

# END-TO-END HOWARD THEATRE RENOVATION



With Bennett Liles

**T**he Howard Theatre in Washington, D.C., was once a dilapidated hulk, but after a huge renovation, its audio and video systems are among the best anywhere. Amit Peleg of New York design and integration firm Peltrix tells SVC how the company pulled off The Howard's big tech resurrection.

**SVC:** Tell me something about Peltrix and what all of you do there.

**Amit Peleg:** Peltrix is a design, installation, and integration company. In business since [1995], I think. We're dealing mainly with high-caliber music venues, such as B.B. King Blues Club [and] Highline Ballroom in New York; we did Blue Note in Las Vegas, and now Howard Theatre in Washington, D.C. [It's] pretty elaborate. We don't bid on jobs. We are basically hired to do the whole thing from start to end, including helping with production. We don't just do either design or the installation, we help right from the start ... with things such as stage size or design of the stage itself, what kind of materials to put on top of the stage, power. We even help in the end with hiring the house production staff.

**Once you're on location that really gives you an advantage in having a handle on everything.**

Yes, I actually worked in the field as a sound engineer traveling for many years, so I experienced what bands experience when they come to a venue; what they need and how to make their life easy or easier, anyway. I try to implement those things in the venues



The Howard Theatre in Washington, D.C. has seen a lot of history and is getting a new lease on life with a complete renovation.

that we work in so when they come over it's the same thing as if they're actually touring with their own system. Especially for one-nighters, if they come in and—some of the artists that perform in those venues are normally arena-sized artists—they're used to [traveling] with their own rig and getting the same thing every night. If they come for a one-nighter in a small venue like this, they have to be able to just patch in. Maybe they bring in their own console and or some other outboard gear; they should be able to get in and out without any delays because there's not much time to play games there.



The complete renovation of the Howard Theatre included JBL Vertec line arrays installed by Peltrix.

You're talking about a fairly small venue. The Howard Theatre in Washington, D.C., is an old place, but there's been a lot of work going on there. Tell me [about] the big renovation.

Yes, The Howard Theatre is a 100-year-old [venue] that used to be iconic in the straight-ahead jazz era. People such as Billy Holiday played there during segregation. It was closed and abandoned toward the end of the 1970s. It was basically shut down for 30 years and [became] a shell. Everything else was destroyed. The roof caved in and the walls were what was left. It is now part of a pilot project to [rejuvenate] the neighborhood around Howard University. There are other buildings being [erected] around it, but The Howard will be the center point of action and activity in the area. Hopefully it will bring the whole area into better shape. It's pretty run down.

Let's look at some of the gear that you're installing. You went with JBL Vertec line arrays. Why did you decide to go with those and what do you have in them?

Since we're going to get every possible demand, we need to be able to provide something acceptable to most artists; that is true for the speakers and everything else. So the JBL Vertec is something that is acceptable and it fits the actual installation well. We're installing the Vertec VT4888DP-DA as the main left and right arrays with 10 per side, and we're putting six Vertec 4880ADP-DAs subs that are flown as a center cluster, with two VT4887DP-DAs for down fill in addition to four ASB 7128s on the floor.

What were you going for in using self-powered speaker arrays? I understand you had a space constraint on the amps.

This is an old building, and even though the interior was completely

rebuilt, the constraints of space were an issue; we would need a much larger space for an amp room than was allocated to us, so the easiest choice was to go with powered speakers. It's also easier in terms of ventilation. It requires no local ventilation in the amp room because the amps are built in the top of the speakers. That was just a natural choice. Initially that was not the case. We were planning to put in regular Vertec speakers, but the amplifiers would have to end on the opposite side of the room and two stories below it, which would make the cable runs very long. It would require a heavy cooling system, HVAC system, because it's right above kitchen vents. The logistics of making it all happen were difficult, and the difference in cost was greater than getting the powered speakers.

In an old building like that it could be a little tricky doing the rigging and mounting of the line arrays. Power was a complete overhaul already, so that can still be a big job.

Everything is new inside, so we initially specified something that was overkill for most venues like this. Most venues will not actually go for this, but we installed a partial balanced power for the sound system. Most people are familiar with balanced power in the studio business but not [in] live sound, mainly because it's expensive. Essentially for a single phase, instead of having a neutral, hot, and ground, you have ground and two hots of 60V each so you end up with 120V—which gives you the power that you need. Each of those hot legs are out of phase to one another, which causes cancellation of all line arrays that helps a little in getting a pristine sound. Initially, we had a plan for the entire system on balanced power, but that was a little too much and we





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**Smarter Solutions**

ended up putting only, I believe, 10 circuits on balanced power for the most critical equipment that determined audio quality, such as the consoles, DSP, etc.

