

Product Review: A Look at Gasoline Powered Inverter Generators

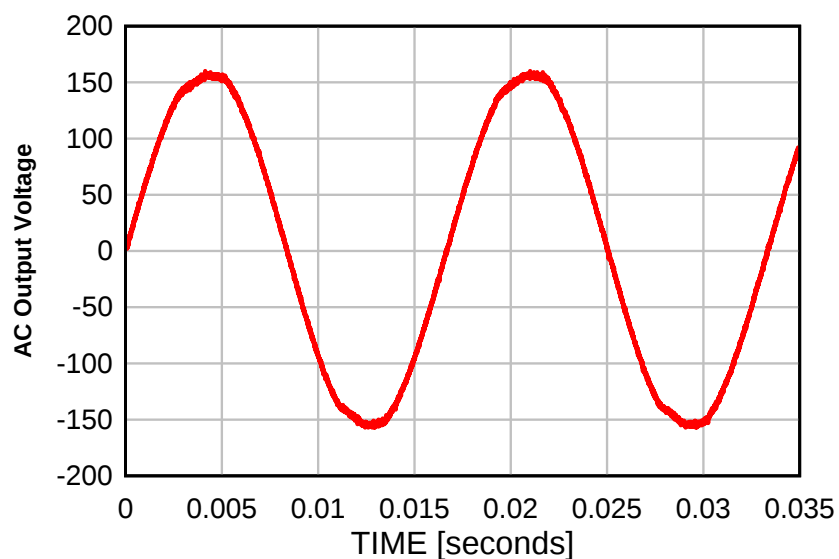
This document contains additional test results from the ARRL Lab as described in the June 2012 *QST* review.

Waveform Test

The following plots show the results of the waveform test on each generator. The Lab's Tektronix TDS-3052B storage oscilloscope captured the ac waveform during no-load and full-load conditions.

