

**Transistor action** at a semiconductor/ electrolyte interface modulated by an electrical field has been described by Bell Telephone Laboratories in a paper by J. F. Dewald before the American Physical Society. Recent laboratory experiments have demonstrated amplifier operation at 1000 cycles/sec with gain in excess of 15 db.

The experimental device uses a hexagonal rod-like crystal of very pure zinc oxide as the semiconductor, immersed in a highly conducting electrolyte. A platinum electrode placed nearby serves as the grid element. Because zinc oxide is a large-energy-gap semiconductor, it can be operated in a high enrichment condition, with one end of the crystal cathodically biased with respect to the solution, and the other end anodically biased. Somewhere in between is a neutral point which is unbiased, where the energy bands are flat right up to the surface of the crystal. As this neutral point shifts back and forth under the influence of varying biasing grid voltages, the resistance of the crystal changes, passing a current which follows the driving frequency very closely. A fairly extended range of linear response is obtained.

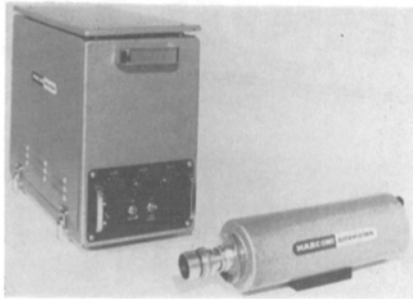
To make electrical contact to the zinc oxide crystal, the two ends are first indium-plated to assure good ohmic contact. They are then copper-plated to allow soldering copper wire leads. The platinized platinum grid completes the assembly. After insulating all wires and connections except the grid, the assembly is immersed in the electrolyte (5% sodium tetraborate and boric acid solution), and hermetically sealed in a small glass tube to avoid electrolyte evaporation.

**The Yashica 8, and Turret 8** (Progress Report, *Journal*, May 1958, p. 332) are available in the United States through Jack Gilbert Associates, 1186 Broadway, New York 1, N.Y., at prices of \$49.95 and \$79.95, respectively. The Turret 8 features a two-lens turret and is available with a normal 13mm, a 3X true 38mm telephoto and a wide-angle 6.5mm lens. The motor has seven running speeds: 8, 12, 16, 32, 48 and 64 frames/sec. The 8 has many similar features but runs at only 16 frames/sec.

**The Magnelooop series** of continuous-loop magnetic tape recorders-reproducers is described in a 4-page folder available from Amplifier Corp. of America, 398 Broadway, New York 13. Descriptions of 21 basic models available in single or dual speeds and in single, dual and triple channels are included.

**A new booklet, 16mm Kodak Movie Films — Data and Selection**, gives advice on loading, film storage, processing, duplicating, use of magnetic sound coating and explains the use of various types of film such as reversal or negative, color or black-and-white. A special data section contains complete exposure information and explains exposure compensation when using filters. It is available without charge from Eastman Kodak Co., Sales Service Div., Rochester 4, N.Y.

**An electric slide changer**, Model 6800, has been announced by Genarco Inc., 97-04 Sutphin Blvd., Jamaica 35, N.Y. The slide changer accommodates 70 glass-mounted or Polaroid slides, 3½ by 4-in., and can be mounted on most makes of slide projectors. It operates by pushbutton remote control. It is priced at \$285.00.



**The Canadian Marconi Co.**, P.O. Box 1480, Station "O", St. Laurent, Que., Can., has announced a new Industrial Vidicon Camera Channel, Type BD-871. The cylindrical camera head, which is about 4 in. in diameter, has a single lens for a variety of fixed lenses; or a zoom lens and focus can be remotely controlled. This camera chain was described in the Progress Report (*Journal*, p. 322, May 1958) but was inadvertently referred to as the BD-835A which is an earlier, and now obsolete, model of the company's industrial camera chains.



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 These notices are published for the service of the membership and the field. They are inserted three months, at no charge to the member. The Society's address cannot be used for replies.

### Positions Wanted

**Sound man** desires position, preferably with educational or technical film producer. 3 yr college, 3 yr technical schooling, 4 yr motion-picture and general sound recording on film, tape, and disk. Experienced in recording, editing, mixing; sound equipment design, installation, repair. Have musical training and experience. Have own tools and test equipment. Age 25, unmarried. Will relocate. For detailed resumé, write: Donald A. Johnson, 700 Prentiss, Apt. 403, Detroit 1, Mich.

**Sound Recording.** Young man, 7 yr specialized experience film recording, scoring, mixing, sound editing; 4 yr intensive musical recording, tape, disc. Wide knowledge of music background material and selection. Prefer NYC location. Address: Sound Recorder, c/o Apt. 2-C, 51 Paulus Blvd., New Brunswick, N.J.

