5830+

In-line On-board Programmer

AEROFLEX
A passion for performance.

CENCORP 501 SL
SINGLE LEVEL TEST HANDLER

+

AEROFLEX 5830
MULTI-FUNCTIONAL TEST SYSTEM

Preliminary

Key features

- Program up to 30 like devices in parallel
- Program unique or generic data
- Erase, program and verify the data
- Parallel programming of various devices types
- Single or palletized PCB's
- Board pass through
- User friendly graphical interface
- Top and bottom side test access
- Small Footprint (600mm (23.62") x 900mm (35.43"))
- Cost effective cassette fixturing
- Worldwide support
- COTS (Commercial off the Shelf)
- Optional RF and functional testing
- Optional boundary scan test
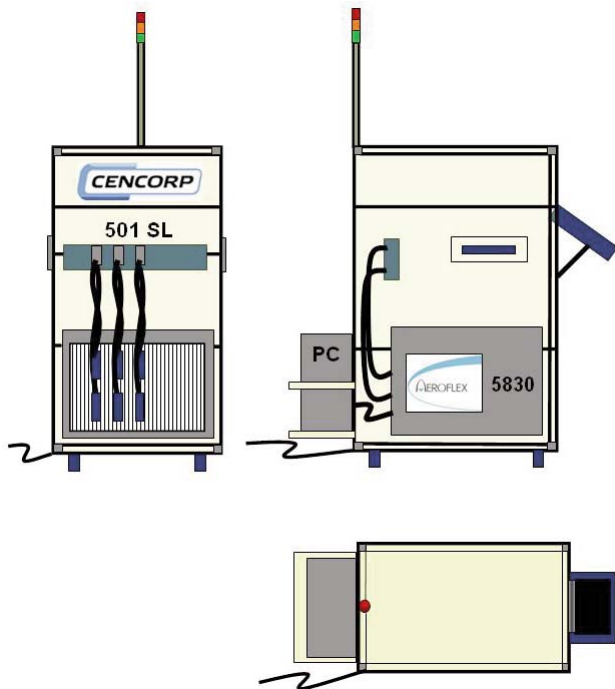
Memory device types

- FLASH
- EEPROM
- MCU
- PLD's
- CPLD
- PAL
- FPGA

and many more....

On-board programming

Programmable devices today are becoming more commonplace in electronic design, and the need to program various types of IC's on more than one product from a variety of different manufactures has become a unique challenge in manufacturing. More designers are using multiple programmable devices to allow the production line and the end users to update the product to take advantage of the latest version of software and firmware. Programming at the production stage also has the added benefit that the product can be uniquely identified by programming in real-time. Programming the date, time and product serial number can prove invaluable in indentifying the product and its revision level, especially in the event of product recalls or service returns.
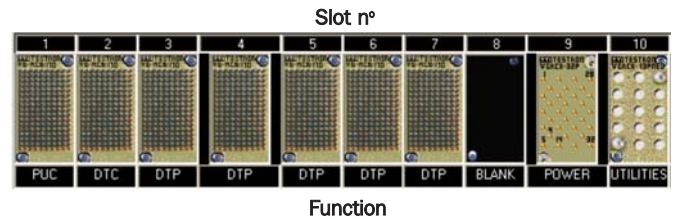

Aeroflex 5830+ in-line on-board programmer

Using the state of the art in-line handling system from Cencorp Inc. the handler incorporates a cost effective cassette fixture that can be easily loaded into the system to ensure quick changeovers. The fixture cassette is available in single sided or dual sided formats and can handle up to 320 pins allowing access to either side of the PCB.

The Aeroflex 5830 Multi-Functional 19" rack mounted test system is at the heart of the solution using a high speed digital functional card set to program the devices in-situ on the PCB. This hardware can parallel program up to 30 like device types at the same time providing quick test times. Either unique or generic data can be programmed with the system providing all the necessary power and control to the device in question. A dedicated software interface is provided allowing the user to select the different device types from the system library to be programmed. Programming channels can then be defined by the user to each of the devices making program generation quick and simple. Sequencing of the program for multi-board products is also provided with the option to set the system to erase, program or verify each of the devices.

Fixture interface – COTS Pylon block

The system uses a 'Commercial Off The Shelf' Pylon Block arrangement allowing the interface to be cost effective, easily supported and adaptable.

