

# Turn on to teletext

Phil Craven gets tuned in with a couple of boxes that provide him with free information, day and night



# Weird Widgets: The Microtext Teletext Adaptor

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A look at how Microtext's Teletext adaptor enabled you to view pages from the Oracle and Ceefax



Before the internet became a feature of many households, newspapers, radio, and television news were king. From the late 1970s, Teletext-compatible TVs entered the marketplace, offering the same immediacy which today's news sites have today. *Ceefax*, BBC's service was launched first in 1974. This was followed by ITV's equivalent in 1976 known as the *ORACLE*. The GPO's and British Telecommunications' own viewdata service were a true precursor to the world wide web we know today.

Besides offering immediate news stories, both Teletext and Prestel services offered Telesoftware, a precursor to today's apps. Files could be downloaded onto a telesoftware compatible microcomputer. As well as dedicated television sets, you could add an adaptor for a standard television set or your computer.

In the mid-1980s, a company known as Microtext offered a standalone adaptor for your computer. Costing £74.95 for the adaptor (or £124.90 including tuner), the price seems

pretty steep now. Back in 1986, according to a review in Amstrad Action magazine, using Ceefax, ORACLE or 4-Tel added £100 to the cost of any television set (ouch!). Which for some people back then, were a week's wages. The advantages of Microtext's system meant being able to use a non-Teletext television to catch up on Park Avenue via an Amstrad CPC.

Microtext may have been seen by some as a one-trick-pony due to their product. In fact, their Teletext adaptors were available till 2012, coinciding with the end of analogue services on Ceefax and Teletext (ORACLE's successor from 1993). After supporting the Amstrad CPC, they supported IBM compatible PCs with the same product. The PC version was launched in the early 1990s, fulfilling a gap in the market.

Today, they are still trading. They offer web design and computer consultancy services and are based in Waterlooville, Hampshire. The web design arm is also known as TC Web Design with the 'TC' standing for Terry Cassell, owner of the two companies.

**Silicon Valley Specialists**, 14 August 2016.

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**I**t has now been more than a year since my teletext TV gave its final performance. Since then I've often felt to be out of things, not being able to read up-to-the-minute news and sports reports at will. I was therefore delighted to get hold of a Microtext Teletext Adaptor and get stuck into all the things I'd missed.

Once again I could keep tabs on obscure golf tournaments and page the football league tables in blissful optimism that my team was leading the pack.

Once again I could consult the business pages to gloat over the bad performances of the shares I had chosen not to buy, trying to convince myself that I can't be wrong all the time.

The adaptor responsible for my feelings of failure is the only product that Microtext produces. It is attractively housed in a sturdy, black plastic box and plugs into the expansion port of a 664/6128, or the disc drive port on a 464. Its through connector allows for the addition of

further expansions.

Supplied with the unit is a lead to connect it to a video recorder, software on tape, and an easy-to-follow instruction book. Provided a video recorder is available, this is all that is needed to put the four BBC and ITV teletext channels on your monitor screen. Without a video recorder, the additional tuner unit is necessary.

The point I need to make here is that teletext signals are transmitted with each TV channel. The only way to decode and use them is via TV tuners and all video recorders have their own built-in tuners to allow the recording of one channel while watching another.

Microtext has cleverly designed its unit in two parts, allowing video owners to make use of their recorder's tuners, thereby keeping the cost down.

For those who don't own a video, or who prefer their computer and video to be separate, the tuner unit – which looks very much like the teletext unit – is available with connecting lead and power supply. It is fed from the outside aerial and

screens are not included.

Terry Cassell of Microtext explained that syn-up to 16 channels are available.

Conspicuous by their absence are tuning knobs – the unit is totally self-tuning. Once the initial tuning procedure has been implemented, the settings can be saved to disc or tape. From then on typing *RUN* teletext will put the first teletext screen up in a matter of seconds.

If used alone, the adaptor must be fed from the Video Out socket of a video recorder, and the teletext channel is selected by the recorder's channel selector. If a video is either unavailable or undesirable the tuner unit must be used, in which case an aerial splitter will be needed if both teletext and TV are needed at the same time. This can be bought from most TV shops for £2 to £3.

Most of the features on teletext TVs are available on Microtext's adaptor, but there are some exceptions – subtitles and double height half-

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chronisation of the two signal sources – the CPC for the teletext and the TV for the picture – would be either impossible or prohibitively expensive. He also pointed out that since most people would not be using the adaptor with a TV but with a monitor, subtitles would not be needed.

