

VARITEXT VIDEO CONSOLE UP-GRADE

Major enhancements to the screen handling capabilities of the 380Z give the system the most versatile set of video facilities currently available.

The most significant innovation is the introduction of software selectable 80 character/40 character per line display in the one unit; but a wide range of other features have also been introduced. They include: a range of character highlighting facilities; user-definable windowing; improved scrolling; an additional, user-definable, 128 character set; and a variable 'beep' feature.

These new features combine to widen the applications potential of the 380Z and to introduce a new level of 'friendliness' at the user interface. They make the system particularly suitable for word processing, for example, and have allowed Research Machines to implement the versatile WordStar package; they enable programmers to take advantage of languages like Pascal and APL and make full use of Fortran and Algol; and they continue the important trend towards providing a video display with the features and facilities associated with the printed word. Many of these facilities are still rare in sophisticated minicomputer and mainframe environments. Their introduction in the 380Z microcomputer, therefore, will consolidate its position in the forefront of low-cost systems for educational, scientific, development, and general-purpose computing.

The Varitex up-grade is available with new systems and as a user-installable enhancement to existing 40 character disk-based 380Z systems.

```
DH 'Research Machines'
df 'August 80' Page # of
ce
~↑SERIAL\INTERFACES↑~
↑General.↑
    Data communication
has been around since the
the large range of low cost
almost universally accepted
The two most commonly used
are the RS232/V24 standards
types the RS232/V24 is
There are six serial interfaces
for the Research Machines
the SIO-1, the SIO-2, the
SIO-4 and the SIO-5/6.
.sp
~SIO-1~
```

```
TXED V 4.2 D
Copyright (c) 1980 by Research Machines
#
```

```
COL 62          INSERT ON
ft char        fD=right char    fF=right word
in line
in line        fU=up screen      fR=down screen
er right       fT=word right     fY=entire line
RETURN=end para fU=stop
form to end para fL=find/replace again
```

```
display menus of additional commands
-----|-----|-----|-----|-----P
connect the 380Z VDU board to the
providing the necessary signals was
board design.
```

```
board is necessary in addition to the
versions are available. For use with
the PAL/Modulator board is necessary.
```

```
RGB monitor should be used, together
please contact the Sales Office for
have a cassette based system, you must
modulator board and a bus cable with the
add-on boards you have ordered i.e.
```

SUMMARY OF FEATURES

80/40 character per line display

Varitext allows the 380Z to be used in both 80 and 40 character per line display modes. Since the 'switch' is under software control, the choice can be made either by program or directly via the keyboard. Screen capacity is 24 lines in both cases.

The 40 character line length offers maximum legibility in general use and is particularly suitable for viewing at a distance — for example in presentation, teaching, and control applications. It also enables the user to take advantage of current and future 40 character applications software.

The use of 80 characters will be particularly beneficial in word processing applications, whether based on the Research Machines TXED or the sophisticated WordStar package which is now also available with the 380Z.

The 80 character mode also extends capability of the 380Z in many areas of general-purpose DP where a 40 character line length imposes artificial limits. Typically, it is more appropriate to programming languages like Pascal, and particularly suited to making full use of indents in Algol and comments in Fortran. Similarly, it provides a familiar environment for programmers who have trained on 80 character systems.

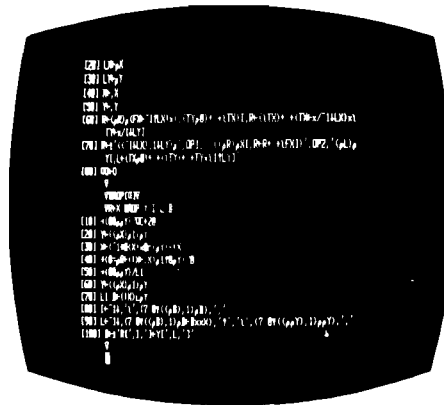
The reduced character size is also a useful facility for the annotation of graphics.

