

A person's hands are shown interacting with a tablet computer on a light-colored wooden desk. The tablet screen displays a web browser with various content. In the background, a cup of coffee on a saucer is visible. The overall scene is softly lit, creating a professional yet relaxed atmosphere.

Going Wireless

THE COMPLETE GUIDE

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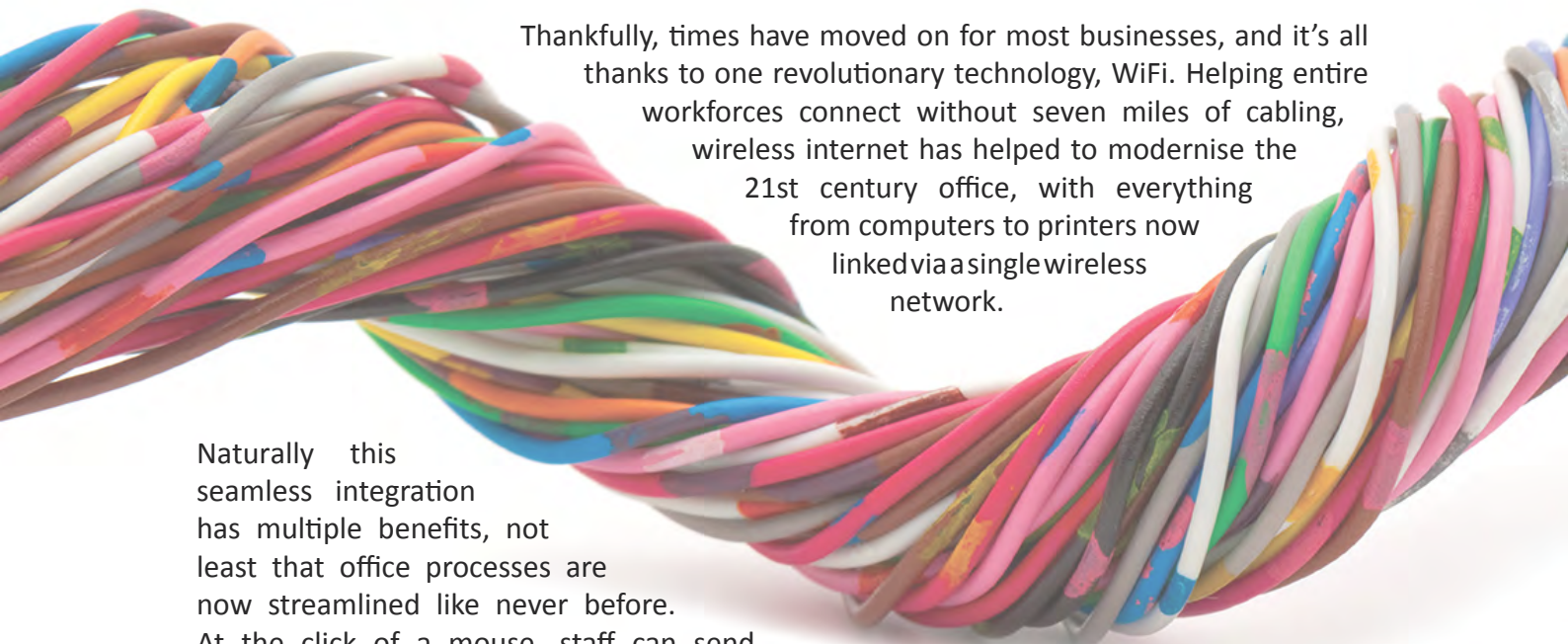
Contents

Introduction	1
Initial Considerations	2
The Cons of Wireless Networking	3
Installing a Wireless Network - First Steps	4 - 5
Installing Wireless Devices	6 - 8
Printer Network Security	9

Introduction

Picture an office of the early 2000s. Among the dubious haircuts and gargantuan PC monitors, there's one thing all workplaces shared, and that's wires. Traipsing for miles along the floor and up the walls, wires and cables became the ugly by-product of the global digital migration, turning even the most streamlined and contemporary office into a health and safety inspector's worst nightmare.

