

ALL MOBILE VIDEO CASE STUDY



CHALLENGE

To help All Mobile Video maintain the status of the OB van 'Eclipse' as a market-leading offering in terms of IP production technology and broadcast reliability.

SOLUTION

Installation of a VB440 production probe.

RESULTS

Initial use of the probe to sweep the truck identified a number of IP devices operating outside of parameters, and in this way facilitated equipment correction before it proved to be mission critical. Ongoing sweeps continue to be used before every production to ensure preventative trouble-shooting, whilst in-the-moment and over-time metrics allow for on-the-fly and long term network adjustments to be made as needed. Overall, reliability has been dramatically improved, which serves bottom-line benefit in terms of AMV's reputation as a company able to deliver production excellence.

In addition, the VB440's vast range of audio and video creative tools allow AMV to deliver faster, more efficient and more creative productions for their clients.



All Mobile Video (AMV) – founded in 1976 by Anton Duke and based in New York – are a provider of global production services, catering for organisations across the full spectrum of the market - from niche productions to national broadcasters. Offering equipment rental, sound stage access, post-production services and OB van rental, **AMV's focus remains on providing the most up-to-date, cutting edge technology that allows broadcasters to push the boundaries of what, where and how they bring content to their audiences, be this live event, sports or cinematic production.**

AMV have provided services for some of the most high-profile productions in the industry, both in their native New York, as well as in events across the US and down into Central and Southern America. Whether it be high in the skies or deep underground, AMV have remained immersed in high-level, complex and technologically challenging productions, offering more and more creative possibilities to their clients as technologies evolve.

OVERVIEW OF NEED

AMV have been expanding particularly in the field of Outside Broadcast, and their extensive fleet of OB vans extends from compact vans to fully extendable, double-unit, tractor-pulled movable studios. One of the most significant offerings in their fleet is the 'Eclipse', which first rolled in the spring of 2020. Built on a Cisco leaf-spine network architecture based on SMPTE ST 2022-7 to provide complete redundancy, and adopting some of the leading IP broadcast network technologies in the market, the key aim of the Eclipse is to provide customers with access to the extensive and boundary-breaking production capabilities inherent in IP.

AMV did not approach Bridge Technologies directly with a specific need, but instead were approached through business partner 2110 Solutions. 2110 Solutions – through previous interactions with AMV over the course of a number of industry events – had recognized the immense potential benefits the VB440 could bring to AMV. Working to facilitate connection between AMV and Bridge Technologies, an initial virtual demonstration was given by Simen Frostad, from which AMV were keen to move forward. 2110 Solutions' Joe LoGrasso then worked to complete the deal and facilitate the installation.

What 2110 Solutions had noted particularly in their interactions with AMV was the fact that much of their production activity involved flipping between UHD/4K and fully uncompressed, full bandwidth productions, which was something that could be made significantly easier through the adoption of the VB440. Similarly, with audio, on any given day AMV may find themselves engaging in productions which make use of stereo, 5.1, 7.1 or any combination of immersive audio. As such, a focus on the ease with which multiple broadcast and audio formats can be accommodated simultaneously with the VB440 represented a key focus of the demonstration given, and was highly persuasive.

More than this though, once installation had been undertaken, it emerged that the VB440 was able to meet a whole host of extended needs that had not yet been identified. Once up and running, the VB440 was used to sweep devices on the truck and it was identified that a number of devices were not adhering to the ST 2110 standard in some of their elements flows. Additionally, it was identified that a number of SFPs were either non-functional or operating outside of accepted parameters. Failure of these components 'in the field' could have proved mission critical, so the identification of these errors – which otherwise would have gone undetected until the moment of failure – proved to be vital.



Speaking of the new integration, **“The VB440 probe has become the “go to” tool on the truck before and during any live production.**

We use it to sweep and compare all the devices for errors across both redundancy layers to assure device, QSFP, and signal flow integrity, both before the truck rolls out of the bay and during live productions”. He continued: “Because the Eclipse covers high-profile events, it’s critical to know when errors occur on any of our sources and remote feeds, through the use of notifications and alarms. We’ve been really impressed with the ease of integration of the VB440 and how seamlessly it has worked in our NMOS environment.”

Paul Butkiewicz

Technical Supervisor, All Mobile Video

TECHNICAL DEEP-DIVE

The VB440 represents a set of comprehensive production tools contained in a single instrument, designed to give technical and creative professionals the insight needed to complete tasks on a fixed, remote and distributed basis. Providing the right tool at the right time, the VB440 incorporates packet analysis, content visualization, scopes, audio and deep engineering.

