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search under Gordon's direction included working closely with RCA Consumer Electronics in the development of the new RCA XL-100 ColorTrak TV system.

Charles F. Riley, President of Tele-Color Productions, Alexandria, Va., has been elected the first Chairman of the newly formed Society of Broadcast Engineers, an active chapter founded for the Washington, Baltimore and Northern Virginia areas. Riley is also a member of the Board of Governors for the Videotape Producers Assn. of New York and is active as a member of the Institute of Electrical and Electronics Engineers Committee on Television Standards.

Books, Booklets, Brochures

The Super8™ Sound Catalog Update/76, a 12-page brochure listing new products and other changes that have taken place since publication of the 72-page Super8 Sound Catalog (*Journal*, p. 922, November 1975), is available from Super8 Sound, Inc., 95 Harvey St., Cambridge, MA 02140. Products listed include the new Super8 Sound Recorder II which is reported to have better sound fidelity, a wider frequency response and much better SNR than the original Super8 Sound recorder, as well as a number of new features. The *Update Catalog* also lists the Improved Super8 Sound Recorder I, an improved version of the original Super8 fullcoat recorder. Conversions are available for existing recorders.

The Metric Yearbook 1976 (8½ × 11 in, 200 pp) contains the complete text of the Metric Conversion Act of 1975 (Public Law No. 94-168) signed by the President on 23 December 1975. The book also sets forth the makeup, powers and functions of the Metric Board which will coordinate future conversion activities; reports of metric activities and plans of federal departments, administrations and commissions; state-by-state summaries of metric activities and plans of federal departments, administrations and commissions; state-by-state summaries of metric developments; the various professional associations' actions and plans; progress and plans in all the major industries; and special projects in education and general state summaries. The book also contains an appendix listing sources of information. *Metric Yearbook 1976* is available from J. J. Keller & Associates, Inc., 145 W. Wisconsin Ave., Neenah, WI 54956, at a price of \$10 for a single copy with discounts available for orders of two or more copies.

Heinemann Electric Co. has issued a new 4-page Bulletin 3372 on its line of electronic over- and undervoltage protectors — the JA/Q®, a special configuration of Heinemann's Type J single-pole circuit breaker. The JA/Q provides both overcurrent and overvoltage protection in a single package for dc loads to 10 A. Should overvoltage protection alone be required, the line of hybrid overvoltage suppressor/protectors are described for in-house assembly onto circuit boards. Standard models available are listed but any trip voltage can be provided. For applications where currents are higher than can be handled by the hybrid protectors, specifications and technical information are provided on two dc and two ac overvoltage protectors that are manufactured



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Dolby Noise Reduction

The First Successful Decade 1966-1976

Dolby noise reduction has staying power. It has been around for ten years.* If you have read our technical papers and otherwise followed our progress, you are probably familiar with the reasons for this success. Here are ten quick reminders.

1 The Dolby system works like a constant-gain amplifier in two critical dynamic regions—low levels and high levels. Error-free signal handling is thus ensured at the dynamic range extremes. Compression and expansion occur only at easy to handle mid-levels, between -20 dB and -40 dB.

2 The system employs a simple adding and subtracting scheme which automatically results in mathematically exact complementary compression and expansion. There are no approximations, so the signal must come out the same as it went in (just check the Dolby Level now and then).

3 Compressor overshoots with high-level transient signals are suppressed without audible distortion, because of the basic system layout (dual signal paths). Since there are no overshoots to be clipped by the recorder, there is no impairment of even the most extreme transient signals.

4 The freedom from overshoot is a result of system philosophy, not an ultra-short attack time. Relatively gradual gain changes are used, yielding a compressor output which is remarkably free from modulation distortion. There is no need to depend upon cancellation of modulation products by the expander (thereby relaxing recorder performance requirements).

5 The reproduced dynamics of low-level signals are essentially immune to rumble in the input signal and head bumps and other frequency response errors in the recorder—the system has a solid low-level 'gain floor' below -40 dB.

6 The system gives a pre-determined amount of noise reduction which is realistically useful.

7 The noise that remains has a subjectively constant level. Noise modulation effects are almost non-existent.

8 The principles and parameters used in the Dolby system result in a high margin of safety. The system works well with all types of audio signals—speech, music, effects—and with practically all types of noises. High noise levels (from multi-generation copies, for example) do not impair performance.

