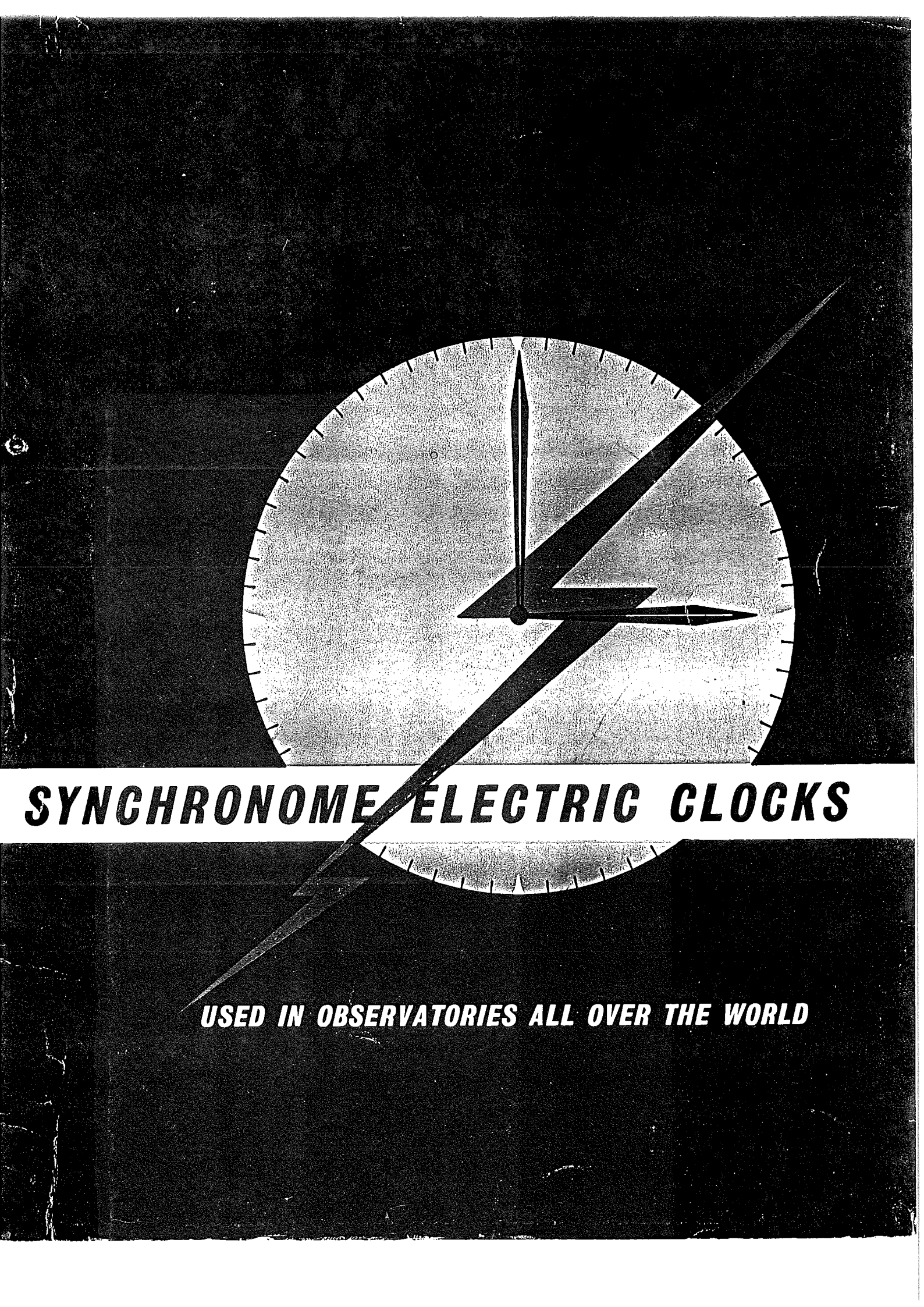

SYNCHRONOME ELECTRIC CLOCKS
USED IN OBSERVATORIES ALL OVER THE WORLD

# SYNCHRONOME ELECTRICAL IMPULSE CLOCKS

## THE SYNCHRONOME CO LTD

HEAD OFFICE AND WORKS

**ABBEY ELECTRIC CLOCK WORKS**

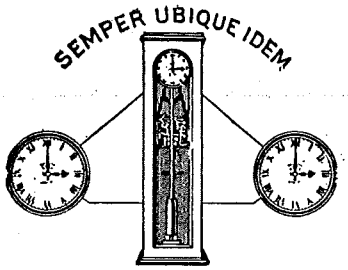
WOODSIDE PLACE · MOUNT PLEASANT

ALPERTON · WEMBLEY · MIDDLESEX

TELEPHONE: WEMBLEY 3643/4/5

# FIRST IN 1895

# FOREMOST EVER SINCE




Greenwich Observatory installed Synchronome Free Pendulums in the year 1925

The Synchronome System is the product of a long series of inventions which began in 1895 by the late Mr. Hope-Jones, who enunciated and developed the principles upon which the science and practice of Electric Time Service have been established.

There are systems offering today which are unprincipled. To apply this epithet to an individual would be to say the worst of him; yet what is true in the case of an individual is also true of electric clocks.

## PRINCIPLES

In a life-long effort to obtain reliable contacts from a clock, without detriment to its time-keeping, a group of fundamental laws have been established which are known to Horology as the Synchronome Principles. An unwavering adherence to these principles has carried the system right up to the top in Commerce and in Science; in Commerce by many thousands of installations giving uniform and accurate time; in Science by the Free Pendulum, which has broken all records for accuracy and in measuring time in Observatories all over the world. It was installed at Greenwich Observatory in the year 1925 and the records then set up remain unbroken to this day by any pendulum clock.

It was our privilege to originate the Wireless Six Dot Seconds and to devise the instruments which transmitted them.

## CONTROLLING PENDULUM

The Master Clock, or Controlling Pendulum, is, of course, the first essential of the System. Its extraordinary accuracy is due to the detached gravity escapement, constant in force and always applied to the pendulum at the centre of its path. The pendulum has very little work to do and that little is down when it is passing through the middle of its swing; otherwise it is altogether FREE. It is not called upon to make the electrical contact which propels the subsidiary clocks.

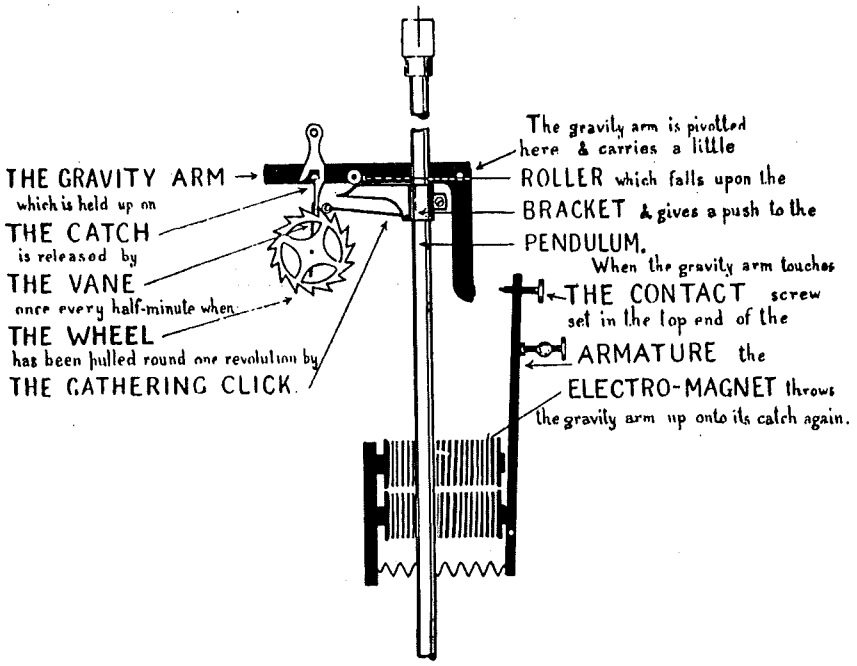
The pendulum rod is of Invar and is simply, but fully, compensated for fluctuations in temperature.

Variation of battery power cannot affect the time-keeping of the clock, neither the measurement of time by the pendulum, nor the synchronous propulsion of the dials.

Printed by R. A. Spottiswoode & Co., Ltd., London, S.E.1 for The Synchronome Co., Ltd., Alperton, Middlesex—Telephones: Wembley 3643-4-5

## THE SYNCHRONOME SWITCH

The switch consists of two pivoted levers shown in black in our illustration, namely, the gravity arm and the armature.



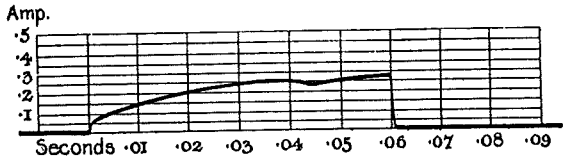

## THE CONTACT

The gravity arm sails into contact with the armature at the speed of the moving pendulum, quickly enough to prevent preliminary sparking, but not quickly enough to cause a bounce. The first effect of the passage of current is to draw the armature into harder contact in the act of lifting the gravity arm.

The two moving members of the switch travel together until the armature comes up with a rush against the poles of the magnet and the gravity arm flies off by its momentum; thus each half-minute contact is perfectly clean and precise in the make and break.

All the energy derived from the electro-magnet in the first place and ultimately expended in swinging the pendulum is mechanically transmitted through the surfaces of the contact.

Here is a photograph of the electrical impulse which passes through all the dials every half-minute.




## UNIFORMITY OF ALL DIALS ASSURED

Observe the clean " make " and precipitous " break." When the current has risen to ·25 amp.—and it takes ·06 of a second to reach it—all the dials operate and the little dent or depression shows they have done so. Not until the current has risen to a higher figure is the switch automatically thrown open. Thus the switch is bound to transmit sufficient electrical energy to operate every dial; it cannot work at all without doing so, because the duration of the contact is dependent upon the dials' self-induction which is the electrical equivalent of Inertia. The Inertia of a body is the measure of the power required to move it. Each dial asks for and gets exactly the current it needs.

This vital principle, unknown until the Synchronome invention was launched in 1895, remains the essential feature in *our* system and the best practice in modern electric time service is based upon it.

## BATTERY WARNING

Thereon depends the unique compensatory action by which the duration of the contact is increased with failing current. This condition of affairs is known as Battery Warning, which is quite automatic.

The consumption of current is negligible—so small in fact that it has no effect on the life of the battery—but a time will come when the magnet will be unable to throw up the gravity lever. When this happens, the pendulum, on its return to the left, will assist it and the increased duration of the contact which results is immediately noticeable on all the clocks, yet the installation will continue to work perfectly for some days in this battery-warning condition.

If this attention-compelling battery warning is neglected and the pendulum allowed to stop, the battery is **automatically** disconnected.

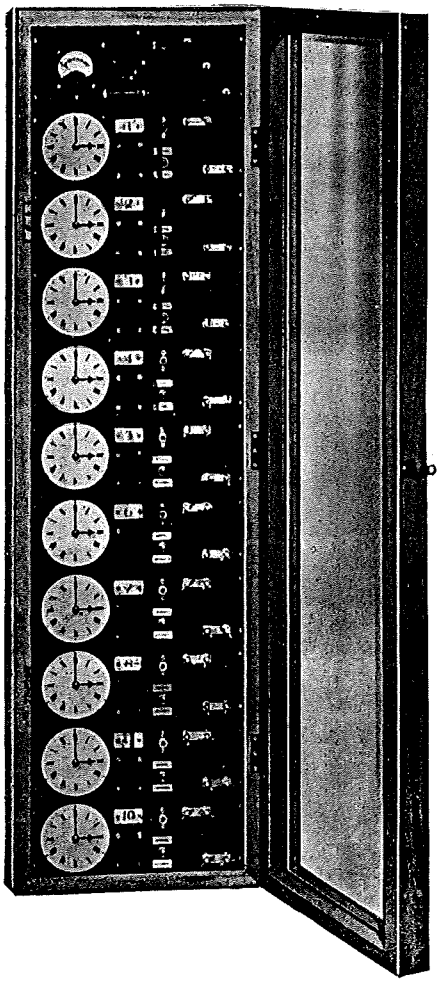
## NEGLIGIBLE CURRENT CONSUMPTION

The area embraced by the oscillograph curve is the measure of the current consumed; it means that one B.O.T. unit will run a circuit of 25 clocks for ten years. **This effectively disposes of the impression that battery-driven clocks are costly to operate.**

## SOURCE OF CURRENT

Any source of electrical energy can be used, but if alternating, a rectifier is necessary. Small storage cells are recommended for large time circuits; but dry cells of good quality can be used with equal satisfaction, and they require no attention whatever beyond renewal at the end of their useful life. We do not advocate the direct use of electric supply mains unless the service is absolutely continuous and free from interruption.

