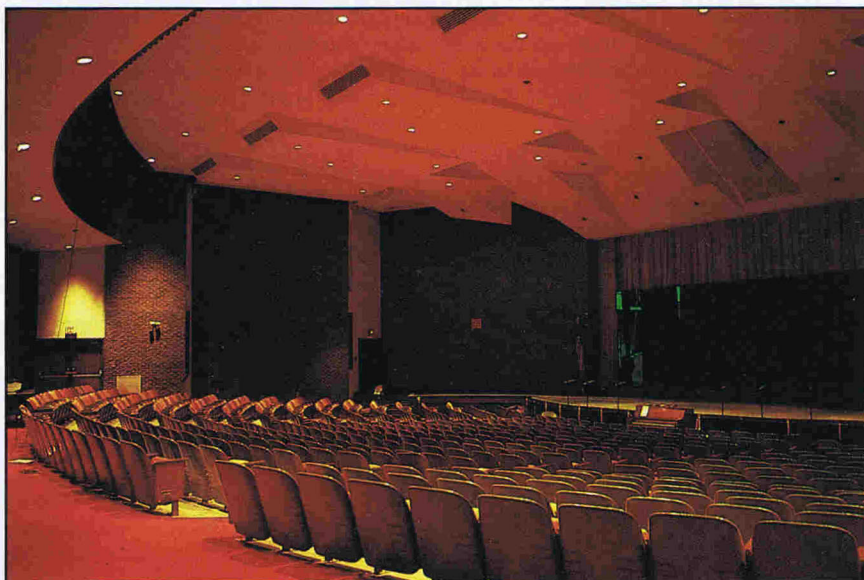


School of the arts features artistic sound

By Gregory DeTogne

This elegant auditorium for performing arts and music students is also a community resource for local theater groups.



The Shoreham Wading River High School's 6,700-square-foot, 800-seat auditorium needed a new sound system that would provide coverage for the middle section of the seating area and improve intelligibility overall.

Long Island's Shoreham Wading River High School, Shoreham, NY, is widely known for the heavy emphasis it places upon the performing arts and musical instruction. To complement the curricula, the school district commissioned a top-quality auditorium sound system that would feel right at home in any world-class venue. By staying within budget as closely as possible and using many components already in place, Riedel Audio Services, Islip, NY, designed a system that is used for everything from orchestral sound reinforcement to classroom instruction.

One of the most elegant auditoriums in its district, the Shoreham auditorium measures 6,700 square feet, seats 800 and houses a large stage, an orchestra pit and special instructional areas at the rear, which can be partitioned off from the main floor by folding walls. In addition to

DeTogne is a free-lance writer based in Libertyville, IL.