Slot 1: PUC – Power Utility Card

The Power and Utility card is an essential part of any 5830 test system, it contains all fixture utilities such as fixture identification, control, sense, type, relays, power, actuation, UUT PSU isolation control and user interface

Slot 2: DTC – Digital Card Controller

The DTC contains a sequencer, which controls execution of the programming independent of the system computer. Configuration data and the test sequence are set up on the DTC card then the test is started. From this point, the DTC controls the activity of the DTP cards via the system backplane until the programming is complete.

Slot 3-7: DTP – Digital Test Point Card

The DTP has 64 non-multiplexed functional drive/sense channels that are relay-isolated to the fixture interface providing channels to the PCB.
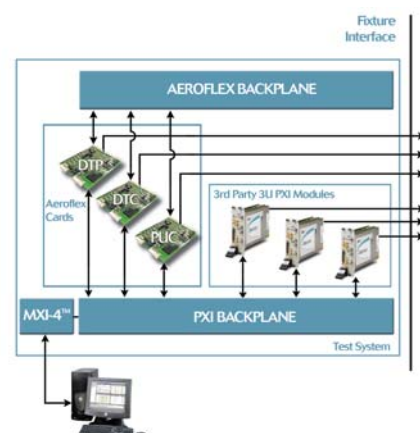
Slot 8: BLANK

This proveds spare slot for additional options such as RF or Functional testing.

Slot 9: POWER – Board Power-Up

This providing up to three variable power supplies to the UUT with added function of measuring voltage and current on board power-up.

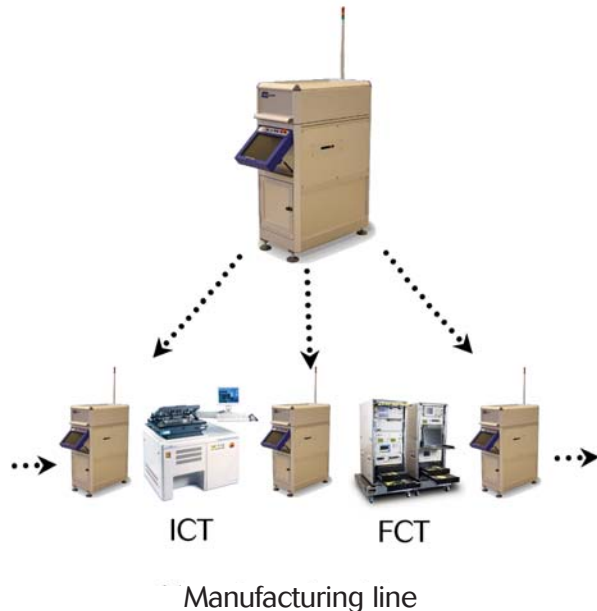### Slot 10: UTILITIES – Cencorp 501SL

This block is dedicated to the Cencorp in-line handler, pneumatics, fixture actuation, board loader/un-loader and the board bypass function.

Manufacturing process

The 5830+ In-line programmer can be positioned at any stage in the manufacturing line to either pre-program the devices before ICT utilizing diagnostic software or to post end of line where the product would have the specific user software installed. If throughput is an issue several programmers can be linked together to increase volume by using the 'board pass through mode'.

5830+ In-line on-board programmer

Manufacturing line

Limited test access - optional

If programming test access is limited, Aeroflex has a solution by partnering with a number of different Boundary Scan companies. Utilizing their PXI Boundary Scan cards, the system can provide programming to the UUT via the JTAG TAP port. No further connections for the PXI card are required as this is linked directly to the DTP card which provides the test functionality directly to the UUT.

Added functionality - optional

The 5830 system is based on a 21-slot PXI chassis with a secondary Aeroflex backplane to accommodate the Aeroflex high speed Analog & Digital card set. This allows further test hardware to be added, ranging from using the Aeroflex 3000 Series PXI RF Modules for wireless products to any third party 3U PXI card that provides the functionality required.
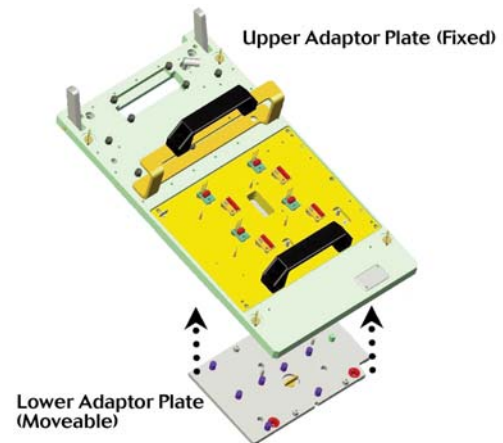
Data collection

The 5830+ in-line programmer also offers enhanced data collection capability to allow recording of programming and verification test data for traceability and verification.

