225 WEST WACKER DRIVE

A downtown Chicago office building adopts user-friendly AV systems to lure tenants to its spacious meeting facilities and high-tech workout facility. **BY DAN DALEY**

DESPITE THE APPARENT ECONOMIC TURN-around, it's a tough commercial real estate market out there. Building operators are pulling out all stops to lure and retain paying tenants. Recently, the owners of the office high-rise at 225 West Wacker Drive in Chicago's Loop district wanted high-tech AV systems to match the gym, fitness studio, and other amenities they had installed on the building's fourth floor. In addition, the approximately 20,000-square-foot floor hosts a conference center that includes a large, three-way-divisible meeting space that can hold up to 300 people, two smaller configurable conference rooms, catering facilities, breakout meeting space, and an outdoor terrace.

Chicago-based AV integrator Integrisys is familiar with designing and installing AV systems in skyscrapers. They company recently handled such work on North Michigan Avenue, the Magnificent Mile, and the Ritz-Carlton Residences there.

"What helped in this instance was that the interior had been skinned down to the concrete and studs, which greatly helped with running the cabling," explains Brad Weintraub, a principal at Integrisys who oversaw the design and specifications for the West Wacker project. The company pulled a combination of coaxial RG6, Cat-5 for data, and Cat-6 for high-definition video. "We were able to tap into the building's riser for telephone, IT, and Wi-Fi access," he says.

The design called for numerous displays throughout the facility, plus a 130-inch Da-Lite 34576 Advantage Deluxe Electrol projection screen to serve as the main display in the multiuse conference room. The screen is illuminated by a Panasonic PT-FW100NTU 3,000-lumen 1280x800 projector. When the space is divided into three small conference rooms, one of three cart-mounted displays, including a 40-inch Sony Bravia, gets the call.

Audio is distributed throughout the amenities floor over ceiling-mounted speakers. The sources are diverse, including DVD, CD, cable TV, and Internet radio, and thus the systems had to be flexible enough to offer users in any area a choice of program materials, whether it be entertainment content in the workout areas or presentations in the meeting rooms and business center. The task of being all things to all users was made even more complex by a mandate to ensure the AV systems were simple enough for one or two nontechnical concierges to operate from a single location.

The centerpiece of the design is the Concierge Console, which comprises Crestron e-Control XPanel systems management software and a custom user interface loaded onto a PC. The PC's touchscreen display, located at the entrance to the fourth floor amenities suite, puts the entire system at a concierge's fingertips.

"From there, they can choose any program source for audio or video and route it to the screen or speaker zone they want," Weintraub says. "They can also turn any display on or off remotely." An AMX Autopatch AVS-PR-0808 AV switcher is used to route AV signals

The multiuse room employs a **Biamp Nexia PM DSP** presentation mixer to control and combine three zones worth of 8-ohm **Sonance CR101** speakers, powered by a **Sonance Sonamp 1230** amplifier.

In single-room mode, the main conference space relies on 130-inch **Da-Lite Advantage Deluxe Electrol** motorized front-projection screen. The wide-format size matches up with the **WXGA** projector used in the room.

The podium at the front of the room houses the lavalier microphones and **SLX1** bodypack transmitters for the **Shure SLX14/93** wireless systems. Several SLX4 diversity receivers are back in the rack, along with a **Shure UA844SWB** antenna/power distribution amp.

The integrator chose a **Panasonic PT-FW100NTU** 3,000-lumen 1280x800 projector. The projector can operate wirelessly and has a built-in closed captioning decoder. Its Daylight View 3 Technology includes a low-pass filter and ambient light sensor to optimize dark parts of an image.

Overhead are several **Sonance 621R** in-ceiling speakers with 6.5-inch fire-rated back cans. Each has a 6.5-inch polypropylene woofer matched with a fixed-position three-quarter-inch silk dome tweeter.

Lighting in the lobby area is tied to one of the facility's two **Lutron Grafik Eye QS** control systems, which were set up to manage various zones throughout the floor.