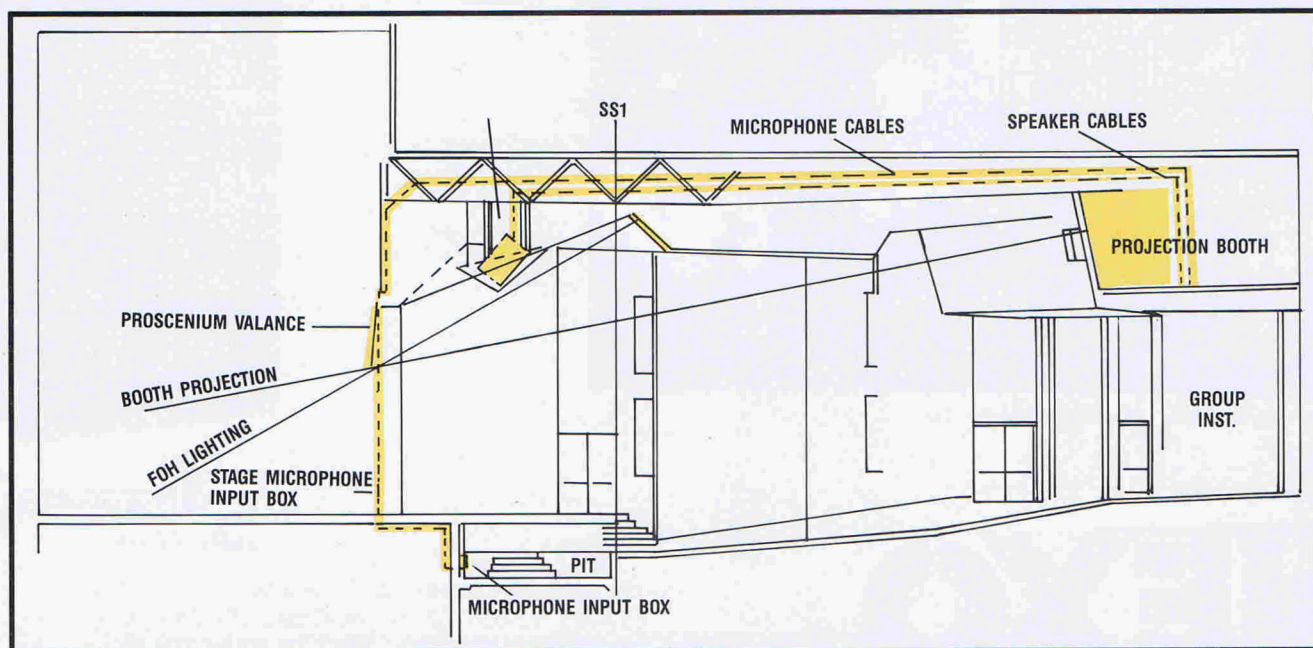
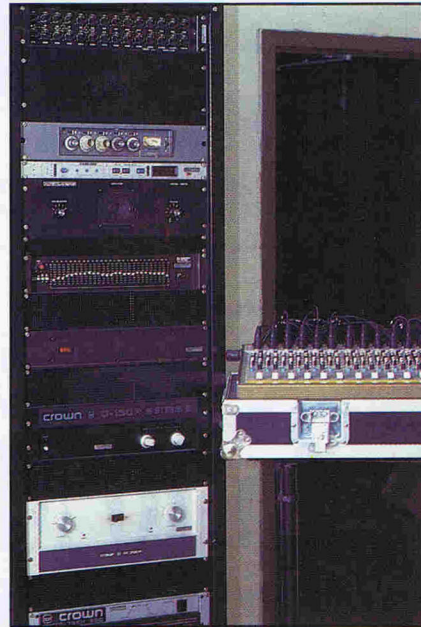
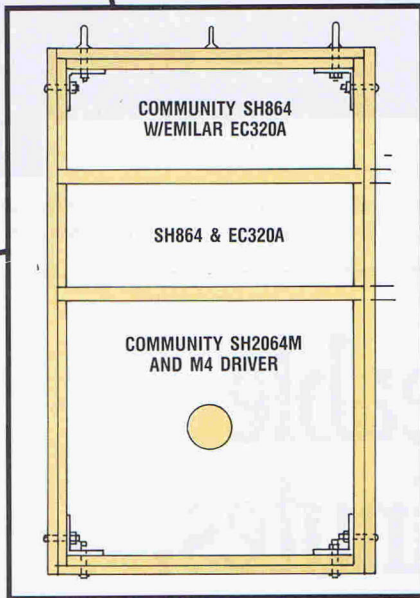
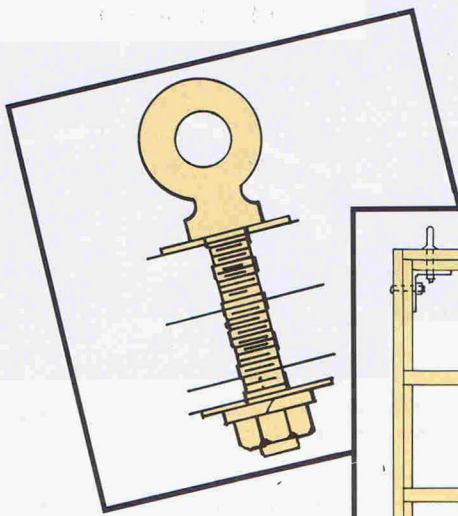


Figure 1. The cluster, composed of three custom-made cabinets, is flown directly above the orchestra pit.



school plays, musicals, concerts and instruction that runs the gamut from the orchestral and choral programs to lessons for Shoreham's Old English hand bell choir, the auditorium is also used extensively by local theater groups and other nearby district schools.

