



## Rotortuner 5JS+

Portable Rotor Track & Balance and Vibration Monitoring Equipment

**Designed by Aircraft Engineers for Aircraft Engineers**

### Description

The Rotortuner 5JS+ is the successor to the world famous Rotortuner Dash 5 system. Utilising the latest in DSP technology the RT-5JS+ reduces airborne test time to a minimum. Designed for reliability and with the ability to operate in the most extreme environments the RT-5JS+ provides the operator with a cost effective upgrade or new purchase option.

### Benefits

For customers looking to upgrade their obsolete Rotortuner Dash 5 the significant reductions of up to 60% in flight test time provides a quick return on investment. The reduction in both size and weight of the Data Management Unit electronics now permit the stowage and use of the Junction Box within the original case if required. There is also space for the stowage of the transducer case for the safe storage of accelerometers, OPU and MPU.

### Operator Console

The console is housed in a ruggedised container that acts as the lid for the DMU stowage container. It is equipped with a fast, high resolution, compact printer and highly reliable Compact Flash card reader. The large screen size and optimised resolution provide increased clarity for the operator. When combined with the ergonomically designed hard wearing tactile keyboard the console package provides a user friendly interface that is easy to operate even in extreme operator conditions.

### Functionality

The very latest processors provide highly superior data processing capability and true parallel harmonic acquisition. This keeps data collection times to a minimum reducing flight times significantly. An advanced FFT data collection and analysis mode is available providing high resolution targeted FFT's configurable by the operator for in-depth diagnosis.

### Operational

Combined with the new Helitune transducer cables and the Mk2 Line Scan Camera, the entire RT-5JS+



system is EMC compliant with Mil Stan 461E and UK Def. Stan. 59-41 ("above decks" compliant). The RT-5JS+ also has an extended operating temperature range from -25°C to +55°C.

### Compatibility

All transducers and transducer cables previously used with the older Rotortuner Dash 5 system are compatible with the RT-5JS+ (EMC compliance could be compromised with older cables). Similarly, the operating system menu structure is retained, thus minimising changes to training schedules.

With industry-leading true blade tip track technology, the RT-5JS+ provides a low risk, simple and cost effective upgrade option to maintain the Rotortuner as a user-friendly, efficient and accurate RTB and vibration monitoring platform. The RT-5JS+ easily achieves current EMC standards, ensuring compatibility with new and future advanced aircraft systems, whilst still providing significant steps forward by utilising the latest technology. The RT-5JS+ is a demonstration of Helitune's commitment to current and future customers.

**DMU Performance Data**

Vibration Analysis	
Method	<i>Fast Fourier Transform Analysis (Synchronous and Asynchronous)</i>
FFT Sizes	<i>1024, 2048 or 4096 Points</i>
FFT Line Count	<i>400, 800 or 1600 Lines</i>
Frequency Range	<i>0-25 R and 0-25 T (where R and T are the Main Rotor and Tail Rotor fundamental rotational speeds) and asynchronous to 10kHz with user selectable specific frequency bands for in-depth diagnostics.</i>

**Console Display**

Type	<i>Electro-luminescent</i>
Resolution	<i>640 x 480 Pixels</i>

**Console Test Card Interface**

Type	<i>Compact Flash</i>
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**Mk2 Line Scan Camera**

Aperture Range	<i>F1.4 to F360</i>
Tracking Accuracy	<i>height +/- 2.0 mm (at tip) - lead/lag +/- 3mm (at tip)</i>

**Electrical**

DC Input	<i>24 - 28V at 5A maximum</i>
Low Voltage Directive	<i>Mil 704C for 28V DC Operation IEC1010-1 'Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use'</i>

**Physical Data**

Equipment	Dimensions (mm)	Weight (kg)
DMU	<i>310 x 165 x 65</i>	<i>2.00 Approx.</i>
Operators Console	<i>410 x 280 x 90</i>	<i>3.50 Approx.</i>
Accessories Case(empty)	<i>545 x 365 x 215</i>	<i>5.50</i>
Mk2 Line Scan Camera	<i>250 x 110 x 75</i>	<i>1.30</i>
AC Adapter	<i>200 x 95 x 70</i>	<i>1.00</i>
Junction Box (5418)	<i>260 x 160 x 90</i>	<i>1.60</i>
Accelerometers	<i>45 x 21 dia</i>	<i>0.048</i>
Magnetic Reference Pick-Ups	<i>56 x 17 dia</i>	<i>0.066</i>
Optical Reference Pick-Ups	<i>60 x 50 x 16</i>	<i>0.050</i>



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Helitune is registered to BS EN ISO 9001 / AS9100

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