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## ????????

## ????????????????????

????????????????????[Supported Devices](#)

## ???????Eko NEWD-2????????????????

NEWD-2?WRT610N?????????or?????????"N"????????????????????

NEWD-2????????????????????(??)????brick????[JTAG????????????????](#)

[Wiki page for compatible models](#)

## ??Linksys WRT54G ??????5??6??????????????

???????????????????? [Version 5 And 6 Router Information](#)

## ??Linksys WRT54GS ??????7.2??????????????

WRT54GS v7????????????????????????????????????v5?v6?VXWorks????????????????

[Detailed Flash instructions: read posting by sigmaxix](#)

## ??Linksys WRT54G ??????8??????????????

WRT54G v8????????????????????????????????????v5?v6?VXWorks????????????????

??[flashing procedure](#)?????????"firmware upgrade"????????????????????(????????)

v8.1????????????????????????????????

# ????????????????

??????

- **Buffalo WHR-G125 (2011/01**  
 ??????????)??Supported Devices???????????

?????????:

- **Linksys WRT54GL** ?????????????????????????????????
- **Linksys**  
**WRT54G??WRT54GS**???????4????????????????????????????????????4.0??????????DD-WRT????????????????????????  
**WRT54G** or **WRT54GS** Version 4 or lower are fine but anything newer than that is not recommended. Any version above 4.0 does not have enough memory to support the full versions of DD.WRT firmware)
- **Buffalo WHR-HP-G54** ?????????????Linksys????????????????????????????
- **Asus WL-500G** USB???(?)??????USB??????NAS????????????
- **Asus WL-520GU** USB????????????USB??????NAS????????????
- **Linksys WRT350N and WRT600N** ?????????????802.11N????????????????????????????????????DD-WRT Mega??????USB??

2007/11 Buffalo????????802.11a/b/g???????????????????? [1]

2008/12 Buffalo?802.11????????????????????[2]

# ????????????????????

<http://www.dd-wrt.com/dd-wrtv3/dd-wrt/downloads.html>

????????????????????Version Features????????????

## DD-WRT?generic, mini, micro????????????

What is DD-WRT?#File Versions????????????

## ??V24?????????flash????????????

What is DD-WRT?#Which V24 build do I flash onto my Broadcom router????????????

# ????????????????????

??DD-WRT?? <http://192.168.1.1/> ?????????????

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

?????LAN?IP????????????????????IP????????????????

???DD-WRT????????????? <http://192.168.1.1/> ? <http://192.168.0.1/> ??????????????????????

?Windows????????????????DHCP????IP??  
????????????"IPCONFIG"????????????????????????????????????5?????????????

???obtain your router IP????IP????????????????DD-WRT????????????????????????????????  
?????login/password? root/admin ???

?????????(??????20??)????????????????????????????????:

```
telnet 192.168.1.1
```

## DD-WRT????????WPA????????????

## ??????/???????

## DD-WRT????????????????????

??Installation??????????

## DD-WRT????????????????????????

Upgrading to a Newer Version of DD-WRT??????????

??(Then you should do your settings manually, not with the config backup file!)

????????????DD-WRT????????????????????????

## ????????brick????????????????

????????????????????????????????Hard reset or 30/30/30?Reset And Reboot??????????

????????ON?OFF??(If the power light flashes on and off, then the firmware is messed up, but the router should be recoverable.)

????????????CPU????????????????????????????????????(The CPU must be running in order for the power light to be flashing, which tells you the hardware is probably not toasted yet.)

????????????192.168.1.x?IP????(x?2?254??)????????255.255.255.0????????192.168.1.1?ping????????????

????????IP????????????????????????obtain the router

IP????????????????????????ping????????????????????????????????????(Also, try pinging the router while it is booting. If you're able to get a reply for a short time, you should be able to

??????/???????







## DD-WRT??

1. ??????????IP?????????renew?????????XP?????????Repair?????????
2. ??DSL????? <http://192.168.1.1>  
(?????????????)?????PPPoE?????????DSL?????????ID?????????DD-WRT?????????(DHC

## ????????????????????????????????

??NAT????????????????????????????????????ISP?????????  
ISPs not using PPPoE expect the MAC address (hardware address) of the router to match that of your  
computer, especially when you used your computer without the router to setup everything initially.) "Clone  
MAC Address"?????????????????????Comcast?????"Clone MAC  
Address"?????????????????????PPPoE??DHCP?????????Comcast?  
Dialup?????????????????????DD-WRT????????????????????99%????????????????????