## WIRING DETAILS



The wiring consists merely of the connection of each dial with its nearest neighbour in simple series circuit, preferably carried out by a single line of 3·029″ gauge, 600 megohm grade cable. In large buildings, where a considerable number of dials are to be installed, it is advisable to arrange the wiring in two or more loops in order to obviate the risk of complete stoppage should any disconnection occur.

Special circuit arrangements have been evolved by us whereby any number of dials can be grouped together to form series-parallel loops, so that in the event of a disconnection occuring on any one loop, only the clocks connected thereto will stop, the remainder of the installation continuing to work uninterruptedly. The operation of one of the loops in series with the Master Clock movement ensures that no sacrifice is made of the compensatory action by which the duration of contact automatically lengthens with failing current. Should the disconnection occur on the loop to which the Master Clock is connected, special provision is made to ensure that this instrument automatically continues to operate.

In installations of this nature the wiring is terminated in a special Distribution Board (a typical example of which is illustrated) usually fitted closely adjacent to the Master Clock.

This method is the best but not necessarily the least expensive of the methods available. Time circuits of prime responsibility in important buildings and offices—such as the Headquarters of the British Broadcasting Corporation, Langham Place, W., the great Unilever Building, and also Electra House on the Embankment and the new Headquarters of the Railway Executive, London Midland Region, Euston, etc.—all have their Synchronome installations operated in series-parallel loops from a distribution board as illustrated.

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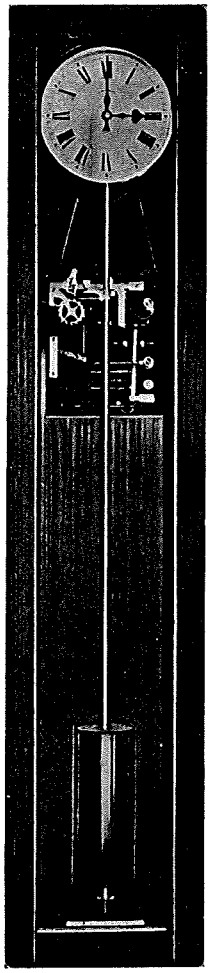
# THE CONTROLLING PENDULUM OR MASTER CLOCK

## STANDARD TYPE



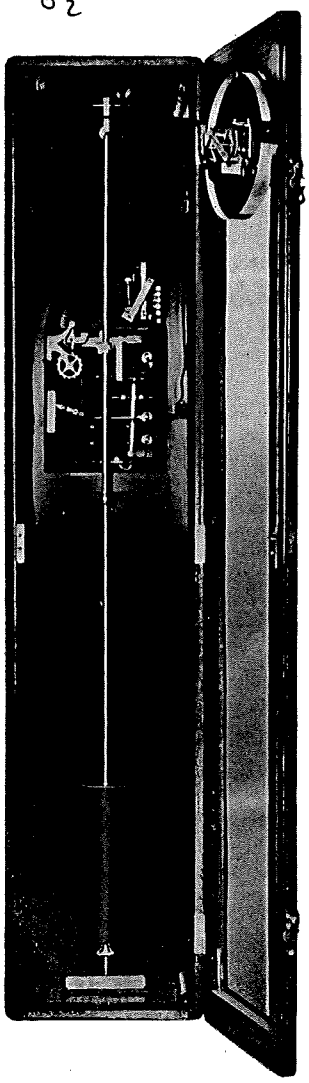
This is a combination of a pendulum and a switch and will operate any number of subsidiary clocks of any size including Turret Clocks, thus ensuring uniform and accurate time throughout the premises without winding or other attention.

The pendulum is a rod of INVAR, a nickel steel alloy having a negligible temperature co-efficient.

It has a free detached gravity escapement with impulse at zero, the time counting and releasing of the gravity lever being performed by a jewelled mechanical action.

Overall dimensions of case ~~50~~ inches long, ~~11~~ inches wide, ~~6~~ inches deep. Supplied with ~~7~~ 6½" inches diameter silvered dial in polished hardwood case.

New case 49¾" × 13⅛" × 5¾" deep.



## WITH SECONDS CONTACT

This instrument shown with its door open is similar to the standard type but is provided with means of transmitting impulses at intervals of one second in addition to impulses every thirty seconds.

The seconds contact is produced by a subsidiary Synchronome Switch released by a jewelled steel toggle on the pendulum. Its duration is determined by the self-induction of the circuit, and a powerful switching action is obtained without any interference with the high standard of timekeeping of the pendulum.

Useful for many scientific and industrial purposes where seconds impulses are required. Its time-spacing is accurate to one-thousandth part of a second. Dial diameter ~~7~~ 6½ inches. Supplied with seconds hand traversing the full scale of the dial, and small inset dial with hour minute hands, or with hour and minute hands traversing full scale of dial and inset seconds dial.

# SYNCHRONOME (SYNCHRONOUS)

# MAINPULSE

# CLOCKS

Where Alternating Current supply mains with time-controlled 50-cycle frequency are available and the number of clocks required is small, it may be felt that the expense of a master clock is unwarranted. In such cases we recommend the installation of **SYNCHRONOME MAINPULSE** A.C. Clocks, which, as their name implies, are Synchronome Clocks designed to operate directly from the mains.

They are made in two voltage ranges for operation on either 100-125 volts or 200-250 volts, and have behind them over forty years' experience in the manufacture of electric clocks.

A very wide range of designs is now available, which includes:—

**TIMEPEICE MODELS FOR WALL USE. TURRET CLOCKS OF ALL SIZES, WITH OR WITHOUT STRIKING AND CHIMING MECHANISM. AUTOMATIC PROGRAMME CONTROLLERS.**

*The Synchronome System of uniform and accurate time has been found to be of inestimable advantage in —*

***OFFICES · INSTITUTIONS · RAILWAY STATIONS***
***THEATRES · LIBRARIES · WORKS · HOSPITALS***
***SPORT'S PAVILIONS · MILLS · SCHOOLS · GARAGES***
***PETROL-FILLING STATIONS***

*as may be judged from a glance at our list of Installations containing names which are household words.*

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# TERMS AND CONDITIONS OF SALE

**THIS LIST** cancels all previous issues and is subject to alteration without notice.

**THE ILLUSTRATIONS** appearing in this list show the general appearance of the various items, but as improvements and alterations in design may be made from time to time, they are not binding.

**PACKING AND CASES** are charged for, but are credited in full when returned carriage paid to our Works: Abbey Electric Clock Works, Mount Pleasant, Alperton, Middlesex.

**CARRIAGE** is charged to the customer.

**ORDERING.** The List Number should be clearly stated, and where alternative finishes are mentioned the finish required must be specified, otherwise we reserve the right to supply at our discretion.

**GUARANTEE.** All instruments are guaranteed by us against defects in workmanship and material for a period of twelve months from date of despatch from our Works.

This guarantee is subject to the instruments having been erected and operated in accordance with our instructions.

In all cases our liability shall be limited to the making good of any faulty workmanship or materials, or the replacement at our discretion of any faulty part or parts.

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## THE SYNCHRONOME COMPANY LIMITED

ABBEY ELECTRIC CLOCK WORKS

WOODSIDE PLACE · ALPERTON

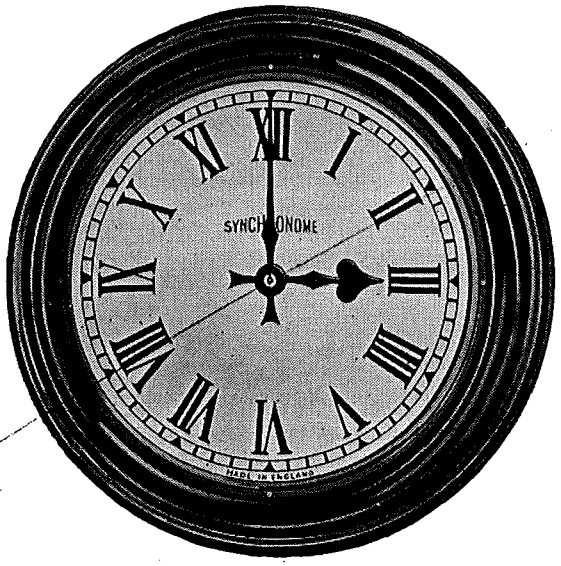
WEMBLEY · MIDDLESEX

TELEPHONE: WEMBLEY 3643-4-5


THE PRODUCTS OF THE SYNCHRONOME CO., LTD. ARE BRITISH THROUGHOUT

# TYPE C

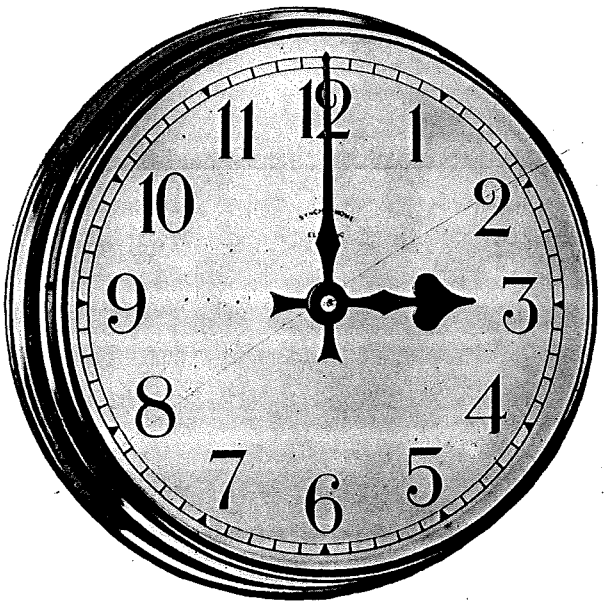
## (WORKSHOP PATTERN)




The frame and dial consist of a single sheet steel stamping, high temperature vitreous enamelled, the hands protected by glass.

Specially designed for use in workshops, etc., where the atmosphere is dust- or fume-laden.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 12″ | 17″ | 3″ |
| 18″ | 23″ | 3½″ |




# TYPE DA

Bronzed metal frame, matt-white or cream dial. Arabic figures.

Can also be supplied with frame chromium-plated at slight additional cost.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 7⅞″ | 2⅞″ |
| 8″ | 9¾″ | 2⅞″ |
| 10″ | 11¾″ | 2⅞″ |
| 12″ | 13½″ | 2⅞″ |
| 18″ | 20⅛″ | 3¾″ |
| 24″ | 26″ | 3⅜″ |

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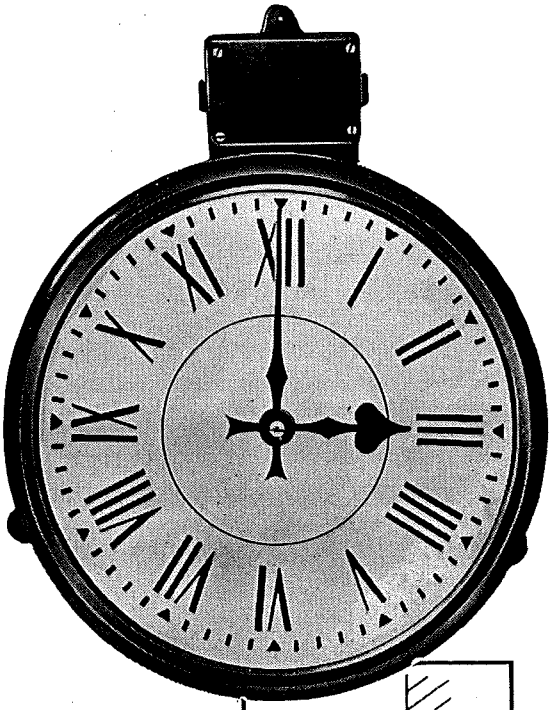
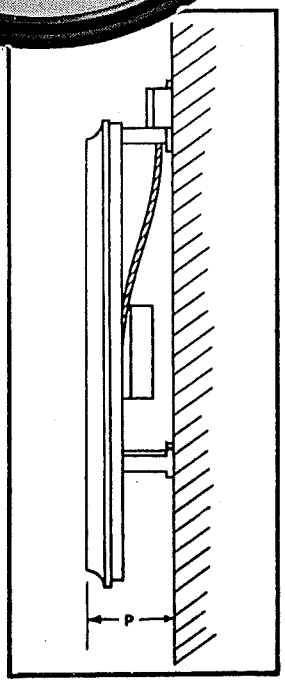
# TYPE CM



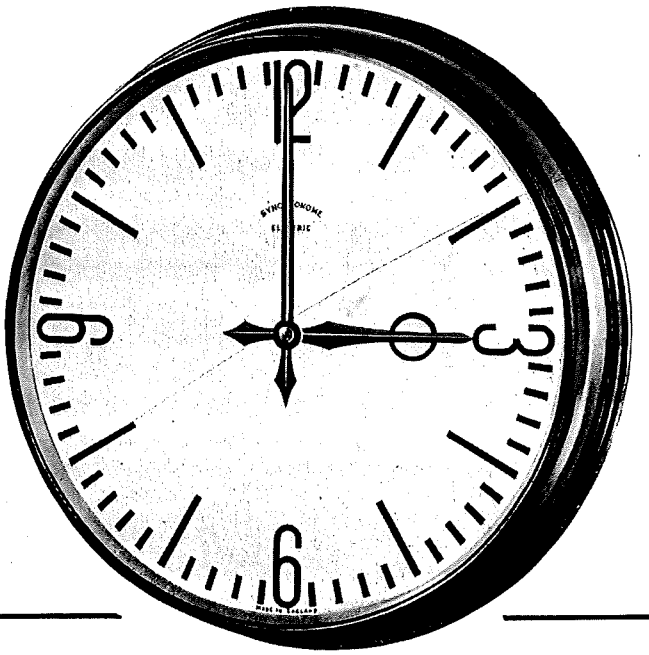



Specially designed for operation in exposed positions and for interior use in damp or fume-laden atmospheres.

