

# PBS-4100+

VIBRATION  
&  
BALANCING  
SYSTEM



# The latest evolution in aircraft engine maintenance

The most advanced vibration analysis and trim balancing tool available, the PBS-4100+ offers added features and enhanced functionality to simplify the job of engine mechanics and flight line personnel. Small, lightweight, fast working and ruggedly built, it incorporates the latest configuration of electronics to maximize performance and maintainability.

PBS-4100+ is the field-proven vibration analyzer and balancing instrument used to maximize service availability. PBS-4100+ has been standard equipment on the Flight Line and in the Test Cell for the past 30+ years.

Military aircraft platforms include the A-10, B-1, B-2, KC-135, C-5, C-17, F22, F16, F15, F35, P-8, U2, and all other Airbus and Boeing military platforms. Like its predecessors, the PBS-4100+ can be used on all engines and aircraft in the Air Force inventory.



On the commercial side, the PBS-4100+ and the PBS-4100R+ have become the “go-to” vibration analysis and engine balancing systems for all commercially employed aircraft platforms. Aircraft from Boeing, Airbus, Embraer, Bombardier, Honda, Sukhoi, and all others are supported with all engine options. In addition, the PBS-4100+ series fully supports a large field of turboshaft and APU applications on both rotary-wing and fix-wing platforms.

If you’ve worked with earlier models of PBS-4100+ (or PBS-4100R+), you won’t need retraining to use the PBS-4100+ for vibration diagnostics, surveys and balancing, or to maintain historical engine data. The unit is completely compatible with earlier PBS systems.



## The latest configuration of the PBS-4100+

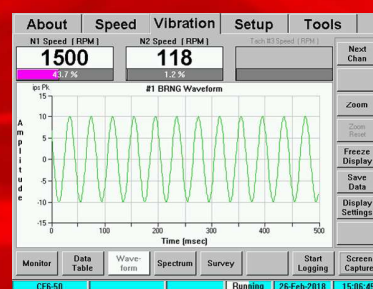
- Your existing cable harnesses will fit.
- Your existing Technical Orders and work procedures will function unchanged.
- Your saved engine data and balance coefficients are all compatible.

## DATA TABLE

About	Speed	Vibration	Setup	Tools
N1 Speed (RPM)	N2 Speed (RPM)	Tach R3 Speed (RPM)		
1500	118			
41.7 %	1.2 %			
#1 BRNG	TRF	TRF		
in/PP	in/PP	in/PP		
1/29.42	1/29.01	1/29.00		
H1	127.55	127.74	127.73	
N2	12.99	0.78	49.83	
C1				
C2				
C3				
C4				
Phase	165.2	165.2	165.2	
Monitor	Data Table	Waveform	Spectrum	Survey
CF050	Running	20-Feb-2018	15:36:06	

**Quick displays of vibration levels and engine speeds.**

## WAVEFORM



**You can quickly check the sensors, the cables, and the vibration signals.**

# Robust performance, simple to maintain, plus new features that make your job easier than ever before

Self-calibration software.

Full interactive touch screen on the DAU. Select among speed, vibration and other data displays.

Low maintenance costs.

Data acquisition unit with internal shock protection and passive cooling – ensures reliable operation under the most severe conditions.

Used in conjunction with the 1510A Portable Calibrator, a Diagnostic Wizard helps to isolate problems down to cables, sensors and system components.

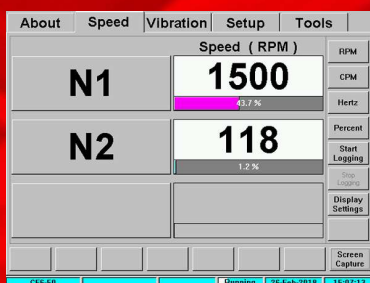
30% lighter and 40% smaller than previous PBS-4100 systems. Easier to move and faster to connect.

The latest signal processing technology. Built-in Calibration Wizard supports automatic calibration.

The PBS-4100+ has been designed as two different models. A lightweight system (PBS-4100+) to be used on-wing (engine test on aircraft) and a test-cell version (PBS-4100R+) intended for use in a production or overhaul facility. The principal of operation of both systems are identical.

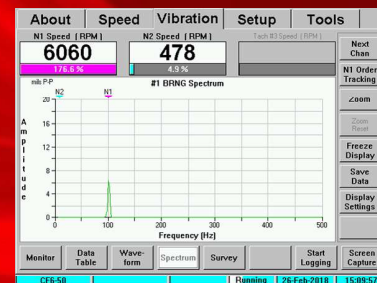


## SPEED DISPLAY



*Speed display is easy to read, so you always know current engine conditions.*

## SPECTRUM ANALYSIS



*Spectrum analysis tracks vibration down to its source.*



# PBS-4100+ Does it all

## Familiar functions

With proven WinPBS Functions, no retraining is needed. Users are instantly ready to use the PBS-4100+ to manage engine types, acquire and save data, balance engines and solve vibration problems.