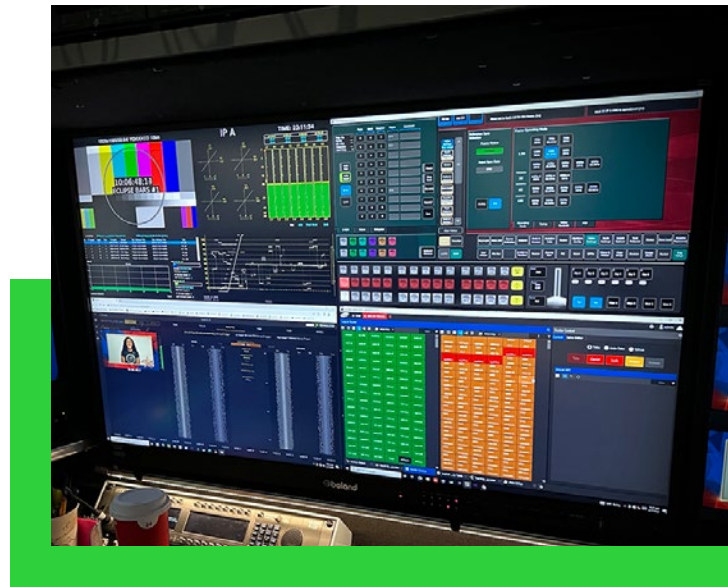
It uses monitoring and analytical data to generate visual information that drives in-the-moment decision making: condensing a range of IP production functions into one appliance, accessible from any HTML-5 browser, anywhere in the world. Providing analysis of SD, HD, HD HDR, 4K, 4K HDR and above, supporting speeds of up to 100 Gigabits, and operating in both compressed and uncompressed production environments (including JPEG XS), the VB440 also incorporates full redundancy analysis according to ST 2022-7.

The VB440 therefore serves AMV – and their clients – in two specific ways. The first of these is in facilitating comprehensive understanding of packet behaviour in order to maintain network performance and engage in early error detection. The second is in providing vital visual representations of audio and visual data that can be used by creatives to guide the artistic dimensions of the production. It provides browser-based access to eight simultaneous users, giving them simple tab-based access to network, packet flow, video, audio and auxiliary information.

From the engineering side, data is presented using the MediaWindow; a single, composite graph that displays packet loss and jitter, using waterflow to represent both current and historical data that allows efficient troubleshooting and error detection, along with long-term, strategic decision making. In addition, engineers can quickly access information concerning media metadata, deep packet analytics, signal integrity, redundancy relationships and PTP clock synch, all of which facilitate in-the-moment and over-time error detection.

From a creative standpoint, AMV were able to significantly reduce the need for single-purpose, cumbersome and fixed equipment (including rack elements and screens) within the Eclipse, since the VB440 delivers a full range of waveform, vectorscope, diamond view and chromacity scopes - all accessible within a single browser window. More than this, the VB440 provides video preview – allowing colorists the ability to see exactly what audiences at home are seeing. This includes the ability preview HDR images even on non-HDR screens, through the application of a unique HDR-SDR LUT. A comprehensive range of closed caption analysis tools are also incorporated.

Audio-wise, sound engineers are granted the ability to both hear and visualize sounds across the full production, listening to 7:1 and 5:1 outputs over stereo through any browser, whilst monitoring multi-speaker outputs through customized mapping for up to 64 audio flows, with LUFs, Gonio and rooms meters. In the compact environment of the Eclipse van where sound engineers do not have the room for full sound space analysis, the ability to monitor different audio setups through a downmix and meters with suitably calibrated ballistics for close analysis is invaluable.



**VB440
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IP production
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ADDITIONAL ELEMENTS

Of particularly importance to AMV was the ability to integrate the VB440 quickly and easily within the existing IP infrastructure. The VB440 is versatile in the sense that it functions effectively both as the base from which a greenfield IP installation is built, or as a 'drop-on' element added to existing brownfield IP infrastructures, which is immediately able to act as a lynchpin of monitoring and analysis for all IP flows within the production environment.

For AMV, quick installation was vital because the Eclipse van is in constant demand, and this meant any downtime spent installing or troubleshooting would result in lost revenue. The fact that every facet of the VB440 can be integrated through NMOS meant that it was a seamless process to install the VB440 (itself a single rack component) and ensure that it communicated with all IP dimensions of the on-board setup through Grass Valley's own Orbit Orchestration system.

OUTCOMES

AMV have taken full advantage of the VB440 in relation to both its creative and network engineer capacities. Before every project the full suite of analysis, test, and measurement tools are deployed to ensure that every aspect of the Eclipse IP network is ready to roll. In this way, absolute reliability and integrity of production is ensured for every client and production. More than this though, the monitor and test capacity of the VB440 is not just valid in a pre-deployment context; the real-time metrics and the fact that they can be recorded historically with integrated PCAP functionality means that the VB440 operates perfectly as a tool for both 'on-the-fly' diagnostics and longer term data-gathering in order to make ongoing engineering refinements. This ability to check network performance before production, in-the-moment and over an extended period is vital to improving the overall reliability and stability of the Eclipse truck, which is of course vital to maintaining AMVs quality of provision and enduring reputation.

Aside from pre-roll reliability, the creative potential facilitated through the VB440 also provided immense value to AMV. Because All Mobile Video roll their trucks both with their own team installed or as equipment ready for clients to install their own production teams in, then it is vital that the tools contained within retain the highest levels of familiarity and usability to creative production professionals. Any audio and video professional will be familiar with the tools incorporated within the VB440, and able to integrate them seamlessly into their workflow due to the highly intuitive, at-a-glance nature of the visualizations and monitoring instruments.

Ultimately, integration of a VB440 into the Eclipse truck has improved the reliability of the Eclipse and allowed AMV to ensure that they continue to offer customers services which make use of the most cutting-edge technologies and workflows currently available in the industry, facilitating faster, more efficient, lower-cost and more creative productions. In this way, AMV are able to secure a vital source of competitive advantage and maintain ongoing reputational benefit.



Learn more about how VB440 can improve your video production at [bridgetech.tv](https://www.bridgetech.tv)

