

SEAL OF HONOR

Heritage Center is a tribute to Navy special forces.



BY JIM STOKES

The new Navy SEAL Heritage Center (SHC) had its official ribbon cutting ceremony on September 28 at the Joint Expeditionary Base Little Creek-Fort Story in Norfolk VA. The event was held under the auspices of the UDT/SEAL Association and the Naval Special Warfare (NSW) Foundation. AV plays a significant role in various functions within the recently opened center because it functions as a meeting place for active-duty service members as well as a community support center for their families. Furthermore, the multipurpose facility filled a void because there was no previous existing dedicated standalone center to host the numerous meetings and events. This resulted in using costlier, harder to schedule and less appropriate venues.

Donations Paid The Bill

Specifically, the two-story, 18,000-square-foot building, which was built completely from donations, offers active-duty service members a site to be used for award, promotion and retirement ceremonies, memorial services, training sessions, seminars, briefings, recruiting and a wide range of other functions. In addition, NSW families will be offered a wide variety of assistance and dependent seminars among other activities. It's also a location for informal get-togethers comprised of recreational, social and official meetings.

(Primary sources for the background just detailed, and "The Legacy" sidebar, were the SEAL Heritage Center (www.sealheritagebuilding.com); the SEAL Heritage Center grand



The second-floor, 210-seat, 50'x50' auditorium features a 84"x212" rear-projection screen. The 1200-pound screen presented installation challenges, requiring the efforts of 13 men to move it into position.

opening news release by mass communication Specialist 2nd Class Trevor Andersen, NSW group public affairs; and our own interviews.)

We interviewed Jim Papineau, Vice Chairman of the NSW Foundation and chairperson of the building committee for the SEAL Heritage Center. He's a retired SEAL with 23 years of service. On the AV integrator side, our interviewee is Avery Prindall, Engineer and Manager, AV Engineering, at Vicom (Virginia Integrated Communications, www.vicom-corp.com), Virginia Beach VA. Vicom was responsible for the design and installation of AV in five areas of the building. The integrated system included video, audio, control and digital signage.

SHC's Papineau noted that the SHC is owned by NSW Foundation, which currently is housed in the center, as

Sound & Communications *Contributing Editor Jim Stokes has been involved in the AV industry as an AV technician and writer for more than 30 years.*

well. All functions previously mentioned “would have a heavy input on the audiovisual side. We realized that we had to have systems that allowed us to run multiple functions at the same time without interference with AV in other areas of the building. Over the Christmas holidays, we could run a feature film in the auditorium, and we could turn the auditorium into a special place for the kids of moms or dads deployed overseas.”

Regarding use of AV equipment, he said that the Crestron control is “user friendly, very intuitive after you run basic lessons on it.” As far as having an audiovisual specialist on duty, he declared that the center couldn’t afford it in its current budget. With SHC “open for a little over a month [at interview time], we’ve had five events, and we’ve been happy so far with the performance of the audiovisual.”

Vicom And SHC’s AV

The key player in getting AV started was retired Navy SEAL Lt. John “Jack” Lynch. “It started when Jack Lynch came to our office,” said Vicom’s Prindall. “He was President of the UDT-SEAL Association (Underwater Demolition Team-Sea Land and Air). Jack had a set of [rather sketchy] plans. And he had been wanting to construct a building that would be used to support these folks and their families, because servicemen are deployed and the families want to do things as a community. Knowing that the building was going to be built on donations, I wanted to give them a nice solution,” said Prindall. “I brought the [decision makers] in and demonstrated some equipment.”

The competitive AV bid went to Vicom. “Ground was broken and Jack was excited over his big dream. Halfway through the building, he had a heart attack and died. It was a huge setback for everyone involved in the building because Jack was a super nice guy. He was a former underwater demolition team gentleman: a frogman.” However, the work in progress marched on and was completed.

Our AV excursion within the new center, conducted by Avery Prindall,



Digital signage plays a role in the event hall lobby.

includes the auditorium, conference room, event hall, activity room and offices. We’ll point out challenges and solutions as our story unfolds. We’ll begin with the auditorium.

