



BLUEBOX

Workstation Interface RECORDER User Manual

V 1.0 rev 3

Date: September 2016

Congratulations on your purchase of the JoeCo BlueBox Workstation Interface Recorder (BBWR). This document will lead you through the basics of how to set up and use the product. The BlueBox BBWR Workstation Interface Recorder has been designed to be as simple as possible to set up and operate. Consequently you will find that this user manual is not a long document and can be read from cover to cover in a short while. However, we strongly recommend that you do read it just in case there are some aspects of the product that are not immediately obvious.

This manual only covers the BBWR Recorder and should be read in conjunction with the Quick Start Guide.

More information is available in the LOGIN area of the JoeCo Website www.joeco.co.uk . Visitors can gain immediate access to more detailed information whilst EndUsers, once approved, are eligible for software upgrades and other downloads.

IF YOU NEED INFORMATION IN A HURRY, REGISTER AS A VISITOR AND UPGRADE TO AN ENDUSER LATER ON.

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Important Safety Information

WARNING - Read the following before proceeding :

Read instructions: Retain these safety and operating instructions for future reference. Adhere to all warnings printed here and on the equipment. Follow the operating instructions printed in this User Guide.

Do not remove covers: Operate the equipment with its covers correctly fitted. Refer any service work on the equipment to competent authorised technical personnel only.

Power sources: Connect the equipment using the mains power adapter supplied.

Power cord routing: Route power cords so that they are not likely to be walked on, stretched or pinched by items placed upon or against them.

Grounding: Do not defeat the grounding and polarisation means of the power cord adapter or plug. Do not remove or tamper with any ground connection in the power cord.

Water and moisture: To reduce the risk of fire or electric shock do not expose the equipment to rain or moisture or use it in damp or wet conditions. Do not place containers of liquid on it which might spill into any openings.

Ventilation: Do not obstruct any ventilation. If the equipment is to be operated in a flight-case ensure that it is constructed to allow adequate ventilation.

Heat and vibration: Do not locate the equipment in a place subject to excessive heat or direct sunlight as this could be a fire hazard. Locate the equipment away from any devices which produce heat or cause excessive vibration.

Servicing: Unplug the power immediately if the unit is exposed to moisture, spilled liquid, the power adapter becomes damaged, during lightening storms, or if smoke, odour or noise is noticed. Refer servicing to qualified technical personnel only.

Installation: Install the equipment in accordance with the instructions printed in this User Guide. Use the equipment connections for their intended purpose only.

Precautions

Environment: Protect from excessive dirt, dust, heat and vibration both when operating and storing. Avoid drinks spillage, tobacco ash, smoke, and exposure to rain and moisture. If the equipment becomes wet, remove power immediately. Allow to dry out thoroughly before using again.

Cleaning: Avoid the use of chemicals, abrasives or solvents. The equipment is best cleaned with a dry lint-free cloth. Do not remove the cover to clean the unit.



Damage: To prevent damage to the equipment cosmetics, avoid placing heavy objects on the unit, scratching the surface with sharp objects, or subjecting the unit to rough handling and vibration.

Transporting: The equipment should be transported in the original packing or purpose built flight case to protect it from damage during transit.

Cables: Plan the location of the equipment so that the connecting cables are not fully extended. Full extension of the cables can stress the equipment and cables and may result in undesired performance. Ensure that all cables are located such that they cannot be stood on or tripped over. The 25way D-sub connectors should not be over tightened and you should provide adequate strain relief to ensure that the weight of the cable looms does not rely on the D-type connectors themselves. Tie them to the rack with cable ties.

Copyright Warning

JoeCo's recorder products are designed to enable you to record and reproduce material to which you own the copyright, or material which the copyright owner has granted you permission to record and/or reproduce.

It is illegal to record, reproduce, distribute, sell, hire, lend, perform or broadcast all or part of a work (written or musical composition, broadcast, performance or similar) whose copyright is held by a third party without the permission of that third party.

Do not use this Product for purposes that could infringe a copyright held by a third party. JoeCo and its authorised distributors and resellers assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your misuse of this Product.



Opening the Box

Box Contents

Inside the box you will find the following:

- BlueBox Workstation Interface Recorder
- Power Supply
- USB2 interface cable
- User Manual
- Quick Start Guide

The BlueBox Workstation Interface Recorder (BBWR) is not a standard multitrack recorder nor is it a digital audio workstation (DAW). It has been designed specifically to act as an audio interface for an audio workstation whilst making a safety backup of every recording in case of computer problems. It can also capture multitrack audio directly to a USB2/3 drive in live acquisition applications.

A number of specific features have been added to make it suitable and safe in a live environment such as playback lockout, protection against accidentally ending a recording and no general purpose operating system.

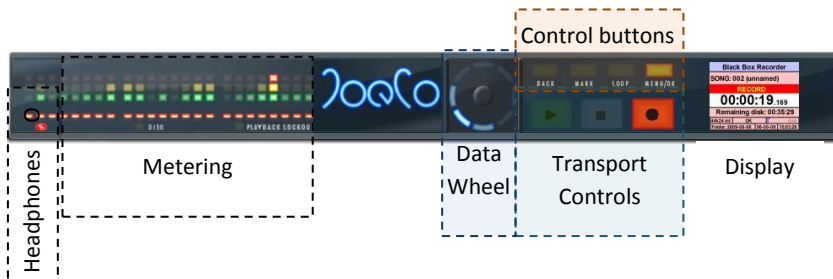
Some features often found in other multitrack machines are not present in the BlueBox Recorder such as overdubbing and punch in facilities.



Controls and interfaces

Front Panel

The front panel of the BlueBox Workstation Recorder contains user controls for the unit. The buttons are all touch sensitive which prevents them wearing out through constant use – just place the flat of your finger on the button to operate.



The left hand side of the unit contains the metering section. Each channel or Track [1 through 24] has 3 rows of metering LEDs above the Track Arming LEDs.

Green = signal present: dimly lit at approx -45dBFS; bright at -22dBFS,

Yellow = good signal level: dim at -22dBFS; bright at -10dBFS

Red = getting hot / clip: dim at -10dBFS; bright red at 0dBFS

The metering LEDs get brighter as the signal level gets louder and the Red LED can be set to stay on when an overload occurs. The meters are positioned above a two colour LED that indicates whether the track is armed ready for recording or not (Green for playback ready; Red for record ready). There are also indicators for power, Disk activity and Playback Lockout

To the right of the JoeCo logo is the control wheel which has a number of functions explained later.

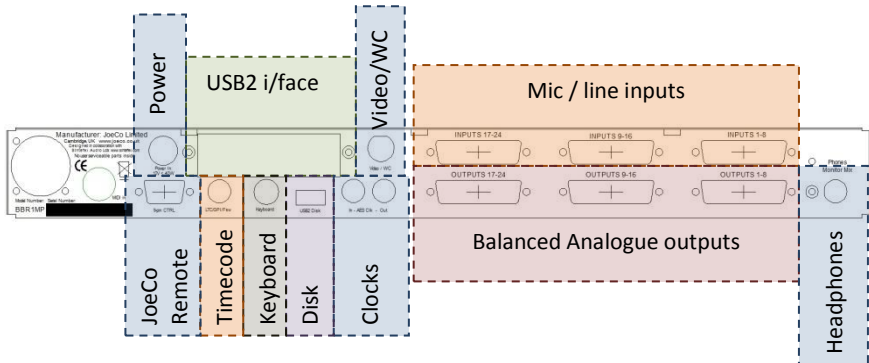
Then there are the main Transport controls [PLAY, STOP, RECORD] with the four other control buttons above [L-R: BACK, MARK, LOOP, MENU].

Finally, at the right hand side of the front panel is the colour LCD display. This is the primary user interface and shows the current mode of operation along with settings and any error messages. Most screens are colour coded to more easily see what is happening from a distance.



Rear Panel

The rear panel will look slightly different depending on which style of audio interface you have on your BlueBox Workstation Recorder. The areas indicated in the diagram below are explained in more detail later in this manual.



The upper three 25 way D-type (also called D-sub) connectors are the main microphone / line analogue input connectors. The lower three D-type connectors are the balanced outputs. The cable looms should conform to the TASCAM standard for analogue i/o. (N.B. all pin outs are available on the visitor page of the JoeCo website Login area)

The 9-pin socket should connect to the JoeCoRemote hardware which allows full control of the unit using an iPad. This is the recommended method of controlling the BBWR.

Linear timecode can be provided on the tip of the 1/4" jack socket; the ring of the same socket is for a momentary contact closure or footswitch. The BNC connector can accept either a Video or WordClock clocking signal

A PS2 keyboard socket allows control and text input from a standard PS2 style keyboard.

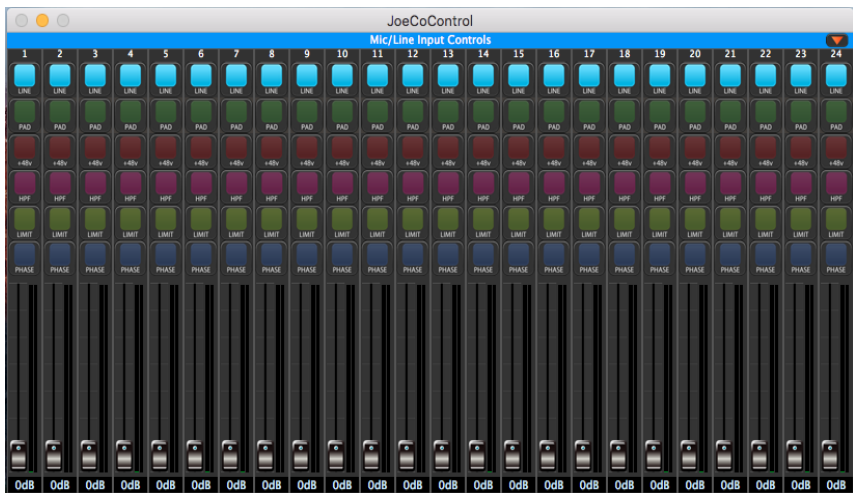
Power is provided by the supplied external power supply via the Kycon 4 pole connector (pin 1&3 = GND, 2&4 = +12V @ 3.3A)



JoeCoControl for Mac and PC

The JoeCoControl app for PC and Mac gives the user full control of the BBWR's inputs and effects. It also gives full control of a 48ch headphone mixer with control of both the local low latency headphone mix on the BlueBox and the headphone mix from your DAW to the outputs of your BlueBox.

