

H C G

H i g h C u r r e n t G a m e r



750W model illustrated

Reviewer Guide

HCG-750 – HCG-900

Antec, Inc. – PSU Product Marketing – v1.0 – English – Oct 2012

Preface

This product guide will introduce to you Antec’s class-leading High Current Gamer HCG-750 & HCG-900 PSUs in all aspects from A to Z. If you have any questions or needs, please feel free to contact us.

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The Product

HCG was planned from the beginning to be a universal power solution for gaming systems. It is based on a heavy-duty platform, co-developed with our partner [Delta](#), and capable of class-leading performance.

The Company and its People

Antec has always been a major player in the PSU world and is **continuously globally no.1** by units sold in the branded retail segment. Antec retains some of the most experienced industry veterans among its product development & management teams for power supplies.

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Positioning

HCG is part of Antec’s main-stream / gaming class range of power supplies and is available globally since 2010.

300 - 650W	400 – 620W	350 – 750W	450 – 650W	400 – 900W
Basiq	NeoECO	EarthWatts	EarthWatts	HCG*
BP & VP	C	Green	Platinum	

* (this guide covers only 750W & 900W models)

The Name and Logo



H i g h C u r r e n t G a m e r

HCG resembles its concept: High Current Gaming. Multiple 12V Rails as the **High Current** and lots of connectors plus excellent performance for most **Gaming** rigs. The logo embodies the gaming focus of the series.



Models & Versions

HCG	750W	900W
Model Name	HCG-750	HCG-900
Versions & UPC codes		-
US cord	0-761345-23870-0	0-761345-23890-8
EC cord	0-761345-06212-1	0-761345-06220-6
GB cord	0-761345-06213-8	0-761345-06221-3
CCC cord	0-761345-10586-6	0-761345-10590-3
AUS cord	0-761345-10770-9	0-761345-10790-7
JP cord	0-761345-10771-6	0-761345-10791-4
TW cord	0-761345-10772-3	0-761345-10792-1
KR cord	0-761345-10773-0	0-761345-10793-8
HK cord	0-761345-10774-7	0-761345-10794-5
without cord	-	-

Manuals, Datasheet's & Documentation

Manuals & datasheets are available in currently 9 languages:

English, French, Spanish, German, Italian, Russian, Japanese, traditional Chinese & simplified Chinese.

In order to save paper and help the environment, all of Antec's products only come with a "Product Overview."
All manuals for all of our products can be downloaded here: <http://www.antec.com/manuals/>

Support

Antec takes pride in its superior quality control & assurance at the production level. 3 international support centers provide lifetime global support for all our products 24/7:

	Global	
	www.antec.com/support	
Americas	Europe & Africa	Asia & Oceania
1-800-22ANTEC	+49-(0)40-226-139-22	+886 (0)800-060-696
nasupport@antec.com	eusupport@antec.com	apsupport@antec.com

Features

HCG packs the right set of features & abilities into a highly attractive series:

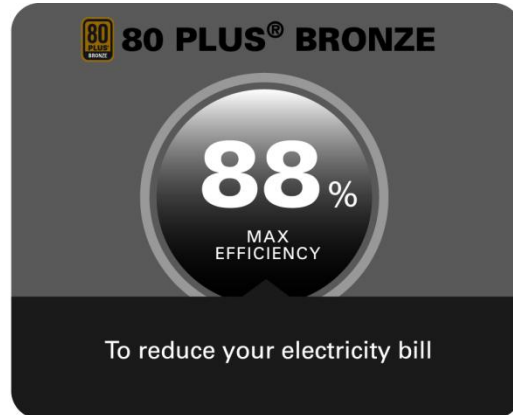
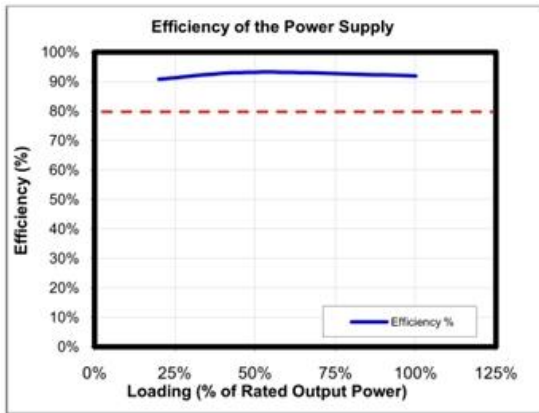