And where did all these wires lead? To the server room of course, a cramped, sub-tropical closet brimming with whirring hard drives and twinkling LEDs. Only the most IT-savvy dared stray into the midst of the server room, for fear of wiping the company's invaluable data at the stroke of one misplaced finger.



Thankfully, times have moved on for most businesses, and it's all thanks to one revolutionary technology, WiFi. Helping entire workforces connect without seven miles of cabling, wireless internet has helped to modernise the 21st century office, with everything from computers to printers now linked via a single wireless network.

Naturally this seamless integration has multiple benefits, not least that office processes are now streamlined like never before. At the click of a mouse, staff can send documents to print, browse superfast webpages and access all of their data remotely, meaning no more clammy server rooms and, more importantly, no more unsightly wires.

Despite these benefits however, some workplaces have been slow to adopt wireless technologies, perhaps through fear of upsetting habitual working practices. But putting aside such reservations, implementing a fully wireless network isn't as challenging or scary as it sounds — and we're here to show you how it's done in our complete guide to going wireless.

Packed with useful information and advice, this handy guide covers the basics of assimilating a fully wireless workplace — from security considerations to installing devices like wireless printers. We've even included a troubleshooting section, so you can fix basic connectivity issues without reaching for the instruction manual.

Ready to enter the wonderful world of wireless? *Then let's get to it...*

Initial Considerations

Before you start investing in wireless technologies with reckless abandon, there are a few things to consider before taking the plunge, including the pros and cons and general limitations of the technology. While we'd recommend a wireless network for most businesses, big or small, there are several pitfalls you should know about before doling out your hard earned business capital. Here, we assess the pros and cons of installing a wireless network in the workplace.

The Pros of Wireless Networking

Here we list the key benefits of wireless technology for your business:



Maximum Efficiency

Time is precious in business, and a wireless network gives you more of it. By eliminating the manual processes associated with a wired network, your business will save time and money. WiFi gives you the power to access data and transfer information faster, making it the ideal B2B collaboration tool.



New Opportunities

Given the improved data communication benefits of a wireless network, the technology could open new doors for your business by making it easier to connect and share with partners and customers. This windfall in new custom, coupled with the cost benefits of WiFi, has the potential to give your profit margin a significant boost.



Flexibility & Coverage

Desktop, laptop or tablet — no matter what device you're using, you'll always stay connected. This flexibility is perfect for businesses prone to hot desking, allowing staff to connect wherever they are in the building. And because you're still on the same network, you can access all of your usual programs and files without interruption.



Cost Benefits

On average, wireless networks are much cheaper to install than their wired counterparts, particularly for small businesses with nominal connectivity requirements. Often WiFi providers will give you the router for free on sign up, leaving you to foot the small monthly payments. Wireless networks are also considerably simpler to set up, and require little in the way of time-consuming installation.

The Cons of Wireless Networking

Here we list the pitfalls and limitations of wireless technology for your business:



Security

After several high profile hacking cases in recent months, the security of wireless networks has been thrown into question like never before. Cyber crime is a major threat to businesses, and hackers have thus far found cracks in even the most secure WiFi networks, putting information and data at risk.



Installation and Connectivity Issues

Occasionally, wireless networks are plagued by connectivity issues, or are difficult to set up in the first place. This is down to a range of factors, and isn't guaranteed to happen to every user. Your first port of call in the event of connectivity issues should always be your network provider, as it could well be a problem at their end.



Transmission Speeds

Depending on where your business is based, as well as the speed of the connection you opt for, you may suffer from slow transmission speeds. This could prove a very real problem for businesses reliant on WiFi, so it's worth investing in guaranteed high speed broadband if possible.



