



D.MARCHIORI

MPS36 Air Data Test Set



Digital Air Data Test Set

The DMA MPS36 is a laboratory digital technology Air Data Test Set with extreme accuracy for testing aircraft pitot-static components.

The MPS36 is designed to meet and exceed manufacturers test requirements for military and commercial fixed / rotary wing aircraft, with altitude control accuracy better than ± 2 feet at sea level (or ± 0.002 inHg).

PC control in laboratory operations can be accomplished by a serial RS232 or parallel GPIB communication protocol interface. The MPS36 can be used as a replacement of earlier technology precision laboratory air data test set applications.

The MPS36 uses precision vibrating cylinder transducers with a special characterization for maximum accuracy of all altitude and airspeed parameters. Use of fast and precise flow valves, digitally commanded, allows great control stability.

The MPS36 requires low maintenance costs and extended calibration periods compared to previous equipment. Up to 30 user programmed test routines can be entered and stored in on board memory, and can be executed using a single key.

The MPS36 can be used in ATE systems: it accepts commands through RS232 or GPIB bus; simple high level words are used to input all the control parameters, thus reducing time to develop new SW programs.

FEATURES

- Accuracy ± 2 feet at sea level or ± 0.002 inHg.
- Low maintenance design eliminates high calibration and maintenance costs.
- Full featured "at-a-glance" 20x4 char. flat panel display.
- Complete Automatic Safety Protection for fail-safe operation.
- Standard IEEE-488 and RS232 interface ports for ATE/PC operations.
- Multiple pressure engineering unit capability.
- 3HE 84TE rack (48 x 38 x 13 cm)
- Very high resolution (0.2 Pa for static pressure).
- Up to 30 user programmed test routines can be stored into internal memory and executed with single key.
- Audible indication when approaching set point.

AUTOMATIC SAFETY PROTECTION FEATURES

Inherently safe with internal HW and SW protection. Manual vents allow ambient conditions to be reached safely in case of power failure. Factory safe limits or custom programmed limits prevent UUT damage.

DISPLAY

The 20x4 characters LCD display shows all the information needed by the user through a simple, intuitive and complete visual interface. Altitude, airspeed, rates and mach no. or equivalent pressures are simultaneously displayed in logical and simple arrangements together with units and indication of stability quality.

STANDARD SPECIFICATIONS

Parameter	Range		Resolution		Accuracy	
	Measure	Control	Meas.	Contr.	Measure	Control
Altitude(ft)	-7,000 100,000	-7,000 80,000 (100,000 2 pumps)	1	1	±2 @ SL ±4 @ 30,000 ±7 @ 50,000	±2**
Static pressure	inHg Pascal	0.3 to 38 1000 to 130000	0.0001 0.2	0.001 2	±0.001 inHg @ 3.5 ±0.002 inHg @ 30 ±0.01 inHg @ 50	
Hi range ver.	inHg Pascal	0.3 to 50 1000 to 170000				
Pitot pressure	inHg Pascal	0.3 to 77 1000 to 260000	0.0001 0.5	0.001 2	±0.002 inHg @ 3.5 ±0.004 inHg @ 30 ±0.006 inHg @ 80	
Hi range ver.	InHg Pascal	0.3 to 105 1000 to 350000	0.0001 0.5			
Altitude slew rate (ft/min)		0 to 60,000	25 > 1000 5 < 1000	25	±10 ±1% of reading	same as measure
Airspeed (kt)		10 to 850	1 < 50	0.1	±0.5 @ 50	±1
Hi range ver.		10 to 1000	0.1 > 50		±0.1 @ >500	
Ultra Low Speed funct.		ULS: 5 to 200	0.1 > 20		ULS:±0.001 inHg	
Mach No.		0 to 6	0.001	0.001	< 0.002	±0.002
Airspeed slew rate (kt/min)		0 to 900	10	10	±10 ±1% of reading	±5%

Note

Accuracy compliant with FAA advisory circular 43-2B, and Reduced Vertical Separation Minimums

**Control stability: Typically ±10ppm FS pressure at 40,000 ft into leak tight system

PHYSICAL/DIMENSIONS

Rack mount configuration: L 483, W 380, H 132 mm
(19" x 15" x 5.2")

Weight, with case: 22.7 Kg (50 lbs.)

WARRANTY AND CALIBRATION

Unit is internally self-calibrating for valve adjustment
Calibration is fully software accomplished by comparison against a primary or transfer standard instrument.

Warranty: two years

Calibration interval: one year recommended

POWER SUPPLY

Universal power supply: 90-240 Vac; 50-400 Hz.

TEMPERATURE RANGE

Operating: 0°C to +50°C

Storage: -20°C to +70°C

MPS36 OPTIONS

B. ARINC429 Interface

C. IEEE488 GPIB control (RS232 standard)

D. PDA for wireless remote control

E. Multiple Pitot and Static Isolators - Enquire

F. ADWIN PC Control software

G. Hand held remote control unit

H. Gray Code Altitude Device Readout

N. EPS1 External Vac/Pressure supply

M. EPSR1 External rackmount Vacuum/Pressure supply

- **Custom Pitot/Static** connections available

SOFTWARE LIBRARY

Serial Command Set

GPIB Command Set

Circa 1975 IEEE-488 Command set

Customer interface software for modular ATE applications.

Note: --- Ongoing development results in specifications being subject to change without notice ---



D. Marchiori srl Ground Support Equipment

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