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R7000 Category

Find more R7000 articles [here](#)

Hardware Specifications

FCC ID	PY313200233
Industry Canada ID	4054A-13200233
Power	12 VDC, 3.5 A
CPU / SoC	Broadcom BCM4709A0 @1 GHz
CPU Architecture	ARM Cortex A9 (2 cores)
Flash / RAM	128 MiB / 256 MiB
WI1 & WI2 chip	Broadcom BCM4360
WI1/WI2 protocols	an+ac / bgn
Wireless MIMO config	3x3:3
Antenna connector	U.FL, RP-SMA
Ethernet & Switch	Broadcom BCM4709A0
WAN / LAN ports	1 / 4 (up to 1 Gb/s)
USB ports	1x USB 3.0, 1x USB 2.0
Serial	4-pin header, internal, 3.3V TTL

Performance

The dual core ARM CPU is beneficial for running multiple simultaneous services on the router.

SFE accelerated NAT was added to DD-WRT since build 33006 (kernel 3.10+), which [Kong tested](#) at 900 Mb/s throughput (download and upload). OEM firmware uses Broadcom's proprietary CTF (Cut-Through

Forwarding).

1. Throughput with IPv4 NAT routing tops out at:
 - ◆ 450Mb/s on latest Netgear stock firmware
 - ◆ 360Mb/s on non-SFE DD-WRT (default configuration)
 - ◆ 425Mb/s non-SFE with a 20% overclock
2. For older builds, besides overclocking, using IPv6 and doing away with NAT is another workaround.

Features

- Linux kernel 3.10.25
- Supports CPU overclocking: 1200MHz and 1400MHz possible (be very cautious)
- OpenVPN and PPTP VPN server support
- Ad blocking with Privoxy
- Other: lighttpd + php

How to install

The primary Brainslayer and alternative Kong build links can be found in the [Firmware FAQ](#). Both are compiled from the DD-WRT [trac SVN](#), but Kong builds are deprecated (see [Documentation](#) for differences).

Flash from OEM

GUI reset then download and flash the .chk (trailed) file using the Netgear web interface*.

- *factory-to-dd-wrt.chk* for normal builds
- *R7000.chk* for Kong builds

[*] Newer Netgear firmware (1.0.9.64_10.2.64 and newer) prevents GUI downgrades, preventing DD-WRT installation (K3_R7000, build from 9/23/18 file has a lower version number, 1.0.5* that Netgear disallows). Until a new Kong .chk image is available, use [this mod version](#) which provides a larger version number (thanks to @jclehner)

- Alternatively, use the TFTP installation method

Upgrade from DD-WRT

Use the DD-WRT [GUI or other installation Methods](#) to flash the .bin (non-trailed) file

- *webflash.bin* for normal builds
- *K3_AC_ARM_STD.bin* file to flash from the GUI *Administration* -> *Firmware Update* section.

Documentation

Some generic DD-WRT documentation is applicable to the R7000, but much is outdated and little refers to ARM builds.

<Kong> has written some documentation relevant to his builds [now via archive.org]:

- [Readme & Flashing instructions](#)
- [Kong Supported Models](#)
- [Wireless Networking Starter Guide](#)
- [Using the Integrated Webserver](#)

Also see: [Kong R7000 Configuration Best Practices or Working Solutions](#)

TFTP at boot for de-bricking

See [here](#), and also [this post](#) which then references [here](#).

Disable LEDs

Disable lights at boot: go to *Administration>Commands*, paste the code below and click *Save Startup Script*.

```
for i in 2 3 8 9 12 13 17 18 ; do gpio enable $i ; done
for i in 14 15 ; do gpio disable $i ; done
et robowr 0x0 0x18 0x1ff
et robowr 0x0 0x18 0x0
et robowr 0x0 0x1a 0x0
```