Reliable Coverage

Again, this isn't a problem faced by all WiFi users, but depending on the size and layout of your building, you could encounter coverage issues with some devices unable to connect to the WiFi. This is a common problem in older buildings whose walls are very thick, and can be remedied with a wireless signal booster.



Installing a Wireless Network — First Steps

Now that you've assessed the pros and cons of wireless networking, it's time to think about installing the technology in your workplace. Don't worry, this isn't as hard as it sounds, and we're here to guide you through the process step-by-step.

Step 1 — Get a Router

It may sound obvious to those who've previously dabbled in the world of wireless, but getting a router is the first step towards a fully wireless workplace. And by router, we don't mean the one you get for free when signing up to business broadband, but a reliable and robust unit that can cope with the demands of a busy workplace.

For small businesses the router will be the hub for all wireless activity, from internet access to remote printing — so it has to measure up. Make sure the router you choose is a top-spec unit with full wireless capabilities, as well as other beneficial features such as VPN (Virtual Private Network) and a built-in firewall for increased security. We'd recommend an 802.11ac wireless router, which offers ultra-fast transmission speeds and additional layers of security provision.

Step 2 — Setup the Router

Installing a router based on its factory settings is basic stuff, but businesses should go beyond this to improve network security. The first step is to plan for access points, and ensure the site you choose can support all of your allocated bandwidth allowance, e.g. 300Mbps. This is essential in ensuring the entire workforce has full wireless coverage, no matter where they are in the building. Transmission speeds can drop from 300Mbps to 90Mbps depending on the location of the access point, so choose the access point wisely and install signal boosters where necessary.

The next step in installing the router is to lock down your profile and configure security settings. Start by changing the factory default password, before sharing this with colleagues. This will allow others to connect to the WiFi, and from there set up user accounts based on their specific requirements and access restrictions. Once done, lock down the settings by accessing the router's management console. Do this by entering the router's IP address (found on the device) into your browser address bar, and follow the on-screen instructions.

