

## R3000 EMI RECEIVERS



Fully IF digital EMI Receivers family. Full Compliance to CISPR 16-1 for measurement of electromagnetic interference in accordance with the requirements of EMI standards such as CISPR, EN 550xx, FCC and MIL.

R3000 EMI Receivers are PC based microprocessor controlled with advanced software for EMC automation. Fitted with continuously active pre-selectors that allow excellent dynamic range and precise EMC measurements.

### TECHNICAL SPECIFICATIONS EMI RECEIVERS

	R3010	R3030	R3300
<b>FREQUENCY</b>			
Frequency Range	9kHz-30MHz	9kHz-300MHz	9kHz-3000MHz
Frequency Setting	1Hz (9kHz-30 MHz)	1Hz (9kHz-300 MHz)	1Hz (9kHz - 1000 MHz) 10Hz (1000 - 3000 MHz)
Internal Reference Frequency			
Aging per Year	$2 \times 10^{-6}$	$2 \times 10^{-6}$	$2 \times 10^{-6}$
Temperature Drift	$15 \times 10^{-5}$ (+10 °C to +40°C)	$15 \times 10^{-5}$ (+10 °C to +40°C)	$15 \times 10^{-5}$ (+10 °C to +40°C)
External Reference Frequency	10 MHz	10 MHz	10 MHz
Frequency Display Local And Remote (manual mode)	Numeric Display	Numeric Display	Numeric Display
Resolution	1Hz	1Hz	1Hz
Frequency Display Remote (sweep mode)	Graphic Display on PC SW	Graphic Display on PC SW	Graphic Display on PC SW
Resolution	Frequency Step (zoom function)	Frequency Step (zoom function)	Frequency Step (zoom function)
Measurement Time (manual mode)	2 ms to 90 min	2 ms to 90 min	2 ms to 90 min
Resolution	1 ms (< 60 sec) 1 sec (> 60 sec)	1 ms (< 60 sec) 1 sec (> 60 sec)	1 ms (< 60 sec) 1 sec (> 60 sec)
Measurement Time (sweep mode)	2 ms to 60 s	2 ms to 60 s	2 ms to 60 s
Resolution	1 ms	1 ms	1 ms
<b>RESOLUTION BANDWIDTHS</b>			
Digital EMI Filters BW	200 Hz (-6dB Bandwidth) 9 kHz (-6dB Bandwidth) 120 kHz (-6dB Bandwidth)	200 Hz (-6dB Bandwidth) 9 kHz (-6dB Bandwidth) 120 kHz (-6dB Bandwidth)	200 Hz (-6dB Bandwidth) 9 kHz (-6dB Bandwidth) 120 kHz (-6dB Bandwidth) 1MHz (Impulse Bandwidth)
Hardware Filters BW	15 kHz 1 MHz	15 kHz 1 MHz	15 kHz 1 MHz

**PRESELECTION**

**Fixed & Tunable Filters**

**R3010**

9 kHz to 150 kHz  
150 kHz to 2 MHz  
2 MHz to 6 MHz  
6 MHz to 15 MHz  
15 MHz to 30 MHz

**R3030**

9 kHz to 150 kHz  
150 kHz to 2 MHz  
2 MHz to 6 MHz  
6 MHz to 15 MHz  
15 MHz to 30 MHz  
30 MHz to 60 MHz  
60 MHz to 140 MHz  
140 MHz to 300 MHz

**R3300**

9 kHz to 150 kHz  
150 kHz to 2 MHz  
2 MHz to 6 MHz  
6 MHz to 15 MHz  
15 MHz to 30 MHz  
30 MHz to 60 MHz  
60 MHz to 140 MHz  
140 MHz to 300 MHz  
300 MHz to 600 MHz  
600 MHz to 1000 MHz  
1000 MHz to 2000 MHz  
2000 MHz to 3000 MHz

**LEVEL**

**Maximum Input Level**

**DC Voltage**

**CW RF Power**

**Pulse Spectral Density**

**Immunity to Interference**

**Image Frequency**

**Intermediate Frequency**

**RF Shielding**

**Noise Floor**

**Peak**

**Quasi Peak**

**CISPR Average**

**RMS**

**CISPR RMS**

50 V (AC-coupled)  
+20 dBm  
+97 dB $\mu$ V/MHz

> 60 dB  
> 70 dB

3 V/m (50  $\Omega$  termination)

	(IF 200 Hz)	(IF 9kHz)
Peak	< -10 dB $\mu$ V	< 10 dB $\mu$ V
Quasi Peak	< -15 dBuV	< 5 dBuV
CISPR Average	< -20 dBuV	< 0 dBuV
RMS	< -20 dBuV	< 0 dBuV
CISPR RMS	< -20 dBuV	< 0 dBuV

50 V (AC-coupled)  
+20 dBm  
+97 dB $\mu$ V/MHz

> 60 dB  
> 70 dB

3 V/m (50  $\Omega$  termination)

	(IF 200 Hz)	(IF 9kHz)	(IF 120kHz)
Peak	< -10 dB $\mu$ V	< 10 dB $\mu$ V	< 10 dB $\mu$ V
Quasi Peak	< -15 dBuV	< 5 dBuV	< 5 dBuV
CISPR Average	< -20 dBuV	< 0 dBuV	< 5 dBuV
RMS	< -20 dBuV	< 0 dBuV	< 5 dBuV
CISPR RMS	< -20 dBuV	< 0 dBuV	< 5 dBuV

