

CORDLESS PHONE

The internet has transformed the way we shop and bank and now it looks set to revolutionise the humble telephone call

Making phone calls over the internet rather than a phone line can save you a packet. Calls to other users are usually free and, while there may be a monthly fee, calls to normal landlines are much cheaper. Some analysts even predict a future where all phone calls will be free.

Behind all this is something called VoIP, which stands for voice-over-internet protocol. Put simply, your voice is carried over a broadband internet connection, which is much cheaper than a traditional phone line.

So far, most VoIP users in the UK have made calls through their computer. But the big change is that you can now connect a normal handset to the internet. For example, BT has its own telephone adaptor (see right) and Dixons has just launched its own package, Freetalk. Simon Turner of Dixons boldly claims that 'the days of the old-style, fixed-line phone calls are numbered'.

There are a couple of problems with VoIP – voices can sound less clear than on a normal phone and some services don't yet allow 999 calls. And, like normal digital phones, VoIP won't work if there's a power failure.

Despite this, Skype claims 'fantastic pick-up' in the UK: 5 per cent of Brits have already made a call over the internet. As more people sign up, you'll be able to call more users for free. And as broadband becomes more widespread, talk really will be cheap.

HOW TO MAKE CALLS OVER THE NET

You need a broadband internet connection, the faster the better. See www.which.co.uk/broadband or check out our Best Buy broadband providers on p24. (A dial-up internet connection will work with some services but the quality is much worse.) Once that's sorted out, you can make calls using a computer or by adapting a normal phone.

Here we explain how it works, and overleaf we bring you our latest test results on cordless phones that you can use with VoIP or a normal phone line.

1 Using a computer

If you have a computer, you can download free software. Then you make calls using your computer's built-in microphone or a headset (around £15 from computer stores). Calls sound clearer with the headset.

Your computer must be sufficiently up to date. For example, GoogleTalk runs only on computers with Windows 2000, Windows XP or Win server 2003.

The free calls are fairly limited. With GoogleTalk you can talk only to other users of GoogleTalk via their computer. BT Communicator allows free calls between computers but charges for calls to a normal phone. And other people can't call your computer from a normal phone.

Skype is more advanced. You can call landlines and mobiles very cheaply, and the SkypeIn service lets normal phones call you.

But the drawback is that if your computer is switched off, so is your phone – you can't call out and it won't ring if someone tries to call you.

2 Adapting a normal telephone

You use an adaptor that lets you plug a phone into a broadband connection. Calls are generally cheap but you pay a monthly subscription (£2 to £11 with BT). With cheaper packages you still have to pay for peaktime calls; with pricier packages calls are free.

And some people will have an extra cost: if your modem is the usual kind, which plugs into a computer's USB port, you may need to connect to broadband via an Ethernet cable. This costs around £50.

The advantage of using an adaptor is that you can make calls when the computer is off.

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Skype versus BT

SKYPE

Basic Skype software is free to download. You can use it with a headset or a microphone; we tried it with a headset as well as with the Du@lphone (p37).

Calls between Skype users are free, and calls to normal landlines very cheap – from around 1p a minute, home or abroad. To let non-Skype users call you, you subscribe to SkypeIn, which starts from around £7 a month and can be bought online.

Skype is easy to use, but audio quality isn't fantastic – delays can spoil the flow of conversation. Our experts also noticed a drop in performance when using the computer to access the internet at the same time.

BT ADAPTORS

BT offers free adaptors that let you plug your normal phone into a broadband connection, and a monthly subscription costs £2 to £11. You need a computer to install it, but once it's set up, the computer doesn't have to be on when you make calls.

Calls are cheaper than on BT landlines but calling mobiles costs the same. International calls are cheaper, but not as cheap as with Skype or other packages such as Vonage. And calls to other users are free at off-peak times but not during the day on some packages.

Sound quality is much better than Skype, delays are only minor, and there's no loss of quality if you use the internet while making a call.

VoIP services compared

VoIP is a great option if you fancy another phone line without physically installing one. And you can

definitely save money. Calls to other users of the same service are usually free. A call between Skype users,

for example, costs nothing, even if it's international.

Call charges to other VoIP services, landlines

and mobile phones vary between providers. Some are free, and most are generally cheaper than a normal landline.

USING THE TABLE

We've looked at VoIP services from some of the biggest names.

Specification

Hardware Cost of adaptor. **Mac** Whether it works with an Apple Mac.

Calls

PC on Whether computer has to be on to make a call. **To other users** Whether calls to other subscribers are free. **To non-users** Whether you get reduced rates for calling non-subscribers. **Dial-in** Whether non-VoIP users can call you. **999** Whether you can make emergency calls.

