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BLACKBOX RECORDER

a multi-track for the 21st century

CAPTURING **LIVE** PERFORMANCE

24 TRACK • 24 BIT • 96kHz



WINNER!
OF THE PLASA09
AWARDS FOR
INNOVATION



Unique technology lets you capture live multi-channel audio without taking a computer or DAW to the performance.

The BLACKBOX RECORDER

- Captures up to 24 channels at 24 Bit / 96 kHz. (Up to 4 units can be linked together for recording up to 96 channels at 96 kHz.)
- Records onto a regular USB2 disk drive, or USB flash drive (FAT32 formatted) in BWA format. Built-in formatting facility included.
- Enables direct import of recorded audio files from the hard drive to any Mac- or PC-based DAW for instant editing and remixing. No file transfer or conversion necessary.
- Is simple to operate, via a sleek front panel menu-driven user interface and touch sensitive controls.
- Is available in four variants, analogue unbalanced and balanced i/o, digital AES/EBU and Lightpipe for use with both analogue and digital consoles.
- Can attach to the insert points of any live console to provide Virtual Sound Check facilities.
- Includes a number of "fail safe" features for secure audio capture such as playback lockout and preventing accidental Stop.
- Allows the creation of headphone monitoring mixes, with level and pan on each track.
- Features a keyboard interface and Name Manager for easily creating templates and modifying track or song names.
- Offers a range of enhancements for film, TV and broadcast applications including support for 23.98fps time code, 9-pin support for edit controllers and support for iXML.

The **BLACKBOX RECORDER** is the first dedicated large-scale multi-channel recorder for audio acquisition and capturing live performance. Unlike many other devices, it doesn't double as a studio recorder or a cut-down workstation - there are no plug-ins or effects to modify the captured sound. Quite simply, what you hear is what you get!

Available in both analogue and digital variants, the **BLACKBOX RECORDER** family offers a choice of professional interfaces to any live mixing console. The unit's compact size and low weight allows it to squeeze into tight spaces and its low power consumption generates less heat, enabling it to operate longer when battery powered.

The sleek front panel controls provide a simple interface for the operator who will almost certainly have other matters to attend to during a live recording. This simplicity is complemented by fully professional control and synchronisation facilities that make it the perfect choice even in the most demanding situations.

Using standard universally accepted file and disk formats on external storage solutions eliminates the time normally required to load the recordings into a workstation for subsequent processing and mixing. In the modern creative environment, time is in short supply and being able to load large amounts of audio data instantly is crucial to fast turnaround productions.

With applications throughout Live Music, Outside Broadcast, Reality TV, Film and TV Sound, Post-Production and Worship, the **BLACKBOX RECORDER** is the most flexible device ever designed for capturing live audio.

BLACKBOX RECORDER

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"No moving parts, no complex setup ... no peer"

AudioMedia Magazine Gear of the Year 2009, Editor's comment.



Front-of-house feedback



"Linking the two balanced BLACKBOX RECORDER units and programming them to function as a 48-track recorder worked well. Festival temperatures varied from 42 to 91 degrees Fahrenheit, however the JoeCo Blackboxes handled conditions flawlessly, working day in and day out through the dust and heat."

Frank Martin, (Media Production Associates) FOH Engineer at MerleFest 2010, USA.



"Interfacing the BLACKBOX RECORDER with my analogue equipment was easy and the sound of the BBR's converters is amazing. The BBR1U connected to the insert points of the analogue console saved me a lot of time, as I did not have to worry about my recording levels during the concert."

Sven Geiger, FOH Engineer on tour with Stoppok plus Worthy



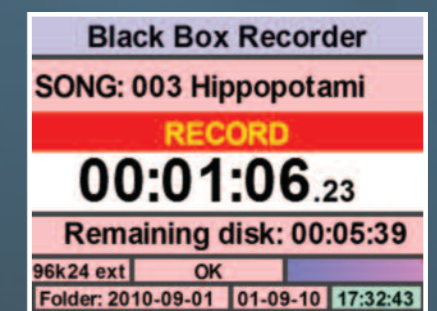
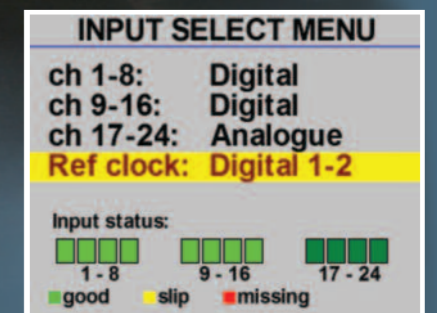
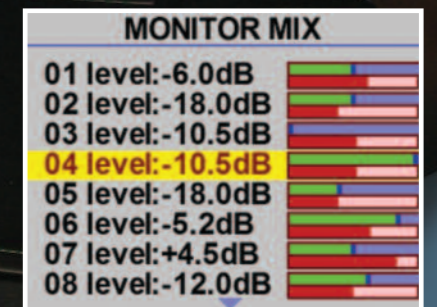
"Hook up was simplicity itself, connect the looms, connect the hard drive, power up and off you go! The BLACKBOX RECORDER remembers all the settings and puts each show into a folder by date. I had fun telling the system techs how much 24-track audio you could record with a Terabyte hard drive - 80 hours, unbelievable!"

