



DVD & BLU-RAY MASTERING GUIDELINES

The price estimate sent to you by our Sales team is based on the supply of a finished and *ready to manufacture* master disc. If you have no means of creating a master from the data you have, or need help in amending or enhancing your project, we will be happy to undertake this task to your exact specification. We have lots of experience in all kinds of multimedia work, so give our team a call for an estimate. If you wish to send us your files, rather than a finished master disc, please enquire as to the best method for supplying this.

Here are some general guidelines for creating and supplying your master disc(s):

- Always supply your master in the correct format. DVDs are manufactured from a disc image (rather than the distribution of files from a computer system, as is often presumed) so your master disc and copies must be like-for-like in format. For example, if you require DVDs and supply us the data on a CDR, a new DVD master will need to be created for you at cost.
- Use a quality brand of blank media to create your master, but do not use rewritable discs.
- Burn your master with appropriate software (see further guidelines below) and at the slowest speed available. Burning your master at high speed is counter-productive and can cause data drop-outs, which may lead to manufacturing problems.
- Please thoroughly check your master disc for issues prior to sending it to us as mistakes can be expensive to rectify once the manufacture has begun. Always test audio DVDs on a DVD player/TV and data discs (DVD-ROM) on PC and Mac, if possible.
- Do not include your print artwork files on the master disc itself. Send these files on another disc, via email, FTP or web host (see our Print Artwork Guidelines for more details).
- Avoid making just one master disc and sending that to us. We always advise that you send us one and keep one back for your own reference.
- Please label your master disc(s) using a suitable marker pen, with your company (or name) and/or estimate reference number; we may not be able to process unsolicited or unidentifiable masters. If your order comprises a multiple-disc set, ensure each master is uniquely identifiable (e.g. Disc 1, Disc 2 etc.) Never use any kind of paper or taped labels on DVDs. The application of a label causes rotational imbalance and may cause playback problems or render the disc unreadable – they can also shatter during rotation and thus we must reserve the right to refuse the processing of any masters that we think may cause such problems.
- Send your discs packaged individually and well-protected in a hard case of some kind. Loose discs or multiple discs packed back-to-back are easily rendered useless by scratches and scuffs to their underside reading surface. If they're sent with only a paper or plastic sleeve to protect them within an envelope, they can be cracked by the rollers of mail sorting machines or cracked in transit to us.
- Send your master to us via courier or Recorded Mail where possible. We cannot be held responsible for items missing or arriving late for a deadline if sent via a standard UK postal service.

Copy protection

There are many kinds of copy protection and content scrambling systems (CSS) available, but please note that this feature is *normally* available for replicated discs only. A one-off encryption set-up cost is incurred, plus a per-disc royalty surcharge depending on the brand of encryption used. If such protection is important for your project, let us know at the outset and we'll work out the best way to proceed, depending on the type of project on which you're working.

Return of your master disc

We do not return master discs along with your manufactured units as a matter of course. This is primarily for any future reorders you may require, but also that we need to keep the master for reference in the unlikely instance of a manufacturing fault on your product. If it is imperative that your master is returned to you, we'd be happy to do this – but only once the order is completed and paid in full. Please also be aware that once a master has been returned to you, we cannot uphold any future claims of faults on the manufactured units.

DVD-ROM

For DVD data discs, the same general rules apply for the creation of a CD-ROM, but a DVD disc can hold up to 4.7GB of data, a dual-layer DVD up to 8.5GB.

DVD-Video

As with any kind of master, please ensure you burn your master in the correct format using appropriate software. The authoring of DVD video projects is best undertaken by multimedia professionals to ensure that not only the picture, but menus and captions, are correctly rendered.

Media Hut is happy to estimate for such projects as necessary. We can author from video files (Quicktime files are best, though MPEG1 and MPEG4 are also good quality formats) and many kinds of digital tape; a fairly detailed brief of the finished project requirements will be needed for accurate price estimation, however.

DVD5

This is the industry term for single-layer DVD video. The capacity of 4.7GB applies, though the length of video to which this equates depends on the quality of the playback picture you require. Technically, it is possible to fit hours of video on a DVD5, but the compression required may result in very poor quality playback.

DVD9

This is the industry term for dual-layer (DL) DVD video discs whereby two thin readable layers are bonded together. The lower, first layer (Layer 0) is read first and is semitransparent, allowing the laser to read through to the next, Layer 1.

Dual-layer DVD authoring can often be problematic for video projects; the track path and the data size written to each layer should be determined before recording the master disc. The transition between layers, or *layer break*, has to be specified at the authoring stage, ideally so that it does not occur during a portion of video and create too long a pause while the reading laser switches during playback. Where possible, author the break between titles/chapters if the kind of project being authored allows this and, for video (rather than DVD-ROM) Opposite Track Path (OTP) is preferable to Parallel Track Path (PTP). OTP means that the laser reads from the inner of the disc to the outer, then back in again on the second layer.

For replication, it is traditional for DVD9 masters to be supplied as two separate DDP images (one for each layer) on two Digital Linear Tapes (DLT) or two data discs. If supplying your master on one dual-layer DVDR, please contact us first as we may not be able to manufacture from an incorrectly-authored master disc; failure at the digital loading stage is not uncommon.

DVD10

This is basically two DVD5 discs manufactured back-to-back, creating a double-sided DVD. These are quite rare items, usually only seen when a company requires PAL and NTSC versions of the same video project on one disc. Aside from being an awkward item to manufacture, the only print area available for use is a narrow ring around the inner hub.

Blu-ray Mastering

We can replicate and duplicate Blu-Ray discs, but please note that there may be special conditions involved in mastering and set-up that are too lengthy to note here. Give us a call and ask to speak to our Production department if you're unsure of how to proceed.

The TV Safe Zone

The most common fault we see in DVD video masters is that the project has been authored without realising that TV and computer screens differ enormously – even the pixels are a different shape. A television, even some modern digital models, cannot usually deliver the full picture seen on a computer screen and a percentage is cropped around the edges. This is important to note when using menus, titles and captions, regardless of the aspect ratio chosen. Professional DVD compiling software packages, such as Final Cut Pro and DVD Studio Pro have a mask function to show the safe limits to which you should work. Do call us if you need advice.