



## PMM 7000

Emission precompliance system  
from 150 kHz to 1000 MHz

**PMM**



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from 150 kHz to 1000 MHz



### ONE SOLUTION FOR ALL EMISSION PROBLEMS AND THREE MAGIC BUTTONS FOR EVERYTHING

#### LOW COST SOLUTION

The PMM 7000 system is certainly the best solution for all precompliance emission test according to CISPR 16. Everything you need is included in a simple and cost effective box. You can perform conducted as well radiated measurements in the easiest way, without any spectrum analyzer or computer theory background. PMM design philosophy was to develop an instrument understandable by any non EMC expert and affordable by all pockets. Despite the low cost, performances are not sacrificed at all. All needed commands are available on one single screen to perform any EMC measurement. Moreover, all the current Standards used for "CE" marking have been preloaded into the software.

#### CONDUCTED EMISSIONS

Thanks to the internal LISN you can perform conducted measurements up to 16 A. The software automatically will switch between phase to neutral reporting on the screen the worst case envelope. Even if it is possible to change

set-up parameters, (Fig.1) most common Start, Stop and Step Frequency are assigned automatically. For higher currents you can use either an external three phase LISN or the optional 30 or 35 dB voltage probe.

#### EASY TO USE



PMM 7000 software is Windows™ based. Entering the main menu you have only to select which kind of test you need to perform (i.e. conducted, radiated power or radiated emission) and immediately PMM 7000 will configure itself according to your choice, including unit selection. Then simply click START button: everything will be performed automatically.

All the measurements can be performed using Peak, Quasi-Peak or Average detectors simultaneously. The accuracy is good enough to offer very high confidence to predict if your product will pass the compliance test. The measurement results are in a form of graph, ready to be printed or saved as a file into your PC.

#### WORST POINT

Just clicking "Worst 10 Pks" function you get 10 Worst Frequencies (Fig.2). During the design phase you can modify your circuits and see immediately the result of the changes at those specific frequencies only.

#### IDEAL FOR FIELD APPLICATIONS

Thanks to its small size and weight, PMM 7000 is an ideal tool to perform on site reliable measurements. The PC that drives it can load all set-up and save all measurements you have done; then, back to the office, you can easily write your reports.

#### RADIATED EMISSIONS

PMM 7000 performs radiated measurements up to 1 GHz, offering a complete solution to all available Standards (Fig.3).

These precompliance tests are performed easily and quickly. You need only to connect an antenna to the proper RF input and start the test. Immediately, while sweeping you can see how the emission disturbances look like.

#### RADIATED POWER

The same user friendly approach drives radiated power applications. If your job is to test white-goods or household appliances, PMM offers, as an option, a suitable emission Clamp.

## MANUAL MODE

Entering Manual Mode you can examine all disturbances noises frequency by frequency (Fig.4).

All the PMM 7000 features are under your control to perform a very detailed signal analysis.

## AM/FM DEMODULATOR

Normally, if you are not operating inside an anechoic chamber, you are also detecting the broadcasting signals. PMM 7000 provides a FM/AM demodulator to listen to the acquired signal, just like a radio, and therefore disregard it if not of your interest.

## SPECTRUM MODE

To perform fast signal analysis PMM 7000 also has a "Spectrum mode" of operation (Fig.5).

During debugging you can, for example, modify your power line filter or the shielding material in use and see in "real time" the result of the modifications.

## ALL THREE DETECTORS

PMM 7000 has three hardware detectors: with this function it is possible to display simultaneously all the curves for Peak, Quasi-Peak and Average detector.

## ZOOM MODE

All parts of the graph can be enlarged using zoom function for a better view of a specific portion of the signal.

For your convenience, inside the zoom window you can read the central frequency and the associated level.

## NEAR FIELD DEBUGGING

During design debugging phase it is important to find the emission source and where it is getting out in order to implement the proper countermeasure. Using optional near field probe this is an easy and fast task. When using PMM antennas, clamps or other options the correction factors are preloaded.

