



Cyber Power[®]

Reliability. Quality. Value.

Introducing Active PFC Compatible
Adaptive Sinewave[™] UPS technology

June 2010



The Active PFC Problem

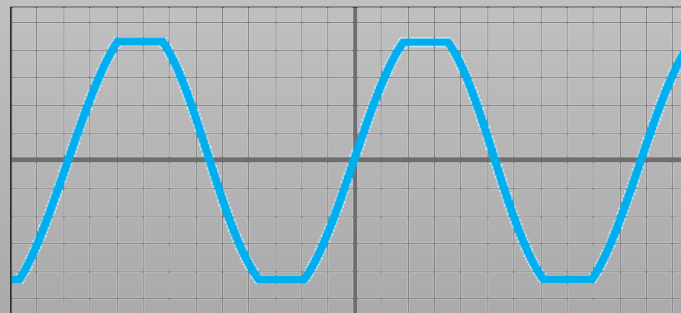
PC manufacturers are adopting high-efficiency Active Power Factor Correction (PFC) power supplies in their latest computer equipment and devices. Until now, the only way to ensure UPS compatibility with APFC power supplies was to use expensive Pure Sinewave technology.

The Adaptive Sinewave Solution

CyberPower's **Adaptive Sinewave™** technology is *the first* to solve the critical compatibility issues of non-Sinewave UPS products and Active PFC power supplies.



Adaptive Sinewave PFC waveform ensures equipment utilizing **Active PFC power supplies** do not unexpectedly shutdown when switching from AC power to UPS battery power.