Cast-metal case with white enamelled cast-metal dial, having raised black hour chapters and minute divisions, hands protected by glass, movement housed in a cast-metal box. Substantial terminals are provided in a separate compartment arranged in the form of a fixing lug at the 12 o'clock position, and the connections between the terminals and the movement are carried in heavy flexible metalic tubing. Thus the complete assembly is hermetically sealed, water- and air-tight, fume, dust and steam proof.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 12″ | 13¾″ | 4¼″ |
| 18″ | 20½″ | 4¼″ |
| 24″ | 27¼″ | 4 9/16″ |

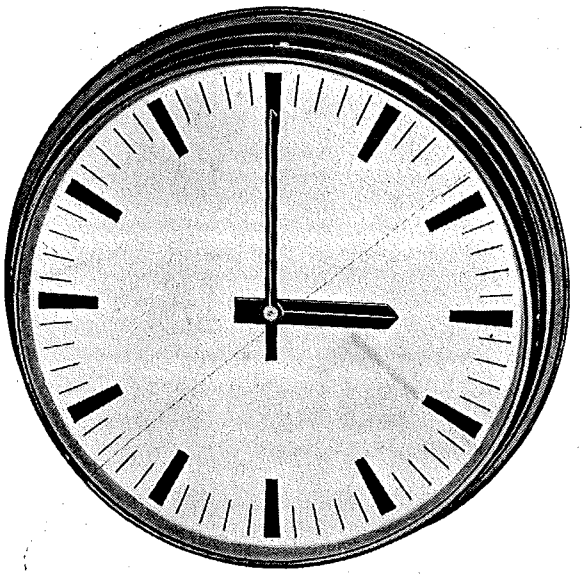
# TYPE DAM



Bronzed metal frame, matt-white or cream dial. Figured as shown.

Can also be supplied with frame chromium-plated at slight additional cost.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 7⅞″ | 2⅞″ |
| 8″ | 9⅜″ | 2⅞″ |
| 10″ | 11⅜″ | 2⅞″ |
| 12″ | 13½″ | 2⅞″ |
| 18″ | 20⅛″ | 3¼″ |
| 24″ | 26″ | 3⅜″ |



# TYPE DM

Bronzed metal frame for surface mounting with matt-white or cream dial with black cipher marks.

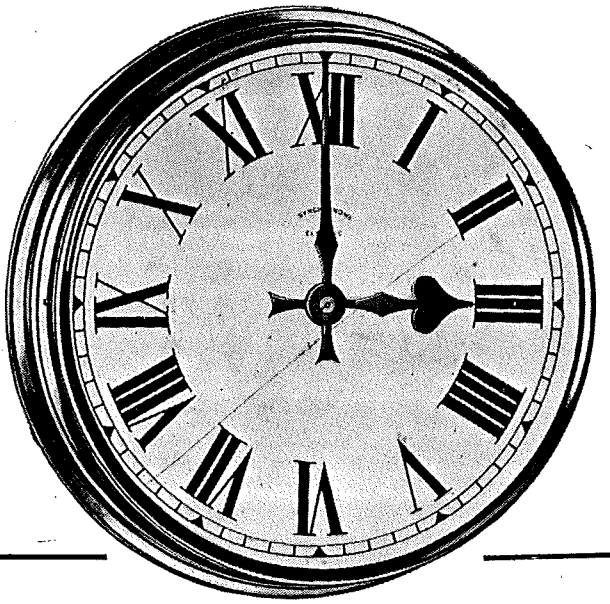
| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 7⅞″ | 2⅞″ |
| 8″ | 9⅜″ | 2⅞″ |
| 10″ | 11⅜″ | 2⅞″ |
| 12″ | 13½″ | 2⅞″ |
| 18″ | 20⅛″ | 3¼″ |
| 24″ | 26″ | 3⅜″ |

# TYPE DR

Bronzed metal frame, matt-white or cream dial. Roman numerals.

Can also be supplied with frame chromium-plated at slight additional cost.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 7⅞″ | 2⅞″ |
| 8″ | 9⅜″ | 2⅞″ |
| 10″ | 11⅜″ | 2⅞″ |
| 12″ | 13½″ | 2⅞″ |
| 18″ | 20⅛″ | 3¼″ |
| 24″ | 26″ | 3⅜″ |



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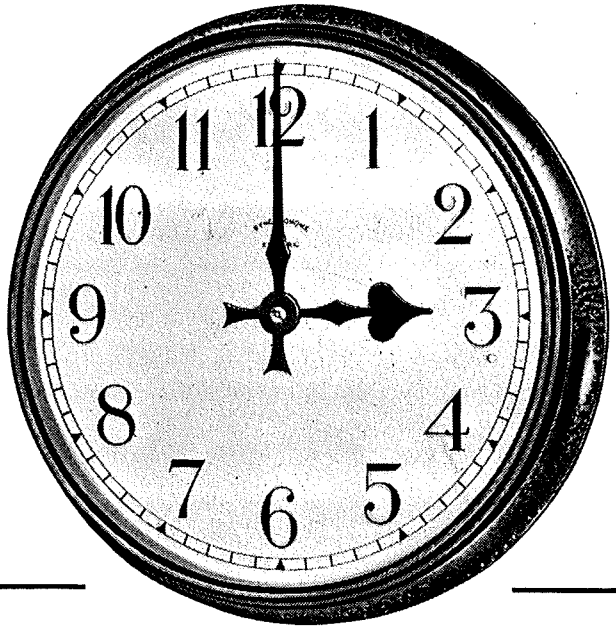
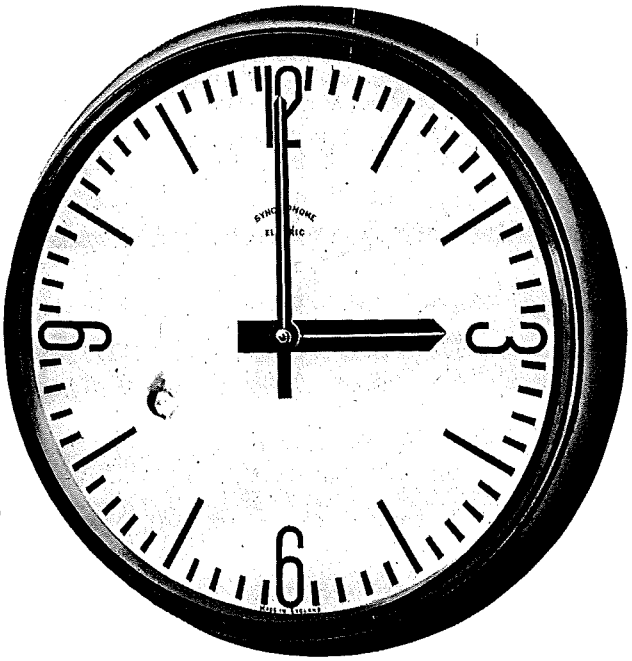


# TYPE EA

Finish: Walnut. Bakelite.
Matt-white or cream dial with Arabic figures.

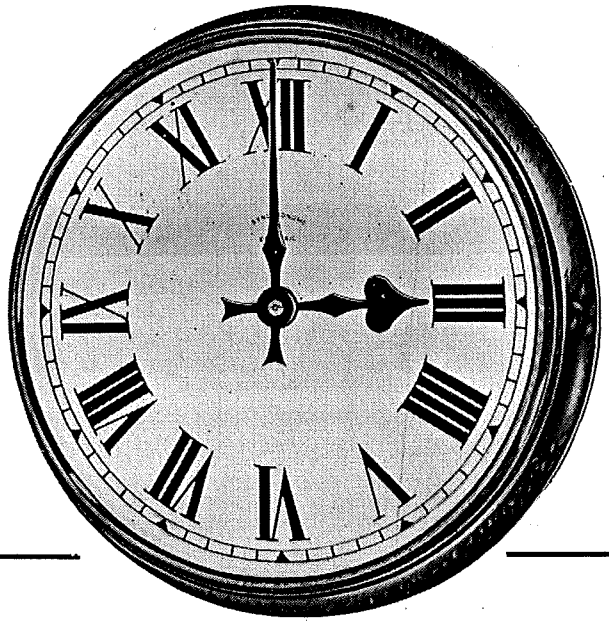
| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 7 7/8″ | 2 1/16″ |
| 9″ | 11 3/8″ | 2 5/8″ |
| 12″ | 13 5/8″ | 2 5/8″ |



# TYPE EAM

Finish: Walnut. Bakelite.
Matt-white or cream dial, figured as shown.

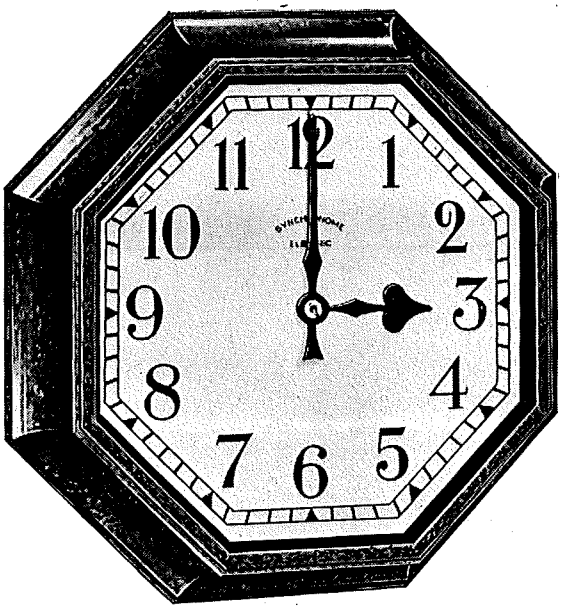
| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 7 7/8″ | 2 1/16″ |
| 9″ | 11 3/8″ | 2 5/8″ |
| 12″ | 13 5/8″ | 2 5/8″ |



# TYPE ER

Finish: Walnut. Bakelite,
Matt-white or cream dial with Roman numerals.

