BLACKBOX **PLAYER**

User Manual

V 3.1 rev 2

Date: June 2014

Congratulations on your purchase of the JoeCo BlackBox Player. This document will lead you through the basics of how to set up and use the product. The BlackBox Player has been designed to be as simple as possible to set up and operate but there are some relatively detailed concepts that have to be understood to enable you to have a successful event. 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 covers all variants of the BlackBox Player: BBP1U; BBP1B; BBP1D; BBP1A; BBP64MADI and BBP64Dante.

Also remember that the BlackBox Player functionality can be temporarily turned off leaving you with a fully functional BlackBox Recorder.

Contents

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.

Copyright Warning

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Opening the Box

Box Contents

Inside the box you will find the following:

- BlackBox Player
- Power Supply
- User Manual
- Quick Start Guide

The BlackBox Player has been designed specifically for Live applications and will not necessarily be appropriate for use in other situations.

It will typically be used to replay from an external USB2 drive multi-channel audio material that has been created or edited using a DAW. In this way it allows all replayed material to be properly mixed in with Live sound during a performance, or when used in a multi-speaker system setup.

A number of specific features have been added to make it suitable and safe in a Live environment including quick changes to the order of playback, set list changes, failover switching, etc.

Applications will include:

- Backing track replay for live solo artists

- Support material replay for live bands

- Multi-channel replay in theatres, museums, theme parks, galleries, cruise ships, conference centres, etc.

- Multiple surround sound delivery

- Synchronous multi-channel audio replay to video or for broadcast applications using timecode

Controls and Interfaces

Front Panel

The front panel of the BlackBox Player contains the 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. On 24 channel systems, each channel or Track has 3 rows of metering LEDs located above the Track Present LEDs. The meters are positioned above a two colour LED that indicates, when green, whether the particular track for the song being replayed (or preloaded and ready to replay) contains audio for playback. (In the BlackBox Recorder application this LED turns Red to indicate record ready.) on 64 channel systems, there are 64 two colour LEDs which indicate the same information alongside the two vertical meters which indicate the levels on the PFL bus. There are also indicators for Disk activity and Playback Lockout (which is only relevant to the BlackBox Recorder application).

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

Then we have 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.

Rear Panel of 24 channel BlackBox

The rear panel will look slightly different depending on which style of audio interface you have on your BlackBox Player. The areas indicated in the diagram below are explained in more detail later in this manual.
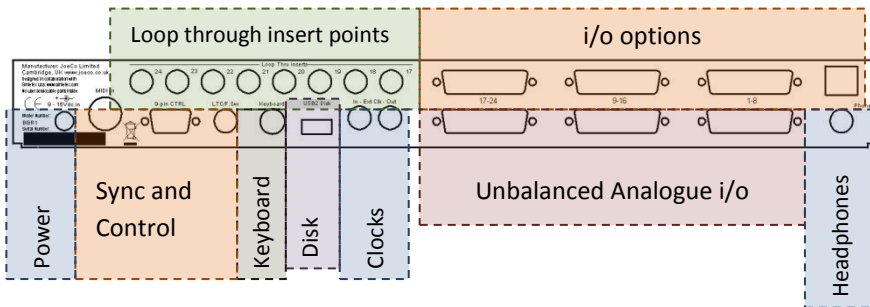
The lower 3 D-type connectors are the main Unbalanced Analogue i/o connectors on the BBP1U, BBP1A and BBP1D. The cable looms conform to the TASCAM standard for analogue i/o.

On the BBP1B with Balanced i/o, these lower 3 D-type connectors are the balanced inputs and the upper row are the balanced outputs. The BBP1B does not have the loop through inserts, as the output cables can be plugged into any external effects required before returning to the console.

On the BBP1A (Lightpipe i/o) version, the upper option area contains the Lightpipe i/o connections and the lower row of D-types are unbalanced analogue i/o.

On the BBP1D (AES/EBU i/o) version, the upper row of D-type connectors provide digital i/o (normally configured to the Yamaha standard pin out) and the lower row of D-types are unbalanced analogue i/o.

The rest of the rear panel is fairly self-explanatory, we hope, and is explained in greater detail later in this manual. There are more technical details on the JoeCo website (www.joeco.co.uk) should you require them. Please use the Log In button and register your interest to download more information.

Normal Operation

The most important information needed to use your BlackBox Player can be broken down into a few key points: the individual audio files; the playlist file; the control mechanism you want to use and how you want to wire it into the rest of your system. There are other settings that may be necessary to change, but fundamentally these points will get you most of the way to being able to use the system.

The Audio Files

The BlackBox Player uses standard mono Broadcast WAV files (sometimes called BWAV files). Most digital audio workstations (DAWs) can create these files simply and efficiently and there is not enough space in this manual to outline the operation of every workstation. Alternatively, these files can be created using the BlackBox Recorder itself. Once the files have been created and copied onto a suitable disk you should not have to revise them again.

Decisions to be made before you create your audio files:

What sample rate?	All files must be at the same sample rate:- 44.1kHz, 48kHz, 88.2kHz or 96kHz
What resolution?	24bit or 16bit
How many songs?	There is no practical limit apart from the size of your disk. A folder can only contain a maximum of 999 songs (though in practice you'd never want to get close to that number as the machine could become very slow).
How many tracks?	Each player can play up to either 24, or 64 tracks (depending on the hardware version), but multiple players can be used together to accommodate larger track counts

Which tracks have to come out of which outputs?	If there are multiple songs in the playlist you'll want to make sure that the bass guitar always appears on the same console channel in each song. Similarly, you'd want a "click track" to always appear on the same channel of the console so that it can be sent to the drummer's fold back mix. The same issue will affect permanent installations when feeding surround to multiple speaker systems.
How many playlists / set lists?	These files are tiny but it's wise to know before you start whether you'll need hundreds of different playlists.

Once you've decided on the above criteria, you can start to create the playback files you will require.

File and Folder Names

As a bare minimum, the BlackBox Player requires its audio files to be named as follows:

***nnn-tt*.wav**

Where ***nnn*** is the song number (between 001 and 999) and ***tt*** is the track number (between 01 and 24). The "**-**" (dash) and "**.*wav***" extension are also required and must not be omitted.

These parts of the file name are mandatory.

The Song Number tells the BlackBox Player which collection of files need to be loaded up and replayed together to form the song. The Track Number determines the output through which each file will be played.

The track number is not shown in the BBP's user interface screen. It is vital for these parts of the file name to be correctly filled in or the tracks will not play back.

There is no obligation to use consecutive numbers if you do not need a full 24/64 tracks of playback.

However, you will want to adopt a consistent scheme for track names especially as you will not want a kick drum in one song becoming violins in the next song. Nor would you want surround speaker left becoming the sub-woofer on the next song.

