

Tektronix

4663

The first interactive
digital plotter to
integrate large plotter
capabilities with C-size
convenience.



4663

POWER

OFF ON

Interactive Digital Plotter

OFF LINE ON LINE LOCAL REMOTE ERROR RESET

RECEIVE WORD RATE	T10	300	600	1200	2400	4800	9600	
SERIAL DEVICE ADDRESS	A	B	C	D	E	F	G	H
GP/IB INTERFACE FUNCTIONS	DISABLE MEDIA CARDS	OR GENERATE I/F	TALK ONLY	LISTEN ONLY	3	4	5	6
GP/IB INTERFACE MODE	NORMAL	1	2	3	4	5	6	7
GP/IB DEVICE ADDRESS	1	2	3	4	5	6	7	8
GP/IB DEVICE SELECT	1	2	3	4	5	6	7	8
INTERFACE SELECT	1	2	3	4	5	6	7	8
PER SPEED LIMIT	6 IPS	8 IPS	10 IPS	12 IPS	14 IPS	16 IPS	18 IPS	20 IPS
PER PRESSURE	50MM	100MM	150MM	200MM	250MM	300MM	350MM	400MM
PER TYPE	FIBER TIP	PER 1	PER 2	PER 3	PER 4	PER 5	PER 6	PER 7
PER PARAMETER ACCESS	PREVIEW	NORMAL	ENHANCED 1	ENHANCED 2	3X-3Y	3X-4Y	3X-4Y	3X-4Y
LINE QUALITY	IV	X	Y	X	Y	X	Y	X
ASIS ORIENTATION	HORIZONTAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL	VERTICAL
INIT ASPECT RATIO	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
PAGE ORIENTATION	SHEET	SETUP 1	SETUP 2	SETUP 3	SETUP 4	SETUP 5	SETUP 6	SETUP 7
INIT PAGE MARGIN	SETUP 1	SETUP 2	SETUP 3	SETUP 4	SETUP 5	SETUP 6	SETUP 7	SETUP 8
INIT PAGE SIZE	SETUP 1	SETUP 2	SETUP 3	SETUP 4	SETUP 5	SETUP 6	SETUP 7	SETUP 8
INIT PAGE SITE	SETUP 1	SETUP 2	SETUP 3	SETUP 4	SETUP 5	SETUP 6	SETUP 7	SETUP 8
MEDIA FORM	SETUP 1	SETUP 2	SETUP 3	SETUP 4	SETUP 5	SETUP 6	SETUP 7	SETUP 8
PARAMETER SETUP SELECT	SETUP 1	SETUP 2	SETUP 3	SETUP 4	SETUP 5	SETUP 6	SETUP 7	SETUP 8



Private utility: The 4663 can be your shortest distance between preparation and results.



(Above) The 4663 ideally integrates within a graphics system as in this circuit design environment.

(Left) A key to 4663 convenience is the unique user parameter entry card, which permits easy interrogation and revision of a variety of operational conditions.

When you depend on big flatbed and drum plotters to do the bulk of your work, you get used to waiting for results. To paying a high price for the service. To risking mistakes in the finished plot and returning your tapes to the waiting line.

Introducing the Tektronix 4663 Interactive Digital Plotter: A smart, C-size plotter that lets you enjoy all the advantages of distributed plotting. The 4663 marks an engineering first—the versatility of a large plotter within an easy-to-use, localized plotter workstation. In applications like printed circuit board layout, numerical control, mapping, drafting and report generation, most jobs usually can be plotted on the 4663's 432 mm x 559 mm (17" x 22") area.

In order to serve so many environments efficiently, we knew the 4663 had to offer the flexibility of the big flatbeds and drums, in a simplified configuration that virtually anyone could program and operate with minimal training.

From computer aided design to information management, the 4663 adapts to the job with speed,

accuracy, intelligence and a large selection of standard and optional capabilities. Built in are 5.5K bytes of buffer memory and an RS-232-C interface.

Integral digitizing via joystick control is especially convenient for design and drafting applications. Engineering environments can productively apply the 4663's wet ink capability, programmable macros, and circular interpolation options. Circuit board designers can switch at will between paper and film media. Mapping, and other environments, may specify the plotter's programmable media advance. Data representation applications can take advantage of its dual programmable pen control, multi-color capability, downloadable character sets and much more.

