

July 86

FRONTIER



GRAPHICS TERMINAL

by DATAPATH

The FRONTIER

A NEW CONCEPT IN PRICE/PERFORMANCE FOR GRAPHICS TERMINALS

The FRONTIER terminal represents many man-years of effort striving towards the ultimate in low cost high performance graphics terminals. With many of the features found only in terminals costing many times its price — the FRONTIER offers a no-compromise breakthrough, both for existing graphics users who will be able to obtain better performance from their budget, and new users who until now could not justify the expense of TRUE HIGH RESOLUTION GRAPHICS.

Flicker free display:

High line rate monitor gives a high purity flicker free non-interlaced display refreshed at 50 Hz.

High resolution:

The FRONTIER boasts a 736 x 512 pixel on-screen display which acts as a window into a 1024 x 1024 pixel memory. The non-displayed memory can be brought into the display window by panning or by using the page select function key.

Split screen:

The screen can be split horizontally at any of the 512 lines to set up two areas which can be independently panned anywhere in the display memory.

Tektronix 4014[®] Emulator:

Inbuilt into the FRONTIER's advanced TERMSOFT[®] command software is a TEKTRONIX 4014[®] graphics emulator with full cross-hair support which allows you instant access to a wealth of readily available software. As an added bonus, the FRONTIER features built-in scaling to allow the 736 x 512 screen to appear to the host as 1024 x 780. Scaling can be switched off, in which case the picture would be drawn into the memory at full size allowing the user to pan around the image.

Alpha Operation

The FRONTIER supports VT-52[®] cursor positioning and has special commands to set the character colour, height, slant, etc. This can be used in conjunction with the split screen to produce a separate alpha VDU page which can be smooth scrolled and a graphics page which can remain locked. Also, there are two inbuilt character sets, one of a 5 x 7 matrix and the other 7 x 11. A further two user definable sets are included, which can be linked together to give user controlled character matrix size.

Models

The FRONTIER terminals are available in several different configurations in either COLOUR or MONO-CHROME and with 1-4 memory planes. Colour models support either 8 or 16 on screen colours from a PALETTE of 4096. Available with both 15" and 19" screens.

Zoom

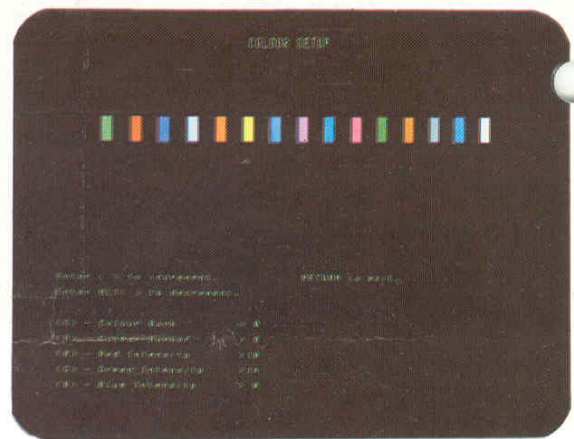
Hardware zoom is supported in integer steps from x1 to x16.

Joystick Port

A joystick port is fitted as standard to the FRONTIER to operate with the FRONTIER JOYSTICK (optional) for very fast interactive cursor movement.

TERMSOFT[®] (Terminal Software)

The FRONTIER's built-in advanced TERMSOFT[®] package has been designed to allow you to implement graphics functions at a high level. Besides just vectors, the FRONTIER supports arcs, rectangles, pie charts, complex fill and animation. On top of this, the FRONTIER supports graphics macro's (display list processing) which can be drawn, erased, or moved around the screen.



Soft Setup

Communications parameters are retained in non-volatile memory with a menu-driven setup program. There is also a sub-menu for setting up the colours (shades of grey in Mono-Chrome).



Hardcopy output

Screen dump is supported to various printers.

