



# The ultimate guide to remote working

D-Link can help you ensure your home network is ready for the challenges of doing business at home in 3 simple stages.





D-Link can help you ensure your home network is ready for the challenges of doing business at home **in 3 simple stages...**



## Extend...

...your Wi-Fi to where you need the best connection with wireless range extenders and the latest routers including Wi-Fi 6.

...your wired network with a wide range of easy to use, affordable switches.

...your connectivity with a range of USB hubs so you can add screens, cameras, microphones & fans.

## Secure...

...your business data; 4G and 5G routers so you can create a dedicated network for your business data.

Our extensive range of VPN routers, securely connect to your office to protect your data. Added virus and controls, with McAfee Secure Home and Livesafe included free of charge in our range of routers.



## Centrally manage...

...all your remote workers and provide business class Wi-Fi at home with Nuclias cloud and Nuclias connect solutions.

**It's more affordable than you think!**



**D-Link®**

# The ultimate guide to remote working

Like many others, you may have grabbed your laptop in the middle of March and headed home, with the initial plan of three weeks working on the sofa, in the garden or in the upstairs office you never use. As always, the picture in your head doesn't quite match the reality, and now after an extended period, it might be time to make a few upgrades and create a more workable home office environment.

From the smaller problems, like a lack of USB ports to charge both your phone and plug in your wireless mouse, to the 10 year older router that powers your wireless network, If you are going to work from home for a long period, you should consider resolving these issues. Well you can start here with D-Link's handy guide to networking!

## Plan your remote working setup

First things first – lets establish a plan! What is the end goal? More connectivity, faster speeds, data security and better capacity are all possible, but there are a few things to consider before we dive in

- **Your environment**

Mansion, house, flat or garden, where you plan to work will have an impact on what equipment you need

- **How often will you be working at home**

Are you at home every day or just 1 day a week

- **Bandwidth requirements**

Are you hungry for bandwidth? video conference calls or upload/downloading images and videos

- **Wired or Wireless**

Can you cable up devices or is it mostly going to be wireless connectivity

- **Level of security**

If you work with personal data or financial details for instance, you will need to consider a higher level of security

# Casual Home/Remote worker

If you work from home infrequently, or your network requirements amount to just checking emails, file downloads/uploads and the occasional video conference meeting, then a basic set up is all you require. Lets run through the requirements for a basic home office set up.

## USB hub/docking station

As the streamlining of most modern laptops continues, the added portability often has a negative impact on connectivity, sacrificing Ethernet, HDMI and USB ports. As most offices will have docking stations, this only becomes an issue at home. A USB hub acts like a docking station and enables you to connect all of your devices, charge your phone, and connect multiple monitors.

### What is a Hub?

A Hub will add extra ports to your laptop, desktop, games console or other devices with a USB port, usually they will be USB-A or USB-C. Hubs can also draw power via the USB connection and their lightweight portability allows them to fit into your pocket. USB hubs are plug and play meaning they can just be plugged into your device and they are ready to go.

D-Link Hubs come with a range of options on size and features from 4-in-1 to 8-in-1's our range should tick all the required boxes for use in your home office.







# The router is the king

When it comes to internet, the router is the king – the gateway to all the rest of your networking solution. So if you are still using the router your ISP provided, you could be limiting your network wireless speeds, security and reliability.

## So what makes a good router?

### Wireless Speed

Wi-Fi 5 or Wireless AC, is the current standard technology in the market and D-Link Wi-Fi 5 routers come in a variety of speeds, from AC750 – AC6000, but a router advertised as AC1200 doesn't mean you're getting a top speed of 1,200Mbps. This number is a combination of band speeds (2.4 and 5 GHz) For example, an AC1200 router is going to have a 2.4GHz band with a top speed of 300Mbps and a 5GHz band with a top speed of 867Mbps.

### Coverage Area

If you have a larger area to cover, a router with more external antenna's will provide more flexibility, because they can be adjusted to focus broadcast in different directions.

## Routers feature set essentials

### Mu-Mimo (multi user, multi input, multi output)

MU-MIMO allows the router to broadcast to many devices on the network at the same time, as opposed to one at a time, increasing efficiency.

### QoS (Quality of Service)

QoS lets you tell your router which devices you would like it to prioritise, so that you can choose which devices have priority such as your work laptop or VoIP handset.

### App-Based Management

Apps simplify the task of setting up and making adjustments to your Wi-Fi network, monitoring when devices are connected and helps to easily manage router updates.

**All feature;** 802.11ac Wave 2 with MU-MIMO, McAfee Secure Home Platform™ & McAfee LiveSafe™  
Amazon Alexa & Google Assistant compatible

# Wi-Fi 6 – Next generation speeds

Why do you need Wi-Fi 6? Because your smart home is reaching the limits of its potential. Prevailing Wi-Fi standards simply aren't built to support "noisy" Wi-Fi environments with countless personal devices and smart home gadgets running simultaneously 24/7. Wi-Fi 6 brings next-generation Wi-Fi technology into your home, giving you the quantum leap in capacity, speed, and range you need to handle all your Wi-Fi demands. Perfect for high-performance, highly device-dense smart homes.