Optional Song and Track names

To avoid mixing up file names when you create the files in your DAW, you may find it useful to give each file a name that is easier for you to remember. For example

001-02.Herringbone Waltz-Kick.wav

is easier to recognise as being the Kick drum track for the song called Herringbone Waltz than merely

001-02.wav

To accommodate this it is possible to insert human readable names to the mandatory part of the file name in this way.

nnn-tt.Song Name-Track Name.wav

where "**Song Name**" is the name of the song and "**Track Name**" is the name of each track within that song. The separator "-" (dash) between the song name and track name is mandatory and you cannot use a dash anywhere else in the song or track name.

001-01.Herringbone Waltz-Bass.wav
001-02.Herringbone Waltz-Kick.wav
001-03.Herringbone Waltz-Snare.wav
001-04.Herringbone Waltz-HiHat.wav
...
001-23.Herringbone Waltz-Daf stringsL.wav
001-24.Herringbone Waltz-Daf stringsR.wav

The next Song might contain files named as follows:

> 002-01.Haddock Marsala Polka-Bass.wav
>
> 002-02.Haddock Marsala Polka-Kick.wav
>
> 002-03.Haddock Marsala Polka-Snare.wav
>
> 002-04.Haddock Marsala Polka-HiHat.wav
>
> ...
>
> 002-23.Haddock Marsala Polka-Daf stringsL.wav
>
> 002-24.Haddock Marsala Polka-Daf stringsR.wav

It is completely optional whether you give Songs and Tracks human readable names - the BBP does not require you to do it; it merely helps you to find the files later if you need to. The basic naming scheme and time stamping will keep the files well organised anyway.

Permissible Characters in File Names

Any of the following characters can be used in files names; Upper and lower case alphabet characters, numbers, and some extra characters including ' ' (space) as listed below

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

0123456789

$ % ' _ @ ~ ` (!) { } ^ ~ &

Remember that you should not use the dash "-" except as a separator between the song number –track number and song name – track name

Folder Names

The BlackBox Player insists that all audio files are stored in folders with an extension of ".bbr"

So for example, if your USB2 disk appeared on your computer as drive E:\

You could store all your broadcast wav files in a folder called:

> E:\Elvis.bbr

ENHANCING LIVE PERFORMANCE

Or

E:\Birmingham.bbr

The BlackBox Recorder software automatically creates and records its files into folders based on today's date so folder names such as:

E:\2011-04-23.bbr

are perfectly acceptable as well.

The audio files you will use to create the playlist do not all have to be in the same folder providing that all the tracks for each song are kept together.

The Playlist File

The playlist file is a simple text file written in an XML format and stored in the root folder of the USB drive.

The file should be called "playlist xxxxxxxxx.txt", where xxxxxxxxx can be any name you want. There is one special file called "playlist default.txt" which will load automatically on plugging the disk into the BlackBox Player. But you can always load a different playlist file from the menu.

So what is XML format? XML is a very simple type of computer code and is the basis of HTML which is at the heart of the World Wide Web. All statements in XML are enclosed in tags which are key words surrounded by triangular brackets. An opening tag looks like this <tag> and a closing tag looks like this </tag> (i.e. the same word preceded by a backslash "/") . In the BlackBox Player playlist file there are just a few tags as follows:

XML tag and examples	Explanation
<f>folder name</f> e.g. <f>2011-04-23</f>	this makes the folder with this name the current folder for replaying songs
<s>songnumber</s> or <s>songname</s> e.g. <s>001</s>	The song number or song name that you want to load next, ready for instant playback. Number takes precedence, names after numbers are ignored. Don't name songs with preceding digits e.g.

	"007 is dead.wav" will not work!
<c>comment</c>	Any comment that you want to add. Comments are ignored by the BlackBox Player and merely help you remember things about the playlist. Comments can straddle multiple lines and can be used to temporarily cut out other commands whilst debugging playlists.

An example playlist file – playlist example1.txt:

```
<c>Playlist example.txt</c>
<f>2010-09-06</f>
<s>002</s >
<c>load song 002 ready for playback and then play it when
triggered.
N.B. it is not necessary to use the full song name. By using the
song number, it is quicker to edit the order of play</c>
<s>021</s><c>note that songs can be in any order</c>
<s>001</s>
<c> temporarily cutting out the following two lines of the file
<s>007</s>
<s>004 I did it my way</s>
</c>
<s>009</s>
<c>another comment</c>
<s>011</s>
<s>008</s>
<c>N.B. Songs can be repeated in the same playlist</c>
<s>009</s>
<c>The end of this playlist file</c>
```

The following tags are optional and will normally only be relevant when syncing to a source of external timecode

XML tag and examples	Explanation
<tc>timecode override</tc> e.g. <tc>10:02:39.21</tc>	By default, the BlackBox Player will use the embedded timecode inside the Broadcast WAV file when triggering to timecode. This field, when placed after the song name, will substitute and override the timecode embedded in the file. The timecode format should be written **HH:MM:SS.FF** (hours:minutes:seconds.frames)
<tctrim>trim</tctrim> e.g. <tctrim>10:04:35.12</tctrim> or <tctrim>+00:00:03.23</tctrim>	This tag will trim or edit the start of a cue to remove unwanted audio material. Absolute time is referenced against the BWAV files' embedded timecode; Relative time (**+**) indicates how much time to trim off the start of the files (e.g. 3seconds 23frames).
<tcrate>timecode rate</tcrate> e.g. <tcrate>drop</tcrate>	This field will change the timecode rate setting in the BlackBox Player. It will only be relevant when the playlist calls for replay to be triggered by timecode. It can only appear once and must be called before any song is loaded. Valid entries for <tcrate> are: **30** (= 30fps) **drop** (=29.97fps drop frame) **29** (=29.97fps non drop) **25** (=25fps) **24** (=24fps) **23** (=24fps/1.001 i.e. 23.98fps)

XML tag and examples	Explanation
<srate>sample rate</srate> e.g. <srate>48000</srate>	This field will change the sample rate setting in the BlackBox Player. It can only appear once and must be called before any song is loaded. Valid entries for <srate> are: **44100** (=44.1kHz) **48000** (=48kHz) **88200** (=88.2kHz) **96000** (=96kHz)

An example playlist file - playlist example2.txt:

```
<c>Playlist example2.txt</c>
<srate>48000</srate>
<tcrate>drop</tcrate>
<f>2010-09-06</f>
<s>001</s><tc>01:02:03.04</tc>
<c>load song 001 and then play it when timecode = 01:02:03.04</c>
<s>012</s><tc>01:05:24.05</tc>
<s>003</s><tc>01:38:38.19</tc>
<c>note timecode does not have to be in chronological order but
the user must ensure that timecode values do not overlap. The BBP
will sort the list into timecode order with a warning</c>
<s>005</s><tc>01:08:36.17</tc>
<s>004 I did it my way</s><tc>01:11:07.27</tc>
<s>010</s><tc>01:14:05.06</tc><tctrim>+00:00:02.15</tctrim>
<c>trim 2 seconds and 15 frames off the start of song 010</c>
<s>011</s><tc>01:18:09.10</tc>
<s>009</s><tc>01:59:59.29</tc>
<c>The end of this playlist file</c>
```

N.B. Selecting a folder using the Song Select | Select Song Folder menu item will create a basic playlist from the songs contained within a particular folder. If Timecode is enabled this file will include <tc> flags. This can be a useful starting point when initially creating a playlist. The resulting playlist file can then be loaded into a text editor on a computer to be renamed, re-

ordered or adjusted as required before being used as the playlist to control the BlackBox Player.