Character set



A new standard character set, which includes a range of rules for the boxing of tables, etc, and a number of other widely applicable characters, has been introduced with Varitext. At the same time the up-grade also makes available an additional 128 user-definable characters. These not only enable the user to define a repertoire of, for example, mathematical and scientific notation, or of special symbols such as those required for APL, but also extend

the low resolution graphics capability of the system.

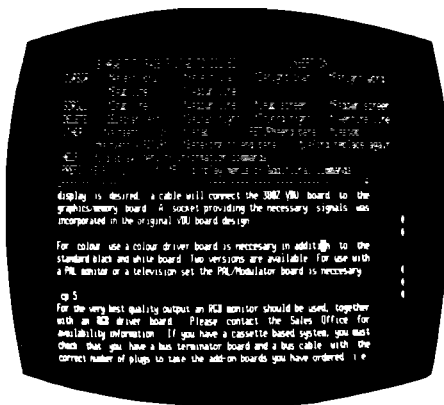


Specialist users can add an alternative character set to the basic, by replacing the 2K ROM module on the board with a 4K module.

Enhanced legibility

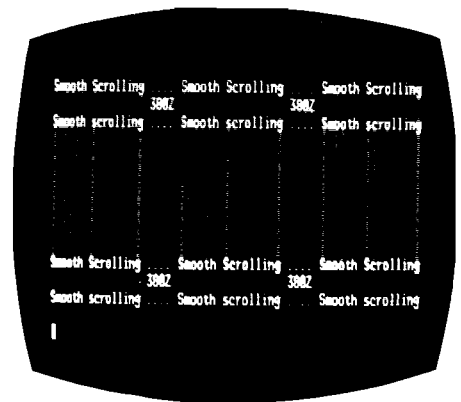
The 380Z has always been noted for the legibility of its standard character set; lower case characters, for example, have true descenders when used. Varitext further enhances readability with a refinement of the character set on an 8 x 10 dot matrix.

It also introduces a number of desirable new features to enhance communication. They include: reverse video (i.e. black on white display of individual characters); underlining; and, in the 80 character mode, selective character dimming. This last feature makes a particularly valuable contribution to ease-of-use and clarity by de-emphasising subsidiary information. It is, therefore, particularly suited to applications like WordStar which are characterised by the display of extensive HELP information.



Improved scrolling

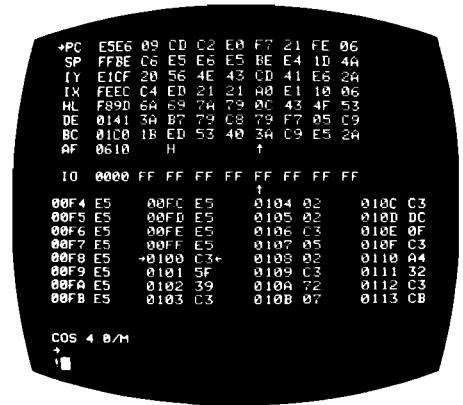
The implementation of hardware controlled scrolling gives faster screen filling than before. At the same time smooth scrolling has been introduced, and the 80/40 up-grade also permits split screen scrolling.



Windowing

This facility permits the user to define rectangular windows of any size and in any position on the screen. The contents of a window can be scrolled independently of the rest of the screen.

Front panel lock-out



A particularly valuable feature of the 380Z is its 'software front-panel' which allows the user to display on the screen, and modify, the contents of registers and memory blocks. Whilst this is a powerful aid to machine language programming and debugging, free access to this feature is not always appropriate. The Front Panel Lock-out has, therefore, been provided to prevent accidental or unauthorised access.

'Beeping' (option)

An audible tone can be software generated with duration, frequency, and usage at the discretion of the user. Typical applications range from highlighting line overflows to the signalling of alarm conditions in industrial or laboratory control.

Availability

Varitext is available with new disk-based systems which should be specified as 380Z Varitext. It is also available as a user-installable enhancement to existing 40 character disk-based systems, in which case it requires factory modifications to the CPU board and a new Video board.

Users should note that (i) cassette I/O is not available with this enhancement, and (ii) a black and white modulator board is required if the system is to be used with a TV.

RESEARCH MACHINES
MICROCOMPUTER SYSTEMS