NEW ELECTRONIC EQUIPMENT AT THE 1951 LEIPZIG FAIR

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ELECTROTECHNICAL INSTRUMENTS

The firm of Willy Bittorf, B. E., Dresden N 23, will introduce its newly developed "Bittorf" tube tester at the 1951 Leipzig Technical Fair. By means of a new type of sliding switches, of which there are 15 sets arranged side by side in the tester, a switching panel has been devised which permits a great number of variations in the simplest possible manner, and at the same time takes up only a small amount of space. The test charts on the tester which are arranged according to A, C, E and Ami [American] tubes make it possible for the tester to be used even by people with little training.

Illustration 18. The newly developed "Bittorf" tube tester on which foreign-made tubes as well as German tubes can be tested.

The tester is made for 220 volt alternating current. Its own current consumption is about 80 VA. The particular advantages of this tube tester are:

In testing tubes the result can be read directly on the instrument panel as a percentage of the normal condition of a tube. There are provisions for regeneration of all tubes that can be tested. Single test charts are superfluous, and there is no need to hunt around in tube lists. The tester ~~everywhere~~ throughout has rapid adjustments in the form of new-type sliding switches. The test panel has no parts or plugs that can be lost. In testing multiple purpose tubes the switching can be accomplished without interrupting the heater current.

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The tester is provided with a great variety of voltages and measurement ranges. Each test is set up only once and there is therefore no possibility of confusing tubes. Tubes with as many as ten prongs can be tested and then it is hardly likely that the apparatus will become obsolete within the foreseeable future. The tester also has export possibilities, since the newest foreign tubes can be tested on it. The tester is ~~mounted~~ equipped with 1 X AZ 12 and 1 x GR 180 A /illegible/. Its faceplate measures /illegible/ millimeters. Its weight is about 9.2 kilograms including the wooden case. Special specifications can be taken into consideration when a tester is ordered.

At this year's Fair the Deutsche Glimmlampen-Gesellschaft Pressler /German Pressler Glow Lamp Company/ of Leipzig is featuring a display (House of Electrical Engineering, Hall VII, Stand No 615) of its complete manufacturing line with all its special products -- products which look back over a half-century of operating tradition. The fact that the demand for DGL products is continually increasing is proof that they answer technical conditions and needs. In this field a certain stopping point has been reached, so that no basic innovations should be expected for the time being.

The main exhibits are the heavy duty Pressler cells for photographic sound-recording, science and technology. The photoelectric cell is being used more and more in technology, and the most unusual problems, which up to now could only be solved mechanically can now be worked out with technical perfection by means of the Pressler cell.

The glow lamp has considerable application in the production program, and we should mention first of all the old and well-known

signal glow lamp. In this line, they are offering a new type of mount with different-colored signal-lamp "jewels" which makes them useful for instrument panels, electrical instruments, etc., and beyond this technical usefulness, gives an instrument a nicer appearance. If one is looking for a small, cheap, built-in glow lamp, a number of socketless glow lamps are available both for front as well as side viewing. Regulator tubes for voltage stabilization are also coming to be more and more a standard part of technology. Tubes for the most varied voltages and loads are being offered.

Illustration 19: ~~Switching (Schoney) ???~~ Circuit of the Xenon-Stroboscope-Tube With Tube Control [illegible]. This ~~switching ???~~ circuit permits ~~introduction~~ Adjustment of the discharges ~~[illegible]~~ between 25 and 400 [illegible] cycles.

Special glow lamps for oscillographic and stroboscopic uses, glow discharge rectifiers, trigger glow tubes, glow relays, etc., are now being produced in the same great variety for which the special DGL-Pressler performance was known even before the war.

One thing which is common to all glow lamps is that they are all manufactured according to a special process and are noted for their operational dependability and long life.

Both in the overall exhibit of DGL products as well as in the special exhibit on cinema, photography and optics (Hall IX, Stand No 307b) the new type of Pressler Xenon Blitz (Flash) is on display. New, also, are a large number of special types which demonstrate their adaptability to the needs of the various users.

A particularly interesting novelty is Type XB 501, shown in Illustration No 20, which has an optimum of light-energy, i.e. 500 watts. This flash tube has a ring-shaped socket with three prongs into which a pilot lamp can be inserted if needed.

Illustration 20. The Xenon-Pressler Blitz XP 501

Besides the spiral shaped tubes, there are also available a number of ~~stretched~~ straight and bent tubes which can be used in cases where built-in tubes are needed for cheaper instruments.

Illustration 21. Xenon Stroboscope Tube Original Pressler XS 2000

An interesting ~~deviation~~ modification in the use of the Pressler Xenon flash bulb is for a the Xenon Stroboscope Tube XS 2000 (see Illustration 21). This tube has a high degree of brightness and can be discharged in the shortest possible time, so that it is possible to get clearly perceptible still pictures of periodic mechanical movements. The bulb needs a ~~working~~ operating voltage of 2000 volts with a mean continuous load of 15 milliamps. The flash duration of a single discharge is less than 10^{-5} seconds and the maximum frequency is more than 1000 cycles.

For the Leipzig Spring Fair the Elektro-Apparate-Werke ~~(Electrical Instrument Plant)~~, Berlin-Treptow (AT), have brought out a new remote-control cinematic dry rectifier for supplying current to a film projector arc lamp. It is an apparatus which is arranged for a three phase supply source, 3 X 380 or 3 X 220 volts, 50 cycles.

The production model delivers 45 volts direct current at a maximum of 65 amperes. Regulation takes place continuously by means of direct-current pre-magnetized choke coils together with a variable resistor. This resistor is installed in a separate housing which can be placed next to the projecting machine. The rectifier itself can be placed in adjacent rooms. The housing, moreover, contains two buttons for the remote control of the primary switch of the rectifier, and two signal lamps for checking on operating conditions. Regulation is possible between the limits of 65 and 30 amperes.

There are also cinema rectifiers available with the same performance but without remote control. These have a built-in manual control in ten steps. The arc lamps can be connected directly without any additional resistance. The voltage can be regulated through a regulating switch between 35 and 45 volts with a load of 55 to 65 amperes. The rectification is handled by a dry valve system which works in a 3-phase bridge circuit and results in a residual ripple in the direct current of only 4 percent.

The well-known mercury vapor glass rectifiers, Type QKD 85/2 X 80 are available for fade-over operation. They are intended for 85 volt direct current service at a constant 80 amperes. During the fade-over time the rectifiers can be subjected to a load of 160 amperes about 5 times an hour for about 5 minutes each time. These rectifiers are constructed for a minimal voltage drop so that the brightness of the film projection is hardly diminished when the second arc lamp is switched on.

By changing connections the load can be reduced to 50 volts for the use of HJ carbons. In this arrangement each arc lamp must

have a separate series resistor for voltage regulation. In order to assure minimum residual ripple in the direct current, which is necessary in order to obtain a faultless projection of the film, these rectifiers are equipped with a strong direct-current choke in the direct-current circuit.

For lower capacity fade~~-over units~~ in operation mercury vapor glass rectifiers Type QKD 85/80 are available. These types are ~~constructed~~ designed to feed an arc lamp at 80 amperes or for ~~fading-over~~ fade-in at 2 X 60 amperes and 85 volts.

All these instruments are delivered complete and ready for use. They have a clamp bracket which permits a simple connection of the circuit to a direct and three-phase current supply.