The conference center lobby sports an **LG 42LG50** 42-inch 1080p LCD, which can display content from various video sources, including the integrator's own digital signage platform

throughout the space from sources such as a Denon DVD-1740 progressive-scan/scaling DVD player or the integrator's proprietary Integricast digital signage generator.
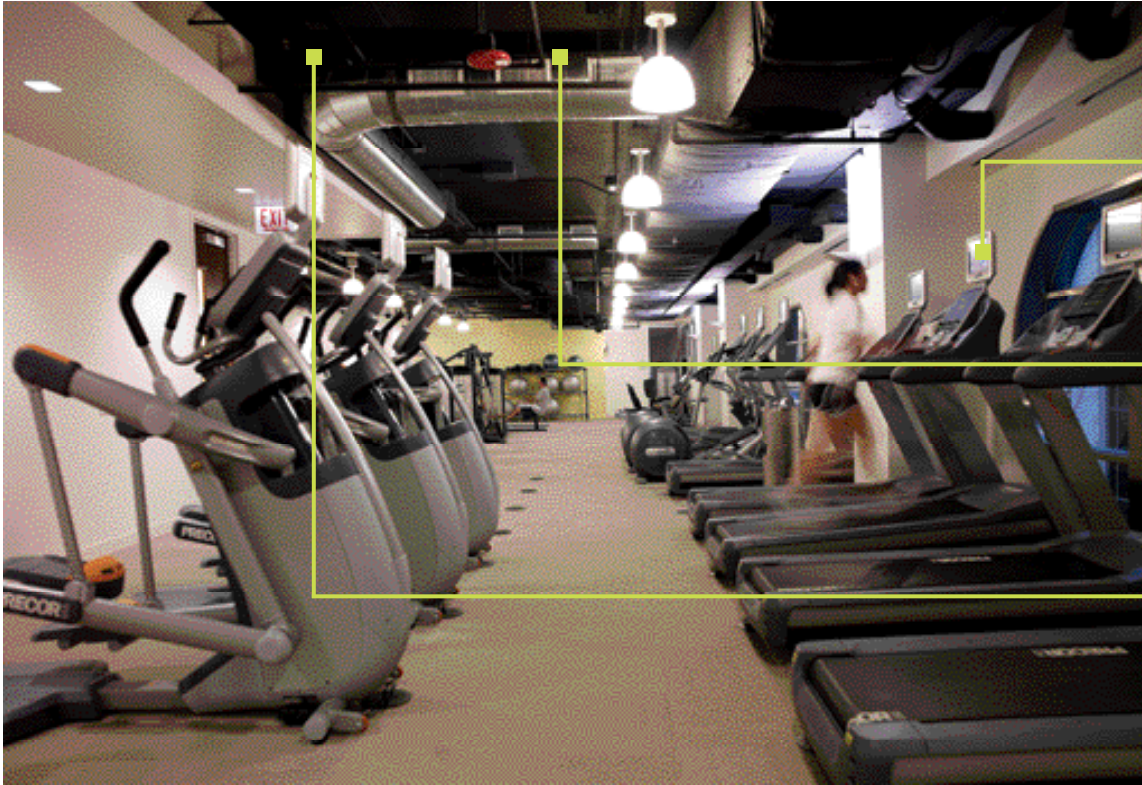
DIVISIBLE SPACE

The flexible multiuse meeting space is also tied into the floor's control system. Panels that glide open and shut to divide the meetings spaces include sensors that inform the master control system to reconfigure the

necessary electronics. The speakers, lighting, and input panels default to a single-room configuration. When the sensors indicate that a space has been subdivided, the local input panels for that space are activated, sending audio signals from cart-mounted sources only to speakers assigned to that zone—using a Biamp Nexia PM DSP presentation mixer for sound reinforcement and room combining. This automatic reconfiguration also adjusts the Lutron Grafik Eye QS lighting control system. A Lutron motorized shade system adjusts the

