

RACE PATROL

Version 1.0

ABOUT

The system performs the official 2 m wide open throttle test (2M Max) used in MX-GP. Inherent in the system design is the state-of-the-art sound level meter Brüel & Kjær 2250L that is type 1 approved according to the latest IEC standards. RPM reading is quick and accurate via a fully customized interface within an app running on iPad. The measurement itself takes minimum time because all parameters of the motorcycle (noise level and RPM) are measured simultaneously. Since operator intervention is minimized, chances for errors and manipulation are also minimized.

FEATURES



DURABLE AND RUGGED

Regular use in challenging environmental conditions calls for special battery operated design. System is assembled in a rugged suitcase with integrated batteries. This provides reliable solution for sound measurements during competitions or even motorcycle tuning prior to the race.

EVERYTHING YOU NEED

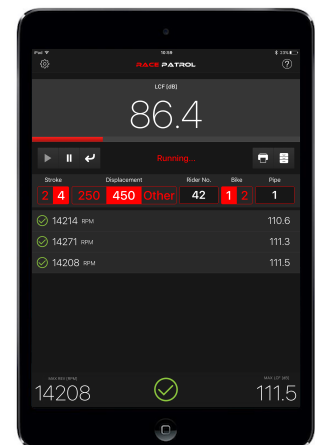
Official measurements or motorcycle tuning... Race Patrol provides everything you need in a single suitcase. Sound level meter, iPad, thermal printer, acoustical calibrator all of the cables and even a measuring tape are securely stored in a suitcase. The ON/OFF switch and microphone cable connector are conveniently placed outside the suitcase, so suitcase itself can be kept closed during extended testing periods.

EASY TO USE

Once the system hardware is set-up, there is one more thing to do - measure motorcycles. Since complete hardware is not only monitored from an iPad, but also controlled and managed from the same device, measurements become a breeze. This way, complete control, transparency and visual cues allow fair control of motorcycle exhaust noise.

INTELLIREV

Our proprietary algorithm IntelliRev analyses acoustic signal and extracts the RPM of the engine, when it operates at full throttle. This revolutionary algorithm immediately compares the measured RPM to the pre-defined limit and instant action can be taken. Thus introducing the first on-the-spot capability to detect engine map or other changes to attempt to gain competitive advantage in an unfair way. The algorithm also detects prominent explosions in the exhaust with a very clear visual indication.



SPECIFICATIONS

These specifications apply to the Race Patrol system used with a Brüel & Kjær 2250L sound level meter, fitted with the supplied microphone, preamplifier and extension cable.

SYSTEM

Settling time	<60s (from power-on)
Battery	LiFePo 12 V/12 Ah
Lifetime on single charge	Typically >12 h (without external tachometer)
Size (L×W×H)	474 mm x 415 mm x 140 mm (18.6" x 16.3" x 5.9")

External charger

Voltage	Regulated 12 to 14.6 V
Power	Approximately 2.5 A at 15 V, FFA.00.113

SOUND LEVEL METER

Brüel & Kjær type 2250L sound level meter complies with the following standards:

- IEC/EN 61672 - 1:2002 Class 1
- IEC 60651 Type 1, 1979 & Amendment 1 1993 & Amendment 2 2000
- EN 60651 Type 1
- EN 60804 Type 1
- ANSI S1.4 - 1983 Type S1
- ANSI S1.43 - 1997 Type 1

Microphone

Type	Brüel & Kjær type 4950 pre-polarized free-field 1/2" condenser microphone
Nominal sensitivity	-26 dB re 1 V/Pa or 50 mV/ Pa
Frequency Range	5.6 Hz to 20 kHz ± 2dB
Capacitance	12.5 pF (@250 Hz)
Preamplifier	Brüel & Kjær type ZC 0032
Measurement range	From typical noise floor to max. level for a 1 kHz pure tone signal, A-weighted: 16.4 to 140 dB

Calibration

Automatic, using sound level meter calibrator Brüel & Kjær type 4231.

IPAD

Apple iOS (version 9 or later) device running Race Patrol app.

CONTACT

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