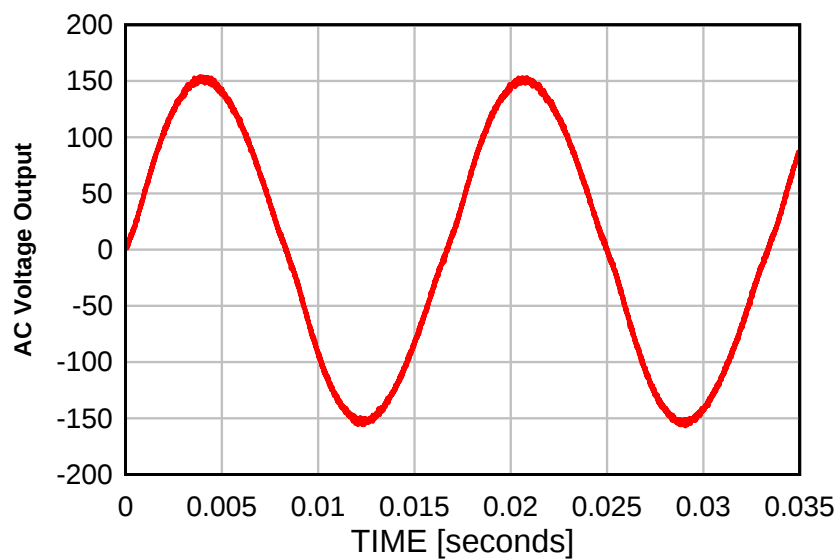
Champion 73536i

Output Waveform, No Load

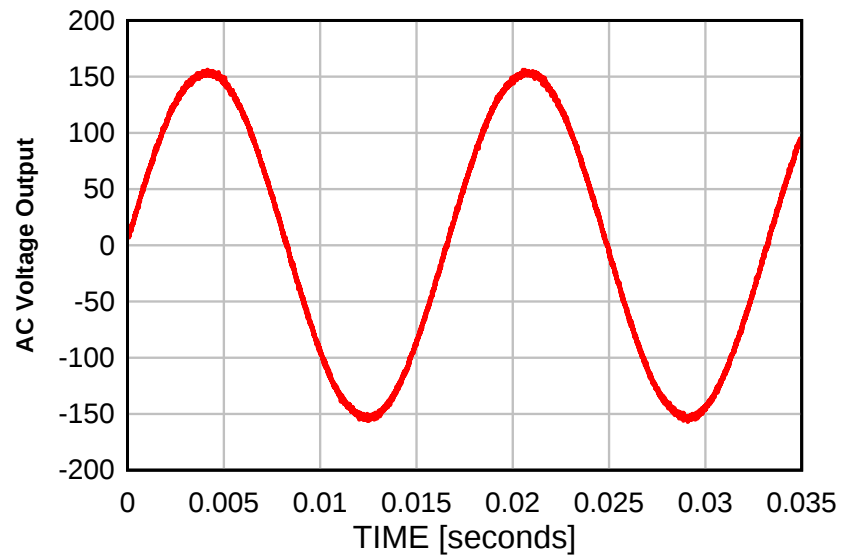


Champion 73536i

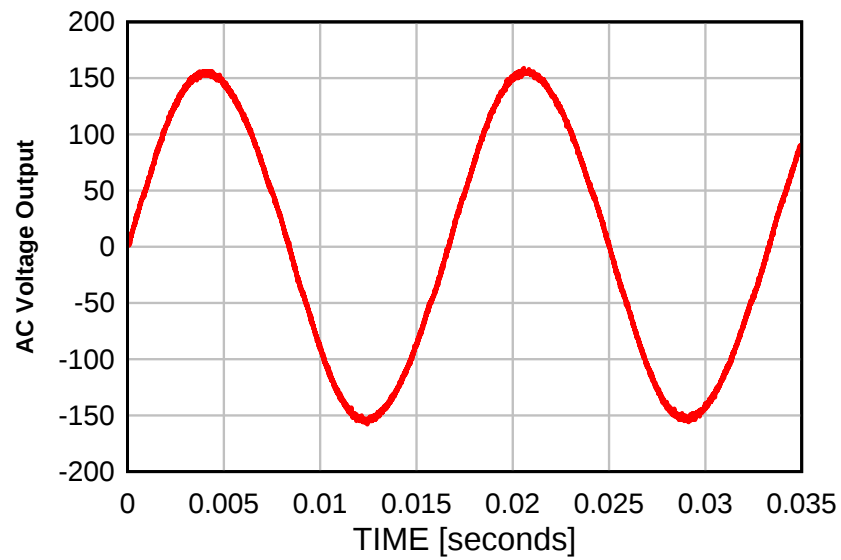
Output Waveform, Full Load (1700 Watts)



