

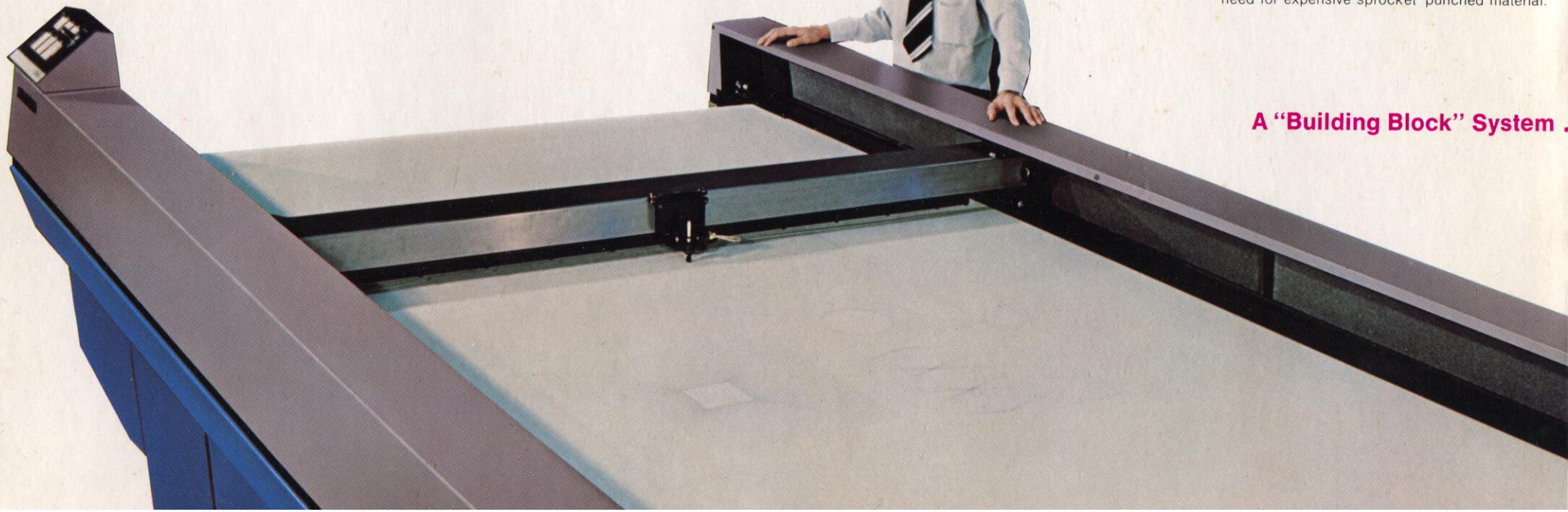


XYNETICS SERIES 2000 MODULAR AUTOMATED DRAFTING SYSTEMS



Xynetics Series 2000 Modular Automated Drafting System with the revolutionary Xynetics/Sawyer Linear Motor Drive.

Accuracy of $\pm 0.005''$...Resolution of $\pm 0.001''$...
with $\pm 0.001''$ Repeatability...at faster
throughput speeds than possible
with any other available system of
comparable plotting area size.



Optional Plotting Head Configurations

The Xynetics drafting head has been designed to accept many different work attachments. These include wet ink and ball point pens, fiber tip pens as well as scribing and cutting tools, thus providing a wide range of graphic applications and production techniques. The linear motor drive support has been designed to carry heavy tools with high accuracy over broad spans, and has been engineered to withstand high torque and torsional stress. This feature makes it possible to adapt special tooling for applications such as cutting or scribing where high side loads are encountered.