Control Methods

There are a number of ways to control the BlackBox Player:

- Using the front panel
- Via a footswitch
- Using a QWERTY keyboard
- Using MIDI commands from a controller
- Using the JoeCoRemote app
- Timecode sync
- Timed replay using the internal real-time clock

Each one of these methods is appropriate for a particular application and will be explained in more detail here.

Control using the front panel

Having loaded the playlist file:

Playback may be triggered using the PLAY button

The STOP button will stop or pause playback

The MARK buttons will load the previous song ready for playback

The LOOP button will load the next song ready for playback

All other commands can be accessed via the menus

Wiring and control using a footswitch

To enable footswitch control, a footswitch must first be connected to the Footswitch/ LTC input on the back of the BlackBox Player. You will need a momentary contact closure footswitch (not an on/off switch) and it needs to be wired between the Ring and the Sleeve of a ¼" (6.35mm) TRS jack plug.

To enable footswitch control, you must use MENU > SETUP > CONTROL and then select the **footswitch** option and change it to **Play/Stop**. The BlackBox will then be ready for footswitch control.

The footswitch provides a very basic level of control, acting as a PLAY or STOP button only.

All other commands can be accessed via the menus or via a separate QWERTY Keyboard.

Control using a QWERTY keyboard

A PS2 keyboard plugged into the keyboard socket on the rear of the unit gives comprehensive control of the Player. The numeric keypad provides the following functions:

Enter	PLAY
Ins (0)	STOP
Del (.)	Pause
+	Load next CUE
-	Load previous CUE
*	Record (disabled when player active)
1 through 9	Load CUE 1 through 9 as the next song to cue up
Alt + (numeric keypad) number	Load a specific CUE number next. Allows quick change to set list
Right arrow	MENU
Left arrow	BACK
Up arrow	previous menu item
Down arrow	next menu item

By using the numeric keypad to enter a cue number while playing a cue, the BlackBox Player will override the playlist sequence. The Player will jump to the newly selected cue when the current cue finishes and will continue to the following cue thereafter.

Control using MIDI

The BlackBox Player responds to MIDI Machine Control (MMC), MIDI Program Change (MPC) and MIDI Show Control (MSC) commands, in addition to MIDI timecode as explained below.

Timecode sync

Feed a source of external linear timecode (LTC) into the LTC input, or a source of MIDI timecode (MTC) into the MIDI input. The LTC input is on the Tip of a TRS ¼" (6.35mm) jack plug with the Sleeve acting as the ground return.

The BlackBox will indicate on screen how long it is before the next song is to be loaded and played.

A few seconds before the start time is reached (determined by the Preroll time setting), the BlackBox will load the audio files for the next song into memory and will then commence replay exactly as the timecode is reached.

By default, the BlackBox will replay files with respect to the timecode embedded into the Broadcast WAV file, but is it possible to override this setting as seen in the example playlist file above – playlist example2.txt (see page 15). Adding a timecode override allows very subtle adjustment of replay timings with respect to video for lip sync, etc.

It is also possible to trim the start of a set of audio files by adding a timecode trim. This feature will commence playback from the trimmed time thereby editing the start of the cue non-destructively. Trim values can be entered as an absolute or relative time.

Timed replay

Using the same format of time codes above, it is also possible to trigger playback from the internal real-time clock such that specific multi-channel songs are triggered for replay at specific times of day.

This could for example be used to replay different messages at different times of day throughout a theme park, or to provide messages in multiple languages at the top of every hour for different radio stations within a large broadcaster. Use MENU > SETUP and set Timeline to **Real time clock**

Installation

Deciding where to install

In a live situation, it depends on whether the live engineer, the musical director, installation technician or a band member wants to be able to see and control the Player. If touring, the Player will need to be easily portable, whereas in a more permanent installation it may be in a machine room and remotely controlled. It's best to install it at eye level if possible for ease of operating the menus and determining the status of the machine.

Wiring the BlackBox Player

As described above, different types of audio i/o are available on the various BlackBox Players:

- The BBP1U has Unbalanced audio connections
- The BBP1B has Balanced audio connections
- The BBP1A provides digital Lightpipe connections which are supplemented with unbalanced analogue audio connections
- The BBP1D provides digital AES/EBU connections which are supplemented with unbalanced analogue audio connections
- The BBP64MADI and BBP64Dante have dedicated outputs that conform to their respective standards (BNC Coax or SC optical for MADI and RJ45 Gigabit Ethernet for Dante)

Full details of the pin outs of each audio connector are available in the visitor area of the JoeCo website www.joeco.co.uk

The analogue connections on the BlackBox Player provide audio that can be switched between **Low** and **Pro** levels in the Setup Menu (page 33).

Setting	LOW	PRO
Nominal level	-10dBu	+4dBu
Headroom above nominal level	14dB	18dB
0dBFS (when digital clipping will occur)	+4dBu	+22dBu

Deciding on a disk drive

The BlackBox Player is not particularly fussy about its Disk Drive. We cannot guarantee that every drive in the world will work, but the ones we've tried and approved so far have done. The core criteria that you need to follow are:

- Up to 2TB with USB2 or USB3 interface
- Formatted with FAT32 Filing System
- Not "bus" powered (some bus powered drives may work but we cannot guarantee it)
- Does not perform off-line calibrations such as thermal recalibration
- Uses standard 512byte sectors (a few large drives use larger non-standard sector sizes to squeeze more space onto a drive)

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, Verbatim, Samsung, Buffalo, Hitachi and others and found them to work well.

Some drives have power saving built into them which is particularly difficult to turn off completely and some of these drives have gone into sleep mode in the middle of being used. We had added routines to try and keep these drives operational but as we cannot guarantee that they will work, we advise users to avoid these drives.

USB or buss-powered drives often draw more current 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 thumb Drives) are not fast enough to take the full USB2 data rates that the BBP requires. However, modern large fast thumb drives (32GB and larger) are now fast enough to provide the data rates that the BBP requires. Check with JoeCo or your local distributor for latest recommended drives or ask your retailer to try before you buy.