Mic/Line Input Controls



The Mic/line Input control window allows control of the BBWR's Inputs and effects. When Mic is selected the +48V (phantom power), HPF (High Pass Filter), Limit (soft limiter), 28dB Pad and Phase reverse buttons become active. The green Limit buttons turn amber to indicate that the limiter has been activated to reduce the level on that channel. Faders adjust the input level gain and you can also type accurate gains into the field at the bottom of each fader.

The 28dB Pad allows for mics with very high output levels and even line level signals to be processed through the limiter and high-pass filter effects



Low Latency Input Monitor Mix



The Low Latency Input Monitor Mix window allows control of the local Low Latency headphone Monitor Mix on the BlueBox providing Pan and Level controls for each channel of the monitor mix along with familiar mute and solo functions. The resultant mix is routed to the rear headphone socket and is available for a producer or director to listen to the monitor mix during the recording.

The front panel headphone socket provides the engineer's mix which will normally be the same mix unless the engineer uses a PFL button when it will monitor just that channel in Pre-Fade Listen mode.

Workstation Output Monitor Mix



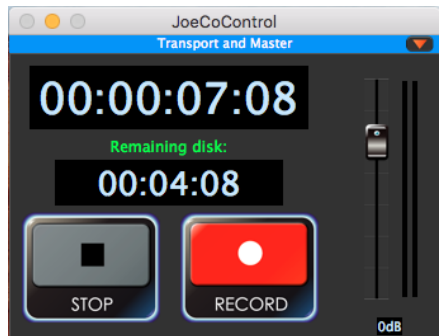


The Workstation Output Monitor Mix window allows control of the headphone mix for the DAW outputs. Like the Low Latency Input Monitor Mix window, this provides Pan and Level controls for each channel for the monitor mix along with mute and solo functions.

In the same fashion as the Low Latency Input Monitor Mix, the resultant mix is routed to the rear headphone socket and is available for a producer or director to listen to the monitor mix during the recording.

Transport and Master

The Transport and Master Window displays information and controls relevant to the BlueBox's local recording. From this window you can send the BlueBox into record and stop the recording. You can also adjust the master headphone volume. It also tells you how much recording time there is left on the disk before it is full and for how long the BlueBox has been recording.



Installation

How to wire up the BBWR

Audio connections

If you have also purchased the optional JoeCo Input BreakOut Box (BOBIN), this will have been supplied with three 25way D-sub to D-sub cable looms which plug directly between the upper row of connectors on the back of the BBWR unit and the D-subs on the BOB. You can then use the XLR-F connectors on the BOBIN to plug your microphones or line sources into the unit.

Alternatively you can use 25way D-sub to XLR-F cables looms (one for each bank of 8 channels). These are wired to the TASCAM analogue format (as are ProTools systems) and can be purchased through your supplier.



The analogue audio outputs, if required, are line level and appear on the lower row of 25way D-sub connectors. They use the same pin out (TASCAM analogue format) as the input connectors.

For connection to your Workstation, plug a high quality USB2-A to USB2-B cable between the USB2-B socket on your BlueBox and the USB2-A socket of your Mac or PC.

The BlueBox Recorder line outputs can be switched between **Low** and **Pro** levels in the Setup Menu (page 28).

Setting	LOW	PRO
Nominal level	-10dBu	+4dBu
Headroom above nominal level	14dB	18dB
0dBFS (when digital clipping will occur)	+4dBu	+21dBu

Power connection

The BBWR is supplied with its own power supply which plugs into the dc inlet at the rear right of the unit (or left if you're looking at the rear as you read this). Although the unit can accept a suitable regulated dc input from a 12V battery powered cart for example it should always be used with the power supply provided if possible. A mounting lug is provided to cable tie the power cable if you wish.

Choosing and connecting a disk drive

The BlueBox Recorder is not particularly fussy about its Disk Drive. We cannot guarantee that every drive in the world will work but most do. Critical features are:

- Up to 2TB with USB2 or USB3 interface
- 7200rpm recommended
- Formatted with FAT32 Filing System
- Mains powered (except fast USB2 pen drives, aka thumb drives / memory sticks)

This means that most drives that are both Mac and PC compatible will work ok. USB2 can carry up to 480Mbits/s of data and for recording 24 tracks of 96kHz/24bit the maximum data rate we need is less than 60Mbits/s so there's normally plenty of headroom. JoeCo has already tested numerous USB2 drives from Western Digital, Glyph, Seagate, Verbatim, Samsung, Buffalo and others and found them to work well. We chose the FAT32 filing system because it is compatible with all major Operating



Systems and it's also the format chosen for the AES31 digital interchange standard. USB3 drives are backwards compatible with USB2 and should also work well.

However, bus-powered drives (such as the Western Digital Passport series) typically draw more current during spin up than the USB2 specification allows (limited to 500mA) and can therefore not be used without providing a separate power supply.

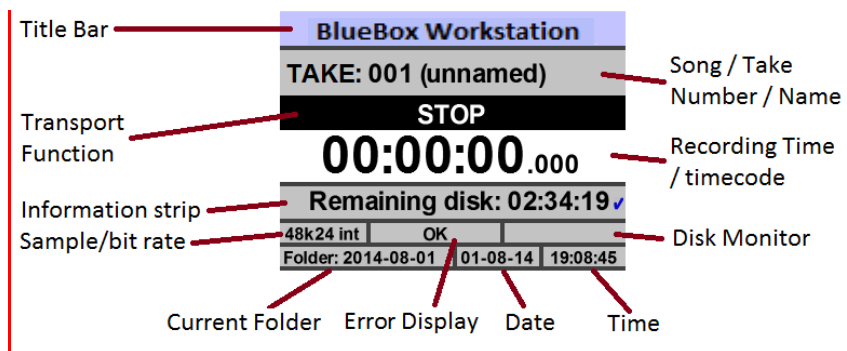
Standard Flash RAM drives (aka Pen Drives) are not fast enough to take the full USB2 data rates that the BBWR requires but the fastest ones normally work ok. Larger thumb drives (128GB and bigger) are typically much faster and usually work very well. Ask the shop if you can try the drive with the BBWR before you buy it.

Plug the disk drive into the USB2 socket on the back of the BBWR unit and then power up the drive. The drive will be scanned, logged and ready to use in a matter of seconds. If it takes more than 20 seconds to log the drive or the BlueBox reports "WRONG DISK FORMAT", check that the disk is formatted correctly. The BlueBox can be used to reformat the drive to FAT32 (see page 32)

Checking that everything works

Once you have powered the unit up and the disk drive is connected and powered up you should be ready to record. Press the record button and away you go!

The basic screen should look something like this when first powered up with a drive attached.





Normal Operation

Whenever you power up the BBWR it first checks the date against its internal real-time clock. The first time the BBWR enters RECORD each day, it creates a folder on the drive named \YYYY-MM-DD.BBR and makes this the current folder (where YYYY is the year, MM is the month and DD is the day). [The real-time clock will have been set up at the factory but you will need to adjust it to your local time – see page 29]

It does this so that all today's recordings will be kept together in one folder. If you happen to be recording late into the night past midnight, the BBWR will not create a new folder until the next time it's powered up so all the recordings during a typical concert for example will still be kept together.

After you've finished recording you can rename the current folder using the NAME MANAGER Menu or Ctrl-f on a keyboard. The BBWR will then create a new folder with today's date the next time you enter Record

The front panel controls are all touch sensitive. Just place the flat part of your finger firmly on the panel over the control – the area your finger covers is more important than the pressure you apply.

Setting up

Setting up your BBWR will largely be determined by what you are trying to achieve. If the unit is being used in a Broadcast, TV or Film Sound environment then it's likely to be the primary recorder connected directly to the microphones and any other audio sources. It might be mounted on a cart and thus powered from a 12V battery power source in which case you may want to disable banks of channels that you are not currently using to preserve battery life for example

If you are recording a concert, you may want to patch the unit into Mic Splitters at the stage box and then you need to determine whether phantom power for capacitor mics is derived from the Monitor console, the FOH console or the BBWR. You might also want to use the BBWR as the primary mic pre amps and use the balanced outputs to feed the monitors and PA.

For each channel you will need to set the input to mic or line input level; enable phantom power if using Capacitor (Condenser) mics; decide whether you need to insert a High Pass Filter (HPF) to reduce low frequency "pops" and plosives; set the



soft limiter if required; determine whether you need to reverse the phase on any channel. Then you can adjust the input levels.

BBWR - Audio Interface with Local Recording Backup

One of the features that makes the BBWR unique is its ability to record locally on a USB 2/3 drive while simultaneously providing an audio interface to a Mac or Pc allowing you to make a recording on your DAW (Digital Audio Workstation). To use this feature, the option 'Mode' in the Main Menu must be set to Workstation.

N.B. We recommend in a studio environment that you put the BBWR into record on all channels that you're using at the start of the day and only press stop when all recording is finished. This will then act as a safety backup for the whole day's work and it will also make finding a specific lost take much easier. All recordings are time stamped so if you know that a take was recorded at about 3:10pm it will be relatively easy to find using its time. In a Live or Location scenario you will most likely have different priorities and need to make each recording as separate takes.

Setting up as an Audio Interface

This will differ slightly depending on which DAW you have and whether you are using the BlueBox with a Mac or a PC. The MAC OSX version uses Core Audio drivers whereas the Windows version uses the JoeCo ASIO drivers.

A USB-A to USB-B cable should be connected between the USB-B socket on your BlueBox and into the USB-A socket on your computer. The option 'Mode' in the Main Menu of the BBWR should be set to Workstation.

