



D.MARCHIORI

MPS27C Air Data Test Set



PRECISION, LOW COST DIGITAL AIR DATA TEST SET

The MPS27C is a digital technology portable Air Data Test Set incorporating many standard features normally found in more expensive air data test sets. It is built rugged and splashproof for demanding commercial and military flight line use.

The MPS27C is easy and fast to use by both experts and first time users. Testing and troubleshooting with the MPS27C can be performed via an intuitively arranged colour-coded keypad.

Readings of commanded and measured test values are displayed on a large 4 line x 20 character backlit LCD. Optionally a hand held remote control unit can be furnished. All air data functions are simultaneously displayed; constant screen or menu changes are not required. Readings of both imposed and measured test values are displayed.

The MPS27C user interface is designed to be smart. The MPS27C software rejects entered values that exceed the preselected limit ranges. Limits can be easily changed and are password protected for security.

FEATURES

- Accuracy ± 3 feet at sea level, exceeds RVSM calibration requirements.
- Compact and self contained. The entire test set, including pumps, is housed in a single 30 Kg wheeled case with stowable handle.
- Easy to read LCD backlit display and splashproof keypad controls.
- Simultaneous display of all parameters: screen or menu changes not required in normal operations.
- Low power consumption
- Internal auto-recharge battery provides more versatility and safety .
- Lightweight hand held control option.

The MPS27C is a rugged and low maintenance design. Internal pumps run only on demand, extending pump life. Calibration is fast and simple, performed by software, no mechanical adjustments are required. Calibration factors are password protected.

Low power consumption (typically 90VA) gives low temperature for high endurance and accuracy. The MPS27C is equipped with an internal rechargeable battery with four hours life.

The MPS27C uses precision vibrating cylinder and silicon bridge transducers for maximum accuracy for all altitude and airspeed parameters. Optionally two resonant transducers can be mounted. Internal vacuum and pressure sources are digitally controlled for maximum accuracy and are designed for a long service life with minimum maintenance.

SAFETY

The MPS27C is designed for maximum safety during testing. Key DMA design features protect the test set and instruments under test. A pressure condition of P_s greater than P_t is prevented in both manual and automatic operation. With loss of power the test circuit is safely isolated and can be manually vented preventing instrument and test set damage. Pre-set factory or user programmed safe limit factors prevent damage of instruments under test during operation.

MPS27C STANDARD SPECIFICATIONS

Operating temperature range: -5°C to +50°C, Storage: -20°C to +70°C, Extended range available on request.
Control capability on all load volumes (cu. in.)
Static: 0 to 125, Pitot: 0 to 80 cubic inches. Values up to 1000 cubic inches possible with reduced RoC

Parameter	Range		Resolution		Accuracy	
	Measure	Control	Measure	Control	Measure	Control
Altitude(ft)	from -3,000 to +99,999	from -3,000 to +80,000	1ft	same as measure	± 3 @ SL ± 5 @ 30,000 ±20 @ 60,000	±2
Altitude slew rate (ft/min)	N: 0 to 6,000 HR: 0 to 99,999	0 to 6,000 0 to 50000	25 > 1000 5 < 1000	same as measure	±10 ± 1% of reading	same as measure
Airspeed (kts)	C: 10 to 700 HR: 10 to 1000	C: 10 to 700 HR:10 to 1000	1 < 50 0.1 > 50	0.1	±0.5 @ 50 ±0.1 @ > 500	±1
Ultra Low Speed funct.	ULS: 5 to 200		0.1 > 20		ULS: ±0.001 inHg	
Mach No.	0 to 10	0 to 10	0.001	0.001	< 0.002	±0.002
Airspeed slew rate (kt/min)	0 to 800	0 to 800	10	10	±10 ±1% of reading	±5%

N: normal HR: high rate

STANDARD TEST FUNCTIONS:

- pressure/vacuum generation
- automatic leak check
- controlled venting to ambient
- altitude/airspeed input
- static/dynamic/total pressure input
- altitude/ airspeed rates input
- Mach Number input
- EPR generation
- TAS / IAS toggle
- Offset correction
- 30 user programmed test profiles
- ultra low speed (5 to 200 kts) function
- Compact Flash card to store test results
- Audible indication when approaching set point

DISPLAY AND KEYPAD

Integral display and keypad in splashproof and shock protected front panel.
LCD (4x20) with backlighting displays all test parameters.

CALIBRATION

One year interval, performed using software

PHYSICAL SPECIFICATIONS

Weight: 30 kg. (66 lbs.)
Dimensions: L 625, W 500, H 300 mm
(24.4"x19.7"x11.8")

ENVIRONMENTAL

Splashproof and shockproof
CE compliant

POWER SUPPLY

Universal power supply: 90-240 Vac; 50-400 Hz.
4 hours operation internal rechargeable battery

WARRANTY

Unit	Two years
Pumps	5000 hours

OPTIONS

- A. 28 V d.c.** power supply (18 to 36 V d.c.)
- B. ARINC429** Interface
- C. IEEE488** GPIB control (RS232 standard)
- D. PDA** for wireless remote control
- E. Multiple Pitot and Static Isolators** controlled from keypad. 2+2, 3+3 or 4+4
- F. ADWIN** PC Control software
- G. Hand held remote control unit** including 15m extension cable
- H. Gray Code Altitude Device Readout**
- I. HR Military Version** (850 knots, 2 pumps)
- J. HR Military Version** (1000 knots, 2 pumps)
 - **Pitot** resonant transducer as alternative
 - **Custom Pitot/Static** connections available

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



D. Marchiori srl Ground Support Equipment

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