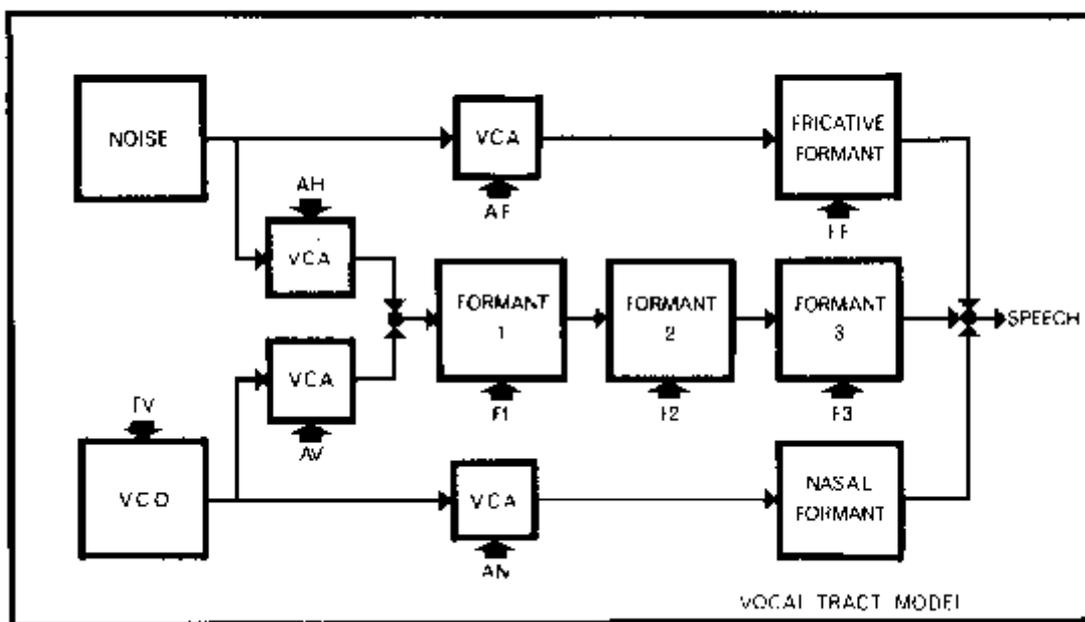


# ph Microspeech

## Microspeech

dropbox

'WEHL IHT KAAAN DOO WIHTH MEE!'



# MICROSPEECH

Does your computer speak to you?

## Features

- Single PCB plugs directly into an SWPTc 6800 bus.
- 9 parameter vocal tract model.
- Realtime software converts any stored phonetic code to speech.
- Computer Games.
- External input for special musical effects.
- Adds speech output to existing BASIC programs.

## Microspeech package

- Speech synthesizer board (*assembled & tested*).
- MSP2 Software on floppy disc or cassette.
- Hardware & Software manual.
- Speaking BASIC software option.

## Make your computer talk

Just by entering phonetic text (as in the sentence at the top of the page). Microspeech with the MSP2 software can make your computer speak. MSP2 uses only 4K of memory. Every extra 1K of buffer space can store 90 seconds of speech.



COSTRONICS ELECTRONICS  
TIM ORR DESIGN CONSULTANT

13 Field Heath Avenue, Hillingdon, Middlesex  
55 Drive Mansions, Fulham Road, London, SW6

## First low cost speech synthesizer in UK, published in Wireless World Februari 1979 page 39

Until recently, electronic speech synthesizers have been very limited or very expensive and this has restricted their use. The recent speak and spell device from Texas, although not a true synthesizer, does provide high quality speech very cheaply, and has opened the door to more versatile pre-programmed units. Microspeech from Costronics, however, is a true speech synthesizer, priced at around £300.00, which has been designed to operate directly with the standard SS50 bus as used on the South West Technical Products 6800 microcomputer. The microspeech package contains a speech synthesizer with separate nasal and fricative branches, a digital noise source, and a voltage controlled oscillator. To complement this board, software is supplied on a floppy disc. This translator program occupies about 4K of memory and converts phonetic code into sets of data which control the synthesizer. This data produces nine control parameters which in turn determine pitch, amplitudes, and resonant frequencies. In operation, the characters from the phonetic text are compared with a phoenem look-up table. If a match is not possible, a one character match is attempted while at the same time checks are made for the end of text character and for the pitch control characters. If a pitch control character is encountered, internal updating takes place as necessary. When a phoenem is recognised, the parameter store for that sound is released. This store defines the starting and stopping values of eight vocal tract parameters together with the phoenem and type of interpolation to be used for the resonances and amplitudes. Each time a new frame of data is produced during the interpolation, it updates the speech synthesizer. When the phoenem has finished, a short interpolation is made between the end values of the current phoenem and the starting values of the next one. The whole process then repeats until the text has finished.