## ??DHCP????????IP????????????????????????????????????(100?101??)

?????????DD-WRT?DNsmasq?????????????????????IP?????????????????????MAC?????"?"?????????????????Linksy  
DNsmasq for DHCP"?????????????????(??DNS????????????????????) DHCP?????????[lease\_start +  
[[MAC?????????+??] % lease\_max]????????????????????"?"?DNsmasq????????????????????

## jffs-space???????????????? /tmp??

- ??generic/standard?DD-WRT?????????4MB?????100%????????
  - ◆ nokaid(XBOX?????)?Mini?????DD-WRT????????
  - ◆ ??????????1GB?SD?????????????????(It is possible to add a 1 gigabyte SD card with a modification of the router.)
  - ◆ <http://www.dd-wrt.com/phpBB2/viewtopic.php?p=17366> ??????????

## ????DHCP?????LAN??

??renew  
NVRAM for client lease DB"??NVRAM????????????????

## ?????????????????SSH????????????(SSH?????????)?

?????????????????NVRAM????????????????????????????????:

```
nvrाम set http_passwd=  
nvrाम commit
```

?????web??







Only" mode;)

6 - WDS?????????AP?"LAN"????????????MAC?????????AP????????????????????????????????(on the WDS page for each AP use "LAN" connection and make sure the MAC address is for the wireless interface on the other AP.)

?????????WDS????????????????????????????????(If after doing the above you have a WDS connection, you can now enable wireless security.)

V23SP2???"AES"?????"WPA?????"?????????????"802.11b???"????WDS????????????????????????

?????????????????IP????????????????????????????

## ????????????????????

???????????????????????????? The higher in the building (i.e. less obstructions - e.g. plant leaves containing water) you position your radio the further its signal will travel.

????????????????????????600m??AP??7dB????????????????????????600m??1500m???

go farther you need to start using better antennas, the Access Point would work well with a 7 dB mounted just above roof height, this will give you a good 600 m (1,968 feet) to 1500 m (4,921 feet), it goes further in open areas and less far in built up areas.) ???(It's important to match the gain and height of your antenna to how far away you wish to receive your signal.) You may end up picking up signals that you would be better off not being able to see. Also the use of too much height with a 12 dB antenna would mean your signal does not really come back to ground level for several kilometers past where you wish to use it. The effect of this is that it seems your signal is weak and does not go very far. This is an illusion: The signal could be going way over your head. A lesser gain antenna at a lower height would yield a far stronger local signal and immunity for interference from far away stray signals.

## SN????????????????

??(The more negative the number, the less strength it represents.) ??????-40dB??-70dB?????????????????????3?????????2?????10dB?10???????

Based on this Forum-post

**Signal:** (in dBm) ??????(????????????????)?????(-40????-98?????)

**Noise:** (in dBm) ??????(????????????????)?????(-98????-40????-70?????????????)

**SNR:** (in dB) ??????(????????????????20?????????????1?????????????)

$SNR(dB) = Signal(dBm) - Noise(dBm)$

**Signal Quality:** ??????(SNR) (somewhat like SNR but indexed to 100 with noise as the base, percentage of the best theoretical ideal quality in regards to your local-noise)

$$Signal - Noise = SNR$$
$$-82 - -98 = 16$$

$$Signal / Noise * SNR = Signal Quality$$

WDS????????????????????

$$-82 / -98 * 16 = 13.4\%$$

Typically, noise will be -92 which means you should get a clean connection with a signal as low as -92. However, expecting to hold a good connection with a signal lower than -85 (e.g. -90), is expecting too much. The signal can be improved by -3 dB by doubling the power setting at the transmitting radio, e.g., 100 mW increased to 200 mW would improve your signal from -85 to -82. Antennas with increased gain will also help. Say you had the standard 3 dB antenna and changed it for a 12 dB antenna, that's a 9 dB increase, so your signal would increase from -82 to -73 which would be an excellent signal, probably capable of 54 Mbps. Using the term excellent in terms of running a WISP, it would probably be only 3 bars on a 5 bar signal strength meter. Don't worry if, as a WISP your signal quality is low, like 14%. It's not really a problem since -82 is considered acceptable.