The user parameter entry card is an intelligent alternative to switches, jumper straps, and other rear panel inconveniences. The 4663 makes adjustments almost automatic. Its revolutionary user parameter entry card lets the user interrogate and set the machine's interface status, baud rate, pen speed, and other parameters.

Simply by pulling out the card one line at a time, LED-lit switches above the card indicate present conditions of each parameter. Changes can be made by pushing the corresponding switch. The 4663 can remember as many as four sets of instructions even with the machine turned off . . . for as long as 90 days.

The 4663 can be a personal device for several people at once. Because set-up time is practically nil, several widely varying jobs can be quickly accommodated. Without jeopardizing deadlines. Without the exasperation of waiting lines.

**Never has a C-size
plotter done so much.
So fast. So simply.**

No other plotter, large or small, makes so much capability so easy to control. The 4663 defines the state-of-the-art in smart plotting devices: its intelligence has been applied within a total human engineering context to make each step as easy as entering a command or pushing a button.

The simplicity of the control panel speaks for itself. Eight major control groups enable access to a variety of clearly defined commands via shift switches. The "Plot Control" group, for example, enables a pause in plotting with continued data buffering; a solid line outline of the viewport;

tic marks indicating viewport corners. Pen control functions allow for fine-tuning of pen pressure to best accommodate inks, pen points and media.

Tektronix 4663 software sub-routines, part of our PLOT 10 Terminal Control System and PLOT 10 Interactive Graphics Library, are a comprehensive series of commands

made especially easy by thorough step-by-step documentation.

Note too, that the 4663 draws curves that are really curve forms: no additional controller box is necessary. It uses its intelligence to draw both axes simultaneously—not as x and y stairsteps. It draws alpha-

numerics on a high resolution 15 x 7 matrix, in any size, shape or angle, with several language fonts available. It includes an advanced self-testing program and diagnostics that pinpoint errors whether from noisy lines, input data or machine malfunction.

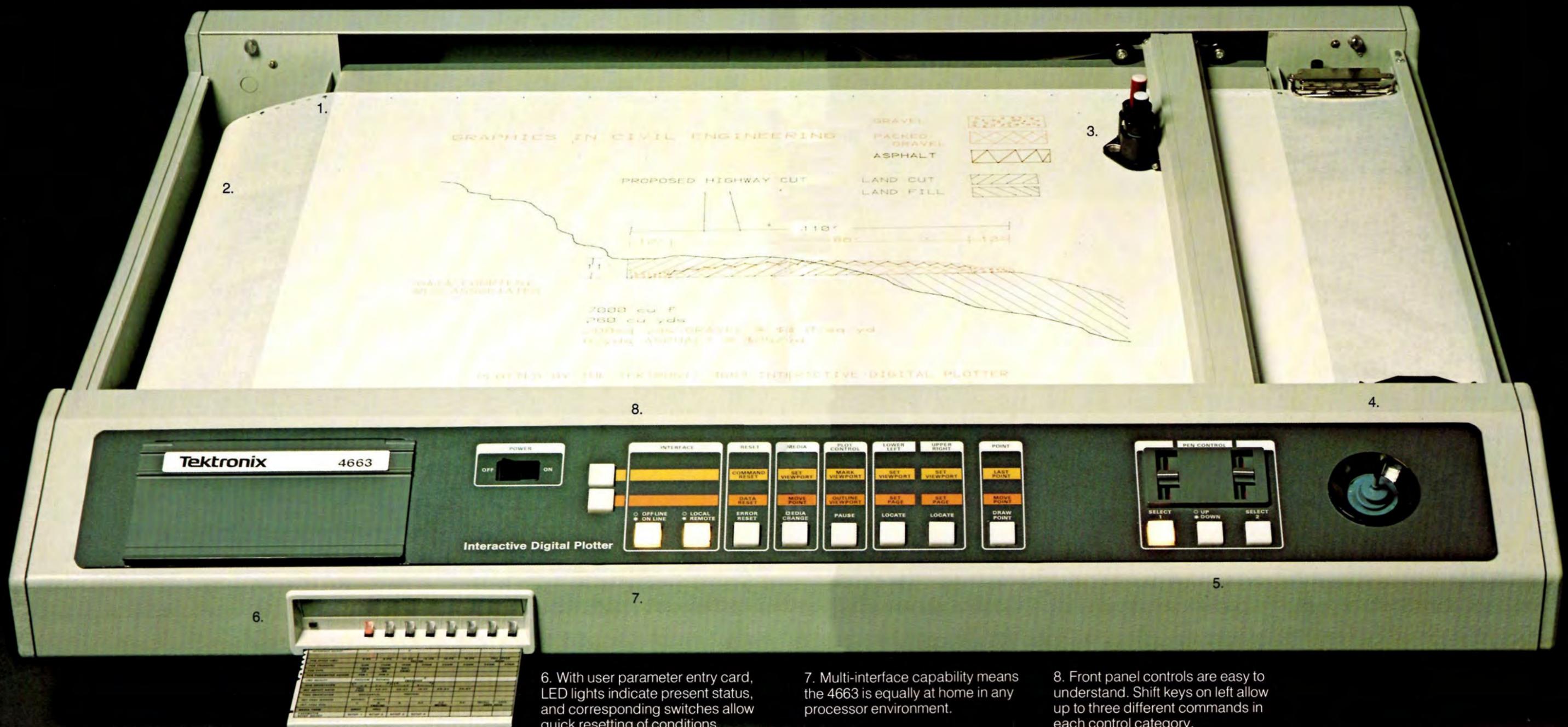
1. Manual media change is standard, but optional programmable feed is available.

