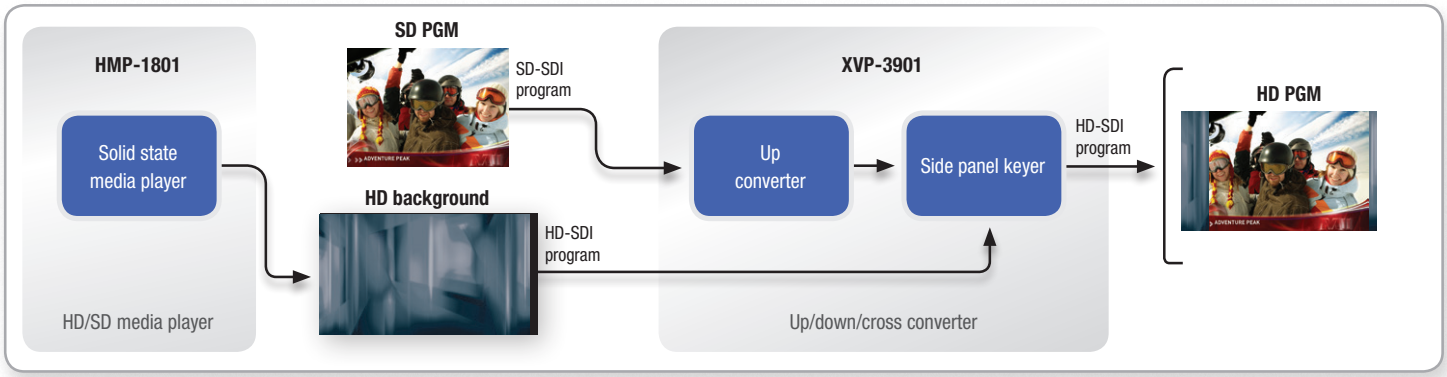
Upconversion with Background Keying

Upconversion with background keying using XVP-3901 and HMP-1801:

The XVP family of interfaces features a background keying capability which allows side panels or letterbox black bars, introduced by upconversion, to be filled with video or graphics using the HMP-1801 media player module.

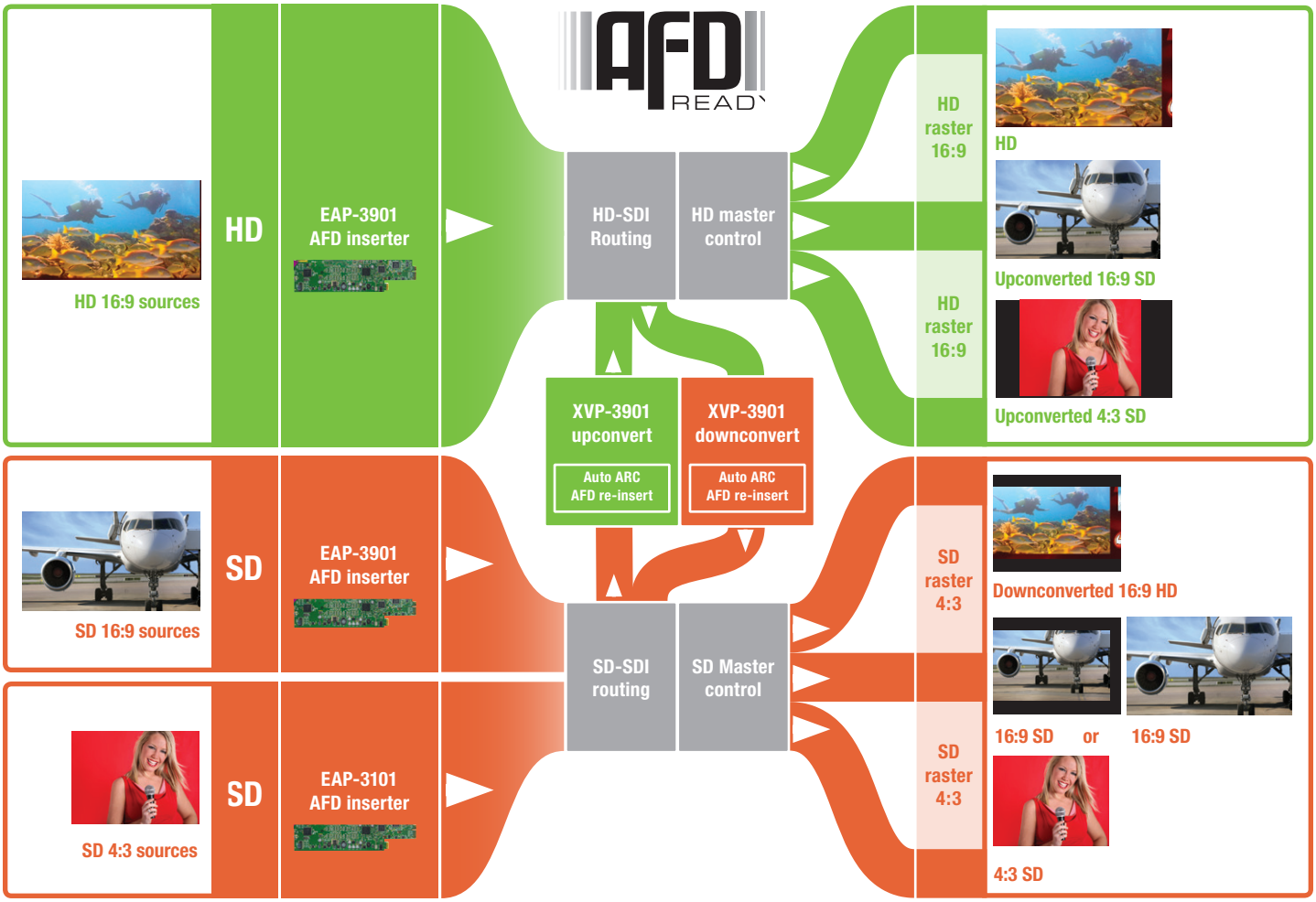
Upconversion with background keying using XVP-3901 and HMP-1801