On the double height half-screen – a facility for those with poor eyesight which displays half the screen at a time in double height characters – Terry said that since most users would be sitting close to a monitor and would be quite used to reading monitor-type text, this facility would also not be needed. I agree on both counts.

There are a couple of other omissions, the alarm facility for one, but again they have no real use in the computer set up.

## Designer letters

I was a wee bit disappointed when I saw the on-screen character set. At first I couldn't understand why Microtext had chosen to dispense with the CPC character set in favour of an inferior design.

The reason is that teletext uses eight on-screen colours, whereas the CPC will allow only four colours in Mode 1, so Mode 0 had to be used.

The characters were designed using the larger Mode 0 pixels, yet still occupying Mode 1 screen

*Teledred, the teenage magazine on Ceefax*



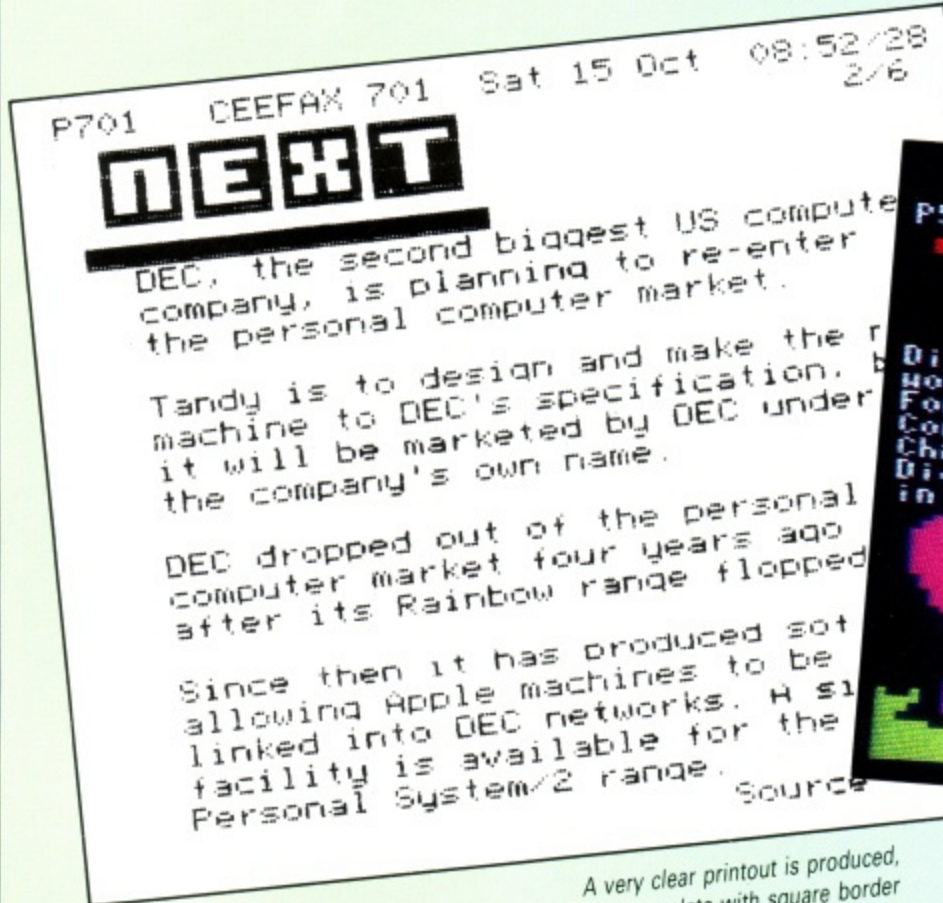
space. The resulting set can never be as good as the normal Mode 1 set, but is quite adequate, and you soon get used to it.

Having brought up the subject of colour, I should mention that I have tried the adaptor on a green screen monitor, and although some colours are rather dull – the brightness needs to

be turned up – I didn't find any colour mixes that make text disappear from view.

I can't say it will never happen – in fact Phil's first law of wires and teletext adaptors, which states that "If it can, it will", almost certainly applies – but the chances of finding disappearing text, or rather not finding text, seem to be slim.

So we've seen how things compare with a teletext TV, but this adaptor is connected to a computer, and the computer has memory in which to store the Teletext data. If the data is in memory, it can be saved, loaded, printed and accessed from



*A very clear printout is produced, complete with square border*



*A lot of care and attention go into the artwork and stories on Oracle's kiddie pages*



The jokes may be corny, but Oracle's Buzz magazine keeps reaping them in

another program. Now we're reaching parts that other teletext devices cannot reach.

