

## Vandenberg AFB, CA – 16 Lanes

Upgrade Bowland to BES-X, Touch-Screens, Change to 55" Monitors, Upgrade Existing Bumpers to Auto.

Day 1 – Thursday, December 15, 2016 – We arrived and unloaded our tools. Truck arrived and we off-loaded, inventoried and stored. One TV Monitor – serial # 608RMFP57507 – was damaged.



We notified Richmond. We built all new 55" Monitor Pairs on the new frames, and wired completely – ready to plug and play.

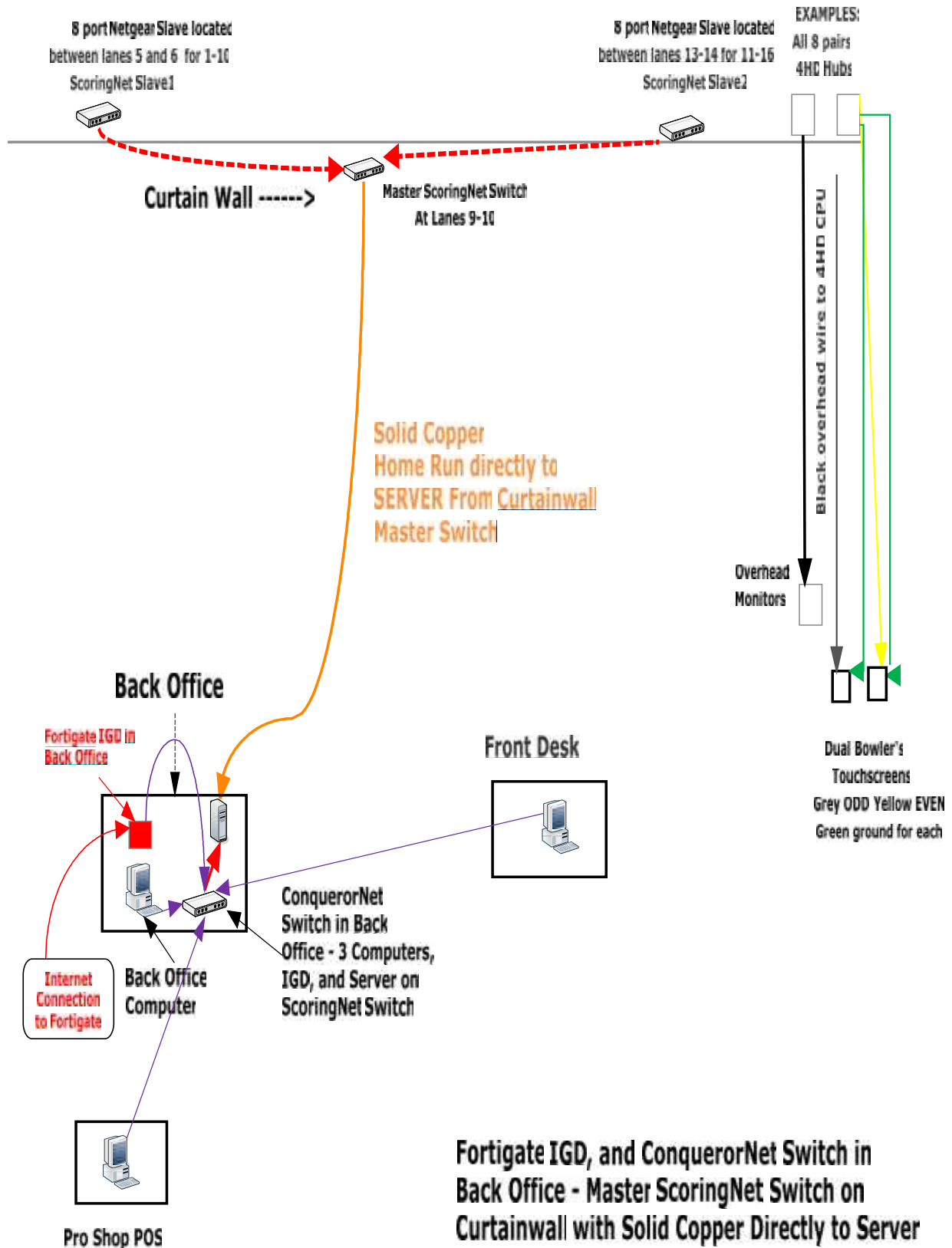


We ran all Home Run wire (Solid Copper ScoringNet to the back office and Bumper Control to the front desk). We attached end junction boxes to the solid copper and tested – good. We set up the new Server in the Back Office. We moved the current Back Office Computer to the Front Desk and have it wired to the old Bowland System, and connected the Front Desk Computer to the new system, so we can call Tech Support in the morning to upgrade the Front Desk to the new version of Conqueror using my Software Key, while the old system continues to run on their existing Software Key. This way we can bring up new pairs on the new system while leaving the remaining pairs on the old system until all pairs are changed-over. We mounted all 4HD Hubs on the curtainwall and installed 2 slave Netgear Switches and 1 Master. We wired the Master to the 2 Slaves and to the Solid Copper ScoringNet Home Run. We wired the slaves to the 4 HD Hubs – Lanes 1-10 on Slave 1, and Lanes 11-16 on Slave 2.



We installed the Bumper Pressure Regulator, the BCU (bumper control) Boards, and ran Main Bumper Hose across the curtainwall. We wired the BCU Boards to one-another and to Power.

# Vandenberg AFB Network Diagram





Daily Hours: 9 (me) + 24 (skilled) + 8 (labor) = 41. Job Hours: 9 + 24 + 8 = 41.