Of course, other antenna factors can be loaded any time.



Fig. 1



Fig. 2



Fig. 3

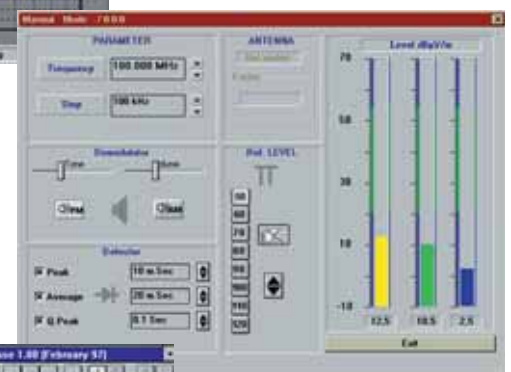


Fig. 4

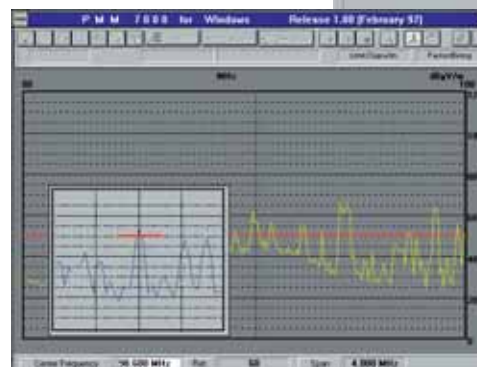


Fig. 5

## ACCESSORIES FOR PMM 7000



L1-150  
1 LINE, 5 $\mu$ H,  
150A LISN



AS-02  
30 MHz - 1 GHz,  
antenna set



L3-500  
4 lines, 3-phases, 350A LISN



L2-16A  
single-phase  
16A LISN



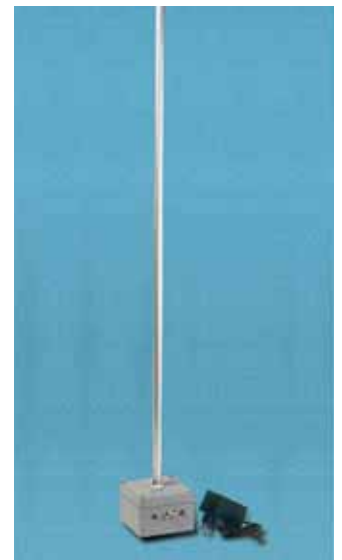
PL-01  
pulse limiter



L3-32  
3-phase  
32A LISN



VNET-150 & TRF-1  
insertion loss LISN  
& balance to  
unbalance  
transformer



RA-01  
10 kHz - 30 MHz, rod antenna



L3-64/100  
3-phase  
64/100A LISN



RF-300  
Van Veen Loop



F-201  
Absorbing clamp,  
30 MHz - 1 GHz




CTK-015  
Set of active Credence  
Technology



SHC-1 & SHC-2  
35 or 30 dB  
probe

# PMM 7000

## EMISSION PRECOMPLIANCE SYSTEM SPECIFICATIONS

The system is composed by PMM 7000 EMI receiver with built-in 16 A LISN, software, RS-232 cable and operating manual.		<b>Demodulation</b>	AM/FM with incorporated speaker (tone and volume adjustable)
<b>Frequency Range</b>		<b>IF Bandwidths (-6 dB)</b>	9 kHz/120 kHz (CISPR tolerance)
Input A	150 kHz - 30 MHz	<b>Internal LISN</b>	
Input B	30 MHz - 1000 MHz	Frequency range	150 kHz - 30 MHz
Frequency step	10 kHz (input A), 100 kHz (input B)	Network impedance	50 Ω//50 μH
Setting error	<1x10 <sup>-6</sup>	Continuous I out	2x16 A
<b>RF Input</b>		Max AC supply voltage	250 V
Input A	50 Ohm, female BNC connector	EUT power plug	SCHUKO 10/16 A
Input B	50 Ohm, female N connector	Artificial hand & protective earth	built-in
VSWR	<1.2 with ≥10 dB attenuation <2 with 0 dB attenuation	Pulse limiter	built-in
<b>Maximum input signal</b>		<b>Power supply</b>	
Sinewave AC voltage	<127 dBμV	AC	115/230 VAC ± 10% (user selectable)
<b>Noise indication (dBμV) typical values:</b>		Frequency	50/60 Hz
		Power	30 VA Max
		Fuse	(250 V) T 125 mA (115 V) T 250 mA
	<b>BW = 9 kHz</b> (150 kHz - 1 MHz) (1 - 30 MHz)	<b>General data</b>	