Connecting a disk drive

Plug the disk drive into the USB2 socket on the back of the BlackBox Player 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 BlackBox reports "WRONG DISK FORMAT", check that the disk is formatted correctly. The BlackBox can be used to reformat the drive to FAT32 (see Disk Management in the BlackBox Recorder User Manual)

Power connection

The BlackBox Player is supplied with an external 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). The unit should be used with the power supply provided.

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 go.

The basic screen should look something like this when first powered up with a drive attached.
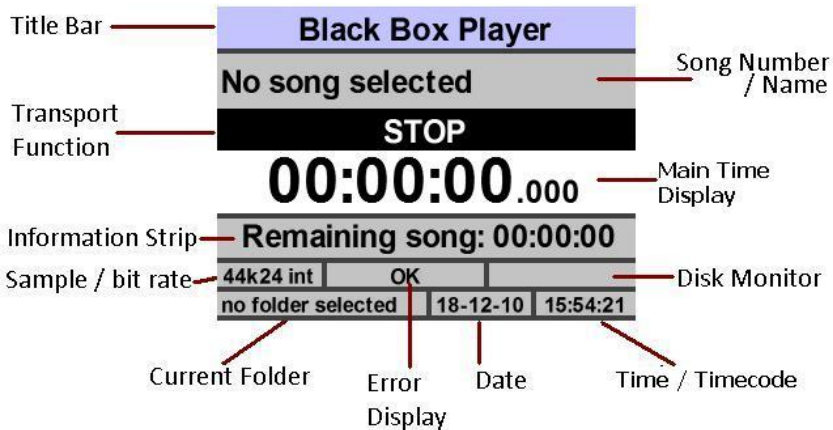
Enabling the BlackBox Player Software

If you have bought a BlackBox Player from your local dealer it will normally have been configured for you already, but if not you will need to follow this simple procedure.

The BlackBox Player is built around the same hardware as the BlackBox Recorder but adds a specific layer of additional software to facilitate the player functions.

Use the MENU button to access the menu and then use the data wheel to scroll down. If the machine has already been configured as a Player there will be an item labelled "Playback Manage..."

Use the MENU button to access the Playback Manage menu and select "Enable and Config...".

Select "Enable Playback Mode" and you're ready to test operation.

Installing Player Software

If you do not see "Playback Manage..." in the MAIN MENU you need to obtain a licence key from your dealer, or directly from JoeCo. Use the data wheel to scroll down the MAIN MENU to near the bottom where you will find an item labelled "licence".

Access this menu item (by pressing the MENU button again) and select "Show Machine key". This will display a 16-digit code that you will need to give to your dealer, or to JoeCo directly. You will also need to provide proof of purchase or have a credit card available.

You will then be given a 16-digit key code that you will need to enter into the machine with the "Enter key:" item. This can be done using the data wheel, but using a PS2 keyboard will be much simpler and quicker.

After 'unlocking' playback mode, as well as the option of the Playback Manager menu appearing in the MAIN MENU, there will also be new options available in the Song Select menu.

BlackBox Player - In Use

So, we now assume that you have created your audio files and named them correctly (see page 9). The files have been copied into correctly named folders on your USB2 drive (see page 11). You have also created a Playlist file (see page 12), decided upon the control mechanism that you intend to use for the show (see page 15) and you've wired the audio outputs into your console or amplifiers (see page 19). So now we just need to go through the operational issues and screens.

Default Playlist

A Playlist file called "Playlist default.txt" in the root folder will load automatically on power up or inserting the disk. Other playlist files can be selected by entering the Playback Manage... menu and choosing "Select Playlist". This will list all the playlist files that the BlackBox finds in the root folder of the drive and you can scroll up and down and select the relevant

file. Note that only files named with the "Playlist xxxxxxxxx.txt" convention will be listed (see Page 12).

Having selected the Playlist file, the BlackBox will display all the songs in that file in the View Playlist screen, in the order that they will be played back. The top line

of the View Playlist screen shows the folder where the Playlist file has instructed the BlackBox Player to find the audio file for each cue.

PLAYLIST: cue 4 in 2010-09-06
1: 001 Country Air 01:02:03.04
2: 002 I Left My H... 02:03:04.05
3: 006 I Get No Ki... 03:04:05.06
4: **004 Kiss** 04:05:06.07
5: 005 Pest Control 05:06:07.08
6: 003 God Save ... 06:07:08.09
7: 007 Dead On A... 07:08:09.10
8: 008 Swing Time 08:09:10.11

Where errors exist in a playlist, the BlackBox Player will alert you to the fact with a screen like this. This example shows that on the 23rd line in the playlist file there is an error. This could be a missing song; or the playlist file is instructing the BlackBox Player to look for the Song in the wrong Folder; or there may be errors in the tags surrounding one of the playlist commands at that line number.

When you press the BACK button, the View Playlist screen will show you where there are any missing songs by displaying them in red text.

Remember that songs may be in a different folder, in which case a folder change command is required before and after the missing file.

Preloading Songs

The core facility of the BlackBox Player is its ability to preload the next Song in the playlist so that it can start replay instantaneously. When the playlist file has satisfied all of the criteria detailed above and all the audio files have been found, the BlackBox Player is ready to go. The current status of the Player is normally indicated by the screen colour and the messages that are being displayed thereon.

Loading

When the BlackBox Player is loading audio files in readiness for playing back, this screen is shown. The background colour of the screen is pale green to make it easy to determine the current status of the BlackBox Player from a distance. The Transport function bar shows LOADING 1 of 9 to indicate which cue is

currently being preloaded and how many cues there are in total in the playlist. The preloading process normally takes no more than a couple of seconds and once complete, all the files that comprise the next song are loaded into RAM ready for instant replay via whatever control mechanism you have chosen.
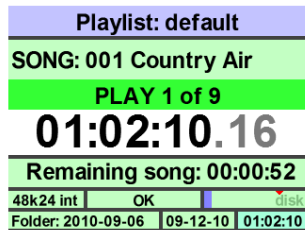
Cued

Once the files are loaded into memory and ready for instant Playback the

screen will look like this. The Cyan background colour has been chosen to make it obvious from a distance that the song is cued up and ready for replay. The Cue number is shown in the status bar. Note that this is the Cue number within the currently selected Playlist, not the

Playlist: default
SONG: 006 I Get No Kick
CUE 3 of 9
01:05:04.25
Remaining song: 00:00:47
48k24 int | OK |
Folder: 2010-09-06 | 09-12-10 | 01:05:04

actual file song number and name, which are displayed above. This is so that in a normal live set the operator can easily see where they are in the sequence.

Play

As soon as the BlackBox Player receives its trigger, it will instantly start playing back the cued song. This screen provides a solid green background and also displays the CUE number of the cue being played. The Remaining song time indicator counts down to indicate when this cue will end

Playlist: default
SONG: 001 Country Air
PLAY 1 of 9
01:02:10.16
Remaining song: 00:00:52
48k24 int | OK | | disk
Folder: 2010-09-06 | 09-12-10 | 01:02:10

and the next cue in the playlist sequence will be preloaded.

