PMM 6000S SYSTEM SPECIFICATIONS

SW06 IMMUNITY SOFTWARE SPECIFICATIONS

Frequency setting range	100 Hz - 1000 MHz
Level setting	1 - 100 V
Level resolution	0.01 V
Frequency Step	0.5 - 10%
Dwell time	100 ms - 10 s
AM Modulation	int (400 Hz -1kHz), EXT
Pulsed Modulation	1Hz, 200 Hz (only with 3000)
Depth	1 to 100%
Breakpoints	up to 5 with warning user message window
Function	start, stop, pause, continue, abort
Calibration Tables	create, modify or save the tables
Calibration	automatic calibration procedure for CDN and Clamp or probe
Stand alone mode	calibration factors can be downloaded to the PMM 3000 internal memory

Special functions

Manual mode	frequency and level can be manually changed
Multiscan mode	up to 8 different setups can be run sequencially
Report	automatic setup parameters are transferred to the Report menu
Power meter supported	PMM 6600, or 6600D 4220/4230/ 9200 Boonton
Generator supported	PMM 3000, WaineKerr 1000/B R&S SMX/SMY/SMT02/SMG HP 8647/8656/8648
PC minimum configuration	4 Mbytes, Windows 3.11, Windows 95/98 operating system, mouse
Interfaces	RS232 or GP-IB (National instrument PC-IIA)
Software update	via Internet

PMM 3000 SPECIFICATIONS

Frequency range	10 kHz - 1 GHz
Resolution	1 kHz (freq.<100 MHz) 10 kHz (freq.>100 MHz)
Accuracy	<50 ppm
Level	-80 -10 dBm
Resolution	0.1 dB
Accuracy	± 1 dB
Level flatness	± 1 dB
Output impedance	50 Ω, N connector
Harmonic	<30 dBc for level @ 0 dBm
Non-harmonic	<50 dBc
AM Modulation	internal: 400 Hz or1 kHz external: 100 Hz to 10 kHz
Pulse modulation	1 Hz, 200 Hz
Remote Control	RS232/485
Power	115/230 Vac / 50-60 Hz / 24 VDC
Size	257x110x315 mm (WxHxD)
Weight	5 kg

PMM 6000N AMPLIFIER SPECIFICATIONS

Frequency range	9 kHz - 230 MHz
Power output	10 W; 15 W from 150 kHz - 80 MHz
Compression	<1 dB
Harmonic distortion	< -25 dB
Input for max output	1 mW
Input connector	BNC
Output impedance	50 Ω
Output connector	N female
Power indication	Analog meter, 20 W f.s.
Power	85-264 VAC, 60 W, 47 - 440 Hz
Size	257x110x315 mm (WxHxD)
Weight	4 kg

ORDERING INFORMATION

6000S/10

Automatic immunity system. Composed by: 3000 + 6000N + M3-16 + ATT-15W, SW06, cabling and calibration data on floppy

SINGLE ITEM AND OPTIONS

3000	RF generator
6000N	10/15 W amplifier
6600	power meter
F-120-9A	injection probe
F-33	current probe
F-203I-23	injection clamp
ATT-15W	6 dB 15 W attenuator
ATT-30W	6 dB 30 W attenuator
SW-06	immunity software
M3-16	220/16A CDN M3[*]
M3-32	380/32A CDN M3[*]
M4-32	380/32A CDN M4[*]
M5-32	380/32A CDN M5[*]
AFx	unshielded lines CDN (specify the number of lines)
Sx	shielded lines CDN (specify the number of lines)
Tx	balanced lines CDN (specify the number of lines)
A.xx	amplifier (specify the power)
150-50	calibration kit for CDN
F-203I-CF2	calibration kit for injection clamp
BCIF-4F	calibration kit for F-120-9A
Short-adpt	shorting adapter for each CDN

[*]Other currents are available up to 200A

PMM 6000S/10
CONDUCTED IMMUNITY SYSTEM
ACCORDING TO IEC 1000-4-6 & EN61000-4-6
from 9 kHz up to 230 MHz

Distributed by:

PMM 6000S: Automatic RF Conducted Immunity System

PMM 6000S is a fully automatic system to perform conducted immunity test according to most accredited international standards. The basic configuration offers a very low cost solution for almost all requirements.
The system is fully expandable, meeting future standards, by supporting a wide variety of generators, power meters, CDN's and injection clamps. The basic system model 6000S/10 allows the user to inject 10 Volts with standard CDN M3/16 A. PMM can provide any additional CDN from M1 up to M5 for 100 A or more.
For signal we offer CDN for shielded cable (CDN-S series), unbalanced signals (CDN-F series) or telephone lines (CDN-T series).
For applications that require mains line and cables testing with many wires you can add injection probe, power meter, monitor probe to provide a fully automatic solution. The 6000S/10 system is supplied complete with interconnect cabling, the calibration factors for 1, 3, and 10 V on floppy disk and software.

