MARTIN DICKSTEIN

db Sound With Images

• Although the Season of Lights has come to an end, the field of lighting has expanded to an enormous extent through their application in discos and similar establishments, and the same can be said of sound. At a recent conference in New York, Disco III, run by *Billboard Magazine,* equipment to boggle the mind through both eye and ear was demonstrated. Just a look at random, with no special order of appearance, might give an idea of what's available for whatever situation anyone might have in mind. Please be aware that mention here in no way indicates personal or **db** preference of one over another, nor is this any advertisement for the described systems.

LIGHTS FANTASTIC

Starting in the light, a company called Lights Fantastic showed a projector using a 250-watt tungsten-halogen lamp with an output of 600-plus lumens per square foot. The unit itself acts as a light source, and the mounting on the front permits setting up a range of lenses and effect-creating attachments. For example, a liquid and animation wheel can be rotated at ½ rpm to make slowly moving blending effects appear on the walls or ceiling. A color splode, a two-cell tank with two different colored liquids, can also be attached. A small pump agitates the liquids and creates color patterns, pulsating with the music but with no direct link to the sound. Combinations of blue, red, and yellow are available. Whirling bands of color can be created by another attachment consisting of a set of color cogs which are intermeshed and rotated by a high speed motor. There's also an attachment to allow three effects to be mounted at the same time with a built-in electronic timer controlling the time lapse between effect changes. Each of the effects can also be set for any time desired between 20 seconds and 15 minutes. Additionally, a prism lens is available for multiple overlapping images made to rotate within themselves and around a central axis.

MOIREMATIC

A British company called Moirematic makes use of a similar projector and provides the front end devices for additional effects. A ColourFlash attachment adds alternating movement of flashing colors, and the ColourChange unit blends moving colors slowly for a dream-like effect. A series of slip-in discs is available to create such effects as squares, dots, triangles, lines and ovals, which can rotate and move horizontally.

One of the most widely used effects in the disco field comes from a laser light. By manipulating the movement and the patterns these brilliant color emitters can produce, the operator can create an immensely dramatic light-with-sound presentation. There is also equipment which can operate by itself, without manual control, to create programmed effects around the area. Laser Physics, for example, in establishing the system for the latest

disco in New York, uses a remote control system for a setup of lasers hidden behind mirrors hanging over the bar and using an optical scanner driven by an optical cable source. Various other companies are also involved with supplying lasers and modulators for sound-to-light effects.

One requirement for any laser system to be acceptable is that it must conform to either state or federal regulations. Lasers are known to be powerful enough to burn holes in anything they concentrate on. For laser systems in discos, the power of the beam must be cut way down. There is still, however, a controversy as to whether the low level of the beam can cause any damage to the human body. The contention is that the beam, as weak as it may be, can still damage the eye by destroying the optically sensitive cells in the cornea in a direct hit. This also holds for reflection from sequin dresses, jewelry, etc. To avoid this, of course, the dancers must not wear reflective clothing or accessories, and must never look up at the source of the light beams. There would be no pain in the damaged area, and the lesion would be small, but future sensitivity would be seriously affected.

New York State, the only one to establish safety requirements, maintains that each laser light operator of a unit over 1 watt must hold a certificate of competency, diagrams must be provided by the performing group using lasers of the path of the beam of each layer, proper alignment of the optics and scanning beam pattern must be verified, no beam in the 400-600 nanometer frequency range shall strike the audience nor shall any reflective surface be in the path of the beam of this wavelength to deflect it toward any occupied area. The laser system must have two interlocks to turn off the beam if the scanning system fails, the laser and beam must be in continuous view of the operator, and must be turned off by the operator (and the key removed) when he leaves the operating area.

SNAKE LIGHTS

Strobes are old hat to most people, but other flashing devices have made the scene. Snake lights, for example, by LaTec International (a division of Musical Instrument Corp. of America) makes flexible plastic tubes 16 feet long containing 84 lamps wired to four separate channels. With any of the many multi-channel programmers and control units available, the lights appear to follow each other along the tube. Any shape and any length can be set up to include up to 25 individual snakes.