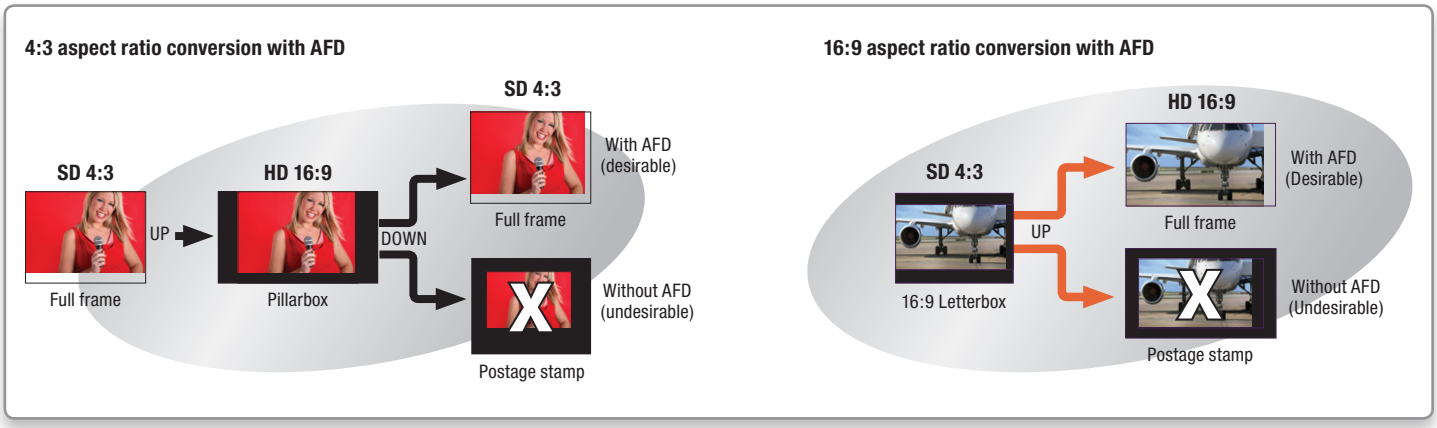


Frame Accurate Aspect Ratio Conversion with AFD

Frame accurate Aspect Ratio Conversion (ARC) can be performed automatically using embedded signaling based on the Active Format Description (AFD) standard. AFD data can be easily embedded in a signal by the Densité XVP processor family, and by the EAP-3901 embedder. With AFD, original image information is maintained throughout the entire conversion process for optimal viewing following 4:3 and 16:9 aspect ratio conversion.