OK, so we can't mix pictures and text. But we can do a whole lot more. By pressing S and entering a filename the screen currently on display will be saved to disc or tape. Conversely, pressing L and a filename will load a screen. Pressing P will send the screen to the printer.

You might think that up to eight colours being printed out in shades of grey would produce a very unsatisfactory result, but this is not the case. The print routine sends a modified screen to the printer so that a very clear printout is produced on Epson compatible printers.

A special printer driver is available, at no extra cost, for the DMP1 printer. All good stuff, eh? And there's more.

The software has been designed to allow easy access to teletext from within a computer program with the adaptor's documented machine code subroutines. And it is quite conceivable that a program could be written to analyse such things as stock market trends, weather cycles and football results. Two examples of Basic programs that make use of the software are given in the manual.

### The teccy bit

One thing I would like to dispose of straight away is the fact that the adaptor does not rest on the desk when plugged into the computer. I have raised this subject in a previous review of the Microgenic Systems rom board, when I wondered if a clumsy person might manage to break

the computer's main board by accidentally pressing down on such units.

The answer is no. I did a test with a 464 main board and a home-made rom board. The only thing to break was the rom board's edge connector, which broke in such a way that it could still be used.

Furthermore, the weight I had to apply before it snapped was enormous – about equal to a falling adult using the unit to stop the fall. I am now convinced that the risk of damage to either computer or add-on by this "hang it on the back" method is so tiny as to be not worth considering.

The alternative would be for manufacturers to make different sized models for the different sized CPCs, like the Dk'tronics stuff, and that would put up the cost.

The teletext system uses a 1k screen. Even though memorywise this is not very much, the adaptor has its own 2k ram chip built into it for screen storage. I presume this is to leave the CPC's memory free for those massive teletext accessing programs that we'll all be writing.

Each screen uses just 2k of disc space, allowing 64 screens to be saved on one side of a disc. 89 screens, did I hear you say? No way. Only 64 entries to a directory, chums.

The printed circuit boards of both units have good ground plane areas, aiding reliability, and make use of the 74LS series logic chips to avoid any user damage which might be caused by static electricity.

I was pleased not to find a rom in the adaptor, which would use up a valuable rom slot. Not because the use of slots by add-ons is undesir-

able, quite the opposite, but because when used with the tuner, channel settings for a particular area have to be tuned and saved to disc or tape. Since some of the software must, therefore, be on disc or tape, it is better that all of it is.

The two metre video lead supplied with the adaptor will fit the usual BNC Video Out connector, which looks a bit like the metal part of a small bayonet type light bulb. Alternative connectors are available from Microtext at no extra cost, as are longer leads at 50p a metre. The tape software is easily transferrable to disc, but it can be bought supplied on disc for an additional £5.

### The verdict

I would like to sum up both negative and positive aspects of the two units, but I can't really find much in the way of negative ones. I've never tried to design a Mode 1 type character set with Mode 0 pixels, so I dare not suggest that it could be better.

The omitted teletext features are not really desirable anyway in a computer setup, and I can't even quibble at the price. At £74.95 the adaptor unit is cheaper than the £80 difference between a standard 22in TV set and the same set with teletext.

Although it takes a little time to turn the computer on and load the software, the additional features provided by Microtext's Teletext Adaptor, such as printouts and saving screens, are a great improvement over the old fashioned method of receiving teletext through a TV set.

The tuner unit is slightly different. It is neat, compact and performs its task admirably. It is also £49.95. These days second-hand video recorders are going for that sort of price. They are not as neat and compact, and they will not last forever, but they do have suitable tuners. Food for thought?

Quick tip: A video's recording quality tends to deteriorate before its playback quality so, if you're buying one, see it record.

Finally, I should mention that I have found one rom with which the system doesn't fully operate. This is not a fault of either rom or teletext adaptor, but a common occurrence when different programs want to use the same area of memory. The problem is easily solved by switching the rom off.

The units cost £74.95 (adaptor only) or £129.90 (adaptor and tuner). They are available from Microtext, 7 Birdlip Close, Horndean, Hants, PO8 9PW. Tel 0705 595694.

Want a really worthwhile gift – FOR FREE? Then cut out this voucher, and two more that will appear in the February and March issues of ACU. Just send them to us, and your great gift will be on its way!

