

WIREFMATIC II Automatic Cable Forming System

**XYNETICS
INC.**

- Efficient, reliable operation—eliminates human error.
- Harnessing speeds over 30 inches/second.
- Standard forming table size 6' x 10', larger sizes available.
- Automatic pilot hole drilling for precise insertion of forming pins.
- Optional up to 100 wire holding stations.
- Full vector positioning, lay wire at any angle.
- Computer control for maximum flexibility.
- CRT and Keyboard operator console.



The Wirematic II is backed by the company's engineering expertise in computer-aided design (CAD), and computer-aided manufacturing equipment (CAM).

Xynetics' revolutionary (and unique) Sawyer Principle, the concept of motion produced in one or more axes on a plane by the controlled interaction of magnetic forces, is a key element in the Wirematic II—as it is in all of the Xynetics positioning equipment.

This patented concept eliminates the wear factor in the system's performance and reliability since there are no moving parts on the frictionless air bearing. It permits positioning along any vector, with no conversion from rotary motion, no lead screws, gear trains, pulleys or belts, or any other mechanical apparatus.

Forming table size:

Standard: 6' x 10'
Optional: 6' x 12', 6' x 14', 7' x 10',
7' x 12', 7' x 14'.

Wire capacity:

Up to 100 wire holding stations.

Wire gauges:

18 - 26 ga standard.
Other gauges optional.

XY performance:

18 - 26 ga wire. Typical speed is 30 ips.
Accuracy per axis: $\pm 0.010''$.
Resolution: $0.010''$.

Z axis performance:

Travel: 4 inches. Greater travels optional.
Resolution: $0.010''$.
Velocity: 1.5 inches per second.

Manual controls:

Velocity: 1.5 inches per second.
X, Y and Z movement.
On, Off.
Auto/Manual mode select.
Run/Stop.
Forming board align.
Re-zero.
Single-step advance; single-step reverse.

Controller:

An 8K, 16-bit word, stored program controller with paper tape input is standard. Most standard input/output devices such as floppy disc, magnetic tape, or cartridge are available as options.

For more details and specific information on the Wirematic II, write or call Xynetics Inc., 2901 Coronado Drive, Santa Clara, California 95051, telephone: (408) 246-6500. Or contact your nearest Xynetics representative.

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XYNETICS.

**We're just around the corner . . .
all around the world.**

The Xynetics Wirematic II Automatic Cable Forming System presents a new concept in high-speed, reliable wire harnessing with applications in many industries including telecommunications, aircraft and aerospace, computers and peripherals, automotive, and in commercial applications such as household appliances.

The heart of the Wirematic II is the Xynetics 2000 Series X-Y positioner and it is programmed and controlled in the standard configuration by a minicomputer through high-speed paper tape and a special software package. Xynetics Inc. also supplies floppy disc packages or magnetic tape; reel to reel or cartridge.

Two types of tapes are generated with the software package furnished with the system. The Wirematic II can be programmed for board preparation and for fully automatic harness forming.

In the cable laying sequence, the wires are de-reeled and brought from the wire handling equipment through the guide capstans and positioned in the holding stations. When the system is activated, the head is programmed to engage the selected holding station and automatically thread the wire to be laid during the sequence. The head lays the wire, cuts it at the designated point, then returns the wire to its original station. The sequence is then repeated. And, depending on the application, different wire gripping devices are available for easy identification of wire ends.

When the last wire is secured, audio and visual indicators alert the operator, who then loads another board and the next cable laying sequence is started. Snags, breaks, and empty spools are also reported on the CRT so the operator can take swift corrective action—and the system can back up and restart to assist the operator. This overall efficiency permits a single operator to maintain three systems in operation simultaneously to maximize fully the efficiency and economy of the Wirematic II.

Substantial cost savings can be realized the first day the Wirematic II is operational due to the time-and-expense efficiency built into the system. For example, the system goes on-line at maximum efficiency, no build-up time. In forming board preparation, the system automatically lays out the boards and pre-drills pilot holes, reducing preparation time by 80%. Test times can be reduced by as much as 40%—since each cable is identical, rework is virtually eliminated.

Strictly speaking dollars, the savings are obvious with the Wirematic II. In some applications, payback periods can be as short as six months. Analysis of one case showed that annual forming costs dropped from \$800,000 with manual forming to just over \$450,000 with the Wirematic II.



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