9 The system functions reliably on a day in, day out basis, with real workaday recorders and other equipment.

10 All of the above have been proved in ten years of dependable service to the industry—25,000 professional channels in use by well over a thousand studios in more than 50 countries around the world.

**The first five A301 units were delivered to the Decca Record Company, London, on April 14, 1966.*

Dolby noise reduction now looks forward to

The Second Successful Decade 1976-1986



Dolby Laboratories Inc

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from discrete components. The transient suppressor, unlike the other protectors, is not a tripping device; rather, it absorbs the energy of a transient and clamps the line to a predetermined voltage. Two lines of transient suppressors available for 5-V and 15-V dc logic circuits are described as well. The last section describes Heinemann's line of ac undervoltage (brownout) protectors available in conjunction with Series CD, AM1, and Type J breakers. In addition to normal overcurrent protection, these protectors trip the breaker if the voltage drops to a specified level. Bulletin 3372 is available from the Heinemann Electric Co., Magnetic Dr., Trenton, NJ 08602.

ESE Digitals offers an 8-page bulletin and supplementary inserts that describe sequential programmers (for sequential selection of television broadcast sources), programmer/comparators, random access memory programmer/controllers, digital clocks/thermometers, timers for industrial and broadcast needs, continuous loop broadcast audiopak cartridges, and a 40-MHz digital frequency counter. It is available from Robert Mayers at ESE, 505½ Centinela, Inglewood, CA 90302.

The Oriel Corp. of America, P.O. Box 1395, Stamford, CT 06904, announced a catalog listing over 1200 optical products within 176 pages. Among the items covered are bench tables and accessories, laser beam positioning devices, monochromators and accessories, light sources, lenses, filters, mirrors and coatings. Also listed in the Table of Contents are: photoresist illumination systems, light detection and measuring equipment, polarizing optics, precision first-

surface reflectors and lasers, and components. There is an alphabetical index.

International Audio Visual, Inc., has issued a bulletin on a new family of fast, infrared emitters (GaAlAs/GaAs) for data transmission and general optical communications. In pulsed operation the figure of merit is $F \geq 10^6$ W/s and response time typically 50 ns. With radiation frequency at or near the fiber optical absorption minimum and CW-operation over 10 mW, they are ideally suited for high power color video or data transmission via fibre or air. The bulletin and further technical information is available from the Fire Division, International Audio Visual, Inc., 15818 Arminta St., Van Nuys, CA 91406.

Switching Regulators and Power Supplies — With Practical Inverters and Converters, by Irving M. Gottlieb, covers theory and design principles of switching-type power supplies. The decrease in cost in recent years has permitted users other than the military and aerospace to take advantage of their theoretical efficiency of 100% to design and build dc/dc, ac/dc, dc/ac, and ac/ac power supplies that do not dissipate excess power as in conventional voltage regulation. Numerous applications — watches, calculators, portable test equipment, television, aerospace, and undersea operations — are illustrated and many circuit schematics are given that utilize practical design considerations. It has 252 pages and 128 illustrations and is available at \$9.95 hardbound or \$6.95 paperback from Tab Books, Blue Ridge Summit, PA 17214.

Technisphere offers a new Video Rental Guide

that is in an 11 X 22-in broadside poster format designed to permit the user to easily avail himself of nearly 200 separate pieces of videotape production equipment, plus accessories. A four-page Interim Price Information bulletin that accompanies the broadside lists transfer and duplicating services, post-production services (editing, off-air recording and screening), and videotape stock prices pending issuance of a formal price guide. The broadside and bulletin can be obtained by writing to 1976 Video Rental Guide, Technisphere Corp., 215 E. 27 St., New York, NY 10016.

Hewlett-Packard offers a 12-page illustrated brochure presenting the HP line of spectrum analyzers. The booklet describes a plug-in series with RF units covering from 20 to 40 GHz, choice of IF and display units, plus companion tracking generators and microwave preselector; an economy plug-in series with 350 MHz and 1500 MHz units that feature simplified three-knob operation; and a compact low-frequency analyzer (covering 5 to 50 kHz) with 1-Hz resolution and digital storage of displays. Popular accessory items such as preamps and filters are shown; also, there is a complete listing of the HP applications literature and videotapes pertaining to spectrum analyzers.