Pause

It is possible to temporarily pause playback during a cue, if required, by pressing the STOP button or issuing a pause command when under MIDI control. However, when this would be regarded as dangerous it is possible to prevent accidental interruptions by disabling all local controls.

Next / Previous Song

When the BlackBox Player is CUED or LOADING the next Song, the MARK and LOOP buttons allow the user to override the next cue and load the previous or next song respectively in the current playlist.

Selecting Songs

To select other songs for playback you will need to press the MENU button.

Move the data wheel until **Song Select** is highlighted; press MENU again; move the data wheel to select the song you want to playback; press MENU to confirm. You can also navigate to different folders on the disk using this feature. Selecting a folder will create a standard playlist file for that particular folder which can then be edited as a text file on a computer.

When a previously recorded Song is loaded for playback, the Green playback ready LEDs positioned underneath the meter section indicate which tracks are present and ready for playback.

Headphone Monitoring

It is possible to monitor a summing mix, a rough mix, or individual pairs of tracks on the BlackBox Player via the headphone output. The summing mix "ALL" will place every odd numbered track on the left channel and every even numbered track on the right channel.

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 headphones. The
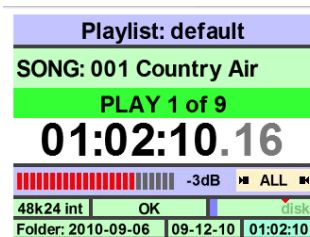
options are "MIX"; "ALL"; "1-2"; "3-4", etc. with ALL being the summing mix mentioned above and the individual track pairs being a pre-fade listen of each pair of tracks (panned hard left and right). The **Monitor...** section of the menu controls the level and pan settings in the MIX mode.

The headphone output is routed through an automatic gain control so that quiet signals can be as easily heard during the concert as louder ones. This does not affect the recording at all. The amount of automatic gain in the headphone signal chain is adjustable in the Setup Menu (up to 40dB of gain) and the current gain added is indicated by yellow dots on the gain display.

Summary of Combined Front Panel Controls

Transport Mode	Press/*Hold*	Wheel	Function
Any	-	< or >	Headphone monitor volume
Any	***BACK***	< or >	Headphone monitor solo channel
In STOP	***STOP***	< or >	Fast rewind or Fast forward wind
In STOP	MARK	-	Select Previous Song
IN STOP	LOOP	-	Select Next Song

Using the Menu

The following section discusses the menu in more detail. This section should be read in conjunction with the Menu section of the BlackBox Recorder User Manual, which discusses some areas 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.
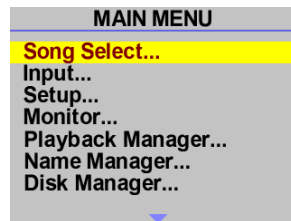
Menu Structure and Operation

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.

MAIN MENU
Song Select...
Input...
Setup...
Monitor...
Playback Manager...
Name Manager...
Disk Manager...

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 or options are "greyed out" in light red text. There are more details on the recorder specific functions in the BlackBox Recorder User Manual.

Song Select...

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

Recent Songs...

Provides a list of the most recently played Songs

Select Song Folder...

Allows you to navigate to and select a particular folder. This will unload any existing playlist that's currently loaded

Select Song...

Allows you to choose a Song from within the selected folder.

Make Playlist from folder

This gives you a quick way of starting to create your playlist file. It will create a playlist file from all the songs in the selected folder, which you can then manipulate, reorder, trim and alter in a normal text editor on a computer.

Auto play next song feature

If the *Auto play next song feature* is selected in the song select menu, then after the current song is finished the BlackBox will start playing the next song automatically without having to receive a command.

Auto play first after last

If the *Auto play next song* feature is selected, you will then be able to select the option *Autoplay first after last.* When this is selected, after the BlackBox Recorder finishes playing the last song in a folder it will go back to the first song in the same folder and start playing that song again*.* With both these options selected*,* the BlackBox Recorder will continuously loop all the songs within the selected folder.

Input...

This option is only available when using one of the models with both Digital and Analogue inputs. Inputs can be switched in banks of 8 channels. If a digital input is selected for any bank, the **input status** displays whether there are errors or clock slippage on those channels. 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.

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) one of the

SETUP MENU	
Ref clock:	**Internal**
Timeline:	Realtime
Sample Rate:	44.1kHz
Wordsize:	24-bit
Control...	
Line-in mon:	Relay (thru)
I/O level(0VU):	LOW: -10dB
Peak Hold:	Off

input signals from the digital board (such as **Digital 1+2**) or **Word Clock**.

Timeline

All Broadcast WAV (BWAV) files include a timecode stamp, which exactly marks the time of the first sample within the file. The BlackBox Player can play back Broadcast WAV files synchronised to a source of Linear Timecode (**LTC**), MIDI timecode (**MTC**), or to the **real-time** clock built into the unit itself.

The Player can only read timecode (i.e. act as a timecode Slave) it cannot generate timecode (i.e. act as a timecode Master). The BlackBox does not chase timecode or lock to it.

Sample rates

Selectable between **44.1kHz**, **48kHz**, **88.2kHz** and **96kHz**. This can be set by the playlist file using the <srate>48000</srate> tag if required (see page 15)

Control...

The BlackBox Player can accept commands from a variety of external control devices

Remote Mode:

The BBP can respond to open loop MIDI Machine Control (**MIDI MMC**) protocol commands for transport controls and track

CONTROL MENU	
Remote Mode:	**None**
✓Local Control	
Footswitch:	Off
Link Mode:	None
Link Preroll:	default
TC Format:	25 fps
TC Trim:	0 bits
☐TC format follows input	

arming/disarming. Note though that the BBP has no MIDI return path (open loop) and so cannot acknowledge the receipt of a MIDI command or display the song time on the controller. The ring of the LTC/F.sw TRS jack socket can accept a momentary **footswitch,** which will emulate pressing the PLAY and STOP buttons alternately. 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. JoeCo also sell converter boxes to help wire standard footswitches into one or more BBP units.

There are also options for WiFi and Wired control using the JoeCoRemote app for iPad. These are directly related to the usage of the JoeCoRemote Interface and are not relevant otherwise.

Local Control

This enables the BlackBox Player to be controlled locally as well as remotely. Enable local control if you need to quickly recover from mistakes or mis-triggers, disable it if you want to avoid finger trouble during a performance.

Link Mode and Link Preroll

Used for linking multiple BlackBox Players together: see relevant section in the Recorder manual.

TC Format

Set the timecode frame rate. The BlackBox will then flash the timecode display (bottom right of main screen) if the incoming timecode is at a different rate to that which you have chosen. This can be set in the playlist file using the <tcrate> tag (See page 14)

TC Auto

Set the internal timecode format to match the incoming timecode. This can cause problems if your source of timecode is intermittent or if you're using 23.98 or 29.97non drop, (which are virtually indistinguishable from 24 and 30non drop respectively). Better to set the timecode rate explicitly.