Second Floor Auditorium

Our AV tour starts with the 210-seat, 50’x50’ auditorium on the second floor, where visitors’ center of attention naturally falls on the massive 1200-pound, seven-foot-high by nearly 18-foot-wide theater screen. Vicom designed around the curved roof to enable the screen to fit in the space. Prindall noted that the Nippura Blue Ocean rear screen was chosen for its 0.7 gain, which offers a wide-dispersion, 180-degree viewing angle. “The 0.7 screen works much better than a standard rear screen for edge blending,” he pointed out. In addition, the stained wood and lighting make people remark, “Gosh, this is a really nice auditorium.” Crestron lighting was provided by electrical contractor J.C. Driskill, Virginia Beach. There’s touchpanel control of six different lighting zones.

The theater screen’s large size presented an install challenge. Prindall explained that, initially, an eight-foot door was put in at the Exit sign to the right of the screen on the fire escape

side in order to get the screen through. Thus, the movers had the yeomen’s task of bringing the screen up via the fire escape. The job was made easier by having the general contractor supply a removable railing. “We did a lot of planning to get that screen in there,” said Prindall. “The landing was probably around 4’x5’, which wasn’t very wide to get a bunch of people on to bring in a screen. We had to crane it in and then hand carry it into the room. So, we had to set up large scaffolding that matched up height-wise with the landing. We had 13 guys who could lift the screen, carry it in and install it. That was probably the most labor-intensive part of the install.”

Rear screen imagery is supplied by two high-resolution, edge-blended projectiondesign DLP projectors, with Chief mounts mounting them to unistrut frames, which are bolted to the floor. The Middle Atlantic equipment rack is handily right around the corner on the right hand side of the screen. There’s a Crestron iPod docking station on the wall, which can be used there or removed and used throughout the auditorium. There are two Da-Lite portable podiums for presentations, as well.

According to Prindall, there were a number of reasons for choosing the

Analog Way seamless switcher edge-blending system. "It provided analog and digital switching solutions with four scalars. The built-in edge blending was used to blend the projectors." Another aspect was the device's video-wall processing with the ability to store and show multiple images on multiple backgrounds on the big theater screen. Citing examples, Prindall said that an American flag can be shown as a background with one image centered in the middle of it, or several images can be distributed around the screen. Further-

The conference room's 20-foot-long, boat-shaped custom table features architectural pop-up interfaces down its length, with connections for up to six laptops.



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The Legacy

With just over 7500 active duty personnel in the entire NSW community, US Navy SEALs, Special Warfare Combatant-craft crewmen (SWCC) and support technicians account for less than one half of one percent of the nearly 1.5 million US Armed Forces personnel. However, during the wars in Iraq and Afghanistan, one-third of the Medal of Honor recipients have been members of Naval Special Warfare. Thus, the SEAL Heritage Center became a reality via 100% donations, certainly a yeoman's task in itself.

more, the theater screen layout can be previewed on the Crestron touchpanel control via a screen layout button.

'Different' Auditorium

He explained that the room was "a little different" from most commercial auditoriums. That is, this room will accommodate diverse needs. For example, it's used for the SEAL team groups and Naval Special Warfare groups, for training, seminars and conferences. However, it's still used to support the community comprised of the families of SEALs and Special Warfare groups. One such get together would be a movie night in the auditorium.

Vicom also installed an LG BD370 Blu-ray player, a Contemporary Research HD cable TV tuner and Denon DA-A7100 AV 7.1 surround sound. Shure wireless handhelds and lavalieres comprise the microphone complement, offering flexibility of movement during a conference or seminar. Mics come out of the front speakers

and subs, while Blu-ray and HD cable go through full surround. The Denon AV surround pre-amp is used for cable and Blu-ray surround processing, taking in digital audio and outputting seven balanced XLRs. "The Denon does a great job with surround sound," said Prindall. "It sounds like you're in a movie theater."