750W/900W Continuous Power - Guaranteed Continuous Power from Antec



80 PLUS® BRONZE certified - Up to 88% efficient to reduce your electricity bill

Certified by the independent 80 PLUS® organization



High Current Rails – 4 fully-protected High Current +12V rails with high load capabilities ensure maximum CPU & GPU compatibility

135 mm DBB Silence - Whisper-quiet high-quality double ball bearing fan with long lifetime



Thermal Manager

An advanced low voltage fan control for optimal heat & noise management



All Japanese heavy-duty caps

All high-performance Japanese capacitors ensure tightest DC stability and regulation

94.4%/100% +12V - Output for maximum CPU & GPU support

900W @ 94.4% +12V

750W @ 100% +12V



SLI®-Ready & Crossfire certified

Tested & certified by NVIDIA® for SLI® & AMD for Crossfire systems



AQ5 - Antec Quality 5-year warranty and lifetime global 24/7 support



CircuitShield™ - Full suite of industrial grade protection

- Over Current Protection (OCP)
- Over Voltage Protection (OVP)
- Under Voltage Protection (UVP)
- Short Circuit Protection (SCP)
- Over Power Protection (OPP)
- Surge & Inrush Protection (SIP)
- Brown-Out Protection (BOP)

ErP Lot 6 - Compliant to the toughest energy standard available

Connectors – HCG-750 – HCG-900



Cables

High Current Gamer - HCG-750 - HCG-900

Cables #	Type	Socket	Details			
1	24(20+4)-pin MBU	fixed		-	-	-
			55 cm	-	-	-
1	8(4+4)-pin CPU	fixed		-	-	-
			65 cm	-	-	-
2	2 x 8(6+2)-pin PCI-E	fixed			-	-
			55 cm	70 cm	-	-
3	3 x SATA	fixed				-
			55 cm	70 cm	85 cm	-
1	3 x PATA FDD	fixed				
			55 cm	70 cm	85 cm	100 cm
1	3 x PATA	fixed				
			55 cm	70 cm	85 cm	

(cable length measured from PSU)

+12V Rail Distribution – HCG-750 – HCG-900

HCG-750 - HCG-900

Connectors	+12V Rail
MBU	12V1
CPU	12V2
PCI-E 1+2	12V3
PCI-E 3+4	12V4
Drives	12V1



Static Electrical Characteristics – HCG-750 – HCG-900

INPUT – 750W

100VAC - 240VAC ~ ±10% (Active PFC)
47Hz - 63Hz, 11A – 5.5A

INPUT – 900W

100VAC - 240VAC ~ ±10% (Active PFC)
47Hz - 63Hz, 13A – 6.5A

OUTPUT – 750W

+ 3.3V	+ 5V	+ 12V ₁	+ 12V ₂	+ 12V ₃	+ 12V ₄	-12V	+ 5Vsb
0.1A	0.2A	0.2A	0.2A	0A	0A	0A	0A
25A	25A	40A	40A	40A	40A	0.5A	3A
150W		750W				6W	15W
750W							

OUTPUT – 900W

+ 3.3V	+ 5V	+ 12V ₁	+ 12V ₂	+ 12V ₃	+ 12V ₄	-12V	+ 5Vsb
0.1A	0.2A	0.2A	0.2A	0A	0A	0A	0A
25A	25A	40A	40A	40A	40A	0.5A	3A
150W		850W				6W	15W
900W							

Noise Bandwidth – 10Hz to 20 MHz

Ripple & Noise Measurements – Add 0.1µf Ceramic capacitor/10µf Tantalum capacitor at output connector terminals

HCG-750 & HCG-900

Output	Regulation	Ripple & Noise
+3.3V	-5% / +5%	< 50 mV
+5V	-5% / +5%	< 50 mV
+12V1	-5% / +5%	< 120 mV
+12V2	-5% / +5%	< 120 mV
+12V3	-5% / +5%	< 120 mV
+12V4	-10% / +10%	< 120 mV
-12V	-5% / +5%	< 120 mV
+5VSB	-5% / +5%	< 50 mV



Dynamic Electrical Characteristics – HCG-750 – HCG-900

Turn-On Delay Time – <1000ms at any condition

Rise Time – <20ms for any output from 10% to 90% of normal voltage

Hold-up time – >12ms @ 90% full load @ 115VAC/60Hz

Overshoot – <10% of the normal value at Turn On or Turn Off

Output	Overshoot	Undershoot
+3.3V	3.63V	2.97V
+5V	7V	4.5V
+12V1	13.2V	10.8V
+12V2	13.2V	10.8V
+12V3	13.2V	10.8V
+12V4	13.2V	10.8V
-12V	-13.2V	-10.8V
+5Vsb	7V	4.5V