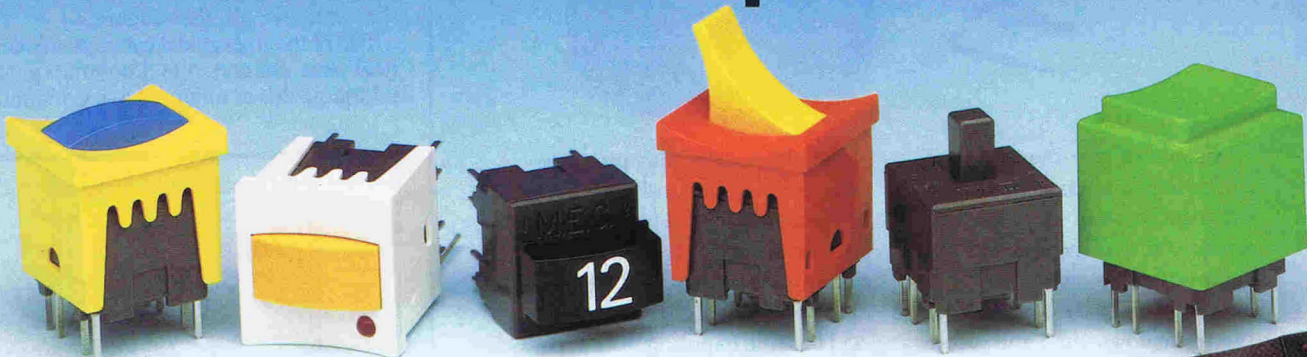
However, Shoreham's auditorium had one weak spot, and that was the sound system that served the main floor.

School officials complained about the old system's inability to provide proper coverage for the center section of seats in the audience area. The system was cen-

Figure 2. The two mid/high cabinets each contain a midrange driver and horn and two high-frequency drivers coupled to high-frequency horns.

The main rack is located on the other side of the auditorium from the main cluster.

One Switch gives you all these options



One switch. But look what it can become.

A pushbutton. A toggle. A keypanel. A designer's delight.

Add a variety of bezels, keycaps, LEDs and standard legends to produce hundreds of highly colourful configurations.

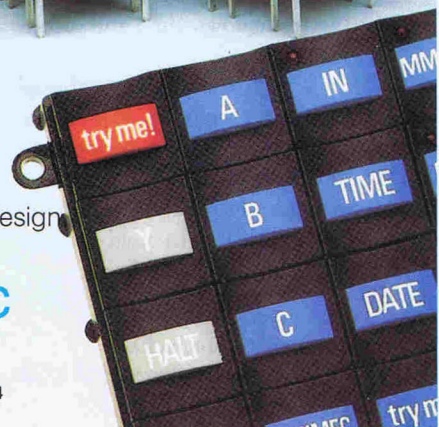
Momentary or latching versions, silver or gold contacts.

Each one completely interchangeable with another thanks to its modular design.

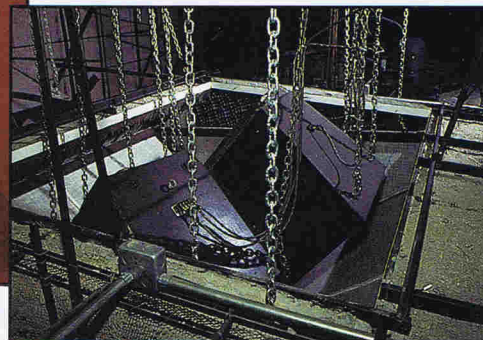
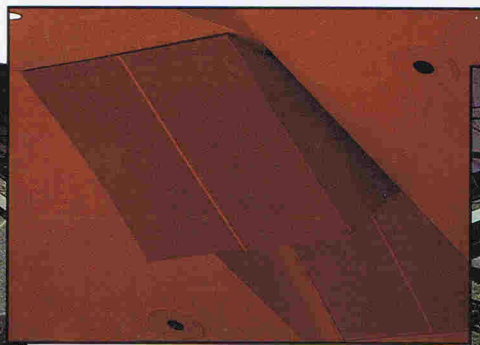
Each one a master of action. And of disguise.

