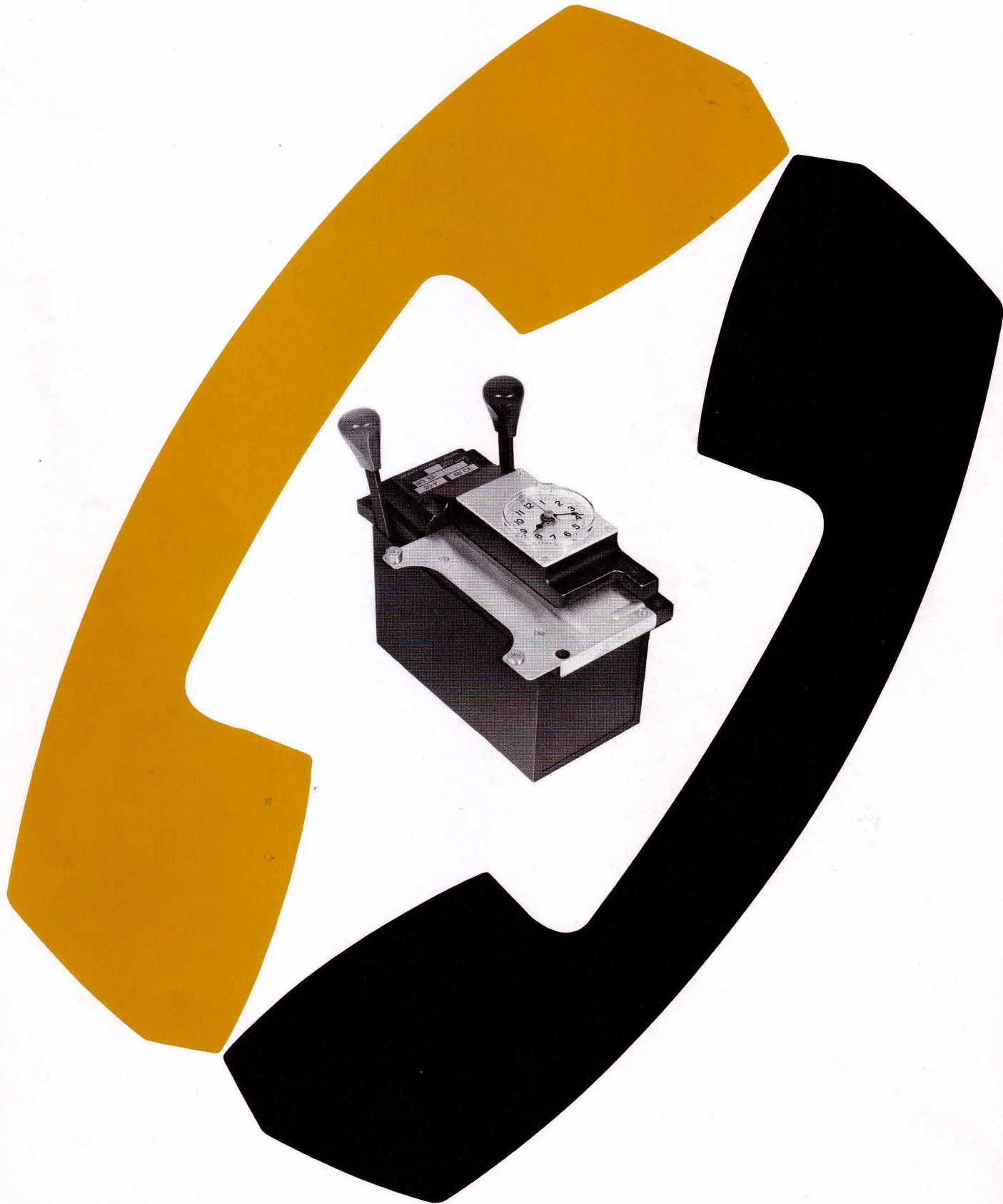
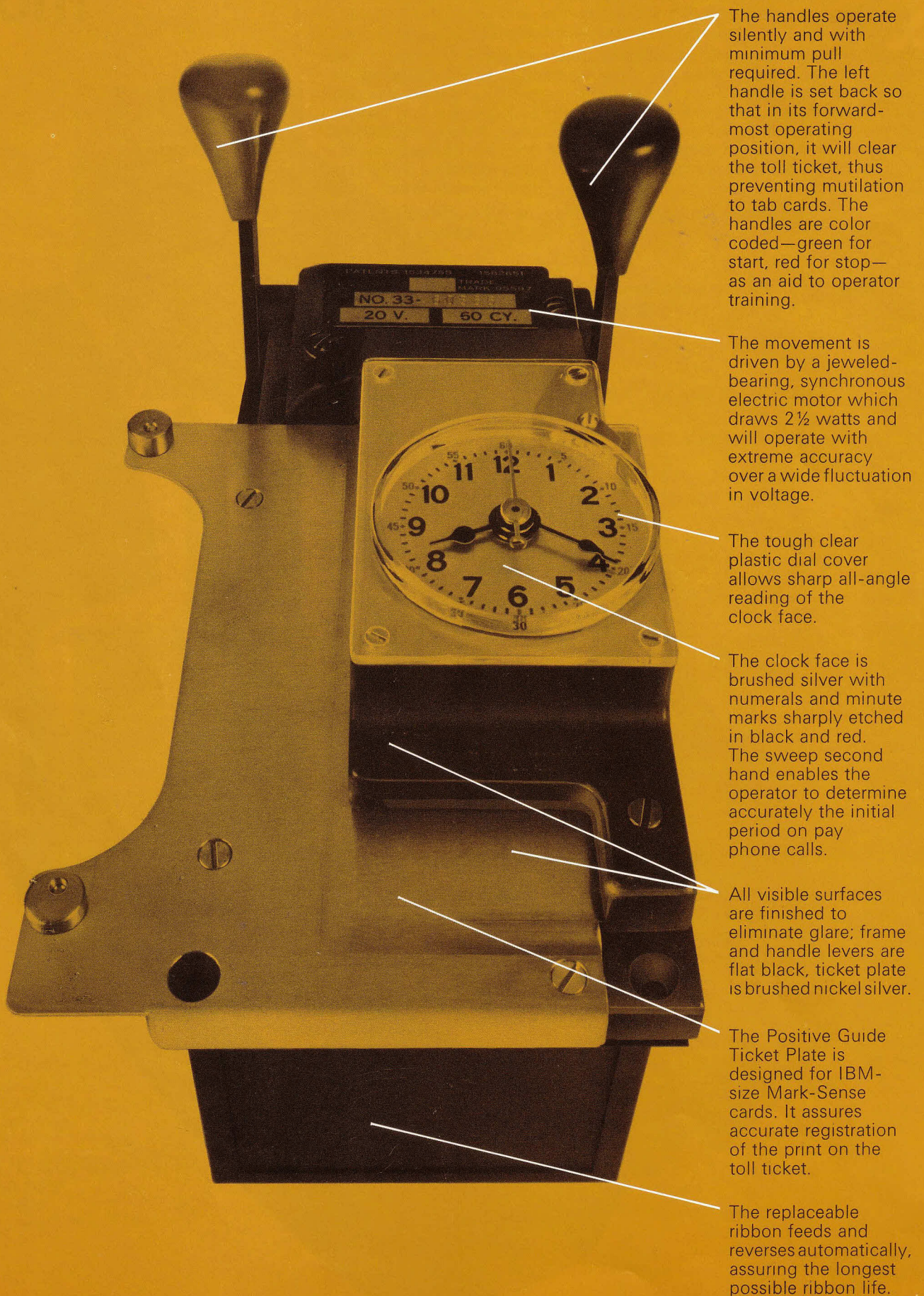