MIDI setup...

Setting up MIDI systems can be quite involved and we have to assume that

you understand the rudiments of MIDI control here to avoid writing a novel. This page tells the BlackBox Player which MIDI channel is to be used and which of the numerous MIDI protocols to expect to receive its commands through. The simplest is MIDI Song Select, which allows the remote MIDI controller to

MIDI SETUP

MIDI Channel: 1
√MIDI enable and MMC
☐MIDI cue by song select
☐MIDI cue by prog change
√MIDI cue by NRPN
☐MIDI Show Control
☐MIDI Monitor mix control
NRPN controller setup...

select up to 128 Songs. MIDI Program Change and MIDI Show Control can also be selected as can MIDI Non-Registered Parameter Numbers (NRPN).

NRPN Controller setup...

MIDI NRPNs are a very powerful and flexible way of controlling a remote device via MIDI. The BlackBox allows for a remote controller to select and preload cues as well as set up the headphone mix for monitoring and soloing, etc. More details of the allowable parameter

MIDI NRPN SETUP

Cue prev LSB: 96   (96)
Cue prev MSB: 0
Cue next LSB: 97   (97)
Cue next MSB: 0
Cue 1 LSB: 98   (98)
Cue 1 MSB: 0
Cue max LSB: 98   (98)
Cue max MSB: 0

numbers are available in the End User section of the JoeCo website (see page 52 for details of how to register)

Line-In Mon:

This sets how the unit monitors the Line-In signals on all channels. The default position will be **Relay (Thru)**, which automatically routes the input signal via the built in analogue relays to the output. This setting allows the balanced analogue backup unit to provide automatic failover protection (see page 36).

The second setting for Line-In Mon is **E-E (via DSP)**. This routes the input signals directly to their respective outputs. This setting will prevent a MAIN unit from producing a relay "thump" when play is triggered. This mode is not power safe.

The third setting for Line-in-Mon is **Off**. This setting is the recommend setting for a MAIN system in a failover configuration.

i/o level (0VU):

Only available on Analogue i/o. The two settings are **LOW** and **PRO** as described earlier in this document (Page 19).

Display Song TC on Play

This option can be very useful when using timecode or when calculating timecode trim values. It does not affect the operation of the BlackBox, only what you see in the main time display.

Adjusting the real-time clock

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 Player moves onto the next field automatically. Press BACK when finished.

Reset

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

Monitor...

Monitor AGC

This sets up the automatic gain control on the headphone monitor outputs, helping you to hear what's going onto disk in a noisy live environment.

Solo features:

The headphones can be used to solo individual tracks and the track enable LEDs can be turned into a high resolution horizontal meter if required.

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

Playback Manage...

The Playback Manage menu page is where the BlackBox Player can be configured and where specific Playlists can be loaded and reviewed. After enabling Playback Mode (see below) the Playback Manager Screen will look like this.

PLAYBACK MANAGER
Select Playlist...
View Playlist...
Enable and Config...
↗Uncue Song
↗Backup Armed (standby)
↗Backup Take Over
☐Play starts chase
Chase setup...

Select Playlist allows the selection of any valid Playlist residing in the root folder of the drive. Once selected, you will be advised of any errors or discrepancies and then the BlackBox Player will automatically enter the View Playlist mode so that you can see where the errors lie. The Backup Armed and Backup Take Over options are disabled unless you designate this machine to be the backup machine in a pair of matched failover players.
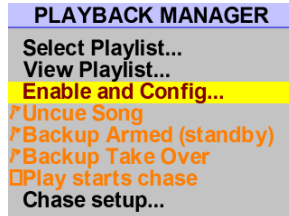
Playback Config...

The first option under Playback Config is *Enable Playback Mode*. All other operational aspects of the Player are determined by this selector, without which, the machine will work as a BlackBox Recorder.

Repeat Playlist is used when the unit is <u>not</u> being required to sync play to timecode or the real-time clock. It causes the Player to loop from the end of the playlist back to the start.

PLAYBACK CONFIG
✓Enable Playback Mode
☐Repeat Playlist
☐Cue next on stop in song
☐Auto start playlist
☐Auto play next song
☐TC/Time driven playback
☐Stop song on TC stop
☐Enable song track offsets

Cue next on stop in song is likewise normally used without sync. When the unit is set to replay synchronously, the song that will be replayed next is determined by the incoming LTC or internal real-time clock rather than any actual sequence detailed in the playlist.

BLACKBOX **PLAYER** - User Manual v 3.1
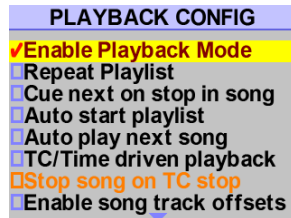
Auto start playlist causes a playlist to automatically start playing without the BlackBox Player having to receive any commands. For this function to work, a playlist must have been created and named "Playlist default.txt". When the Player is turned on it will automatically load this playlist and start playing it from the beginning.

Auto play next song means the Blackbox Player will automatically load and play the next song in the playlist when the current song finishes.

The *TC/Time driven playback* option selects this mode and also enables the *Stop song on TC stop* option. Note that this option allows the unit to play back either in sync with the incoming timecode (LTC or MTC), or with reference to the internal real-time clock (RTC). The source of the time trigger is determined by the Timeline setting in the Setup Menu: RTC, LTC or MTC.

Remote Mode allows non-synchronous playback to be controlled via MIDI, a footswitch or a JoeCoRemote, while the *Local Control* option allows the front panel to still be operated at the same time.

Enable song track offsets allows you to play back songs where some tracks within the songs are time stamped to start at different times. This is useful when you have already created your tracks from a DAW and subsequently need to add a click track that starts before the song begins.

Uncue Song will do just that! It uncues a song so that you can modify other parameters that are locked out whilst a song is cued.

Backup Armed (standby) will arm the BACKUP unit in a failover configuration.

Backup Takeover will force the BACKUP unit to take over from the MAIN unit in a failover configuration. It is a one off operation for use when the MAIN unit is still working but producing distorted audio for example.

Chase play is a feature that allows both Recording and Playback synced to timecode. It will normally be used under 9-pin control in Outside Broadcast vans. Disable Playback Mode in the Playback Manager Config section, set the Timeline to LTC in the Setup Menu and set the Remote Mode in the Control

Menu to 9-pin. Feed the LTC timecode and 9-pin from the master edit controller.

When the BlackBox receives the RECORD command over 9-pin it will enter record and timestamp the files with the incoming timecode. After recording, the audio can be replayed and reviewed synchronously against any video recording by issuing a PLAY command and feeding the same LTC timecode.