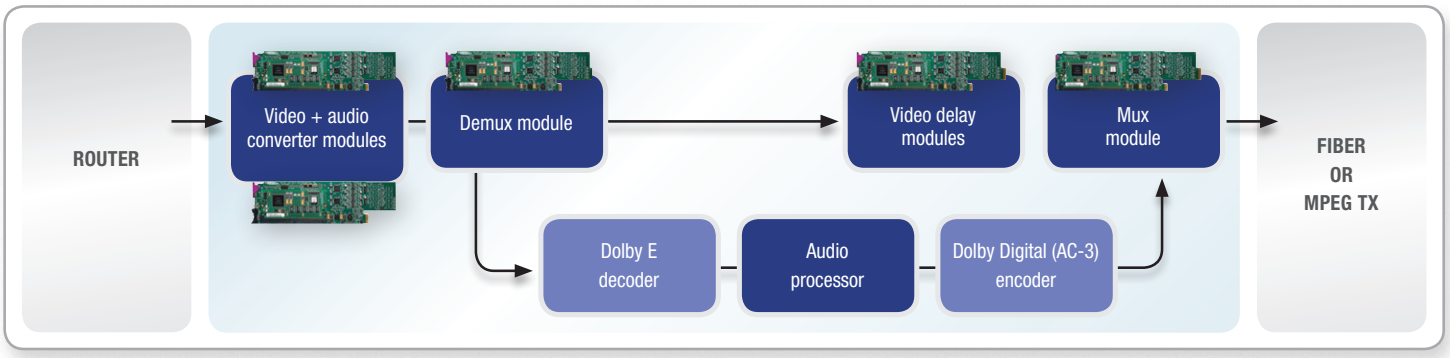
For example, processing three input source formats (16:9 HD, 16:9 SD and 4:3 SD) in a typical HD/SD hybrid plant results in six different output possibilities. However, using automatic aspect ratio control based on AFD will prevent the ARC errors that may occur with manual control.



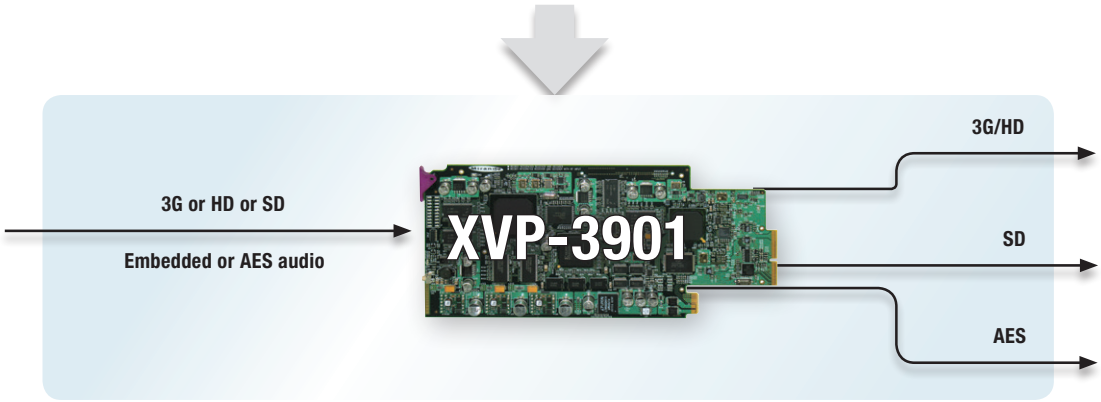


Incoming Feed Processing

Using the XVP-3901 significantly reduces the amount of equipment required for incoming feed processing. A single XVP-3901 replaces multiple single function devices to provide Dolby E decoding, audio processing and Dolby Digital or Dolby Digital Plus encoding.



Traditional approach to Dolby E decoding and Dolby Digital or Dolby Digital Plus encoding using multiple devices.

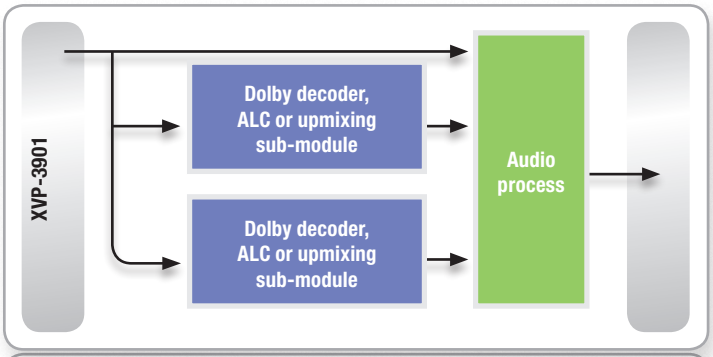


Using a single XVP-3901 3G/HD/SD up, down and cross converter with audio processor for incoming feed processing.