intensity of the light and adjusts the shades depending upon the scene chosen by the user. (The 28-story building's river location provides abundant natural light from windows on all sides.)
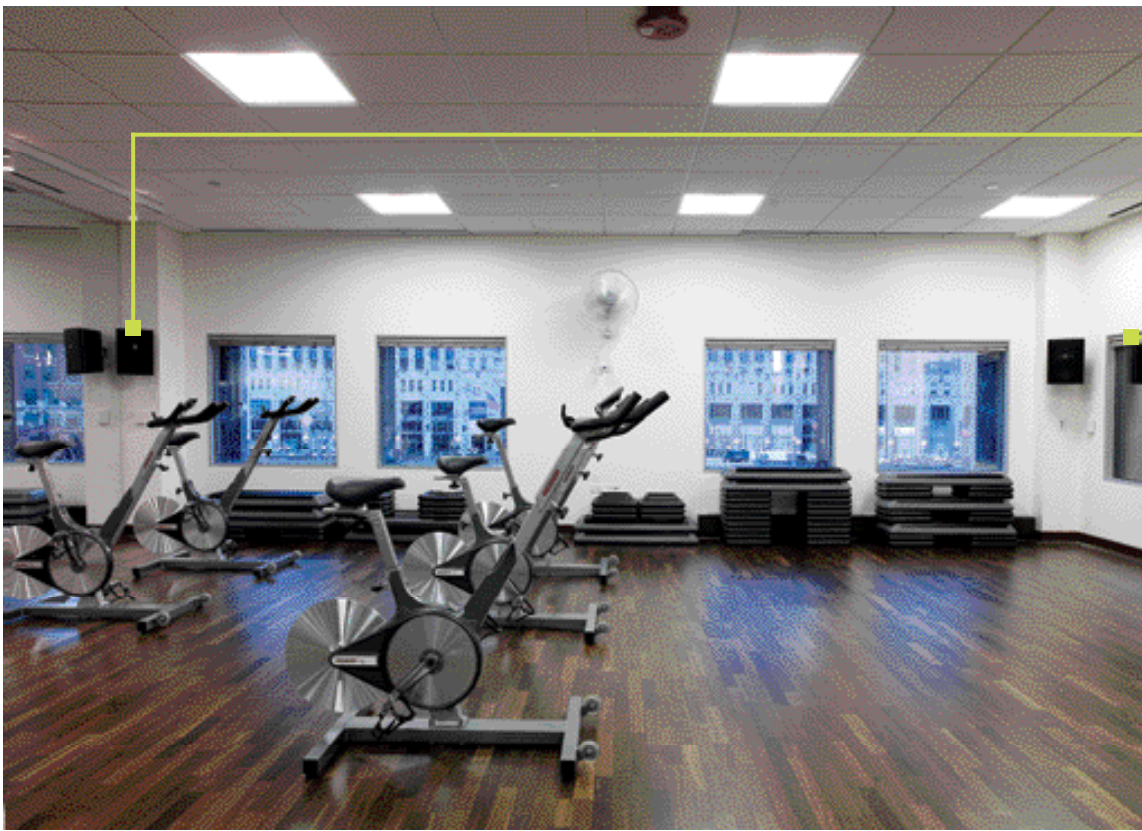
When the space is used in a single-room configuration, its Biamp sound reinforcement system is activated. A podium in front of the room holds the Shure SLX14/93 wireless lavalier microphone system. Powered by a Sonamp 1230 12-channel amplifier, all audio sources feed a series of Sonance CR101 in-ceiling

The fitness center utilizes a distributed CCTV system to send video programming to monitors on individual Precor exercise machines. **Blonder Tongue BAVM Series AV Modulators** take the signals from five fixed-station cable boxes and make them availble to each screen.

In the rafters are various **Atlas Sound SM52T-B** 5.25-inch surface-mount 70V speakers. The rugged two-way speakers have an internal 30W 70V/100V line-matching transformer with 8-ohm bypass for use in distributed sound applications.