Chase setup Menu. Here you have the option to offset the incoming timecode by a specified amount of time in hours, minutes, seconds, frames or bits.

Failover Operation

Failover Mode can be set to Off, Main, or Backup. Failover mode can only be used with two balanced BlackBox units. The units are wired together so that the outputs of the main unit are fed into the inputs on the backup unit and the outputs of the backup unit are in turn fed into the console or audio amplifiers. When a system is set to Main, the BlackBox Player will output a continuous tone from the channel selected under *Failover Channel.* When set to Backup, the unit monitors this channel for the tone generated by the Main system and automatically switches the relays to the Backup unit's audio if the tone from the Main unit fails (power failure/USB failure etc). The output tone from the Main unit (tone out) and the monitoring of the tone monitored by the Backup unit (tone in) must be set to the same channel for this to work. The *Backup Armed (Standby)* and *Backup Take Over* options become active on the Backup system and the title bar on the Backup system will show that it is standing by to take over should a problem occur.

A common way of triggering a pair of players is by using a footswitch. As an optional chargeable accessory, JoeCo supplies a footswitch splitter box that allows users to control two BlackBox Players or Recorders using only one footswitch. It is important that both BlackBox units have the same footswitch settings. (page 16)

FAILOVER WIRING USING BALANCED BLACKBOX UNITS
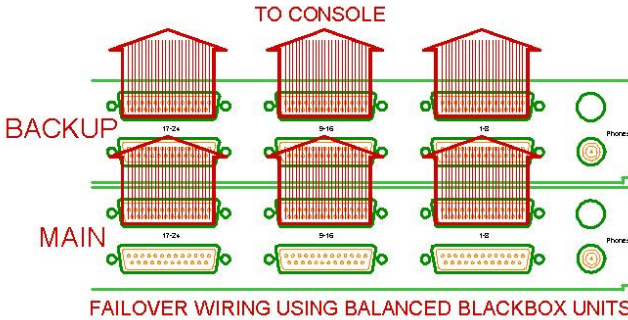
Step by Step Setup of a Failover System

- The Main system outputs feed into the BACKUP system inputs;
- The BACKUP system outputs feed into the console
- If using a footswitch to trigger the playback, then use a JoeCo Splitter Box to feed the footswitch into both BlackBox Players simultaneously.
- [If you are wiring your own footswitch splitter, the GPI is between the Ring and the Sleeve of the ¼" stereo jack. The units should be galvanically isolated with inline diodes to prevent a failing system automatically triggering the other system.]
- JoeCo can also supply a Splitter Box for QWERTY keyboard control or for Timecode splitting.
- It is also possible to control a pair of Failover players using MIDI or 9-pin commands

MAIN SYSTEM SETUP

MENU; SETUP; CONTROL: Remote Mode: = footsw play
MENU; SETUP; CONTROL: Local Control = ON (tick this setting unless you want to disable the front panel)
MENU; SETUP; Line-in mon: = OFF
MENU; Playback Manager; Enable and Config; Enable Playback Mode = ON
MENU; Playback Manager; Enable and Config; Failover Mode = MAIN
MENU; Playback Manager; Enable and Config; Failover Chan = 24 (tone out)*

BACKUP SYSTEM SETUP

MENU; SETUP; CONTROL: Remote Mode: = footsw play

MENU; SETUP; CONTROL: Local Control = ON (tick this setting unless you want to disable the front panel)

MENU; SETUP; Line-in mon: = Relay (thru)

MENU; Playback Manager; Enable and Config; Enable Playback Mode = ON

MENU; Playback Manager; Enable and Config; Failover Mode = Backup

MENU; Playback Manager; Enable and Config; Failover Chan = 24 (tone in)*

*this can be any channel that does not have audio but must be the same on both systems

Any other settings should be the same on both systems. In the Playback Manager config menu, pay particular attention to Cue Next on Stop in Song and Enable song track offsets

Name Manage...

The Name Manager is most relevant to the BlackBox Recorder software and is explained further in that User Manual

Disk Manage...

Similarly, use of the Disk Manager is explained in the BlackBox Recorder User Manual.

<u>Software Updates</u>

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

The software version currently installed on the BlackBox Player 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 BlackBox: 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/performance – 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 warranty or 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 memory sticks or Pen drives are often formatted with FAT16 which will not work). The file must be called "update.BBR" and it must be placed in the root.

In the Update menu, set the BBP to allow "updates only" and then plug the drive (or memory stick) into the USB2 socket.

The BBP will notice the presence of the "update.BBR" 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 BlackBox will automatically reboot into the new software version. Connect your main disk drive and you're ready to use the new software. The BlackBox 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 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.

Licence...

This allows you to licence 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 BlackBox which can be entered into the unit using the **Enter key:** feature. A QWERTY keyboard is recommended for entering the enabling codes although it is not mandatory.

Troubleshooting

We are confident that the BlackBox Player 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
No lights on BlackBox Player unit	• Check that the power supply is getting mains power and that the correct power supply is plugged correctly into the Player • If you have access to a volt meter, check that the power supply is producing at least 9V.
No display on LCD screen	• Check power supply as above • Reboot (turn power off, wait 10 seconds and turn power back on again)
BlackBox Player not responding to controls	• Check if disk activity light is operating continuously for more than a few seconds. This may indicate a disk problem. Try power cycling Player and disk drive. Check disk for errors as soon as possible on a PC or Mac
BlackBox Player boots ok but does not log / find disk	• Check that the USB connector is plugged in correctly to both the Player and the disk drive • Check disk drive power supply as above. • Try a different USB2 lead • Try powering up the Player 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 Player is not displaying WRONG DISK FORMAT

Problem	Things to try
Player will not enter PLAY	• Do you have a song selected? • Maybe there is nothing recorded as yet on this disk or in the current folder?
Some channels not audible	• Check the cable looms feeding from the Player into the console
Sound from Player distorted	• Check that the D-types are secured into the Player and are plugged into the console correctly • Check that no-one has damaged the cable looms • Try swapping cable looms to see if distortion follows the cable, stays with the console channel or stays with the channel of the Player

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.

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 song selection)
"DISK TOO SLOW";	displayed if requests to the DISK have not been serviced in time.
"NEW SONG"	displayed if the user presses RECORD during record to start a new song
"NO SONG SELECTED";	displayed if someone presses PLAY but no song 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 SONG FILE";	displayed if PLAY or RECORD is pressed on a corrupted song file
"CAN'T FIND SONG";	displayed if PLAY or RECORD is pressed when the selected song 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 time-code limits of the selected Song
"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 BlackBox 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

PLEASE READ THESE CONDITIONS OF USE (THE "CONDITIONS") CAREFULLY BEFORE USING YOUR JOECO PRODUCT. BY USING YOUR JOECO PRODUCT YOU ARE AGREEING TO BE BOUND BY THESE CONDITIONS. IF YOU DO NOT AGREE WITH THESE CONDITIONS, DO NOT USE THIS PRODUCT.

