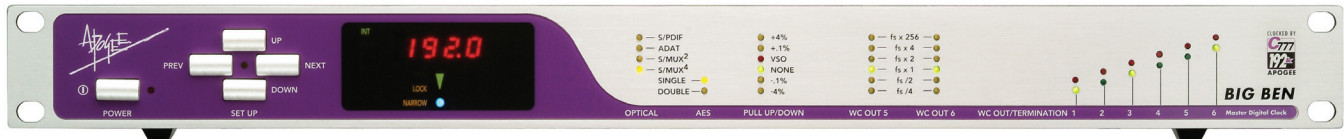


BIG BEN

192 kHz Master Digital Clock



The World's Most Revolutionary Studio Clock



BIG BEN with Apogee's C777 clocking technology will synchronize and revolutionize your studio and make an obvious difference that you can hear.

It's About Time...

For years audio professionals have been requesting that Apogee make their legendary clocking technology available in a stand-alone master clock. We have responded not only by making it available but by making it revolutionary. Apogee's BIG BEN is already astonishing users with its ability to bring amazing clarity and quality to your recordings while providing flexibility and features like no other clock before.

A Cure for the Jitters – Apogee's new "C777" Clock

At the heart of any word clock regeneration is a phase lock loop (PLL). The PLL is a combination of analog and digital elements without the ability to dynamically adapt to the nature of the external clocks. In other words, the better the clock performance, the less flexibility it has. And conversely, the more flexibility there is in a PLL, the less effective it is at jitter reduction. Apogee's new C777 is built to address these inadequacies. The C777 utilizes an entirely digital process that Apogee has developed using the most advanced Direct Digital Synthesis (DDS) technology available along with DSP based digital filtering. The result is the most aggressive jitter reduction ever. With the flexibility and stability provided the C777, Big Ben is able to re-clock devices with excessive jitter and function as if it were the master clock. The ultimate in flexibility combined with unprecedented levels of performance make the C777 unequalled in the world of clocking.

Added Flexibility with Format Conversion

Not that you would expect it from a master clock, BIG BEN gives you the option of real-time format conversion. Use BIG BEN's intuitive digital display to go from S/PDIF to AES, AES to ADAT, ADAT to S/PDIF, etc.

X-Video Expansion Card for Video-Sync Generation

The multi-standard X-Video card will allow BIG BEN to function as a master video sync generator, outputting a composite video black-burst (including color burst for PAL

and NTSC color). When functioning as a master video sync generator BIG BEN can perform as a clock slave to the video-board and generate digital audio clocks based on the video standard selected. Alternatively, the X-Video card can function as a Slave video sync generator. In this mode the output video will be a regeneration of the input video. The X-Video card will maintain the color-phase and field information through "Genlocking", while simultaneously stripping the original signal from its pixel information.

Intelligent Clocking with Apogee's "Adaptive Loop Filtering" (ALF)

ALF maximizes BIG BEN's clocking ability with an intelligent low pass filter. Because the C777 has made all incoming signals into data (1's and 0's) BIG BEN is able to dynamically compensate for excessive jitter and even improve already acceptable clock signals to levels unattainable until now. No matter what your input looks like, ALF can adapt and overcome all obstacles to create a stable, reliable, low jitter clock source.

"SureLock"... Your Drop out Defense

So, BIG BEN is masterfully handling external clock signals and all of their anomalies and you've got your jitters under control. What if BIG BEN encounters the ultimate disturbance in clocking, a dropped signal? Not to worry, with "SureLock" BIG BEN will compensate by remaining locked on the last relevant frequency sent by the delinquent device. When the signal resumes, BIG BEN will gradually, and smoothly re-synchronize without interruption.

Termination Issues... A Thing of the Past

Very often in an elaborate audio chain word clock signals are improperly terminated. BIG BEN will chime in with a visual indication of over or under termination on its digital display for each word clock output, allowing you to troubleshoot more quickly and get back to business.

BIG BEN Features & Specifications

- ▶ AES, S/PDIF, optical I/O - word clock/video in - 6 word clock outs
- ▶ Realtime format conversion between all digital formats
- ▶ Direct Digital Synthesis (DDS) using Apogee's C777 clock technology up to 192kHz
- ▶ Adaptive Loop Filtering (ALF) to optimize clock performance and minimize jitter
- ▶ Optional X-Video expansion card to provide master video sync generator (X-Video card)
- ▶ Three stage termination sensing for each word clock output

Inputs:

- 2 x AES-EBU on XLR 44.1k-192k single-wide and 88.2 k-192k double-wide.
- S/PDIF optical on TOS-LINK 44.1-48k
- S/PDIF coaxial on RCA 44.1-192k
- ADAT 44.1-48k
- ADAT/SMUX II for 88.2-96k
- ADAT/SMUX IV for 176.4-192k
- Word Clock BNC 44.1 -192k
- Video
- Optional video sync (X-Video card)

Outputs:

- 2 x AES-EBU on XLR single or double wide 44.1-192k
- S/PDIF coaxial 44.1-192k
- S/PDIF optical on TOS-LINK 44.1-48k
- 6 x BNC Word Clock 44.1-192k (of which 2 can output 256fs at low sample rates)
- ADAT
- SMUX II
- SMUX IV
- Optional video sync (X-Video card)

Specs:

- Sample rates: 44.1/48-88.2-96-176-192 . All +/- 10%
- Video: PAL/NTSC/60Hz
- "SuperClock" (256fs)
- Pull up/down 0.1% and 4% from any sample rate
- Apogee's new Ultra Low Jitter C777 clock
- Three stage termination indicator (under/correct/over) on each

Word Clock output:

- "SureLock" technology for drop out prevention
- 4 digit numeric true sample rate indication
- Universal power: 15 W 90-250 VAC 50-60 HZ

Due to on-going development Apogee reserves the right to change all information and specifications without notice.

Rear Panel



For more info: 310 915.1000
www.apogeedigital.com/bigben

