

# Aerial M2

## Pilot Line

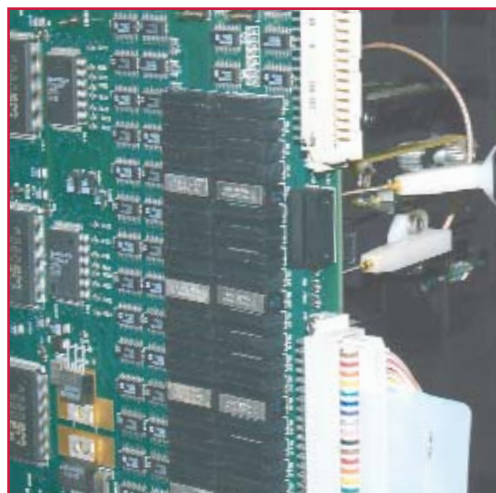


The Aerial M2 flying probe test system is particularly well-suited for the repair of faulty electronic boards returning from the field. It is equipped with two, completely independent, mobile test probes and one CCD camera, for a total of 3 mobile resources positioned to carry out tests on one side of the UUT. The Aerial M2 provides easy and safe access to the UUT from the other side (operator side), where the user can connect up to eight additional fixed probes (standard, expandable up to 328), and cables for power and/or on-board programming of digital devices.

The **reduced footprint** of the AERIAL M2 makes it an easy fit into any work environment, while the vertical, very compact, architecture makes it easy to load and test even large boards, and, together, with the excellent board clamping system, ensures that there is no oscillation of the board under test; this in turn greatly facilitates the precise positioning of the probes on the test points.

### The test tools and techniques of the Aerial M2 include:

- FNODE signature analysis to repair boards without CAD data and schematics
- PWMON net analysis with powered board
- Testing test ICs for opens and shorts with vectorless tests
- Continuity test to detect PCB open tracks
- As an option, functional test capabilities can be installed



The standard test approach proposed on the Aerial M2 is oriented towards those techniques which require no debug by the user, but only the availability of a reference sample board to develop the program. These techniques are particularly useful in situations such as the repair environment, where it is necessary to set up a test for a board for which the information UUT (such as CAD data and electrical schematics) may be either incomplete or lacking entirely.

### VIP PLATFORM

The AERIAL M2 is based on the Seica VIP platform, which includes the innovative VIVA software. Test program development is organized in 3 simple steps: "Prepare", "Verify" and "Test", where the user is guided through a series of automated operations in an intuitive, self-explanatory environment, drastically reducing programming time and practically eliminating the possibility for error and omissions, consequently ensuring the quality of the final test program.

For special application the extremely **open architecture of the VIP platform** enables easy integration of external software modules and/or hardware, such as RS232, USB port or GPIB and PXI/VXI protocols.



## TECHNICAL TABLE

### PROBES AND CAMERAS

Probes Position - Test Side	Rear
No. Maximum Probes	2
No. of Electrical Probes	2 (2 rear)
No. of Fixed Probes / Upgrade Up To	8/328
Digital Embedded Channels	4
No. of CCD Cameras	1 (rear)
Automatic Marker Recognition	Yes
Automatic UUT Warpage Compensation	Yes

### BOARD CLAMPING SYSTEM, UUT SIZES AND WORK AREA

Board Clamping System	Manual
Active Test Area	415 x 610 mm (16.30" x 24.00")
Maximum Board Size	420 x 610 mm (16.50" x 24.00")
Minimum Board Size	20 x 20 mm (0.78" x 0.78")
Maximum Board Thickness	5 mm (0.19")
Minimum Board Thickness	0.3 mm (0.00118")
Maximum Component Height	37 mm (1.45")
Board Loading	Vertical
Automatic Loader	Not available

### PITCH

Minimum Pad Pitch	300 $\mu$ m (12 mils)
Minimum Pad Size	150 $\mu$ m (6 mils)

### PROBE FEATURES

Z-axis Travel	-3 mm to 37.5 mm (programmable)
Contact Force	25 g - 100 g (programmable)

### TESTS AND MEASUREMENTS (INSTRUMENTS DSP)

Voltage Generator 1 DC/AC (DRA)	$\pm 1$ mV to $\pm 10$ V ( $\pm 0.1\%$ )
Voltage Generator 2 DC/AC (DRB)	$\pm 1$ mV to $\pm 10$ V ( $\pm 0.1\%$ )
Voltage Generator 3 DC/AC (DRC)	$\pm 25$ mV to $\pm 100$ V ( $\pm 0.2\%$ )
Current Generator DC/AC	$\pm 1$ nA to $\pm 0.5$ A ( $\pm 0.1\%$ )
Waveform Generator 1 Sin, Tri, Arbitrary (DRA)	1 Hz to 3 MHz ( $\pm 1$ mHz) - $\pm 10$ V max
Waveform Generator 2 Sin, Tri, Arbitrary (DRC)	1 Hz to 10 KHz ( $\pm 10$ mHz) - $\pm 100$ V max
Voltage Measurements DC/AC	$\pm 200$ $\mu$ V to $\pm 100$ V
Current Measurements DC/AC	$\pm 3$ nA to $\pm 0.5$ A
Frequency Measurement	0.1 Hz to 10 MHz
Digital Embedded Channel	$\pm 12$ V - 500 mA - 10 MHz
Resistance Measurement	1 m $\Omega$ to 100 M $\Omega$
Capacitance Measurement	1 pF to 1 F
Inductor Measurement	1 $\mu$ H to 1 H
Zener Measurement	up to 100 V
Automatic Visual Inspection	Yes

### GENERAL REQUIREMENTS

Air Flow	5.30 CFM
Temperature Range	25°C $\pm$ 10°C
Humidity	30 - 80 %
System Power	220 V/50 Hz 12 A, 110 V/60 Hz 24 A
Power Consumption	2.5 kW max.
Weight	700 kg (1543 lbs)
Length	173.5 cm (68.30")
Width	82.5 cm (32.48")
Height	158 cm (62.20")
UUT Edge Clearance	2 mm

### SOFTWARE FEATURES

PC/Operating System	Windows XP
Software	VIVA
Automatic Test Generation	Yes
Autodebug	Yes
Data Input Format	Cad Data/Manual

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