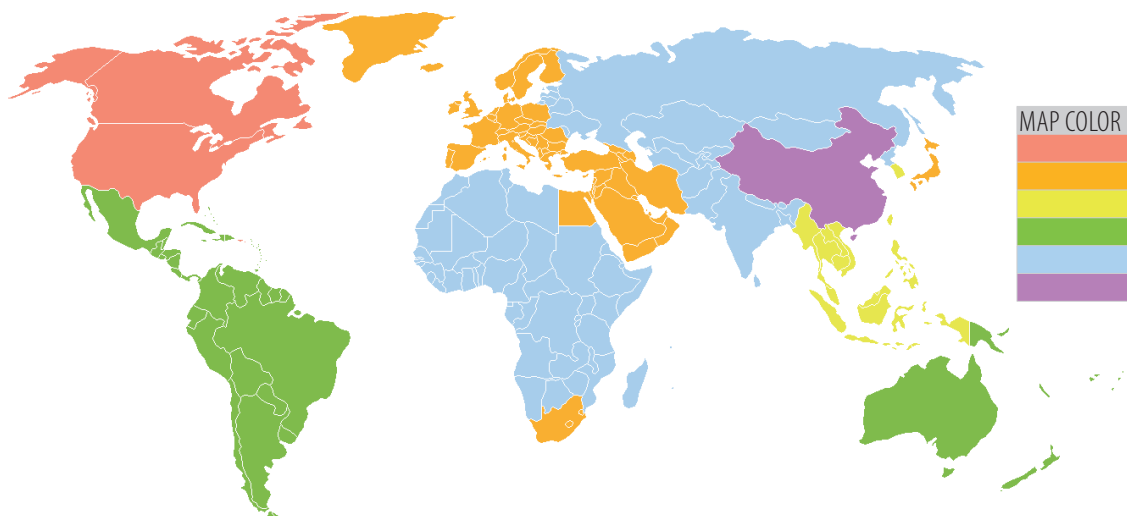


# A GUIDE TO CREATING *DVDs with Vervante*

## WHAT IS "DVD REGION CODING"?

All DVD's are coded to permit or prohibit playback in specific regions of the world. The movie industry has divided the global DVD marketplace into six zones. This regional coding system was introduced to combat piracy and control the release dates of movies on DVD in different parts of the world. It also allows film distributors to stagger theatrical and DVD movie releases across the world's various markets. Thus a film can be released for sale on DVD in one territory only, with access to the disc restricted via regional coding so that this DVD cannot be viewed on a DVD player from another differently coded territory where the film may not have even been released in cinemas yet.

## DVD REGION MAP



MAP COLOR	REGION	AREA
Red	Region 1	North America
Orange	Region 2	Japan, Europe, South Africa
Yellow	Region 3	Far East
Green	Region 4	Latin America, Australia
Light Blue	Region 5	Africa, India, Russia
Purple	Region 6	China

## HOW DO "REGION-FREE" OR "REGION 0" DVD'S WORK?

These are discs that have every playback region permitted. This means that the disc can be played in any (format compatible) player in the world and will not be blocked by region restrictions.

## CAN I REQUEST THAT VERVANTÉ AUTHOR MY DVD AS REGION-FREE?

No need to! We always author region-free by default. We only author with region restrictions when specifically requested to do so by one of our customers.

## HOW MUCH VIDEO CAN I FIT ON A SINGLE DVD?

It varies, depending on the content and disc type. Just keep in mind that the more content you pack into a disc, the lower the bit-rate will be (possibly resulting in some visible compression artifacts). Lots of action and movement requires a higher bit-rate to compress than a static slide presentation or screen-cast does.

Disc Type	Disc Size	APPROXIMATE VIDEO CAPACITY	
		Screen-cast Content	Live-action Content
Single-Layer DVD (DVD-5)	4.37 GiB	3-4 Hours	2-3 Hours
Dual-Layer DVD (DVD-9)	7.95 GiB	5-6 Hours	4-5 Hours

## WHAT FEATURES DO DVD'S SUPPORT?

Multiple video streams, video angles, audio tracks, subtitle tracks, static and motion menus, slide-shows, stories, and chapters.

## WHAT VIDEO FORMAT DO DVD'S USE?

MPEG-2 video, CBR or VBR, 2-8 Mbps.

## WHAT AUDIO FORMAT DO DVD'S USE?

PCM, AC3, or DTS audio, up to 6 channels, 64-1500 Kbps.

	Frame Aspect Ratio	Resolution	Pixel Aspect Ratio	Frames Per Second
NTSC Fullscreen	4:3	720x480	0.91	29.97
NTSC Widescreen	16:9	5-6 Hours	4-5 Hours	29.97
PAL Fullscreen	4:3	720x576	1.09	25
PAL Widescreen	16:9	720x576	1.46	25

## DO DVD'S HAVE SPECIAL FORMATTING REQUIREMENTS?

Yes. All the audio, video, subtitle, and menu content must be in the correct format, and then muxed (joined) into a series of VOB files. These are then combined with the video manager and title set IFO, BUP, & VOB files in a standardized format, and recorded using the UDF filesystem.

## WHAT DOES VERVANTÉ NEED FROM ME?

To begin DVD duplication we need a correctly authored DVD Master. If you want to create it yourself there are many commercially available software programs that will allow you to do this. These programs vary significantly in price, complexity, and capability.

## WHAT ARE "NTSC" AND "PAL"?

They are two different video formats used for TV and DVD's. Every country uses either one format or the other. The primary differences between the two are the image resolution and frame rate.

## IS THERE A WAY TO MAKE A DVD THAT IS BOTH NTSC AND PAL?

Unfortunately, no. A DVD must be authored as either one or the other, and can't contain both formats on the same disc.

## WHAT SHOULD I DO IF I WANT TO SELL MY DVD TO CUSTOMERS WORLDWIDE?

You have three options: First, some PAL DVD players will play NTSC DVD's (assuming the disc is region-free). Since this feature is not available on all

PAL DVD players, you may have some customers in PAL countries unable to play your disc. Second, you can instruct your PAL customers to view your DVD in a computer. Computers can play both NTSC and PAL discs without a problem (assuming the disc is region-free). Third, you can create and sell masters in both formats.

## CAN I HAVE BOTH NTSC AND PAL VERSIONS OF MY PRODUCT FOR SALE?

Absolutely! You just provide us with DVD masters in both formats.

## NTSC AND PAL WORLD MAP