Adaptive Sinewave PFC waveform



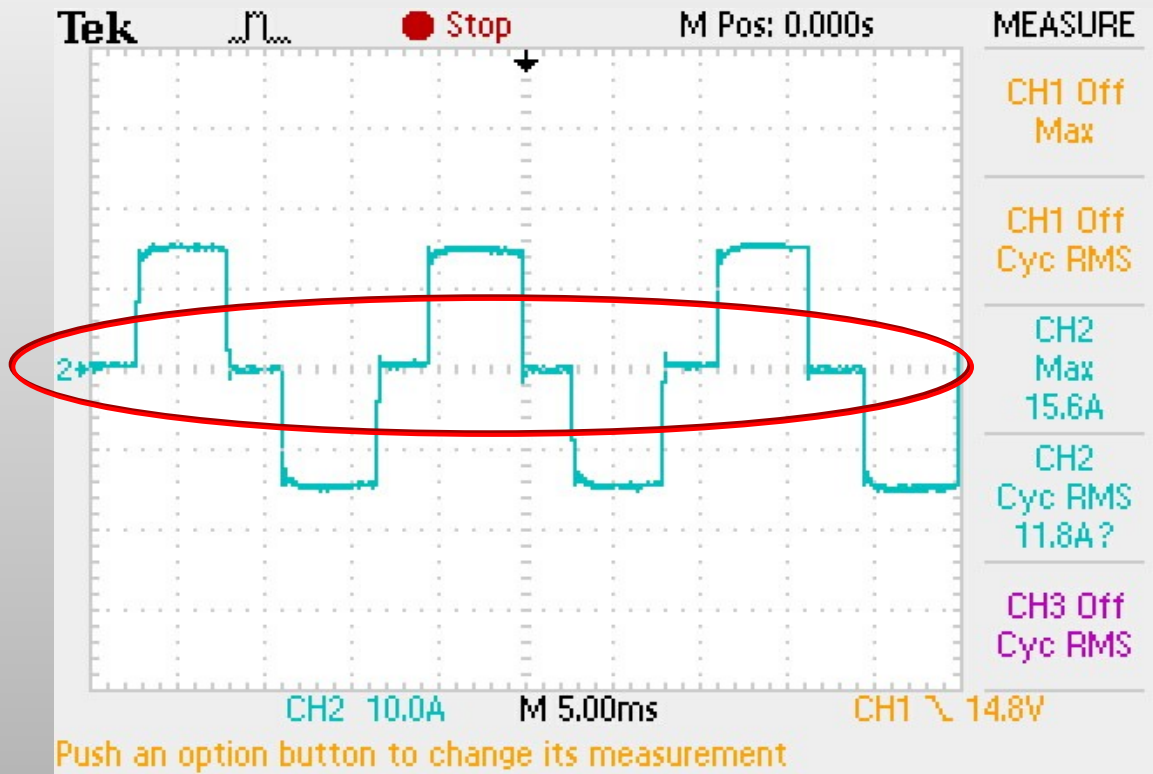
Adaptive Sinewave Benefits

- Compatible with Active Power Factor Correction (APFC) power supplies
- Superior power protection performance versus Simulated Sinewave waveform output
- Compliant to UL Pure Sinewave Standard
- Rack, Tower and Mini-tower form
- High Cost Performance Ratio

	Stepped Sine wave	Adaptive Sinewave	Pure Sinewave
APFC Power Supply Compatibility	NOT Compatible	APFC Power Supply Compatible	APFC Power Supply Compatible
UL Pure Sine Wave Standard	NO - THD* over 30%	Yes - THD Under 30%, meets UL Sine wave requirements	Yes - THD Under 30%, meets UL Pure Sine wave standards
Applications	SOHO networks , computers and equipment that do not have Active PFC power supplies	Non-mission critical servers, network equipment that use Active PFC power supplies	Mission critical and sensitive equipment
Cost Performance Ratio	Moderate	High	Adequate

Note: The total harmonic distortion, or THD, of a signal is a measurement of the harmonic distortion present and is defined as the ratio of the sum of the powers of all harmonic components to the power of the fundamental frequency.

Stepped Sinewave UPS

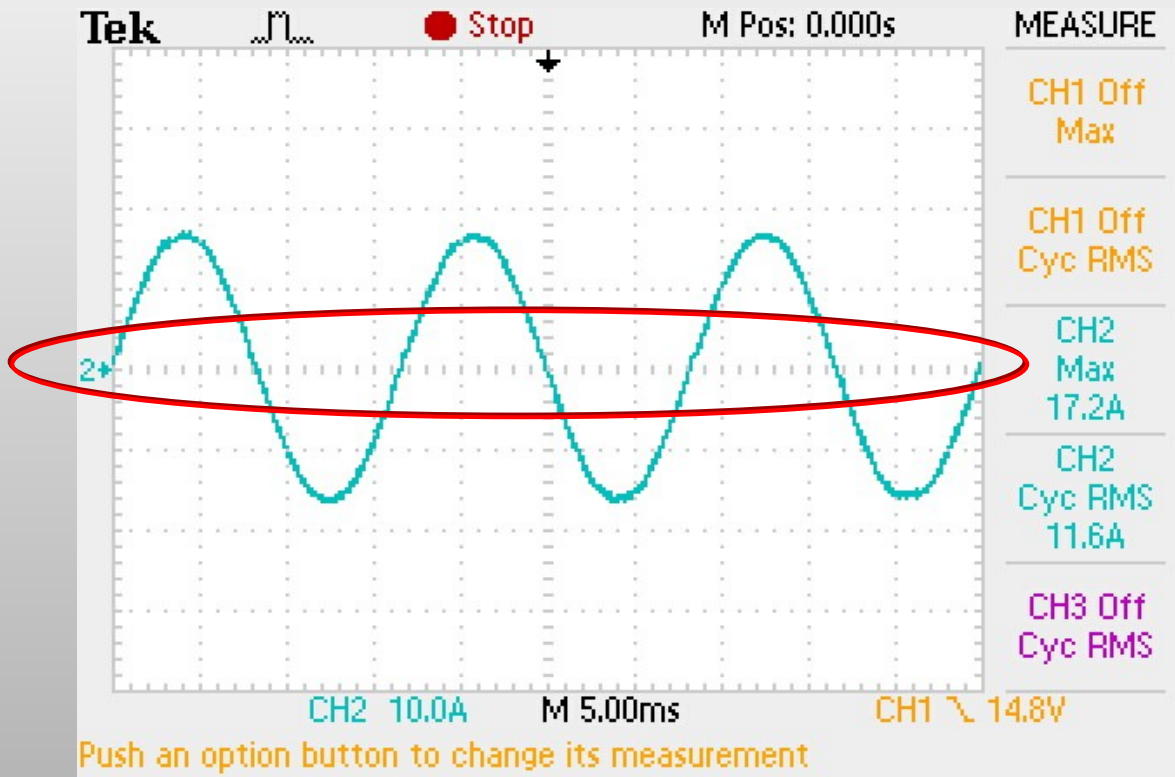


Output current waveform when the load is at 1200 Watt (APFC and resistive load).