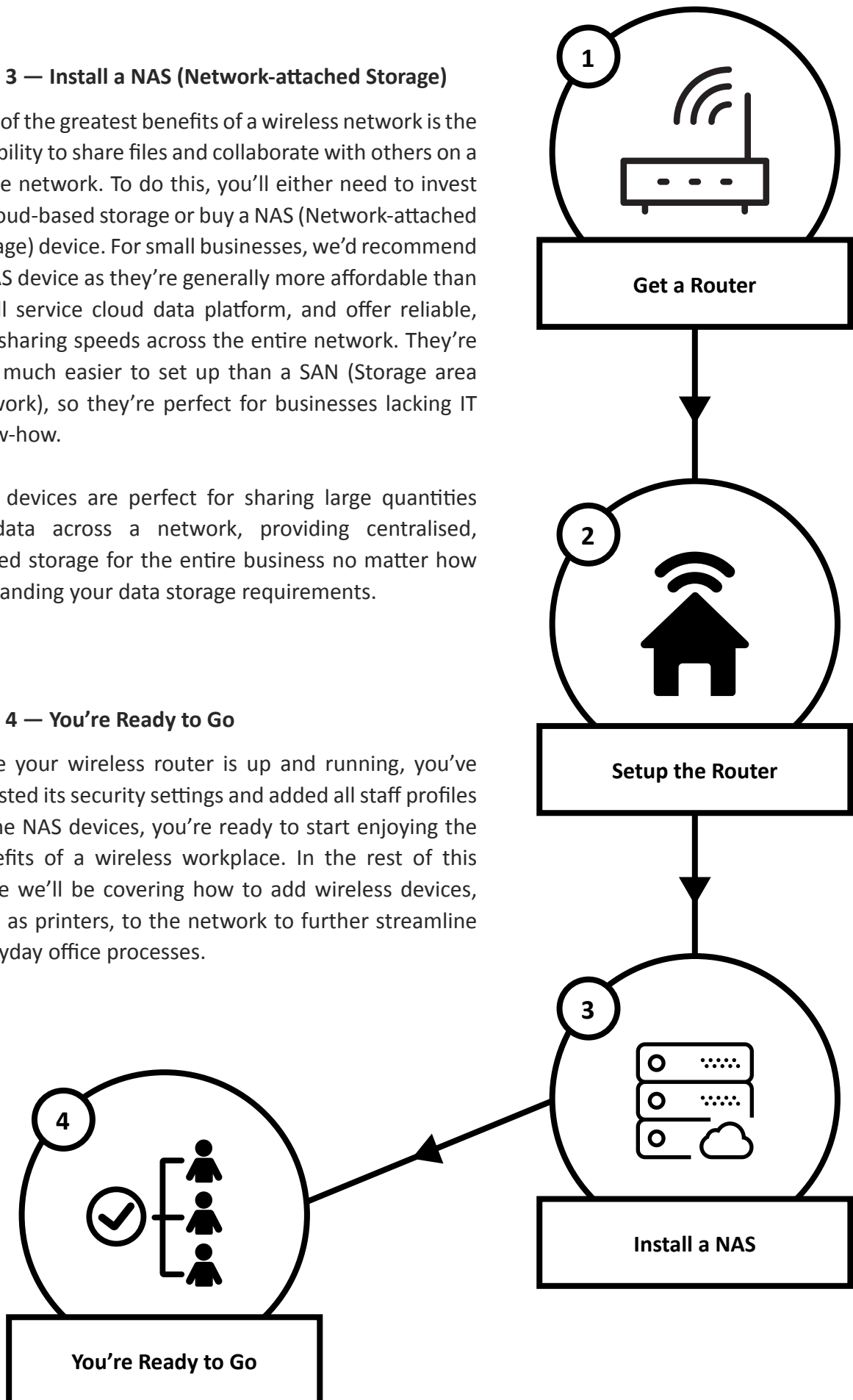
Step 3 — Install a NAS (Network-attached Storage)

One of the greatest benefits of a wireless network is the flexibility to share files and collaborate with others on a single network. To do this, you'll either need to invest in cloud-based storage or buy a NAS (Network-attached storage) device. For small businesses, we'd recommend a NAS device as they're generally more affordable than a full service cloud data platform, and offer reliable, fast sharing speeds across the entire network. They're also much easier to set up than a SAN (Storage area network), so they're perfect for businesses lacking IT know-how.

NAS devices are perfect for sharing large quantities of data across a network, providing centralised, shared storage for the entire business no matter how demanding your data storage requirements.

Step 4 — You're Ready to Go

Once your wireless router is up and running, you've adjusted its security settings and added all staff profiles to the NAS devices, you're ready to start enjoying the benefits of a wireless workplace. In the rest of this guide we'll be covering how to add wireless devices, such as printers, to the network to further streamline everyday office processes.



Installing Wireless Devices

Now that you've got a robust wireless network in place, it's time to add WiFi compatible devices to the grid to make full use of your new found remote access capabilities. But how?

While a wired printer is incredibly simple to connect to your PC or Mac, a wireless version isn't quite so simple. And for that reason, here's a step by step guide to installing a printer on your wireless business network.

Step 1 - Buy the Right Printer

There are now hundreds of wireless printers on the market, and not all of them will be right for the needs of your business. Some printers are considered wireless not because they connect via WiFi, but by Bluetooth or infrared, so make sure you choose the right version.



Step 2 - Find the Relevant Information

Assuming you're privy to the wireless network settings of your business, it's a good idea to find the network's SSID (Service Set Identifier, or network name) and password, as well as the security protocol (this could be WEP, WPA or WPA2) before you start installing the printer. This will streamline the setup process, and ensure you can connect your device easily without interruption.

