

Westinghouse

Type A Recording Instruments

INSTRUCTIONS

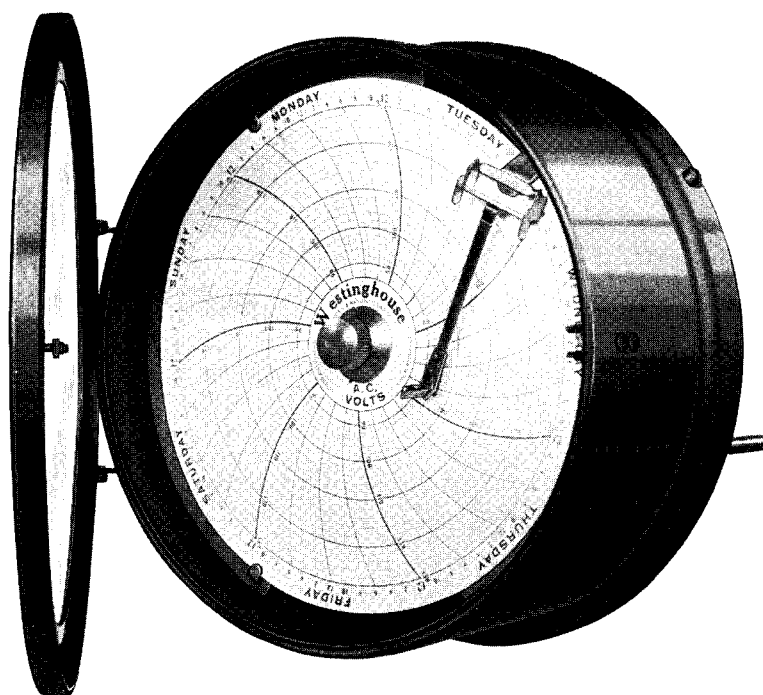


FIG. 1—THE NEW TYPE A RECORDING INSTRUMENT

GENERAL

Unpack instrument carefully and release movement. Before changing any adjustments read the following instructions.

MOUNTING

Mount instrument by following outline and drilling dimensions in Figs. 5 to 8, on the reverse side of this page, applying to type of meter, using mounting studs, washers and nuts provided. External resistors are provided with all voltmeters.

PLACING INSTRUMENT IN SERVICE

Connect instrument according to terminal notations as shown on Figs. 5 to 8.

Place chart in position, setting it for proper time. Fill pen with ink, moistening the point slightly, if necessary, to start ink flowing freely. If clock is of the hand wound type, wind it with the key provided, using starter knob if necessary. The clock should be wound each time the chart is changed.

The V type pen holds a full week's supply of ink when used with a seven

day chart. The pen may be cleaned by passing a thin piece of paper through the slot several times. If instrument has been out of service for a time, it may be necessary to clean out dried up ink by soaking in alcohol or water. Dulled pen points can best be sharpened by using a small fine emery stone.

PRINCIPLE OF OPERATION

The mechanism is of the moving iron type. The U shaped electromagnet is provided with two coils wound with the proper number of turns and size of wire for the type and range of instrument. The pen position depends directly upon the position of the moving iron rotor whose position depends upon the strength of the magnetic field in the U-shaped magnet set up by the current in the coils. The movement is spring controlled and is equipped with a magnetic damper.

CALIBRATION

Instruments should be occasionally checked with standard indicating instruments. Instruments are properly

