

Remote Production for Sports or Fixed Location Event Coverage

SOLUTION BRIEF



The business of broadcasting live sports and special events such as award shows continues to grow exponentially, boosted by the increase of specialized TV channels and the ability to stream live high-quality video over IP managed networks. Covering these events typically requires that six to 12 video feeds be sent from production trucks at the stadium or arena to a central location, often a studio, with a return channel for interviews. Efficient contribution encoders are an essential part of the equation, tasked with compressing and transporting the content with low latency while assuring premium picture quality.

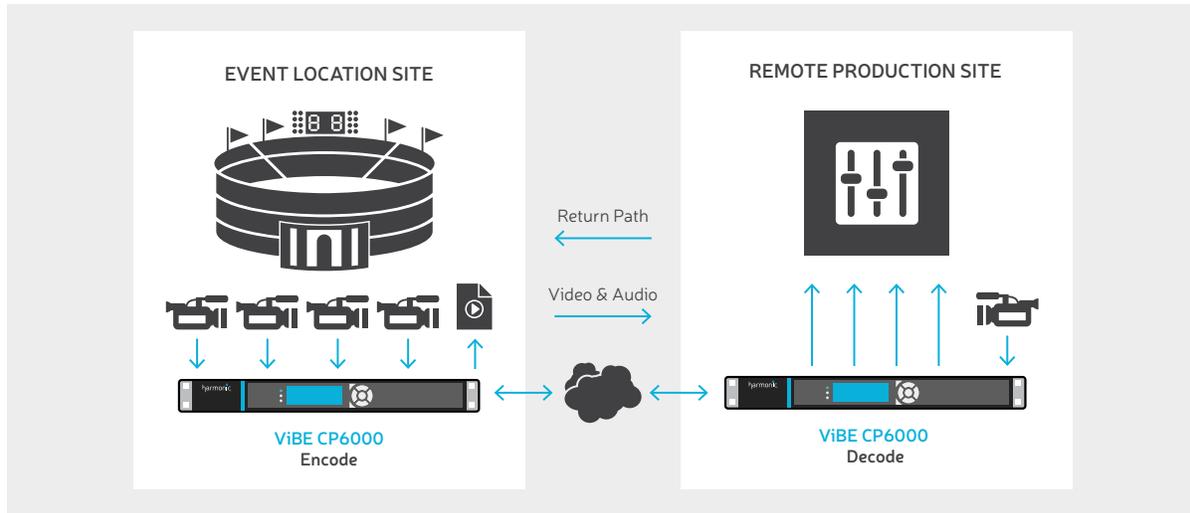
The growing number of remote productions is placing increased pressure on broadcasters to reduce the costs of covering live events. Utilizing an IP-based video infrastructure and transport network to relocate on-site production equipment and staff to a centralized production location can help. A high-density remote production solution from Harmonic makes it happen. Featuring the ViBE™ CP6000 contribution platform, the Harmonic solution simplifies the ability to transport superior video from the remote location to the studio via IP, and reduce costs in the process.

College sports, soccer, winter sports, extreme sports and other live productions that carry a high number of feeds can realize immediate benefits from the Harmonic remote production solution. Deployable as an encoder or a decoder, the CP6000 allows broadcasters to build dense encoder farms, with up to eight encoders in one rack unit, and deliver pristine picture quality thanks to MPEG-4 AVC 4:2:2 10-bit ultra-low latency compression for SD, HD and Ultra HD content.

HIGHLIGHTS

- Optimized bandwidth using premium compression codecs
- High-density contribution platform for up to eight SD/HD or one UHD channel
- Frame-accurate encoder synchronization
- Mission-critical solution featuring 1+1 chassis and IP path redundancy switching
- Easy to deploy, upgrade and maintain
- Future-proof solution based on a scalable architecture

Friendly Features for Remote Production



Transport over IP for remote live production using the ViBE CP6000 for encoding and decoding

Possessing multi-format, multi-codec capabilities, the ViBE CP6000 contribution platform is the smart choice for remote production. On the transmission side, multiple encoders can be synchronized to a master SDI switcher, for instance to feed a slow motion server on the receiving side with frame-accurate synchronized feeds. This synchronization is achieved through a backplane connection, needed on either the encoder or the decoder side. Up to eight camera feeds can be delivered over the network, and codec latency can be fixed to other compression parameters, easing the remote studio operator actions. In addition, the delivered SDI signals can be synchronized with the studio clock via genlock.

A ViBE CP6000 can also deliver a high number of audio channels: up to eight stereo per SDI input. All audio feeding the encoder is perfectly synchronized at the decoder output, allowing 5.1 surround audio compression at the production stage.

The ViBE CP6000 is built on a modular, future-proof 1-RU chassis, including hot-swappable cards. These cards can be configured as single or dual function, either as an encoder or decoder, easing the adaptation of the chassis to the event requirements; for instance, the same chassis can support up to eight SD/HD encoding/decoding channels today and six encoders/two decoders tomorrow, simply through software reconfiguration. Hence, highly resilient compact architectures for mission-critical applications can be designed, including:

- Video transport over IP networks, secured with the SMPTE 2022-1 forward error correction scheme
- 1+1 automatic redundancy per chassis, including up to eight channels, with the Harmonic Amethyst™ III redundancy switch
- 1+1 transmission path redundancy with seamless switchover on reception by the decoder
- N+P redundancy, supported via the Harmonic VOS™ Flex software-based media processing platform

Conclusion

Remote production can significantly reduce costs by cutting the number of production vehicles and staff members sent on location to cover live events. With a long track record of providing solutions for the transport of professional-grade TV services, Harmonic is the natural choice for carrier-class remote contribution. The ViBE CP6000 offers ultra-low latency and premium picture quality, making it the right choice for high-end contribution, both today and into the future.