Day 2 – Friday, December 16, 2016 – We called Tec Support (Nick Davis) and Nick entered the system via TeamViewer and configured the Front Desk1 Computer and the new Server to allow us to replace Bowland Lanes with BES-X Lanes. The Back-Office Computer that we moved out to the front desk is running the Bowland System, and Nick made the New Server and the old Front Desk1 ready to run new BES-X lanes that we plan on switching-over today. Thanks Nick! We removed 8 Lanes of Bowland (half of the house) and installed 8 lanes of BES-X. We took-down the old Monitors and replaced them with the New 55" Sets that we made-up yesterday.





We ran the new Underground Wire (Grey and Yellow Cat5 plus two Grounds) using the old Bowland underground wire to pull-in the new. At the same time, we pulled-in the Auto-Bumper Air Hoses. We pulled the Black Overhead CPU-to-4HD Hub wire using the Bowland LCOM wire to pull-in the new CPU Overhead wire. We replaced the old Bowland Fly Bowler's Terminals with new Touchscreens Pedestals on 65 degree Mounting Plates. We wired the New Touchscreens in the front and the 4HD Hubs on the curtainwall, safely and neatly tying all wires and hoses up the Pinspotter Leg and underground. We adjusted the New 55" Monitor pairs to be level and at the same height off the Approach Floor for each pair, and plugged-in CPUs and Monitors.



We entered the correct information into Conqueror's Lane Setup. CPU Serial Number, English Touchscreens, LG COM monitor (serial control to CPU vs. Infra-Red), 2 Up 2 Down Monitor Configuration, and AMF Xli with Qvision (no pinspotter interface). We reinitialized the 8 lanes and all came up fine after 52 minutes. We then loaded all Pinspotter Parameters and reset the CPU's. They came back up fine. We then turned on all 8 lanes in Open Play through Conqueror, and Adjusted the Cameras and sent the Camera Parameters. We bowled on all 8 lanes, testing all functions. Smart Strike and Gutterball Cycles, No Score input when Pinspotter is in Second Ball while Scoring is waiting for a First Ball, Proper pinfall count, Foul Cycle and Foul Display on Monitors, proper 10<sup>th</sup> Frame Fill-Ball function, proper detection of gutterballs in each gutter, proper opening and closing of scoring and pinspotters through Conqueror, proper independent pinspotter control through Conqueror, proper TV on/off through Conqueror, and proper ability to send MMS to all 4 Monitors on a pair through Conqueror. All worked fine.



We cleaned-up completely and disposed of all trash. Daily Hours:  $8 + 21 + 7 = 36$ . Job Hours:  $17 + 45 + 15 = 77$ .

Day 3 – Saturday, December 17, 2016 – We installed the rest of the lanes of BES-X (lanes 1-8) as described above. Everything came up perfectly and all tested perfectly (tests described above).











All 16 lanes are installed on the new server and working properly.





We still have the Back-Office Computer and the Pro Shop POS on the old server and their Hardware Key, and the Back-Office computer is still where we moved it (at the Control Desk), so they could run Bowland Lanes from the Control Desk on the Back-Office computer and old server with their Hardware Key, while giving out converted lanes on the converted Front Desk computer on the new server and my Hardware Key. We will switch everything over to the New Server and move the Back-Office computer back to the Back Office – converting everything onto their hardware key – on Monday Morning when Greg Dow arrives and we can reach a fully-staffed Tech Support in case of any issues. Right now, all 16 are working well and the employees are familiar enough with the system (from having Bowland-X) to run for this weekend without bells and whistles, so there is no need to take a chance on having issues for this weekend's business at this busy center by making hardware changes that might rock-the-boat. We will wait for Greg to arrive on Monday. They had a full house with waiting list last night for 6 hours, with 8 lanes on the old system and 8 on the new system and they had NO ISSUES, so we will keep it that way for another 36 hours for Saturday Night and all day Sunday business. Then on Monday, we can make the changes.

We finished installing the Main Bumper Air Line and connected to each BCU Valve Board.



We began installing Auto-Bumper Cylinders and connecting Underground Hoses to their existing DuraBowl Bumpers. We installed lanes 1 and 2 (4 Cylinders), to see what we were up against, and to be "tooled-up" to do the remaining 14 lanes tomorrow. We cleaned-up completely and disposed of all trash. Daily Hours:  $8 + 24 + 8 = 40$ . Job Hours:  $25 + 69 + 23 = 117$ .

Day 4 – Sunday, December 18, 2016 – We switched the Back-Office computer back to the back office and connected it to the Conqueror Network Switch on the New Server. We also connected the IGD, and the Pro Shop POS to the New Server. We disconnected the old server since nothing is on it now. The New Server recognized all computers, but the Back-Office1, the IGD, and the Pro Shop POS need to be configured. All of them are running on my hardware key,



which needs to be switched-over to their existing hardware key in the old server. We will wait for Trainer Greg Dow who arrives tomorrow morning. We removed the first two sections of caps and the first section of gutters, and installed all Auto-Bumper Cylinders and return springs on all remaining lanes. We pressured-up the Bumper System with air and programmed the Hand-Held Front Desk Bumper Controller. We tested all bumpers for smooth raising and lowering, and tested for proper function through Conqueror when a bowler chooses Bumpers. Everything worked fine. We cleaned-up completely. We are finished. We will come in tomorrow morning to pack tools and make sure all things are working properly and help Greg Dow if he needs us, and in the process, get my Hardware Key back. We packed the VDB's and ET Host for shipment back to Richmond. Daily Hours:  $8 + 24 + 0 = 32$ . Job Hours:  $33 + 93 + 23 = 149$ .