The 70V speakers are driven by a **TOA Electronics 900 Series P-906MK2** amplifier. The 2RU system is the 60W member of the 900 Series product family. Its modular, single-channel design supports paging, background/foreground music distribution, and music/messaging on hold.
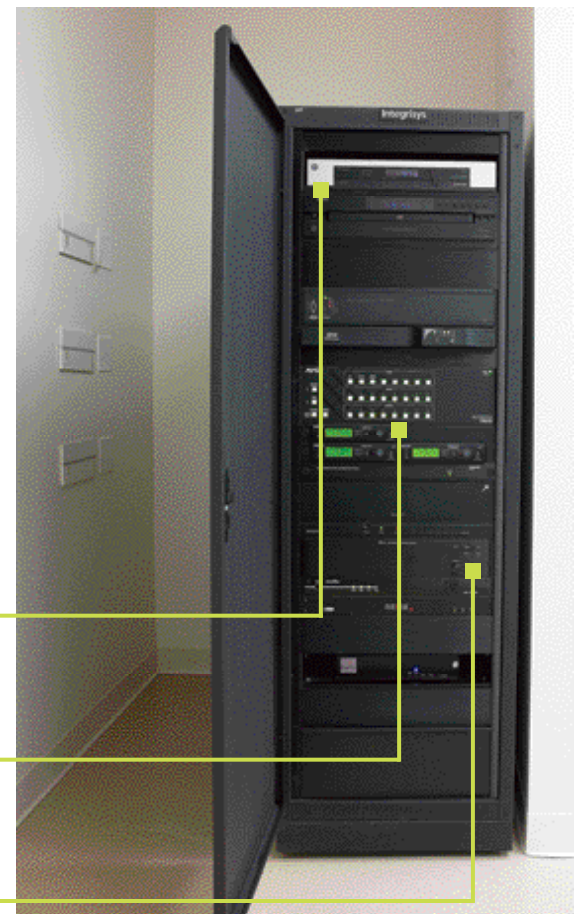
A second fitness room houses instructor-led classes. There's no video, but a pair of **JBL Pro Control 28** loudspeakers deliver "beefed up" sound to help get exercisers pumped up.

The speakers in the second fitness room are driven by a **QSC RMX 850** 200W-per-channel power amplifier. The 2RU amp is RoHS-compliant and uses surface-mount technology to maintain a compact size and optimum thermal coupling and cooling.

The largest of the three **Middle Atlantic**-provided racks holds a variety of equipment, beginning with (from the top) a **Motorola** cable box, **Denon DCM-290** five-disc CD changer, **Crestron AV2** control processor, and **Tripp Lite SmartPro SMX500RT1U UPS**.

Toward the middle of the rack are the **AMX Autopatch AVS-PR-0808** AV switcher/router, **Shure SLX4** diversity receivers, **Shure UA844SWB** antenna/distribution amplifier, and **Sonance Sonamp 1230** 12-channel amplifier.

Finally, the rack holds the **TOA 900 Series P-906MK2** amplifier for the facility's 70V speakers, a **Panamax Max 4400-20A** power conditioner, a **Biamp Nexia PM DSP** presentation mixer for sound reinforcement in the multiuse room, and **Integrisys**' own Integricast digital signage system.

speakers. The systems are controlled by a wall-mounted Crestron 3.6-inch TPS-4LW touchscreen and Crestron AV2 control processor, and signals are routed via the Autopatch switcher.

Content for the various systems is diverse, but Weintraub says Integrisys wanted to keep things as simple as possible to minimize the building's cable TV bill. "We didn't want to have 10 separate cable boxes feeding the system, both because it complicates things and because [the client] would have to pay for each box," he explains. The solution was to centralize a few cable boxes along with other video sources and have the ability to route any of the video sources to the any of the displays. In the main fitness center, for example, that means modulating the signals from five cable

boxes using Blonder Tongue equipment and routing it to screens on individual exercise machines. Users can tune into any of the five fixed stations.

Because of the long cable runs, high-definition video was sent over Cat-6 cable with baluns on each end. As many of Chicago's cable service providers have transitioned to digital, Integrisys had to modulate several channels and distribute the signal to LCD screens integrated into the fitness equipment. A second fitness studio, used for yoga and other instructor-led classes, offers no video but does have its own separate audio system that uses JBL Pro Control 28 speakers and a larger QSC RMX 850 power amplifier. "This sound system is beefed up compared to the one in the meeting room because the instructors will often be bringing

in their own CDs to play music as part of their exercise instruction. It needed to be able to handle more bass and overall volume," Weintraub explains. "But it's also connected to the main audio backbone and can receive input from any source."