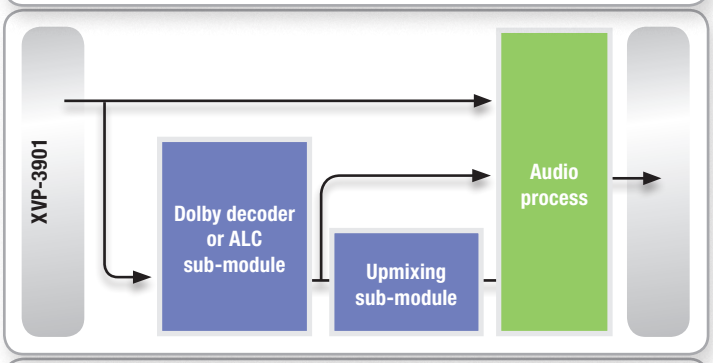
Incoming Feed Problems	XVP-3901 Features
Remote feeds need to be adapted to station infrastructure	Frame synchronization, full proc controls, color correction and legalizer
Multiple audio formats and audio synchronization: • Mixed up audio tracks • Lip sync • Dolby E and Dolby Digital encoded inputs • 5.1 audio • Loudness level	• Extraction, processing and re-insertion for up to 4 embedded audio groups • Video to audio match delay and fixed delay • Audio track mixing and shuffling • Discrete audio inputs/outputs handled using complimentary audio modules • Dolby Metadata insertion, and will delay Dolby E audio without compromising encoded signal • Decode Dolby E or Dolby Digital to discreet PCM channels • Audio downmix from 5.1 audio to a Lt Rt or Lo Ro audio 2 channel signal • Stereo to 5.1 upmixing using Linear Acoustic technology • Automatic loudness control
Receiving SD or HD signals at different times of the day	Built-in up and downconversion automatically converts current input to house format
Receiving 1080i into 720p plant (or vice versa)	Built in 720p to/from 1080i crossconversion eliminates need for costly external converters
Providing 16:9 and 4:3 aspect ratio conversion	• Automatic, frame accurate aspect ratio conversion using embedded signaling, based on the Active Format Description (AFD) standard • Background keying capability to fill side or top/bottom panels with graphics

Flexible 5.1 Audio Processing

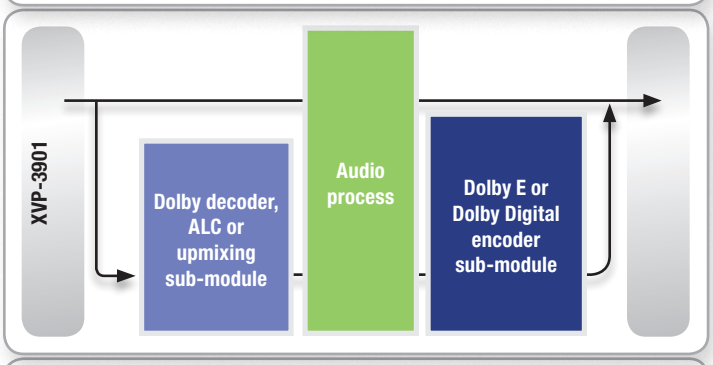
The XVP-3901 can provide very versatile audio processing sequences, due to the flexibility of the optional audio sub-modules. The sub-modules include Dolby E decoding, Dolby Digital decoding, Dolby E encoding, Dolby Digital and Dolby Digital Plus encoding, Linear Acoustic upMAX 2.0 to 5.1 upmixing and automatic loudness control (ALC). Two audio sub-modules can be fitted to an XVP-3901 processor. All audio channels created by the modules are preserved, and can be selected in the output shufflers and mixers for embedding or discrete AES outputs.