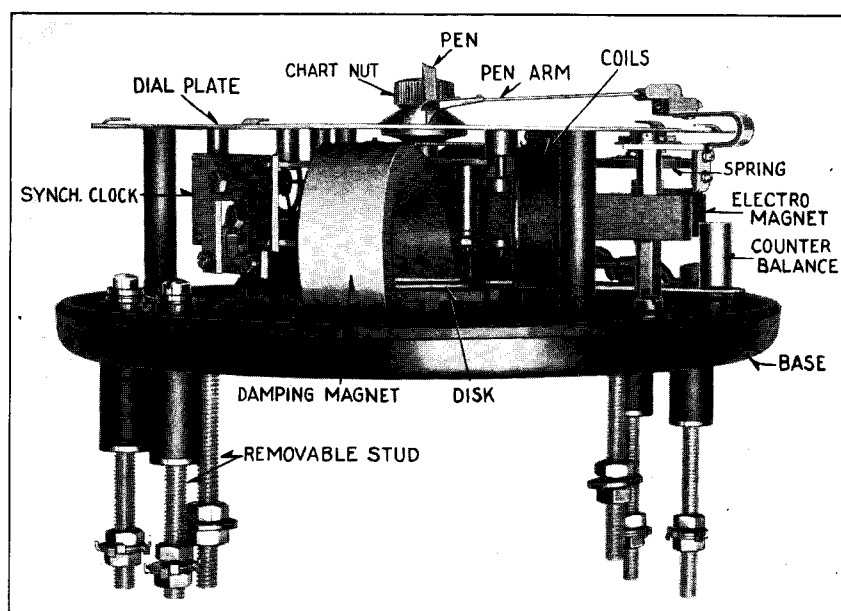


FIG. 2—MECHANISM DETAILS SHOWING COMPACT ARRANGEMENT OF PARTS AND NEW TYPE UNIVERSAL TERMINALS FOR SLATE OR STEEL

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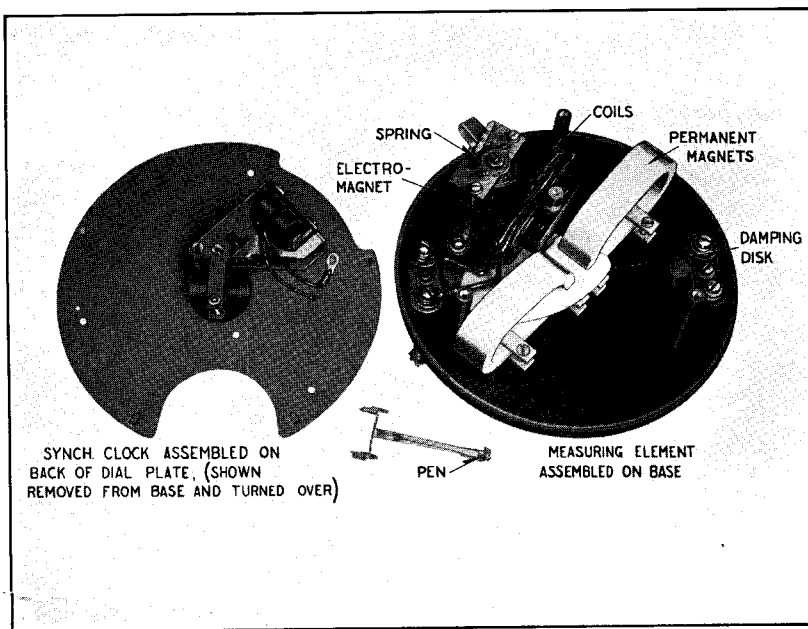


FIG. 3—MECHANISM DETAILS SHOWING SYNCHRONOUS CLOCK AND MEASURING ELEMENT WITH DAMPING MECHANISM ALSO PEN

calibrated when they leave the factory. Should they require calibration adjustments after long use or due to mistreatment, adjustments are made with the spring.

Amimeters—Should the pen be off zero, it may be reset on zero by loosening the two screws holding the clamp plate on the knurled zero adjuster on the upper bearing plate and turning the knurled adjuster to the right or left as required. Adjustments in spring strength are made by changing the

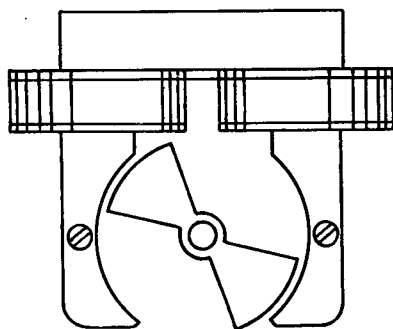


FIG. 4—ILLUSTRATION OF ELECTROMAGNET

effective length of the spring. This is done by loosening the two screws on the clamp on the pen arm bracket holding the outer end of the spring. The spring may then be moved in or out to give the proper tension. It may be necessary to reset the pen on zero after

this adjustment is made. All clamp plate screws must be tightened securely when adjustments are completed.

The following is a partial list of renewal parts. These are the parts most subject to wear in ordinary operation, and to damage or breakage due to possible abnormal conditions.

Pen complete	S# 718846-A
Synchronous Motor Clock complete, 110 V. 60 Cy. (7 day)	S# 722163
Synchronous Motor Clock complete, 110 V. 60 Cy. (24 hr.)	S# 722162
Hand Wound Clock complete (7 day)	S# 717045-A
Hand Wound Clock complete (24 hr.)	S# 717046-A
Synchronous Motor, 110 V. 60 Cy.	S# 717807-A

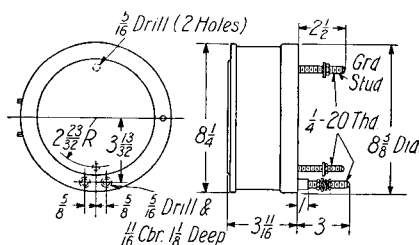


FIG. 5.—REAR-CONNECTED HAND-WOUND CLOCK

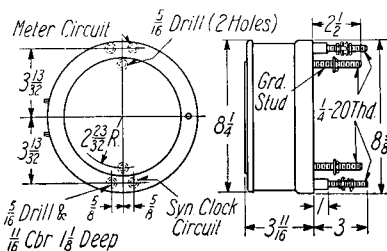


FIG. 6—REAR-CONNECTED SYNCHRONOUS MOTOR-DRIVEN CLOCK

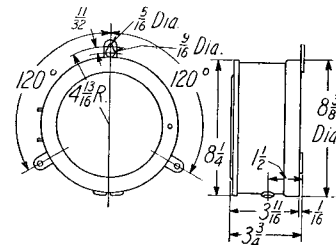


FIG. 7—FRONT-CONNECTED HAND-WOUND
CLOCK

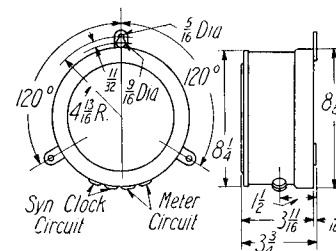


FIG. 8.—FRONT-CONNECTED SYNCHRONOUS
MOTOR-DRIVEN CLOCK

Voltmeters—The voltmeter adjustment for calibration is made by adjusting the spring similar to the manner in which ammeters are calibrated as explained above. Should the limit of adjustment by the spring be reached, further adjustments may be made on the external resistor. If the voltmeter reads low, several turns on one of the resistor tubes should be short-circuited by soldering. If the voltmeter reads high, calibration may be obtained by taking the spring up, increasing the torque.

RENEWAL PARTS

In ordering renewal parts give the name of the part wanted and the style number and serial number of the instrument as marked on the dial. Failure to give this information may result in delay.

REPAIRS

If the meter is to be returned to the factory for repairs, write to the dealer or nearest Westinghouse Sales Office for a return material tag, so that the apparatus will be properly identified at the factory.