Calculagraph model 33





The handles operate silently and with minimum pull required. The left handle is set back so that in its forward-most operating position, it will clear the toll ticket, thus preventing mutilation to tab cards. The handles are color coded—green for start, red for stop—as an aid to operator training.

The movement is driven by a jeweled-bearing, synchronous electric motor which draws $2\frac{1}{2}$ watts and will operate with extreme accuracy over a wide fluctuation in voltage.

The tough clear plastic dial cover allows sharp all-angle reading of the clock face.

The clock face is brushed silver with numerals and minute marks sharply etched in black and red. The sweep second hand enables the operator to determine accurately the initial period on pay phone calls.

All visible surfaces are finished to eliminate glare; frame and handle levers are flat black, ticket plate is brushed nickel silver.

The Positive Guide Ticket Plate is designed for IBM-size Mark-Sense cards. It assures accurate registration of the print on the toll ticket.

The replaceable ribbon feeds and reverses automatically, assuring the longest possible ribbon life.

Over 100,000 Calculagraphs

Calculagraphs have been the standard toll-timing equipment of the telephone industry since the first unit was installed in 1894, by Pacific Telephone & Telegraph Company, to time long-distance calls between San Francisco and Los Angeles. Since that time, Calculagraph Company has designed and built over 100,000 Calculagraphs expressly for the Telephone Industry. Today, the Bell System and Independent Operating Companies in the United States, as well as many of the more modern telephone systems throughout the world use Calculagraphs exclusively for their toll-timing requirements.