2. The plotter can accommodate roll-feed or single sheet media up to 432mm x 559mm (17" x 22").

3. Dual programmable pens may be of varying points, widths and colors.

4. Built-in joystick gives you infinite flexibility in drawing and in digitizing points to terminal or processor.

5. Individual pen controls include fine tuning of pen pressure.



6. With user parameter entry card, LED lights indicate present status, and corresponding switches allow quick resetting of conditions.

7. Multi-interface capability means the 4663 is equally at home in any processor environment.

8. Front panel controls are easy to understand. Shift keys on left allow up to three different commands in each control category.



PEN CONTROL

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O

**Interactivity.
Accessibility. Big
plotter versatility. In a
smart economy size.**



(Above) The 4663's high-resolution, workspace offers better than one-to-one compatibility even with Tektronix' 25-inch 4016-1 graphic terminal. (Contour map courtesy of Mt. Fuel Supply Co.)

(Left) Joystick control of the cursor and the two pressure-adjustable pens maximizes digitizing capability. Pens may be fiber tip, ball point or wet ink types.

We built the 4663 to be ideally adaptable to most major plotter applications. For example, it is plug-to-plug compatible with ASCII RS-232 or GPIB equipment. RS-232-C is standard for interfacing with many terminals, including the Tektronix 4010 family. With the GPIB option, the 4663 interfaces with off-line computing devices such as the Tektronix 4051 Graphic System. Current loop and 4010 series TTY interfaces are also available, as is a special RS-232-C communications tie-in with the Tektronix 4081 Interactive Graphics Terminal.

That means the 4663 is configurable within virtually any processor system. It is also the most capable of any plotter in communicating back and forth with the host. Its data buffering and off-line capabilities can cut on-line time and cost to a minimum.

Joystick digitizing enables fast, totally flexible graphic input. Instead of several buttons providing limited pen movement, as on some plotters, the single joystick control gives you a quick, accurate and complete

means of relaying information to terminal or processor. You can identify windows, instruct line deletions, command linear regressions and so on, by simple commands and transmission of point coordinates.

Performance options provide streamlined data input and specialized plotter output. Specify your 4663 with extra drafting capabilities for computer aided design applications. Added alphanumeric versatility for data representation. Programmable paper feed for charting and mapping. Or added parameter storage for multi-use environments. Fully equipped for your application, the 4663 still costs less than many less powerful plotters.