Full details of the MEC Modular Switches on request.

SOLiCo/mec
Sorenson Lighted Controls, Inc.
75 Locust Street
Hartford, CT 06114
Tel: (203) 527-3092 Fax: (800) 331-1184



Circle (45) on Rapid Facts Card



The main cluster is suspended through the ceiling in a cutout lined with Sonex, which keeps rear reflections to a minimum. Fiberglass batting was added to the rear of the loudspeaker cabinets. A grille covers the cluster and blends with the ceiling.

Serviceable In 10 Minutes.



People all over the world buy McCauley loudspeakers because with the removal of three little screws you can inspect and service our loudspeaker in less than 10 minutes—wherever they are. No more down time and reconing expenses.

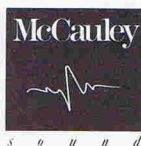
With McCauley's exceptional record of reliable durability, chances are you'll never need to touch those three little screws except for routine inspection.

In addition to field service-

ability, McCauley also produces unparalleled sound quality, power handling, and factory support assistance. The 6254, for example, punches out clean, tight bass from 1.5 kHz down to 25 Hz while handling 900 watts of continuous power.

To learn more about the benefits of owning a high quality, field serviceable line of components, contact McCauley Sound, Inc. at (206) 848-0363.

McCauley Sound, Inc.
13608 94th Avenue East
Puyallup, Washington 98373 USA
Fax (206) 841-3050



tered around two large bin speakers, which were suspended against the brick walls on both sides of the proscenium.

"When I first heard the system and saw how it was laid out, my initial recommendation was to switch from the side-mounted loudspeakers to a central cluster," said Rich Riedel, the owner of Riedel Audio. "In addition to the old system's inability to cover the center section of the main floor's seating, I discovered other problems in the room as well. There was a certain amount of cancellation and a feedback situation, which would arise when microphones were set up along the apron of the thrust stage, where they could easily pick up sound from the side-mounted loudspeakers."

Solutions

Riedel began by drawing what he thought would remedy most of the auditorium's problems in one fell swoop: a cluster composed of three custom-made cabinets, which would be flown directly above the orchestra pit. (See Figure 1.)

Two of the trapezoidal cabinets are identical and contain one Community M4 midrange driver mounted to a Communi-

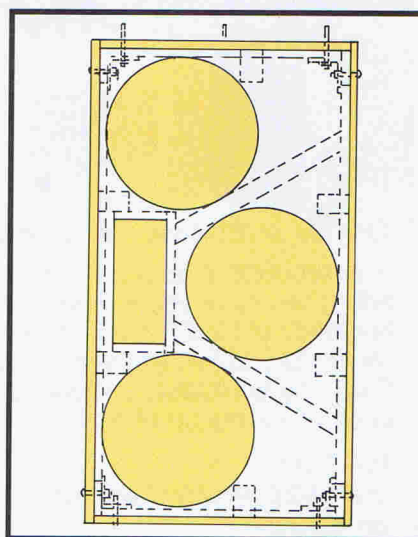


Figure 3. The low-frequency cabinet houses three subwoofers and is flanked by the two mid/high cabinets.

Circle (46) on Rapid Facts Card

Equipment list

Amplifiers (total 1,175W):

- 1 Crown Micro-Tech 600 (LF cabinet)
- 1 Crown DC-300 (midband)
- 1 Crown D-150A (HF cabinet)
- 1 Protech 875 (from the output of the digital delay serving the instruction area's ceiling-mounted loudspeakers)

Main cluster:

- 2 custom high/mid trapezoidal cabinets, each with:
 - 1 Community M4 midrange compression loudspeaker
 - 1 Community SH2064M midrange horn
 - 2 Emilar EC320A HF drivers
 - 2 Community SH864 HF horns
- 1 custom LF trapezoidal cabinet:
 - 3 EV D115X woofers

Loudspeakers (instruction areas):

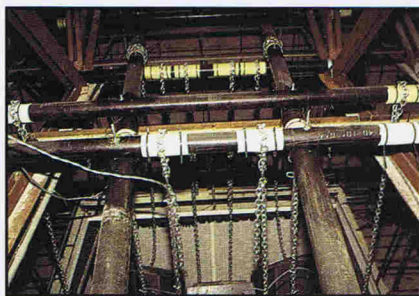
Soundolier 12-inch, recessed coaxials with 70V transformers mounted in Q-line back boxes

