

SHOPPING CENTER

BRADENTON, FLORIDA

Electro-Voice[®]**PROBLEM**

This situation required covering the mall of an ultra-modern shopping center with high quality recorded music. Unlike most shopping centers, the mall was covered by free style hyperbolic paraboloid arches* which provided some protection for the loudspeakers but added to the problem of adequate coverage by making the mall area rather "live".

Design of the buildings and arches precluded recessing the loudspeakers. The alternative, since the speakers would be in view of shoppers, was that they be decorative in appearance.

The installation engineer stated that frequency range response was the primary consideration, appearance was second, and size was third in importance. In selecting a microphone for paging and announcements primary considera-

tion was given to frequency range response and cost was secondary. As can be seen, every effort was made to make the installation one of high quality throughout.

Projection of high level sound from a few loudspeakers was ruled out by the preponderance of hard surfaces which would produce echo, reverberation, and resulting distortion. The alternative was use of multiple sound sources with a sufficiently wide angle of coverage that the number required would not exceed the limits of economic utilization of equipment and cost requirements. Following good engineering practice, design of the system dictated that equal consideration be given to all components so that no one set might be allowed to be so high in cost that remaining components would have to be compromised to the detriment of the overall system.

* architects' terminology for the structure resembling an umbrella turned wrong-side-out.

SOLUTION

To fulfill the first consideration of wide frequency response, Electro-Voice Musicasters* were chosen. These loudspeaker assemblies provide uniform response from 60 to 13,000 cps. In addition, they are weatherproof, a prime requirement because of the limited protection afforded by the arches over the promenade.

Examination of the projection angle of the Musicasters provided the answer to the number of units required. This projection angle, 120° , indicated that satisfactory coverage could be gained by using a total of 16 Musicasters, eight on either side of the 600' mall and spaced at intervals of 75 feet. These were staggered so they would not face each other across opposite sides of the mall. The resulting arrangement provided high quality and very

uniform projection of background music. Because of the number of loudspeakers used, there was no location where reproduction level was high enough to cause a disturbing echo. Relatively low levels also precluded any problem of time lag from a nearby speaker to a distant one. Each Musicaster was mounted on a hollow threaded stud which allowed the leads to be neatly fed up through the roof. This also provided lateral movement of the assembly where slight adjustments of the projection angle were found desirable.

Equipment List:

- 16 Electro-Voice Musicasters
- 2 Bogen Model KO-60 Power Amplifiers
- 1 Bogen Model LOM Preamplifier
- 1 Electro-Voice Model 630 Microphone
- 1 SEG Model Mon-1 Monitor Panel (Designed and manufactured by SEG Electronics)



Figure 2- Placement of Musicasters above Promenade - Cortez Plaza

COMMENTS

While the problems involved in this installation were not stringent they nevertheless required careful selection of equipment and layout to avoid distorted and spotty coverage. The ultra-modern decor dictated exposed speakers that would provide similar styling. A noise level comparable to that of a downtown city street had to be overcome, but not at the expense of uniform coverage or fidelity of reproduction. The installation described above provided a solution to these problems in a manner quite satisfactory to all concerned.

Sound system design and installation made by:

SEG Electronics
12 Hinsdale Street
Brooklyn, New York

Location:

Cortez Plaza
Tamiami Trail & Cortez Road
Bradenton, Florida



Figure 3- Mounting detail; Musicasters - Cortez Plaza