

JEOL

JNM-PMX60SI

High Resolution NMR Spectrometer



Super Insert Affords Even Better Sensitivity

The PMX60SI is a 60 MHz proton measurement high-sensitivity high-resolution NMR developed in response to a market need for simplified NMRs. It is designed with easy operation, minimum maintenance and low running cost as the basic considerations. Employing a compact permanent magnet, the PMX60SI is easy to install and conveniently usable as a routine work NMR.

Thanks to its many built-in features, the PMX60SI can be operated easily by anybody, allowing even an NMR novice to obtain quality spectra. This instrument, based on the circuitry of the PMX60 with proven reliability, employs ICs and transistors subjected to strict quality control. What is more, as its permanent magnet is strictly temperature controlled and magnetically shielded, the instrument can be installed in an environment not better equipped than an ordinary laboratory.

The PMX60SI can thus fully meet a wide variety of purposes such as routine measurement, training, quality control of industrial products, and use as your second or third NMR or as a support instrument for FT NMR.



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A Wide Variety of Functions Provided as Standard

Higher sensitivity assured by the newly developed "Super Insert" probe

The adoption of this JEOL-developed detection coil has improved the sensitivity about 30 percent (Chart ①).

Permanent magnet with high resolution and stability

Despite its compact size and light weight, the PMX60SI's magnet provides excellent field uniformity, allowing a resolution as high as 0.4 Hz to be obtained with ease. Furthermore, since the permanent magnet is strictly temperature controlled and magnetically shielded, it can stably maintain high resolution over a long period of time.

Automatic TMS Controller built-in

When samples are changed, it is conventionally necessary to adjust the TMS peak position to the zero point prior to spectrum recording. The Automatic TMS Controller permits the TMS peak to be automatically recorded at the zero point even under different magnetic susceptibilities and solvent effects...with the touch of a single key.

Chart ② shows data of five different types of samples. TMS signals are seen at different positions. Chart ③ shows data of the same samples as in chart ② obtained with the Automatic TMS Controller switched on. It is seen that the TMS signals are at utterly the same positions. (Setting accuracy, within 1 Hz; setting range, within ± 2 ppm.)

Samples

- a) 1% Ethylbenzene
- b) Transcroton aldehyde
- c) 20% Acetoaldehyde
- d) 90% Ethylbenzene
- e) Mixture sample [CHCl_3 , CH_2Cl_2 , $\text{O}(\text{CH}_2\text{CH}_2)_2\text{O}$, CH_3CCl_3 , $(\text{CH}_3)_2\text{CO}$, C_6H_{12} , $\text{Si}(\text{CH}_3)_4$]



Integrator "HOLD" key

This key is used to cut unnecessary signals such as the solvent signal, greatly facilitating integration.



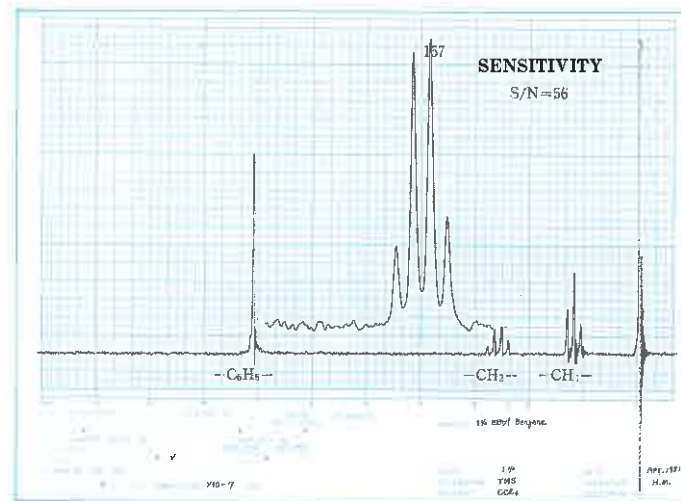
Measurement at a single touch of feather-touch keys

The PMX60SI employs color-coded feather-touch keys, allowing even an NMR novice to make error-free measurement. The white keys are used for standard settings. Each of these feather-touch keys employ a digital IC circuit and an LED for better reliability and operational ease.



Easy sample tube setting utilizing air cushion

The PMX60SI employs a mechanism utilizing compressed air for simple and safe setting of sample.