VoIP services

	Specification		Cost	Calls				
	Hardware (£)	Mac	Month (£)	PC on	To other users	To non-users	Dial-in	999
SOFTWARE								
BT Communicator	n/a		free	✓	✓	✓ ^a		
Google Talk	n/a		free	✓	✓	n/a		
Skype	n/a	✓	free	✓	✓	✓ ^b	extra fee	see ^c
ADAPTOR								
BT Broadband Voice/Talk	free	✓	2–11		see ^d	✓	✓	✓
Free Talk	20 ^e	✓	7		✓	✓	✓	see ^f
Vonage	free	✓	10		✓	✓	✓	✓

^a Charged at BT landline rates ^b Requires SkypeOut credits ^c 999 calls are supported if you buy the Skype Du@lphone package (£80)

^d Free to other users for up to an hour at all times on Anytime plan; on evening and weekend plans daytime calls are 3p a minute

^e Also available as £80 one-off payment with a year's subscription included ^f 999 call support promised by mid-2006



ADDRESS BOOKS

This Panasonic, along with our other Best Buys, can store at least 200 names and numbers, but some other phones store as few as ten. If you buy any of the Panasonics with an extra handset, you and your partner could have your own handsets, each with up to 200 different contact numbers – and the base station can store up to 20 numbers that you both use.

EXTRA HANDSETS

All the phones we tested came with just one handset, except for the MagicBox (9) and One Tel (20), which came with two. However, you can buy extra handsets; all our Best Buy phones handle up to six per base station.

If you want more handsets, it's cheaper to buy them in a pack with the base station. For example, this single-handset BT costs £100 and an additional handset costs £80; but the double-handset pack is only £160.

BEST BUYS

Panasonic stands out with a trio of great phones but all our Best Buys are easy to use, and voices sound clearer than on other models.

They also have a myriad of features, including text messaging to and from mobile phones, and hands-free use via speakerphones. Their displays and even keypads are illuminated so you can use them in the dark. But none of this detracts from using the basic phone functions.

Their built-in answering machines all work brilliantly. Messages left by other callers are clear, and recorded messages left by you are received loud and clear by other callers.

None of the phones without answering machines that we tested is good enough to be a Best Buy. Their relatively low scores aren't due to the lack of an answering machine – they're just not as good. But all our Best Buys except the Panasonic (4) are also available without answering machines.



1 Panasonic
WITH ANSWERING
MACHINE

1 Panasonic KXTCD220ES 77%

£40 from Comet, £50 from Argos and John Lewis
(Without answering machine: Panasonic KXTCD210ES, £40 from Argos)

This model from Panasonic is our cheapest Best Buy, but that doesn't mean there is a trade-off in quality. Its answering machine is easy to use and – unlike most models – it's integrated with the handset. This lets you pick up messages while on the move.

It's one of only two Best Buys that you can mount on a wall – the other is the Panasonic (2). And, as with the other Best Buys, the answering machine plays outgoing and incoming messages very clearly.

There's no skimping on the features. There's speed dial, space for more than 200 phone-book entries, and a 'night' mode. The latter lets you select times when the ring tone automatically gets louder or quieter, reducing the possibility of a rude awakening without having to fiddle with the volume control every evening.



2 Panasonic
WITH ANSWERING
MACHINE

2 Panasonic KXTCD320ES 77%

£60 from Comet, £80 from Argos and John Lewis
(Without answering machine: Panasonic KXTCD300ET, £70 from Comet)

This Panasonic is almost identical to its sister Panasonic (1) in looks, performance and features, though it costs an extra £20. For the money, you get a larger colour screen and a few bonus ring tones. If you can live without these extras, save yourself the cash and opt for the cheaper model.

Both the phone and the answering machine are easy to use. The handset loudspeaker sounds slightly dull but both the earpiece and the mouthpiece offer a full and clear sound.

BEST
BUY3 BT
WITH ANSWERING
MACHINE

3 BT Diverse 6450 76%

£100 from Argos

(Without answering machine: BT Diverse 6410, £70 online)

BT's top-scoring phone has a slightly concave earpiece that allows the handset to easily settle on to your ear. This makes the sound clearer when you're listening to calls.

The handset is slightly larger than most models, which makes it refreshingly easy to use if you hold it between chin and shoulder. But don't make a habit of this if you want to avoid a stiff neck.

Like most models, the answering machine is built into the base station, but you are also able to pick up messages via the handset. Incoming messages also sound clearer than any other phone on test.

Sadly, it lacks a couple of features that all the other Best Buys have. No call-barring system means that you can't block non-emergency outgoing numbers, so you can't stop the babysitter running up hefty bills. It also lacks polyphonic ring tones.

But it makes up for this by being the only Best Buy with a Sim-card reader, which lets you easily transfer contact details from your mobile phone.

