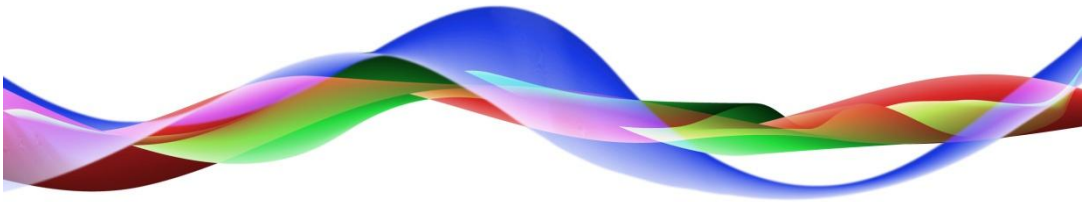
LSB
Broadcast Technologies GmbH

01 Introduction

vsmStudio

Manual



BME

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Content

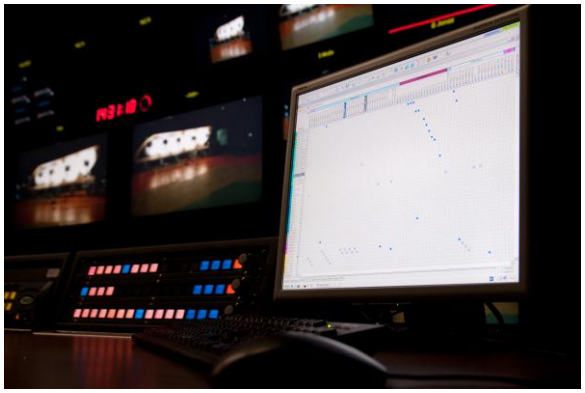
Introduction

It’s done: The vsmManual has reached the stage of publication and can now be distributed to all those working with the VSM. First of all, we therefore want to extend a thank you to all those who have participated in the creation process of this manual: the LSB project management (Humphrey Hoch, Jan Hanitzsch, Meike Fuhrmann and Sascha Jungkunz), who made time in their already extremely busy schedules to document their expert knowledge of the software. We also want to thank the LSB software developers (Michael Jones, Marius Keuck and Philip Boger) as well as Frank Sucky, Regina Stoll, Sölvy Brakhuis and Wilfried Luff for being a great source of support during the entire journey. Last but not least, we want to thank Lukas Lemcke and Lawo North America for the professional and trouble-free cooperation during the translation of the manual into English. We hope you enjoy the read, as well as the subsequent configurating and, of course, working with the VSM control system!

Bingen, June 2011

1 VSM – The Virtual Studio Manager

The basic concept of the Virtual Studio Manager – short VSM – is to enable the control of all production and broadcast relevant devices, parameters, and functions on one, freely configurable user interface with one control system independent of the manufacturer. Within a few years, this vision grew into one of today's most powerful and cost-efficient universal control systems for broadcast applications. Having already become the standard for OB-Vans, LSB's control system has also proven itself to be a reliable partner for extensive control functions in radio and TV studios as well as master control rooms around the globe.



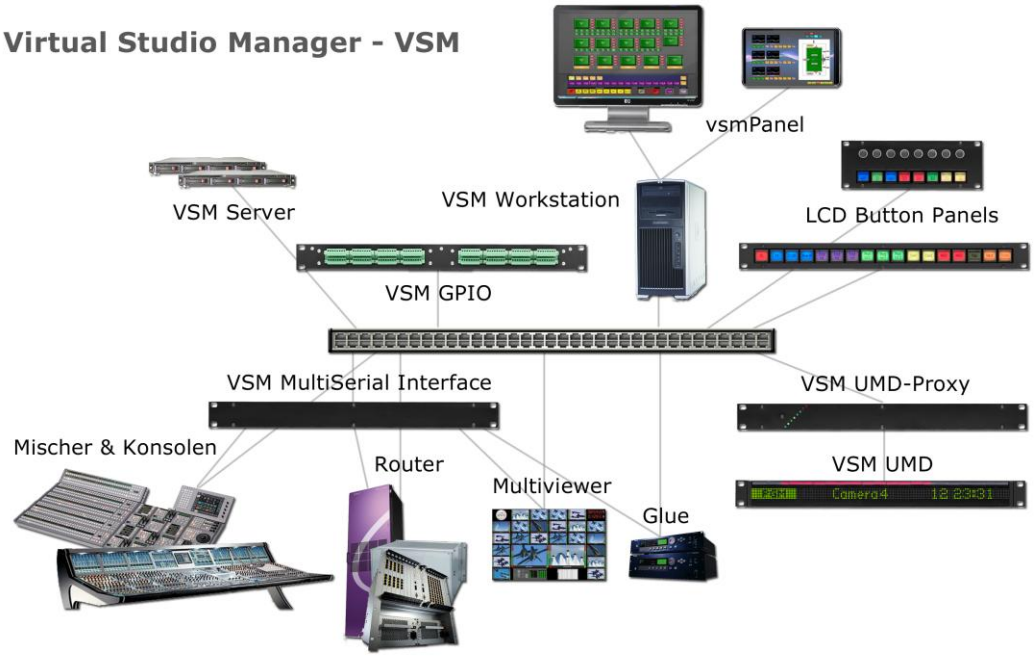
VSM: Standard solution for OB-Vans

The VSM controls routers and their integrated DSP functions, multiviewers, video mixers and audio consoles, modular equipment as well as any third party devices. Additionally, the VSM control system offers functions, such as Tally, GPI, and Tie-Line Management as well as global labels of connected devices without requiring additional control systems. Most importantly, the VSM offers a unique feature: Run together with the vsmPanel application, the control system provides numerous, freely configurable software front-ends for all users and applications. This makes the Virtual Studio Manager the most flexible control solution to satisfy constantly evolving production demands.