And that's a cue to discuss the JBL speaker outlay. Three VRX Series arrays comprised of three line arrays each are placed strategically and angled to cover the entire audience. Then, halfway down the auditorium on the left and right walls, and in the back corners, there are JBL Control 30 surface-mount speakers. It took three peo-

ple to hang each one of the four hefty Control 30s. On the floor and tucked into the wall on either side of the big screen are two 15-inch VRX subwoofers. Making the surround sound come to life are BSS BLU processors along with five Crown amplifiers. In turn, the system was configured with Harman's HiQnet System Architect. JBL speak-

Equipment

AUDITORIUM

Projection

- 2 Chief RPA series projector mounts, 8" mounting plates, 3" extension columns
- 1 Nippura Blue Ocean rear screen 84"x212" 32mm 0.7 gain, 180° viewing angle
- 2 projectiondesign F32 1920x1200 WUXGA 5700 lumen DLP projectors w/1.16:1 EN15 wide angle lens

Control

- 1 Crestron AV2 processor
- 1 Crestron TPMC-8X 8.4" wireless touchpanel
- 1 Crestron TPMC-8X-DS docking station
- 1 Crestron C2ENET-1 network interface card
- 1 Crestron wireless access point w/POE
- 1 Crestron C2COM-2, additional COM port card
- 1 Crestron 3-card Y-bus expansion cage for AV2
- 1 Crestron multi-type Cresnet distribution block
- 1 Crestron TPMC-8X-DSW, wall-mounted docking station for TPMC-8X

Switching

- 1 Analog Way Diventix II multilayer hi-res mixer scaler seamless switcher edge-blending system w/4 scalers

Audio

- 4 BSS 4 analog input mic/line cards for Soundweb London chassis
- 4 BSS 4 analog output card for Soundweb London chassis
- 1 BSS BLU-120 networked I/O expander
- 1 BSS BLU-160 networked signal processor
- 2 Crown DSI2000 amps
- 3 Crown DSI4000 amps
- 1 Denon DA-A7100 AV surround-sound preamp
- 4 JBL Control 30 speakers
- 2 JBL VRX915S 15" compact subwoofers
- 9 JBL VRX928LA 2-way line-array system speakers
- 3 JBL VRX-SMAF small array frames for suspending line arrays
- 1 Shure antenna, power distribution system for SLX series
- 2 Shure SLX14/85 wireless lavalier mic systems
- 2 Shure SLX24/SM58 wireless handheld mic systems

Misc.

- 1 Contemporary Research 232-ATSC HDTV tuner w/RS232 control
- 1 Crestron IDOC audio interface
- 1 Crestron post-construction back box for IDOC
- 1 Crestron wall-mounted iPod docking station w/POE
- 2 Da-Lite 25" contemporary pedestal lectern, veneer
- 1 Dell mobile precision laptop w/docking station
- 2 Extron wall-mounted computer interface
- 1 LG BD370 Blu-ray player
- 1 Middle Atlantic ERK-3525 35-space rack w/accessories
- 2 Middle Atlantic PDS-620R, 6-outlet, 20 amp power sequencer
- Extron, Liberty cabling



Auditorium rack.



The auditorium's iPod docking station can be used on the wall, or removed and used throughout the room.



Event hall racks.

(continued on page 40)

CONFERENCE ROOM

Projection

- 1 Chief CMA-115W flat ceiling plate w/3" extension column, RPA Series projector mount
- 1 Da-Lite 5'x8' Advantage Deluxe Electrol ceiling-mounted screen w/LVC
- 1 Draper LCD-B projector lift w/flat closure panel
- 1 Draper LVC III low-voltage controller
- 1 Sanyo PLC-WTC500L 5000 lumen 1280x800 WXGA projector w/LNS-T10 long zoom lens (2.1 to 3.4:1)

Control

- 1 Crestron AV2 processor
- 1 Crestron TPMC-8X 8.4" wireless touchpanel
- 1 Crestron TPMC-8X-DS docking station
- 1 Crestron C2ENET-1 network interface card
- 1 Crestron wireless access point w/POE
- 1 Crestron C2N-VEQ4 volume control module