Also available from HP is a 16-page Application Note (No. 192), "Using a Narrow Band Analyzer for Characterizing Audio Products," which discusses the application of low-frequency wave and spectrum analyzers to measure distortion, frequency response, wow and flutter, signal-to-noise ratio, and crosstalk of high-quality audio products. Various types of distortion in audio amplifiers, tape recorders, equalizers and loudspeakers are analyzed and methods of measurement are shown. Frequency response measurements are explained in detail. And an analysis of harmonics in musical instruments illustrates the use of the spectrum analyzer in synthesizing voices of various instruments. Other sections are devoted to acoustic response of rooms, intermodulation distortion, and cross references to companion HP publications and instruments.

Both publications may be obtained by writing Inquiries Manager, Hewlett-Packard, Co., 1501 Page Mill Rd., Palo Alto, CA 94304.

Nova Electric Manufacturing Co. announced a new catalog listing over 250 power inverters to 3 kVa, frequency changers, and uninterruptible power conversion systems. All units are fully solid state, rugged industrial modules having a history of performance areas including airborne, off-the-road (tank operations), dirty atmospheres (steel mills), and in tropical and arctic conditions (to -40° C). Typical electrical characteristics include power levels from 30 VA to 3 kVa; 50, 60, and 400 Hz; 110 V, 220 V, 1 phase and 3 phase operation. Voltage regulation is ±1% and frequency regulation ±0.15%. Total harmonic distortion is less than 6%. The catalog is available from Nova Electric Manufacturing Co., 263 Hillside Ave., Nutley, NJ 07110.

Tele-Dynamics has published a new 32-page designer's handbook and catalog of power supplies and line conditioners. It presents solutions to conventional power conditioning and ac-dc conversion problems. Two sections are devoted to technical descriptions of Paraformer® power converters and Varax® line conditioners accompanied by application suggestions. The first part of the catalog section contains technical descriptions of Tele-Dynamics power supplies, including open frame, miniature encapsulated,

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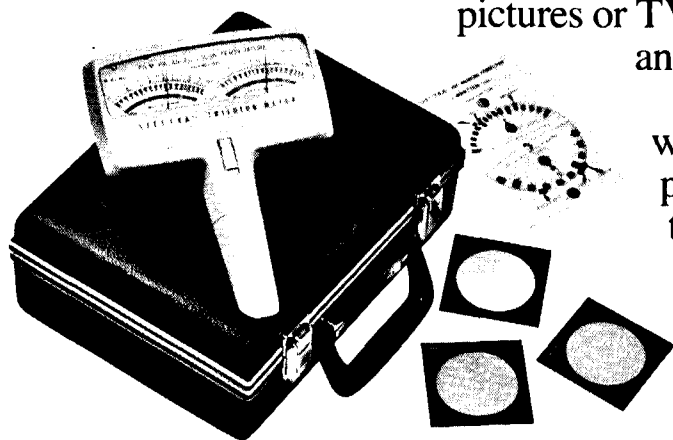
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Super8 Sound Recorder II



The New Sound Standard of Professional Super 8

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Reduce Camera Noise by Ten Decibels

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95 Harvey Street, Cambridge, Mass. 02140

dual output, modular, high power, and special-purpose power supplies. The second part provides specifications for Tele-Dynamics' over-voltage protection devices and ac line conditioners and regulators. An easy-to-use chart simplifies using the catalog for power supply, line conditioner, and regulator selection. A listing at the end of the catalog shows the more than 110 distributor locations where Tele-Dynamics power supplies are available as off-the-shelf stocked items. *The Designer's Handbook and Catalog* is available upon request to Tele-Dynamics, 525 Virginia Dr., Ft. Washington, PA 19034.

Decco, Inc., announced publication of a new 40-page catalog collating over 3000 standard transformers and filters. Plug-in power transformers, subminiatures, filters and chokes as well as conventional type transformers and inductors are included. Supplementary engineering information is given for the products listed. The catalog is available from Decco, Inc., 2655 Perth St., Dallas, TX 75220.

Rank Film Equipment, P.O. Box 70, Great West Rd., Brentford, Middlesex, TW 8 9HR, England, offers a 16-page, 8 1/4 x 6-in booklet that, while discussing the specifications of their lightweight Quartzcolor Ianebeam 80C Red-head spotlighting kit, becomes as well a lucid introduction to the technique of studio portraiture lighting. Barndoors, filters, scrims, color temperature, lamps, daylight balance, accessories, and the tungsten/halogen cycle are discussed and open-fronted versus Fresnel spotlights are compared.