Ergonomic Design

Ergonomics has played a very important part in the design of the FRONTIER and with its low profile detached keyboard and tilt and swivel monitor we think you will agree that the FRONTIER has winning style.

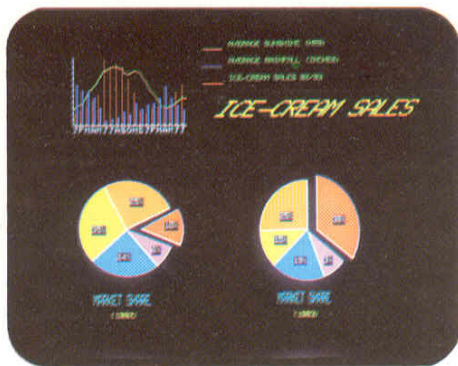


The FRONTIER

A TERMINAL GEARED TO APPLICATIONS

CAD/CAM — 19in version

Tektronix 4014[®] compatibility with built-in scaling allows applications engineers to easily integrate the FRONTIER into existing systems and to introduce extra enhancements such as colour, as and when required. A joystick port is fitted as standard for fast interactive displays. The bidirectional capabilities of the auxiliary port allows digitizer input and plotter output to and from the host directly from the terminal — no more tying up of expensive computer ports.



BUSINESS GRAPHICS

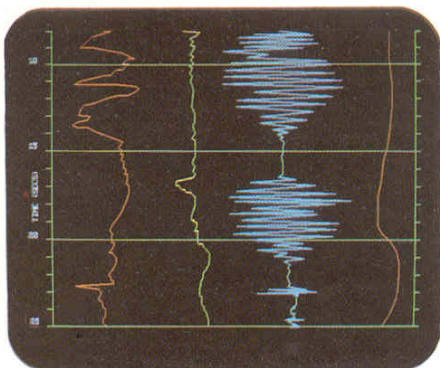
The FRONTIER's high level command structure allows simple construction of pie charts, bar charts and histograms etc. A special split screen mode allows a smooth scrolling alpha VDU in one window with a fixed graphics page in the other. Local function keys allow the swapping of pages to expose more text if required. A user could, for example, have a fully functional 80 x 25 VDU in one page and a full 736 x 512 graphics display in the other. PRESTEL[®] display mode allows the terminal to display PRESTEL[®] pages for local or national videotex applications, but with the added resolution of the FRONTIER, you can have up to four PRESTEL[®] pages on-screen.



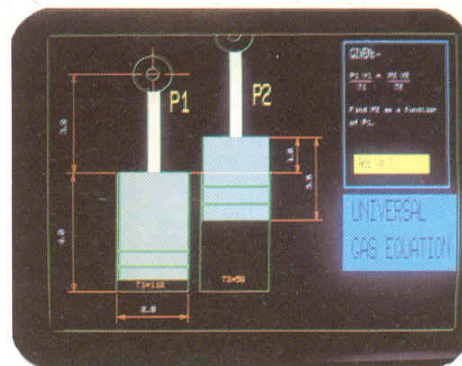
Courtesy MICRO AIDED ENGINEERING LTD.

EDUCATIONAL AND SCIENTIFIC

Advanced features such as multiple colour banks with automatic control allows systems to make use of animation. Particularly useful for 'live' educational diagrams to illustrate a sequence of events. User definable character sets and matrix sizes allow the generation of sophisticated characters to be drawn in various sizes and orientations.

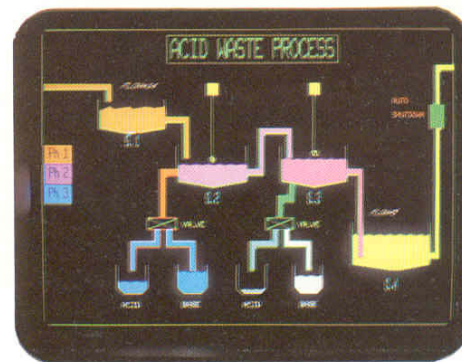


A combination of split screen, user defined characters, cursor addressing and smooth scroll can be used to create continuous chart recorder effects for monitoring scientific data.