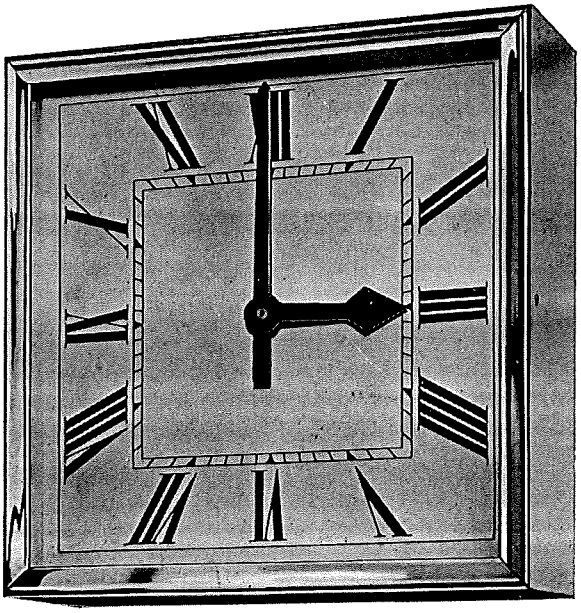
| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 7 7/8″ | 2 1/16″ |
| 9″ | 11 3/8″ | 2 5/8″ |
| 12″ | 13 5/8″ | 2 5/8″ |



# TYPE F

Finishes: Mahogany, Black Walnut. Matt-white or cream dial. Arabic figures only.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 8″ | 11″ | 2¾″ |



# TYPE M

Matt-silvered dial with Roman numerals, in chromium-plated frame for surface mounting. Supplied in 8 in., 10 in., 12 in., or 18 in. sizes.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 8″ | 8″ × 8″ | 2⅝″ |
| 10″ | 10″ × 10″ | 2⅝″ |
| 12″ | 12″ × 12″ | 2⅝″ |
| 18″ | 18″ × 18″ | 2⅝″ |

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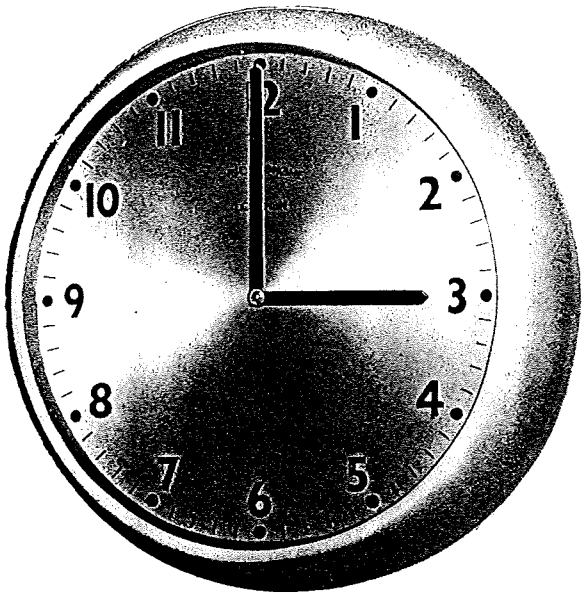
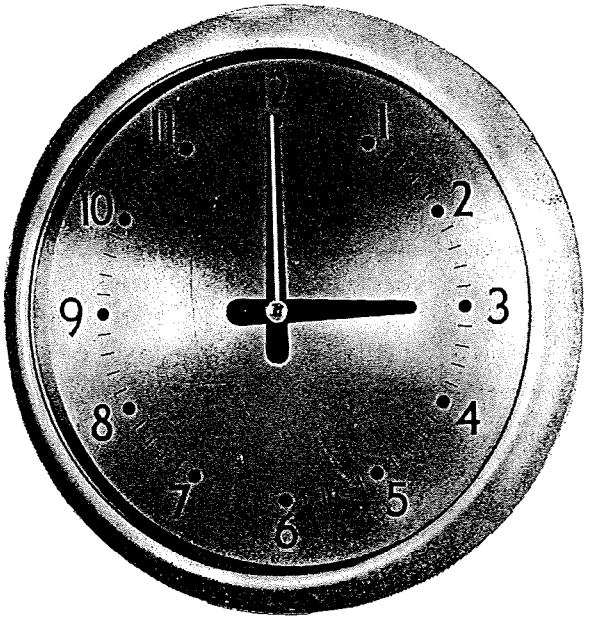
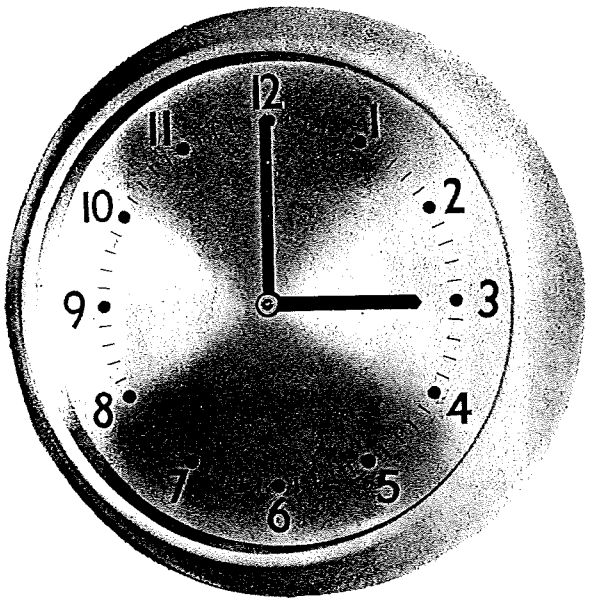


## TYPE MOB



## TYPE MOC



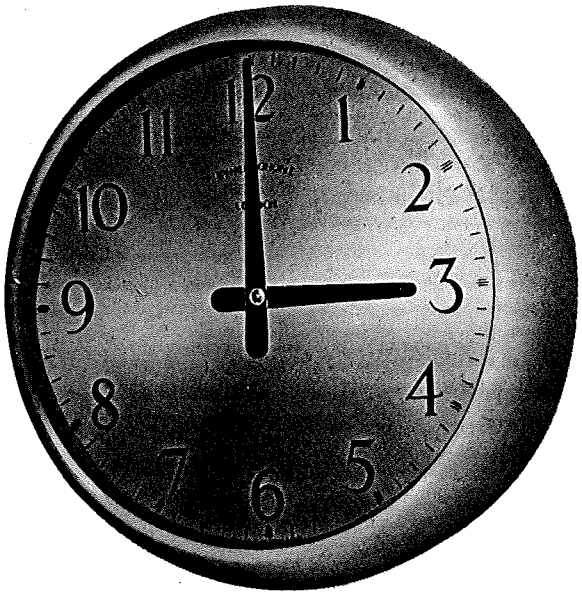
## TYPE MOD

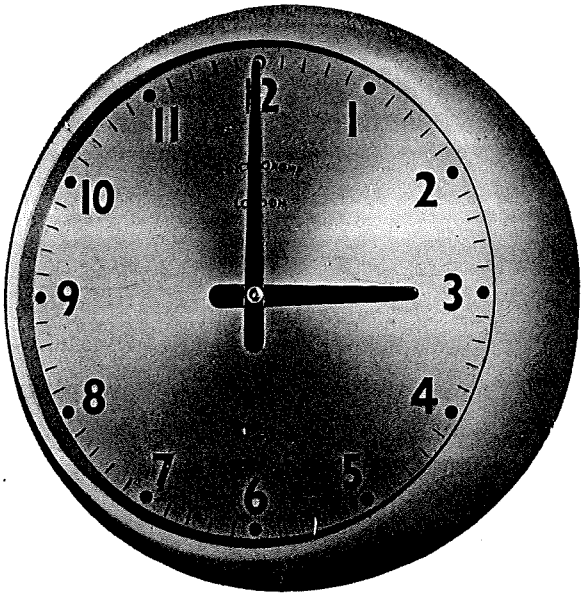
Finishes: Cellulose Jewelesence Lacquer
Golden Biege
Snow Mist
Bronze

Spun Aluminium case with Circular grained aluminium dial.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | $8\frac{1}{8}$″ | $2\frac{11}{16}$″ |
| 9″ | $11\frac{1}{8}$″ | $2\frac{11}{16}$″ |
| 12″ | $13\frac{3}{8}$″ | $2\frac{5}{8}$″ |
| 18″ | 21″ | $3\frac{3}{8}$″ |
| 24″ | $26\frac{7}{8}$″ | $3\frac{3}{8}$″ |
| 30″ | 36″ | 6″ |

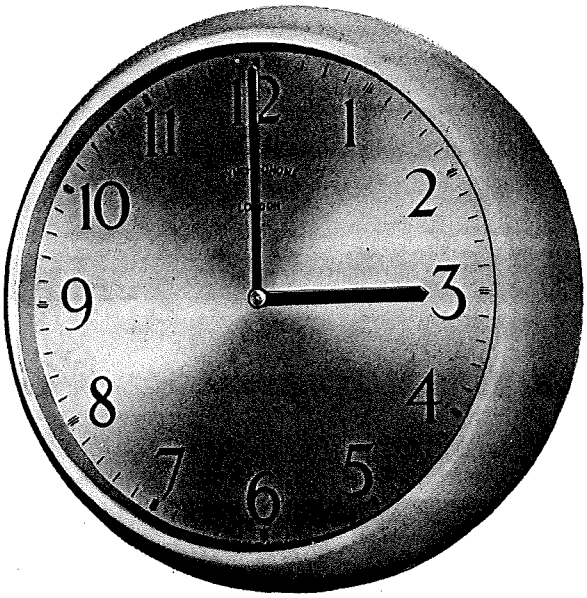
## TYPE MOE





## TYPE MOF

## TYPE MOG

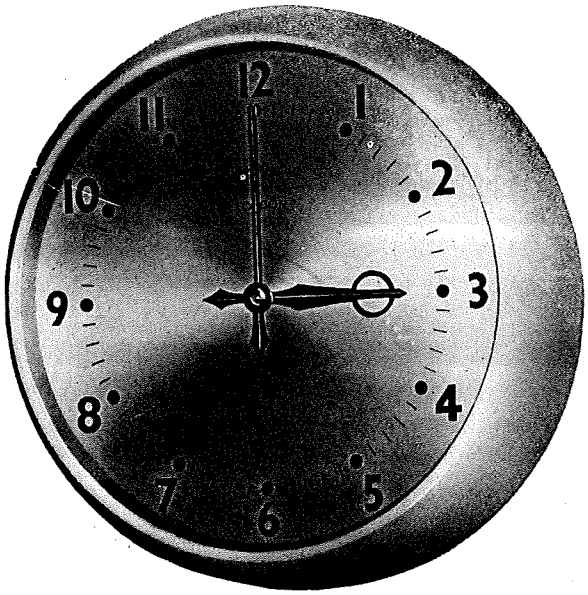


Finishes: Cellulose Jewelesence Lacquer
Golden Beige
Snow Mist
Bronze

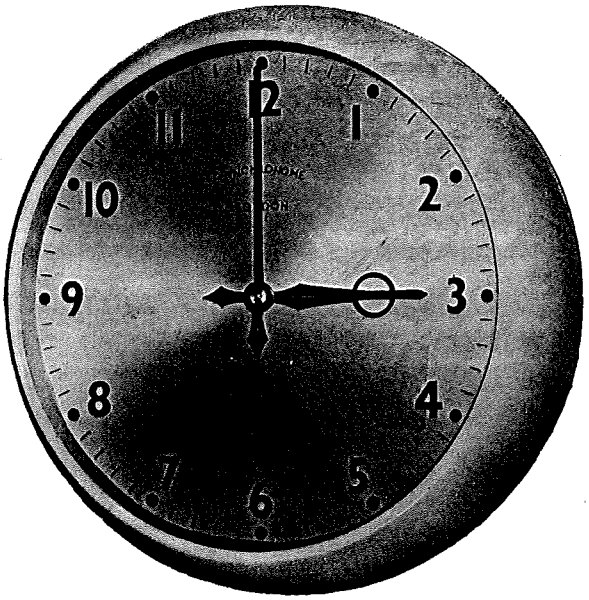
Spun aluminium case with Circular grained aluminium dial.

| DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|
| 6″ | 8⅛″ | 2 1/16″ |
| 9″ | 11⅛″ | 2 1/16″ |
| 12″ | 13⅜″ | 2⅝″ |
| 18″ | 21″ | 3⅜″ |
| 24″ | 26⅞″ | 3⅜″ |
| 30″ | 36″ | 6″ |

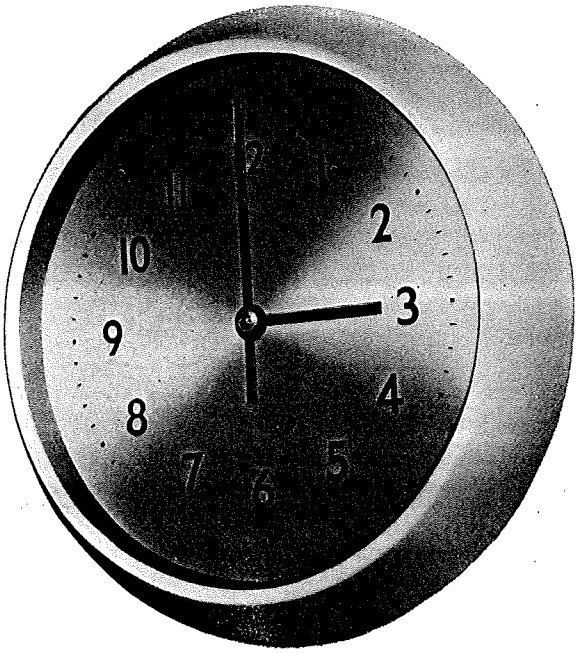
Printed by R. A. Spottiswoode & Co., Ltd., London, S.E.1 for The Synchronome Co., Ltd., Alperton, Middlesex—Telephones: Wembley 3643-4-5