AMSTRAD COMPUTER USER

Gift Voucher

January 1989

# Tune into Teletext

**All-seeing Richard Monteiro gets on the right wavelength for Oracle and Ceefax, without even having to move from his CPC.**



## Digital tuning

The Teletext adaptor fits neatly into the expansion port at the back of the computer. If you're using a video then a lead (supplied) is connected between adaptor and video recorder. Alternatively a cable (also supplied), with plugs of the 5-pin din variety at each end, is placed between the adaptor and tuner. The tuner requires external power, which it gets from a 12V power pack. An aerial is necessary. A loft or indoor aerial may work in your area, but to avoid any uncertainty connect to a roof antenna.

If you intend using the tuner to receive teletext then special software must be run. This automatically scans the television frequencies in your area to find out which are being used. If you've connected everything successfully then you should get a message P100 SEARCHING. If the tuner is not plugged in, or the power not turned on, then you won't get such a message. When the software encounters a signal, you'll know it because the first line of the Teletext frame will be displayed, then you may save this channel setting to a key (between 0-9 and A-F). After that the software continues its search, letting you save channel settings when found, until the whole TV band has been scanned (which takes about 90 seconds).

## Teletext Adaptor and Tuner

Microtext Ltd, £74.95 adaptor, £114.80 adaptor and tuner

Microtext has made it possible for you to page Oracle and Ceefax without the need of a television or remote control unit. Indeed, all you need is your Amstrad CPC, a couple of black boxes and an aerial. You may think it odd having this facility on your Amstrad, but the monitor, is ideal for displaying Teletext frames, and it's a lot cheaper than buying a special Teletext-receiving television.

The Teletext Adaptor has been available for almost a year. To tune into the Teletext services (with only the adaptor) you need a video recorder. A lead is connected between the adaptor and the Video Out or AV of the video. Video Out is normally used for recording from one video to another, but carries all the correct signals for tapping into Teletext. Recently another box has joined Microtext's system - the Teletext tuner. You no longer need a video to assist in picking up Teletext because the tuner does that. Cost of upgrading is £48.80.

Using a video recorder and adaptor to receive Teletext allows you to use the setup anywhere in the world - assuming that the country you're in has such a service. Currently most of Europe, Australia, South Africa, Malaysia and a host of other countries have Teletext on offer. If you use the tuner you probably won't be able to use it in other countries.

If you're lucky enough to possess a satellite dish then you may tune into SkyText and similar services from abroad.

## Telesoftware

Both Ceefax and Oracle have small sections devoted to micro users. Computing and Telesoftware can be found on Ceefax pages 700 to 737 (BBC 2). Unfortunately the BBC's service is geared towards BBC computer owners: there aren't any programs for CPC users, but the news pages are interesting. Within Oracle (Channel 4) is a section called 4-Tel. This offers BBC and Amstrad users the opportunity to download listings. Starts at page 460.



● Computing on 4-Tel

## The life and times

Teletext, a British invention, was first introduced to the public back in 1976. During its development period the BBC and IBA went their separate ways, but it was eventually agreed that two heads are better than one - indeed, BBC's Ceefax and ITV's Oracle hit the air waves at the same time.

Most countries in Europe, and for that matter the rest of the world, use the Teletext system invented in the UK. Two exceptions being France and America. The States are way behind in this method of information transmission: apparently US advertisers would rather television viewers sit through commercial breaks than flick through frames of news, sport, weather reports and so on. Understandable really.

Teletext is available during normal broadcasting hours. It is free: the BBC's service being financed by the licence fee and the Oracle service on ITV and Channel 4 from advertising. News stories are updated as they come in, share prices every day and other features once a week. Generally there are a handful of people working full-time keying in pages and making sure everything goes smoothly. Most of the work is done on a freelance basis, journalists around the UK sending news and articles direct to the Ceefax and Oracle offices.



● What says the weather man?

During the signal tracing you can identify from which broadcasting house the Teletext frames are coming as either CEEFAX (BBC) or ORACLE (ITV) appear:

CEEFAX 134 Wed 14 Oct 11:23/03 - BBC 1  
 CEEFAX 221 Wed 14 Oct 11:34/26 - BBC 2  
 ORACLE 173 Wed 24 Oct ITV 1144:35 - ITV  
 ORACLE 556 Wed 24 Oct C4 1152:11 - Ch 4

You can distinguish between BBC 1 and BBC 2 frames by the frame number: in the 100's and 300's for BBC 1 and 200's, 300's and 700's for BBC 2. It is simpler to spot an ITV or Channel 4 page as either ITV or C4 is displayed at the top of the frame.