Current crest factor is 1.32

During transition a zero voltage output occurs, causing incompatibility issues with APFC models.

Pure Sinewave UPS

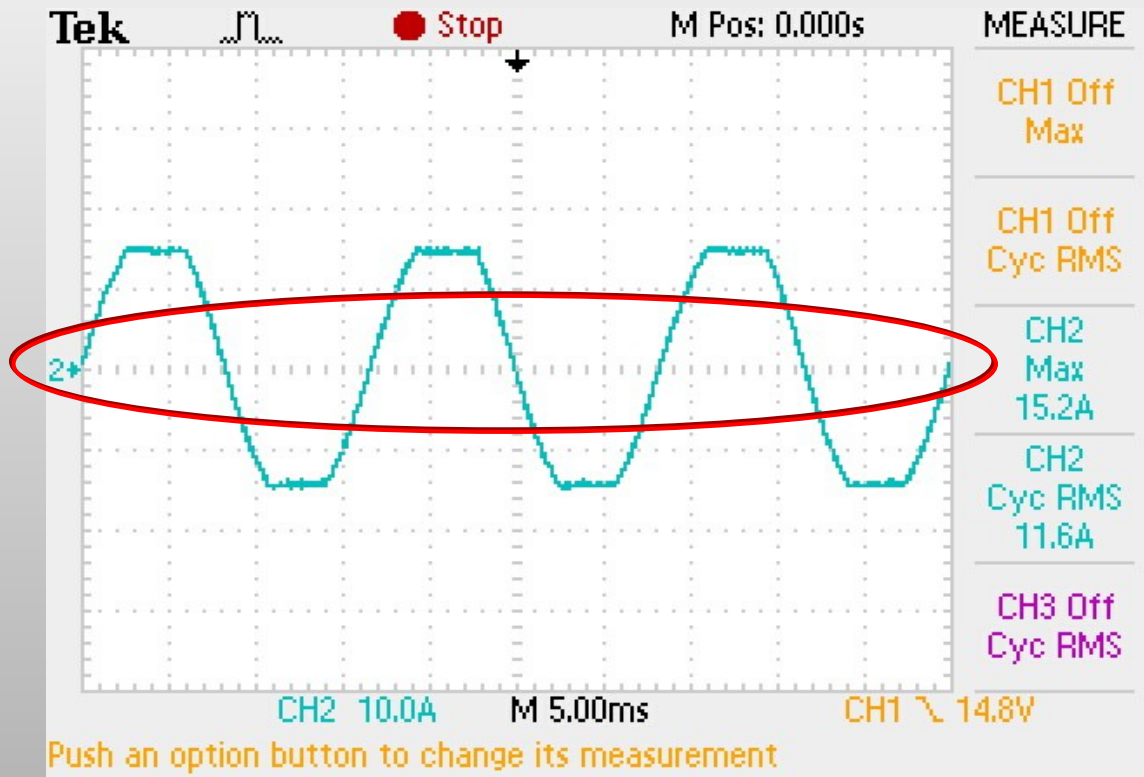


Output current waveform when the load is at 1200Watt (APFC and resistive load).

Current crest factor is 1.48.
Compatible with APFC power supply devices.

No Zero Voltage output time.
Compatible with APFC power supply devices.

Adaptive Sinewave™ UPS



Output current waveform when the load is at 1200Watt (APFC and resistive load).

Current crest factor is 1.31
Compatible with APFC power supply devices.

No Zero Voltage output time.
Compatible with APFC power supply devices.