## TYPE MOH



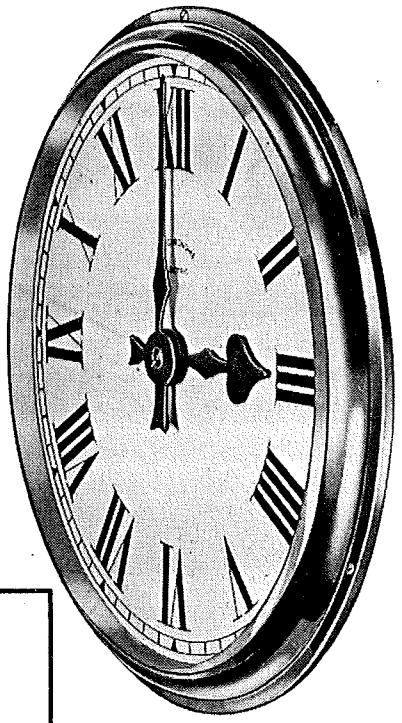
## TYPE MOI



## TYPE MOJ

| Finishes: Cellulose Jewelesence Lacquer | DIAL SIZE | OVERALL SIZE | PROJECTION |
|---|---|---|---|
| Golden Beige | 6″ | $8\frac{1}{8}$″ | $2\frac{11}{16}$″ |
| Snow Mist | 9″ | $11\frac{1}{8}$″ | $2\frac{11}{16}$″ |
| Bronze | 12″ | $13\frac{3}{8}$″ | $2\frac{5}{8}$″ |
| | 18″ | 21″ | $3\frac{3}{8}$″ |
| Spun aluminium case with Circular grained aluminium dial. | 24″ | $26\frac{7}{8}$″ | $3\frac{3}{8}$″ |
| | 30″ | 36″ | 6″ |

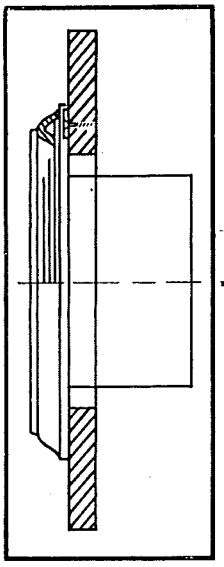
# TYPE A/I

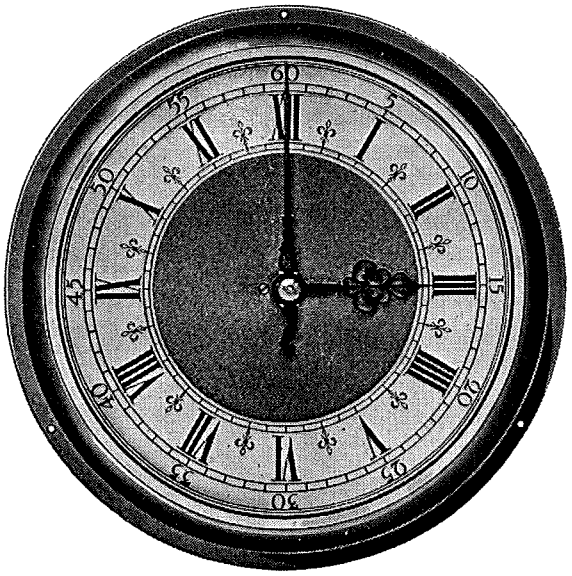


The " A/I " type is fitted with matt-white or cream dial with Roman or Arabic figures.

Heavy cast bezel with bevelled plate glass. The bezel conceals a metal fixing ring having slotted screw holes for levelling the dial when erecting. The bezel is attached to the ring by metal thread screws, thus facilitating the removal of the clock for inspection.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 6″ | 6⅝″ | ⅞″ |
| 8″ | 8¼″ | ⅞″ |
| 10″ | 10 1/16″ | ⅞″ |
| 12″ | 12¾″ | ⅞″ |
| 18″ | 19¼″ | 1¼″ |
| 24″ | 25¾″ | 1½″ |





# TYPE G/I

The " G/I " type is fitted with heavy brass dial of Tompion design with Roman numerals hand-engraved on a silvered ring, raised upon a matt-gold ground. It has a heavy cast bezel with bevelled plate glass. The bezel conceals a metal fixing ring, having slotted screw holes for levelling the dial when erecting. The bezel is attached to the ring by metal thread screws, thus facilitating the removal of the clock for inspection.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 6″ | 6⅝″ | ⅞″ |
| 8″ | 8¼″ | ⅞″ |
| 10″ | 10 1/16″ | ⅞″ |
| 12″ | 12¾″ | ⅞″ |
| 18″ | 19¼″ | 1¼″ |
| 24″ | 25¾″ | 1½″ |

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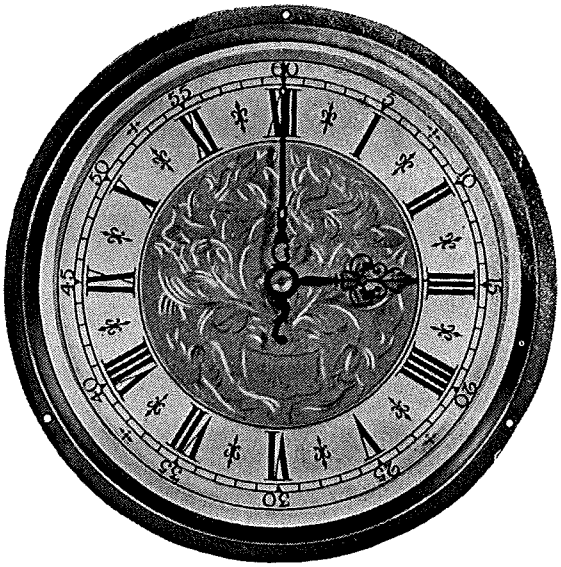
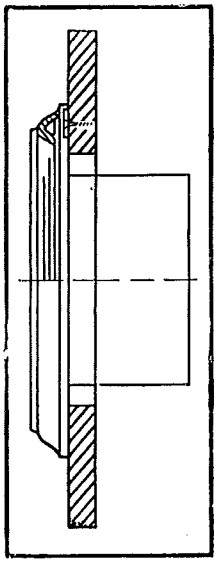


# TYPE J/I

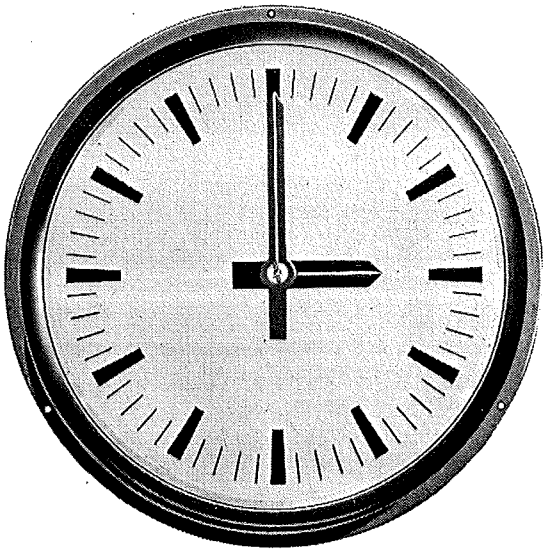
The " J/I " type is fitted with heavy brass dial of Tompion design with Roman numerals hand-engraved on a silvered ring, raised upon a brass centre which is enriched with an engraved floral design. It has a heavy cast bezel with bevelled plate glass. The bezel conceals a metal fixing ring, having slotted screw holes for levelling the dial when erecting. The bezel is attached to the ring by metal thread screws, thus facilitating the removal of the clock for inspection.



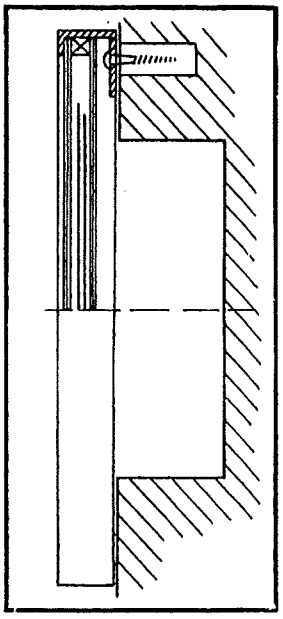
| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 6″ | $6\frac{5}{8}$″ | $\frac{7}{8}$″ |
| 8″ | $8\frac{3}{4}$″ | $\frac{7}{8}$″ |
| 10″ | $10\frac{1}{16}$″ | $\frac{7}{8}$″ |
| 12″ | $12\frac{3}{4}$″ | $\frac{7}{8}$″ |
| 18″ | $19\frac{1}{4}$″ | $1\frac{1}{4}$″ |
| 24″ | $25\frac{3}{4}$″ | $1\frac{1}{2}$″ |

Matt-white dial with black cipher marks, chromium-plated bezel with bevelled plate glass, for either insertion or surface mounting, the latter having oak, mahogany or walnut frame.

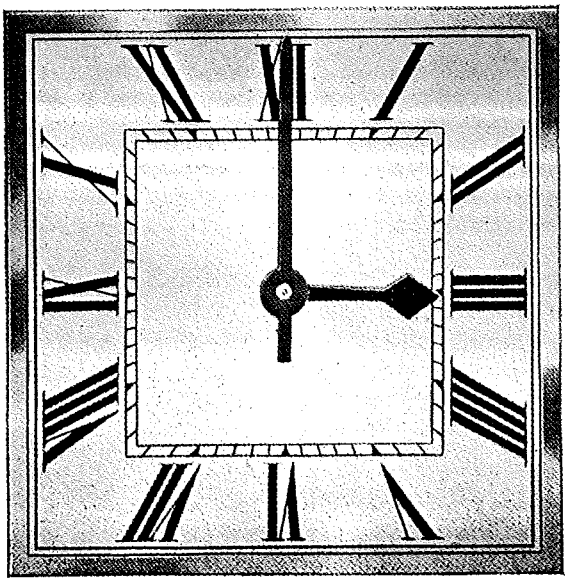
| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 6″ | $6\frac{5}{8}$″ | $\frac{7}{8}$″ |
| 8″ | $8\frac{3}{4}$″ | $\frac{7}{8}$″ |
| 10″ | $10\frac{1}{16}$″ | $\frac{7}{8}$″ |
| 12″ | $12\frac{3}{4}$″ | $\frac{7}{8}$″ |
| 18″ | $19\frac{1}{4}$″ | $1\frac{1}{4}$″ |
| 24″ | $25\frac{3}{4}$″ | $1\frac{1}{2}$″ |



# TYPE BBC/I



# TYPE M/I



Matt-silvered dial with Roman numerals, in bronze frame for insertion mounting, with projection of 1 inch. Supplied in 8 in., 10 in., 12 in. or 18 in. sizes.

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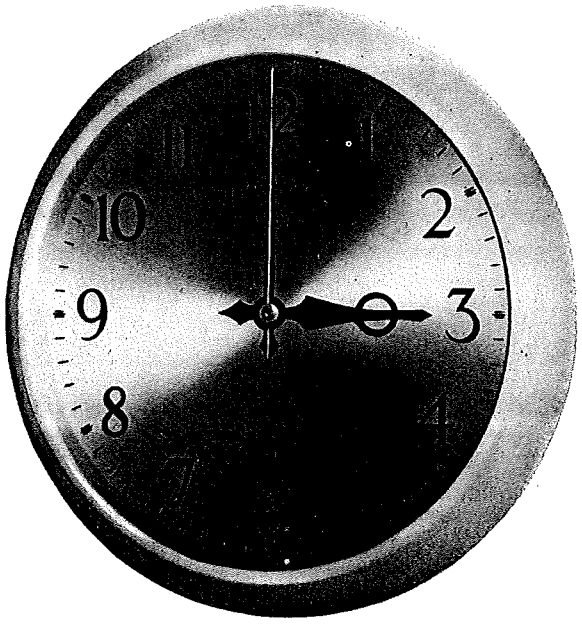

# TYPE SI/A

Spun aluminium bezel with circular grained aluminium Dial convex glass. Finished white or cream cellulose. Other finishes available at slight extra cost.

