INSTRUMENTS

R3000 EMI RECEIVERS

Fully IF digital EMI Receivers family. Full Compliance to CISPR 16-1-1 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
FREQUENCY			
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	2×10^{-6}	2×10^{-6}	2×10^{-6}
Temperature Drift	15×10^{-5} (+10 °C to +40 °C)	15×10^{-5} (+10 °C to +40 °C)	15×10^{-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)
Mesurament Time (manual mode)	2 ms to 90 min	2 ms to 90 min	2 ms to 90 min
Resolution	1 ms (< 60 sec)	1 ms (< 60 sec)	1 ms (< 60 sec)
	1 sec (> 60 sec)	1 sec (> 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
RESOLUTION BANDWIDTHS			
Digital EMI Filters BW	200 Hz (-6dB Bandwitdh) 9 kHz (-6dB Bandwitdh) 120 kHz (-6dB Bandwitdh)	200 Hz (-6dB Bandwitdh) 9 kHz (-6dB Bandwitdh) 120 kHz (-6dB Bandwitdh)	200 Hz (-6dB Bandwitdh) 9 kHz (-6dB Bandwitdh) 120 kHz (-6dB Bandwitdh) 1MHz (Impulse Bandwitdh)
Hardware Filters BW	15 kHz 1 MHz	15 kHz 1 MHz	15 kHz 1 MHz

	R3010	R3030	R3300
PRESELECTION			
Fixed & Tunable Filters	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	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	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 to1000 MHz 1000 MHz to 2000 MHz 2000 MHz to 3000 MHz
LEVEL			
Maximum Input Level			
DC Voltage	50 V (AC-coupled)	50 V (AC-coupled)	50 V (AC-coupled)
CW RF Power	+20 dBm	+20 dBm	+20 dBm
Pulse Spectral Density	+97 dBµV/MHz	+97 dBµV/MHz	+97 dBµV/MHz
Immunity to Interference			
Image Frequency	> 60 dB	> 60 dB	> 60 dB
Intermediate Frequency	> 70 dB	> 70 dB	> 70 dB
RF Shielding	3 V/m (50 Ω termination)	3 V/m (50 Ω termination)	3 V/m (50 Ω termination)
Noise Floor	(IF 200 Hz) / (IF 9kHz)	(IF 200 Hz) / (IF 9kHz) / (IF 120kHz)	(IF 200 Hz) / (IF 9kHz) / (IF 120kHz)
Peak	< -10 dBµV / < 10 dBµV	< -10 dBµV / < 10 dBµV / < 10 dBµV	< -10 dBµV / < 10 dBµV / < 10 dBµV
Quasi Peak	< -15 dBuV / < 5 dBuV	< -15 dBuV / < 5 dBuV / < 5 dBuV	< -15 dBuV / < 5 dBuV / < 5 dBuV
CISPR Average	< -20 dBuV / < 0 dBuV	< -20 dBuV / < 0 dBuV / < 5 dBuV	< -20 dBuV / < 0 dBuV / < 5 dBuV
RMS	< -20 dBuV / < 0 dBuV	< -20 dBuV / < 0 dBuV / < 5 dBuV	< -20 dBuV / < 0 dBuV / < 5 dBuV
CISPR RMS	< -20 dBuV / < 0 dBuV	< -20 dBuV / < 0 dBuV / < 5 dBuV	< -20 dBuV / < 0 dBuV / < 5 dBuV
FRONT PANEL			
Knob			
Display	3,5 Inch TFT with Touch Panel	3,5 Inch TFT with Touch Panel	3,5 Inch TFT with Touch Panel
Features	Virtual Keyboard	Virtual Keyboard	Virtual Keyboard
Level Display (digital)	Numeric (resolution 0,01 dB)	Numeric (resolution 0,01 dB)	Numeric (resolution 0,01 dB)
Level Display (analog)	Bargraph	Bargraph	Bargraph
Detectors	Peak, Quasi-Peak, CISPR Average, RMS, CISPR RMS	Peak, Quasi-Peak, CISPR Average, RMS, CISPR RMS	Peak, Quasi-Peak, CISPR Average, RMS, CISPR RMS
Number of Contemporary Detectors	3	3	3
Display Units	dBµV, dBm, dBµV/m, dBµA/m, dBA/m, dBµA, dBpW	dBµV, dBm, dBµV/m, dBµA/m, dBA/m, dBµA, dBpW	dBµV, dBm, dBµV/m, dBµA/m, dBA/m, dBµA, dBpW
INPUT & OUTPUT			
RF Input			
Impedance	50 Ω	50 Ω	50 Ω
Connector(s)	N female (RF 9 kHz to 30 MHz)	N female (RF 9 kHz to 30 MHz) N female (RF 30 MHz to 300 MHz)	N female (RF 9 kHz to 30 MHz) N female (RF 30 MHz to 3000 MHz)
VSWR	2,0 to 1,0 (attenuation 0 dB) 1,2 to 1,0 (attenuation ≥ 10 dB)	2,0 to 1,0 (attenuation 0 dB) 1,2 to 1,0 (attenuation ≥ 10 dB)	2,0 to 1,0 (attenuation 0 dB) 1,2 to 1,0 (attenuation ≥ 10 dB)
Input Attemuator	0 dB to 50 dB in 10 dB steps	0 dB to 50 dB in 10 dB steps	0 dB to 50 dB in 10 dB steps
IF Output			
Impedance	50 Ω	50 Ω	50 Ω
Connector	N female	N female	N female
IF Frequency	10,7 MHz	10,7 MHz (< 30 MHz) 18 MHz (> 30 MHz)	10,7 MHz (< 30 MHz) 18 MHz (> 30 MHz)
Tracking Generator	+50 to +95 dBµV	+50 to +95 dBµV (9 kHz to 150 MHz)	+50 to +95 dBµV (9 kHz to 150 MHz)
GENERAL			
Interface	Ethernet 10/100 MB (TCP Port: 1893)	Ethernet 10/100 MB (TCP Port: 1893)	Ethernet 10/100 MB (TCP Port: 1893)
PC Requirement	Pentium Dual Core Processor Above 1GB RAM (min) Ethernet 10/100 MB Network Board WIN XP, WIN VISTA, WIN 7 OS	Pentium Dual Core Processor Above 1GB RAM (min) Ethernet 10/100 MB Network Board WIN XP, WIN VISTA, WIN 7 OS	Pentium Dual Core Processor Above 1GB RAM (min) Ethernet 10/100 MB Network Board WIN XP, WIN VISTA, WIN 7 OS
Power Supply	230Vac ± 10% 50-60Hz	230Vac ± 10% 50-60Hz	230Vac ± 10% 50-60Hz
Power Consumption	50VA	50VA	50VA
Operating Temperature	0° to 45°C	0° to 45°C	0° to 45°C
Storage Temperature	-20° to 70°C	-20° to 70°C	-20° to 70°C
Size (WxHxD)	450x135x436mm.	450x135x436mm.	450x135x436mm.
Weight	14 kg.	15 kg.	16 kg.

AFJ INSTRUMENTS Srl
Via Corno di Cavento 5 - 20148 Milan - Italy
Phone: +39 02 91434850 - Fax: +39 02 91434877
sales@afj-instruments.com
www.afj.it
www.afj-instruments.com