

INFORMATION FOR YOUR BLU-RAY DISC (BD) PRODUCTION

Checklist in preparation of production

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| • To sign the contract with AACS LA and receive an own AACS ID: | duration 2-3 weeks |
| • To apply for an ISAN Number (optional): | duration 1 day |
| • To create a Master BDCMF image done by the authoring studio and burn and test a sample (BD-R) of this BDCMF image: | duration N/A |
| • To send the tested and released BDCMF material together with the AACS ID as hard disc or via FTP (Aspera Server) to optimal media: | duration 1 day |

Guidelines for the AACS licensing

The application of AACS (Advanced Access Content System) copy protection is obligatory for BD productions.

The rights' owner is obliged to sign a Content Participant Agreement or a Content Provider Agreement with AACS LA. This contract incorporates fees, which are to be paid to AACS LA directly by the rights' owner. You will be given a Content Provider ID. Please send this to optimal with your BD master.

An International Standard Audiovisual Number (ISAN) for authoring can be issued optionally to clearly identify audiovisual works. For this please register on:

<http://www.isan-deutschland.de> resp. <http://www.isan.org> and create the requested ISAN online.

For further information on AACS LA please visit the following link:

<http://www.aacsla.com>

The relevant licence agreements can be found under:

http://www.aacsla.com/license/AACS_Content_Provider_Agrmt_090619.pdf

http://www.aacsla.com/license/AACS_Content_Participant_Agrmt_090619.pdf

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VERIFICATION OF BD MASTERS ACCORDING TO BDA-GUIDELINES

The master will be checked here at optimal media following receipt of your order and master. The manufacturing of a BD sets high standards not only for production but also for the accuracy of content of the masters. In order to verify and ensure that only proper and functional discs are brought into circulation, a certification of the production chain is necessary from authoring to replication.

According to BDA licensing agreements, optimal media is contractually obligated to inspect all incoming BD masters. If we receive masters from an authoring studio which is certified by the BDA, this inspection is no longer necessary (currently certified studios in Germany: press9, Milchglas, Imagion, Enteractive, Infomedia).

If the BD master is not supplied by a certified studio, it is inspected in terms of its correctness of authoring and content using the „Sony Verifier“. This enables you to ensure that you have delivered a master that conforms to specification, and further processing can proceed seamlessly.

In case of error messages, optimal media provides feedback to the authoring studio. It is not permitted to readily produce from that master. In case the customer still insists to produce from this master, no BD logo is allowed to be used.

The inspection process requires an additional production time of 1 – 2 work days. Additional delays in the production process may result in case of any necessary error corrections.

Conditions

For the cost of the BDA verification process, we charge a fee per master for supplying masters from non-certified authoring studios.

We will subsequently send an e-mail to AACS LA requesting the Content Certificate (CC), using your Content Provider ID. This process usually takes three working days.

After the generation of the Content Certificate at AACS LA and the respective notification by e-mail, your master will be completed with this CC as well as an individual Media Key Block (MKB). With AACS your master is complete and ready for glass mastering.

Please note

It is compulsory for each replicated BD to be equipped with AACS copy protection. It is not permissible and technically impossible to manufacture a BD video title without AACS copy protection. Burned BD are an exception and we will gladly provide these separately for small runs.

The following AACSL costs apply for a BD production

- 1. Content Provider Licence** (usually a one-off fee per rights' owner)
You will receive the invoice directly from AACSL LA together with your Content Provider ID.
- 2. One-off costs per title** (Content Certificate (CC) and Media Key Block (MKB))
optimal media will charge you for these fees which will be passed on to AACSL LA as licence fees.
- 3. Licence fee per replicated disc**
optimal media will charge you for these fees which will be passed on to AACSL LA as licence fees.

Please be informed that AACSL licence fees are determined by the AACSL LA and are subject to change. optimal media will reserve the right to adapt charges in case fees change.

Project timeline for BD productions

Please take this rough timeline as a guide for your BD production.

Check of suitability for mastering and BDA-guidelines:	1 working day
AACSL Encryption:	2 working days (depending on AACSL capacity)
Mastering & Galvanic:	2 working days (depending on capacity)
Check Disc run:	4 working days
Check Disc approval:	Time taken depends on the client
Production of the order quantity:	10 working days (depending on order quantity/package)

The timeline is based on ready-to-process masters according to current industry standards. Please note that these are non-binding timings for the respective production steps, dependent on factors beyond our control and should be taken as a guidelines only. We will, of course, process your orders to your complete satisfaction as fast as possible.

Master delivery formats

The standard for BD delivery formats has not been officially stipulated. The following formats are viable/recommended:

- External hard disc including cable with BDCMF Image; type A
- BD-R, BD-RE
- Please send your BDCMF image (sent packed in a ZIP archive or along with an MD5 check sum) to our Aspera server, which is specially equipped to handle large data volumes, via the following link:
https://aspera.optimal-media.com/aspera/faspex/external/dropbox_submissions/new?passcode=e390925a6ac49013edc152fc0c163ce3f2b30356

Successful transmission will be confirmed per e-mail. In order that we use the correct data for your production, please send the confirmation e-mail along with the production order to your customer service representative at optimal media.

You are also free to use the BD+ copy protection or the interactive functions of BD Live for your production. Please label your master accordingly and inform us before the planned production.

Information about the playability of BD

The proper functioning of BD depends considerably on the software on your player. In the unlikely event that a BD does not work as expected, we kindly ask you to update your player to the latest firmware and Java version (BD-J) first. You will find the instructions in your players' manual.

During the programming of your BD the authoring studio makes a conscious effort to avoid popular players' common vulnerability. In case the disc does not work despite the use of the latest firmware, we are able to relate to your problem better, when you communicate the model and firmware version you are using in addition to the BD to us. There are a few players that do not function properly and there are no updates available for these.

If you have any questions, please do not hesitate to contact the person responsible at optimal media:

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