**Motion-Picture or TV Studios,** Young man (25) acquainted many phases of photography, film-strip and slide production; 5 yr experience in motion-picture production, employed by Audio-Visual Service USOM/L, c/o American Embassy

Beirut, Lebanon, as Program Advisor II. Experience in planning, budgeting, scheduling, purchasing and training. Worked as cameraman-director, editor of educational, documentary training and newsreel films in 16 & 35mm B & W and color. Consider any position along lines of above experience. Write: Hrayr B. Toukhanian, c/o 714 Glenwood Avenue, Syracuse 7, N.Y.; Tel: GRanite 5-4614.

**Cameraman-Director-Editor.** College background in all phases 16mm production; 2 yrs experience with college film production units. Desires position with commercial or industrial film producer. Will travel or relocate. Single, age 27. Have films, clips, will send resume. Write: E. B. Fleischer, 217 Hillside Ave., Cranford, N. J.

**Rhodesian Producer-Cameraman** visiting the U. S. October/November to examine latest motion-picture techniques, processes and equipment, offers knowledge gained during 20 yrs experience all branches film making in primitive Africa to interested organizations. Please write air mail to Geoffrey Mangin, Central African Film Unit, P. O. Box 1184, Salisbury, Rhodesia, Africa.

**Optical Effects Company** owner and operator seeks change. Over 8 years experience in opticals and effects work. Familiar with all phases of processing, editing and production. Have also worked as motion picture theatre manager. Willing to relocate. B.A. in Business Administration. Age 32. Reply to: Occupant, Apt. B-32, 796 Bronx River Rd., Bronxville, N.Y.

**Ambitious Photographer**, twelve years experience, stills and motion pictures. Three years Audio-Visual Department, San Diego City Schools. Two years news photographer, editor and writer for NBC affiliate television station. Presently employed by small production unit shooting TV commercials, news features, and industrial films. Desires opportunity to do creative quality work with future in production organization, television station or industrial firm. Resume upon request. David Bash, Apt. 2, 2826 Mission Blvd., San Diego 8, Calif.

**Motion-Picture and TV Equipment.** Presently employed with leading firm supplying equipment and technical service throughout the world; thoroughly familiar with all types of equipment and manufacturers; background as free-lance cameraman. Desire position with active organization supplying equipment or sales representative for manufacturer desiring east coast branch. Available mid-August. Barry Green, 1672 Ocean Pkwy., Brooklyn 23, N. Y. Tel: DEwey 6-2454 after 8 p.m. Mon-Tue-Wed.

**Motion-Picture Production.** Graduate Brooks Institute, MP course, thoroughly experienced in all phases of camera work, editing, optical and magnetic sound recording, and still photography. Produced industrial and educational films, TV commercials. Familiar with B&W processors. Seeking permanent position or temporary assignments. Free to travel, speak several languages. J. C. Kloppling, 312 W. Yanonali St., Santa Barbara, Calif. Tel. WOodland 6-1482.

**Cameraman-Editor.** Would like to join young progressive film-making organization, foreign expedition or exploration party. Recently discharged from Pictorial Branch, U. S. Army Signal Corps. Experienced in sound recording, laboratory and other phases of the motion-picture field. Age 22, single, free to travel. References and complete resume on request. H. LeRoy Mills, 427 Cherry Ridge, San Antonio, Texas. Tel: DIamond 4-6583.

**Studio Engineer.** Young man (22), vet., graduate of Studio Training Course—TV Workshop, top scholastic man in class; thoroughly qualified audio engineer, TV cameraman, floor manager, video operator, with knowledge of scenery, special effects, lighting, color TV principles and

operations; FCC phone license. Willing relocate anywhere; complete resume on request. Martin Morris, 771 West End Ave., New York 25. Tel: MOnument 6-4962.

## Positions Available

**Sales Repr. — Customer Relations.** Well-established, moderate-sized motion-picture laboratory with excellent reputation for quality work, both B & W and color, planning expansion program for area's growing demand. Excellent opportunity for qualified man having thorough knowledge of all phases of film processing as well as experience in customer relations and in new business development. Write Kenneth Reames, 1380 National Bank Bldg., Detroit, Mich., giving qualifications and experience and salary range.

**Electronic Technician.** U.S. Civil Service Commission Announcement No. 151B. Installation and maint. electronic equip. such as computers, detectors, testing and communication, also res. & dev. Grade GS3 through GS12. Salary \$3175.00 to \$7570.00. No written test. Apply to Executive Secretary, Board of U.S. Civil Service Examiners, National Bureau of Standards, Washington 25, D.C. Application forms available from post offices and from U.S. Civil Service Commission, Washington 25, D.C.

**Chemical Engineers.** Young progressive res. & dev. firm in the field of graphic information collection, storage and retrieval for use. Must have B.S. degree or equivalent and 2-4 yr experience in photo-chemistry, preferably processing techniques. Write qualifications and experience to W. R. J. Brown, ITEK Corp., 700 Commonwealth Ave., Boston 15, Mass.

