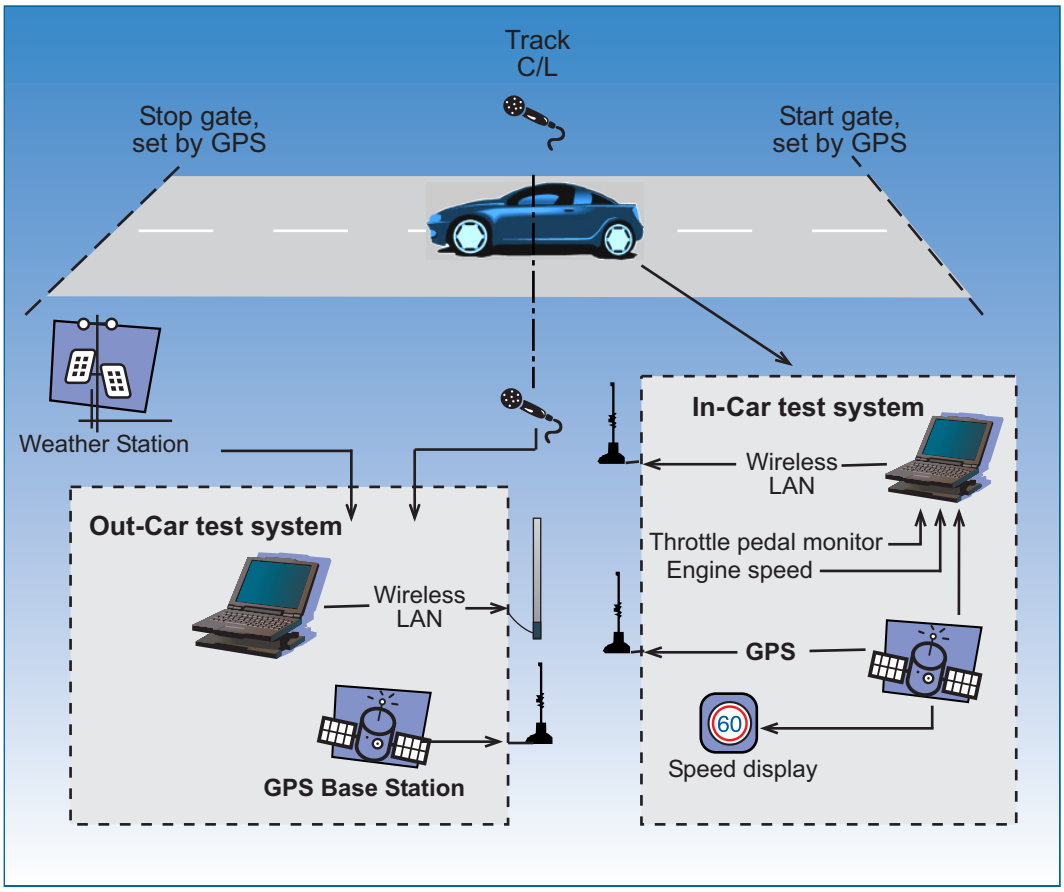
SO Analyzer

Pass-by-Noise Testing

m+p international's SO Analyzer based system is the very latest fully integrated solution for Pass-by-Noise (Drive-by-Noise) testing. It is an advanced add-on module within the standard SO Analyzer suite of products. Utilising specially developed GPS technology for both position and speed information significantly reduces the equipment required and provides a simple and easy-to-use system that is operated entirely from within the car and by just one person.



Applications

- Automotive legal pass-by-noise testing
- Automotive development pass-by-noise testing
- Truck pass-by-noise testing
- Rail-based pass-by-noise testing

