

RenderBooster

User manual

Legal Information

We recommend that you carefully read the information in this manual, in order to avoid operator errors.

We have taken great care in developing and testing this program.

Since it is currently not possible to guarantee error-free operation under all circumstances and at all times, we can unfortunately not entirely exclude that some errors may have crept in. Hence, MacroSystem Digital Video GmbH and its distributors do not guarantee a problem-free or completely error-free operation of the product.

As far as reasonably possible, we will rework the program in order to correct any errors and, if applicable, provide the new software for free to the users concerned.

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Neither MacroSystem Digital Video GmbH nor its dealers are responsible for any damages resulting either directly or indirectly from the use of the software or the operating instructions, e.g. for profit loss, costs, hardware or software problems or other problems.

Any implied guarantee is excluded, including guarantee of suitability of the software or operating instructions for a particular purpose.

For this reason, you should make a backup of your video footage before you start using the device. We recommend that you do not delete the video footage and that you create a backup copy beforehand.

Since it is possible that changes were made to the software after the manual was prepared, the functions shown and described in this manual might differ from the software.

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1. General information

1.1 Welcome

Thank you very much for purchasing the RenderBooster. We are grateful for your confidence and we hope that this product will live up to your expectations.

The RenderBooster will give you the opportunity to use your Casablanca video editing system even more effectively than before.

Feel free to contact us for further questions or if you would like to give us suggestions for improving the product.

Whenever you contact us, please have your customer number or the serial number of your device at hand so that we can help you more quickly.

MacroSystem Digital Video GmbH
 Industriestraße 11, 96317 Kronach, Germany
 E-mail: info@macrossystem.de
 Fax: +49 (0) 9261-992049

Up-to-date information on MacroSystem products can be found on the Internet: www.macrossystem.de

If you have specific technical queries, please contact our technical support. Please do not forget to mention the serial number of your device or your customer number each time you contact us, if you know them.

Support Hotline, Germany

Phone: +49 (0) 9261-997080
 Monday through Thursday between 10:00 am and 5:00 pm
 Friday between 10:00 am and 4:00 pm

You can also visit our **support forum** on the Internet: www.macrossystem.de/forum. In the forum, you will be able to find assistance, step-by-step directions, and tips and tricks for MacroSystem hardware and software products.

1.2 The background story

Many Casablanca aficionados vividly remember the “Render Accelerator Option” for the original Casablanca editing system. It was basically a faster processor, making the time intensive effects rendering more speedy.

Since then (1996), CPU power has dramatically increased. The Motorola processor in 1996 was clocked at 25 MHz, now the top of the line “S 6000” has 3.3 GHz – and multiple cores, too. This (theoretically) makes it thousands of times faster than the then-state-of-the-art original.

But rendering speed is still lacking. Not so much for rendering video effects – even in high definition, there is almost no more related waiting time. Plus, the background rendering allows the

user to continue his work while the calculations are done in the background.

The new challenge is called “transcoding”. Since today’s world has not settled on just one video standard, it is absolutely common, even essential, to convert a video file into other formats for compatibility reasons. There are many different camcorder formats to begin with – and it is often desirable to create a Blu-ray disk, a common DVD, plus a few different PC/Mac/Smartphone compatible files from a finished project.

And this is where today’s rendering time is painful. Making a Blu-ray compatible HD video stream out of HD footage takes a long time, even with fast CPUs. And it gets worse: Making a DVD that looks good is a challenge – the “down conversion” is a complex task. The common software codecs always offer compromises – fast rendering usually means lower image quality. A difficult trade off.

1.3 The product

MacroSystem has now tackled these issues with the new “Render Booster” – a device that plugs onto a USB port just like a thumb drive. The small, elegant stick packs a lot of hardware power – it basically is a small computer on its own, with a highly specialized processor. It handles just the transcoding (the de-interlacing, the scaling, and the encoding), nothing else – but it does that in a state-of-the-art quality, and far faster than high end mainstream processors. A true specialist.

1.4 The speed

The Render Booster can transcode any HD project into Blu-ray, DVD or H.264 (TS) formats. The required time is about 1.2 to 1.4 times the runtime of the video. A 60 minute project will require just between 72 and 84 minutes of rendering time. This time includes the transcoding (faster than real time) and the “overhead” (massive amounts of data have to be copied back and forth).

