

Professional Video Supply, Inc.

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KWBM-TV

Branson, Missouri

KWBM - BRANSON, MISSOURI

from Broadcast Engineering - June, 2001

KWBM TV-31 a new affiliate of the Warner Brothers (WB) Network located in Branson, MO. went on the air Monday February 26th at 6am. The station is a state of the art digital broadcast facility designed and integrated by Professional Video Supply, Inc. of Overland Park, KS. a Professional Systems Network Members Affiliate.

Brad Bartholomew, President of Professional Video Supply, Inc. stated "we were very fortunate in the fact that Jim Goodman President and General Manager of KWB Professional Video Supply complete control over design and integration of satellite dishes, master control, studio and production facilities." Master control was designed by Brad Bartholomew's staff of Professional Video Supply. A customized master control rack layout was burned to CD ROM prior to construction for customer review. This enabled the customer to visualize the system design, and to easily incorporate any necessary changes prior to construction. Providing the CD ROM gave the customer the assurance that the equipment layout was to the customer liking, and the customer knew exactly what they were purchasing.

The FCC station license called for an "On-Air" date of March 31st, 2001. A final decision as to station location was not made until late November, 2000. A private office building would be converted to KWBM's new home. This conversion required PVS redesigning master control when square footage reduced by half from what was originally planned. With assistance from Chris Markstrom of Winstead design staff, we were able to quickly redesigning the equipment racks to accommodate the significant reduction in room dimensions.

A raised computer floor served as a plenum for rack and master control cooling. Cooling from the floor through the racks into the ceiling returns provided superior cooling while also eliminating the use of rack fans and thus reducing the ambient noise level significantly. The building code for HVAC design required the use of plenum digital audio and video cabling throughout the installation. Gecco VPM2000TS plenum digital video cable with Canare BCP-C32 connectors were utilized for all AES/EBU 75 ohm connections. The addition of color coded boots became mandatory in the management of numerous protocols using the same model of wire and termination. Balanced transformers, separate circuits for each rack and dedicated grounding rounded out the solid electrical foundation for the facility.

Four Patriot 4.5 meter antenna were installed, controlled by Research Concepts RC-2000 Dual Axis Controllers and 2KPOL Motorized Drive Feeds. The receivers selected five Standard Global MT930 VU-RX, one Unity MPEG IRD and a Tandberg Digital Alteia. Nine DPS 475AV Multi-Function Digital/Analog Audio/Video Synchronizer were provided for conversion of analog satellite and tape formats to digital.

Routing was provided by a Grass Valley SMS 7000 SDI and AES/EBU router populated with 32 cross points. Grass Valley 8931 SDI DA's w/equalization provides distribution routing while Canare and Bittree patch panels allow every I/O (audio, video, control RS-422) source or destination of the system to be reassigned.

Panasonic DVCPRO was chosen as the tape format. Ten Panasonic AJ-D450 DVCPRO 25's with SDI/601 and AES/EBU 75 ohm options were provided for satellite and VTR's. S-VHS, 3/4" , Betacam and 1" formats are converted to DVCPRO using the DPS 475AV for on-air playback. When necessary analog tape formats may go to air via Grass Valley 8900 series analog to SDI conversion cards providing maximum flexibility.



master control - KWBM

All commercial spots are played back via a Grass Valley Profile PDR312D three channel audio/video server with 10-18GB hard drives. Crispin spot playback software consisting of RapidPlay X, AsRun, Dubber, Mapper, and Turbo Browser provided a very solid and cost affordable solution for server control. A major consideration in the overall design of station was ease and convenience of operation. It was assumed that employees with varying degrees of experience would be hired for master control operation as was the case. Mike Soileau of Crispin conducted three days of training with people experienced and inexperienced in master control operations. The first week when KWBM went on the air the inexperienced as well as experienced operators were able to operate very well making the client very happy. VCI traffic software interfaced with Crispin to provide a comprehensive log and invoicing of all commercial spots.

Master control switcher is the Grass Valley 2100 with Borderline, Drop Shadow, Dual Luminance Keyer, Linear Keyer, and audio breakout. The use of the Grass Valley 7000 routing, 2100 master control switcher and the Profile server assure total communication between all components. All that is required for master control to be automated is to upgrade to Crispin's 2000 software. The external NT computers in master control are PVS custom design rack mount PC's with dual power supplies. Redundant power supplies are incorporated when ever possible assuring maximum on air reliability

A Panasonic AT-1906 digital monitor is used for on air monitoring and reference. Panasonic BT-1390's are used for on air preview and program. Sony PVM-8042 are monitoring individual sources. AJA D5CE Serial Digital to component encoders provided the digital to analog conversion for picture monitoring.

A combination of Tektronix and Videotek scopes were used for measurement and calibration. The Tektronix AV601 Digital Audio/Video Monitoring System is used for out measurement and calibration, while the Videotek VTM-300 Series Multiformat On-Screen Monitors are used for satellite transmissions and VTR playback. Wohle AES Speaker Monitor and Videotek AP-200 Stereo Audio Program Monitors are used for monitoring of audio signals.

Two Discreet Logic Edit non-linear editing systems with both digital and analog I/O's are used for productions and promotions. The Discreet systems are built on the Pro computers with Dual Xeon 933 processors and dual IBM 21" displays. Each suite contains a Panasonic AJ-D950 DVCPRO 50 VTR, Sony UVW-1800 Betacam, Mac audio mixing boards, Tascam CD-150 CD players, Pioneer DVR-S201 DVD Recorder and a Ikegami DTM-2000 20" program monitor. The Pioneer DVR-S201 permits production and promotion spots to be recorder on DVD. The KWBM sales team have laptop computer's with a DVD players. The sales associates are able to do an er presentation including the playing of commercial spots all from their laptop computers.



discreet logic edit* - KWBM

In field productions utilize two Panasonic AJ-D610BIZ-PACC 16x9;4x3 switchable DVCPRO 25 camcorders, Vinten VIN-11LT, Shure U1 body pack transmitter with S-MKE2 microphones and UP24 receiver, Lowel T1 Trans-Kit and Sony PVM-8042 monitors are used for remote field productions.

The studio still under construction will have three separate sets. A chroma key set, a desk interview set and a large performing set will make up the studio. Three Panasonic AW-F575 studio camera packages with canon 18:1 lenses, a used Grass Valley 110 switcher, Chyron Maxine Bundle character generator, Yamaha GA32/12 audio mixing board and Vinten Studio Pedestals w/4" casters and Vision 100 heads provide the studio basics. A Panasonic AJ-D90 DVCPRO 25/50 dockable VTR allows one of the to be converted to ENG/EFP configuration. A complete RTS intercom system provides operator communications. The studio teleprompting system consist of three Q On-Camera prompters and QTV WinCue Pro software. Sennheiser and Audix microphones and a custom designed light grid complete the studio package.



master control - KWBM

Overall installation took approximately six weeks, this included installation of computer flooring, reworking HVAC and incorporating all new electrical service. VidCac Built™ drawings and complete documentation completes the system. Professional Video Supply, Inc. experienced installation staff includes ICIA Certified Technology and NSCA certified installation personnel. PSNI affiliates adheres to highest level of system design and integration.

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