Electronics:

- 1 Klark-Teknik Jade 1 control room monitor
- 1 Klark-Teknik DN716B digital signal delay
- 1 White 4400 EQ (for main cluster EQ and crossover)
- 1 Bogen utility mixing console
- 1 Crown PH4 microphone phantom power supply (for use with Bogen mixer)
- 1 Seck 242 house audio console

Microphones:

- 1 Crown PZM
- 7 Neumann KMR 81-i shotgun microphones
- 4 Samson wireless mics



Cantilevered trussing made from 2-inch and 2 1/2-inch steel tubing suspends the main cluster from chain link. Rubber insulators at the chain loops suppress vibration.



Two custom trapezoidal cabinets flank a custom bass cabinet in the main cluster.



OUR RMX-44 OFFERS ALMOST AS MANY COMBINATIONS.

ty SH2064M horn and two Emilar EC320A high-frequency drivers coupled to Community SH864 horns. (See Figure 2.) A third trapezoidal cabinet for low frequencies is home for three EV D115X woofers. (See Figure 3.) The three cabinets are mounted so that the high/mid enclosures flank the bass enclosure.

Once mounted, the cabinets were secured to trussing that connected them to the ceiling's main structural supports. (See Figure 4.) The trussing was made from a combination of 2-inch and 2 1/2-inch diameter steel tubing, which was mounted in the ceiling in a cantilevered fashion to compensate for the fact that one of the suspension points did not have building steel located above it.

Chain was used to suspend the loudspeaker cluster and to keep vibration to a minimum. Each point where the chain

Zone control and routing problems can be puzzling. You could spend a lot of time trying to get the right combinations. Or you could get the RMX-44 and save yourself a lot of trouble.

With it you can select or mix four input sources and route them to as many as four different outputs. And you can make your selections remotely using simple contact closures. The RMX-44 can eliminate patch bays or mixing boards, but mostly it gets rid of your problems. Our RMX-62 has six inputs and two outputs where you need a slightly different mix. No matter what your switching or routing problems, call Oxmoor for all the right combinations.



THE OXMOOR RMX-44 MIXING MATRIX SYSTEM

Oxmoor Corporation, 2111 Parkway Office Circle, Birmingham, AL 35244, Telephone (205) 985-7040

Circle (47) on Rapid Facts Card

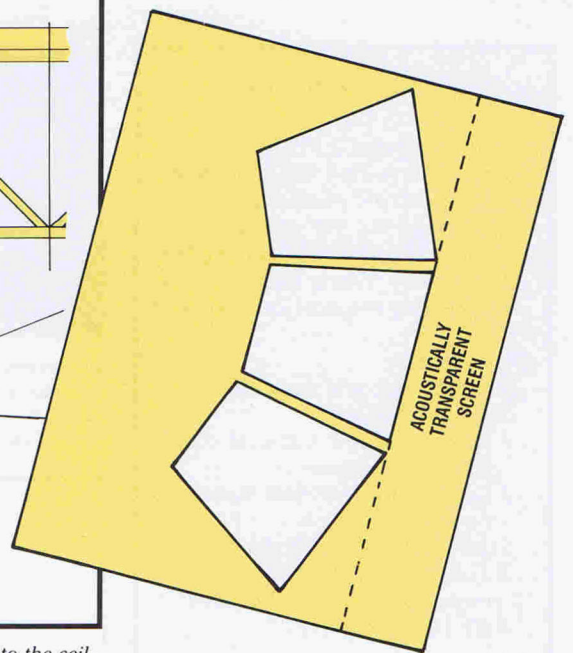
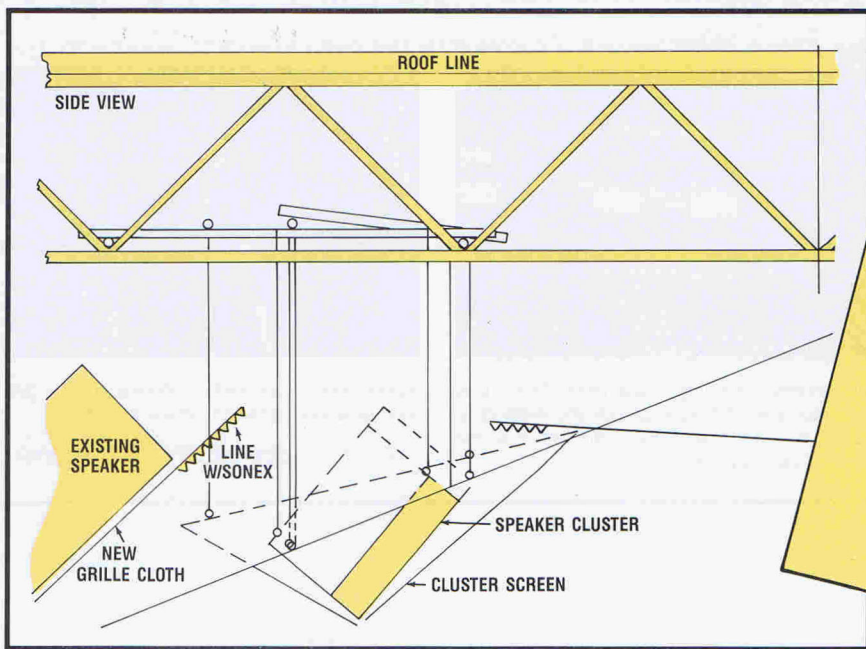