**Senior Physicists.** Young progressive res. & dev. firm in the field of graphic information collection, storage and retrieval for use. Must have M.S. degree or equivalent and 7 or more yr experience in photo-optical design or 5 yr experience in photography with emphasis on image evaluation. Write qualifications and experience to W. R. J. Brown, ITEK Corp., 700 Commonwealth Ave., Boston 15, Mass.

**Sound Engineer.** Expanding 16mm film prod. company and laboratory wants man to take over its sound recording dept. Must have electrical engineering background, with thorough knowledge 16mm optical film recording using Maurer equipment. Work involves studio and location recording on  $\frac{1}{4}$ -in. tape and 16mm magnetic equipment, mixing magnetic tracks to master magnetic or optical tracks, some disk recording, installation of new equipment, maintenance, etc. Experience in some or all phases of 16mm laboratory and prod. work essential. In application give age, education, experience, & salary requirements. Western Cine Service, Inc., 114 East 8th Ave., Denver 3, Colo

**Film Inspectors.** Temporary or permanent. Write or call Peerless Film Processing Corp., 165 W. 46 St., N.Y. 36. Tel: PLaza 7-3630. Att: Kern Moyses.

**Industrial Film Writers, Cameramen, Editors.** Experienced industrial writer-directors, cameramen, and editors are needed for film production on aircraft and advanced projects at San Diego, Calif. Writers should have college degree and 3 to 5 yrs experience in industrial film production. Cameramen should be experienced with standard 35mm and 16mm production techniques, including sync-sound and set lighting. Editors should be experienced with all lab and editing techniques, including ability to direct dubbing sessions. Applicants should list all personal data, including past experience, employers, and salary requirements. Salary commensurate with experience and ability. Contact R. M. Hall, Motion Picture Section, Building 19, Convair, A Division of General Dynamics Corporation, San Diego, California.

**Aircraft Motion-Picture Supervisor.** To supervise complete in-plant production of engineering and technical films, including script preparation, directing, cinematography, sound, editing, animation and printing operations. Experience preferred in producing films related to aircraft and/or missiles programs, primarily to meet contract requirements under Air Force Table 210. Must be highly creative and imaginative in conception and execution of films in this field. Personable, tactful individual required, capable of dealing effectively with people at all levels. Write qualifications and experience to: E. Stanton Brown, Engineering Administrative General Supervisor; Convair, A Division of General Dynamics Corp., Fort Worth, Texas.

**Sales and Applications Engineers,** for photographic instrumentation firm selling airborne and ground data-recording equipment. Experience in aircraft and missile test instrumentation field, with optical and electronic background most desirable. Some travel required western U. S. Please address initial inquiry with brief outline of background to: Mark Macintosh, V. P., Traid Corp., 17136 Ventura Blvd., Encino, Calif.

**Theatre Sound Engineer.** Must have good technical background and be experienced in theatre sound work. We are expanding. Applications will be treated with strictest of confidence. North West Sound Service, Inc., 73 Glenwood Ave., Minneapolis 3, Minn.

**Laboratory Quality Control.** Requires thorough experience in sensitometric control methods for B&W and color raw stock (print, sound recording and camera) and developing processes. Knowledge of chemical test procedures for processing formulae and operation of temperature

control systems. Ability to judge picture and sound quality. Position will be as assistant to Manager in a rapidly expanding laboratory. Send complete resume of professional background, education and salary requirements to: Dana C. Rogers, Southwest Film Laboratory, Inc., 3024 Ft. Worth Avenue, Dallas 11, Texas.

**Senior Electrical Engineer (Arc and Plasma Specialist).** Requires background of theoretical and experimental work in the field of high intensity electric arcs and plasma research. Development of practical devices based on arc and plasma technology in a wide range of power. Position offers an opportunity to perform research and development in association with distinguished research personnel; excellent salary and opportunity for professional growth. Laboratory located in Orange County, Calif., 10 miles from Pacific Ocean, 40 miles from downtown Los Angeles. Send resume to Giannini Plasmadyne Corp., P.O. Box 1199, Santa Ana, Calif.

**Optics Engineer.** Chief of section engaged in photographic and optical support of military video reconnaissance program. Knowledge of photographic sensitometry, processing techniques and geometric optics essential. Reconnaissance systems background and mechanical design experience on aerial cameras or motion-picture apparatus desired. Location—Stamford, Conn. Write: CBS Laboratories, 485 Madison Ave., New York 22. Att: H. P. Munday.

**Cameraman.** Duties primarily as 16mm cameraman with some work in sound and editing. College production unit engaged in producing 16mm sound and color films of an educational nature. Entrance salary \$4704 per year. Send resume of background, experience and references to Norman E. C. Naill, Production Supervisor, V.P.I. Motion Picture Unit, War Memorial Hall, Blacksburg, Virginia.

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