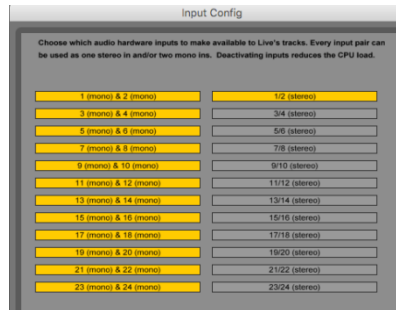
Download and install the JoeCoControl app from the JoeCo Website (www.joeco.co.uk). Once installed, wired and powered up, open the





JoeCo Control app. The app should connect immediately and you should have access to all the input channel and monitoring controls (as detailed on Pages 8-10)

Open your DAW software and go into the audio preferences menu. You should then select your BlueBox as an input device in the Input Menu and an output device in the Output Menu. Enable as many inputs and outputs as you require for your project or all of them if that suits your working environment. Adjust buffer size to improve latency – we’ve found that around 6mS works well ok with older Mac computers at 96k but it will be determined by your own computer’s performance. Set the sample rate for your project. The sample rate on the BlueBox itself will automatically change to match the sample rate in the DAW. Close the audio preferences window and you are ready to record.



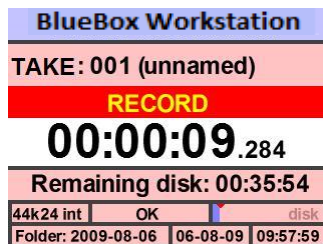
Local Recording

The BBWR can operate in conjunction with a DAW as a Backup Recorder or as a stand-alone multichannel recorder. To operate in conjunction with a DAW, the option ‘Mode’ in the Main Menu should be set to Workstation. To use the BBWR as a standalone multichannel recorder the option ‘Mode’ in the Main Menu should be set to BlueBox Live.

Once set up, the BBWR is ready to record within seconds of logging the drive – just press the REC button and it will begin recording. The record button flashes to show that it’s creating the files and then turns solid once in record.

Once the unit is recording, the STOP button must be held down for a couple of seconds to end the recording. This is to prevent someone brushing against the controls and accidentally dropping out of record.

However, if you want to mark the end of one recording and the start of another you can just press the REC button again. You can also set MARKS by pressing the MARK button which will appear in the Cue Chunk of the BWAV files which some DAWs can use and will enable you to create loops easily for Virtual Sound Checking.





At the end of a recording the BBWR will have to do some housekeeping such as closing the files and writing file headers to the disk to keep it in prime condition. The DISK LED and the STOP button will flash until the BBWR has finished writing to the disk. Wait until it has finished before starting the next operation. **It's particularly important that the files have been closed before you unplug the USB disk drive. The BlueBox will try to recover files that have not been properly closed (see Safe'n'Sound Record Recovery - page 39) but there's no guarantee especially if another operating system has accessed and written to the disk in the meantime).**

The BBWR remembers its settings in Flash RAM internally so you should only have to set the following things up once.

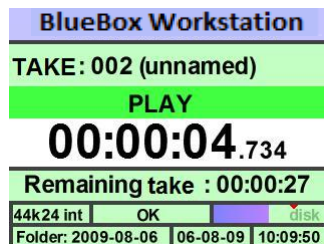
- You might want to record at a different sample rate or bit depth to that at which the BBWR is currently set (page 27)
- The unit may be set up to only record certain tracks and you may want to record on more (or less) tracks (page 24)
- You may want to timestamp the recording against timecode (page 26) or set up the unit to use an external audio clock (page 26)
- You may prefer to think of each recording as a SONG (e.g. in concerts) rather than a TAKE. This can be changed in the Setup MENU (page 27)

All these items can be controlled from the menu which is described later in this manual.

Playback

Normally, the last recording made will be immediately available for playback. However the BBWR may be set to "PLAYBACK LOCKOUT" indicated by the LED in the Metering area of the front panel in which case the play button will have no effect. "PLAYBACK LOCKOUT" is a safety feature that prevents the operator from accidentally starting to playback recorded material at an inappropriate time.

If the BBWR is set to "PLAYBACK LOCKOUT" and you want to disable it temporarily to check a recording, press the MENU button to enter the MENU and PLAYBACK LOCKOUT is the top item on the list. Press MENU again and it will remove the tick (✓) mark against PLAYBACK LOCKOUT. Press BACK to exit the MENU and you can now use Playback normally. PLAYBACK LOCKOUT can be set to manual in the SETUP menu preventing it automatically engaging after each recording





Fast Wind

FAST FORWARD and REWIND functions within a recording are achieved by holding the STOP button down whilst moving the data wheel. Playback will then commence from this position.

Selecting Recordings for playback

To select another recording for playback you will need to press the MENU button. Move the data wheel until **Take Select** is highlighted; press MENU again; **Select Folder** if required and then move the data wheel to select the take you want to play back; press MENU to confirm.

When a previous recording is loaded for playback, the 24 Green “playback ready” LEDs positioned underneath the meter section indicate which tracks are present and ready for playback.

If you load a Take that was recorded at a different sample rate, a warning will be displayed in the Name area of the main screen showing the original sample rate in red.

Next / Previous Take

When the BBWR is in STOP, the MARK and LOOP buttons will move you to the previous and next take respectively in the current folder.

Recent Takes

As recordings are made or replayed, they will automatically be placed into the **Recent Recordings** list which is located in the **Take Select** menu. This allows you to quickly access the days’ Recordings. The Recent Takes list is stored on the disk itself so the list will change if you use a different disk.

File Names

The BBWR names the audio files it creates as follows:

nnn-tt.WAV

Where **nnn** is the take number (between 001 and 999) and **tt** is the track number (between 01 and 24).



The track number is not shown on the main BBWR user interface screen but it's used by the BBWR to determine which file replays through which output and will be vital in post production.

Renaming Takes

Using a PS2 keyboard plugged into the BBWR or the JoeCoRemote app for iPad it is possible to rename “Takes” to help find them more easily later on the BBWR or in post production on a Digital Audio Workstation (DAW). The keyboard connector on the BBWR is a PS2 style Mini DIN connector. It is also possible to name Takes and tracks using the menu buttons and data wheel (see page 30) but you'll find it much quicker using the JoeCoRemote or a standard PS2 keyboard

To rename a take on a PS2 keyboard, use “Ctrl-S” and then type in the name that you want. The BBWR will accept capital and lower case letters, spaces and all normal characters that computers will accept in file names except the dash “-” (any illegal characters will be replaced with an underscore “_”). You can navigate backwards and forwards using the left and right arrow keys. The delete and backspace keys operate as you would expect. Finish by pressing “Enter” on the keyboard. (Escape will cancel any changes). The resulting tracks will be called

nnn-tt.Take Name.WAV

where “**Take Name**” is the new name that you typed. This will rename all the tracks [01 - 24] of this take in this folder with this new Take Name. [Note: It is important for the BlueBox to keep the *nnn-tt* prefix so that it knows which audio files belong together as a Take and which track is to be played out of which output. It also helps some DAWs to place the tracks in their playlist in the correct order / position for playback.]

So for example, if the current take is 001(unnamed) and you decide to name it “Scene1”, you will end up with the following files on your disk

001-01.Scene1.WAV
001-02.Scene1.WAV
001-03.Scene1.WAV
...
001-24.Scene1.WAV



Renaming tracks

To rename a track: use “Ctrl+<digit><digit>T” on the keyboard (where <digit><digit> is a number between 01 and 24 to select which track you want to name) then type in the name that you want. The BBWR will accept the same characters as for Take Names, above. Finish renaming the track by pressing “Enter” on the keyboard (or arrow up/down if you want to immediately name another track). The resulting tracks will be called

nnn-tt.Take Name-Track Name.WAV

where “Track Name” is the new name that you just typed. If you use the down arrow, the BBWR will automatically move on to the next track so that you can rename it too.

You may want to name all the tracks similarly for every Take that you’re going to record. If Sandra’s mic is plugged into channel 2 then it will probably remain that way for the whole day’s shoot. To facilitate this, the Track Arm or the Name Manager MENU allows you to load the track names from an existing Take and then use them as a template. Select the Take which has appropriately named tracks as if for Playback (see above).

TRACK NAME TEMPLATE

Track 1: George
Track 2: Sandra
Track 3: Jimmy
Track 4: Greta
Track 5: Boom1
Track 6: Boom2
Track 7: FX1
Track 8: FX2

Enter the Track Arm MENU or the Name Manager MENU and then select the Track Name Template MENU. Select “Copy names from take” and this will populate all the Track names for you automatically. All Takes that you record subsequently will use these Track names. The Track names will be stored in the Flash memory so you can use them time after time.

So for example, assuming that channel 1 is George’s mic and channel 2 is Sandra’s, you would use “Ctrl-01T” and then type “George” before pressing “Down Arrow” and then “Sandra”, etc. and you would end up with files named:

001-01.Scene1-George.WAV
001-02.Scene1-Sandra.WAV
001-03.Scene1-Jimmy.WAV
...
001-24.Scene1-Daphne.WAV

The next Take might contain files named as follows:



002-01.Scene2-George.WAV

002-02. Scene2 -Sandra.WAV

002-03. Scene2 -Jimmy.WAV

...

002-24. Scene2 -Daphne.WAV

But it would use the track names you have entered automatically.

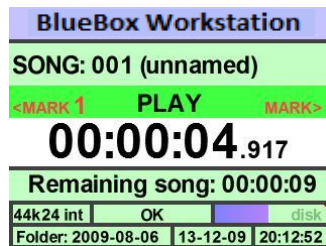
It is completely optional whether you rename Takes or Tracks. The BBWR does not require you to do it; it merely helps in post production when the disk has hundreds of WAV files in each folder. The basic naming scheme and time stamping will keep the files well organised anyway.

Playback and Virtual Sound Checking

If you are using the BlueBox Recorder for Playback or Virtual Sound Checking you may need the ability to Loop around certain sections of the audio, such as a chorus. This is where the MARK and LOOP buttons are primarily used.

MARK and LOOP operations

Pressing the MARK button either during the Recording or during Playback will place Markers in the Take File itself. Multiple Markers can be set within a Take. The Markers are indicated on the Transport Function Bar



Having set some Markers, the LOOP button will create a playback Loop and continually play back the MARKED section of the Take.

If the LOOP button is pressed between Markers, the BlueBox will continue in playback until it reaches the next Marker, Loop back to the previous Marker and then recommence playback. There will be a short break in playback while the BlueBox loops back to the earlier Marker (i.e. it does not create a continuous loop).

If, however, there are no later Markers, pressing the LOOP button will create a Loop between the last Marker and the current playback position.

LOOP mode will remain active until you press LOOP again. You are able to STOP and restart PLAY whilst remaining in LOOP mode.