① 1% Ethylbenzene

S/N = 56 exceeds the guaranteed value of S/N = 40.



② Automatic TMS Controller OFF

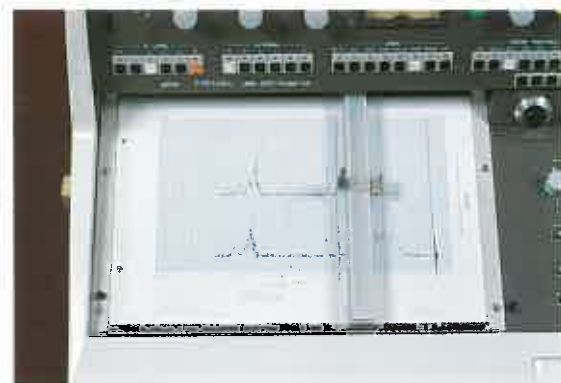


③ Automatic TMS Controller ON

- **Large-sized recorder with auto recording capability**

The PMX60SI employs a large-sized auto X-Y recorder, which provides very easy-to-see spectra on a wide precalibrated chart. Depressing the AUTO key after setting the recording parameters provides a series of fully automatic recorder pen movements: shifting to the recorder's left end wherever the pen is located, coming down onto the chart, recording at the preset speed, and lifting from the chart at the recorder's right end until the pen stops.

When the Automatic TMS controller is used with the recorder, the TMS signal is automatically set to the 0 ppm position on the chart, and the pen returns to the recorder's left end to start automatic recording. Chart paper is simply secured on an electrostatically energized auto-grip recorder platen.



- **Internal Lock**

In this lock mode, the field is locked to the TMS signal, allowing stable spectra to be obtained. When this feature is used with a low-frequency counter, it is possible to accurately measure chemical shifts.

- **Large-sized oscilloscope (option)**

This 9-inch long-persistence oscilloscope is optionally available for signal monitoring.



No Specific Installation Environment Required

Consisting of a compact spectrometer console and a strictly temperature controlled and field shielded permanent magnet, the PMX60SI can be installed in an ordinary laboratory. The power consumption is as small as 150 W, making the instrument an energy-saving one.

Maintenance-free Construction

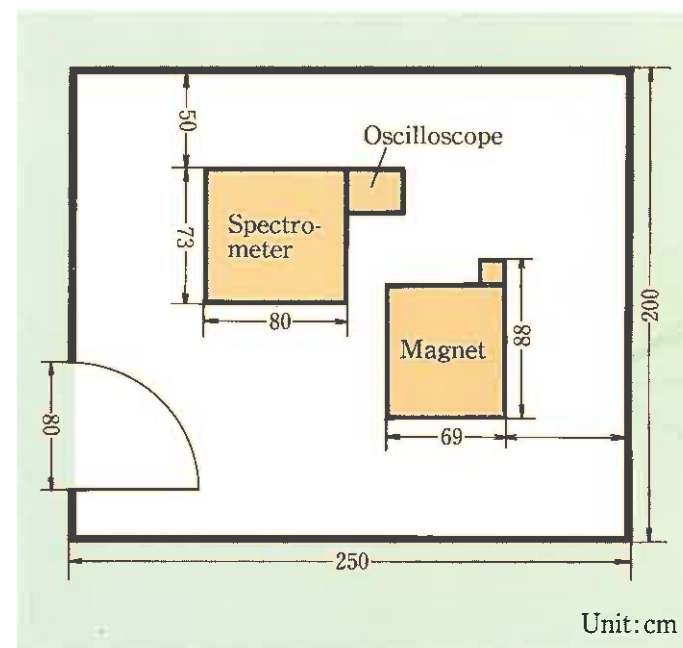
The burden for maintenance has been greatly alleviated by the use of a large number of strictly quality-controlled highly reliable ICs, keyboard switches with less mechanical components, and logic electronic circuits.

Installation Requirements

- **Electric power:** Single-phase, 110 V/115 V AC. 50/60 Hz. Max. 400 W.
- **Room space:** 2 m × 2.5 m (min).
- **Room temperature:** 16 ~ 30°C.
- **Room temperature stability:** ±3°C/day (±1°C/hr).

Dimensions & weight (cm & kg)

	Width	Depth	Height	Weight
Spectrometer console (including stand)	80	73	97	64
Magnet console	88	69	85	350



Specifications subject to change without notice.