Step 3 - Connecting

Assuming you're using a device already connected to the wireless network, connecting a wireless printer should, in an ideal world, take just two quick steps: installing the printer's driver on the device, and establishing a connection between the device and the network.

Most printers include an in-built setup wizard, which will guide you through the setup process and allow you to enter the network SSID and password in order to connect. This may require you to connect the device to a computer using a USB cable, or else use the CD which comes with the machine. Either way, once a connection is established, you won't need to use either the cable or CD to connect to the printer in the future.

Another approach that's common with newer wireless printers is to find the device on your computer's network list, before establishing a connection with the machine using the SSID and password. The driver installation setup will commence after the connection is established. This is a simpler approach requiring no additional cables or CDs, so you can get set up and running more quickly.

No matter what the approach, once the printer has established a connection with the network and the drivers are installed, you should be able to print wirelessly without any further action.

Remember, however, that you'll need to install the printer's drivers on each device in your office before the entire workforce can start using the machine. This can be a time-consuming process, and can throw up difficulties when it comes to connecting to smartphones and tablets — details of which we've included below.



Step 4 - Connecting to Tablets and Smartphones

Connecting your printer to a smartphone or tablet is different from connecting to a desktop or laptop device, given that you won't be able to install the drivers or establish a connection via a CD or wire. Instead, mobile devices rely on apps to connect to a printer, and not every printer is compatible with this form of connection.

Depending on the make of both the printer and the mobile device in question, you'll need to download the right app before you can connect. Some printer manufacturers have launched specialist apps to help with this, while others are yet to follow suit with their own version. HP, Brother, Epson and Samsung all have their own apps for mobile printing, but they may not work on every device depending whether it's Apple or Android.

If you do own an iOS device however, Apple have come up with a nifty solution to help you print from your smartphone or tablet, and that's Apple AirPrint. AirPrint is compatible with a significant number of printer models, and allows you to print from most apps on your device simply by selecting the 'Print' option and selecting the network printer from the list.

For Android users, there isn't currently a default app for connecting to a wireless printer. There are however several excellent third party apps that allow you to connect to most printer models; these include PrintJinni, PrinterShare and PrintDirect.



Printer Network Security

Evidence suggests that, of all the risks associated with wireless networking, WiFi-enabled printers pose the greatest vulnerability to the security of the network. This is because many wireless printers lack the security controls of other devices connected to the network, making them a target for cyber criminals keen to gain access to a business' wireless network.

In order to protect your wireless network from cyber attack, we recommend buying a printer which offers comprehensive security provision — including password protection and inter-departmental settings. This will not only deter cyber criminals from accessing your network, but will lend culpability to individuals within the business who fail to uphold the appropriate level of security awareness.

Here, we list a handful of wireless printers which feature advanced security settings, making them perfect for business use.

HP LaserJet Pro M521dw

The HP LaserJet Pro is not only one of the world's most robust, high performance business printers; it also benefits from HP's advanced security controls. HP are at the forefront of wireless printer security, and each of their newest WiFi printers features advanced firmware designed to monitor and detect anomalies in the network. If a hack is attempted, the device will automatically reboot — keeping your network safe whilst ensuring no loss of data.



Brother HL-L9200CDWT

Brother printers are world-renowned for their exceptional build quality and efficiency — and their security features are no exception. The HL-L9200CDWT offers superfast connection speeds without compromising on network security, so each member of staff will benefit from high performance without worrying about vulnerabilities in the network.

Samsung Xpress C1810W

Samsung do a great job of providing safe wireless connectivity. Take the Xpress C1810W for instance. Belying its sub-£200 price tag, this efficient colour laser printer offers fast wireless connectivity that's protected by Samsung's advanced security software — making it the perfect choice for small businesses.



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TonerGiant stock a huge range of affordable toner and ink cartridges, as well as a great choice of printers from the world's leading manufacturers. To find out more, visit tonergiant.co.uk.

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