

DISCLAIMER

This page, like the rest of the wiki, is not updated frequently. Be sure to check when the last edit was made and read/ask around the forum before considering the details on this page to be accurate

LATEST STABLE BETA

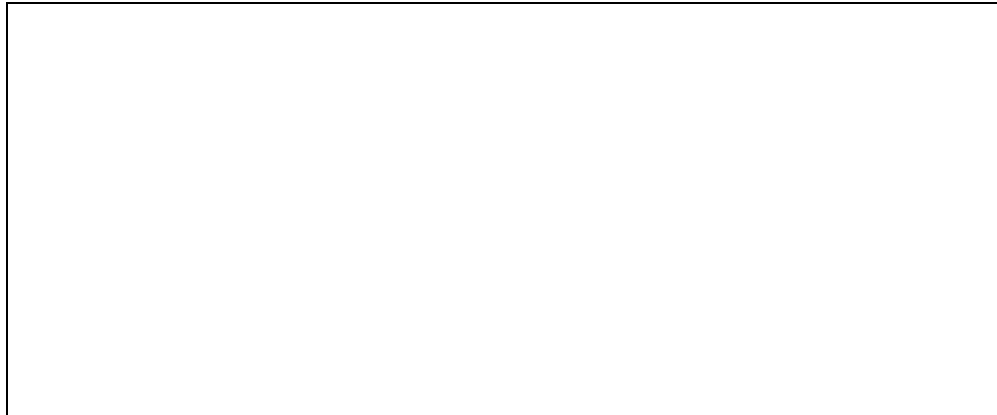
r33006

--EA6500v1 00:35, 7 August 2017 (CEST)

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Overview



Specifications^{ref}	
Release date / price	28 August 2012 / \$199
CPU	Broadcom BCM4706
CPU Speed	600 MHz
Flash ROM	128 MiB (Samsung K9F1G08U0D)
RAM	128 MiB (Hynix H5PS5162GFR-Y5C × 2)
Radios	2.4 GHz bgn: Broadcom BCM4331 5 GHz an+ac: Broadcom BCM4360
WLAN Protocol	a/b/g/n/ac
WLAN Max Speed	450 Mbps + 1300 Mbps (1750 Mbps)
Antenna Location	Internal
Bands	3x3:3 MIMO x 2
Switch	4xGigE LAN, 1xGigE WAN Broadcom BCM53125
USB	2 x USB 2.0
Power	12VDC, 3A Barrel type connector
Stock bootloader	CFE 1.0.37 BCM947XX
Stock firmware kernel	Linux 2.6.22
Default SSID/IP/passwd	CiscoXXXXX 192.168.1.1, <blank>:admin
OUI	C8:D7:19

?WARNING?

HARDWARE VERSION: V1 AND V2

This page is for the EA6500 [V1](#). Currently, there are two versions of the EA6500 router available, the V1 and V2. The contents of this page cannot be used as a guide for the V2. If you have a EA6500 V2, check the hardware specific page or the forum for support

READ!

You should not be installing DD-WRT unless you have done sufficient reading on the process, drawbacks and recovery process listed throughout this page and elsewhere

30-30-30/HARD RESET

According to the [peacock thread](#), EA series routers should never be [hard reset](#) (the infamous [30-30-30](#)). Doing so can erase the CFE (bootloader) and brick your router.

BETA

The DD-WRT firmware for this router, at the time of writing this page was still in beta, so expect things to broken

FILE INTEGRITY

It should be common practice to check the integrity of the files you are using whenever and wherever possible_#

Known issues

- GigE doesn't work at full speeds --[EA6500v1](#) 20:35, 21 July 2017 (CEST)

Pre-installation

Read the following before attempting to install:

- [Peacock thread](#)
- [General installation page](#) (you can just read over the installation steps, specific DOs and DON'Ts for the EA6500V1 will be all over this page)
- [General recovery from a bad flash](#)

OEM Firmware files

Linksys Original FW

Version Download [Checksum Hashes](#)

MD5: CCFBEA9CE39524E35ED2AB4A1683BF86

1.1.27 [Link](#)

SHA-256:

E2A95AA4133C5B5F28D92FE0543CB5486301BCD83A23BF354A74E3B7FCD5162C

MD5:5C8723F9E158A08617B8953BBA9D1D4F

1.1.28 [Link](#)

SHA-256:

E100D438BBB535B8A4827E26BD7522615B195A80DE8F758D89466C554C976F54

MD5: 8E0BBB275331A60D48E45AD2AF0E02AB

1.1.29 [Link](#)

SHA-256:

90E3E68E1C61850F20C50E551816D47D484D7FEB46890F5BC0A0E0DAB3E3BA0B

First-install recommended firmware files

Recommended DD-WRT FW for first-install

Version Download [Checksum Hashes](#)