There is no need to go through this procedure if you are using the video and adaptor as the video is already tuned in to the correct channels.

## Rom on

If you own a romboard then contact Goldmark Systems: the software for the Teletext adaptor and tuner is available on rom for £17.25. The tuner software, when run for the first time, tunes itself in to the channels - the settings are then saved. Goldmark requires a copy of this tuned in software to place on rom. More information from Goldmark at 51 Comet Rd, Hatfield, Herts, AL10 0SY. Or phone them on 07072 71529.

## Frame flyback

With the software running, frames can be displayed quickly and easily by tapping in a three digit number. The number simply refers to the page you wish to access. But the first thing you want to do is select a channel; press C followed by a number between 0 and 9 or letter from A to F to choose one of the previously defined channels. Apart from jumping between channels and calling up pages, Microtext's software gives you many other options to play with - things not normally available from a Teletext-receiving television. All functions are selected by pressing one key:

N - Next page. Say you have selected page 203; by pressing N you will advance to the next page. Each keypress moves you one page forward.

## Teletext for techs

Television signals consist of 625 lines. The signals deliver information regarding brightness and colour of individual lines. When these lines are demodulated and subsequently displayed a complete picture is formed (this occurs every 50th of a second). The first 22 lines of the signal are not used in the picture's makeup. Of these 22 lines, a total of 16 may be used for Teletext. In fact, only eight are currently employed (in the early days this was four). Data comes in at approximately seven megabits a second (7000 baud) - that's why there is little hanging around for a frame to arrive. You can see the Teletext data as a series of dancing dots on a badly adjusted television channel.

B - Moves you back a page.

R - Reveal. Certain pages have hidden sections, such as a puzzle or joke, which can be shown by hitting this key.

H - Hold. Pages may take up several screens. To avoid the screens updating too quickly the H key holds the current screen. Any other key resumes.

S - Save. This saves the current screen image to cassette or disk. You will be prompted for a filename.

L - Load. Simply loads a previously saved image.

Frames may be dumped to a printer if you have one that accepts Epson codes. However, Microtext can supply you with a dump routine for other printer types. The manual contains a program that prints a Teletext frame without the graphics characters. It's much faster and works with daisy wheel printers.

## The place to be

If you have problems receiving Teletext frames, for example characters are missing or lines corrupt, don't blame the adaptor or tuner immediately. If you are using a loop or indoor aerial then the signal may be too weak - try and use an external antenna. Problems will also occur if you are hidden away in a valley or there are tall buildings that won't let signals through. In these cases you may have to reposition the outside aerial.

## Legal requirements

A law recently passed through Parliament that allows bona fide computer users to use a television (black and white or colour) without need of a licence. If it can be proved that you use the television for anything other than computing - and you don't hold a licence - you will be prosecuted.

Dedicated computer monitors, such as those found on the CPC machines, have never required a television licence. However, you must have a valid licence (colour if you own a colour monitor) if you wish to use the adaptor to receive Teletext. Don't panic though, remember you only need one licence per household: if there's a television in the house (and an accompanying licence) you won't need another.

The Teletext frames that are eventually displayed on your Amstrad monitor are of decent quality. Microtext had the problem of displaying 16 colours with forty-columns of text. They had to settle for 16 colours and squashed text. The result, although not of the same standard as that found on the television, is very high indeed and legible.

Microtext has left the software in unprotected form and actively encourages you to inspect it. The manual explains what certain parts of the program do and suggests that you could re-write it to suit your own purposes. This means you could automatically download particular pages everyday to keep track of trends in the weather, the stock market, or even use it as a pools predictor.

If you need to get your hands on the latest news flash, sports results or weather report in a hurry and don't have a Teletext receiving television then Microtext's offering is a welcome alternative. The Teletext adaptor et al is priced just right when you consider what you get and what it does. A well thought out product that performs admirably.

Microtext Ltd ☎ 0705 595694  
 7 Birdlip Close, Horndean, Hants, PO8 9PW

### GOOD NEWS

- Not a toy. Can be put to serious use.
- Provides extra functions not found on a Teletext receiving TV.
- Compared to the extra (\$100 minimum) added to the price of a TV, the adaptor and tuner are reasonable.
- Manual makes setting up simple.

### BAD NEWS

- A television licence is required.
- A costly gadget if you don't need Teletext frequently.