Supplied complete with 6 in. by 6 in. fixing Box arranged for conduit entry and connecting/short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $10\frac{7}{16}$″ | $1\frac{3}{16}$″ |
| 12″ | $12\frac{7}{8}$″ | $1\frac{1}{8}$″ |
| 18″ | 20″ | $1\frac{1}{8}$″ |

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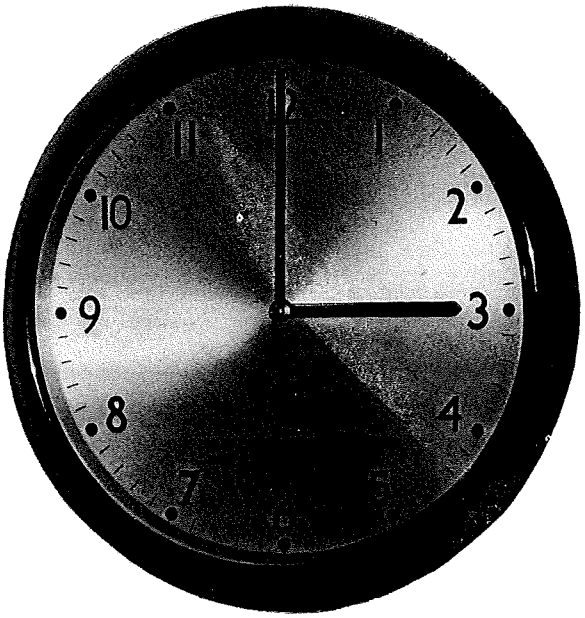
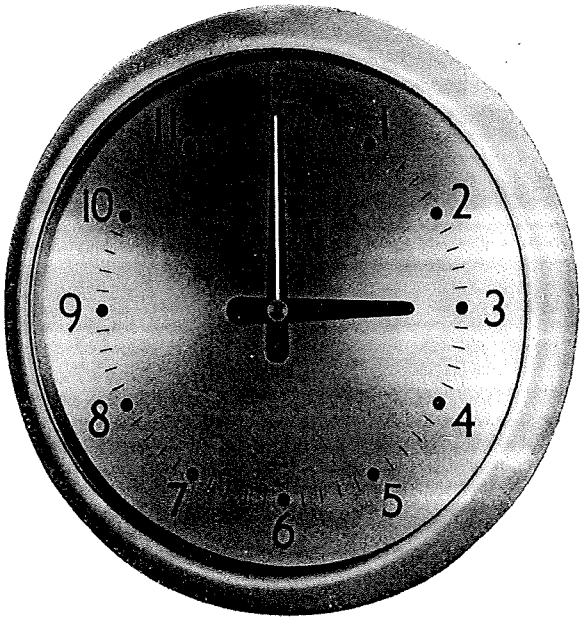
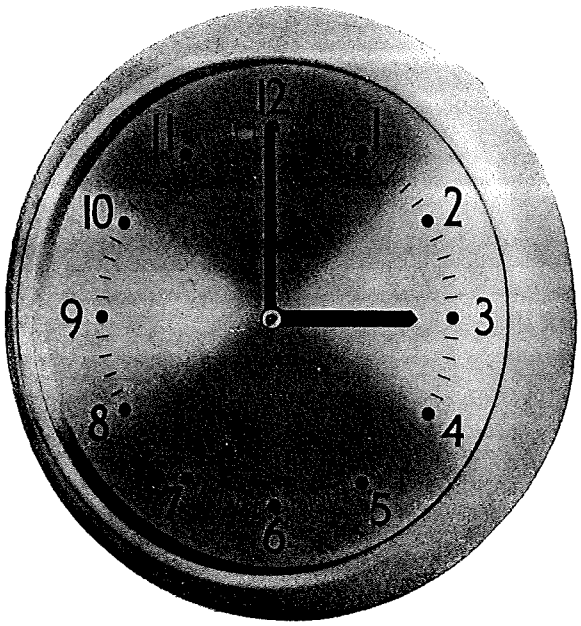


## TYPE SI/B



## TYPE SI/C



## TYPE SI/D

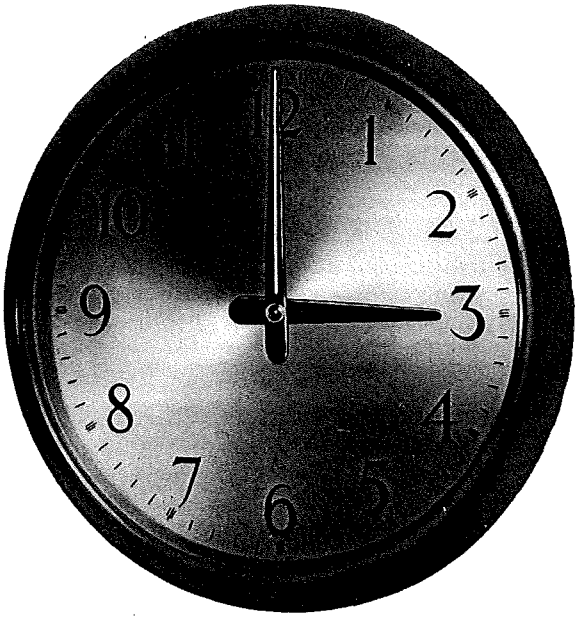
Spun aluminium bezel with circular grained aluminium Dial convex glass. Finished white or cream cellulose. Other finishes available at slight extra cost.

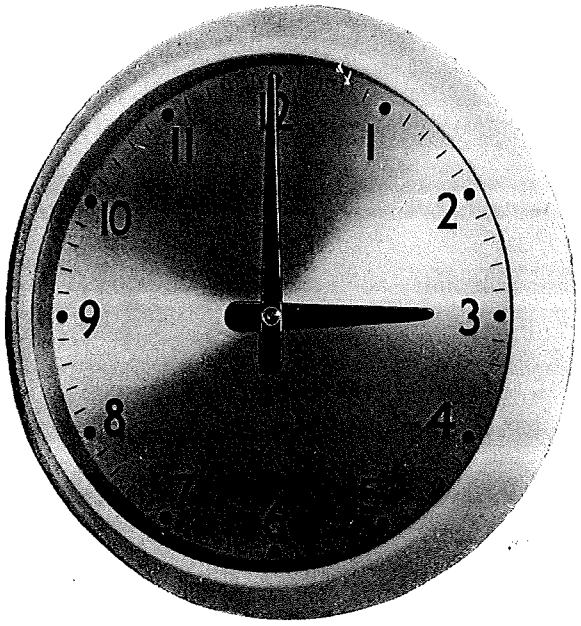
Supplied complete with 6 in. by 6 in. fixing Box arranged for conduit entry and connecting/short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $10\frac{7}{16}$″ | $1\frac{3}{16}$″ |
| 12″ | $12\frac{7}{8}$″ | $1\frac{1}{8}$″ |
| 18″ | 20″ | $1\frac{1}{8}$″ |

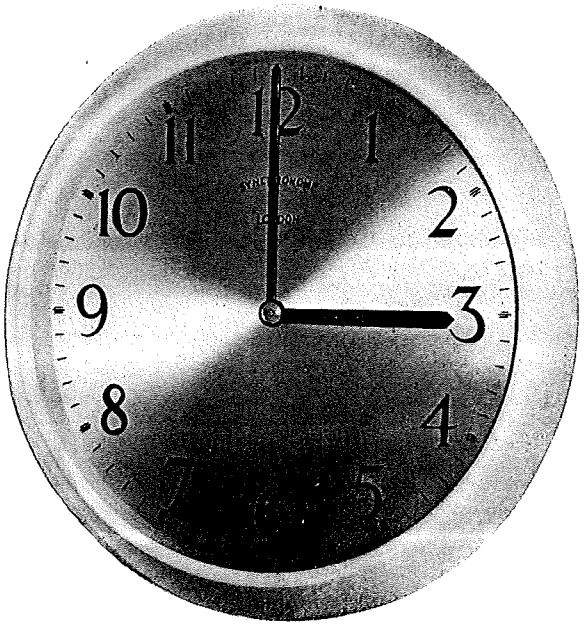
FLUSH INSERTION DIALS

## TYPE SI/E





## TYPE SI/F



## TYPE SI/G

Spun aluminium bezel with circular grained aluminium Dial convex glass. Finished white or cream cellulose. Other finishes available at slight extra cost.

Supplied complete with 6 in. by 6 in. fixing Box arranged for conduit entry and connecting/short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $10\frac{7}{16}$″ | $1\frac{3}{16}$″ |
| 12″ | $12\frac{7}{8}$″ | $1\frac{1}{8}$″ |
| 18″ | 20″ | $1\frac{1}{8}$″ |

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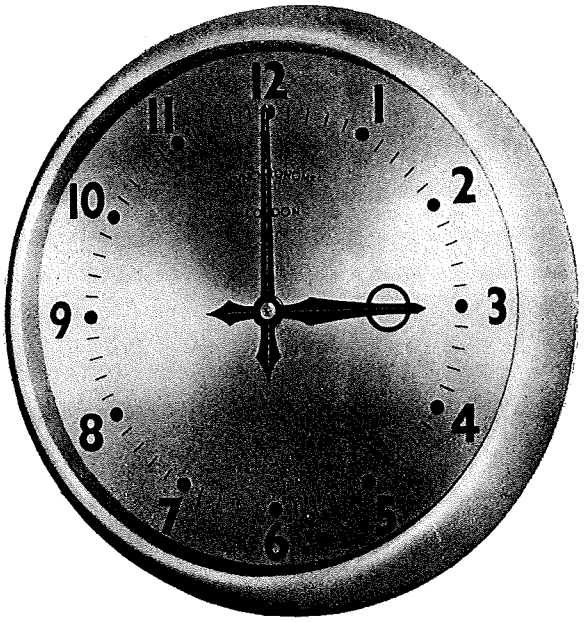
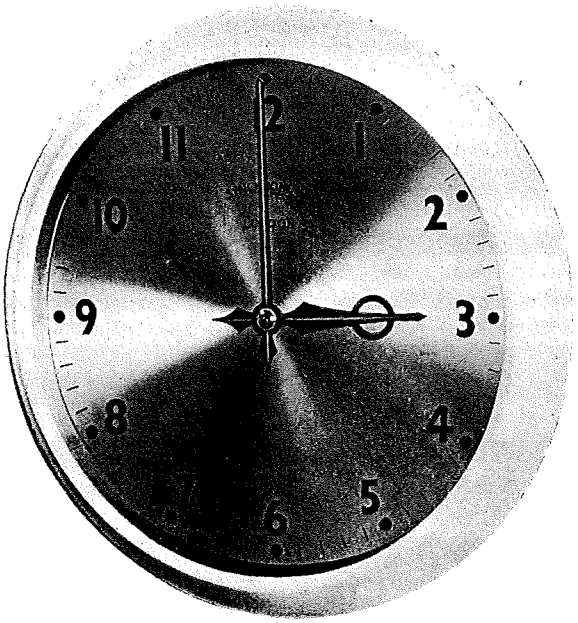
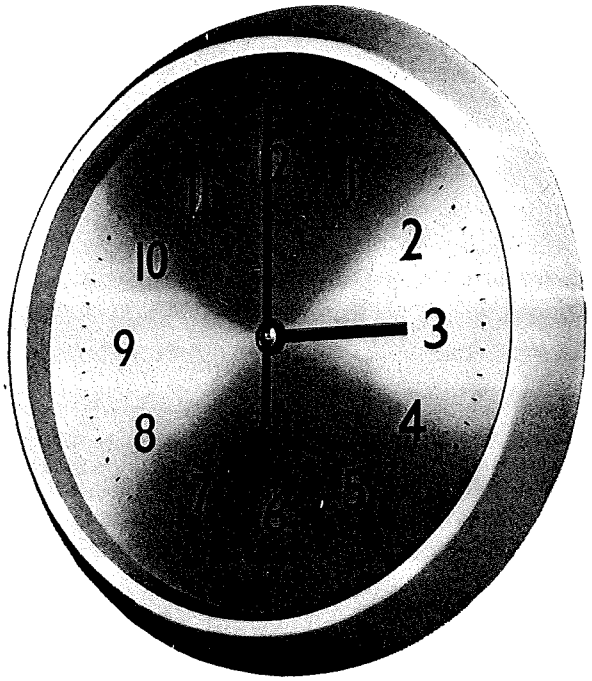