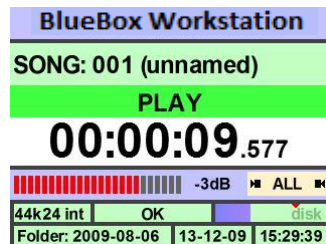
In STOP, holding down MARK and using the data wheel will jump to the next and subsequent Markers within the Take so that you can start playback from a specific Marker.

In PLAYBACK, holding down the MARK button while using the data wheel enables the deletion of Markers that are no longer required in the current Take. Clockwise movement will delete one (or more) later Marker(s); Anticlockwise will delete one, (or more) earlier Marker(s).

The Markers are stored in the audio files in what's known as a Cue Chunk, which many (but not all) DAWs can read. So they may also be used to indicate a place in the recording to post production. Best to check with your post house whether they can read this information.

Monitoring

The BBWR has two TRS jack sockets. The rear socket is designated as the producer or director's output and will always carry the monitor mix. The front socket is the Engineer's output and will either carry the monitor mix or will monitor the PFL bus. This allows the engineer to listen to specific mic channels without disturbing the mix that the producer is listening to. The mix can be quickly adjusted on the monitor page of the JoeCoRemote or can be adjusted more laboriously in the Monitor MENU on the BlueBox itself. ????



The data wheel will alter the volume of the headphone output (when not in the MENU). The volume is displayed on the colour display while you adjust it.

If you hold down the BACK button whilst using the data wheel, you will change what is heard in the engineer's headphones. The options are "MIX", "ALL", "1-2", "3-4", etc. with ALL being the summing mix mentioned above and the individual track pairs being a pre-fade listen of each pair of tracks (panned hard left and right). The **Monitor...** section of the menu controls the level and pan settings in the MIX mode.

The **Monitor** Menu allows you to set the BACK button to toggle the data wheel function between selecting the PFL / solo channel and controlling the headphone volume. In this mode, the MARK button will cancel PFL and return to the MIX setting allowing you to quickly switch back to the monitor mix when you need to. The MARK and BACK buttons flash while the data wheel is used to indicate this mode.



The **Monitor** Menu also allows you to elect to solo individual channels in mono, rather than pairs in stereo. It is also where you set the peak hold time. You can select the Hi-res metering mode where the Track Arm LEDs on the meter display will show the level on the channel(s) that are being soloed.

Summary of Combined Front Panel Controls

Transport Mode	Press/ <i>Hold</i>	Wheel	Function
Any	-	< or >	Headphone monitor volume
Any	BACK	< or >	Headphone monitor solo channel
Any (PFL toggle mode)	BACK	-	Swap between volume and solo channel select
Any (PFL toggle mode)	MARK	-	Exit solo and return to mix setting
In STOP	STOP	< or >	Fast rewind or Fast forward wind
In STOP	MARK	< or >	Select MARKER for PLAY position
In STOP	MARK	-	Select Previous Take
In STOP	LOOP	-	Select Next Take
In PLAY	MARK	<	DELETE previous MARKER(s)
In PLAY	MARK	>	DELETE subsequent MARKER(s)
In PLAY	LOOP	-	Enter LOOP mode at next MARKER or immediately if no subsequent MARKERS
In PLAY/RECORD	MARK	-	Set a MARKER at current time
In RECORD	REC	-	Mark the start of a new TAKE



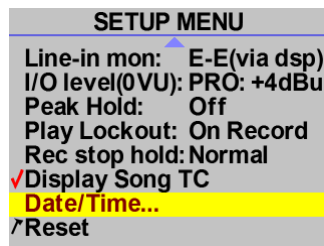
Using the Menu

The following section discusses the menu in more detail. Throughout the menu operations the MENU button moves forward through the structure and also acts as a CONFIRM button; the BACK button moves backwards through the menu structure and can act as an ESCAPE button. The data wheel acts as a selector and data entry wheel whilst in the menu structure. The MARK and LOOP buttons also replicate the wheel to advance down or retreat up the menus, selecting the next or previous menu item.

Once you have adjusted and confirmed the setting or parameter that you want to change, use the BACK button to exit the menu and get back to the normal main screen display. On the whole it's pretty obvious so try it.

Menu items are of 4 types

- **Submenu:** These are shown by an ellipsis after the name, e.g. "Date/Time...". When you press MENU the BBWR loads the submenu.
- **Multiple choice:** These show a colon after the option title, e.g. "Line-in mon: E-E(via DSP)". When you press MENU the option turns red and you can scroll through the available options and press MENU again when you have made your choice.
- **Tick box:** These are preceded by a tick (✓) if selected or an empty tick box if not selected. e.g. "Display Take TC" Press MENU to toggle the option.
- **Action:** These are preceded by a hatchet or tomahawk symbol. When you press MENU the BBWR executes the option indicated, e.g. "➤ Reset". Where appropriate the BBWR will show a "buried hatchet" symbol in red after execution.



Menu structure and operation

To enter the menu, press the MENU button in the Control section of the front panel.

Setting up adjustable parameters

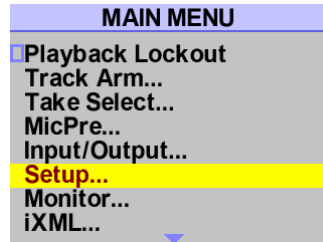
This list may not be exhaustive as JoeCo is constantly improving its products and may have added features to the software since this document was authored. However,



this will give you a good idea of the basics and you can always get the most up to date information from the website.

The currently selected Menu item is highlighted in Yellow.

When a Menu item to be adjusted is selected, the display changes to yellow text on a red background. You can then use the control wheel to change the setting before confirming with the MENU button or rejecting your changes with the BACK button. Some real-time functions cannot be rejected with the BACK button.



Unavailable items are “greyed out” in light red text.

Playback Lockout

Playback Lockout has two settings, on & off, indicated by a tick (✓) beside the option in the MENU and the LED in the Meter area. In the setup menu you can decide to control Playback Lockout manually or set it to be asserted automatically whenever you enter record as a safety measure.

Track Arm...

Arm All: Arms (enables recording on) all tracks.

Disarm All: Disarms (disables recording on) all tracks.

Arm ticked: Arms the tracks (listed below) that have a tick “✓” (sometimes called a “check mark”) beside them.

1...24: the tracks which can be ticked or unticked using the MENU button and then Armed using the **Arm Ticked** menu item above. Track names (if used) are displayed here also. (See **Renaming Tracks** on page 19)

Clear all track names: this clears all the displayed track names – subsequent recordings will not use track names (unless you rename them)

Copy names from take: this loads the track names from the current take into the track display. Subsequent recordings will use these track names.

Edit take updates template: when ticked the template will be updated when you edit a track name.

Take Select...

This loads the Take Select Menu allowing you to select Takes for playback. The options are:



Recent Takes...

Provides a list of the most recently played Takes – useful if you’re on tour and want to use the same takes in each venue for sound checking

Select Take Folder...

Allows you to navigate to a particular folder. This automatically loads...

Select Take...

Allows you to choose a Take from within the selected Folder.

MicPre

The Mic Pre Overview gives you a quick view of the settings for all the Mic Pre input channels though it is recommended to use the JoeCo Control app on a Mac or PC for general use.

Each channel shows mic/line; Gain in dB and the status of the High Pass Filter (f), Phase Reverse (p) and Limiter functions (L). Green text indicates a dynamic mic and red indicates that Phantom power is enabled on that channel. Select the channel using the wheel and use menu to adjust its parameters.

MIC PRE OVERVIEW		
chan 5: mic 42.0dB, HPF, Phase, Lim, 48v		
1 - 8	9 - 16	17 - 24
1: mic +30.0f	mic +15.0	line
2: mic +28.0	mic +18.0	line
3: mic +21.0fL	line	line
4: mic +23.0p	line	line
5: mic +42.0fpL	mic +15.0	line
6: mic +42.0L	line	line
7: line +5.0dB	line	line
8: line +5.0dB	line	line

Input/Output...

This option gives users the ability to change the input source for the system. Some BlueBox models may have digital options or the ability to input audio from your DAW rather than from the analogue inputs. Within this menu, you can change the input source for the BlueBox in sets of 8 channels allowing you to select an input source from which audio will be recorded.

The **input status** bar displays whether there are errors or clock slippage. The input status display is echoed at the top of the main screen if an error or any digital slippage occurs. Any clock errors are noted in the error display area of the main screen. The Clock Error Display can be cleared using the STOP button. The information area of the main screen will indicate when the Reference clock is missing or when a digital signal slip occurs. Reference clock (see below) can also be set in this menu screen. It is recommended to use the digital input as a reference clock if recording from it.



The **Digital Output** setup determines whether to send the monitor mix and/or the engineer's mix to spare channels in the output stream.

Setup...

This section contains the most frequently adjusted parameters.

Reference Clock

This very important item determines where the digital sample clock is derived from. The options include the **internal** reference oscillators, the **AES-spdif** external clock from the RCA (Phono) socket on the rear panel, or (where a digital board is fitted) the input signals from the digital board (such as **MADI** or **DANTE**). The BBWRP can also be locked to an external **Word Clock** or can generate its audio clocks from incoming **Video**(not available on all models) or **Timecode**.

SETUP MENU	
Ref clock:	BNC
BNC Sync Setup...	
Timeline:	Realtime
Sample Rate:	48kHz
Wordsize:	24-bit
Polywav...	
Control...	
Line-in mon:	E-E(via dsp)

It is very important that you understand why digital clocking is important, if you don't know already. Please spend some time talking to people further down the post production process to find out what they would like or recommend, or consult our FAQs on the JoeCo website.

BNC Sync Setup

This controls the function of the BNC sync socket on the rear panel of the BBWR. It allows for the unit to be synced to a Video reference(*not available on all models*) or to receive or generate WordClock.

BNC SYNC SETUP	
<input type="checkbox"/> Output WORDCLOCK	
<input type="checkbox"/> Input WORDCLOCK	
<input checked="" type="checkbox"/> Input Video	
Video Line Rate	1080p
Video Frame Rate	25

Timestamp

Broadcast WAV files include a timecode stamp which marks the time of the first sample of the file and helps re-sync the files in the post production process. This can be derived from a source of Linear Timecode (**LTC**) or MIDI timecode (**MTC**) or from the **real-time** clock built into the BBWR.