MD5: 4116608B9A1D2616FCF3551C9AF0837C

fractal [Link 1](#)

r22524

[Link 2](#)

SHA-256:

64CF74E346549805A3AD13943FB3C15B0F3931A992EB9B60CE6543085AD21552

bs [Link 1](#)
r23082

MD5: 80FB817C2DAA19BF120F2E86A52171E5

Link 2 SHA-256:
 FE295CC120722D77A95A80E9C55C81E2ECF37047567AA1FAB0AE2862573D3FB8

Build from the source

? [Building From Source#Building DD-WRT from Source](#)

Install/Upgrade DD-WRT

Prerequisites

- Ethernet cable connected to your EA6500 V1
- Static IP set on your computer
- OEM FW file if you need to downgrade or revert back
- One of the recommended DD-WRT firmware files for the initial flash
- Appropriate recovery tools (TFTP, JTAG etc.)
- Making sure you have the V1 router

Find your hardware version

Before installing, check whether or not your EA6500 is indeed a V1 and not a V2. There are two ways to do this:

Check your stock/OEM firmware version

EA6500	V1	V2
Firmware version	?1.1.29	?1.1.34
Reference	<u>CHANGELOG mirror</u>	<u>CHANGELOG mirror</u>

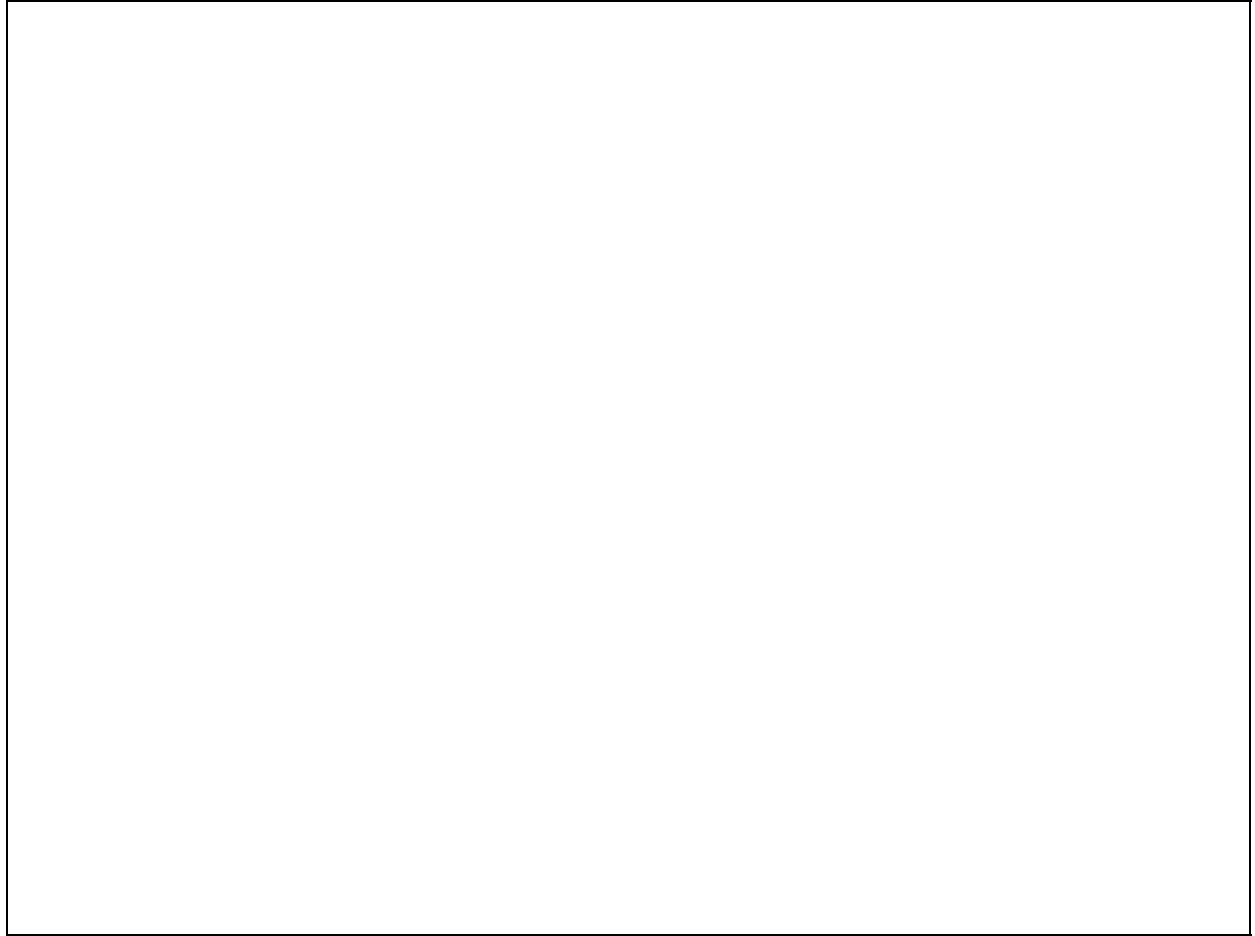
Check the sticker at the bottom of your router