PROCESS CONTROL

The high resolution display of the FRONTIER allows even the most complex plant mimic diagrams to be drawn in full detail and in colour. The large off screen display allows instant access to a second display holding perhaps a contingency plan, or possibly a text page of explanatory notes. The local display list processor allows simple generation of pointers etc. which may be moved around the screen under host control.



THE FRONTIER TERMINAL - SETTING NEW STANDARDS

The DATAPATH FRONTIER

Graphics Terminal

PRODUCT DATA

ARCHITECTURE

A 16 bit graphics processor and an 8 bit control/communications processor drive a dual-bus hardware configuration. This sophisticated architecture ensures superior performance providing high level protocols coupled with high drawing speeds.

DISPLAY

TUBE: 15" High Resolution Display (0.31 mm dot pitch). Medium Phosphor — Short Persistence.
DRIVE: 27 KHz non-interlaced, variable brightness and contrast. 50 Hz Refresh.

ALPHA OPERATION

80 characters by 25 lines (in single height mode) nominally. Programmable horizontal and vertical character spacing allows displays up to 120 characters by 50 lines to be achieved.
2 full ASCII character sets in ROM — one 5 x 7 matrix and one 9 x 11 matrix — plus 2 further user definable sets with user definable matrix size.
DEC VT-52® compatible cursor control commands.
Multiple character sizes: Normal, Double Height, Double Height Double Width, Quadruple Height Double Width.
Smooth scroll.

CONFIGURATION

Setting up is performed by a menu driven set-up routine and the parameters are retained in a non-volatile memory.

INTERFACING

RS-232 Main and Aux ports with independent baud rates from 110-9600.
Trailer codes: CR, CR/LF, CR/EOT, None.

CONSTRUCTION

All FRONTIER Terminals (mono-chrome and colour) share the same ergonomically designed tilt and swivel case and low profile keyboard. The control electronics differs only in the monitor type (colour or monochrome) and the number of memory planes. This allows the units to be field upgraded to more colours/grey levels if required.
Modular construction allows field upgrade and simple maintenance.

GRAPHICS OPERATION

736 x 512 viewable window on to a 1024 x 1024 memory image.
Hardware drawing of vectors, rectangles, arcs and circles.
Instantaneous pan and zoom (1-16 integer steps)
1 to 4 Memory Planes giving up to 16 colours (or shades of grey). Palette selection allows the setting of any individual colour or shade of grey to any one of 4096 colours (16 shades of grey for mono-chrome).
Joystick port fitted as standard.
Graphic input mode with cross-hair cursor (programmable size), in addition to direct digitizer input capability.
Screen dump capability via auxiliary port (direct to printer). Anadex and EPSON Printers supported.
Colour ink jet printer coming soon.
Individual colour selection and line styles for arcs, rectangles, vectors, characters and fill commands.
Graphics text in 16 character sizes and eight drawing directions — normal or slanted.
Macro display list processing (Macro's can be drawn, erased and moved).
Tektronix 4014® compatibility.
Advanced TERMSOFT package provides many high level functions such as Complex Pattern Fill etc.
PRESTEL® display mode.

FRONTIER MODELS

The following five models are available:
M1 Single Plane Monochrome
M2 2 Plane Monochrome
M3 3 Plane Monochrome
C3 3 Plane Colour (8 colours)
C4 4 Plane Colour (16 colours)
Also available in 19".

REGISTERED TRADE MARKS

DEC and VT-52 are registered trade marks of the Digital Equipment Corporation.
TEKTRONIX and 4014 are registered trade marks of Tektronix Inc.
PRESTEL is a registered trade mark of British Telecom.

All illustrations used in this publication are actual screen photographs.

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