Figure 4. Once mounted, the cabinets were secured to trussing that connected them to the ceiling's main structural supports.

looped around the tubing was insulated with an industrial-grade rubber material with a hardness rating of 50.

As a safeguard against rear reflections, Sonex was applied liberally within the cutout area in the ceiling, and fiberglass batting was attached to the backs of the

loudspeaker enclosures.

To fight the feedback, Riedel used Neumann KMR8LI shotgun microphones at the edge of the stage. The M4s help deal with the intelligibility problems. Their design configuration excludes a crossover point in the midband where the crucial

speech/vocal information is contained. This choice is somewhat of an anomaly as far as high school systems go, but based on the type of use the auditorium sees, it really is the only way to go.

The system (assembled by Starr Brothers, the contracting company that pulled

Winsted® Preferred by Professionals Worldwide



Model H8592

MODULAR VIDEO CONSOLES

Video support system consoles with design flexibility. Units assemble in any configuration from stock components. Standard 19" EIA modular racks. Unique "Building Block" design is expandable to any size system.

For our free full-color FULL-LINE CATALOG call us toll free: **800-447-2257**

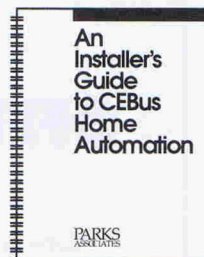
THE WINSTED CORPORATION

10901 Hampshire Avenue So. • Minneapolis, MN 55438
612-944-8556

FAX: 612-944-1546

Circle (48) on Rapid Facts Card

Hands-on info for CEBus automation.



Now in its second edition, the manual contains easy-to-use instructions, including graphics and diagrams.

Uses the new CEBus™ standard!

This manual provides detailed instruction on the backbone wiring that will interconnect the electronic home of the 90s.

For installers of all types, and for all applications.

Emphasizes CEBus and its application for security, entertainment, lighting, telecommunications, and energy management. Designed for on-site use, with clear, easy-to-use instructions, including graphics and diagrams. It reveals "insider" information on how to wire for current and future automation products and services.

Second edition available now.

An Installer's Guide to CEBus Home Automation is \$149, plus shipping. To order, call Parks Associates at (214) 490-1113, fax (214) 490-1133.

CEBus is a trademark of the Electronic Industries Association.

