

AUTOMATIC NMR TESLAMETER

type RX-32

The instrument is designed for operation with any research or service apparatus involving very high precision measurements and stabilization of magnetic field. It may be considered as a standard equipment of EPR and NMR spectrometers, stands for Hall effect studies, MRI systems for field mapping and shimming, beam handling and a variety of instrumentation for studying materials with field-dependent characteristic, as well as for checking of the magnets, electromagnets, etc.

The teslameter, due to precision and repeatability of field measurement, may be used as a standard for testing the other instruments. It combines refinement of measurement with simplicity of using and allows fully automatic tracking and locking of magnetic field.

It operates on a principle of the swept-frequency measurement and differs considerably from the conventional automatic NMR devices utilizing an external modulation of magnetic field to be measured. Due to this new technique the RX family of instruments are the fastest and most flexible teslameters available today.

FEATURES

- ⇒ Magnetic field intensity, relative field homogeneity and NMR signal amplitude modes of measurement.
- ⇒ **No magnetic field modulation** within or around probe; particularly important when operating with EPR or NMR spectrometers with a need for rotation of the electromagnet.
- ⇒ Only one, **small dimension probe**, for wide range of magnetic fields.
- ⇒ Capability of **tracking of extremely fast changing magnetic fields**.
- ⇒ **Correction signal for magnetic field control** available.
- ⇒ Measurement of very low magnetic field.
- ⇒ Low cost accessories.

TECHNICAL SPECIFICATION

⇒ Field range	76 - 1920 mT *
⇒ Searching rate (max.)	300 mT / s
⇒ Tracking rate (max.)	90 mT / s
⇒ Response time while tracking	6 - 120 ms
⇒ Magnetic field resolution	0,0001 mT
⇒ Magnetic field homogeneity resolution (nonlinear scale)	~ 0,15 % (0,0001 mT / cm)
⇒ NMR signal amplitude resolution	> 0,5 %
⇒ Field gradient tolerance	0,02 % / cm
⇒ Correction signal for magnetic field control	digital value plus sign from any magnetic field chosen
⇒ Probe dimension	8 mm diameter, 41 mm long
⇒ Field value display	20 characters, one line LCD (with backlight as option)
⇒ Two - way RS 232 C and IEEE 488 ports	for data logging & computer control
⇒ OCXO crystal oscillator with:	
clock accuracy	0,01 ppm / day **
clock aging stability	3 ppm / year
⇒ RF box connecting cable	300 cm
⇒ Power requirements	115 / 230 V, 25 W, 50 / 60 Hz
⇒ Dimensions	258 x 102 x 312 mm
⇒ Weight (with head)	5,9 kg

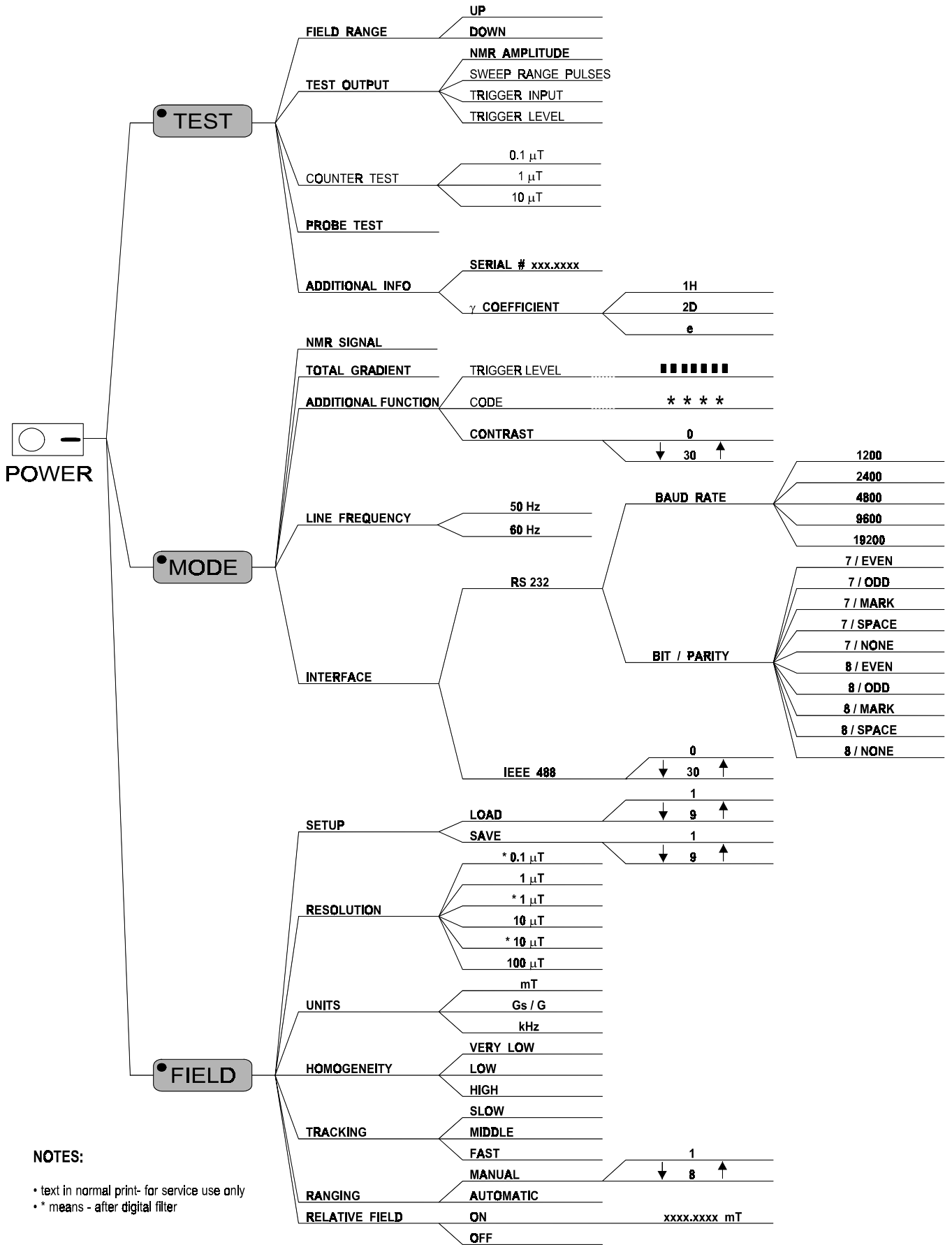
ACCESSORY OPTIONS

- Low field probe (ϕ 10,6 mm) 32 - 78 mT.
- High field, axial probe (ϕ 12,6 mm) 1.8 - 10 T.
- Miniaturized probe: 5.0 mm diameter, 80 mm long (flexible or rigid).
- Special holder for measuring head, type RX - 09.
- MAG - PRO software for computer control, data acquisition and data processing.
- RF box connecting cable - customer required dimension (up to 12 m).

* One probe only, eight automatic subranges.

** After 30 min. warm-up.

Menu for RX - 32 NMR teslameter version 2.2



NOTES:

- text in normal print- for service use only
- * means - after digital filter

RX - 32 view

0.0001% resolution!