And you can download new ring tones via a computer and the supplied cable, or record them through the mouthpiece – an option that we found was featured only on this model and on the most expensive Panasonic (4).



SIM CARD READER

Loading all your contact names and numbers to a new phone can be laborious. This BT, along with other BT models (13 and 14), has a Sim-card reader (left) that makes short work of the task. The reader easily transfers the numbers stored on your mobile's Sim card directly to the cordless phone.

BEST
BUY4 Panasonic
WITH ANSWERING
MACHINE

4 Panasonic KXTCD820 74%

£100 from John Lewis, £106 from Comet

If you're after a phone packed full of features and have the money, this is the model for you.

Like many handsets, this Panasonic is modelled on a mobile phone, and it's brimming with all the latest features. There's a computer link to download ring tones and wallpaper for the background display. And it lets you record ring tones yourself. It's also the only Best Buy that can double up as a baby monitor.

Its answering machine allows you to pick up messages via either the handset or the base station, so you can listen to messages in private if you wish.

NEED TO KNOW

The phones we tested are all digital cordless models that can be used with traditional landlines or plugged into VoIP adaptors. Digital cordless phones get less interference than non-digital ones. And they offer more functions, such as text messaging. But they're more likely to interfere with hearing aids.

The sound quality of cordless phones, even digital ones, is worse than that of corded models. And most cordless phones don't have battery back-up – if the power fails, so does your phone. You'll need an alternative for emergencies.

They come in two parts. The base station plugs into a phone socket and the mains power supply. You place the separate handset on the base station to charge its batteries.

MESSAGES

Many cordless phones come with built-in answering machines. But networks also provide free answering services. For instance, BT's 1571 service stores messages for 20 days: you retrieve them by calling 1571. You can't record your own messages or tell who's left you a message – but it is cheaper than an answering machine.



5 Siemens Gigaset S445 70%

£93 online

(Without answering machine: Gigaset S440, around £80, not widely available)

This phone is the top choice if you have a big house with thick walls – it has the best range of any phone we tested. And it still works through steel-framed walls that made all the other phones unintelligible.

The mouthpiece and earpiece don't sound as good as the other Best Buys, but the loudspeaker is a cut above anything else on test. There is barely any echo or cutting out, which makes the Siemens an outstanding hands-free option.

On the downside, the battery offers half the talk time of other Best Buys before needing to be recharged. The display is also a bit dim, which some will find difficult to read. And the sound quality of incoming messages on the answering machine isn't as clear as on the other Best Buys.

But this model has some interesting features, including a Walkie Talkie option. If you buy a second handset, you can chat over handsets that are a couple of hundred metres apart.

KEY

★ ☆ ○ ●
Best → Worst
■ Best Buy

SCORE

This ignores price and is based on:

Sound quality	30%
Ease of use	30%
Features	20%
Battery	10%
Range	5%
Power consumption	5%

USING THE TABLE

We've tested the latest cordless digital models from the leading brands.

Specification

Price For Best Buys, we give the cheapest widely available high-street price as we went to press. Prices for other models are a guide to what you should expect to pay. Online prices are in *italics*. Prices

BT Fusion

The BT Fusion is a unique package that uses VoIP technology. Sadly, it fails to fully pass on the advantage of cheap calls.

It's actually a Motorola v560 mobile that automatically switches from the BT mobile network to a cheaper VoIP line when you use it round the house. The idea is that you will not need another cordless phone at home. The whole package costs £22 a month. Additional handsets from BT cost £10 and you can use up to six mobile phones with the modem adaptor.

The Fusion uses a Bluetooth wireless link to work out whether it's in the house – or, more precisely, whether it's within range of a hub plugged into a broadband connection.

You need to have a computer and both BT landline and broadband connections, but it's easy to install, with good step-by-step instructions.

The hub links to the computer and broadband but you don't have to have the computer switched on when you make calls.

PRICING PROBLEMS

BT offers various pricing options. The BT Fusion 100 package, for instance, gives you 100 free minutes on your mobile. When they run out it's 10p a minute to landlines, which switches to 5.5p for up to an hour when you're at home.

The 5.5p charge is the same as BT's landline rate. But the phone is actually using VoIP, so BT's charging you over the odds by charging landline rates.

And international calls are always charged at the high mobile rates.

What's more, the phone can switch to the mobile connection even in the house. The Bluetooth connection has an ideal range of 20 to 25 metres from your modem. But furniture and walls make conditions less than ideal, and we found that the phone switched connections even within this range. So you could easily end up paying a lot more than you'd planned.



are for one handset except for the MagicBox (9) and OneTel (20), which come with two. **Handsets** The maximum number that can be used with one base station. **Speed dial** You can press one key to call selected numbers.

Memory

Handset Number of contacts that can be stored on an individual handset.