Switching, Interfaces

- 1 Extron CrossPoint Ultra 84HVA matrix switcher
- 1 Extron RGB192V computer video interface w/audio
- 1 Extron DVS 304 DVI scaler
- 6 Extron twisted pair transmitter, VGA/audio, AAP version
- 1 Extron 6-input twisted pair switcher/transmitter (installed under table)
- 1 Extron twisted pair receiver, VGA/audio
- 1 Extron 2-input RGBHV A switcher
- 1 Extron BUC 102 balanced/unbalanced audio Interface
- 1 Extron HSA200S pop-up computer interface
- 1 Extron Cable Cubby 200

Audio

- 1 Crown 2x80W amp
- 4 JBL Control 26CT, 6½" 2-way ceiling speakers

Misc.

- 1 Dell mobile precision laptop
- 1 Dell OptiPlex 380 minitower for lectern
- 1 Elmo HV-110U UXGA fold-up document camera
- 1 LG RC897T DVD-R/VCR combo w/ATSC, NTSC, QAM tuners
- 1 Marshall Furniture custom 32" lectern
- 1 Marshall Furniture custom boat-shaped table (20' long, 50" @ ends, 60" @ center)
- 1 Marshall Furniture custom equipment credenza (12'L x 27¼"D x 33½"H)
- 1 Marshall Furniture custom storage credenza (3'L x 23¾"D x 33½"H)
- 3 Middle Atlantic SRSR-2-12 sliding rotating equipment racks w/accessories
- 1 SMART Technologies ID350 podium interactive pen display, 15" diagonal
- Extron cabling and Liberty cabling

EVENT HALL

Projection

- 1 Chief CMS445 mounting plate w/3" extension column, RPA Series projector mount
- 1 Da-Lite 87"x139" Contour Electrol wall-mounted electric screen
- 1 Sanyo PLC-WTC500L 5000 lumen 1280x800 WXGA projector w/LNS-T11 long zoom lens (2.1 to 3.4:1)

Control

- 1 Crestron AV2 processor
- 1 Crestron TPS-6X 5.7" wireless touchpanel
- 1 Crestron TPS-6X-DS docking station
- 1 Crestron C2ENET-1 network interface card
- 1 Crestron CEN-HPRFGW high powered RF gateway



Conference room racks.

- 1 Crestron C2N-VEQ4 volume control module

Switching

- 1 Extron Crosspoint Ultra 84HVA matrix switcher
- 1 Extron MTP twisted pair transmitter, VGA/audio
- 1 Extron MTP twisted pair receiver, VGA/audio
- 4 Extron MTP twisted pair transmitters for VGA, RS232
- 4 Extron MTP twisted pair receivers for VGA, RS232

Audio

- 2 Community ENTASYS 200Hz-20kHz full-range columns
- 1 Community VLF-208W subwoofer, 2x 8", 300W continuous 750W program
- 2 Crown XLS802D 2-channel amps, 1600W @ 8 ohm bridged
- 1 QSC ISA280 amp, 830W @ 4 ohm bridged
- 2 Shure SLX124/85/SM58 wireless combos
- 1 Symetrix Symnet 8x8 Cobra DSP

Digital Signage

- 3 Chief dual arm swing-out flat panel display mounts
- 1 Doublesight DID-46KSKM mobile LCD signage display, vertical orientation
- 3 LG 55LD650, 55" 1920x1080 LCD displays
- 1 Roku/BrightSign HD210 digital signage player

Misc.

- 1 Crestron wall-mounted iPod docking station w/POE
- 1 Crestron IDOC audio interface
- 1 Crestron post-construction back box for IDOC
- 1 Extron wall-mounted computer Interface
- 3 Middle Atlantic SRSR-2-12 sliding rotating racks w/accessories
- Extron cabling and Liberty cabling

ACTIVITY ROOM

Display

- 1 Chief PDRUB dual swing-arm mount w/tilt
- 1 Sharp LC-C6577UM 65" LCD display w/PC input

Control

- 1 Crestron AV2 processor
- 1 Crestron TPS-6LW-T, 5.7" wall-mounted touchpanel
- 1 Crestron WMKM-6L, post-construction wall-mount kit w/trim ring
- 1 Crestron C2N-VEQ4, volume control module