Compared to a standard “S 4000 Pro”, this means that making a Blu-ray in Arabesk is about 12 times faster with the Render Booster.

1.5 The image quality

That is a dramatic speed increase for sure – but there’s more. The quality of the hardware transcoding is superb, far better than the common software encoders used not only by Bogart, but by many other PC/Mac based editing systems too. This allows a new quality mode for HD Arabesk projects – you can now get 90 minutes of pristine Full HD AVCHD material onto a double layer DVD media (45 minutes onto a single layer

media). Almost 240 minutes on a single layer BD, 8 hours on a double layer (50 GB) BD!

1.6 The power consumption

Instead of using the power hungry main CPU (120 Watts at full capacity) for transcoding, using the low power consumption “Render Booster” (5 Watts) will save a significant amount of energy. For a typical Blu-ray generation, savings of about one kilowatt hour are common.

1.7 The use cases

The most common use case for the “Render Booster” is no doubts the generation of DVDs and Blu-ray disks in both SD and HD formats. These tasks are handled by Arabesk 5, which automatically detects the “Render Booster” (if the required add-on product has been activated by typing in the key code).

The “Render Booster” is also used in the “Export Storyboard” feature. It allows very fast state-of-the-art conversions. SD and HD projects can be exported in H.264.ts formats which can be played back by PCs, Macs and many other devices. SD projects can also be exported in the very common MPEG-2 format. The data rate is user selectable.

The “Render Booster” should be plugged into one of the rear USB slots. It comes with a short USB cable extender for those that have no room at the back of their unit.

1.8 One stick, many units?

The “Render Booster” comes with a software key code. Such software key codes can be purchased without the stick as well – at a much lower price. This means that one stick can be used for several units, simply by purchasing multiple key codes and physically switching the stick between the units (the stick has to be connected before the related unit is started up).

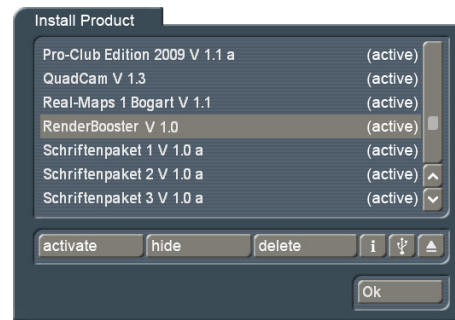
It works on all Bogart compatible machines (Bogart 5 is required, though). This includes Solitaire/Renommee Ultra units. It does NOT support Smart Edit based products.

2. Installation

2.1 Physical connection

First, you must ensure that you have installed the latest version of the Bogart SE operating system on your Casablanca device. You need Bogart SE 5.0 or higher for the RenderBooster. The stick will not work with older versions.

You must then activate the RenderBooster product. As a rule, you will receive the license code when you buy the product.



You will now be able to connect the RenderBooster.

First, you must turn off your Casablanca unit.

Remove the RenderBooster from its packaging. Take off the cap and plug the RenderBooster in one of the USB ports at the back of the machine.

In case there is not enough room at the back of your Casablanca, the short USB extension cable which is supplied together with the RenderBooster can be used.

Warning: you should not use the front ports, nor should you use other -particularly longer- USB cables. If you do, this may lead to problems with the operation of the device.

2.2 Firmware update

The RenderBooster may well look like a (big) USB memory stick, but it actually is a small computer with its own operating system.

This operating system is continually undergoing expansions and improvements. These improvements are automatically brought in when the product is used for the first time.

To do this, you should switch on your Casablanca with the RenderBooster inserted and start Arabesk. Look now at the top side of the RenderBooster. There are two small lamps at the end in the back. When these little lamps blink fast and alternately, the system is performing a firmware update. Do not switch off the Casablanca before the update is finished and only one of the small lamps is lit continuously.