The BBWR can only read timecode (i.e. act as a timecode Slave) it does not generate timecode (i.e. act as a timecode Master). The standard BlueBox does not chase timecode or lock to it. If you require synchronous playback you will need the BlueBox Player option which allows playback to be triggered in sync with incoming timecode.



Sample rates

Select between **44.1**, **48**, **88.2** and **96kHz**.

Wordsize:

24bit or **16bit**. We recommend that you always choose 24bit unless you're really short on disk space or your post production requires 16bit.

Control...

The BlueBox Recorder can accept commands from an external control device such as a console or hardware controller.

Remote Mode:

The BBWRWR can respond to open loop MIDI Machine Control (**MIDI MMC**) protocol commands for transport controls and track arming/disarming. Note though that the BBWRWR has no MIDI return path (open loop) and so cannot acknowledge the receipt of a MIDI command or display the take time on the controller. The BBWR can also respond to **Sony 9-pin** Machine Control (also known as SONY PII) protocol commands for transport controls and track arming/disarming. The **JoeCoRemote** iPad app is also selected here connected either via **WiFi control** or as a **wired pad**.

Local Control allows you to disarm the front panel when remotely controlling the BBWR

Footswitch: The ring of the LTC/F.sw TRS jack socket can accept a momentary switch which will emulate pressing the record button (starting a new recording or marking a new take); setting a MARK; toggling REC / STOP or toggling PLAY / STOP. If you need to use this facility with LTC timecode you'll need to make up a special cable but if you're just using a standard footswitch push the jack in half way or get an adapter cable from your supplier

Link Mode and Link Preroll

Used for linking multiple BlueBox Recorders together: see section later in this manual on page 34.

TC Format allows you to set the timecode frame rate. The BlueBox will flash the timecode display (bottom right of main screen) if the incoming timecode is at a different rate to that which you

SETUP MENU	
Ref clock:	Internal
Timeline:	Realtime
Sample Rate:	48kHz
Wordsize:	24-bit
Control...	
Line-in mon:	Relay (thru)
I/O level(0VU):	PRO: +4dBu
Peak Hold:	Off

CONTROL MENU	
Remote Mode:	None
✓ Local Control	
Footswitch:	Off
Link Mode:	None
Link Preroll:	default
TC Format:	25 fps
TC Trim:	0 bits
TC rejam after record	



have chosen. **Always set the timecode frame rate**

TC Trim allows for very fine adjustment in “timecode bits” of the offset between the incoming timecode and the internal time. Usually only relevant in post production

TC Rejam after record “jam-syncs” the timecode reader a second or so after a recording starts and then calculates and timestamps the files accordingly. This is useful when you do not have a continuous source of timecode or timecode starts at the same time as you want to start the recording.

TC rejam after split “jam-syncs” the reader after every time you split a recording with the REC button.

TC start starts record automatically starts a recording when the BlueBox sees incoming timecode.

TC restart splits record will start a new take when there is a discontinuity in the received timecode.

TC stop stops record will end a recording when there is a break in the timecode.

MIDI Setup is used to set up the MIDI control input. More details are available in the visitor area of the JoeCo website

WiFi setup is used to configure the WiFi operation with the JoeCoRemote. Again, more details are available on the JoeCo website

Line-In Mon:

This adjusts how the unit monitors the Line-In signals on all 24 channels. The default position will be **E-E (via DSP)**. Line-In Mon can also be set to **Off** so that the input signal is not echoed to the output at all.

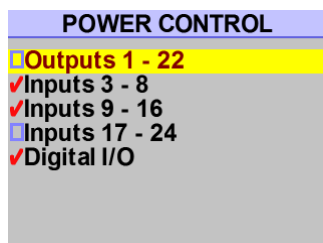
i/o level (0VU):

The two settings are **LOW** and **PRO** as described earlier in this document (Page 10).

Power Control

This MENU allows various parts of the system to be powered down to conserve battery life when the unit is under battery power. The options available are as shown here:

Input channels 1&2 are always enabled as are output channels 23&24





Peak hold

This determines how long a peak level will be displayed on the Meters. During the setup and sound checking it is probably worth setting it to “forever” so that you can easily tell if any of the mic amps are overloading and back them off accordingly. During the recording itself, you can set them back to whatever you find most helpful. Please note that if you are overloading the mic amps, you will be overloading the A-D converters on the BlueBox. Digital distortion is not pleasant to listen to and will probably render your recording useless. You may not notice it live but you will hear it on the recording. Please leave yourself enough headroom when you’re recording. If you’ve set the level correctly, the red meter LEDs should flash infrequently if at all which will give you about 10dB of headroom.

Playback Lockout

You can set playback lockout to be automatically asserted after you’ve made a recording, or to be controlled manually. See Playback Lockout section on page 24

Rec stop hold:

Normal requires you to hold the stop button down for a second or so to end a recording; **Extend (10s)** requires you to hold the stop button down for 10 seconds to end a recording.

Display Take TC on Play

This setting forces the main time display to show the timecode embedded in the file during playback. The BBWR will also display the incoming timecode on the main display when in Record or Stop. It will show “--:--:--” when no timecode is present

Adjusting the real-time clock

The real-time clock is used to create folders on the drive with a logical name so that you can find your recording again later. It’s also used to timestamp your recordings when no other reference (such as Linear Time Code) is available, so it’s a good idea to make sure that the clock is set correctly.

Select **Date/Time** from the **Setup** menu. Select which field you want to adjust. Press MENU to edit the field with the data wheel and then Menu again to confirm and the BBWR moves onto the next field automatically. Press BACK when finished.



TAKE or SONG

The BBWR unit can be used in both Film and TV environments and concert and other recordings. The **Use the Term: TAKE** or **SONG** option allows the user to switch the nomenclature used in the user interface. It has no effect on the files created.

Reset

Resets the BlueBox back to its factory state – useful if you’ve forgotten what parameters you’ve changed.

Monitor...

Solo in: mono or stereo.

Hi-res metering turns the row of Record Enable LEDs into a high resolution level meter showing what signal level is on the PFL bus.

Monitor Mix and **Monitor Pan** allow the adjustment of level and pan for each channel feeding the headphone **Mix**.

Route Mix to: This setting allows you to route the mix to a pair of channels if you wish to record a monitor mix to give to someone immediately after the recording. The default is to send the monitor mix to the headphone outputs only.

BACK: Toggles level/select controls the way that the PFL monitor operates. (See page 21)

Name Manage...

The Name Manager menu allows you to set up the optional naming conventions that you want to use. Naming takes and tracks is not mandatory but it can help a lot during the post production process. It is possible to name Takes and tracks using the menu buttons and data wheel, but you’ll find it much quicker using a standard 102 key PS2 keyboard. The “^” character in the following list indicates a keyboard “hotkey”. Holding the Ctrl key on a keyboard whilst pressing the following letter will allow you to change that field. Most hotkeys can be used during a Recording.

Next (^p): will prename the next Take that you record

Reuse next takename will use the same take name for each subsequent recording

Folder (^f): Displays the current folder’s name and allows you to rename it. Note though that the BlueBox will always record into a folder named with today’s date so



if you rename today's folder before you've finished recording all subsequent recordings will be made into a new folder.

Take (^s): This displays and allows you to name the current take.

Use track names on rec enables the template function so that each track name will be taken from the template.

Track Name Template... loads the template menu.

Clear template removes all the template names.

Copy names from take copies any track names in the current take into the template.

Track 1...Track 24. These are the template names for each track.

Track Names in Take... this allows you to modify the track names for the current take without affecting the template.

edit also updates template ... When ticked, using ^t on a QWERTY keyboard will update both the current take and the template.

Disk Manage...

This allows you to set up certain parameters regarding how you use the disk. It also allows you to format a USB2 disk drive for use with the BlueBox Recorder and with any Mac or PC based workstation.

Maximum File Size:

Certain popular Digital Audio Workstations are a little fussy about playing back very long files. For this reason the BBWR can automatically split very long recordings into files whose maximum length is 1GByte, 2GByte or 4GByte. Check with the post production facility that's most likely to be using the files you record, to find out what their equipment is capable of accepting. If you don't know, the 2G file size is the best compromise.

Disk Partitions / Volume:

Very large disks are sometimes "partitioned" into multiple drives or "volumes". If you were to plug a partitioned drive into Windows, for example, it would look as though you had plugged in two or more drives at the same time and might appear within Windows Explorer as drive E:, drive F: and drive G:. This part of the BBWR interface allows you to select which partition to use.



Format...

This option allows you to format a USB2 drive, ready for use with the BlueBox Recorder, which will also be compatible with any Mac or PC based Digital Audio Workstation. When you enter this part of the menu, you will first have to **Select** the partition that you want to format: The BBWR defaults to partition “none” as a safety measure to prevent accidental formatting of a drive.

Having selected the partition, the BBWR displays the current status of that partition. You can then move onto Format Partition to actually format the drive. Again, there are warning messages to try and prevent accidents.

The final option in this menu allows you to partition the drive into one or more usable partitions. This subject is covered in much greater detail in the FAQ section of the JoeCo website www.joeco.co.uk/main/faqs

Write Protect Disk. This setting will prevent the BBWR from writing anything to the disk. However, it will NOT prevent any other operating system from writing to the disk.

Software updates

It should be noted that JoeCo may release software upgrades from time to time, either to add features or to cure bugs that have been found in the software – though we have endeavoured to remove all that we’ve found.

Therefore, this document may be superseded in the future as other items are added to the menu structure. We will note any significant changes in the on-line version of the User Manual which will be found in the download area of JoeCo website www.joeco.co.uk and Log In

The software version currently installed into the BBWR is displayed on the LCD display during the boot procedure and can also be seen in the “About” Menu. (N.B. In the event of reporting any suspected problems you will need to give the whole system serial number and the entire 2nd line of the About Menu as this contains both software and hardware version information.)

To load a new software update into the BBWR:

Note your current version and ensure that you have a copy in case the update process fails for any reason. It is never a good idea to upload a new piece of software immediately before an important recording – please give yourself enough time to



fully test that the software works to your satisfaction before you need to use it in anger.

Ensure that you have a stable source of power during the update process – we have endeavoured to make the update process safe if the power fails during an update, but there is always the possibility that something could go wrong, requiring a return to the factory for a chargeable repair.