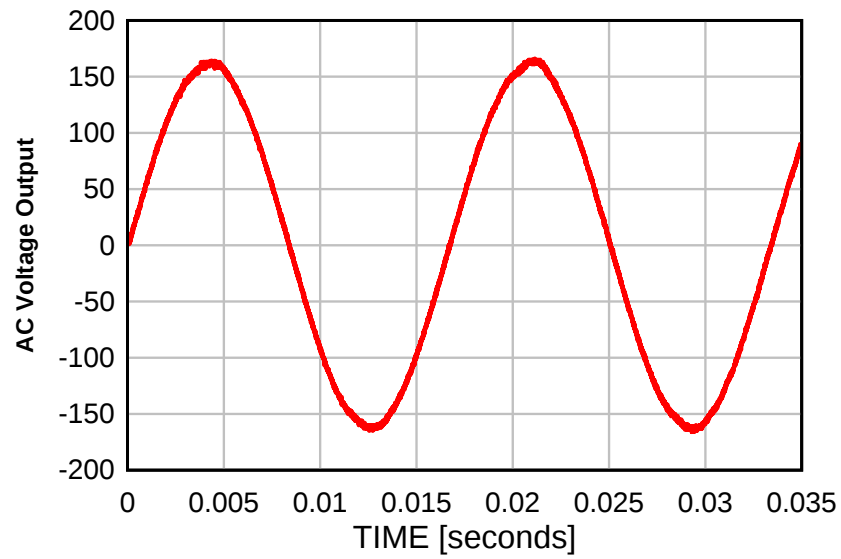
Generac iX2000
Output Waveform, No Load



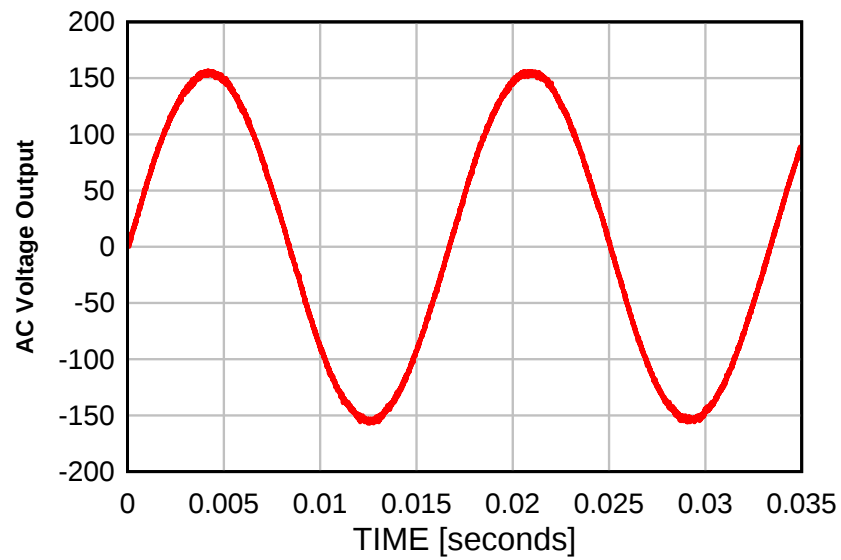
Generac iX2000
Output Waveform, Full Load (2000 Watts)



Honda EU2000i
Output Waveform, No Load

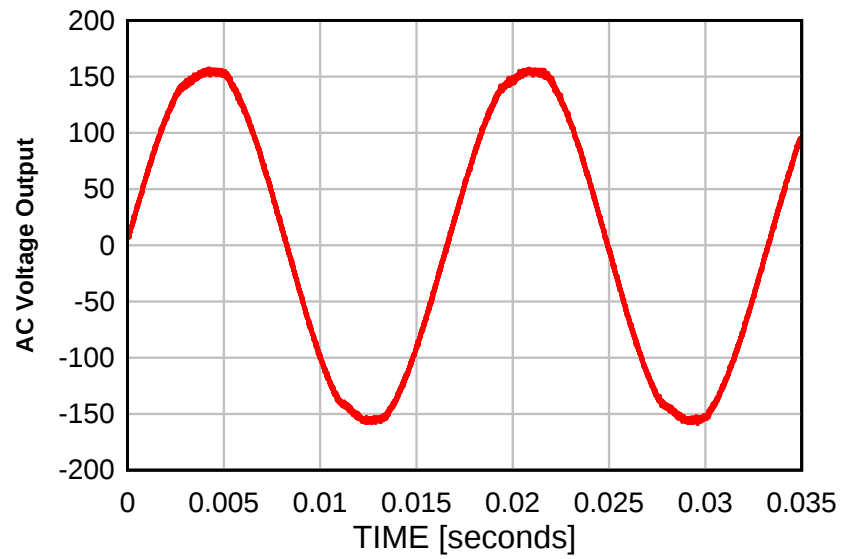


Honda EU2000i
Output Waveform, Full Load (1600 Watts)