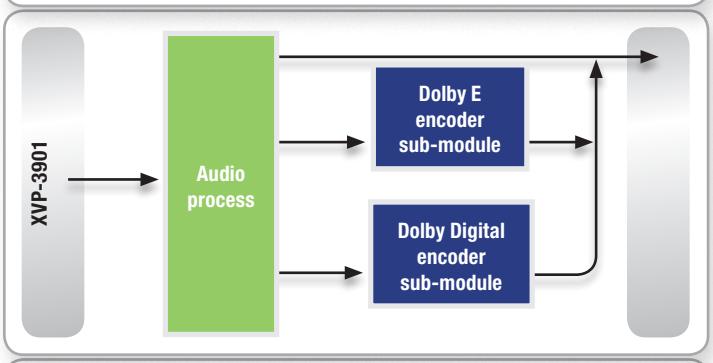
Dolby E / Dolby Digital (AC-3) decoding, automatic loudness control (ALC) or upmixing (or a different combination of these sub-modules) used in parallel ahead of audio processing.



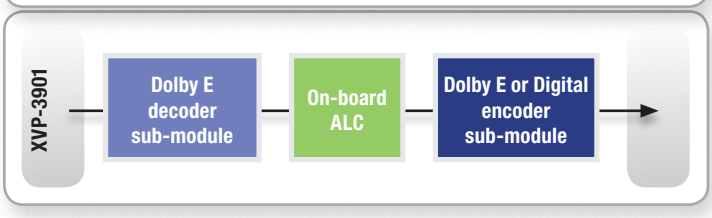
Dolby E / Dolby Digital (AC-3) decoding, ALC or upmixing (or a different combination of these sub-modules) followed by upmixing ahead of audio processing.



Dolby E / Dolby Digital (AC-3) decoding, ALC or upmixing followed by audio processing, and subsequently Dolby E or Dolby Digital (AC-3) encoding.



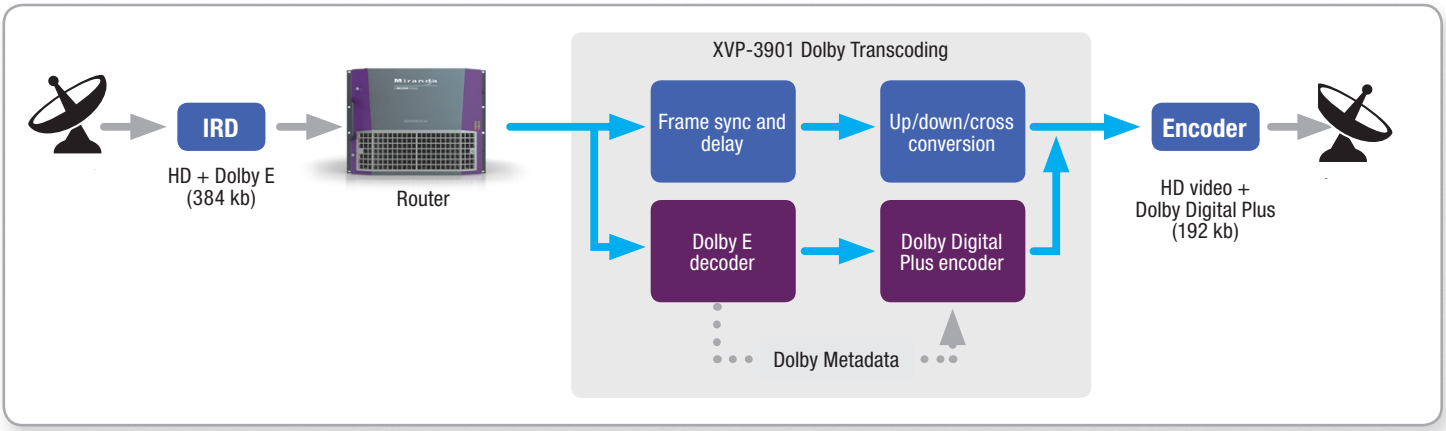
Dolby E and Dolby Digital (AC-3) encoding (or a different combination of these sub-modules) used in parallel after audio processing.



Dolby E decoding, ALC followed by Dolby E or Dolby Digital encoding.

Dolby Digital Plus Transcoding

The addition of Dolby Digital Plus to the Dolby Digital encoder means that Grass Valley's audio processing module will provide the same high-quality audio compression they always have, but at a data rate as much as 50 percent lower than currently required, enabling 5.1 multichannel audio at rates as low as 192 kb/s. When combining Dolby E decoding and Dolby Digital Plus encoding, broadcasters can can deliver an efficient multichannel surround sound across multiple platforms and content types.



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