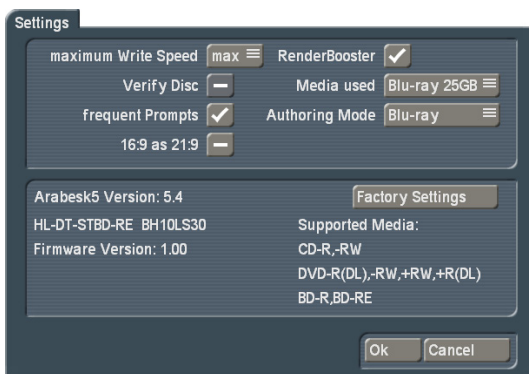
The text “RenderBooster” should now appear in Arabesk.



3. In combination with Arabesk

Arabesk recognizes the RenderBooster automatically. The corresponding text is added to the menu.

The use of the RenderBooster can be switched on and off. To do this, open the “Settings” window and select RenderBooster on or off. It is not necessary to restart.



When the RenderBooster is deactivated, the text will no longer appear in the main menu of Arabesk.

3.1 Creating DVDs (SD)

When you render a DVD and the RenderBooster is available and activated, Arabesk will use the RenderBooster instead of the software encoder.

When the RenderBooster is calculating, both little lamps at the back of the RenderBooster will alternately light at a fast pace.

The calculation is both faster and more efficient. This means that, as a rule, you should be able to select a lower image quality than when you do not use the RenderBooster.

The RenderBooster always uses compressed audio. It is therefore not possible to select uncompressed audio when using the RenderBooster.

The “Calculation” setting has no effect when using the RenderBooster. The resulting image quality will always be better than the intensive mode when using the software encoder.

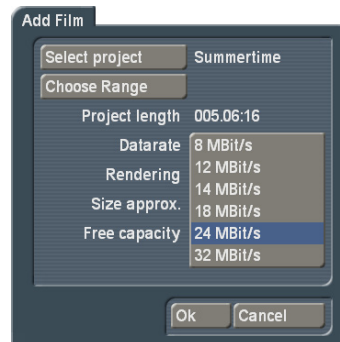
The clearest improvement regarding image quality and calculating speed is achieved when creating a video DVD from high

resolution source footage (1920x1080, 1440x1080).

3.2 Creating AVCHDs (HD)

The RenderBooster can also be used when creating AVCHDs.

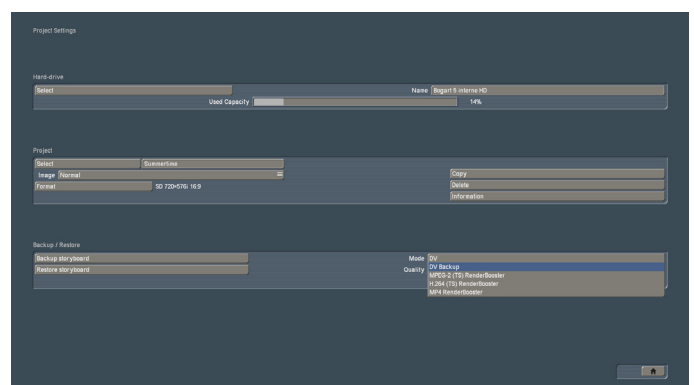
When doing so, the RenderBooster is so efficient that even the new quality levels “8 MBit” and “12 MBit” result in a very good image quality. The modes starting at 24 MBit are of little use – there is no visible quality increase.



The RenderBooster cannot be used for footage in 1280x720 mode.

4. Exporting storyboards

The function “Exporting storyboard” will automatically display new export formats when the RenderBooster is discovered. Depending on the current project resolution, these are MPEG 2, H.264 or MP4 file formats. The data rate can be set.



These modes are easily recognized because of the addition “RenderBooster”. Other modes (MPG, MTS) are not accelerated, but use the software encoder as before.

The acceleration is often considerable.

5. Troubleshooting

In case of difficulties with the RenderBooster, you should first completely switch off the Casablanca and then restart it. Simply restarting without a complete shutdown is not enough. The RenderBooster is its own computer and remains unaffected by a restart of the Casablanca. When the RenderBooster has become “out of step”, its power must be cut by a complete shutdown. Only then will it restart.

Please note: *the RenderBooster should not be connected or disconnected while the system is in use.*

If you have trouble using the RenderBooster for the first time, it is possible that the firmware update did not succeed. Repeat the procedure for its initial use.

Please consider: the firmware update can take several minutes and starts only a short time after the start of Arabesk.

MacroSystem Digital Video GmbH
www.macrosystem.de

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