## Why-fi 6?

### Faster

A new type of wireless that's even faster. Bring home next-gen Wi-Fi 6 speeds of up to 1.5 Gbps. Experience a jump of up to 38% faster speeds than Wireless AC, for a better way to enjoy snappier browsing, 4K streaming and online gaming\*.

### Greener

Green technology that saves your battery life. Target Wake Time (TWT) automatically helps reduce battery consumption for all your connected devices by devising when and how often transfers are required, TWT then automatically conserves energy and helps save battery life on your devices.

### Higher capacity

With Wi-Fi 6, you get up to 4X more device capacity than you do with Wi-Fi 5, so you can connect and stream on all your devices without affecting speed or reliability.

### Security

The latest 128-bit encryption is the most advanced standard available and begins a new era of wireless encryption, ensuring greater privacy throughout users' networks and devices.

### x38% Faster

Wi-Fi 6 (802.11ax)

1500Mbps

802.11ac

802.11n

DIR-X1860

Smart AX1800  
Wi-Fi 6 Router



DIR-X5460

Smart AX5400  
Wi-Fi 6 Router



Coming  
Soon

DAP-1665



## Wi-Fi extenders

If you have a good quality router, but can't reach all the corners of your property, a good idea is a Wi-Fi extender to amplify the signal, i.e. have one upstairs to boost the signal to that spare room that's now an office. A good extender will support multiple operational modes and can operate as an Access Point, bridge, bridge with AP or a repeater, giving you the flexibility needed for your network.

\*Maximum wireless signal rate derived from IEEE Standard 802.11ax and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, may lower actual data throughput rate. Environmental factors may adversely affect wireless signal range.

# Switching – Wired Networks

If its possible within your home, a wired network solution can provide better stability and performance than a wireless one, as wired connections are less prone to radio interference and lose fewer packets of data that need to be retransmitted. In reality however, it may not be convenient to run cables to every device, so we recommend to use a wired connection when you can, then a wireless connection when you can't.

## What considerations do you need to make for a wired network?

### How many ports do you need?

This is where the planning aspect of the network comes in, a normal router will have 4 Lan ports, so an idea of how many extra ports you will need is necessary, just think of all the work or home devices you'll want to plug in, desktop PC, smart TV, VoIP phone, games console and the switch itself. Switches are most common in 5 or 8 ports versions although many have up to 52 ports!

### Network Speed

A switch will either be labelled with Fast Ethernet (10/100mbs) or Gigabit (10/100/1000mbs).

### Fast Ethernet

Fast Ethernet can handle speeds up to 100 Mbps, which is probably enough for some people, but those with superfast internet services, will lose the benefits.

### Gigabit

10x faster than FE, Gigabit Ethernet can handle the fastest home broadband connections and has the bandwidth to handle high local network demands.

### PoE support

Power over Ethernet (PoE) enables network switches to transmit both power and data through an Ethernet cable at the same time, so your PoE enabled switch can connect to an Access Point, Camera or VoIP phone, when there is no power outlet available.

# I've bought all my stuff, how can I use the cool features?

As easy and plug and play as we have made the D-Link product range, to get the fullest out of your network, a few features will have to be set up in order to improve your work from home experience. Here are a few of the most essential features that D-Link products come with that will optimise your network speed.



## Quality of Service

## VPN



## DDNS





# Full time at home - need dedicated bandwidth/security

There's a number of reasons that a home worker could live with the more basic set-up, but its not optimal. Working while the kids are at home, competing for bandwidth with another home worker or a large sized house can all have an affect on your network. Having a separate 4G network could be the solution to your work from home needs.

## 4G

4G is a potential solution for any worker who requires an added layer of security, or just a separate network. If you work with peoples data, its probably safer to use a separate network rather than share with your kids on TikTok. Whether you use the 4G network yourself or set it up to keep the children separate is up to you. Our 4G products include built-in dual-active firewalls (SPI and NAT) and the latest WPA/WPA2 wireless encryption helps keep your wireless network secure and your traffic safe.

4G also can have advantages over fixed line, particularly in rural areas where line speeds are slow, another advantage is its an instant set up – plug in a sim and go.

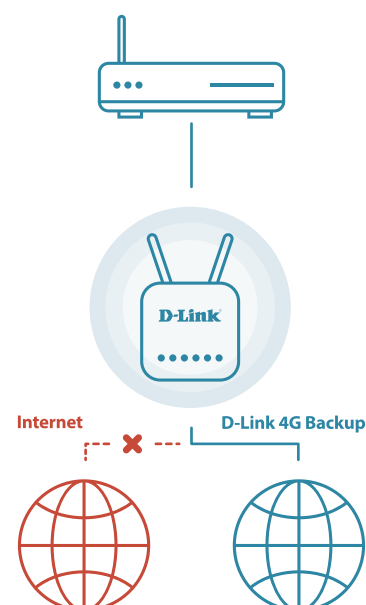
## 4G failover

D-Link 4G routers are designed with a constant internet connection in mind. You can create failover connectivity if either your fixed line or mobile broadband fails.