Various companies produce the software used with the effects projectors. The discs that rotate in the motorized front ends of the many projectors available come in many colors, patterns, and images. These same companies also produce various other devices for creating special effects. For example, catalogues contain specs on rotating lights, similar to police units, bubble machines, fog machines, and a myriad of others.

Other special light-including accessories can also be found. Whole dance floors can be made up of sections, each containing lights covered with a strong plastic transparent top that acts as the dance floor. Sections are connected together and can be programmed like any other light show. Another item containing lights is manufactured by Swivelier, who make a panel with fiber optic clusters. These can be used as table tops or hung on a wall. The source is a single bulb, but the effect can be of changing patterns and colors that vary every second. And let's not leave out the hologram. The Holex Corp. has a com-

plete catalogue of these images that can be purchased according to the type desired. There are transmission holograms and reflection holograms, the former illuminated by light from behind (transmitted light), and the latter by light from the front (reflected light). There are also different types of images. The virtual image, for instance, appears to be behind the hologram; the real image appears to be in front of the hologram. With an image plane, the image appears to be surrounding the surface of the hologram. Such descriptive titles as Shark, Racing Cars, Bat, Flying Saucer, Monsters give one an idea of the possibilities. There are also movies, brief to be sure, with titles like Train (train coming out of a tunnel), Tetra (a computer generated three dimensional hologram), and Goldfish Bowl (which has a fish swimming forward—and backward).

LOVELINE

An interesting sound-related system was also described at Disco III. Called Loveline, the system consists of a phone hookup, with a red instrument on each table. To call someone at another table, just dial the number of the lighted ball over the called table. The other phone will ring, and the phone conversation remains private. A variation is to replace the ringing bell with a flashing red light. The manufacturer is Intercommunications, Ltd.

An unusual sound transmitting device was also on display. Called Soundsphere, and made by Sonic Systems, Inc., the unit is actually a sphere with small speakers located around the ball at carefully selected positions and a spherical distribution pattern. Power handling can be 250 watts with an impedance of 4 ohms; frequency response is 35 Hz to 20 kHz, maximum sound level is 128 dB at 4 feet with 100 watts.

According to the list of exhibitors, there were 89 "non-sound" booths, and fifteen sound rooms. Among the lighting booths were such names as Blackstone Productions, creators of polarized animated slides and "atmospheres" with multi-image presentations; AVL, multi-image programmer devices; Span Engineering, holograms; Edmund Scientific Co., unique lighting and special effect devices; Digital Lighting; Soleil Laser Entertainment; Selectrocution, Ltd., audience participation games for singles; and Package Lighting Systems, lighting instruments and illuminated dance floors. Among the sound names were Sigma Sound Studios, Rosner Sound, Technics by Panasonic, Portman-Shore Electronics ("Sound Sweep" device), Altec, and Cerwin-Vega.

All in all, it was quite an eye and ear opening (or closing) show. One interesting sideline to the light and sound business is the application in the newest craze, the roller skating rink. Although the lighting can be similar to the disco effects, since there is music to which the skaters dance, and the lights can create a similar atmosphere, what is to be done about the required level of sound at the rinks? The sound of the roller skates during the dancing is extremely loud. The music has to top this general ambience by a difference comparable to the level of the disco music over the sound of simple shoe shuffling along the floor. It can be a formidable problem. There also has to be a slight modification in the lighting compared to the disco. On the skating dance floor, bad reflections can cause momentary blindness and possible accidents. It's a whole new ball park, or dance arena, rather.

P.S. I've received several letters requesting addresses of people and firms mentioned in the column. For general information, here they are: The Variable Speech Control Co., 2088 Union St., San Francisco, Ca. 94123, attention George Leslie. Also requested, Jim Sant'Andrea, 300 E. 44th St., New York, N.Y. (212) 557-0070. ■