## TYPE SI/H



## TYPE SI/I



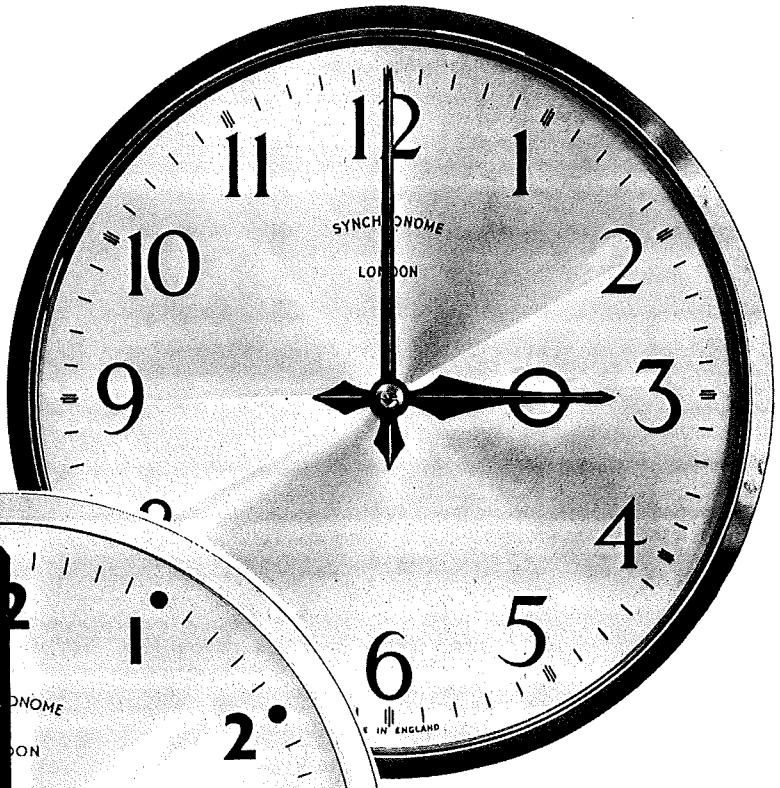
## TYPE SI/J

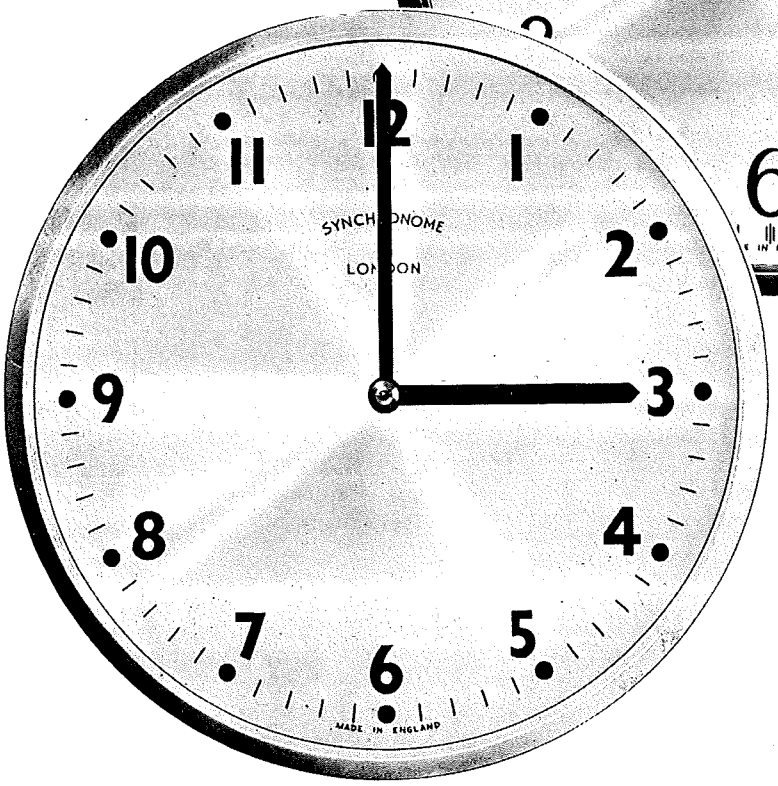
Spun aluminium bezel with circular grained aluminium Dial convex glass. Finished white or cream cellulose. Other finishes available at slight extra cost.

Supplied complete with 6 in. by 6 in. fixing Box arranged for conduit entry and connecting/short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $10\frac{7}{16}$″ | $1\frac{3}{16}$″ |
| 12″ | $12\frac{7}{8}$″ | $1\frac{1}{8}$″ |
| 18″ | 20″ | $1\frac{1}{8}$″ |

## TYPE TSI/A






## TYPE TSI/B

The feature of this clock with spun aluminium bezel is the very small projection which has been reduced to the minimum.

Fitted with circular grained aluminium dial with convex glass. Finish of bezel white or ivory; other finishes at slight extra charge. Supplied complete with 6 in. by 6 in. fixing box arranged for conduit entry and connecting short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $9\frac{3}{4}$″ | $\frac{7}{16}$″ |
| 12″ | $12\frac{5}{16}$″ | $\frac{7}{16}$″ |
| 18″ | $19\frac{1}{8}$″ | $\frac{7}{16}$″ |

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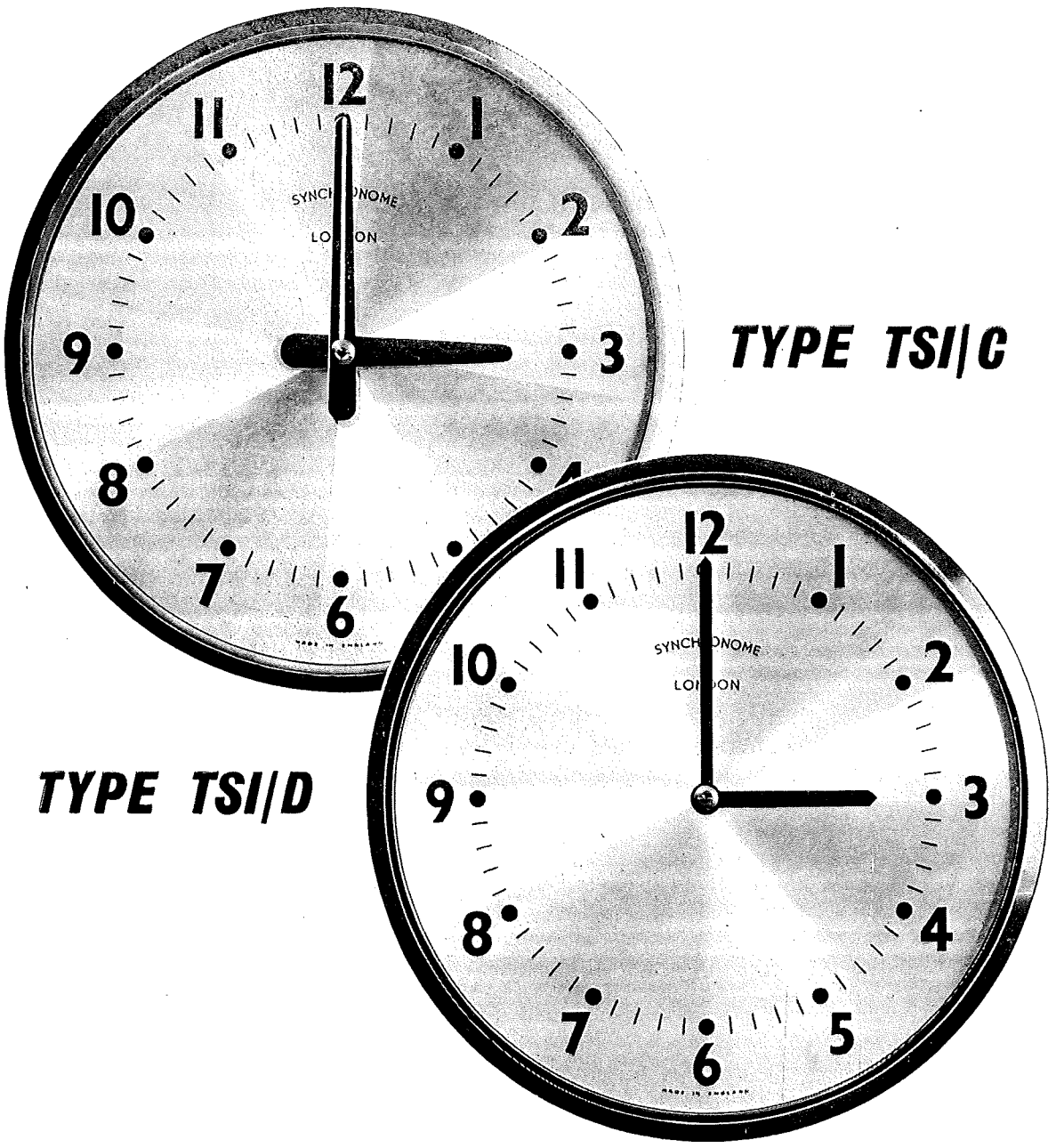
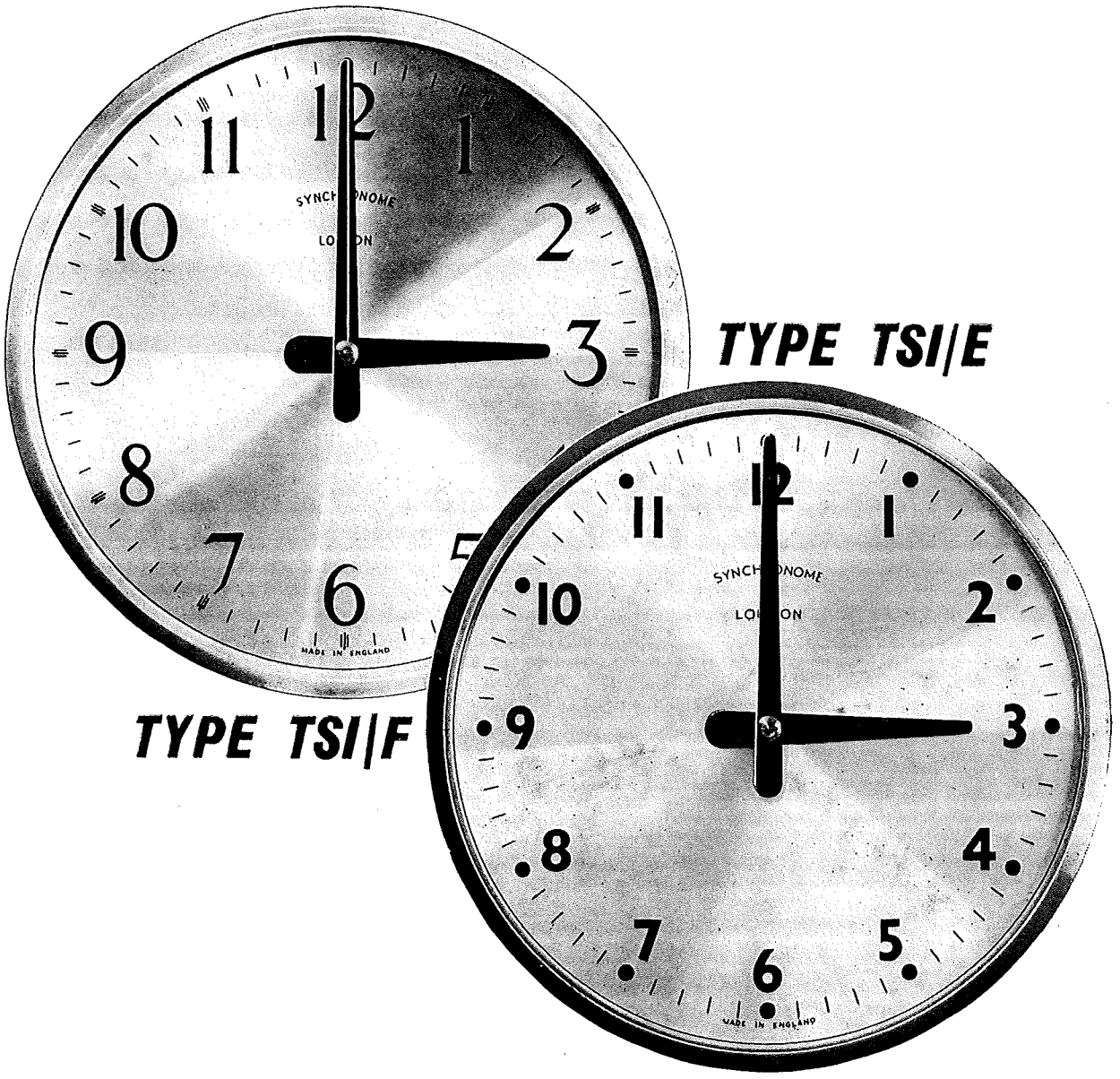



The feature of this clock with spun aluminium bezel is the very small projection which has been reduced to the minimum.