Protections – HCG-750 – HCG-900

	OVP	OCP & SCP
+3.3V	4.5V	27A - 47A
+5V	7.0V	27A - 47A
+12V ₁	16.0V	41A - 55A
+12V ₂	16.0V	41A - 55A
+12V ₃	16.0V	41A - 55A
+12V ₄	16.0V	41A - 55A
+5Vsb	7.0V	4A - 14A

No Load operation – No damage or hazardous condition shall occur

Over Power Protection – If output > 120% - 140% of max load, PSU shall shut-down and latch off without damage

Short Circuit Protection – The power supply shall shut down and latch off for shorting. +3.3v, +5V, +12V₁, +12V₂, +12V₃, +12V₄, -12V or rails to com and each output rail and shorting. +5Vsb P/S can latch down or automatically recover when the fault condition is removed

Dielectric Withstand Voltage – HCG-750 – HCG-900

Primary to Secondary – 2100VAC/1s

Primary to F.G. – 2100VAC/1s

Insulation Resistance – Primary to Safety Ground – 500Vdc, 5M Ω min

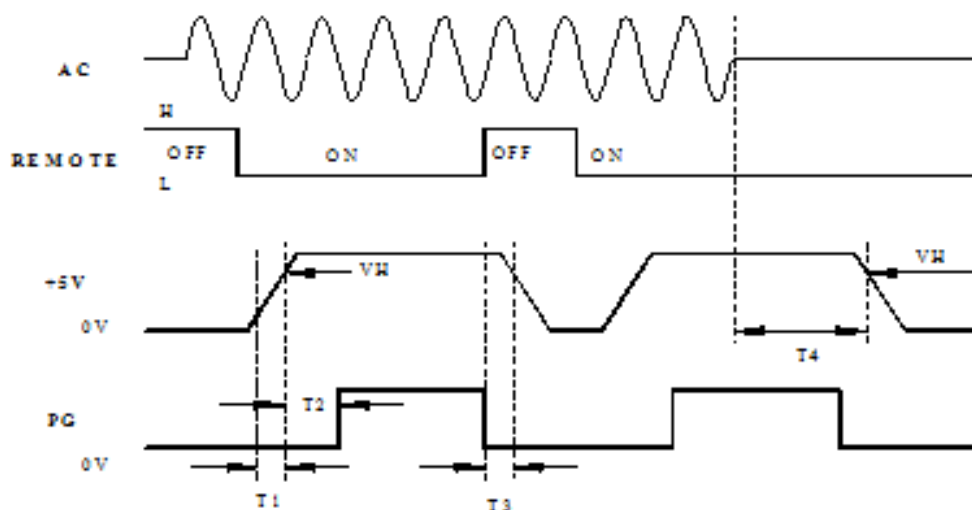
Leakage Current – Measured at 240VAC/50Hz and 2.0mA max

Conductive EMI – HCG-750 – HCG-900

FCC PART 15J CLASS B

CISPR 22(EN55022) CLASS B

Power Good Signal – HCG-750 – HCG-900



T1 – Rise time ($T1 < 20\text{ms}$)

T2 – Power good signal turn on delay time ($100\text{ms} < T2 < 500\text{ms}$)

T3 – Power good signal turn off delay time ($T3 \geq 1\text{ms}$; DC on/off)

T4 – Power hold-up time ($T4 \geq 12\text{ms}$, 115Vac/60Hz, 80% Full Load)



Environment – HCG-750 – HCG-900

Operating Temperature – 0°C - 35°C

Operating Relative Humidity – 5% - 85%

Storage Temperature – -40°C - +70°C

Storage Relative Humidity – 5% - 95%

Operating Altitude – ≤ 10.000 ft

Storage Altitude – ≤ 50.000 ft


MTBF – HCG-750 – HCG-900

>100k hours at max load @ 115 VAC and 25°C ambient

Burn-in – HCG-750 – HCG-900

Unit shall be burn-in at 35°C (+/-5°C) @ 115VAC and 80% max load



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Antec, Inc., the global leader in high-performance computer components and accessories for the gaming, PC upgrade and Do-It-Yourself markets, is recognized worldwide as a pioneer and market leader for quiet, efficient and innovative products.

Antec continues to further the industry with performance-rich enclosures, efficient power supplies, reliable cooling components and cutting-edge Antec Advance accessories.

Founded in 1986, Antec is headquartered in Fremont, California, with additional offices in The Netherlands, Germany, China and Taiwan. Please visit [Antec online](#) for more information.

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