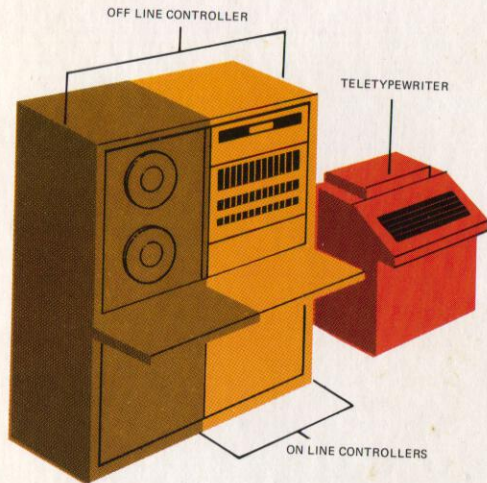
Table Features and Accessories

The Series 2000 ADS offers drafting table sizes starting at 72" x 120". (See table specifications, Page 4.) All tables will accommodate a full range of cut sheet and roll type drafting media with material thicknesses up to 0.0625 inch, including vellum, mylar, photosensitive films and glass plates, scribe coat and art board. Table controls include Automatic/Manual mode selection, manual pen controls, and manual movement of the drafting head with joy stick. Vacuum holddown is provided as standard. Also available as optional accessories are an Axis Position Display which provides a lighted digital display of the X and Y axes position of the drafting head, and paper advance systems ranging from manual to full automatic, including a precision paper advance system available exclusively on the Series 2000 ADS. This precision paper advance system assures paper positioning accuracy of $\pm 0.030''$ over the full table area. The system design utilizes conventional drafting room roll type media thus permitting continuous plotting without the need for expensive sprocket punched material.

A "Building Block" System.

Off-Line Controller

Magnetic tape and paper tape off-line controllers are available for the drafting system. They include either a 4K, 16-bit core memory for data buffering and velocity/acceleration control of the drafting head, or an 8K, 16-bit core memory with an ASR-33 Teletypewriter for operator control of data scaling, drawing origin, speed, rotation and drawing selection. The larger controller also permits storage of symbols for drawing annotation.



On-Line Controller

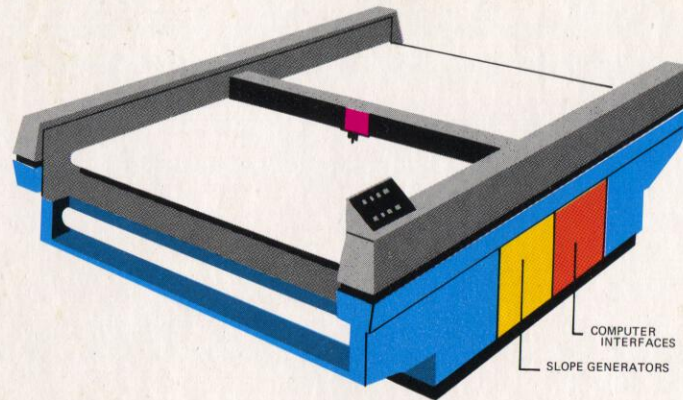
The C64 On-Line Controller is provided as a general purpose interface device to permit the user to operate Xynetics plotters on-line to his host computer. It performs the complete plotter drive function, including velocity and acceleration control, and may be used for limited symbol storage, thus relieving the host computer of a major portion of the software burden that normally attends on-line operation. The C64 may be used with either the SG50 or SG51 Slope Generator.

Computer Interface Modules

In addition to the standard Interface Modules listed below, interfaces for connecting any Xynetics drafting system to any user computer can be supplied on a request for quote basis.

Model SI42. Interface for connecting Nova series, HP 2100, PDP-11 or MAC-16 computers to Xynetics C64 On-Line Controller or to the Xynetics SG50 Slope Generator.

Model SI43. Interface for connecting user's IBM 1130 computer to Xynetics C64 On-Line Controller or Xynetics SG50 Slope Generator.



Slope Generators

All Xynetics drafting systems have infinite slope resolution, which provides the capability of drawing line segments at any angle from any point of origin. From line segment end-point input information, the slope generator supplies pulse sequencing for both X and Y axes, resulting in the line segment being drawn on the correct slope to the selected end-point. Xynetics Hardware Slope Generators relieve the computer of the requirement to compute and output one mill increment instructions, thus increasing throughput by allowing the computer to read tape and perform calculations while the drafting head is plotting. The system then operates in a time-sharing mode with the computer.

There are two Hardware Slope Generators available:

Model SG50 Slope Generator.

Permits full use of the response capability of the drafting head (30,000 steps per second — per axis). Computes and outputs straight line slope commands based upon end-point instructions only. Requires that the work head decelerate to zero velocity at the end of each straight line segment.