Graham Ewins, FOH Engineer, on tour with Procol Harum.



"Reliability and portability are very important to us and the BLACKBOX RECORDER offers both. The recorders have evidently been designed with poor stage lighting conditions in mind. The meters and transport controls are clearly visible in the dark, even from a distance. Both that, and the confidence from monitoring via the headphone output makes me feel safe while recording."

Marc Broer, Sound Engineer, ART-Sound Mobile, The Netherlands.



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General Specifications:

Sample Rates: 44.1kHz, 48kHz, 88.2kHz, 96kHz

Bit depths: 16bit ; 24bit

Disk interface: USB2

Format: FAT32

File type: Broadcast WAV (BWA) (V)

Media: USB2 hard disk,
USB2 flash drive,
SDHC (with suitable adapter)

Monitoring: 1 x ¼" TRS jack socket, headphone mix/solo

Physical: 19" rack mounted 1U

Dimensions: (425mm x 150mm x 44mm)

Weight: < 2.4kg

Analogue Inputs:

Levels: -10dBu / +4dBu switchable

Max input level: +22dBu = 0dBFS

A-D conversion: 24bit, 96kHz

106dB S/N, 96dB THD+N (typical A-weighted)

Control and Synchronisation:

MIDI: 1 x 5-pin DIN (open loop) - MIDI time code (MTC), and
MIDI machine control (MMC) protocol

LTC: 1 x ¼" TRS jack socket:

Frame rates supported: 30fps, 29.97drop fps,
29.97non-drop fps, 25fps, 24fps, 23.98fps

Machine control: 1 x 9-pin D, SONY PII protocol

Audio clock synchronisation: 2 x RCA sockets AES3 / SPDIF

Format, also used for communications to slave units

Footswitch: momentary switch on ring of LTC TRS socket

Keyboard: 1 x mini DIN PS2 connector, Standard 102 key

Power: 9v - 16V dc (< 25W). 2.1mm dc inlet.

PSU supplied

Analogue Outputs:

Levels: -10dBu / +4dBu switchable

Max output level: +22dBu = 0dBFS

D-A conversion: 24bit, 96kHz

106dB S/N, 94dB THD+N (typical A-weighted)

BBR1U

Unbalanced i/o via 3 x 25way Female D-sub connectors (3 x ¼" TRS multicore looms supplied - TASCAM analogue format). Designed to plug across the insert points on a standard analogue console



Loop through outputs available on ch 17-24 on ¼" TRS jack sockets for connection to outboard equipment

BBR1B

Balanced i/o via 6 x 25way Female D-sub connectors. Lower row - inputs; Upper row - outputs. (TASCAM analogue format, cable looms not supplied).



No loop through outputs. Other connectors as BBR1U

BBR1A

Lightpipe i/o via 3 x TOSLINK inputs and 3 x TOSLINK outputs (24 channels @ 48k, 12 channels @ 96k). Word clock input on BNC. Unbalanced analogue as BBR1U (cable looms not supplied)



Loop through outputs as BBR1U available on analogue i/o only.
Other connectors as BBR1U

BBR1D

AES3 (2003) i/o via 3 x 25way Female D-sub connectors - upper row. (Yamaha format pin out standard). Word clock input on BNC. Unbalanced analogue as BBR1U (cable looms not supplied)



Loop through outputs as BBR1U available on analogue i/o only.
Other connectors as BBR1U

About JoeCo

JoeCo is based near the beautiful university city of Cambridge in the UK. Established in 2007, the company's research and development activity has focussed on the revolutionary **BLACKBOX RECORDER**, designed for capturing live multi-channel audio. Since its release in 2009, the recorder has won several prestigious awards including a PLASA Award for Innovation (UK) and a Pro Audio Review Magazine PAR Excellence Award (USA). Distributed in over 30 countries, the **BLACKBOX RECORDER's** growing international customer base includes touring bands, outside broadcast facilities, theatres and worship venues, broadcasters, film and TV sound recordists and post-production facilities.

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