

# Certificate of Compliance

We, SPECTRUM RESEARCH & TESTING LABORATORY, INC., Herewith confirm that one sample of the following product:

*Product* : Hipermedia Center  
*Model No.* : HMC-XXXXX  
*Applicant* : High Performance PC Limited  
Unit 1, The I/O Centre, Fingle Drive, Stonebridge,  
Milton Keynes, MK130AT, United Kingdom

has been tested at our laboratory with positive results. The test records were represented in report No.: A04070202 according to the following standards:

EN 55022:1998+2000+A1:2003 Class B  
EN 61000-3-2 edition 2:2000  
EN 61000-3-3:1995+A1:2001  
EN 55024:1998+A1:2001+A2:2003  
- IEC 61000-4-2:1995+A1:1998+A2:2001  
- IEC 61000-4-3:2002+A1:2002  
- IEC 61000-4-4:1995+A1:2001+A2:2001  
- IEC 61000-4-5:1995+A1:2001  
- IEC 61000-4-6:1996+A1:2001  
- IEC 61000-4-8:1993+A1:2001  
- IEC 61000-4-11:1994+A1:2001

  
Johnson Ho, Director

Issued Date: Aug. 02, 2004



**SPECTRUM RESEARCH & TESTING LAB., INC.**

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## DECLARATION OF CONFORMITY

We herewith confirm the following designated product

**Hipermedia Center**  
**MODEL NO.: HMC-XXXXX**

( Product Identification )

has been tested and found to comply with the requirements set up in the council directive on the approximation of the law of member states relating to the EMC Directive 89/336/EEC, amended by 92/31/EEC & 93/68/EEC. For the evaluation regarding to the electromagnetic compatibility, the following standards were applied:

- |  |   |
|--|---|
| * EN 55022:1998+A1:2000+A2:2003<br>Class B | * EN 55024:1998+A1:2001+A2:2003<br>IEC 61000-4-2:1995+A1:1998+A2:2001 |
| * EN 61000-3-2 edition 2:2000              | IEC 61000-4-3:2002+A1:2002  |
| * EN 61000-3-3:1995+A1:2001                | IEC 61000-4-4:1995+A1:2001+A2:2001                                    |
|  | IEC 61000-4-5:1995+A1:2001  |
|  | IEC 61000-4-6:1996+A1:2001  |
|  | IEC 61000-4-8:1993+A1:2001  |
|  | IEC 61000-4-11:1994+A1:2001   |

( Identification of regulations / standards )

This declaration is the responsibility of the manufacturer / importer

**High Performance PC Limited**  
**Unit 1, The I/O Centre, Fingle Drive, Stonebridge, Milton Keynes,**  
**MK130AT, United Kingdom**

( Name / Address )

### MANUFACTURER / IMPORTER

(Name)

(Date)

### TEST LABORATORY

This declaration is based on the test report  
(Ref. No.A04070202) issued by SRT Lab., Inc. on  
Aug. 02, 2004.

The Declaration of Conformity has not yet included  
the test standard, EN 60950 which is applied to the  
product and required by Low Voltage Directive  
73/23/EEC.

(Johnson Ho, Director)

Aug. 02, 2004


(Date)

**SPECTRUM RESEARCH & TESTING LABORATORY, INC.**

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# **HPU-1N200 Power Supply Specification**

## **Table of Contents**

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## 1. Range of input AC voltage and current:

- 1.1 Input Range: 115v/60Hz, 230v/50Hz
- 1.2 Max input AC current: 115v/4.0A, 230/2.0A.
- 1.3 Inrush Current: 115V/50A, 230v/80A.

## 2. Output voltages and currents:

- 2.1 The +3.3V and +5V shall not exceed 61W, the total output shall not exceed 200W.
- 2.2 Table of output allocation in HPU-1N200-XX models:

Output Voltage	Load Range Min/Max	Regulation	Ripple & Noise Peak-to-Peak Max.
1. +5VSB	0A/2.0A	+5%~ -5%	100mV
2. +12V	1.5A/12.0A	+5%~ -5%	120mV
3. -12V	0.0A/0.8A	+10%~ -10%	120mV
4. +5V	0.3A/12A	+5%~ -5%	50mV
5. +3.3V	0.3A/16.0A	+5%~ -5%	50mV

### **Note:**

Noise test should be measured with 20 MHz bandwidth frequency oscilloscopes. The Output terminal shall add a tantalum capacitor of 10uF in parallel with a ceramic Capacitor of 0.1uf.

2.3 Input Frequency: Nominal Frequency 50/60 Hz Range: 47 Hz to 63 Hz

### **Note:**

The power supply must operate at above frequency for optimum operation.

## 3. Remote On/Off Controlled mode

When AC power is on, the power supply shall be in save mode of operation, (exclude +5VSB standby). When a TTL "L" signal is inserted, the power supply will be enabled. When TTL signal "H" is inserted, the power supply will be disabled.

Rise Time: 2ms max.

TTL level: "H" 3.50V – 5.25V while sourcing 0.4mA max  
"L" 0.0V – 0.5V while sinking 1.5mA max

## 4. Load Capacity Regulation

The cross regulation defined as follows, the output regulation should be within the specified range.