Providing flexibility and efficiency

Cencorp has over 10 years of experience built into this 3rd generation 501 SL test solution. The graphical user interface makes the system easy to program and operate in many different test processes. It is easily connected to different test platforms and is not dependent on special hardware or software.
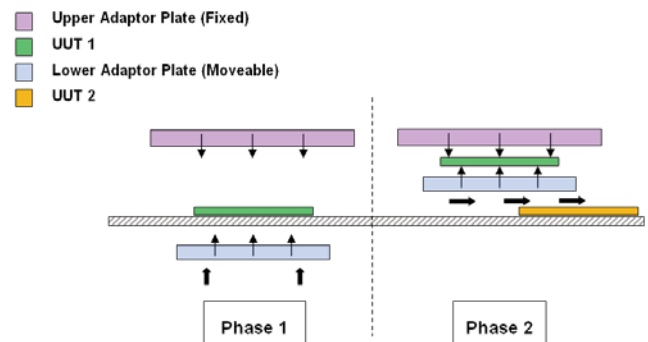
In-line fixturing

Building on the COTS Pylon block interface the fixture adaptors for the Cencorp 501 SL allow for a cost effective solution for top and bottom side test access, providing a product specific solution. The quick change interface allows change over in seconds with no specialist tools required, providing minimal downtime in product change over.

'Board pass through mode'

The Cencorp 501 SL gives the possibility to use parallel test processes without blocking the line. Due to the pass through feature (during test process), capacity can be easily increased by installing additional 5830+ in-line programmers alongside one another.

Worldwide support

With over 25 years of proven quality support, Aeroflex provides a multi-level support strategy to all its customers. Aeroflex's worldwide and regional support centers provide software, service and application support for all products. Dedicated and experienced engineers provide both telephone and on-site support for all of your requirements. A dedicated help-desk manned with experienced technical engineers provides the point of contact for all your hardware and software questions.

SPECIFICATION

SYSTEM DIMENSIONS

Width

600 mm (19.5")

Depth

900+115 mm (35.4"+4.5")

Height

1405 mm (55.3") without beacon

2055 mm (80.9") with beacon

Weight

approx. 185 kg (408 lbs.)

BOARD HANDLING

Min PCB size

60 x 70 mm (2.36" x 2.76")

Max PCB size

350 x 450 mm (13.78" x 17.71")

Width

Adjustable

PCB Thickness

0.6-4.0 mm (0.02" – 0.16")

PCB transfer time

<1.5s

Transfer protocol

SMEMA

Transfer height

900 ±30 mm (35.4" ± 1.18")

Bottom clearance

30 mm (1.18")

Top clearance

70 mm (2.76")

Edge clearance

3 mm (0.12")

PALETTE HANDLING

Max palette size

350 x 450 mm (13.78" x 17.71")

Easy adjustable Width

100 – 350 mm (3.94" – 13.78")

ELECTRICAL SERVICE REQUIREMENTS

Voltage EU (USA)

230 (110) VAC10%

Frequency EU (USA)

50 (60) Hz

Branch circuit size

10A

Average power consumption

500VA

PNEUMATIC SERVICE REQUIREMENTS

Pressure

5-7 bar (73-100 PSI) ±10% clean, dry air

Approx. air consumption

100 l/min

ENVIRONMENTAL REQUIREMENTS

Operating temperature

10 to 40 °C (50 to 200°F)

Operating humidity (r.h.)

30% to 85%

TEST ADAPTER

Width

490 mm (19.29")

Length

400 - 550 mm (15.75" – 21.65")

Pin load max

100 kg (220 lbs.) or 326 pins at 10.8 oz (3N)/pin

Handshaking

RS232 / DIO

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AEROFLEX
A passion for performance.

Our passion for performance is defined by three attributes represented by the icons pictured above: solution-minded, performance-driven and customer-focused.

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