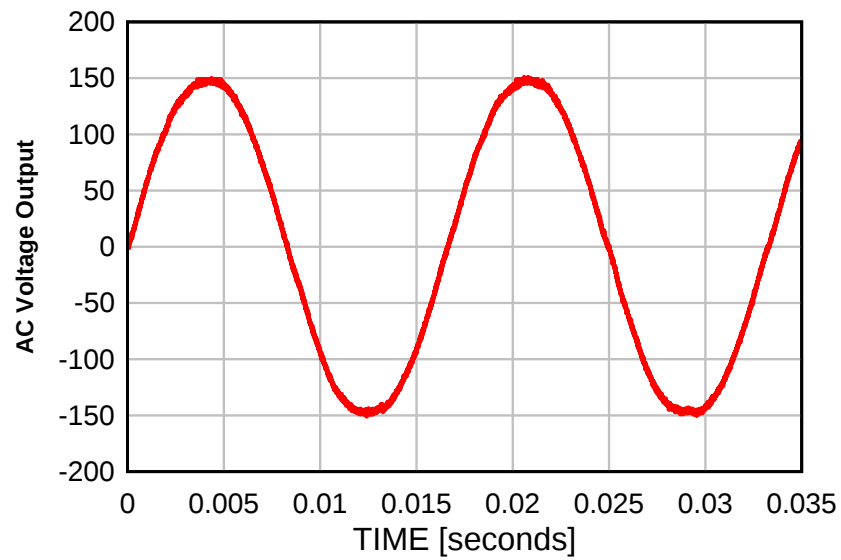
Yamaha EF2000iS

Output Waveform, No Load



Yamaha EF2000iS

Output Waveform, Full Load (1600 Watts)

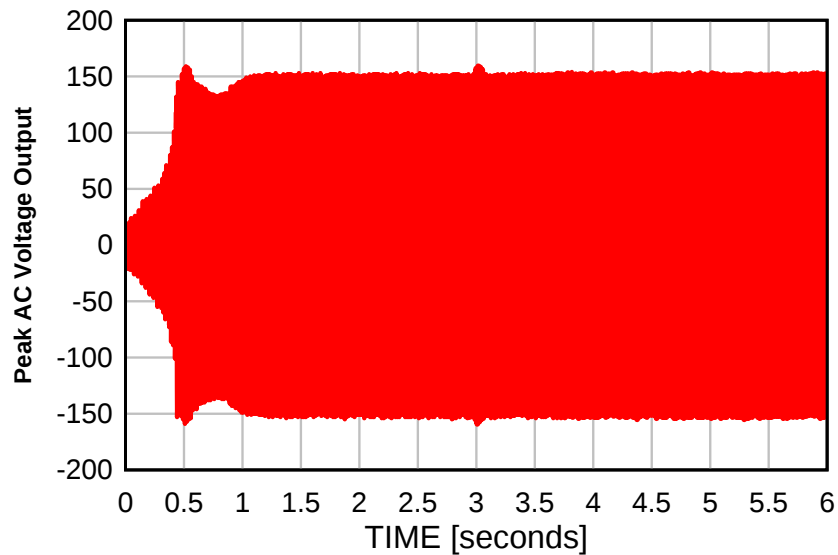


No-Load to Full-Load Test

Using the oscilloscope at a slow sweep speed, measurements were made at the point where a full load was applied to the generator from a no-load condition. This tough test shows how quickly a generator responds to a drastic load change with ECONOMY mode on or off.

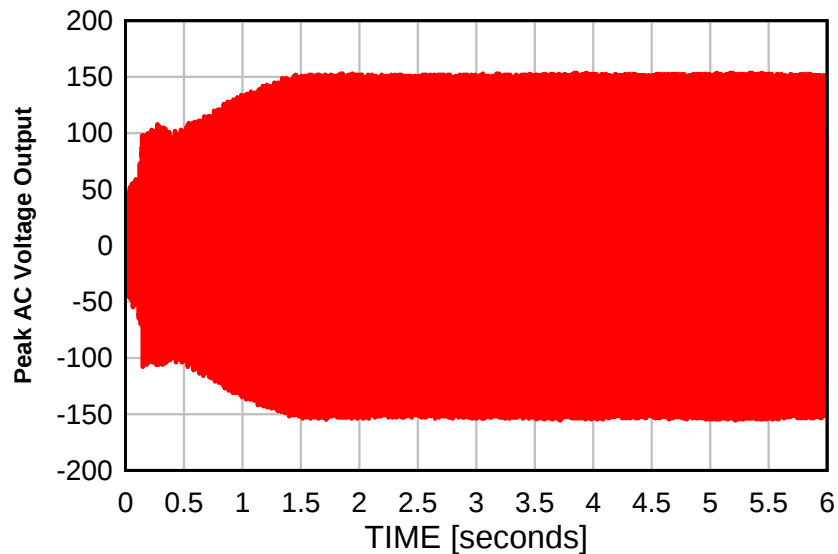
Champion 73536i Eco Off

No Load to Full Load (1700 Watts)