Powerful Software

The software enables the user to calibrate the system (using CDN, EM-clamp or injection probe), to run tests according to standard EN1000-4-6 or any user-defined test set-up. With the user friendly software and a few keystrokes, you can easily configure the system to your exact needs.
All the parameters set-ups can be saved into a file and recalled for future usage.
The software allows the user to select the proper generator (GP-IB or RS232) and check if it is working properly.
PMM 6600 power meter is supported

with other commercial devices. The software SW-06 allows the user to assign unique names for each CDN or clamp used and also the association of each one to the calibration curves done at different levels.

Stand Alone Mode

All calibration curves can be downloaded into the PMM 3000 generator memory and recalled via the front panel keyboard to run tests without using a PC.
All set-up parameters created on the PC are transferred into PMM 3000, including the comment.
In this mode of operation, the customer can start, stop, pause or continue the test, as well as change the generator's operating parameters.

Set-Up

The SET-UP menu allows the user to perform testing, calibration, applying the modulation or use the Multiscan mode.

Break Points

Occasionally, it is necessary to swap a CDN or amplifier or to test at a specific frequency. The Break points feature allows the user to insert up to 5 frequency break points.
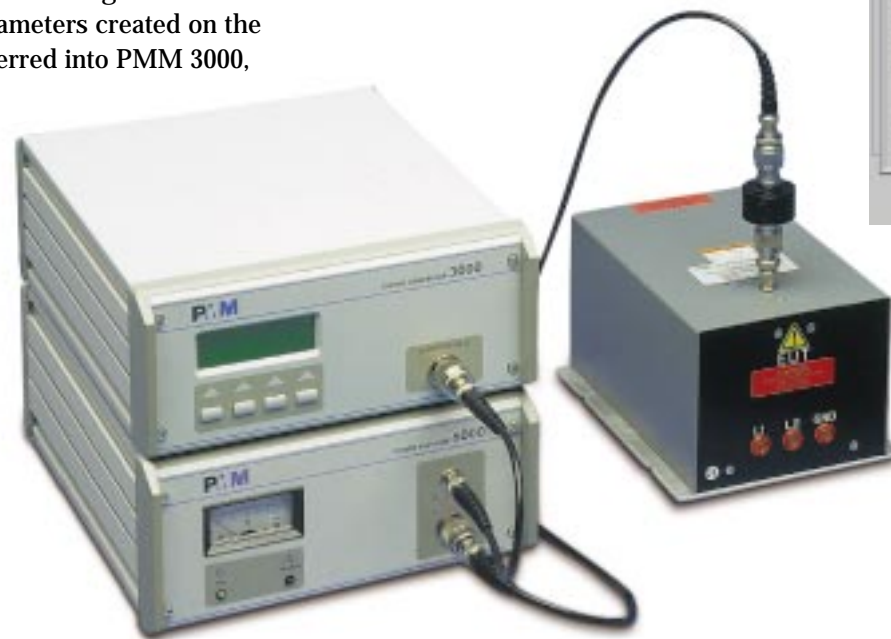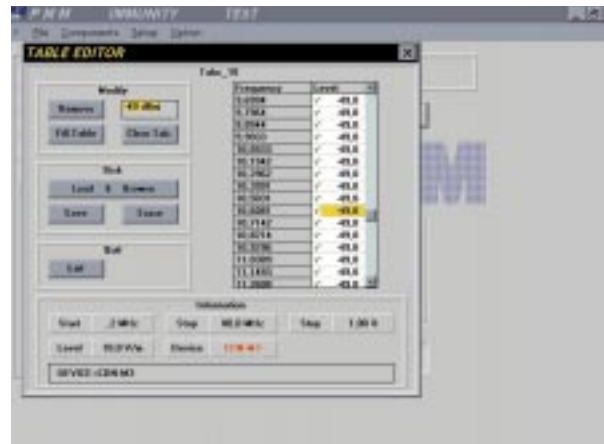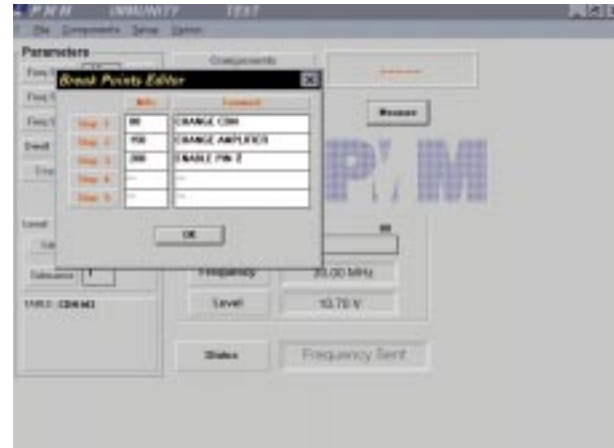
Calibration

