

# 4012/13

# TEKTRONIX

4012: Full ASCII Characters set  
4013: APL-compatible

## Computer Display Terminal

**Full ASCII, Flicker-free graphics, with APL option.** Alphanumerics can transcribe computer data; Graphics can interpret and amplify that data. We've made high-resolution graphic presentation and upper- and lower-case ASCII alphanumerics available in 4012 and APL-language 4013 Computer Display Terminals.

The 4012/4013's flicker-free 27.9 cm (11-inch) screen provides up to 1024X by 780Y viewable graphic points or as many as 2590 A/N characters per display. The TTY-style keyboard simplifies input, while the thumbwheel controlled cross-hair cursor enhances graphic input.

Because it's from Tektronix, the world graphics leader, you're assured of quality engineering inside and out. The Tektronix storage display tube medium provides extensive data storage capabilities, making the 4012/4013 economical to purchase and inexpensive to maintain.



**Graphics Support.** When it comes to peripheral support, the 4012 and 4013 offer compatibility with options, interfaces and accessories in the Tektronix 4010 terminal family—including hard copy units, digital cartridge tape recorders, digitizing plotters, graphic tablets, and more.

**Built-in or build-on graphics performance.** The 4012 and 4013 models are rugged, fully-tested terminals built for a long life of dependability. whatever your application—in business, government, science, engineering, education or industrial uses—we've got both the hardware and software to help you get started.

If you're into APL, you're provided for with the 4013—with complete upper- and lower-case ASCII and 94-symbol APL, including special APL function symbols and composites. We'll give you the software support you need with our PLOT 10 APL/GRAPH II package, that takes full advantage of the terminal's natural interactivity and the APL language.

**Specifications:****Display medium:**

Direct View Bi-Stable Storage CRT

**Display area:**

20.3 cm (8 inches) wide x 15.2 cm (6 inches) high

**Alphanumeric mode:****Format**

74 characters per line

35 lines per display

2590 characters per display

**Alphanumeric cursor:**

Pulsating 7 x 9 dot matrix

**Character set:**

94 printing characters on 7 x 9 dot matrix. (Full ASCII code)

94 character APL set (4013 only)

**Character size:**

85 mils x 105 mils

**Character generation:**

7 x 9 dot matrix

MOS Read-Only Memory

1,000 characters per second

**Graphic mode:**

Vectors only

Vector drawing time 2.6 ms

**Graphic matrix:**

1024(X) x 1024(Y) addressable points

1024(X) x 780(Y) viewable points

**Interactive graphics mode:**

Thumbwheel controlled crosshair cursor 3 thru 1023 X, 0 thru 780 Y

**Local mode:**

Terminal isolated from CPU, keyboard data is displayed and executed

**Hard copy mode:**

Allows a copy to be made of display by a hard copy unit

**Input power:**

110/220 (Hi, Med, Low) VAC

strappable 48 to 440 Hz, 110W

**Operating temperature:**

+ 10°C to + 40°C

Operating Altitude to 15,000 feet

**Dimensions:**

Height—105.4 cm (41.5 inches)

Width—48.3 cm (19 inches)

Depth—73.7 cm (29 inches)

**Weight:**

40.9 kg (90 pounds)

**Computer Interfaces:** Basic Data Communication Interface included with the 4012 or 4013 is EIA RS232C compatible. Full duplex only.

Option 1—Optional Data Communication Interface (EIA RS232A or C) includes convenient switch-selectable functions including local-echo (echo-plex), full-duplex, half-duplex, and independent transfer and receive rates of 110, 150, 300, 600, 1200, 2400, 4800 and 9600 bits/sec.

**Note:** EIA RS232 is comparable to the European Standard CCITT (V.24).

We also offer a complete range of optional interfacing designed for communications with most of the widely used mainframes and mini-computers. In particular, our 2741 Correspondence Code Interface (Options 22 and 23) provides easy installation on IBM mainframes and a variety of user convenience features, like type-ahead, host output buffering, and communications to 9600 baud in full duplex or half duplex supervisor.

**Companion Products:**

4631 Hard Copy Unit

4923 Digital Cartridge Tape

Recorder

4952 Joystick

4953/54 Graphic Tablets

4921/22 Flexible Disc Memory Unit

4662/63 Interactive Digital Plotters

**Software:**

PLOT 10 Software packages designed to be used with the 4012/4013 Computer Display Terminal include: Terminal Control System, Advanced Graphing-II, Preview Routines for Calcomp Plotters, Minicomputer Software, Character Generation System, APL Graph-II, the Interactive Graphing Package, Easy Graphing, and the new Interactive graphic library.

Contact your Tektronix Sales Engineer for additional data.

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