## How does the SNR impact the speed and range of my wireless connection?

SNR, range and speed (data rate) are tightly interdependent. Users often notice that higher data rates do not "travel" as far as lower data rates do - and frequently they think that increasing the power on the router will take the signal further (increase the range).

It is not the power of the router, it is Signal-to-Noise ratio (SNR) that dictates the data speed and the range of the signal. SNR determines which data rates can still be correctly decoded in a wireless connection - as data rates increase from 6 Mbps towards 54 Mbps, more complex modulation and encoding methods are used for transmission and that requires much higher SNR to properly decode the signal back to the data stream on the receiving side.

**Using full 54 Mbps data rate requires at least 25 dB of SNR** - and getting that much SNR is achievable only if router and client are relatively close together. As the signal travels further away from the transmitter, a path loss occurs (the signal gets attenuated) and SNR is getting lower and lower. Lower data rate transmissions can be decoded from much weaker signals (low SNR) and as a result the signal appears to travel further.

Increasing the power of the transmitter will often affect the listening side of the same device as well, affecting much higher noise levels (and worsening the SNR ratio). It is frequent occurrence with beginners to see their routers tweaked so they generate the highest possible wattage of signal, raising the floor of the noise as well - thus keeping the SNR at the same level, as if the router hadn't been tweaked at all.

Data Rate	Minimum SNR	Modulation/Encoding
6 Mbps	8 dB	BPSK 1/2
9 Mbps	9 dB	BPSK 3/4
12 Mbps	11 dB	QPSK 1/2
18 Mbps	13 dB	QPSK 3/4
24 Mbps	16 dB	16-QAM 1/2
36 Mbps	20 dB	16-QAM 3/4
48 Mbps	24 dB	64-QAM 2/3
54 Mbps	25 dB	64-QAM 3/4

## What Wireless Security settings should I use at home?

For home or small network use, you probably won't have a RADIUS server ("enterprise"), so you'll be using pre-shared keys ("personal"), which use a common passphrase for the network.

Make sure your passphrase is sufficiently complex, e.g. at least five random words (such as from [diceware](#)).

The wireless security settings, in decreasing order of preference, should be the pre-shared key versions of the following:

1. WPA2 + AES
2. WPA + AES (only if all devices support it).
3. WPA + TKIP (maximum security commonly supported by older wireless adapters - can be cracked as well) [\[3\]](#) [\[4\]](#)
4. WEP (easily cracked in 5 minutes)
5. Disabled (no security. Use some other security layer on top, like a VPN)

If your network includes a RADIUS server, you can use the RADIUS versions of the above.

WPA2 Mixed tries to fall back from WPA2 to WPA; similarly AES+TKIP tries to fall back as necessary. These may help support a mixed environment, but your ultimate security will be the lowest level.

WEP is easily cracked. It will stop the most casual roaming users but don't fool yourself into thinking you are secure. You're not.

MAC address filtering can be bypassed by cloning the MAC of an approved device on the network. MAC address filtering is not a substitute for encryption because all data is sent in the clear. Always use encryption when possible.

If you're using GNU/Linux on your laptop, you might encounter some problems with your wireless card and/or encryption. If both pose a problem, simply search on Google for a list of well-supported wireless USB-sticks (with working WPA). If the only problem is WPA encryption (wpa\_supplicant won't work), there is always the (admittably complicated) fallback option of using [OpenVPN](#) to establish a secure, encrypted wireless connection.

To keep intruders out, you can filter out your own MAC address and install an IDS as a first line of defense. Using traffic shaping should also help if you're only using your wireless network for browsing, email, etc.

## ????

- [Tutorials](#) Many Walk-Throughs for Different DD-WRT Configurations
- [Glossary](#) Wireless Networking Terms and Definitions along with DD-WRT Feature explanations
- [Changelog](#) Track the Developer's changes to the firmware.
- [Roadmap](#) See the plan for the next release.

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- <http://www.dd-wrt.com> DD-WRT homepage