PARKS ASSOCIATES

Circle (49) on Rapid Facts Card

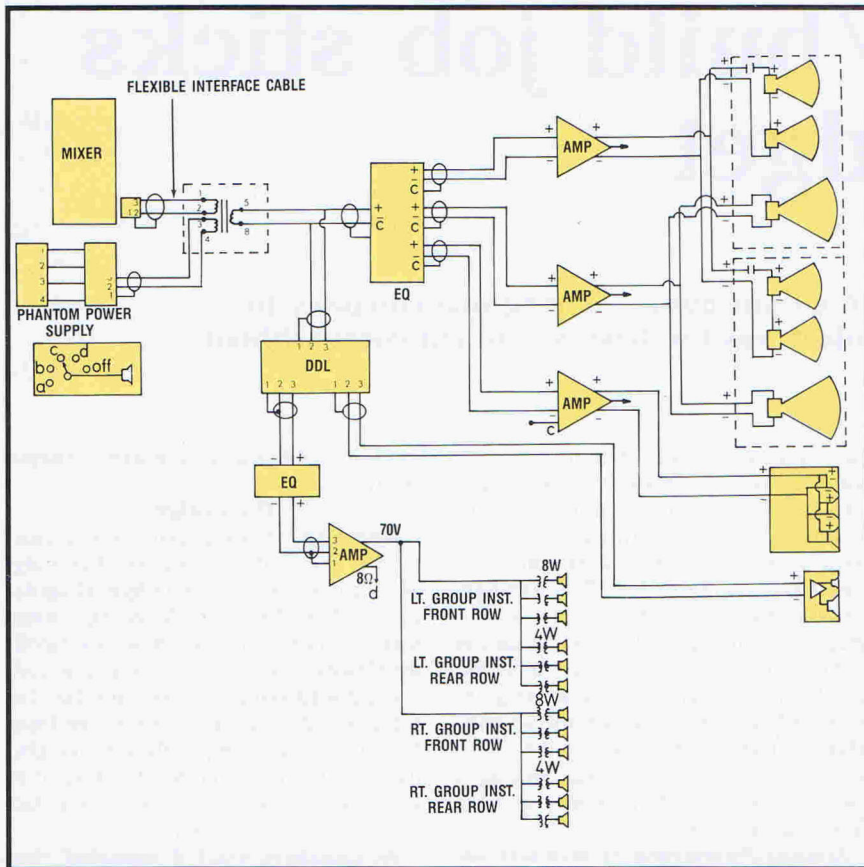


Figure 5. The block diagram.

the cable and handled all of the other myriad construction chores) is controlled from a second-floor room at the rear of the auditorium, which also houses the follow-spots and house lighting console.

The main rack features a Crown Micro-Tech 600 for the LF cabinet and the Crown DC-300 and D-150A (already in place), which handle the mids and highs, respectively. (See Figure 5.)

After the installation, Riedel provided instruction on how to operate the system before declaring the job complete. In fact, he still pops in from time to time to assist student adviser Bill Phillips' teaching efforts, which are geared toward providing students with hands-on experience in the technical aspects of managing a theatrical or musical production.

According to school officials, the sound system now offers low distortion and improved vocal clarity, as well as the ability to project over the entire seating area.

SVC

Editor's note: Assistance in the preparation of this article was provided by Rich Riedel. Photography by David Osika.

"...WITH SOUNDSPHERES...EMPLOYEES ARE PLEASED THAT THEY CAN ACTUALLY HEAR THEIR PAGES."

For a warehouse (high, open ceiling) type set-up, these speakers are ideal and with an acoustical ceiling, the sound is even better.

Michael Marusevich/Director of Field Operations. Pergament Home Centers, Inc.

Matt Maloney/Telecommunications Manager writes:

About two years ago, Pergament was seeking ways to improve the clarity and coverage of the sound systems in our stores. At that time, the Spring Valley N.Y. Pergament store was under construction. Our NY MUZAK representative, Bob Lauro, proposed using Soundspheres there, and guaranteed in writing to replace them with twice as many wall baffle speakers if we were not satisfied.

At that installation and at each new store since, Soundspheres have provided Pergament with significantly improved sound quality, improved dispersion of sound around high and heavily stocked store fixtures, and quicker system installation than with conventional speakers as less Soundspheres are needed.

We never did consider taking MUZAK up on their replacement guarantee.

Write or call direct for further information.

SOUNDSPHERE A PRODUCT OF SONIC SYSTEMS, INC.

737 Canal Street • Bldg 23B • Stamford, CT 06902 • USA • Tel (203) 356-1136

Circle (51) on Rapid Facts Card