#### How have you set up stage monitoring?

Yes, we are capable of providing whatever they throw at us when they come in; we should be able to accommodate and if we don't, all the wiring is set up, again, to be as flexible as possible in augmenting the system with additional equipment. We have Yamaha PM5V as a monitor console, same thing for the house, with eight monitor mixes off of 12 wedges that are fed through eight mixes—those are JBL VRX915Ms. And we have JBL VP7315-64DPDAs for side fills, which are basically two 15s and a high-frequency driver per side. We [had] to go crazy with [them] because they ended up right under the light truss, where we had to worry about speaker alignment every time the truss went up and down for service.

#### That could be a big problem.

They ended up exactly in the corners of where the lighting truss was going to go, so we used a company called Polar Focus, which does all of our rigging, to build a special bracket with a swinging arm. The side fills are hung on that bracket and they can be swung out of the way when the truss goes up and down, and back into the exact position that it should be in for service.

#### What are the big-name acts going to need at The Howard in the way of video displays?

We have to be able to accommodate corporate events and political events in addition to the music, and as such we had to come up with a system that will be able to accommodate all those needs. We have three screens: two main screens, one on each side of the stage, and one that is 27.5ft. wide behind center stage that can be used during musical events to create video and lighting effects. It can't be used for video because it creates a loop with the cameras and then it also projects the light over the musicians, so it's mainly for effects. For corporate events, it can be used if they need to show a video or if they decide to do some kind of a video festival, which I heard might happen there. A Sanyo 15,000-lumen projector is used with the center screen. The two side screens are 7000 that use Sanyo HD projectors at 7000 lumens. Right at the entrance to the venue, we have two 70in. screens and Panasonics, mainly for the lobby area. They are used for digital signage and to display what's going on inside the room.

#### And you have some Da-Lite screens hung in there somewhere?

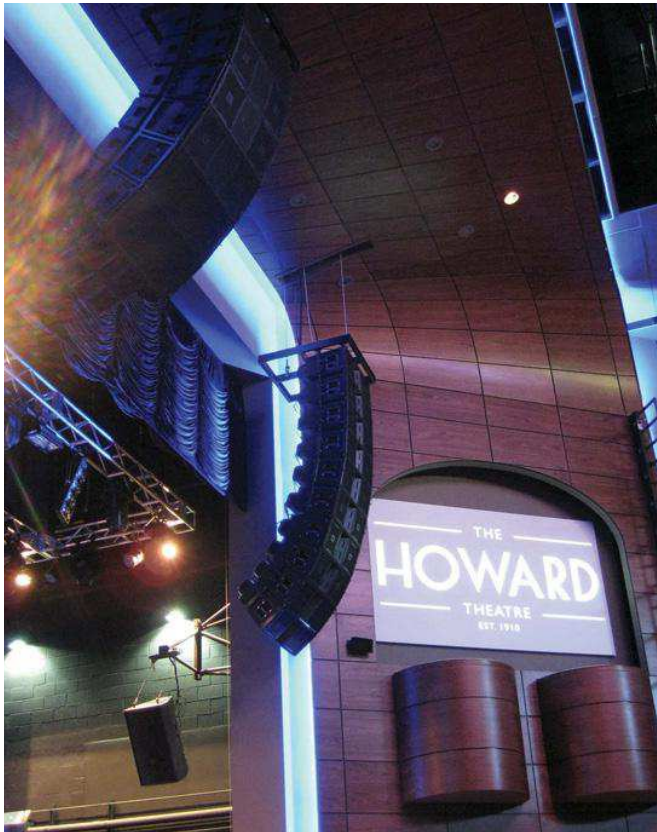
Yes, the left, right, and center screens; the main screens are Da-Lite. Those are the screens that are projected on by the Sanyo projectors. The large one is called a Cinema Contour and it's 27.5'x 15.5'.

#### How far away are the projectors from the screens? What kind of projection throw are we talking about?

I believe that the center projector is 55ft. away from the screen because of the stage depth. The stage is 20ft. deep, and that one is 15,000 lumens. The two side screens are 45ft. away and those are 7,000 lumens.