These are what the stickers should say for the two versions:

EA6500	V1	V2	Notes
Model No.	EA6500 V1	EA6500 V2	
FCC ID	Q87-EA6500	Q87-EA6500V2	
IC ID	3839A-EA6500	3839A-EA6500V2	

Linksys_EA6500_V1

Rating*	12V ? 3A	12V ? 3.5A	not definitive
Top right logo*	CISCO	LINKSYS	not definitive



Installing from stock firmware

I've had better success with OEM FW 1.1.27 during the handful of times I had to flash DD-WRT from stock.
--[EA6500v1](#) 00:08, 23 July 2017 (CEST)

1. Go to your router's web interface (usually @192.168.1.1) and log in through the Linksys web page (default password is *admin*)
2. Head over to **Connectivity** under **Router Settings** on the left panel and choose one of the recommended DD-WRT files under firmware upgrade (bigger DD-WRT files may work too)
3. Click **Start** and **Yes** on the consequent dialog to begin the install process. Once done, your router will restart and the total process should take less than 5-10 minutes
4. Head over to 192.168.1.1 and you will be greeted with the Username and Password change page on the DD-WRT firmware (the password you choose here will be the password for telnet too)
5. Done! Check the post-installation section for some useful tips

Post-install to-do (highly recommended)

- **Backup your CFE (bootloader) in case you brick your router. You can do this via the [web interface](#), [telnet/SSH](#) or [JTAG](#)**
- Upgrade to a newer version of DD-WRT after your initial install. Be sure to Reset to Default settings before doing so. Upgrade instructions are mentioned below
- At the time of writing this page, [r32170](#) was the latest firmware that was stable --[EA6500v1](#) 20:16, 21 July 2017 (CEST)

Upgrade from the web interface

1. Go to Administration > Firmware Upgrade
2. Select Reset to Default settings from the drop down menu and select the firmware you wish to upgrade (or downgrade) and click Upgrade
3. Wait a few minutes, **do not turn off or reboot/reset the router until done**
4. You should be greeted with a Username and password change page that appears after your first-install

Upgrade from the CLI

30-30-30/HARD RESET

According to the [peacock thread](#), EA series routers should never be [hard reset](#) (the infamous [30-30-30](#)). NB Doing so can erase the CFE (bootloader) and brick your router.

30-30-30/erase nvram on the EA6500 V1

I personally have not had issues with either doing a 30-30-30 or erasing the NVRAM via the CLI which *** conflicts with the peacock thread. Your mileage will vary and doing so is a risk you have to consider. I suggest keeping hard resort/erasing NVRAM as a last resort and if possible try a TFTP instead --[EA6500v1](#) 23:28, 21 July 2017 (CEST)

1. [SSH/Telnet](#) into your router
2. Change directory from ~ to /tmp by [either](#) of these two:

```
cd ..  
cd /tmp
```
3. Download firmware by:

```
wget <ftp/http/https link to your desired firmware file>
```

4. Wait for download to complete (no progress bar) and check the MD5 hash of the file by:

```
md5sum <filename>
```

5. Upgrade firmware by:

```
write <filename> linux
```

Do not turn off or reboot/reset the router until done

6. **[WARNING; READ NOTES ABOVE]** Erase NVRAM by:

```
erase nvram
```

7. Reboot:

```
reboot
```

Restoring to OEM firmware

Follow the instructions to upgrade either via the DD-WRT [web interface](#) or the [CLI](#), and use one of the [OEM firmware files](#) (select `Reset to Default settings` before clicking Upgrade)

Troubleshooting

Downgrading to an older firmware

Follow the same steps for an upgrade via the [web interface](#) or [CLI](#)

Bootloops/Bricks/Recovery

This is the section of this page that may be outdated or may not have the best solution. With that being said, reading more on this topic is always safer and you should be checking the following before proceeding with the instructions mentioned in this section to make sure these instructions still apply to the EA6500 V1:

- [Recover from a bad flash](#)
- [Peacock thread: Notes 6 and 11 at the very minimum](#)

Recovering via SSH/telnet (soft brick)

A soft brick is when DD-WRT is functioning and when LAN/WAN connection may be fully functional, but you cannot access the web interface and cannot fix whatever you broke or revert back to a non-buggy firmware.

