The pump will then dispense a preset volume of the product with each stroke of the piston. Quantity dispensed per stroke is varied by adjusting eccentricity, or the length of the piston stroke. An accessory micrometer eccentric provides an easy means for adjusting the stroke length. Models are available to dispense from 1 to 520 ml per stroke. All liquid-contacting parts are made of stainless steel.—R.I.B. (National Instrument Co., Inc., Baltimore 15, Md.)

Circle 5 on Readers’ Service card

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**Automatic voltage clamp** for active transport studies provides a current to maintain zero voltage across an active biological membrane. Current is continuously displayed in microamperes on a multi-range meter and an independent output is supplied for a recorder. Voltage is maintained to ±0.05 mv. A variable zero can be used to compensate for spurious electrode potential. Input impedance to the amplifier is 2 megohms, and 2 mv will produce full output of maximum of 2000 µA through the cell. Maximum drift referred to input is ±10 µV. Meter is 1-percent accurate with 5 ranges to cover 100 to 2000 µA. Recorder output operates a 10-mv potentiometer-type recorder. Power supply is a-c operated floating with leakage path resistance greater than 100,000 megohms. No batteries are used.—R.I.B. (Mechrolab Inc., 1062 Linda Vista Ave., Mountain View, Calif.)

Circle 6 on Readers’ Service card

**Scanning pyrometer** permits measurement of temperature from 200° to 5000°F (1100° to 2750°C), in three ranges, as the target under observation is scanned by a moving belt system. An image of the surface being measured is projected onto a belt inside the sensor and scanning-system unit. Holes in the moving belt scan the image at a rate of 30 per second. An area 2 by 4 ft (0.6 by 1.2 m) can be covered when the scanning unit is located at a distance of 8 ft (2.4 m) from the target. Bandwidth of the output signal is 30 cy to 16 Mcy/sec. The output signal, ranging from 0 to 5 volts d-c, can be used to actuate a variety of presentation instruments. The instrument is based on the manufacturer’s model 650 automatic brightness pyrometer. The image of the target is projected through lenses without the use of mirrors.—J.S. (Instrument Development Laboratories, Inc., Attleboro, Mass.)

Circle 7 on Readers’ Service card

Solid-state analog-to-time-duration converter accepts a 0- to 5-volt input and produces a time duration impulse output. The time duration signal is represented by a relay contact closure that can be used to key a telegraph loop or tone channel. Maximum current drain with continuous operation is 200 ma at 12 volts d-c. The converter may be shared by a number of analog inputs, each of which may be selected by remote control from a master station, or on a pre-programmed basis by a local timer or commutating selector. At the receiving terminal, the time duration signal can be used to operate standard indicators or recorders. Time duration of output switch closure is linear with input between 20 percent period at zero and 80 percent period for full scale. Standard periods are 2, 3, 5, 10, and 15 sec. Input impedance is 220,000 ohms.—J.S. (Moore Associates, 893 American St., San Carlos, Calif.)

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2 AUGUST 1963

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