Model SG51 "Look Ahead" Slope Generator

Operates in conjunction with a series C60 Controller to perform a "look ahead" function, thus permitting continuous work head movement through shallow angle breaks, which results in higher average velocity for the complete plot.

for on-line or off-line operation using Xynetics proven off-the-shelf system modules and Fortran Level software programs.

The Series 2000 ADS, with effective plotting areas starting at 72" x 120" brings the remarkable advantages of the Xynetics / Sawyer Principle Linear Motor Drive to large scale graphic plotting. It has been designed for compatibility with all Xynetics standard "off-the-shelf" system and interface modules, permitting the selection of components to meet your specific graphic plotting requirements. The system modules available are briefly detailed on Page 4 of this brochure, and are described in detail in Xynetics Design Portfolio. The

Xynetics "Building Block" concept will enable you to specify a system for on-line or off-line operation, supported by Xynetics Fortran Level basic and functional hardware packages, with full freedom to add or replace system components to meet changing graphics needs.

The Series 2000 is an ideal multi-purpose device for large-scale requirements such as marker making, mapping, and aircraft, automotive and ship hull lofting.

The extremely high speed and constant high accuracy of Xynetics systems are functions of the patented Xynetics/Sawyer Principle Linear Motor Drive, based on the concept of two axis motion, controlled by the interaction of magnetic forces. Consequently, the awkward system of gears, cables and lead screws normally used to carry automated drafting tools has been eliminated. Instead, the Xynetics drafting head rides on a frictionless air-cushion.

Software programs available from Xynetics include a basic, standard Fortran Level package consisting of a versatile arrangement of call routines. Together with other functional subroutines and application programs available, the basic package provides a powerful software system.

SERIES 2000 AUTOMATED DRAFTING SYSTEM MODULES

The flatbed table is the central building block of the Series 2000 automated drafting system. This basic unit will accommodate sheet or roll drafting media up to 72" x 120". The 120" dimension can be increased to meet any require-

ment by extension and modification of the basic table on a custom order basis. A full range of cut sheet and roll type media can be used, including vellum, mylar, scribe coat, art board, etc., in thicknesses to 0.0625".

DRAFTING TABLE SPECIFICATIONS

Resolution 0.001 inch

Accuracy
±0.005 inch (over total drawing area)

Repeatability
±0.001 inch (over total drawing area)

Maximum Speed 40 inches per second

Drawing Area

Model 2000: 72" x 120"*

*Other table sizes quoted on request.

Table Controls

Automatic/Manual mode selection
Manual pen controls
Manual movement of drafting head with joy stick
Vacuum holddown control

Power Requirements

115/230 volts, single phase, 60 Hz, 35 amps.

SLOPE GENERATORS, CONTROLLERS, INTERFACES, AND TABLE ACCESSORIES

Model Number	Item Description	Prerequisite	Model Number	Item Description	Prerequisite
S142*	System Interface—Slope Generator SG50 or C64 controller to Nova Series, HP 2100, PDP-11, and MAC-16 computers.	None	TA60	Axis Position Display	Slope Generator Model SG50 or SG51
S143*	System Interface—Slope Generator SG50 or C64 controller to IBM 1130	None	TA80	Paper Advance, unidirectional, motor driven; pushbutton controlled	None
SG50	Hardware Slope Generator	None	TA81	Precision Paper Advance, unidirectional, program controlled	None
SG51	Look Ahead/Slope Generator	Controller Model C60, C61, C62, C63 or C64	WA50	Single Pen Kit	None
C60	Controller—Magnetic Tape	Slope Generator Model SG50, SG51	WA51	Four Pen Kit	None
C61	Controller—Punched Tape	Slope Generator Model SG50, SG51	WA52	Cardboard Template Cutter	None
C62	Controller—Magnetic Tape	Slope Generator Model SG50, SG51	WA53	Scribe Kit	None
C63	Controller—Punched Tape	Slope Generator Model SG50, SG51			
C64	On-Line Controller	Slope Generator Model SG50, SG51 & S142, or S143 Interface			

*Interfaces to other computers quoted on request.

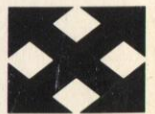
For further information, or assistance in designing your Xynetics Automated Drafting System, call or write: **XYNETICS, INC.**

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