The router will instantly switch to the backup mobile internet when you need it most, allowing you to stay connected and enjoy the internet without interruptions so you can maintain your productivity.

## Router or hotspot?

D-Link 4G routers are designed to remain mostly stationary, enabling you to plug in many devices including wired connections whereas, a 4G Mobile Hotspot is smaller and lighter, designed to be easily transported and to provide internet access on the go.





# The power of 5G

Powerful 5G networks are beginning to roll out now. They have the potential to enable peak data rates that are up to 20 times faster than 4G, provide 1 GB/s simultaneously to workers on the same office floor, and deliver simultaneous connections for 1 million devices per square kilometre. Put simply, it's like being able to download an HD movie in as little as 10 seconds.

5G Conference calls could incorporate augmented or virtual reality (AR & VR) and seamless connectivity to make remote meetings feel more involved. Businesses will have constant unbroken access to a fast, reliable internet connection, making remote working much easier and productive. 5G will provide lower latency connections, perfect for gamers on the go and power users requiring the most versatile network available, wherever they go.



## No budget for a separate network? Use a guest wi-fi instead

Separating your guest network from your home network is an added security feature that takes on more importance when you work from home.

Letting your friends and family use your Wi-Fi can cause a serious issue if one of their devices contains a virus and it spreads to the same network you work on.

**DWR-2101**

**5G Wi-Fi 6 Mobile Hotspot**

**Coming Soon**

High-speed  
5G & Wi-Fi 6

For home, office  
or on-the-road

International  
network  
compatibility

LCD  
2.4 in  
2.4 inch colour  
LCD touchscreen

Stand  
included

5620 mAh all  
day battery

# Business Grade Networking at Home

Previously business grade networks have only been available to the most demanding companies and their network infrastructure and professional installation requirements. Times change, and with the power of cloud scalability enables you, the home user, to take advantage of business grade performance at home.

With more people working at home than ever before, the need for these solutions is now, and will continue to grow. We all carry mission critical details on our laptops, for example if you work in HR you'll have a database of personnel details, in Marketing you'll have databases of external clients and Finance will have financial records, but you can't allow these to fall into the wrong hands. Business grade solutions will provide extra reliability and enhanced security, so you can be safe in the knowledge that your business data is safe while you work at home.

## Access Points - maximise Wi-Fi performance!

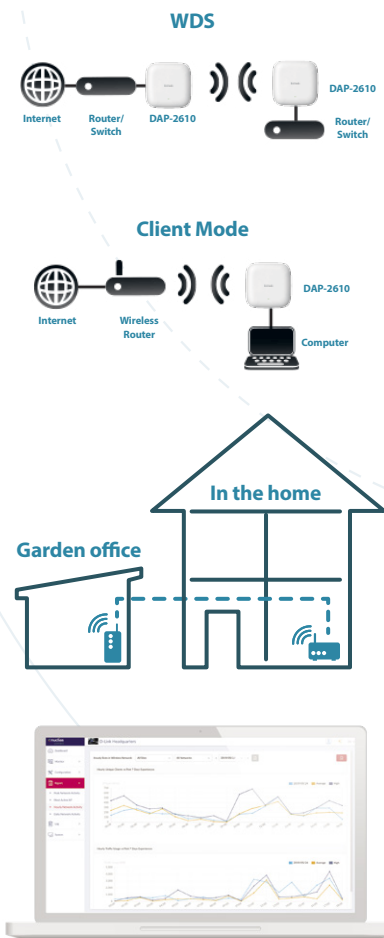
Extend the wireless across your house and or garden with our extensive range of business grade access points, manage these with our simple Nuclias connect software, either on your laptop or on the go on your phone!

## Point to Point

Access points set to point to point mode, will allow you to work wherever you choose, by building a 'wireless bridge' between AP's you can enable wireless connectivity across your entire premises, whether you are working in the attic or the end of the garden.

## Manage your AP's with free software/app

Manage your Access points with our free Nuclias connect software enabling you to broadcast multiple SSID's and keep an eye on your home network performance. It also enables you to fully customise your network and fulfil privacy and security requirements, with user data never leaving your possession.

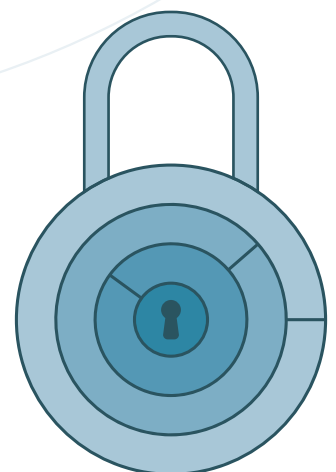


## Enterprise grade Features

All Nuclias AP's support Personal and Enterprise versions of WPA3 Wi-Fi encryption, the latest industry-standard 128-bit encryption is the most advanced security standard available and begins a new era of wireless encryption, ensuring greater privacy throughout users' devices and networks.

### Advanced features;

- Selectable advanced auto channel selection
- Guest network client isolation
- Social media logins
- Access control listing
- Wi-Fi scheduling
- Bandwidth management







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