Audio

- 1 Crown DSI1000 audio amp, 275W @ 8 ohms per channel
- 2 JBL Control 28-WH 2-way surface speakers, 8 ohms

Misc

- 1 Crestron wall-mounted iPod docking station w/POE
- 1 Crestron IDOC audio interface
- 1 Crestron post-construction back box for IDOC
- 1 Extron wall-mounted computer Interface
- 1 Middle Atlantic EWR-12-22, 12-space wall-mounted rack w/accessories
Extron cabling and Liberty cabling

OFFICES

Display

- 4 Chief LSMU static wall mounts
- 4 Extron computer interface plates
- 4 Panasonic 42" LCD HDTVs w/NTSC/ATSC/QAM tuners
Extron cabling and Liberty cabling

List is edited from information supplied by Vicom Corp.

ers and Crown amplifiers were used throughout the facility.

Conference Room

On the first floor, the 32'x25' conference room can seat 37 people. It's a general meeting space and available to Naval Special Warfare and SEALs, as are the other rooms. Vicom's original design called for a Sanyo projector with a standard lens and Draper lift. However, the heating and air installers put their handler in that location, so the recessed lift and projector required a long zoom lens and the whole assembly was installed a little further from the screen. The 16x10 aspect ratio projector and Da-Lite screen combination accommodates all aspect ratio formats nicely, with the least noticeable amount of black area on the sides. Crestron control and Extron switching and interfaces are the heart of the AV. The room has four JBL Control 26CT ceiling speakers driven by a Crown power amplifier. There are no microphones specified because the space was considered small enough for participants to hear one another plainly.

Although custom furniture is a part the AV integration process, the work is not usually detailed. In this case, Prindall offered us some particulars: Vicom provided all the Marshall Furniture based on the integrator's design. "Basically, we told them what we wanted and they designed it, made it, carried it from Indiana [factory] down here in their own truck with their delivery guys and set it up," declared Prindall enthusiastically. "I'll use them again. They did a laser cut logo etched

in solid brass for the lectern. And the customer liked it so much we ended up doing another one for him."

Vicom designed the conference room, as well. We've already noted the massive screen in the auditorium that catches your eye. Similarly, in the conference room it's the 20-foot-long, boat-shaped custom table that draws immediate attention. The integrator installed three Extron architectural pop-up interfaces down the length of the table. On each side of the interfaces are connections for a total of six laptops on the large table.

There's a desktop computer in the podium, as well as a guest laptop connection for presentations. The lectern also houses an Elmo document camera and

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The custom furniture was designed by Vicom. This photo of the SEAL Trident logo was used as a template for a laser cut logo etched in solid brass for the lectern.



a SMART Podium interactive pen display. Furthermore, moving the lectern is rather easy because Vicom supplied CPC-style multi-pin connectors for quick disconnect to the wall.

You won't find standalone equipment racks hidden in a closet. Instead, they're integrated into the room furnishings. Thus, the podium has a Middle Atlantic 36-space sliding rack...but it's not visible to room users.

And so, we've come full circle, as well. Returning to the projection screen area, Vicom provided a dual-purpose, 12-foot credenza that sits underneath the projection screen. Although the two ends are used for storage, the center houses two equipment racks. They can slide out and rotate for servicing equipment.

Event Hall

The event hall is 53'x63' and extends some 20 feet high to the second story of the center. The space presented an acoustic challenge with its hard-floored reverberant environment. We'll discuss how the integrator dealt with that later but, right now, we're setting the scene for how the AV even came about. "This big room was not in our initial plans," said Prindall. "It was an added room in construction. After Jack [Lynch] passed away, we met with a group of probably six people and went over our design with them. They said that no one had ever talked to us about the event hall and that it needed a projector and a screen." During the conversation, the room use and subsequent equipment requirements evolved.

"That was on a Friday," Prindall stated. "Monday brought a surprise when the general contractor announced that he had to know 'What's going on this wall because I'm closing today.' Thus urgency dictated the start of the event hall's AV equipment."