An important feature of Microspeech is its real-time operation. This means that there are no gaps in the speech and the device can be arranged to operate directly from a keyboard. Alternatively, speech can be stored, around 90s for each 1K of buffer space, without the need for a large memory to accommodate the control parameters. Although the speech quality is by no means perfect, the system is theoretically capable of synthesizing any voice provided that the circuitry is controlled correctly. For this reason, most of the current development is taking place on the software.

THANK YOU FOR YOUR RECENT ENQUIRY.

#### MICROSPEECH

is a microprocessor peripheral that produces synthetic speech. The card containing all the electronics plugs into the standard SS50 bus on the SWTPc and MSI 6800 microcomputers. The software translator program (MSP2) converts phonetic code (which is similar to normal spelling) into sets of data that control the speech synthesizer. The data, when decoded, produces nine control parameters which determine pitch, amplitudes, and resonant frequencies in the speech model. What goes in are phonetically spelt phrases, and what comes out is synthetic male speech.

The speech model is a three formant synthesizer with separate nasal and fricative branches. A digital noise source and a voltage controlled oscillator produce the signals that drive the unit. Alternatively an external signal may be fed in and articulated, making speaking musical sounds readily attainable. As well as the standard phonem translator package, a disc based BASIC interpreter with speech output is available as a software option.

#### MICROSPEECH

is an invaluable peripheral for the go ahead microcomputer owner, and a useful tool for those involved in speech research, education, and system design.

The software is available on mini floppy disc for SWTPc users.

PRICES MICROSPEECH unit including floppy disc of speaking BASIC (SPBAS) for (SWTPc FLEX) users only and MSP2 monitor program plus HEX listing and user manual £297.00 + VAT User manual only £2.00 Audio demonstration cassette £2.00 Customised reassembly of speech translator output routine for 6800 system users £40.00 + VAT All prices include post and packing in the UK. All cheques made payable to:

TIM ORR DESIGN CONSULTANT, 55 DRIVE MANSIONSFULHAM ROAD,  
LONDON SW6.

# MICROSPEECH

**Does your computer speak to you?**

## MICROSPEECH 2



Voor Nederland:

SYNTON ELECTRONICS B.V.  
P.O.B. 83  
3620 AB BREUKELEN  
TEL.: 03462-3499  
TLX: 40541 SYNTONL

Prijs: f 4.750.- excl. BTW  
Complete handboeken  
binnenkort verkrijgbaar

MICROSPEECH 2 is a stand alone speech synthesizing unit. It converts phonetic code or any text (which is input via a standard RS232 connection) into a speech output. MICRO-SPEECH 2 may be interfaced to any computer system because all the computation necessary to synthesize speech is performed by its own dedicated microprocessor. In fact it is possible to run the unit from just an ASCII keyboard. Up to one thousand phonetic characters, representing about one minute of speech, may be assembled in the unit's internal buffer before it is commanded to speak. The controlling microprocessor has a spare ROM capability of 8K bytes which can be used to store an optional text to phonetics translator program. This includes the phonetic equivalents of all the standard ASCII symbols, and thus enables the unit to be driven directly from English text. Although the speech in this mode is less fluent than that produced in the phonetic mode, it does allow messages to be rapidly programmed, and also makes the unit extremely useful to the blind.

### FEATURES

- Uses standard RS232/V24 interface.
- Self contained, with loudspeaker and power supply.
- Loop through connections allow the unit to be plugged 'in-line' to any VDU that uses standard RS232 ASCII.
- No need to worry about complex interfacing.
- No need to worry about complex support software.
- Runs from phonetic code, giving unlimited vocabulary and simple operating software.
- Optional text to phonetics translator allows operation directly from ordinary English text.
- Additional musical phonemes, and an exponential frequency control on the glottal pulse generator allow the unit to add musical sequences to speech.

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