

RI 900 Radar Performance Monitor System

High precision Radar RF Performance Monitor for online measurements

Features:

- Online monitoring of Peak Power and Noise Figure
- High resolution touchscreen display
- Up to 4 independent instrument modules
- IF center frequencies between 10 and 200 MHz
- RF frequencies between 10 MHz and 10 GHz in combination with corresponding Ranatec Noise Sources and Power Sensors
- Extensive triggering possibilities
- Remote control via RS232, RS422, GPIB or LAN

Overview

The Ranatec RI 900 is the 4th generation radar performance monitor from Ranatec Instrument AB/Magnetic AB. It is fully backwards compatible with its predecessor RM9000 and adds new features and higher performance.

A complete monitoring system consists of:

- Instrument (RI 900) including up to four channels
- RF Head (see options)
- Power sensors including cables (see options)
- Noise Source (see options)

Peak Power and Noise Figure measurements needs to be synchronized to the radar transmit pulse. RI 900 has several trigger signal inputs with independant delay settings. This enables online performance monitoring of multi-pulse systems with staggered PRF and pulse compression.

Radar transmitter Peak Power monitoring

RI 900 can be equipped with up to four Peak Power modules with corresponding Peak Power sensors for online Peak Power monitoring. Each Peak Power module measures both output and reflected peak power.

Alarm levels can be set for each individual channel and dedicated alarm signals are set in less than 4 μ s after exceeding these levels.



Ranatec RI 900 is a modular Radar Performance Monitor for online measurements.



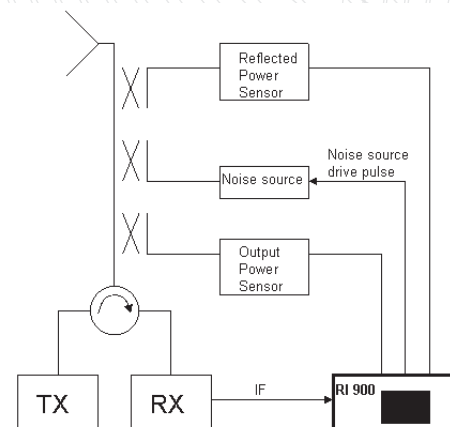
The rear of the instrument contains all necessary connectors for inputs and communication interfaces.

Radar receiver Noise Figure monitoring

RI 900 can be equipped with up to four Noise Figure Meter modules with corresponding Noise Sources for Noise Figure online monitoring. Alarm levels can be set and dedicated alarm signals are set when exceeding these levels.

Compatibility

RI 900 is backward compatible with Ranatec RM9000 series and all Magnetic AB series Radar Performance Monitors in form-fit-and-function.



Typical installation for online radar performance monitoring.

RANATEC

High performance measurement solutions

Specifications:

Noise Figure Meter specifications:

- Number of channels: 1-4*
- NF Accuracy: +/-0.2 dB for $0 < NF < 5$ dB
(ENR = +5 dB, 18°C - 28°C) +/-0.3 dB for $5 < NF < 10$ dB
+/-0.5 dB for $10 < NF < 15$ dB

- IF center frequency: 5 to 200 MHz
- IF bandwidth: +/-10% standard
(custom bandwidths available upon request)
- IF input power range: -80 to -35 dBm/MHz
- IF input impedance: 50 Ohm
- Connector: BNC female
- Noise source voltage: +12 ~ +28VDC
(SW defined)
- PRF range: 100 Hz - 25 kHz
- Pulse width: 5-50 μ s
- ENR range: 0 to 50 dB
- Connector: BNC female

Peak Power Meter specifications:

- Number of channels: 1 Output + 1 Reflected per module*
- RF frequency range: 100 MHz - 10 GHz
- Dynamic range: 50 dB @ 1 GHz (L-band)
50 dB @ 3 GHz (S-band)
40 dB @ 6 GHz (C-band)
30 dB @ 10 GHz (X-band)
- Abs. power accuracy: +/-0.5 dB
- Rise-/fall-time: 10 ns
- Connector: Special cable supplied

User interface:

- Display size: 7" widescreen
- Resolution: 800x480
- Input method: Touchscreen

Communication interfaces:

- Remote control via RS232 is standard
- Remote control via RS422 is optional
- Remote control via GPIB is optional
- Remote control via LAN is optional

Environmental specification:

- Operating temp: 0°C to +50°C
- Storage temp: -20°C to +70°C
- Relative humidity: 95% at +40°C
- Altitude: 5000 m
- Vibration: MIL-SRD-810B Method S14
- Shock: MIL-STD-810B Method S16

Power input:

- Power input: 115/230 VAC, 50-60 Hz, 50 W

Mechanical specifications:

- Dimensions: 431x255x132.5 mm
- Weight: 8 kg

Ordering

RI 900

Radar Performance Monitor
Instrument Mainframe

Option RI 1710
Option RI 1860

Noise Figure Meter
Peak Power Meter

Option RS422
Option LAN
Option GPIB

Remote control via RS422
Remote control via LAN
Remote control via GPIB

Option RI 8610

Coaxial Peak Power Sensor,
0.1-10 GHz

Option RI 8611

Waveguide Peak Power Sensor,
L-band

Option RI 8612

Waveguide Peak Power Sensor,
S-band

Option RI 8613

Waveguide Peak Power Sensor,
C-band

Option RI 8614

Waveguide Peak Power Sensor,
X-band

Option 150

RF Head with directional
coupler for Noise injection
RF Head with directional
couplers for Output- and
Reflected Power

Option 323

Option 324

RF Head with directional
coupler for Output Power

Option 326

RF Head with directional
couplers for Noise injection,
Output power and Reflected
Power

Option LN30N Noise Source L-band, 0 isolators

Option LN31N Noise Source L-band, 1 isolator

Option LN32N Noise Source L-band, 2 isolators

Option SN30N Noise Source S-band, 0 isolators

Option SN31N Noise Source S-band, 1 isolator

Option SN32N Noise Source S-band, 2 isolators

Option CN30N Noise Source C-band, 0 isolators

Option CN31N Noise Source C-band, 1 isolator

Option CN32N Noise Source C-band, 2 isolators

Option XN30N Noise Source X-band, 0 isolators

Option XN31N Noise Source X-band, 1 isolator

Option XN32N Noise Source X-band, 2 isolators

* Maximum 4 modules are possible in one instrument.

** Other cable lengths upon request.

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