

Short-haul carrier terminal unit on table in the foreground

ing additional communication facilities, operating at short distances and, where it would not be economical to purchase a more costly long-haul carrier communication system.

Earth Drill

THE Buda Company, Harvey, Ill., has announced the development of a new hydraulically-controlled earth drill, capable of drilling holes from 6 to 42 in. in diameter and



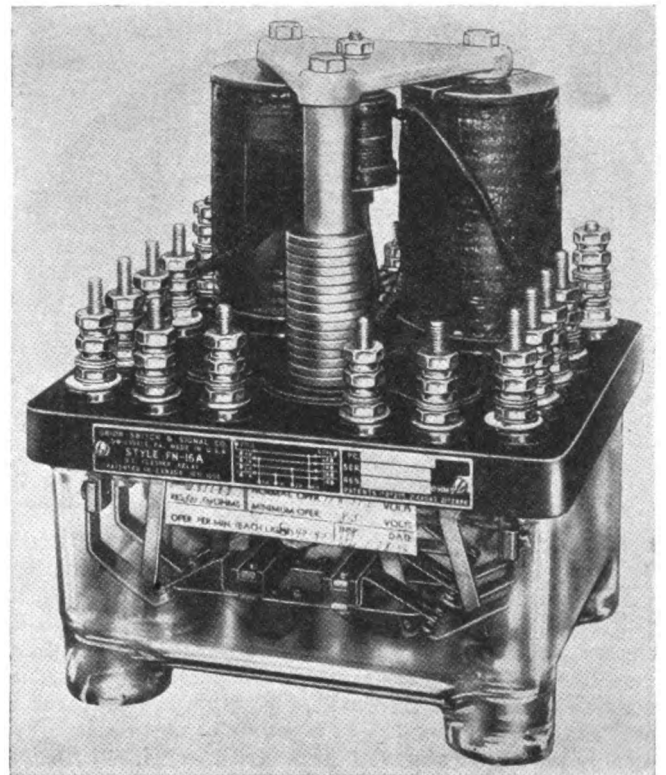
Model HBJ hydraulically-controlled earth drill

to depths of 10 ft. All special features of this earth-boring machine, which is designated as the Model HBJ, are said to be engineered for convenient transporting and minimum "set-up" time for digging. In confined areas, where frequent raising and lowering of the tower is necessary, this factor of "setting up" time is important. Steady hydraulic power of the machine moves the tower into instant operating position. Other controls permit quick adjustment of the drill head to a vertical position. All leveling adjustments for either straight holes or anchor holes are completely hydraulic.

The earth drill is claimed to be ideal for pole line construction, pre-boring for piles, foundation hole work and for other jobs which require the constant moving of equipment. It is powered by a slow-speed four-cylinder Buda gasoline engine, which, together with the drilling mechanism, is mounted on an "I" beam of structural steel, thus resulting in one complete and packaged unit. A flat-bed truck or a heavy four-wheel trailer is recommended for mounting the drill. The unit may be quickly removed from the vehicle to permit its use for other purposes. A pole-setter tower extension and power-driven winch, furnished as optional construction, is a factory-installed part of the unit for power pole work.

Flasher Relay

THE Union Switch & Signal Company, Swissvale, Pa., has recently completed a re-design of the Style FN-16 flasher relay, involving a change in the structure of the lamp contacts, in the armature counterweight, and in the armature supporting bracket. The new relay, designated as the FN-16A, is said to offer improved contact life,



Style FN-16A flasher relay

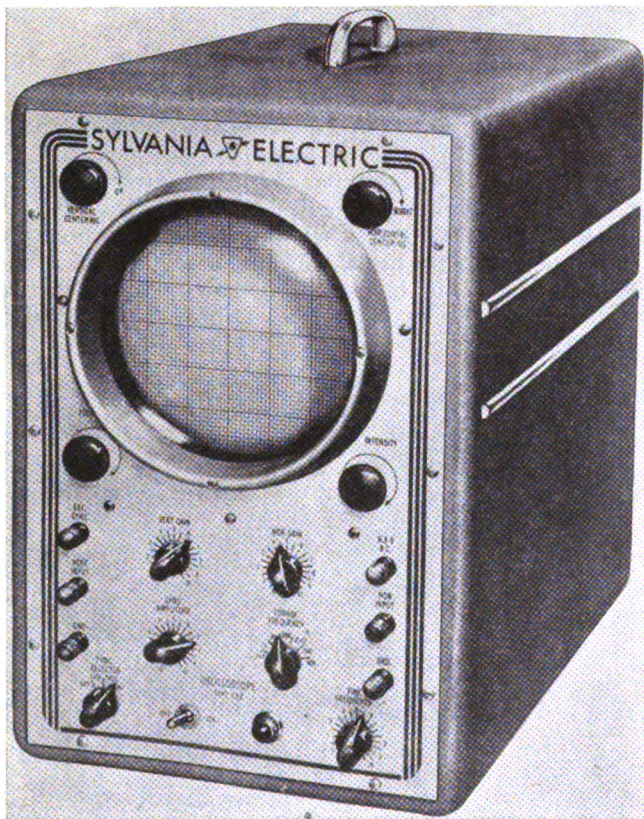
particularly when the lamps are operated directly from a d.c. power source. This advantage is considered especially worthwhile in view of a trend among some users to oper-

ate the lamps of highway crossing signals from d.c. at all times.