PMM SW-06 software, allows the creation of the calibration tables for each individual device. The optional PMM calibration kit, makes each procedure very fast, simple and accurate.

PMM offers two different calibration kits, one for all CDNs and two for EM-clamp or Injection probe respectively. Each kit has two 150-50 adapters with one side terminated with 50 load.

Testing with Injection Clamp

When using the Injection Clamp to induce interference voltage on signal cables where a CDN is not suitable or available, e.g. when a bundle of signal cables is laid down and the system must monitor the RF current flowing on the cables, to ensure that the injected current never exceeds the maximum limit (U/150).
The use of a current probe F-33 and the PMM 6600 power meter provides
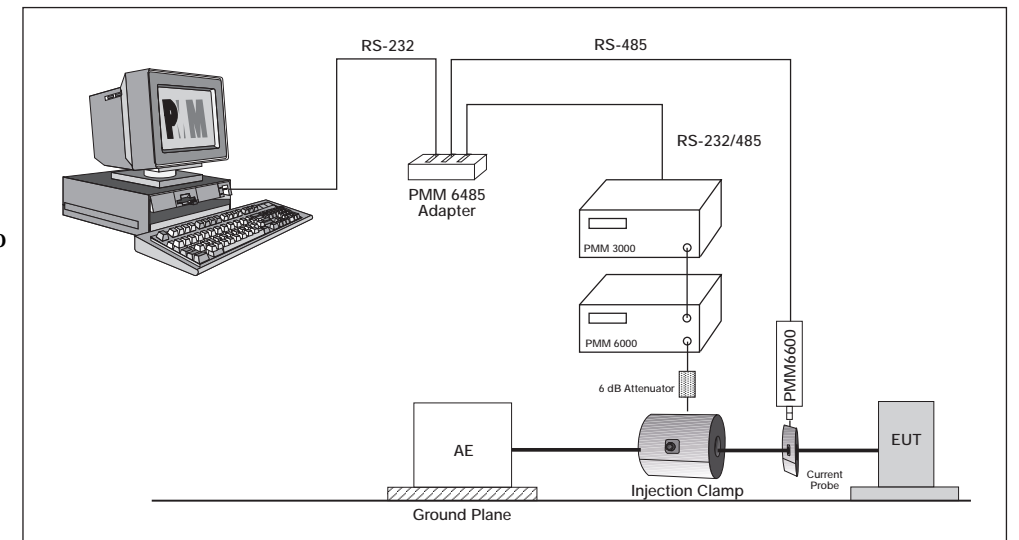
an efficient low cost solution.
The Current Probe is supplied fully calibrated, with test curve.
The test is performed in two steps, (1) with modulation off, the system loads the calibration curve and then sweeps from start to stop frequencies and adjusts the level of the generator to satisfy the condition $Imax = U0 /150$.
As soon as the sweep is completed, the software automatically creates a new correction table.
(2) Switch on the modulation and repeat the test.

Reporting

When the test is finished the user can print or save the report into a file for future reference.

6000S/10

This system is designed to supply more than 10 V using any CDNs. The standard configuration is composed by:

- PMM 3000   RF Generator
- PMM 6000N   10 W amplifier
- CDN-M3   16A CDN
- ATT-10W   6 dB attenuator
- SW-06   software with calibration curve and cabling