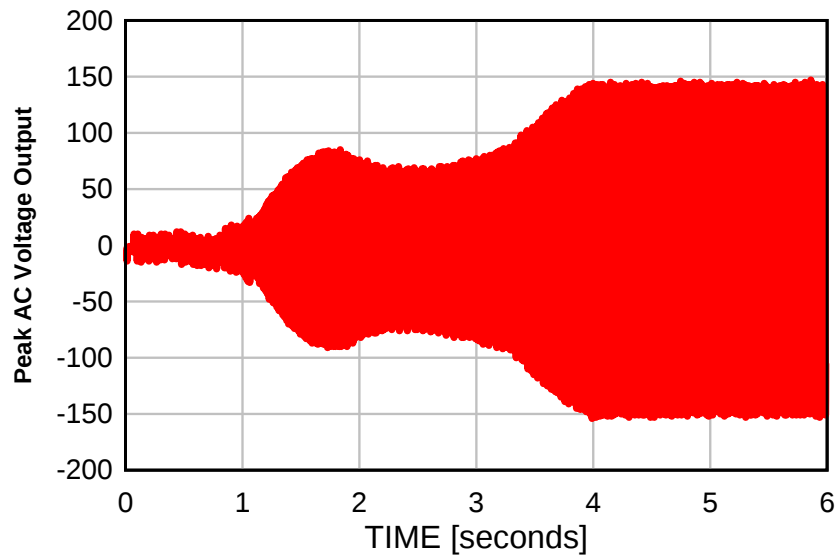


Champion 73536i, Eco On

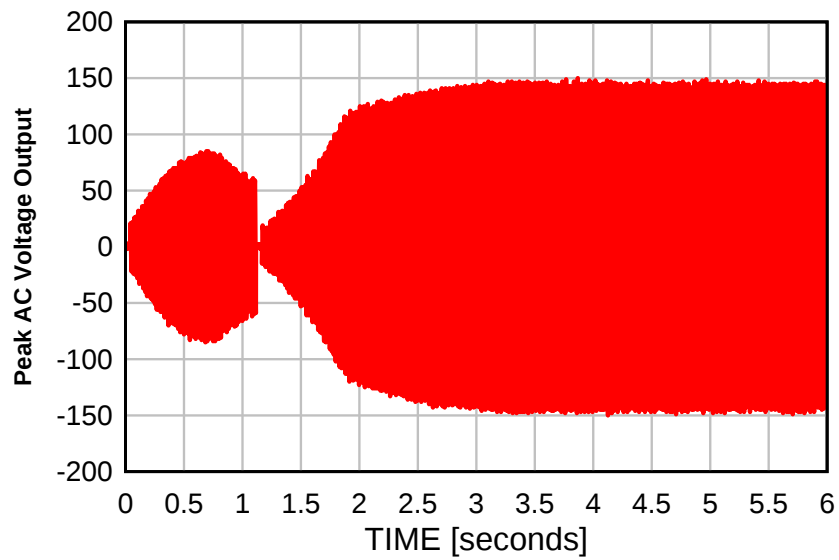
No Load to Full Load (1700 Watts) Response