This was a case where a highly customized approach to systems control actually resulted in both a streamlined, simplified user interface and a system that stayed within the client's budget. "Using the Creston and Lutron control systems, programming them to meet all of the anticipated needs of the users of the space, and building in a high degree of automation, such as the sensors in the wall panels, gave us a great solution to a complex set of requests," says Weintraub. **AV**

EQUIPMENT LIST

CONTROL SYSTEMS

Crestron Electronics (crestron.com)

- Crestron e-Control XPanel interface over IP
- AV2 dual-bus control system
- Crestron module for Squeezebox
- TPS-4LW Isys 3.6-inch active-matrix color wall-mount touch panel

Lutron (lutron.com)

- Grafik Eye QS QSG-4P120-1-WH, four zones
- Grafik Eye QS QSG-3P120-1-WH, three zones
- Grafik Eye QS QSE-CI-NWK-E RS232/TCP/IP control interface
- Grafik Eye QS GRX-IRPS-WH infrared transmitter/receiver pair
- Sivoia QS shades and 10-shade transformer panel

VIDEO SYSTEMS

Da-Lite (da-lite.com)

- Advantage Deluxe Electrol motorized front-projection screen

Denon Electronics (denon.com)

- DVD-1740 progressive-scan/scaling DVD player
- DCM-290 five-disc CD/MP3 changer

LG Electronics (www.lge.com)

- 32LH20 32-inch 720p LCDs
- Various 42LG50 42-inch 1080p LCDs

Panasonic (panasonic.com)

- Panasonic PT-FW100NTU 3,000-lumen projector

Sony (sony.com)

- Bravia KDL40V5100 40-inch LCD

AUDIO SYSTEMS

Atlas Sound (atlassound.co...)

- SM52T-B, 5.25-inch 70V surf... mount speakers

Biamp Systems (biamp.com...)

- Nexia PM DSP presentation m...

JBL Professional (jblpro.com)

- JBL Pro Control 28 8-inch 175W speakers

Logitech (logitechsqueezebox.com)

- Squeezebox Internet radio server

QSC Audio (qsc.com)

- QSC RMX 850 200-watts-per-channel power amplifiers

Shure (shure.com)

- SCM262 four-channel stereo mixer
- PG14/PG185 wireless lavalier microphone system
- SLX14/93 wireless lavalier microphone system
- UA844SWB UHF antenna/power distribution system

Sonance (sonance.com)

- Symphony Extreme XTR weatherproof in-ceiling speakers
- CR101 in-ceiling speakers
- Original Series 621R in-ceiling speakers
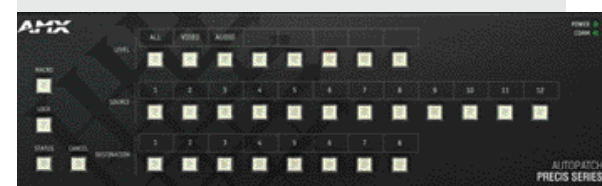- Sonamp 275 SE amplifier
- Sonamp 1230 12-channel amplifier

TOA Electronics (toaelectronics.com)

- 900 Series P-906MK2 amplifier

INFRASTRUCTURE

AMX (amx.com)

- Autopatch AVS-PR-0808 AV switcher/router

Blonder Tongue (blondertongue.com)

- BAVM Series AV Modulators
- OC Series passive combiner
- RMDA series 15-dB distribution amplifier

Panamax (panamax.com)

- Max 4400-20A power conditioners
- Max 4300 EX power conditioners

Peerless Industries (peerlessmounts.com)

- PRS-UNV Universal PRS projector mount
- SA740P articulating mount
- SmartMount SR560M universal cart
- ST640P tilt mount
- ST650 security tilt mount

Tripp Lite (tripplite.com)

- OmniSmart OMNI900 digital UPS
- SmartPro SMX500RT1U uninterruptible power supplies