this to compensate.
```

Do a `dpkg-reconfigure gpsd` and set it to start automatically and use `/dev/ttyUSB0`.

Run `ntp /etc/init.d/ntp restart` to pick up the new configuration.

Do a `ntpq -p` command and you should see something like this:

remote	refid	st	t	when	poll	reach	delay	offset	jitter
-ntp2.phoenixpub	LOCAL(0)	2	u	16	64	377	56.669	98.790	6.263
*SHM(0)	.GPS.	0	l	11	16	377	0.000	1.422	0.120
+li506-17.member	209.51.161.238	2	u	48	64	377	85.030	78.277	60.207
+host2.kingrst.c	50.77.217.185	2	u	51	64	377	90.487	85.512	3.888
*arcdraco.net	149.20.64.28	2	u	62	64	377	24.585	78.555	6.364
-time.gac.edu	18.26.4.105	2	u	58	64	377	91.695	87.659	4.169
192.168.254.255 .	BCST.	16	u	-	64	0	0.000	0.000	0.000

root@Server2:~#

Note the second line `*SHM(0) .GPS. 0 1 11 16 377 0.000 1.422 0.120`

This indicates that the GPS unit is working and locked to multiple satellites. The 0 in the `st` column indicates it is a stratum 0 or atomic clock source. The `when` column indicates the last time it responded. It will increment each time you run the `ntpq -p` command.