## Vibration surveys

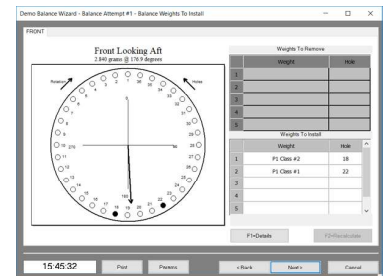
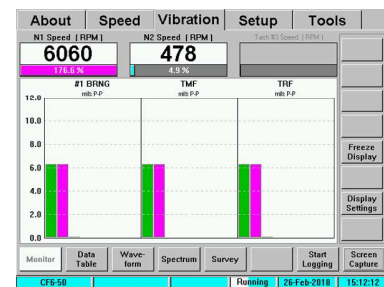
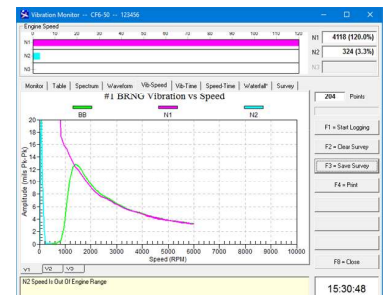
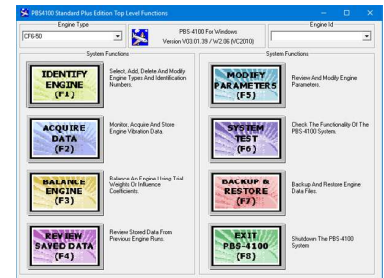
Clear, concise graphics indicate where vibration problems exist. Broadband and tracked vibration levels are reported quickly and accurately, ensuring rapid diagnosis. Vibration surveys are performed exactly the same way as with your existing PBS-4100.

## Vibration diagnostics

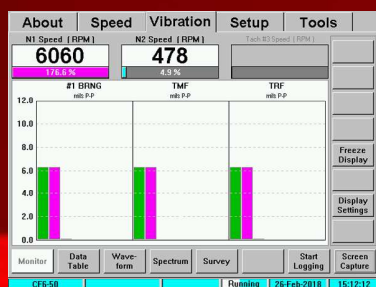
The PBS-4100+ identifies the specific cause of engine vibrations, making it easier for you to repair.

## Trim balancing

We've kept the trim balance procedures the same, so you can quickly reduce vibration levels and get the aircraft back in service.

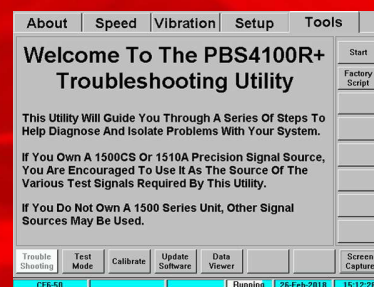


## BAR GRAPH



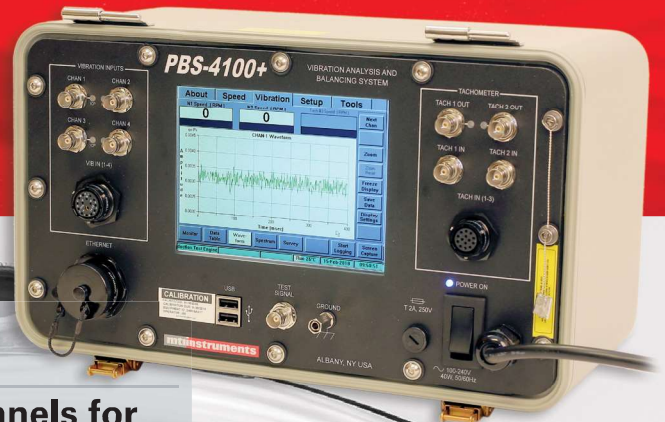
*Display for viewing vibration levels and engine speed.*

## TROUBLESHOOTING



*Tools guide you through diagnostics.*

# *The latest configuration of the PBS-4100+ Portable*



## **The PBS-4100+**

- Up to 4 vibration channels and 3 speed channels for comprehensive machine testing
- Intuitive color graphical user interface with touch screen for fast and reliable operation
- Large color front panel display for easy viewing
- Instinctive Balance Wizard for trouble-free and accurate trim balancing at the touch of a button
- Built in diagnostics and traceability reporting – reduce maintenance costs with no downtime
- Versatile aircraft cable sets and connection accessories for all engine and aircraft types

## PBS-4100+ – ready for action

MTI's latest generation of PBS-4100 systems joins earlier versions in serving the U.S. military on the flight line and in test cells for all the following engine types:

- F100-100, 35, -135, -119, -200, -220, -229
- F101-102
- F103
- F108
- F110-100, -129, -132, -400
- F117-100
- F118-100, -101
- F404-102, -400, -402, -F1D2
- F414-400
- J52
- J79
- J85
- TF30
- TF33-3, -5, -9, -102
- TF33-7, -100
- TF34-100A, -400B
- TF39-1C

The PBS-4100 product line has been proven on the following commercial engine types and others. Call MTI instruments for additional applications, which are being added daily .

- ALF502
- Ariel 1C2
- BR700
- CF34 Series
- CF6-6, -50, -80
- CFE738
- CFM56-2, -3, -5, -7
- CFM LEAP Series
- GE90
- GP7000, GP7200
- GMA3007
- HF118
- JT3D Series
- JT8D Series
- JT9D Series
- JT15D Series
- LF507-1F, -1H
- PT6
- PW100 Series,
- PW110 Series
- PW120 Series
- PW2037/2040
- PW4000 Series
- PW Gear Turbofan Series
- RB211-22 Series
- RB211-524 Series
- RB211-535 Series
- Spey 511, 512
- Tay 610, 611, 620, 650, 651
- TFE731-2, -3, -5
- Trent 720
- Trent 800
- Trent 900
- Trent 1000
- Trent XWB
- T-700
- T-56
- T-55
- T-64
- GE38
- V2500-A1, A5

### APU platforms:

- Honeywell APU 131 Series (-9A, -9B)
- Garrett Honeywell 85-129 series
- Honeywell 331-2x0 series APU
- PWC APS3200

### Aeroderivative industrial turbines:

- GG4
- FT4
- GG8
- FT/PT8
- FT4000
- LM1500
- LM2500
- LM5000
- LM6000

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