50 V (AC-coupled)  
+20 dBm  
+97 dB $\mu$ V/MHz

> 60 dB  
> 70 dB

3 V/m (50  $\Omega$  termination)

	(IF 200 Hz)	(IF 9kHz)	(IF 120kHz)
Peak	< -10 dB $\mu$ V	< 10 dB $\mu$ V	< 10 dB $\mu$ V
Quasi Peak	< -15 dBuV	< 5 dBuV	< 5 dBuV
CISPR Average	< -20 dBuV	< 0 dBuV	< 5 dBuV
RMS	< -20 dBuV	< 0 dBuV	< 5 dBuV
CISPR RMS	< -20 dBuV	< 0 dBuV	< 5 dBuV

**FRONT PANEL**

**Knob**

**Display**

**Features**

**Level Display (digital)**

**Level Display (analog)**

**Detectors**

**Number of Contemporary Detectors**

**Display Units**

3,5 Inch TFT with Touch Panel

Virtual Keyboard

Numeric (resolution 0,01 dB)

Bargraph

Peak, Quasi-Peak, CISPR Average, RMS, CISPR RMS

3

dB $\mu$ V, dBm, dB $\mu$ V/m, dB $\mu$ A/m, dBA/m, dB $\mu$ A, dBpW

3,5 Inch TFT with Touch Panel

Virtual Keyboard

Numeric (resolution 0,01 dB)

Bargraph

Peak, Quasi-Peak, CISPR Average, RMS, CISPR RMS

3

dB $\mu$ V, dBm, dB $\mu$ V/m, dB $\mu$ A/m, dBA/m, dB $\mu$ A, dBpW

3,5 Inch TFT with Touch Panel

Virtual Keyboard

Numeric (resolution 0,01 dB)

Bargraph

Peak, Quasi-Peak, CISPR Average, RMS, CISPR RMS

3

dB $\mu$ V, dBm, dB $\mu$ V/m, dB $\mu$ A/m, dBA/m, dB $\mu$ A, dBpW

**INPUT & OUTPUT**

**RF Input**

**Impedance**

**Connector(s)**

**VSWR**

**Input Attenuator**

**IF Output**

**Impedance**

**Connector**

**IF Frequency**

**Tracking Generator**

50  $\Omega$

N female (RF 9 kHz to 30 MHz)

2,0 to 1,0 (attenuation 0 dB)  
1,2 to 1,0 (attenuation  $\geq$  10 dB)

0 dB to 50 dB in 10 dB steps

50  $\Omega$

N female

10,7 MHz

+50 to +95 dB $\mu$ V

50  $\Omega$

N female (RF 9 kHz to 30 MHz)  
N female (RF 30 MHz to 300 MHz)

2,0 to 1,0 (attenuation 0 dB)  
1,2 to 1,0 (attenuation  $\geq$  10 dB)

0 dB to 50 dB in 10 dB steps

50  $\Omega$

N female

10,7 MHz (< 30 MHz)  
18 MHz (> 30 MHz)

+50 to +95 dB $\mu$ V (9 kHz to 150 MHz)

50  $\Omega$

N female (RF 9 kHz to 30 MHz)  
N female (RF 30 MHz to 3000 MHz)

2,0 to 1,0 (attenuation 0 dB)  
1,2 to 1,0 (attenuation  $\geq$  10 dB)

0 dB to 50 dB in 10 dB steps

50  $\Omega$

N female

10,7 MHz (< 30 MHz)  
18 MHz (> 30 MHz)

+50 to +95 dB $\mu$ V (9 kHz to 150 MHz)

**GENERAL**

**Interface**

**PC Requirement**

**Power Supply**

**Power Consumption**

**Operating Temperature**

**Storage Temperature**

**Size (WxHxD)**

**Weight**

Ethernet 10/100 MB (TCP Port: 1893)

Pentium Dual Core Processor  
Above 1GB RAM (min)  
Ethernet 10/100 MB Network Board  
WIN XP, WIN VISTA, WIN 7 OS

230Vac  $\pm$  10% 50-60Hz

50VA

0° to 45°C

-20° to 70°C

450x135x436mm.

14 kg.

Ethernet 10/100 MB (TCP Port: 1893)

Pentium Dual Core Processor  
Above 1GB RAM (min)  
Ethernet 10/100 MB Network Board  
WIN XP, WIN VISTA, WIN 7 OS

230Vac  $\pm$  10% 50-60Hz

50VA

0° to 45°C

-20° to 70°C

450x135x436mm.

15 kg.

Ethernet 10/100 MB (TCP Port: 1893)

Pentium Dual Core Processor  
Above 1GB RAM (min)  
Ethernet 10/100 MB Network Board  
WIN XP, WIN VISTA, WIN 7 OS

230Vac  $\pm$  10% 50-60Hz

50VA

0° to 45°C

-20° to 70°C

450x135x436mm.

16 kg.



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