Example of the completely freely configurable control surface

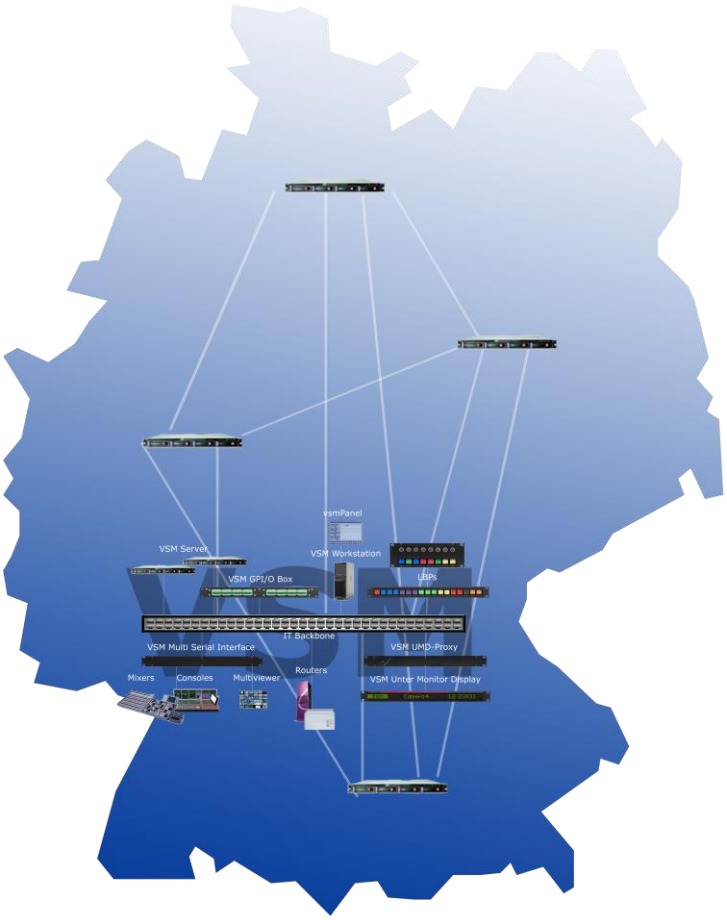
2 The VSM Topology

The VSM control system is IP based. This means that the VSM is designed as an “Island Solution” but can also be smoothly integrated into an existing network. The VSM supports anything up to Layer3. Devices to be controlled are connected to the IP backbone, while third party devices are connected to the VSM via TCP/IP or RS-422/RS-232. If the latter only feature serial ports, CommServers must be used to translate from RS-422 or RS-232 to TCP/IP. The TCP/IP structure also allows remote access to the system.



VSM topologie

The base of the VSM control system consists of one or multiple routers, where more routers allow for increased redundancy. A redundantly designed multiserver system can include up to 16 servers in one cluster. The servers can be based in different locations and provide all data multiple times, thereby providing a redundant system. What makes this VSM server cluster special in comparison to a Master/Backup-design is that different functions are distributed to different servers that all operate concurrently. This load distribution guarantees the availability of the system on the highest level. In the event of one server failing, this server’s functions are smoothly picked up by another server in the cluster. Another advantage of the server cluster is the ability to implement software updates without having to interrupt the current broadcast.



VSM server cluster

Generally, all controlled hardware can be integrated into the VSM control system via IP-based serial ports, GPIs, or other standard ports. The VSM supports control protocols for audio, video, timecode and control routers of all established manufacturers. The list of supported protocols also includes video mixers, audio consoles, multiviewers, monitors, intercom systems, modular equipment, as well as multiple foreign devices. The VSM also allows the connection to automation systems as well as the control of video servers, audio work stations, CD/DVD players, and clip players. Our developers constantly add new protocols at the request of customers to continuously improve the VSM and expand its usability. This ensures that the VSM represents a control solution that is constantly up to par and ready for use with cutting edge technology. The VSM, of course, also controls the internal system hardware, such as “Under Monitor Displays” (UMDs) and “General Purpose Interfaces” (GPIs).

Where the operator is concerned, the VSM system offers hardware and software panels. With the freely configurable LCD button panel-series and the virtual GUI vsmPanel, the entire production environment can be monitored, managed, and controlled. Lastly, the VSM’s flexibility makes the configuration of all workflows quick and easy.