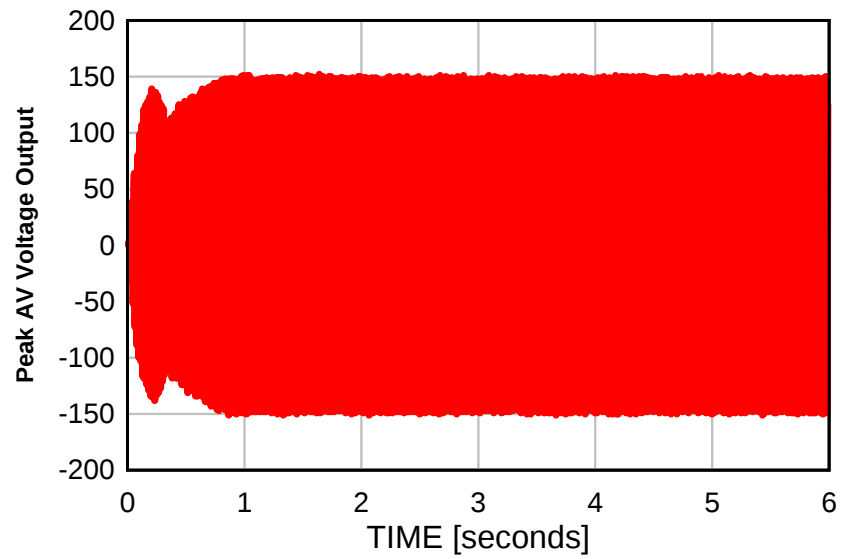
Generac iX2000, Eco Off
No Load to Full Load (2000 Watts)



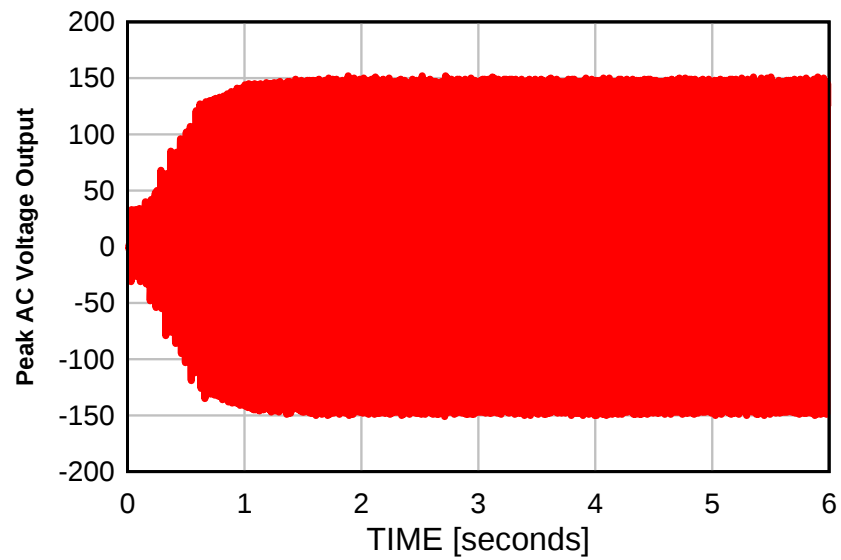
Generac iX2000, Eco On
No Load to Full Load (2000 Watts)



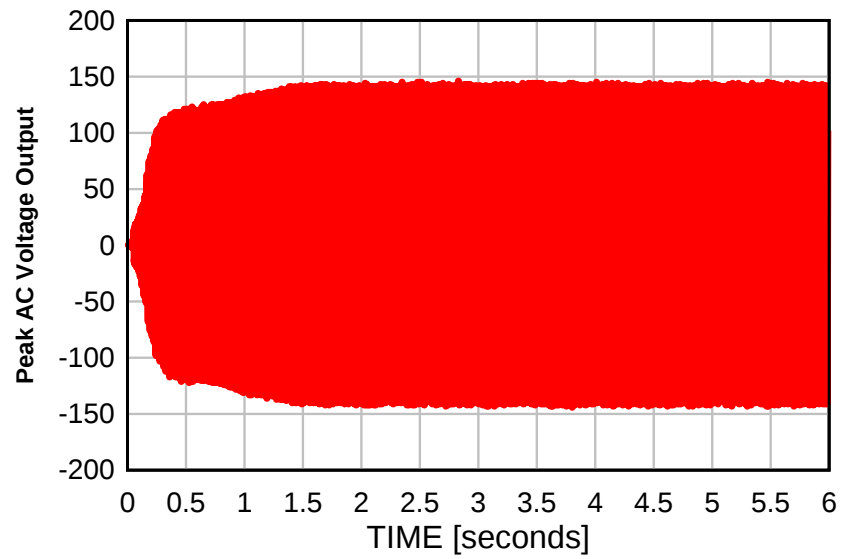
Honda EU2000i, Eco Off
No Load to Full Load (1600 Watts) Response



