

Apogee Big Ben

It's a 192kHz clock with an interesting feature set that includes the ability to act as a format convertor. **ROB JAMES** goes to the tower to ring the changes.



AS EVERY SCHOOLBOY KNOWS (with apologies to Nigel Molesworth), Big Ben is not the name of the London Palace of Westminster clock, nor the tower it's mounted in, but the 13.5-ton bell that strikes the hours. The name probably derives from Sir Benjamin Hall, Commissioner of Works.

Notwithstanding this common misconception, Apogee is probably wise to associate its digital Word clock generator with Edward John Dent's timepiece. Despite a number of teething troubles and a catastrophic failure of the striking train in 1976, the Great Clock of Westminster has maintained astonishing accuracy for nearly 150 years, regulated by the addition and subtraction of small, obsolete coins of the realm to its pendulum.

The Apogee Big Ben may lack the gravitas of its namesake but the whole point of the exercise is to avoid just the sort of defects that give the original its character. The bell is cracked and although this flaw imparts character and the instantly recognisable timbre, pure it isn't.

Apogee makes much of this unit's 'Direct Digital Synthesis C777 Clock Technology', 'Adaptive Loop Filtering (ALF)' and 'Sure Lock' (flywheel to the rest

of us). While it states that its jitter is 'virtually unmeasurable', it doesn't actually quote a figure. All of this is largely academic for most of us. Current top-flight clock generators are all markedly (and audibly) better than the 'internal' clocks found in digital consoles, multitracks and workstations but when comparing their performance only the most 'golden-eared' would claim to detect any audible differences. Therefore, the choice between them is almost entirely dependent on the facilities offered, ease and convenience of operation, and price.

With a UK list price of around UK£1300 Big Ben is not in the bargain basement but this is not esoteric territory either. The features list is interesting and subtly different. Maximum base sampling rate of 192kHz for a start, plus Variable Speed Override (VSO) of +/-10% and the usual 4% and 0.1% fixed pull-up/down.

It can also be used as an audio format convertor. This will be especially appealing to facilities trying to make sense of the plethora of fast and wide, single-wire and two-wire, high sampling rate formats.

Then there is convenience to consider. Previous Apogee offerings have not always been the most

intuitive to operate. Although Big Ben uses the familiar cruciform cursor keys, finding your way around is refreshingly simple. Pressing any key enters set-up, left and right move across the functions indicated by LEDs on the front panel, and the up and down keys change the settings.

A couple of nice touches demonstrate that Apogee understands the variety of situations a clock generator has to work in. The power switch can be programmed (via internal jumpers) to work as normal – when power is applied the unit must be switched On via the front panel switch – or set to wake up powered on, with the switch still operational. Alternatively, for installations where an inadvertent switch off would be disastrous, it can be set to be On when power is applied with the switch disabled.

SureLock, flywheel, can be defeated via another jumper as can format conversion. In this case Digital Black is sent to all the digital audio outputs. Big Ben also has the neatest TOSlink sockets I've seen, colour-coded grey for output, black for input and with integral dust shutters. Much better than the usual tiny, loose protection plugs that invariably disappear. Other manufacturers please take note.

An option slot will accept future interface options, such as FireWire.

A Word clock generator should have a place at the heart of any well thought out digital installation. With a sensible list price and thoughtful feature set, Apogee's Big Ben is worth considering. It remains to be seen whether it will last as long as its namesake. ■

Four XLRs carry AES in 1 and 2 and AES out 1 and 2. Inputs accept signals in the format selected on the front panel. Either single, when each will accept a stereo input, or double where the pair is used for a stereo input. The same applies to the outputs. SPDIF I-Os are phonos.

The two TOSlink optical connectors conform to the front panel Optical parameter. Formats available include S/MUX 2 (4 channels at 88kHz-96kHz) and S/MUX 4 (2 channels at 176.4kHz-192kHz). The seven BNC connectors are an internally terminated input for Word clock or video, and six outputs.

The front panel has the power switch, with functions as described above, and the four cursor keys. A large bright display indicates sample rate and the type and accuracy of the lock. In the same panel, to the left and right of the numeric display, indicator LEDs show the current clock source from a choice of Internal, AES 1, AES 2, SPDIF coax, Optical, Option card, WC, and Video. The last three LEDs show the format of the input video, NTSC, PAL or B&W. The next vertical row of LEDs shows the current selection for Optical SPDIF, ADAT, S/MUX2, S/MUX4. AES offers the choice between single and double.

Pull Up/Down indicates the chosen mode; +4%, +0.1%, VSO, None (i.e. normal), -0.1% and -4%. The final two columns of LEDs show the frequency multiplier applied to Word clock output 5 and Word clock output 6; fsX256 (Superclock), fsX4, fsX2, fsX1, fs/2 and fs/4. Superclock is only available when the base sampling rate is 44.1-48kHz.

Format conversion is only available when the audio source is used as the clock reference. When used as a format convertor Big Ben will output the maximum number of channels possible based on the input format and the capabilities of each output format. For example, with an S/MUX 2 optical input, channels 1 and 2 are routed to AES 1 and channels 3 and 4 are routed to AES2 while the solitary coax SPDIF carries only channels 1 and 2.

PROS

Good feature set; thoughtfully executed; good detailing.

CONS

No video outputs; could do with more AES-EBU outputs.

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