Because of the very long and satisfactory life of the metal-to-metal contacts (using special silver alloys) when lamps are normally operated from a.c., this same material has been retained in the new relay. By changing the mechanical design of the contact parts, a comparable length of trouble-free service can now be expected when the lamps are operated from d.c. The bridge opening between normal and reverse has been increased considerably. In addition, the amount of contact slide has been reduced and mechanical design of contact parts improved to protect against locking of the contact members in the event of roughening of the contacts.

Cathode Ray Oscilloscope

A NEW seven-inch cathode ray oscilloscope, designated as the Type 132, embodying improved circuit features suitable for a wide range of applications in radio and elec-

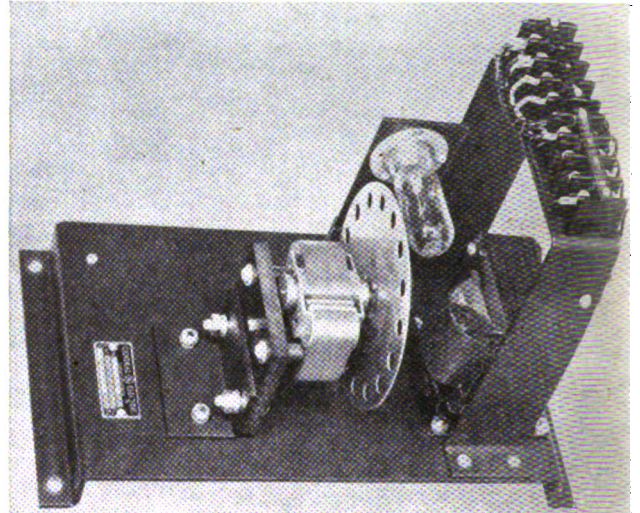


Type-132 cathode-ray oscilloscope

tronic circuit alinement, has been announced by the Radio Tube Division of Sylvania Electric Products, Inc., 500 Fifth Avenue, New York 18. An improved type of push-pull amplifier, using four 7C7 tubes, is said to provide clearer patterns, less distortion and considerably more gain than the conventional single-stage amplifiers used in general-purpose instruments. Provision is made for Z axis input with impedance to ground approximating $\frac{1}{2}$ megohm with 30 uuf. shunt capacitance. This feature permits a wide variety of study in applications where it is frequently desirable to study portions of wave forms by means of intensity modulation. The new instrument weighs 37 lb. and is 17 in. high, 11 $\frac{3}{8}$ in. long and 17 $\frac{3}{4}$ in. deep. It is rated at 35 watts, 105-125 volts, 50-60 cycles a.c.

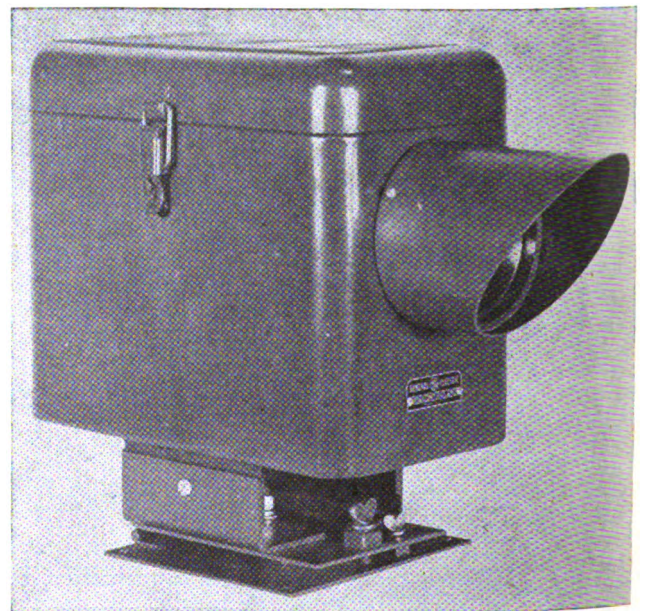
Photoelectric Relay

A NEW photoelectric relay and light source, operating on the modulated-light principle, has been announced by the Control Division of the General Electric Company, Schenectady 5, N. Y. When operated at distances up to 1,000 ft., this equipment is said to have sufficient sensitivity to prevent false operation due to rain, fog or snowfall. Among the applications of this unit is its use for detecting track occupancy at a power-operated switch, to pre-



Above—Photoelectric relay light source with case removed.

Below—Photoelectric relay in outdoor enclosure case



vent operation of the switch in case track relay shunt is lost, because of rusty rail or heavy sanding, while a train is passing over the switch. The light source contains a lamp, transformer and motor-driven slotted disk which interrupts, or modulates, the light beam at about 900 cycles per second. The photoelectric relay has a tuned circuit which allows the relay to be responsive only to a light beam modulated at this frequency. It is not sensitive to changes in natural or artificial illumination. The light source has an infra red filter which removes most of the visible light from the beam. The units are mounted in outdoor enclosures which are equipped with a universal mounting.