Key Features

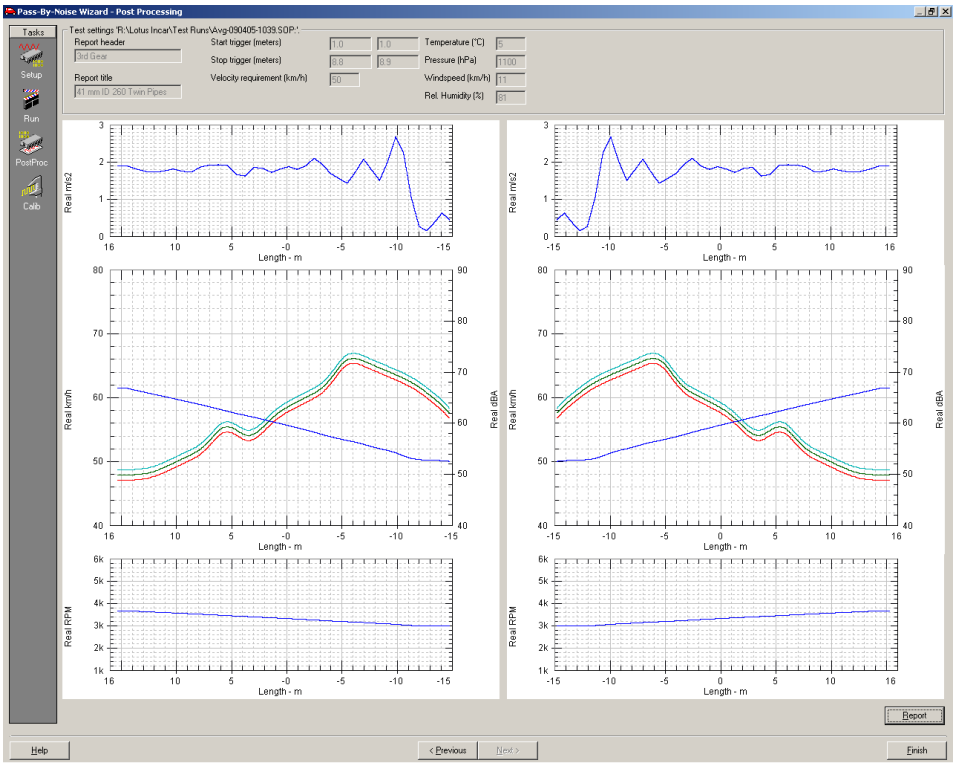
- Ease of use, quick analysis and access to test results
- Comprehensive online and post-processing facilities
- Single-operator capability, saving time and money
- Wizard-driven set-up for minimum errors in operation
- Specially developed GPS system for pass-by-noise testing
- Portable acquisition systems can be used for other NVH, Modal and Acoustic analysis testing when not in use as Pass-by-Noise system
- 8-channel portable data acquisition system - expandable
- 4-channel portable data acquisition system - expandable
- Throttle pedal input for full-throttle monitoring
- Engine speed input
- 2 cm positional accuracy
- 0.1 km/h velocity accuracy
- Sound level meters in accordance with IEC 61672-1
- Vehicle position mapped and plotted during test run
- In-car display of vehicle speed
- Auto reverse selection for return pass run
- Weather station for outdoor temperature, wind speed and humidity

Operation

With the reduction of system components, i.e. no radar or light beams, the set-up for the Pass-by-Noise system is easily performed by one operative in a short space of time. The in-car system can be configured prior to entering the test track, the out-car system simply needs connection to the sound meters and weather station. Every part of the system has been planned and configured to minimise operation time and reduce test errors.

- Configure system components in-car and out-car ready for testing
- Start and stop 'gates' are set by driving the car to relevant positions and selecting software confirmation
- System then sets nominal reference line based upon start and stop positions, this line will be centre line of test track
- Weather station data is updated from external weather station and data stored with test details
- Microphones can be checked and calibrated by the system using a standard calibrator
- Acquisition start and stop are handled automatically by system
- Driver completes first run and data is stored automatically on internal and external test systems
- A plot of vehicle track is shown to driver upon run completion along with vehicle entry & exit speeds and full throttle position, data can be accepted or rejected depending on values shown
- A reverse run or re-run in the same direction can then be performed
- Driver can continue testing until all data is collected
- All data runs include user-defined test header data and are stored automatically with time and date stamps to provide a complete post-test audit trail
- At any time the driver can combine and analyse the results from both the external and internal systems to show full noise, speed, throttle and acceleration data
- Noise levels include both overall and spectral waterfall maps that can be displayed relative to the microphone and track position data

- Single run or averaged run analysis are available
- Additional user-defined measurements can be made on any spare input channels available
- Active graph export to Word with user-defined report templates
- Report available on-line and in-car
- All raw time data are recorded as throughput files for post-processing using any of the SO Analyzer post-processing tools, noise amplitude waterfall plots, order tacks, RPM spectral maps, acoustic analysis, general vibration analysis, structural analysis etc.



Benefits

As with all of the SO Analyzer solutions this system has been developed after listening to the detailed needs of customers. It offers unrivalled flexibility whilst also addressing the ever increasing demands on time and money.

- Increased test efficiency and flexibility with reduced manpower demands
- Reduced equipment inventory
- On-line in-vehicle test results and diagnostic information from one test run
- Lower operating costs
- Considerable added value due to system flexibility for other test use
- Fully portable, can be used anywhere in the world
- Fully integrated solution, all elements included
- Quick data analysis and report generation
- Software can be modified for individual test demands
- System hardware and software is fully expandable to cover Modal, Rotating Machinery, Acoustic and other NVH analysis requirements

Operating System

- Microsoft Windows XP/Vista

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