Download the new update file from the JoeCo website directly into the root folder of a USB2 hard drive or a FAT32 formatted memory stick (note small memory sticks or Pen drives are often formatted with FAT16 which will not work).

In the Update menu, set the BBWR to “**Permit: updates only**” and then plug the drive (or memory stick) into the USB2 socket.

The BBWR will notice the presence of the update file and ask you whether you want to upload it. Select “Yes” by pressing the MENU button or “No” by pressing the BACK button.

Having uploaded the new file the BBWR will automatically reboot into the new software version. Connect your main disk drive and you’re ready to use the new software.

The BBWR can be set back to “No updates” in the update menu after you’ve loaded the new software to avoid checking for updates on future boot ups.

The other **Permit** setting in the update menu allows you reload an old version of the software just in case you need to downgrade back to a previous version whose features you’re already familiar with.

It is also possible to upgrade the firmware on the MicPre Input card. More details of this firmware upgrade option will be provided if required.

Manage Updates

This option should only be used with great caution and is not for the faint hearted. It allows you to completely remove a field update that you have already installed, reverting to the original factory version, or to replace the original factory version with a field update. The only reason for replacing the original factory version with a field update is to speed up the boot time – typically a field update will add about 10 seconds to the boot time of a BBWR which still makes it about 10 times faster to boot than a normal computer.



IF ANYTHING GOES WRONG OR THE POWER FAILS DURING THIS PROCESS YOUR BBWR WILL HAVE TO BE RETURNED TO THE FACTORY TO BE RECONFIGURED AT YOUR COST – REPAIRING UNITS THAT HAVE FAILED DURING THIS PROCESS IS SPECIFICALLY EXCLUDED FROM ANY WARRANTY.

Licence...

This allows you to license certain chargeable options, more details of which are available on the JoeCo website. You will need to advise JoeCo of the **machine key** along with your payment details before JoeCo can enable any optional software. You will then receive a non-transferable enabling code for your BlueBox which can be entered into the unit using the **Enter key:** dialog

After the code is entered you will receive a message on screen affirming that the code was correct and the relevant menu items will appear.

Linking multiple BlueBox Recorders together

It is possible to link multiple BlueBox Recorders together to make recordings with more than 24 channels or to make redundant copies by duplication. Typically up to four units can be linked in this way to create a maximum 96 channel / 96 kHz recording. Each BlueBox Recorder will still require its own USB2 disk drive as only 24 channels of data will be recorded to each drive. This will also provide benefits in post production as many popular DAWs will only play back a limited number of tracks from each external drive. [You can also use multiple systems chained together when using them to record onto a Workstation increasing the amount of available recording input channels in your DAW. To do this on a MAC, it is necessary to set the linked systems up as an aggregate device. To set two or more systems up as an aggregate device, go into the Utilities menu -Audio Midi Setup- select both systems and combine as an aggregate device. The aggregate device will then be available for selection in your chosen DAW.](#)

As stated earlier in this manual, ensuring that the units are synchronised, with both the clocking and starting sample of each recording being locked together, is vital for being able to replay the material later in a DAW environment.

The BBWR achieves this link using the “**Ext Clk**” RCA sockets on the rear panel. The Master unit will output a sample clock signal to the other units embedding the



control data and timecode into the sub-code of the SPDIF data stream. This clock signal is intentionally silent with no audio data present to ensure that there is a clean feed of clock signals between the units. The Slave units can either be daisy chained together from the Master unit, or (preferably) be fed their clocking and control signals from a distribution amplifier. You will need short RCA (phono) jumper cables to connect each subsequent unit.

Using an AES/EBU Distribution Amplifier (recommended)

Master Ext Clk Out	feeds	Distribution Amplifier input
Distribution Amplifier	feeds	Ext Clk In on all slave units

Daisy Chaining Units

Master Ext Clk Out	feeds	Slave1 Ext Clk In
Slave1 Ext Clk Out	feeds	Slave2 Ext Clk In
Slave2 Ext Clk Out	feeds	Slave3 Ext Clk In
Slave3 Ext Clk Out	not used.	

In the SETUP | CONTROL menu, select **Link Mode**. Select **Master** for the recorder you want to act as the master controller (which will always record channels 1-24). The Slave units can be set to **Slave 1-24** (creating duplicate tracks to those on the master recorder – though you will obviously have to feed this unit the same audio signals as the master recorder or you'll be recording silence!), **Slave 25-48**, **Slave 49-72**, and **Slave 73-96**. The Slave machines will use the respective numbers (1-24, 25-48, etc.) to name the tracks that they record and will also use any remote Track Arming data from a 9-pin or MIDI controller. If you name a take on the Master unit, the Slave units will rename the tracks on their local disk drives. The slave units automatically take their clocking and control signals from the link connection and will lock out the transport controls on all but the master unit.

It is still possible to lock the Master unit to an external clock source, if required, by plugging an external AES Clock into the **Ext Clk In** of the Master unit or, on digital units, clocking all the systems to external word clock. However, do not wire the clock output from Slave 3 back into the Master unit as this will create a feedback loop which may cause the clocking to become unstable. (The link signal between Master and Slave units is proprietary and does not conform to the SPDIF protocol)

You then operate the Transport Controls of all the linked BBWRs from the Master unit. Please note though that the headphone monitoring for each unit will still appear



only on the unit that is recording those signals, so you will have to either use multiple headphones or swap them from one unit to the next if you need to monitor the higher numbered channels on the Slave systems.

Master/Slave Recording

Any slave units will go into record as soon as their respective disk is ready, so they may not start together and their time displays may not appear to be perfectly in sync. However, all the files recorded will have an accurate time-stamp and so will be in sync when imported and “spotted” to timecode into a DAW. Pressing the REC button again will start a new take across all units simultaneously.

Master/Slave Playback

In order to play back synchronously, each machine must have its preroll set to ensure that the disk files can all be ready when they start. The default time will normally be ok but this can be adjusted in the Control section of the Menu (see page 27). The tracks from each unit may not necessarily start simultaneously but they will be in sync when their audio starts.

If you are using multiple BBWRs for Virtual Sound Checking you will want to set Playback Lockout on the Slave units to Manual.

Using a PS2 keyboard

The BlueBox Recorder can accept a standard 102 key PS2 style keyboard. Most mini keyboards are not currently supported, especially those that require some set up drivers to be installed on the PC. The most consistently reliable keyboards we have found are the Microsoft 500 style PS2 keyboards which can be obtained in most countries for around US\$10 (£6). Some USB keyboards will work with USB to PS2 converters but not all.

In the following section the ^ character is used to indicate holding the Ctrl key down whilst pressing the key i.e. ^s = Ctrl-s

Keyboard transport controls

These are the numeric keypad keys (not the character keys)

Enter	PLAY
Del/.	STOP
Ins/0	STOP AND RETURN TO ZERO
*	RECORD



+	MOVE TO NEXT CUE POINT
-	MOVE TO PREVIOUS CUE POINT

Direct edit from keyboard (various keys combined with ctrl key)

When not editing we implement various control keys to enter text edit directly (without using menus).

^S	edit current take name
^nnT	edit track name for track “nn”
^P	rename the next take before recording it
^F	rename current folder

Keyboard controls during text edit

^C	cut
^A	select all
^V	paste
L arrow ← / Right arrow →	move cursor left or right along line of text
Up arrow ↑ / down arrow ↓	in single line edits where there is a natural previous/next number(e.g. track, ixml note), accept current item edit and move to previous/next
Return / Enter↵	complete and accept edit
Esc	abandon edit, no change to text
NB. the return / Enter↵ key is the character key not the keypad enter; the ←→↑↓cursor arrow keys are the dedicated cursor keys, not the keypad keys	

Keyboard navigation

These are the cursor keys (not keypad)

Right arrow → or Enter↵	same effect as pressing MENU
Left arrow ← or Esc	same effect as pressing BACK
If menu is open but no field selected	
Down arrow	move to next item in list (like clockwise wheel turn)
Up arrow	move to previous item in list (like anticlockwise wheel turn)
If menu is open and field is selected	
Down arrow	increment option (like clockwise wheel turn)
Up arrow	decrement option (like anticlockwise wheel turn)

Troubleshooting

We are confident that the BlueBox Recorder will give you long and reliable performance but in case you have difficulties, here are a few things to try before you call your dealer or distributor.

Problem	Things to try
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Problem	Things to try
No lights on BBWR unit	<ul style="list-style-type: none"> • Check that the power supply is getting mains power and that the correct power supply is plugged correctly into the BBWR • If you have access to a volt meter, check that the power supply is producing at least 9V.
No display on LCD screen	<ul style="list-style-type: none"> • Check power supply as above • Reboot (turn power off, wait 10 seconds and turn power back on again)
BBWR not responding to controls	<ul style="list-style-type: none"> • Check if disk activity light is operating continuously for more than a few seconds. This may indicate a disk problem. Try power cycling BBWR and Disk drive. Check disk for errors as soon as possible on a PC or Mac
BBWR boots ok but does not log / find disk	<ul style="list-style-type: none"> • Check that the USB connector is plugged in correctly to both the BBWR and the disk drive • Check disk drive power supply as above • Try a different USB2 lead / disk • Try powering up the BBWR without a drive attached and then plugging the drive in afterwards • Check that the disk drive is formatted with a FAT32 filing system and the BBWR is not displaying WRONG DISK FORMAT
BBWR will not enter RECORD	<ul style="list-style-type: none"> • Is the disk full? Check the time remaining display
BBWR will not enter PLAY	<ul style="list-style-type: none"> • Check if the BBWR is set to PLAYBACK LOCKOUT? • Do you have a take selected? • Maybe there is nothing recorded as yet on this disk or in the current folder?
BBWR sounds ok but no movement on meters	<ul style="list-style-type: none"> • Check that channels are record enabled • Check that levels from console are reasonably high (> -40dBu) • Check that BBWR is turned on – the Relays normally route the input directly to the output if the power is off to give you protection against power failures
Some channels not audible	<ul style="list-style-type: none"> • Check the cable looms feeding into the BBWR • Check TRS jacks in console insert points • Check loop through TRS jacks on BBWR



Problem	Things to try
Sound through BBWR distorted	<ul style="list-style-type: none"> • Check the TRS jacks are plugged into the insert points on console correctly and that the D-types are secured into the BBWR • Check that no-one has damaged the cable looms • Try swapping cable looms to see if distortion follows the cable, stays with the mixer channel or stays with the channel of the BBWR
BBWR sounds ok during record but is distorted in playback	<ul style="list-style-type: none"> • Try turning off the Relays in the setup section and see if the recorded sound is now distorted • Try another recording from a previous concert and see if this is also distorted
Cannot locate previous night's recording	<ul style="list-style-type: none"> • Are you using a different disk drive from last night? • Are you looking in the right folder? • Can you check the drive in a normal laptop to locate the previous night's folder?
Power removed before BBWR has finished writing to disk	<ul style="list-style-type: none"> • It is often possible to recover files even when the BBWR has been powered down whilst still writing to its disk. (See Safe'n'Sound Recovery page 39)

If the above list does not solve the problem you are having, please contact your dealer in the first instance and then your local distributor to help you resolve the issues.