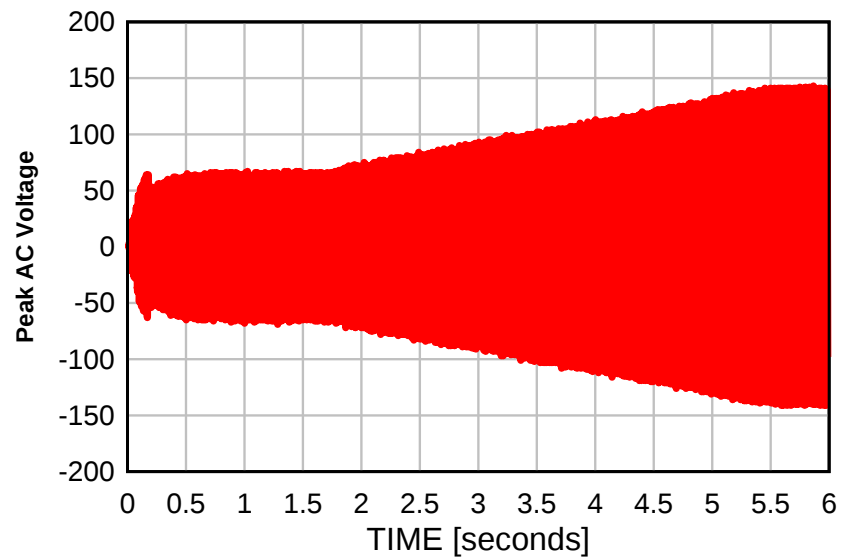
Honda EU2000i, Eco On
No Load to Full Load (1600 Watts) Response



Yamaha EF2000iS, Eco Off
No Load to Full Load (1600 Watts) Response



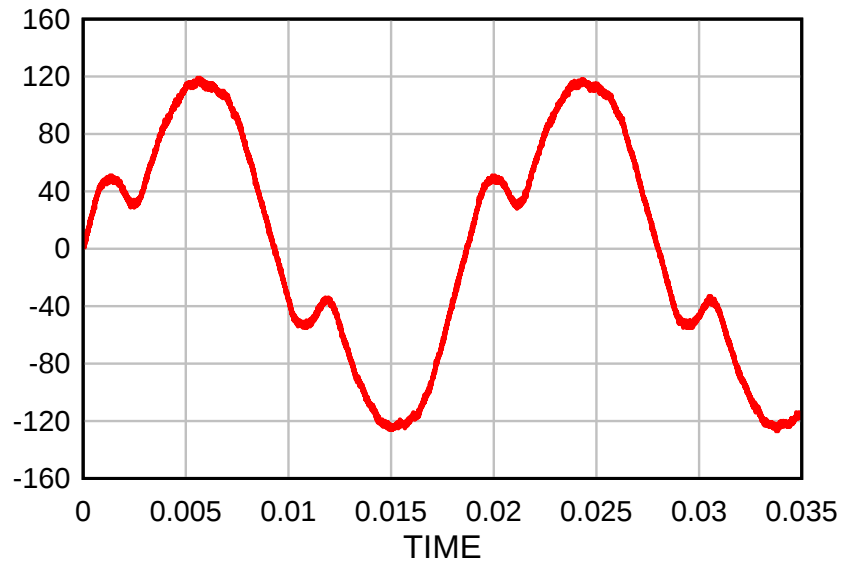
Yamaha EF2000iS, Eco On
No Load to Full Load (1600 Watts) Response



These plots show the waveform and conducted emission from the inexpensive 1000 W conventional generator owned by Bob Allison, WB1GCM, and mentioned in the text. The ac waveform isn't as clean as the inverter generators but without an inverter conducted emission is not an issue.

ETQ TG-1200: Full Load

Output Waveform, Full Load (1000W)



ETQ TG-1200 Conducted Emission

Quasi-peak Detection, Full Load (1000 Watt)