		<b>BW = 120 kHz</b> (30 - 300 MHz) (300 - 1000 MHz)	
Peak value	<20      <8	Interface	
Quasi-peak value	<16      <4	RS-232 (9 pin)	
Average value	<10      <2	Operating temperature	
		5° - 40°C	
		Operating humidity max	
		80%	
		Storage temperature	
		-25° - +75°C	
		RF suppression	
		in conformity with CISPR 22	
		Dimensions	
		364x120x376 mm (WxHxD)	
		Weight	
		5 Kg	
<b>Measurement time</b>			
Peak detector	10 msec - 1000 msec		
Quasi-peak detector	200 msec - 10 sec		
Average detector	20 msec - 1000 msec		
<b>Measurement error</b>			
	<b>Guaranteed</b>	<b>Typical</b>	
Range 150 kHz - 30 MHz	± 2 dB	± 2 dB	
Range 30 MHz - 300 MHz	+ 2 - 3 dB	± 2 dB	
Range 300 MHz - 1000 MHz	+ 2 - 4 dB	± 2 dB	
<b>Display units</b>			
	dBμV, dBμV/m, dBpW		

## ORDERING INFORMATIONS

<b>7000</b>	150 kHz – 1000 MHz EMI receiver	<b>TR-01</b>	Tripod
<b>7000/AS-TC</b>	150 kHz – 1000 MHz EMI receiver with AS-02 antenna set with typical calibration factor	<b>SHC-2</b>	30 dB Voltage probe, 1500Ω
<b>L1-150</b>	Single line LISN, 150A (50Ω//1Ω + 5μH)	<b>F-201</b>	Absorbing clamp, 30 MHz – 1 GHz
<b>L2-16A</b>	Two lines, Single phase, 16A LISN, (50Ω//5Ω + 50μH)	<b>AS-02</b>	Antenna set (biconic, log-periodic, tripod, 5 m. cable, carrying case)
<b>L3-32</b>	Four lines, 3-phase, 32A LISN, (50Ω//5Ω + 50μH)		
<b>L3-64</b>	Four lines, 3-phase, 64A LISN, (50Ω//5Ω + 50μH)		
<b>L3-100</b>	Four lines, 3-phase, 100A LISN, (50Ω//5Ω + 50μH)		
<b>L3-500</b>	Four lines, 3-phase, 350A LISN, (50Ω//5Ω + 50μH)	<b>RF-300</b>	Van Veen Loop
<b>SHC-1</b>	35 dB Voltage probe, 1500Ω	<b>TRF-1</b>	Balanced to unbalanced transformer
<b>PL-01</b>	Pulse Limiter	<b>VNET-150</b>	VNET
		<b>RA-01</b>	Rod Antenna

**PIM** a brand of



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**Narda Safety Test Solutions srl**  
Via Leonardo da Vinci, 21/23  
20090 Segrate (MI) ITALY  
Phone: +39 02 26 998 71  
Fax: +39 02 26 998 700  
E-Mail: [support@narda-sts.it](mailto:support@narda-sts.it)  
[www.narda-sts.it](http://www.narda-sts.it)