Safe'n'Sound Record Recovery

The BlueBox Recorder software includes the **Safe'n'Sound Record Recovery** feature. This software feature endeavours to protect your recording against every eventuality such that even if the drive is unplugged, or the power is removed from the drive or the BlueBox during a recording, Safe'n'Sound will try and recover the files as soon as the drive is plugged back into a BlueBox Recorder.

Whenever a disk drive is plugged into the BlueBox Recorder, the disk's filing structure is checked and if any audio files are found to not have been closed properly, Safe'n'Sound tries to repair them automatically, leaving all the files accessible by normal workstations.

A note on Spotlight: It is worth noting that some indexing programs on standard computers, particularly **Spotlight** on Mac OS, rewrite the File Allocation Table to make the disk easier for a Mac to index. If you think that there might be a problem with the disk, give the BlueBox a chance to repair the files **BEFORE** Spotlight destroys



them. Alternatively, disable Spotlight completely on the Mac before plugging the drive in.

Whilst Safe'n'Sound cannot protect against a physical hard drive failure (which are very rare nowadays), it helps protect against human error or power failure.

As a background task the BBWR scans the disk to calculate the remaining disk space and to find where the first free space is located on the disk. When it has found this information and correctly updated the drive, it places a tick or check mark (✓) beside the remaining disk time.

Summary Of Alert Messages

"Hold STOP button to stop";	displayed when STOP is pressed
"PLAYBACK LOCKED OUT";	can be displayed if PLAY is pressed and PLAYBACK LOCKOUT is on
"CONNECT VALID DISK";	displayed if PLAY or RECORD is pressed but disk is not connected
"DISK BUSY";	displayed if PLAY or RECORD is pressed but disk is busy (reserved, e.g. for take selection)
"DISK TOO SLOW";	displayed if requests to the DISK have not been serviced in time.
"NEW TAKE"	displayed if the user presses RECORD during record to start a new take
"NO TAKE SELECTED";	displayed if someone presses PLAY but no take is selected
"SELECT VALID DISK";	displayed if PLAY or RECORD is pressed but the disk is not valid
"DISK FULL";	displayed if PLAY or RECORD is pressed but the disk is full
"CHECK/SELECT DISK";	displayed if PLAY or RECORD is pressed but the disk returns an error
"GENERAL ERROR";	displayed if there is an internal error, e.g. out of memory
"BAD TAKE FILE";	displayed if PLAY or RECORD is pressed on a corrupted take file
"CAN'T FIND TAKE";	displayed if PLAY or RECORD is pressed when the selected take is not available



"CAN'T FIND FOLDER";	displayed if PLAY or RECORD is pressed when the selected folder is not available
"LOOP TOO SHORT";	displayed if LOOP is pressed and the loop length is too short
"CHECK MASTER SIGNAL";	displayed if Slave is not receiving clock and control from Master
"REMOTE CONTROLLED";	displayed when in remote control or slave mode, and a disabled operation is attempted
"PLAY OUT OF RANGE";	when in remote control or slave mode, PLAYBACK is attempted outside the timecode limits of the selected Take
"DIGITAL INPUT MISSING"	A source of digital audio is not correctly plugged in
"DIGITAL SLIP"	A source of digital audio is not properly synchronised with the BlueBox and is slipping with respect to the chosen clock source
"REF CLOCK MISSING"	The external reference clock is not providing a valid clock signal



JoeCo Conditions of Use

IMPORTANT: BY USING THIS PRODUCT YOU ACKNOWLEDGE THAT YOU HAVE READ, UNDERSTOOD AND AGREE TO BE BOUND BY THESE CONDITIONS OF USE AND THE TERMS OF THE JOECO SOFTWARE LICENCE AGREEMENT. JOECO'S SOFTWARE LICENCE AGREEMENT IS SET OUT IN THE USER MANUAL AND MAY ALSO BE FOUND ON THE JOECO WEBSITE AT WWW.JOECO.CO.UK

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IF YOU DO NOT AGREE WITH THESE CONDITIONS, YOU MAY RETURN THIS PRODUCT WITHIN SEVEN DAYS OF THE DATE YOU RECEIVED IT TO THE AUTHORISED DISTRIBUTOR OR RESELLER WHERE YOU PURCHASED IT FOR A REFUND, SUBJECT TO JOECO'S PRODUCT RETURNS POLICY. JOECO'S PRODUCT RETURNS POLICY IS SET OUT IN THE PRODUCT USER MANUAL AND MAY ALSO BE FOUND ON THE JOECO WEBSITE AT www.joeco.co.uk

1. Definitions

JoeCo:	JoeCo Limited
Product:	any product designed, manufactured, distributed or resold by JoeCo including the BlueBox Recorder (which may be aBBWRevited to "BBWR"). The term "product" includes both the hardware and its associated software, as defined below.
Legitimate User:	<p>a legitimate user (hereinafter referred to as a "User") is a person, or corporate entity or employee of a corporate entity who is:</p> <ul style="list-style-type: none">- the owner of a Product (following its original purchase from JoeCo, or an authorised JoeCo distributor or reseller, or its subsequent purchase from a legitimate owner) and has accepted the terms of this agreement- using a Product on loan from its owner, where the owner has given their express permission and ensured that the user does so only on condition that they first accept the terms of this agreement- using a Product under a rental agreement with its owner, where the owner has ensured that the user does so only on condition that they first accept the terms of this agreement- using a Product under a temporary evaluation arrangement with its owner (which may be JoeCo or one of its authorised distributors or resellers), for a period determined by the owner, where the owner has ensured that the user does so only on condition that they first accept the terms of this agreement
Hardware:	the tangible elements of the Product
Software:	the operating software of the Product (whether in read only memory, on any other media or in any other form) supplied by JoeCo whether installed at the factory or subsequently upgraded by yourself, an authorised JoeCo distributor or reseller, or any other individual or organisation. It includes remote control software, documentation, data and any other software, including software updates, supplied by JoeCo.

2. Risk and Limitations of Product Use

You, the User, expressly acknowledge and agree that:

- To the maximum extent permitted by applicable law, use of the JoeCo Software is at your sole risk and that



the entire risk as to satisfactory quality, performance and accuracy is with you.

- You have evaluated the Product and accepted the suitability for your application.
- JoeCo Products are not designed, intended or suitable for use in any life-critical applications or situations or environments where the failure or time delays of, or errors or inaccuracies in, the content, data or information provided by the JoeCo Product could lead to death, personal injury, or severe physical or environmental damage. Any such use is entirely at the risk of the User and JoeCo and its authorised distributors and resellers have no responsibility or liability whatsoever for any claim arising from such use.
- JoeCo recorder Products are designed to enable you to record and reproduce material to which you own the copyright, or material which the copyright owner has granted you permission to record and/or reproduce.
- It is illegal to record, reproduce, distribute, sell, hire, lend, perform or broadcast all or part of a work (written or musical composition, broadcast, performance or similar) whose copyright is held by a third party without permission of that third party.
- JoeCo Products must not be used for purposes that could infringe a copyright held by a third party or could, in any other way, be illegal. Any such use is entirely at the risk of the User and JoeCo and its authorised distributors and resellers have no responsibility or liability whatsoever for any claim arising from such use.

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Except for JoeCo's limited Hardware Warranty (see Warranty Information in the relevant JoeCo User Manual or via the JoeCo website at www.joeco.co.uk), to the maximum extent permitted by applicable law, JoeCo hereby disclaims all warranties and conditions with respect to the Product and any services performed by use of the Product, either express, implied or statutory, including, but not limited to, the implied warranties and/or conditions of merchantability, satisfactory quality, fitness for a particular purpose, accuracy, non-infringement of third party rights or other implied warranties or conditions.

No oral or written information or advice given by JoeCo or by an authorised JoeCo distributor, reseller or representative shall create a warranty of any kind.

In no event will JoeCo be liable for incidental, consequential, special, indirect or other damages or claims, even if its agents have been advised of the possibility of such damages, resulting from the breach of any express or implied warranty. Such damages may include but are not limited to the following:

- any loss of profit or any other commercial damage
- partial or total loss of data incurred whilst using the Product
- the cost of recovery of lost data
- inability to use or to continue to use the Product itself or any connected device
- damage to property
- damage based on inconvenience, loss of time or interrupted operation

and, to the extent permitted by law, damages for personal injury.

In no event will JoeCo's liability for any damages to the User, purchaser or any other person exceed the price paid for the Product, regardless of any form of the claim.

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Software Licence Agreement

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Hardware:	The tangible elements of the Product



Software: The operating software of the Product (whether in read only memory, on any other media or in any other form) supplied by JoeCo whether installed at the factory or subsequently upgraded by yourself, an authorised JoeCo distributor or reseller, or any other individual or organisation. It includes remote control software, documentation, data and any other software, including software updates, supplied by JoeCo.

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- you have evaluated the Software together with the hardware and accepted its suitability for your



application

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Users of JoeCo products who upgrade to this Software from a previous version should note that JoeCo has no requirement to supply free of charge upgrades but does so in the interest of adding additional functionality and improvements for the benefit of its customers. In the event that a change of functionality is made that is not of benefit to you, your sole recourse is to revert to a previous version of the Software as already properly used under licence and accepted for use by you.

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- any loss of profit or any other commercial damage
- partial or total loss of data incurred whilst using the Product
- the cost of recovery of lost data
- inability to use or to continue to use the Product itself or any connected device
- damage to property
- damage based on inconvenience, loss of time or interrupted operation

and, to the extent permitted by law, damages for personal injury.