#### What's the source of the video? What feeds those projectors?

We have three cameras. Vaddio PTZ cameras as sources, cable TV as sources, and interfacing of computers all over the room for any kind of corporate event requirements or you can add more manned cameras to the system. Other sources are Blu-ray, a house media computer for any kind of house-generated content that is fed through both a matrix switcher, and a production switcher—a seamless switcher. We are using an Analog Way production switcher and an Atlona matrix switcher—16x16 HD matrix switcher, and the Analog Way seamless switcher is an Eikos 400.



**Where are they controlling the Vaddio cameras from?**

The FOH control booth is where both audio lighting and video are all situated right in the center of the room. We have two 8in. dual HD monitors Blackmagic Design for mixing and two 24 in. screens for output. We also have a streaming computer that we use in case a corporate event requires sending audio and video out of the building to a different location.

**I noticed you also have a Crestron control system. How are you using that?**

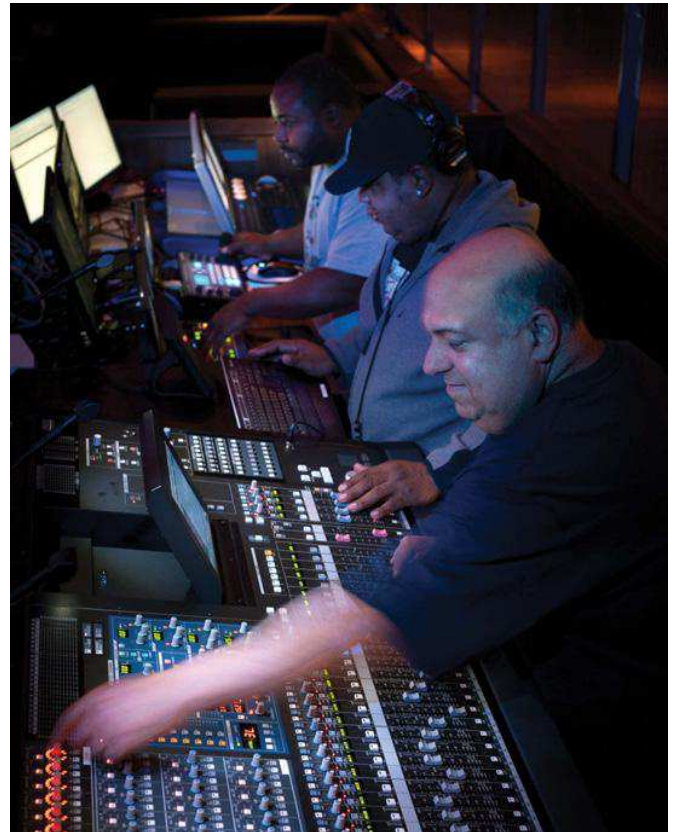
Well, we are trying to set it up so that when the house production staff is not onsite they can still use the system without having a dedicated technical person in house. For example, in the morning when there is no activity, if they want to open the box office and put on content on the 70in. lobby screens, there is a key pad inside the box office where the operator can use the touchpanel to trigger a preset that plays audio and video from Western Digital Media players. So one of them can display prerecorded content, while the other one is displaying another and audio is coming from another source.

**What kind of Crestron controller do you have in there?**

That is a CP2E.

**A very well-known model.**

Yes, and we have two touchscreens. We have the keypad at the box office, which is a 4.3in. wall-mounted piece, and then at FOH we have



a 9in. TPMC9 that's able to override the control from the box office and manually control individual components in the house. That is actually programmed so that the house staff can create its own presets. So they can choose the sort of content, sources, and destination, and manually route signal from source to output. In addition, we are setting it up so that you don't necessarily have to have a production switcher running all the time. If there are shows that don't require full-blown video production, but we still want to have one camera display what's going on on-stage, if it's a live music show for example, that is actually controlled through the 9in. keypad. On days like that, if the video production person has a day off, the lighting guy can just recall one preset or two presets and run the cameras at minimal capacity.

**With all of the control cabling to run did you have any challenges running cabling?**

We had the conduit done for us by an electrical contractor. It was all drawn and designed ahead of time. Of course, when you pull cable there are always snags, and it's always difficult ... but it's been worked out. The wiring for audio, a lot of it was done ahead of time. I had a lot of the wiring designed and done by a company from Italy called Link, which does a lot of custom work for us. For this whole job, the way that we do it, it probably took just about seven to eight days to pull all of the cables.

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