And because it's from Tektronix, you can be sure it is a proven technology with total support behind it. For 10 years we've been the world leader in low-cost graphics. We're committed to keeping that lead with outstanding equipment reliability and service assistance: when you do need help, we dispatch expert technicians and consultants to you quickly, from service centers in all major cities in the U.S. and around the world.

We are also a respected OEM supplier to systems builders serving science and industry, government and education. If you are interested in our range of OEM capabilities or in quantity price quotations, simply contact your local Tektronix Sales Office.

After years of waiting on big, busy plotters, consider a private line. The 4663 clears all the obstacles between you, the fine detail and fast action you need. You'll be pleasantly surprised at how easy it is to operate and how quickly you get results. Call your local Tektronix Sales Engineer soon for a hands-on demonstration.

Specifications

I. Performance Characteristics:

1. Max Plotting Area:
X axis 569 mm (22.4")
Y axis 432 mm (17")
2. Repeatability: $\pm .064$ mm
($\pm .0025$ ")
3. Resolution: $\pm .025$ mm (.001")
4. Max. Plotting Speed:
406-559 mm (16-22 ips)
Vector Dependent
5. Point Plotting Rate: 10 pts per
sec. max
6. Character Generator:
95 ASCII, 15x7 Matrix,
7 special fonts std.
7. Pen Control: Manually or thru
software
8. Position Controls: Via joystick or
software
9. Pen Types: Fiber tip, ball point,
wet ink
10. Paper Size: U.S. C-Size
(17" x 22"). European A2-Size
(420 mm x 594 mm)
11. Paper Retention: Electrostatic
Hold Down, Sprocket Feed
Paper Advance (Optional)
12. Media Types: Paper or acetate
13. Drive Characteristics: Micro-
processor controlled stepping
motors controlling cable system
connected to pen arm
14. Baud Rate: 110-9600 BPS
15. Standard Interface: RS-232-C
Full Duplex, Loop Through

II. Controls:

Front Panel:

Interface Group: Selects Interface —
on-line/off-line, local/remote
Reset Group: Selectively resets
some or all of 4663 operations
Media Group: Initiates paper
change
Plot Control Group: Used to pause
from plotting or mark the viewport
area
Lower Left/Upper Right Group: Will
locate or set page boundaries or
viewport
Point Group: Digitizes character-
istics of a point

Pen Group: Selects and sets pres-
sure of the 2 pens

Joystick: Manually positions the
pens or crosshair. Rate varies non-
linearly to 203 mm/sec (8 ips)

Parameter Entry Device:

Allows user to set power up default
conditions

III. Software:

4663A01 PLOT 10 Utility Routines

IV. Environmental:

Input Power: 180 W typical @

48-440 Hz

Voltage Selections: 90-132 V,
180-250 V

Dimensions: 955 mm x 752 mm x
173 mm (37.6" x 29.6" x 6.8")

Weight: 38.6 kg (85 lb)

Shipping Weight: 45.4 kg (100 lb)

Temperature: Operating: 10° to 40°C

Non-Operating: -55° to 75°C

Altitude: Operating: to 15,000 feet

Non-Operating: to 50,000 feet

Safety: Designed to UL 114 and IEC

standards. UL listed. CSA approved

Transportation: Qualifies under Na-
tional Safe Transit Committee Test

Procedure, 1A, Category II

V. Standard Accessories:

Power Cord

Fiber Tip Paper Pens (3 each black,
red, green, blue)

User's Manual

Paper—100 sheets 17" x 22"

RS-232-C Interface Cable 4.5 M
(15')

VI. Optional Accessories:

Fiber Tip Pens—Paper

Fiber Tip Pens—for Acetate Film

Wet Ink Pens

Liquid Ball Pens

Paper: Roll, Sheet, or Film

Ink

Service Manual

Software Manual

Dust Cover

VII. Options:

Opt. # Interface Options:

- 1 GPIB
- 2 TTY (4010 Series only)
- 3 Current Loop
- 4 GPIB ONLY (Deletes RS-
232-C on Factory Order)
- 30 RS-232-C to 4081
- 31 **Performance Options:**
Circular Interpolation and
Programmable Macros
- 32 Math Character Set and
Down Loadable Character
Set
- 36 Paper Advance
- 37 Added Default Parameters
- 48 220 VAC-50 Hz

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