Load	SYH	+3.3V	+5V	+12V	-12V
ALL Max. All Min.	HHHHH LLLLL	8.0A 0.3A	9.0 0.3	9.4A 1.5A	0.3A 0.0A
+3.3V Max other Min	HLLLL	16.0A	1.5A	1.5A	0.0A
+5V Max other Min	LHLLL	0.3A	12A	1.5A	0.0A
+12V Max other Min	LLHLL	0.3A	0.3A	12.0A	0.0A

## 5. Hold-up Time (@ full load)

- 5.1 DC output rise time is not less than 17ms at nominal line full load.
- 5.2 DC +5V output maintains at least 16ms after power off which hold within.

## 6. Protection

- 6.1 Over Voltage Protection:  
+5Vdc output: +5.58Vdc min, +6.82Vdc max.  
+3.3Vdc output: +3.5Vdc min, +4.5Vdc max.

- 6.2 Short Circuit Protection:

In the event of an output short circuit condition on any output, the PSU will shut down and latch off without damage to the PUS unit. The PSU shall return to normal operation once short circuit is removed.

- 6.3 Overload Protection:

Overload currents is defined as 10Amp/Sec fault current ramp, starting from full load, applied to the +3.3V, +5V output, shall not cause that output to exceed 40 amps before the output drops below 0.5 volts and is latched off. The +12V output shall not exceed 25 amps under the same ramp condition. The overload protection

## 7. EMI

- 7.1 Line Conducted EMI: Meet FCC & VGF Class B requirement
- 7.2 Radiated EMI: Meets FCC & CISPR 22 requirement

## 8. Insulation Resistance

The insulation resistance should be not less than 30M ohm after applying of 500VDC for 1 minute.

## 9. Power Good Signal

A TTL compatible signal the purpose of initiating an orderly start-up procedure under normal input operating conditions. During power up, this signal is asserted (low) until +5V is under regulation and AC reaches min. line specification range. After all voltage are going appropriate level, the system may have a turn on delay of 100mS, but no greater than 500mS. During power off the signal should go to low level before +5V is out of regulation. The low is 0 to 0.8V and high level is 4.75 to 5.25V. The "power Good" signal can drive up to 6 standard TTL loads.

## 10. Color, pin, and signal assignment of output power connectors:

### 10.1 ATX Main Power Connector, 20 pin:

18 AWG Wire	Signal	Pin	Pin	Signal	18 AWG Wire
Orange	+3.3 VDC	11	1	+3.3	Orange
Blue	-12 VDC	12	2	+3.3	Orange
Black	COM	13	3	COM	Black
Green	PS-ON	14	4	+5 VDC	Red
Black	COM	15	5	COM	Black
Black	COM	16	6	+5 VDC	Red
Black	COM	17	7	COM	Black
White	-5 VDC	18	8	POK	Gray
Red	+5 VDC	19	9	+5Vsb	Purple
Red	+5 VDC	20	10	+12 VDC	Yellow

### 10.2 Peripheral Power Connector, 4 pin

Pin	Signal	18 AWG Wire
1	+12 VDC	Yellow
2	COM	Black
3	COM	Black
4	+5 VDC	Red

### 10.3 +12V Power Connector, 4 pin.

Pin	Signal	20 AWG Wire
1	COM	Black
2	COM	Black
3	+12VDC	Yellow
4	+12VDC	Yellow

## 10.4 Disc Drive Power Connector, 4 pin.

Pin	Signal	22 AWG Wire
1	+5 VDC	Red
2	COM	Black
3	COM	Black
4	+12 VDC	Yellow

## 11. Safety

### 11.1 EMI Regulatory

FCC Part 15 Subpart J, Class 'B' 115 Vac operation  
CISPR 22 Class 'B' 230 Vac operation

### 11.2 Safety

NEMKO EN 60950  
TUV EN60950 or VDE EN60950  
SCA-C22.2 No 60950  
IEC 60950  
UL 60950  
CE EN 55022:1998+A1: 2000 Class B  
EN 55024:1998+A1: 2001  
EN 61000-3-2: 2000  
EN 61000-3-3: 1995+A1: 2001  
IEC 61000-4-2: 2001  
IEC 61000-4-3: 2002  
IEC 61000-4-4: 1995+A1: 2000+A2: 2001  
IEC 61000-4-5: 2001  
IEC 61000-4-6: 2001  
IEC 61000-4-8: 2001  
IEC 61000-4-11: 2001  
CISPR22: 1997+A1: 2000 Class B  
CISPR22: 2002 Class B

11.3 This product is designed for computer usage only. Using this device in any other application will void the warranty. If you are not familiar with computer hardware installation, please ask for professional assistance.

11.4 The warranty is offered to the device caused by normal use. The warranty is void if determined that the device is damaged because of abuse, alteration, misuse, negligence, incorrect voltage supply, air/water pollution accidents and natural calamities.

**Warning: Do not open the top cover of the PSU to avoid shock or possible injury.**