Victor Duncan's Filmmaker's Equipment Guide, a 268-page compilation of film production equipment, is divided into nine sections — cameras, optics, power, support, sound, lighting, accessories, editing and a new section on professional super 8. There are over 1000 illustrations and newly designed tables to help users' acquisition of equipment. One copy is available free of charge to qualified professional filmmakers and additional copies are \$5 each from Victor Duncan, Inc., Dept S, 2659 Fondren Dr., Dallas, TX 75206.

Deluxe Laboratories offers a brochure and sample filmstrip, to illustrate how a Super Master filmstrip process reduces contrast build-up and improves resolution quality. The film "swatch" has 10 frames of color stills from Deluxe clients — Walt Disney, Jacques Cousteau, Bowmar, Universal, BFA, and Animedia. Super Masters can be prepared from film transparencies to 4 x 5, artwork to 16 field, or both artwork and transparencies. A copy of the Super Filmstrips brochure and price list is available from Deluxe Laboratories, Inc., 1546 N. Argyle Ave., Hollywood, CA 90028.

Optical Radiation Corp. offers a 4-page color brochure describing the new Orcon II console. The brochure describes the complete motion-picture lamphouse console utilizing a vertically-mounted xenon bulb for longer life and greater savings while providing the light output of horizontal systems. The brochure is available from Optical Radiation Corp., 6352 North Irwindale Ave., Azusa, CA 91702.

Optical Radiation Corp.'s Xenographic Model 512 fade/dissolve slide projection system is described in a 4-page brochure. The system is capable of overlapping and fading from one slide presentation to another using two Kodak Ekta-

graphic Slide Projectors, a high-intensity xenon light source, and an optical mechanical fade/dissolve mechanism. Forward or reverse is effected by a built-in control panel, or remotely from a handheld remote control unit, or podium. Automatic sequencing is possible using an auto-timer mode which allows unattended slide changes at an adjustable interval of up to 15 s. The lamphouse projects up to 5500 lm for large-screen presentations. The brochure is available from Optical Radiation Corp., 6352 North Irwindale Ave., Azusa, CA 91702.

Sescom, Inc., announced the publication of a series of *Application Notes* on the construction of several different audio systems. Written for the experienced "electronics kit builder," the notes give those who are capable of building their own broadcast systems an alternative to existing products. Six products described, complete with schematic diagrams, are: an eight-channel mixer; disco mixer news bridge; audio DA; 24 W from 2 PA-1's; and 60 mm slide pots.

Also available is a 36-page catalog (GL-75 25M) listing all Sescom products, of which 54 new items are audio modules including microphone Hi-Z and phono and tape preamps; active equalizers; in-line transformers; microphones; and other broadcast and studio accessories. The 12-page *Sescom Application Notes* are available for 25 cents each and the catalog is available from Sales Manager, Sescom, Inc., P.O. Box 590, Gardena, CA 90247.

Phys-Chemical Research Corp. offers a four-page specification bulletin on their PCRC-11 and the improved PCRC-55 miniature relative humidity transducers. The sensor is an electric hygrometric circuit element that reacts to variations in relative humidity (RH) by changes in impedance. A single sensor covers the complete RH range 0-100% while within operating temperature range of -60° to 200° F. The humidity-sensitive portion is restricted to the surface — water is sorbed or desorbed by means of adsorption rather than absorption. Among possible areas of applications for the PCRC-55 are: chemical industries, electronics, storage, emulsion manufacture and film handling, and processing. The bulletin is available from Phys-Chemical Research Corp., 36 West 20 St., New York, NY 10011.

Plastic Reel Corp. of America offers a complete catalog of Modu-Line expandable storage racks for film cans, storage cases, video tape, and other audio-visual media. Plio-Magic® color-coded cans are listed and described. The catalog is available from Plastic Reel Corp. of America, 640 S. Commercial Ave., Carlstadt, NJ 07072.

The 1776 Theatrical Lighting Catalog celebrating the Bicentennial is available from Packaged Lighting Systems, Inc., Walden, NY 12586 upon request. The 40-page catalog, illustrated in color, presents developments in quartz lighting, Fresnel and follow spotlights, strip light configurations, power grid track, and multiple control dimmers. The catalog is designed for easy reading with the price of each item beside the description and illustration, including available discounts. The cover of the catalog has an illustration in color of the United States flag flown over the U.S. Capitol on Election Day 1972 which was presented to Packaged Lighting for lighting the U.S. Supreme Court.