Dolby® E encoded audio streams within VCube

VCube can record and playback digitally encoded audio streams such as Dobly E and Dolby AC3 due to its unaltered, calibrated “bit for bit” linear digital audio engine either through Merging’s proprietary digital audio hardware interfaces or through the AJA® video boards used by VCube. VCube also handles all major audio file formats within its time line including .WAV, .BWF, .AIF, .AVI, .PMF, .MOV, .MXF, .MPG and many other linear (and non-linear) media formats.

Dolby E is particular in that it requires a minimum of a 16 bit 48 kHz audio stream to contain a 3/2 audio format (equivalent to a six channel 5.1 surround sound speaker set program) and a minimum of a 20 bit 48 kHz audio stream to contain a 3/2 + 2 audio format (six channel 5.1 plus an additional stereo signal). VCube’s hardware and software provide the necessary bit resolutions to allow for the capturing of Dolby E encoded audio streams from calibrated linear digital audio devices like digital video decks, digital audio/video signal routers, mixing consoles, DAWs and Dolby manufactured encoding hardware as well as un-altered playback to compatible digital audio gear.

A VCube turnkey system equipped with an AJA video board may play out Dolby E encoded audio in sync with a video black burst reference and any positional time code source. Merging’s digital audio boards are equipped with video reference inputs, a time code input and digital audio I/O in the following digital audio interface formats which allow for frame edge accurate synchronization : AES, MADI coaxial, MADI optical, SDIF, TDIF and ADAT. The AJA video board has the ability to play out Dolby E encoded audio from VCube through both its AES outputs and eight embedded audio tracks contained in its SDI and HD SDI outputs. These output latency of VCube conforms largely to Dolby’s required -22 to 90 samples of delay in PAL frames and -25 to 68 samples of delay in NTSC frames of a 48 kHz AES signal in relation to the frame edge for proper decoding of Dolby E encoded audio. Tolerances are measured at fewer than 5 samples when played back from VCube’s digital audio outputs.

VCube’s intuitive non-destructive frame edge editing functions allow for quick and easy editing of Dolby E encoded audio clips to picture from within VCube’s time line. Frame edge editing means that all cuts done on Dolby E encoded material falls within the safety gaps of each Dolby E frame so you never get a badly decoded frame on playback. All editing done within VCube is also real-time so no there is downtime while waiting to render your changes. Just cut, paste, audition and generate the final video file only at the end of the editing process by rendering, wrapping or even laying back picture and audio to another video recording device.

VCube wraps audio tracks to video files so that embedding your new audio tracks into existing picture never degrades or modifies the original video file at all. You simply place your new audio tracks into the VCube time line in sync with the video file and in place of the old sound tracks and click “Wrapper” to open the wrapping tool’s dialog box and save your new video clip version. To date VCube’s wrapping function works with video files encoded in formats like; Avid® DNxHD, AVC Intra, D-10 IMX30/40/50, and MPEG2 HD and the list is continuously growing as per the expanding demands of today’s video industry.