Base station Number of contacts that can be stored on the base station.

Sound quality

Phone Sound quality through earpiece, mouthpiece and speakerphone.

Answering machine

Sound quality of incoming messages and your recorded messages.

Performance

Range How far away from the base the phone will work. **Battery** How long battery lasts when calling.

Ease of use

Phone Setting up and using the phone, and clarity of instructions.

Answering machine

Setting up and using the answering machine, and clarity of instructions.

Rest on test

The Best Buys are all great phones but there are plenty of other models on test with something to offer.

The Philips (6) just misses out on Best Buy status. The sound quality and battery life are great, but the range is comparatively poor, so if you live in a large house avoid this model.

Incoming messages from the answering machine of the BT (7) can sound distorted but it's a good hands-free option, the instructions are clear and it's cheap.

The Binatone (8) is the only model on test with a second, corded handset. There's also battery back-up in the

base station, so calls are still possible during a power cut. But the cordless handset has a limited range.

The MagicBox (9) sounds pretty average when you're talking on it, but it does feature a built-in digital radio – intriguing for the price.

The BT (10), NTL (11) and Binatone (12) are all phones with answering machines at budget prices. However, with all three models the sound quality of incoming and recorded messages is pretty poor.

The rest of the phones we tested don't have answering machines. First up are a couple of models from

BT (13 and 14). Both feature a Sim-card reader. But avoid them if you're short-sighted – the colour displays look nice but the text is tiny and difficult to read.

If you're on a tight budget, the NTL (15) is a decent option, with its fair share of features, including speed dial.

Another of the BT phones (16) is an OK choice for anyone who's sick of miniaturised, fiddly technology – it has appealingly large buttons. The handset is the largest and the earpiece the loudest we tested but the clarity of speech both to and from the phone is still comparatively poor.

With the model name Big Button, the Binatone (18), unsurprisingly, goes for a similar approach. The large keys are bigger than on most models – although smaller than those on the BT (16). But the numbers in the display are the largest on test. It also relays speech more clearly than the BT and it's cheaper – a good option if you want something unfussy and don't need to store many numbers.

The Du@lphone (17) is designed to work with the Skype VoIP service (see p33), so you'll need a computer to take full advantage of it. The handset sounds better

on a normal landline than on Skype but is low on features.

Philips (19) and One Tel (20) are cheap – but have few features or outstanding qualities.

The Binatone (18) has large buttons and displays



Cordless phones

WITH ANSWERING MACHINE

	Specification			Memory		Sound quality		Performance		Ease of use		Score (%)
	Price (£)	Handsets	Speed dial	Handset	Base station	Phone	Answering machine	Range	Battery	Phone	Answering machine	
1 Panasonic KXTCD220ES ^a	40	6	✓	200	20	☆	★	☆	★	☆	★	77
2 Panasonic KXTCD320ES ^a	60	6	✓	200	20	☆	☆	☆	★	☆	★	77
3 BT Diverse 6450 ^a	100	6		200	0	☆	☆	☆	★	★	★	76
4 Panasonic KXTCD820	100	6	✓	200	20	☆	☆	☆	★	★	★	74
5 Siemens Gigaset S445 ^a	93	6	✓	200	0	☆	☆	★	○	★	★	70
6 Philips DECT6271S/05	70	5		50	0	☆	○	○	★	☆	☆	68
7 BT Freelance XA3000	30	5		50	0	○	○	☆	★	○	○	57
8 Binatone Lifestyle 7200	50	6		20	30	☆	○	●	○	○	★	55
9 MagicBox Unity	50	4		100	0	○	●	○	☆	☆	○	53
10 BT Studio 1500 ^a	35	2		30	0	○	●	☆	○	○	○	51
11 NTL D5900SE ^a	35	5		100	0	○	●	☆	★	○	○	48
12 Binatone MA760 ^a	25	5		40	0	○	●	○	○	○	○	46

WITHOUT ANSWERING MACHINE

13 BT Equinox 1200	50	5		200	0	○	n/a	☆	○	★	n/a	67
14 BT Calypso 120	55	5		150	0	○	n/a	☆	○	☆	n/a	61
15 NTL D2400SMS	30	5	✓	50	40	○	n/a	☆	○	☆	n/a	60
16 BT Freestyle 6300	45	5		100	100	○	n/a	☆	○	☆	n/a	59
17 Du@lphone SKYPE	80	4		160	0	○	n/a	☆	○	○	n/a	55
18 Binatone Big Button 510	20	6		20	0	☆	n/a	○	○	○	n/a	54
19 Philips DECT1211S/05	25	4		10	0	○	n/a	○	☆	○	n/a	45
20 One Tel OT100	28	4		10	0	○	n/a	☆	○	○	n/a	44

^a Also available without answering machine