In this case you can either telnet/SSH into your router over a wired connection preferably after setting up a static IP, appropriate gateway IP and subnet mask.

telnet is enabled by default, and SSH may need to be enabled separately. Follow the instructions to [upgrade from CLI](#) and use a stable firmware that has worked for you or is known to be functional

If telnet is broken/disabled and SSH isn't an option either, then do a [30-30-30/hard reset](#) to clear the NVRAM variable that might have broken your setup. This may not work if the firmware is buggy and broken to begin with. And do keep in mind that EA series routers should not be hard reset as mentioned [here](#).

If a hard reset does nothing or seems to risky, try to TFTP the smallest OEM firmware (1.1.27)

Recovering via TFTP (hard brick; bootloops)

This should never be used as a first step if you've bricked your router.

Follow note 6 to find out if your router is even TFTP'able, and note 11 to TFTP.

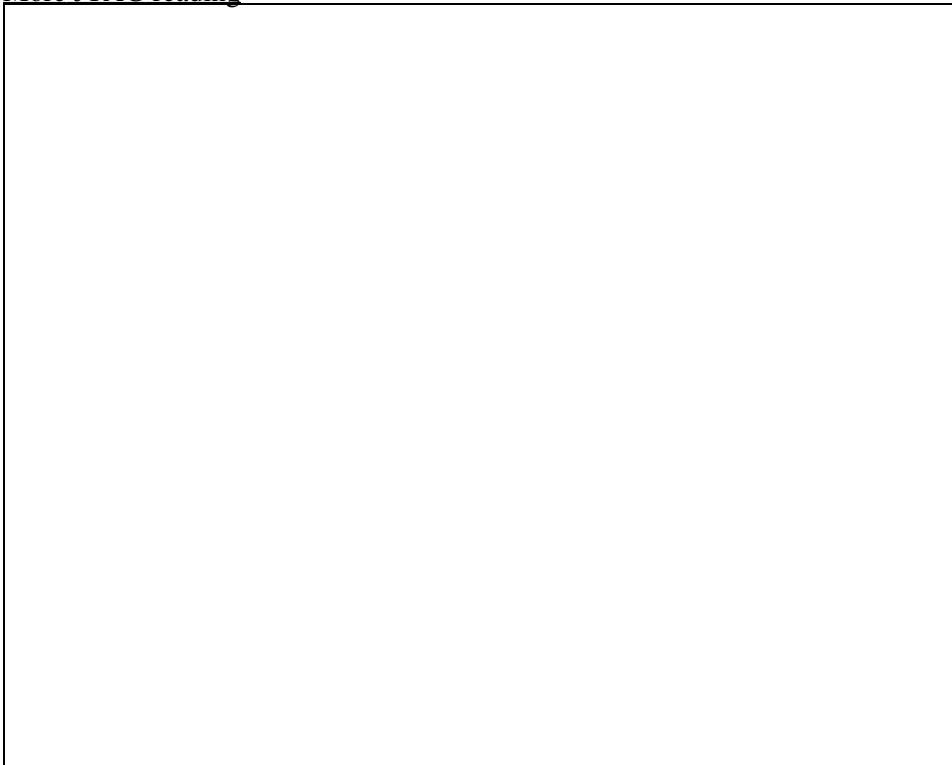
I personally have TFTP'ed twice when I was stuck in bootloops and it was possible for me with the OEM FW 1.1.27. Everything else seems too large to be TFTP'ed in that short window you get before the next boot starts. You mileage may vary. --EA6500v1 02:01, 22 July 2017 (CEST)

If you cannot TFTP, then head over to the JTAG section

Recovering via JTAG/serial (hard brick; corrupt CFE)

This section is currently device non-specific and I haven't found anything of much use yet. --EA6500v1 02:01, 22 July 2017 (CEST)

- JTAG
- More JTAG reading
-



Useful commands, links and scripts

Enable Cisco/Linksys LED

1. Go to Administration > Commands and type the following in the text area:

```
gpio disable 2
```

2. Press Run Commands and then press Save Startup and the light will turn and stay on on every time it boots up!

Decrease NVRAM size

Text area within the web interface that is no longer being used can sometimes retain code and occupy space on the NVRAM. Doing the following will allow you to safely decrease the size of your NVRAM:

1. Go to Administration > Commands and type the following in the text area:

```
nvramp show | grep =$ | wc -l
```

```
for line in `nvramp show | grep =$ `; do var=${line%*=}; nvramp unset $var; done
```

2. Press Run Commands and then press Save Startup and this will run the command at boot up

Contribute!

If you would like to contribute to this particular page, then feel free to do so or leave a comment on the EA6500 megathread

References

1. Peacock thread: <https://www.dd-wrt.com/phpBB2/viewtopic.php?t=51486>
2. EA6500 megathread: <https://www.dd-wrt.com/phpBB2/viewtopic.php?t=162802>
3. Broadcom sub: <https://www.dd-wrt.com/phpBB2/viewforum.php?f=1>