In no event will JoeCo's liability for any damages to the User, purchaser or any other person exceed the price paid for the Product, regardless of any form of the claim.

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6. Termination of Licence

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7. Force Majeure

JoeCo will not be liable or responsible for any failure to perform, or delay in performance of, any of its obligations under this Licence that are caused by an event outside of its reasonable control.

8. Waiver

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No waiver by JoeCo of any of the terms of this Licence shall be effective unless it is expressly stated to be a waiver and is communicated to you in writing.



9. Severability

If any provision of this Licence is found void, invalid or unenforceable, it will not affect the validity of the balance of the Licence, which shall remain valid and enforceable according to its terms. In the event any remedy hereunder is determined to have failed of its essential purpose, all limitations of liability and exclusion of damages set forth herein shall remain in full force and effect.

10. Entire Agreement

This Licence constitutes the entire agreement between you, the User, and JoeCo relating to the Software and supersedes all prior written agreements and verbal or written undertakings. JoeCo will not be bound by any modification or amendment of this Licence unless it is in writing and signed by JoeCo.

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11. Governing Law

This Licence shall be construed, interpreted, and governed by the laws of England. This Licence shall not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application of which is hereby expressly excluded.

12. JoeCoControl for MAC OSX

This product, JoeCoControl for Mac OSX (JCC), is bundled with and makes use of the "libusb" library distributed under the GNU Lesser General Public License (LGPL). This library is unmodified and in the public domain. Source code can be obtained at e.g. <http://libusb.info/>. A copy of the LGPL licence can be obtained from the Free Software Foundation Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA. All other parts of the JCC product are copyright JoeCo Ltd and Sintefex Audio Lda available under our usual licence terms, which you can find at <http://joeco.co.uk/>.

Warranty Information

1. Warranty

Except as specified below, JoeCo Limited (hereinafter referred to as JoeCo) warrants the hardware elements of this JoeCo Product (hereinafter referred to as the 'Hardware') to be free of defects in materials and workmanship for a period of one (1) year for parts and labour from date of original retail purchase, provided that:

- the Product is owned by the original purchaser
- the purchaser has proof of purchase from an authorised JoeCo distributor or reseller
- the purchaser has registered the Product with JoeCo

The following are not covered by the Warranty, damage:

- resulting from abnormal use, misuse, abuse, neglect or accident
- sustained as a result of failure to follow instructions provided in the user manual
- which occurs during shipping, in which case claims must be presented to the carrier
- resulting from attempted repair by anyone other than JoeCo or a JoeCo distributor, reseller or service provider specifically authorised by JoeCo to service JoeCo's Products
- to any Product which has been modified or on which the Product identification details have been altered or removed.



This Warranty:

- gives you specific legal rights, and you may also have other rights in certain countries or states
- provides that, during the Warranty period, JoeCo will, at its sole option, either replace, repair or refund the purchase price of any JoeCo Product that proves to be defective in materials or workmanship on inspection by JoeCo or one of its authorised service providers
- excludes power supplies and cables
- includes labour and materials (except power supplies and cables) but excludes shipping to and from JoeCo or one of its authorised service providers, minimal handling charges and insurance
- is only valid within the country in which the Product was originally purchased
- can only be exercised by the original retail purchaser and cannot be assigned or transferred
- starts from the date of delivery from the JoeCo distributor or reseller to the purchaser
- is extended to the minimum level required by law in those countries or states in which such extension is required by legislation
- applies to a repaired or replacement Product until the end of the period of the original Warranty or thirty days from the date of dispatch of the repaired or replaced Product, whichever is the longer.

2. Claims Under Warranty

To make a claim under Warranty, the purchaser must first call, email or write to JoeCo (see the JoeCo website at www.joeco.co.uk for contact details) to provide a description of the problem and to obtain a Returned Materials Authorisation (RMA) number. If it is determined that the Hardware may be defective, you will be given an RMA number and instructions for returning the Product.

Any Product which is returned to JoeCo or to one of its distributors or resellers without authorisation, i.e. one for which an RMA number has not been issued by JoeCo, will be returned to the purchaser at the purchaser's expense.

After the RMA number is obtained, the Product (including the power supply) should be shipped to the address given by JoeCo in protective packaging (the original packaging if possible) with a description of the problem and proof of Warranty coverage. The RMA number should be clearly written on the package.

Proof of Warranty coverage must be presented in the form of the original dated sales receipt or other positive proof that the Product is within the Warranty period.

When returning goods under Warranty, the purchaser is responsible for shipment and for the risk of loss or damage during shipment. JoeCo therefore recommends that such shipments are fully insured and sent by Registered Post, Recorded Delivery, or via a courier to guarantee receipt.

In the event that JoeCo determines that the Product requires repair because of abnormal use, misuse, abuse, neglect or accident, it will assess a fair repair or replacement fee. The purchaser will have the option (exercisable within thirty days of notification by JoeCo) to pay this fee and have the Product repaired and returned, or not pay this fee and have the Product returned un-repaired at their expense. Thereafter JoeCo reserves the right to dispose of such un-repaired product without further notification.

JoeCo reserves the right to update any Product returned under Warranty.

3. Limitations of Liability

JoeCo specifically disclaims all other warranties. The Warranty contained herein supersedes any other warranties or representations whether express or implied or otherwise, with respect to the Product, and specifically excludes any implied warranties and/or conditions of merchantability, satisfactory quality, fitness for a particular purpose, accuracy, non-infringement of third party rights or other implied warranties or conditions.

The remedy for breach of this limited Warranty shall not include any other damages. In no event will JoeCo be liable for incidental, consequential, special, indirect or other damages or claims, even if its agents have been advised of the possibility of such damages, resulting from the breach of any express or implied warranty. Such damages may include but are not limited to the following:

- any loss of profit or any other commercial damage
- partial or total loss of data incurred whilst using the Product
- the cost of recovery of lost data
- inability to use or to continue to use the Product itself or any connected device



- damage to property
- damage based on inconvenience, loss of time or interrupted operation

and, to the extent permitted by law, damages for personal injury.

In no event will JoeCo's liability for any damages to the purchaser or any other person exceed the price paid for the Product, regardless of any form of the claim.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so some of the above limitations or exclusions may not apply to you.

4. Product Changes and Improvements

JoeCo reserves the right to change or improve the design of its products at any time without prior notice.

5. Force Majeure

JoeCo will not be liable or responsible for any failure to perform, or delay in performance of, any of its obligations under this Warranty that are caused by an event outside of its reasonable control.

6. Waiver

If JoeCo fails, at any time during the term of this Warranty, to insist upon strict performance of any of your obligations under this Warranty, or if it fails to exercise any of the rights or remedies to which it is entitled under this Warranty, this shall not constitute a waiver of such rights or remedies and shall not relieve you from compliance with such obligations.

A waiver by JoeCo of any default shall not constitute a waiver of any subsequent default.

No waiver by JoeCo of any of the terms of this Warranty shall be effective unless it is expressly stated to be a waiver and is communicated to you in writing.

7. Severability

If any provision of this Warranty is found void, invalid or unenforceable, it will not affect the validity of the balance of the Warranty, which shall remain valid and enforceable according to its terms. In the event any remedy hereunder is determined to have failed of its essential purpose, all limitations of liability and exclusion of damages set forth herein shall remain in full force and effect.

8. Entire Warranty

This Warranty constitutes the entire warranty provided to you by JoeCo and supersedes all prior written agreements and all representations, undertakings and promises given or implied by anything said or written by JoeCo or by an authorised JoeCo distributor, reseller or representative. JoeCo will not be bound by any modification or amendment of this Warranty unless it is in writing and signed by JoeCo.

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9. Jurisdiction

This Warranty shall be construed, interpreted, and governed by the laws of England. This Warranty shall not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application of which is hereby expressly excluded.



Product Returns

To return any JoeCo Product, the purchaser must first call, email or write to JoeCo (see the JoeCo website at www.joeco.co.uk for contact details) to obtain JoeCo's agreement to the return and a Returned Materials Authorisation (RMA) number. JoeCo will issue an RMA and instructions for returning the Product if it agrees that:

- the Product can be returned,
- an incorrect Product has been delivered,
- the Product is faulty and covered by warranty (see Warranty Information), or
- the Product is capable of being repaired if outside warranty

Please note that any Product returned due to incorrect delivery must be in a resalable condition to receive a credit note.

Any Product which is returned to JoeCo or to one of its distributors or resellers without authorisation, i.e. one for which an RMA number has not been issued by JoeCo, will be returned to the purchaser at the purchaser's expense.

After the RMA number is obtained, the Product should be shipped to the address provided by JoeCo in protective packaging (the original packaging if possible) with a note giving the reason for the return. The RMA number should be clearly written on the package.

When returning goods, the purchaser is responsible for shipment and for the risk of loss or damage during shipment. JoeCo therefore recommends that such shipments are fully insured and sent by Registered Post, Recorded Delivery, or via a courier to guarantee receipt.

Where a Product is returned for repair outside warranty, JoeCo will inspect the Product and provide the purchaser with an estimated fee for repair. The purchaser will have the option (exercisable within thirty days of notification by JoeCo) to pay this fee and have the Product repaired and returned, or not pay this fee and have the Product returned un-repaired at their expense. Thereafter JoeCo reserves the right to dispose of such un-repaired product without further notification.

JoeCo reserves the right to update any Product returned for repair.

Product and End User Registration

It is highly recommended that you register yourself as an End User of the BlueBox Recorder product on the JoeCo website at your earliest opportunity. This completes your warranty registration, allows you access to software updates which JoeCo may release from time to time and a lot of additional information.

To register as an End User please go to the JoeCo website www.joeco.co.uk and select the **Log In** button to the right-hand side of the blue menu bar. Once in the Log In area, select the New Registration Link and fill out your details. It is important to fill out all your details including the full model and serial number of your BlueBox Recorder or your registration will not be accepted.

Once your registration has been submitted it will be forwarded to JoeCo personnel who will need to approve your application before issuing you with a password.

JoeCo can only provide support for the current release of software. It is therefore imperative that you download and use the latest software release

We hope you enjoy using your BlueBox Recorder – we certainly have enjoyed designing it!