The Sanyo PLC-WTC500L 16x10 format projector and Da-Lite screen combination again accommodates all aspect ratios very well. A long-throw zoom lens throws around 50 feet to the wall-mounted electric viewing screen. Prindall explained that "one of the reasons we like the Sanyo projector" is because it's white to match the room's white ceiling. "We used all white projector mount hardware," he said. "Unless someone points it out to you, you really don't notice it." As for the Da-Lite screen, it had to be mounted on a very tall wall, which had on the middle of the wall itself a large painting depicting SEALs and Special Warfare soldiers in action over the years.

Reverberant Space Issue

The aforementioned reverberant space issue was addressed via two Community ENTASYS column arrays. "[ENTASYS] is a specialty speaker that has a very tight range vertically, but a very wide horizontal dispersion," explained Prindall. "What they do is cut a channel across the room. It gives a nice, clean, consistent sound across

the entire room when someone is talking with a microphone or playing something from a DVD or computer. We included a subwoofer, as well, because, although the arrays are full-range columns, they don't have a really deep low end."

The columns are powered by two Crowns. And a QSC drives the subwoofer. Presenters have the flexibility of using Shure wireless combo mics with choices of handhelds, lapels or combinations thereof. Audio processing was via SymNet Cobra DSP. In addition, a Crestron wall-mounted iPod docking station provides a handy way to access background music for memorials and general gatherings.

A wide variety of photos and other imagery can be shown by means of several digital signage devices. There are three LG 55-inch LCD displays distributed around the event hall. For example, the Roku/BrightSign digital signage player could show pictures of SEALs and Underwater Demolition in operation as a slide show montage for visitors. During a memorial occasion, photos of loved ones could be displayed. There's flexibility in LCD display showings using the Chief dual arm swing mount for various positioning.

Simple Digital Signage

"Then we provided them with a very simple mobile signage 42-inch display by Doublesight," related Prindall. "It's not installed the typical way of a flat panel. It's installed vertically. Basically, you can show picture and video files on a USB storage device. In fact, we chose a lot of the equipment because of its simple operation, like the Doublesight. A lot of these folks running the equipment are retired Navy SEALs and they're not very technical."

Accordingly, Vicom showed the use of the Doublesight and the Roku/BrightSign in the initial presentation. "We put construction photos on the BrightSign for their Grand Opening," added Prindall. "They gave us a box full of their quarterly magazine, *The BLAST*. We scanned every cover, added an ocean background and loaded them on the signage device, so [the presentation] goes through different



Two projectors feed the auditorium's 84"x212" rear-projection screen.

go to a conference room and put on all the AV, it's more convenient to show and tell in an office.

Even though the center had been open only a short time when we did the interviews, AV had already helped get room use and recognition. "We are already getting calls from some of the other folks on the base out there," said Prindall. "The auditorium alone looks really nice and sounds nice. It's easy to use. And I think it's going to help us earn some business." ■

covers. They have a couple of mics to use, the wall dock and a laptop connection. They can show the laptop image on any of the screens. We put an Extron switcher and a Crestron control wireless touchpanel in there, so they can set it up on a podium if they want. They can have music playing. When they're ready for a presentation, they can route the computer to the screen. We try to make it convenient."

Extron twisted pair extenders ensured that there were good signals everywhere in the tall and fairly large space. Twisted pair transmitter/receivers run from the central AV racks to the displays and from the laptop connections back to the main racks. Racks were installed in customer-provided cabinetry in a mailroom adjacent to the event hall. Fans and vents were installed in the cabinetry so the equipment wouldn't get hot.

Activity Room, Offices

The activity room is an informal get-together space, around 20'x25', located in the back of the building. It's a gathering spot for groups to come in and watch TV via a Sharp 65-inch LCD with cable and PC access. "They asked us to provide nice, higher-end sound than the TV alone," said Prindall, "because they figure when they get back there and have a few drinks, they might get loud and they want to hear the sound. So we put in a Crown amplifier and a couple of JBL surface-mount speakers."

There are four offices, each equipped with a Panasonic LCD TV with computer connection. Some uses would be to show a guest a preview presentation or a budget spreadsheet. Rather than

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