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

Definitions

JoeCo: JoeCo Limited

Product: any product designed, manufactured, distributed or resold by JoeCo including the BlackBox Recorder (which may be abbreviated to "BBR") and the BlackBox Player (which may be abbreviated to "BBP"). The term "product" includes both the hardware and its associated software, as defined below.

Legitimate User: a legitimate user (hereinafter referred to as a "User") is a person, or corporate entity or employee of a corporate entity who is:
- 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.

1. 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 BlackBox 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.

2. Limitations of Liability

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.

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.

Software Licence Agreement

JOECO LIMITED

SOFTWARE LICENCE AGREEMENT

USER LICENCE

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

PLEASE READ THIS SOFTWARE LICENCE AGREEMENT (THE "LICENCE") CAREFULLY BEFORE USING YOUR JOECO PRODUCT OR DOWNLOADING ANY SOFTWARE UPDATES. BY USING YOUR JOECO PRODUCT OR DOWNLOADING ANY SOFTWARE UPDATES, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS LICENCE. IF YOU DO NOT AGREE WITH THE TERMS OF THIS LICENCE, DO NOT USE THIS PRODUCT OR DOWNLOAD OR INSTALL ANY SOFTWARE UPDATES.

IF YOU DO NOT AGREE WITH THE TERMS OF THE LICENCE, 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

IN ADDITION, BY DOWNLOADING, COPYING, INSTALLING OR OTHERWISE USING SOFTWARE UPDATES FROM JOECO YOU AGREE TO BE BOUND BY ANY ADDITIONAL LICENCE TERMS THAT ACCOMPANY ANY SUCH UPDATES. IF YOU DO NOT AGREE TO THE ADDITIONAL LICENCE TERMS THAT ACCOMPANY SUCH UPDATES, YOU MAY NOT DOWNLOAD, COPY, INSTALL OR OTHERWISE USE SUCH UPDATES.

Definitions Used In This Agreement

JoeCo:	JoeCo Limited
Product:	Any product designed, manufactured, distributed or resold by JoeCo including the BlackBox Recorder (which may be abbreviated to "BBR") and the BlackBox Player (which may be abbreviated to "BBP"). The term "product" includes both the hardware and its associated software, as defined below.
Legitimate User:	A legitimate user (hereinafter referred to as a "User") is a person, or corporate entity or employee of a corporate entity who is:

- 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.

1.   General

You agree that:

-   The Software is licensed, not sold, to you by JoeCo for use only under the terms of this Licence on the associated Product
-   All ownership rights to the Software belong to JoeCo and/or to JoeCo's co-developers or suppliers
-   You will not copy (except as expressly authorised by this Licence or separately in writing by JoeCo) or attempt to decompile, reverse engineer, disassemble, derive the source code, modify or create derived works of any aspects of the Software or hardware provided by JoeCo. You accept that any attempt to do so would be a violation of the rights of JoeCo, its co-developers and suppliers and constitute a breach of this agreement.
-   JoeCo, its co-developers and suppliers reserve all their rights not expressly granted to you.
-   You will use the Software in compliance with all applicable laws, including local laws of the country or region in which you live and/or use the Software and/or download updates to the Software

Parts of the Software and Product hardware are protected by international patents either granted or pending and other intellectual property rights.

No licence is granted by this document for use beyond the licensed use of the Software. Violation is subject to damages under applicable laws.

2.   User Licence

You, the User, are entitled to use all parts of the Software for the duration of the life of the Product.
If the Product is sold on to a third party a new user is entitled to the same use, that is to use all parts of the Software for the duration of the life of the Product, provided that they agree to all the terms of this Licence.

3.   Additional Charge Items

From time to time JoeCo, or third parties authorised by JoeCo, may make available software which by reason of third party licensing or specific extra cost of development or other reason, may be subject to additional charges for use. At its sole discretion JoeCo may issue separate licence agreements regarding evaluation or use for such additional charge items. If JoeCo does not issue a separate licence agreement with any additional charge item then the software embodied in that additional charge item will fall under the provisions of this Software Licence Agreement.

4.   Limitations of Use

The Software must not be used for any illegal purposes and especially not for any use involving breach of copyright. The Software is not licensed for use in any life-critical application. You acknowledge that the JoeCo Software is not intended or suitable for use in situations or environments where the failure or time delays of, or errors or inaccuracies in, the content, data or information provided by the JoeCo software or services could lead to death, personal injury, or severe physical or environmental damage. Any such use is entirely at the risk of the user and the user must hold JoeCo harmless for any claim arising from such use.

5.   Limitations of Liability

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 Software together with the hardware and accepted its suitability for your

application

To the maximum extent permitted by applicable law, JoeCo hereby disclaims all warranties and conditions with respect to the Software and any services performed by use of the Software, 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.

Should the Software prove defective or unsuitable for your application, you will assume the entire cost of all necessary correction, servicing or repair.

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.

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.

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.

6.   Termination of Licence

This Licence is effective until terminated. Breach of any terms of this Licence by an owner or user of a Product will automatically terminate the Licence. The Licence is also terminated if the Product is returned under warranty or in exchange for a full or partial refund or in exchange or part-exchange for another product. Upon termination you will cease all use of the Software and destroy or return any copies of the Software to JoeCo. Sections 1, 3, 4, 5, 6, 8, 9, 10 and 11 of this Licence shall survive any such termination.

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

If JoeCo fails, at any time during the term of this Licence, to insist upon strict performance of any of your obligations under this Licence, or if it fails to exercise any of the rights or remedies to which it is entitled under this Licence, 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 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.

You acknowledge that, in agreeing to the terms of this Licence, you have not relied on any representation, undertaking or promise given or implied from anything said or written by JoeCo or by an authorised JoeCo distributor, reseller or representative prior to entering into this Licence except as expressly stated in this Licence.

In the event that any translation of this Licence (from its original in UK-English language version) is carried out for different countries and there is a dispute between the UK-English and any non UK-English version, the UK-English version of this Licence shall take precedence, to the extent not prohibited by local law in your jurisdiction.

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.

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 unrepaired 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.

In the event that any translation of this Warranty (from its original in UK-English language version) is carried out for different countries and there is a dispute between the UK-English and any non UK-English version, the UK-English version of this Licence shall take precedence, to the extent not prohibited by local law in your jurisdiction.

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 unrepaired product without further notification.

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

Product and End User Registration

It is recommended that you register yourself as an End User of the JoeCo BlackBox 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 JoeCo BlackBox Product.

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.

Customer Support

For any queries relating to the setting up or operation of any of the products at JoeCo, please email support@joeco.co.uk.

Please note that it is only practicable for JoeCo to provide support for the current release version of the software – please upgrade your software to the latest release version before requesting support for a problem that may well have already been resolved.