The Model 33 Calculagraph is the most widely used model today. Every feature and component is designed for extremely long life and high reliability. It is completely manufactured by Calculagraph Company, and every Model 33 is manufactured to conform to the high standards of the Bell System specification, KS 7769, as well as all applicable military and Independent Telephone Company specifications. Complete repair facilities are maintained at the plant for all model Calculagraphs.

What it does

The Model 33 Calculagraph documents and controls the primary revenue-producer of an operating company—telephone toll time. It computes the exact elapsed time of each toll call, and prints on the toll ticket the connect time to the nearest minute, and the elapsed time to the nearest second. This extremely accurate printed record is the source document which is the basis for the toll billing. The operating company is assured complete accountability of every second of toll time, thus eliminating profit leakage. The toll ticket also documents all subscriber toll charges, which helps to resolve any disputed billings.

Since accurate toll time is originated by the operator at the switchboard, all necessary information is immediately available on the toll ticket should the subscriber request "time and charges" or other information about the call.

How it works

1. When the call begins—the operator inserts the toll ticket into the Calculagraph and operates the right handle.
2. The ticket is then removed until the call is completed. Meanwhile that same Calculagraph can handle any number of additional calls regardless of the sequence of their connect and disconnect times.
3. When the call is completed—the ticket is re-inserted into the Calculagraph and the left handle is operated, which completes the printed record for that call.

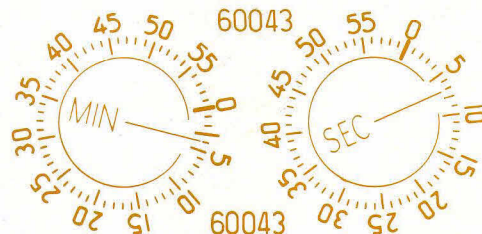
Completed card shows Connect Time and Elapsed Time



Connect Time

1 53 A.M.

- ▶ The triangle is the hour indicator.
- The left half of circle shows A.M. hours. The right half of circle shows P.M. hours.
- The arrow is the minute indicator.



Elapsed Time

4 minutes, 7 seconds

- MIN—The pointer of the center dial indicates the number of minutes of elapsed time up to a maximum of 60 minutes.
- SEC—The pointer of the right dial indicates the elapsed seconds of the call, to the nearest second.

Installation

The Model 33 Calculagraph is designed to be recessed into the top of the switchboard, and all toll boards have provisions for Calculagraph installation between every two positions. Each Calculagraph therefore serves two operators.

The Model 33 case is permanently mounted and wired into the switchboard. A pair of contacts inside the case match a pair of contacts on the Calculagraph itself. When the Calculagraph is slipped into the case, electrical contact is made and the clock mechanism starts automatically. Four screws secure the Calculagraph to the case. This easy installation/removal procedure simplifies ribbon changes, adjustments, cleaning or other minor maintenance.

Every Calculagraph is shipped with a case and necessary mounting screws.

Size: Recesses into a switchboard opening $7\frac{1}{2}" \times 3\frac{3}{8}" \times 3\frac{3}{4}"$ deep
Weight: 8 lbs. Shipping weight: 10 lbs.

Electrical Characteristics

The standard Model 33 Calculagraph operates on 20 volts, 60 cycles.

The following electrical characteristics are also available. Specify when ordering.

20 volt, 25 cycle	115 volt, 50 cycle
20 volt, 50 cycle	115 volt, 60 cycle

Optional Features

The following optional features are available. Specify when ordering (additional charge for some features).

30 minute/60 second elapsed time dials.

Straight handle (not set-back).

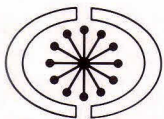
Universal ticket plate—for non-IBM size toll tickets.

Black handles.

Accessories

The following accessories are available. Specify by part number and name.

A-33-37	Ribbon Winding Crank.
A-33-39	Setting Key.
33-194	Mounting Brackets—for use on switchboard mounting irons (Independent Telephone switchboards) 2 needed.
33-226-227	Mounting Brackets—for use on wooden section of switchboard (Bell System switchboards) 2 needed.
33-199	Adapter Plate—to convert round mounting recess in switchboard from earlier Models 6 and 30 to rectangular mounting for Model 33.
L2669	Pedestal—for floor mounting the Model 33.
L615	Pedestal Case—required for use with L2669.
50	Ribbons.
155	Type Cleaner, to maintain sharp, clear printing impressions.
171	Transformer, 110V AC to 20V AC $2\frac{1}{2}$ watts; for one Calculagraph.
172	Transformer, 110V AC to 20V AC, 15 watts; for up to seven Calculagraphs.
L2634	Model 33 shipping carton—complete.



**CALCULAGRAPH
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