Fitted with circular grained aluminium dial with convex glass. Finish of bezel white or ivory; other finishes at slight extra charge. Supplied complete with 6 in. by 6 in. fixing box arranged for conduit entry and connecting short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $9\frac{3}{4}$″ | $\frac{7}{16}$″ |
| 12″ | $12\frac{5}{16}$″ | $\frac{7}{16}$″ |
| 18″ | $19\frac{1}{8}$″ | $\frac{7}{16}$″ |

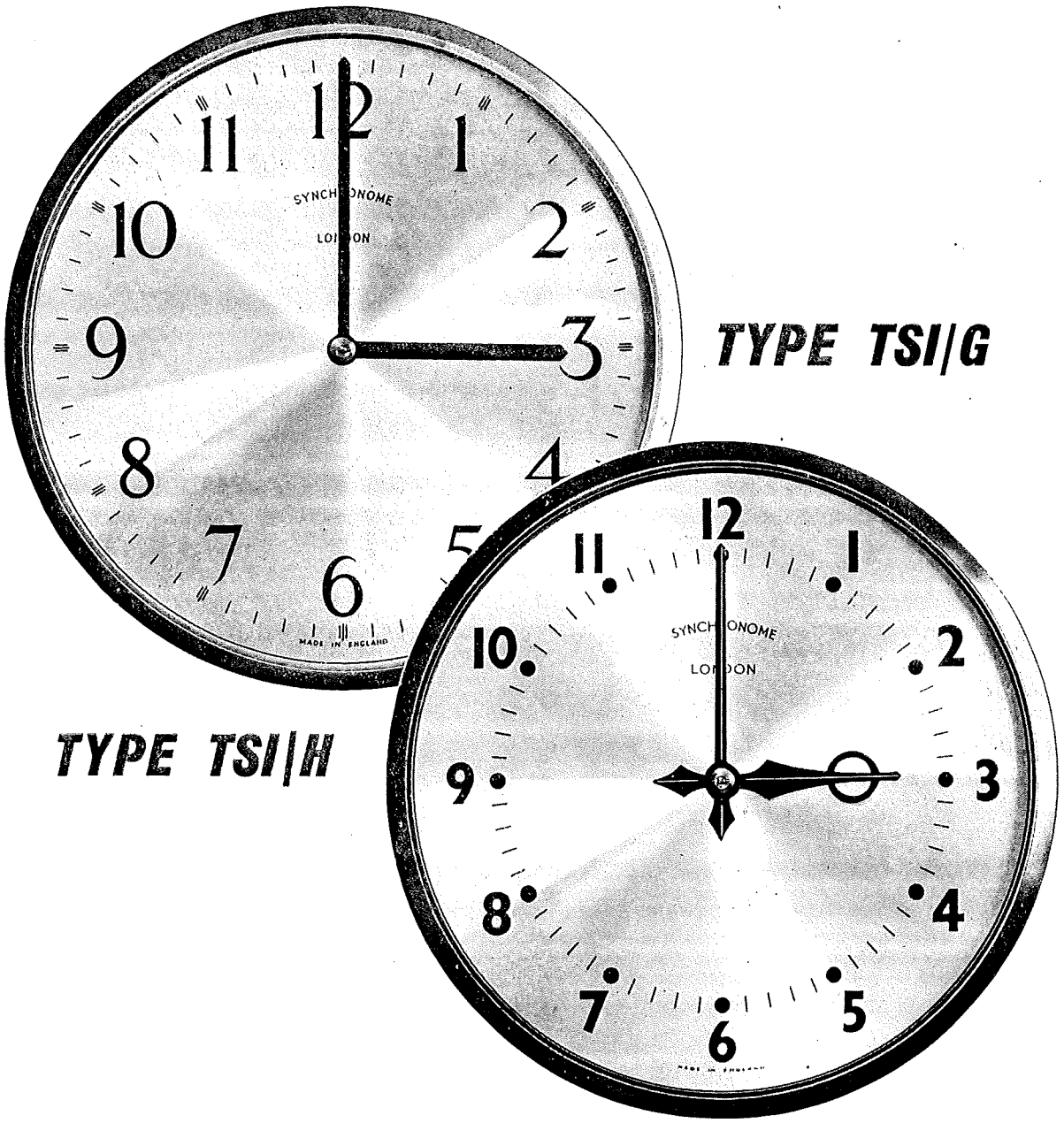



The feature of this clock with spun aluminium bezel is the very small projection which has been reduced to the minimum.

Fitted with circular grained aluminium dial with convex glass. Finish of bezel white or ivory; other finishes at slight extra charge. Supplied complete with 6 in. by 6 in. fixing box arranged for conduit entry and connecting short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $9\frac{3}{4}$″ | $\frac{7}{16}$″ |
| 12″ | $12\frac{5}{16}$″ | $\frac{7}{16}$″ |
| 18″ | $19\frac{1}{8}$″ | $\frac{7}{16}$″ |

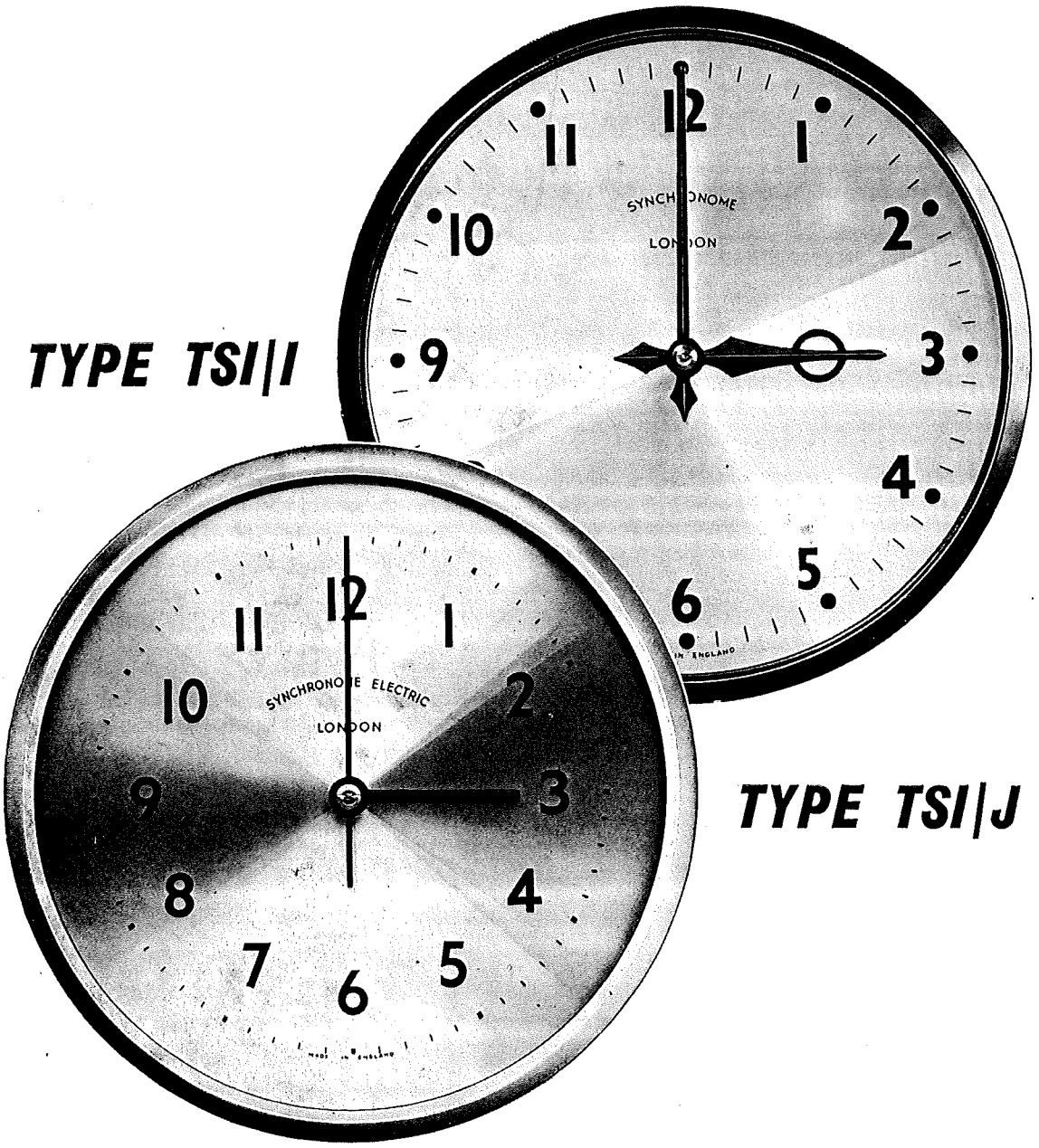
Printed by R. A. Spottiswoode & Co., Ltd., London, S.E.1 for The Synchronome Co., Ltd., Alperton, Middlesex—Telephones: Wembley 3643-4-5




The feature of this clock with spun aluminium bezel is the very small projection which has been reduced to the minimum.

Fitted with circular grained aluminium dial with convex glass. Finish of bezel white or ivory; other finishes at slight extra charge. Supplied complete with 6 in. by 6 in. fixing box arranged for conduit entry and connecting short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $9\frac{3}{4}$″ | $\frac{7}{16}$″ |
| 12″ | $12\frac{5}{16}$″ | $\frac{7}{16}$″ |
| 18″ | $19\frac{1}{8}$″ | $\frac{7}{16}$″ |




The feature of this clock with spun aluminium bezel is the very small projection which has been reduced to the minimum.

Fitted with circular grained aluminium dial with convex glass. Finish of bezel white or ivory; other finishes at slight extra charge. Supplied complete with 6 in. by 6 in. fixing box arranged for conduit entry and connecting short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $9\frac{3}{4}$″ | $\frac{7}{16}$″ |
| 12″ | $12\frac{5}{16}$″ | $\frac{7}{16}$″ |
| 18″ | $19\frac{1}{8}$″ | $\frac{7}{16}$″ |

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# TYPE TSI/K


The feature of this clock with spun aluminium bezel, is the very small projection which has been reduced to the minimum. Bezel is anodised to any colour with dial plate sprayed to B.S.I. colour with super-imposed plated hour markings fitted with convex glass. Complete with 6 in. by 6 in. fixing box and connecting short circuiting device.

# TYPE TSI/L

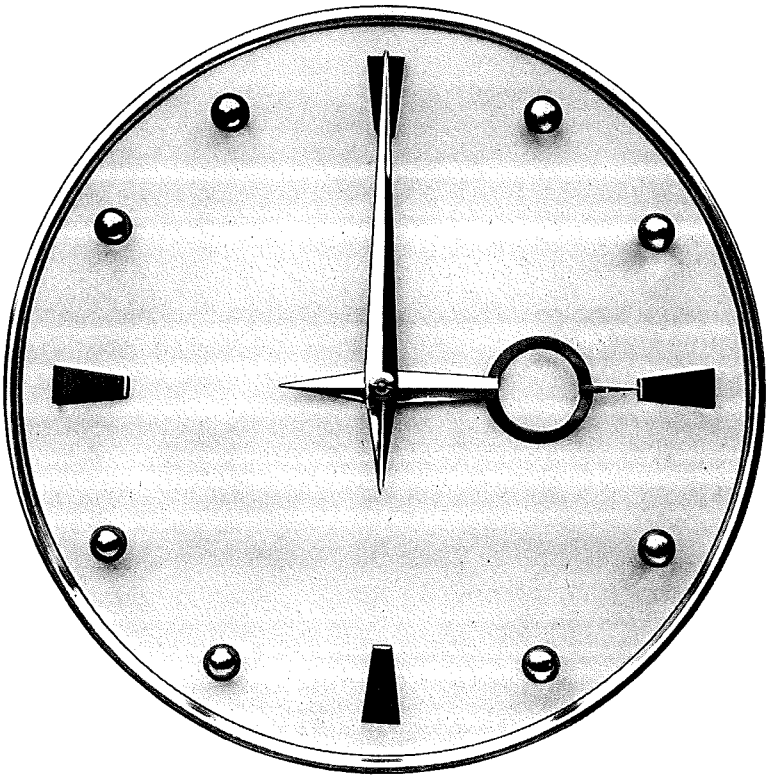
The feature of this clock with spun aluminium bezel, is the very small projection which has been reduced to the minimum. Bezel is anodised to any colour with dial plate sprayed to B.S.I. colour with super-imposed plated hour markings fitted with convex glass. Complete with 6 in. by 6 in. fixing box and connecting short circuiting device.

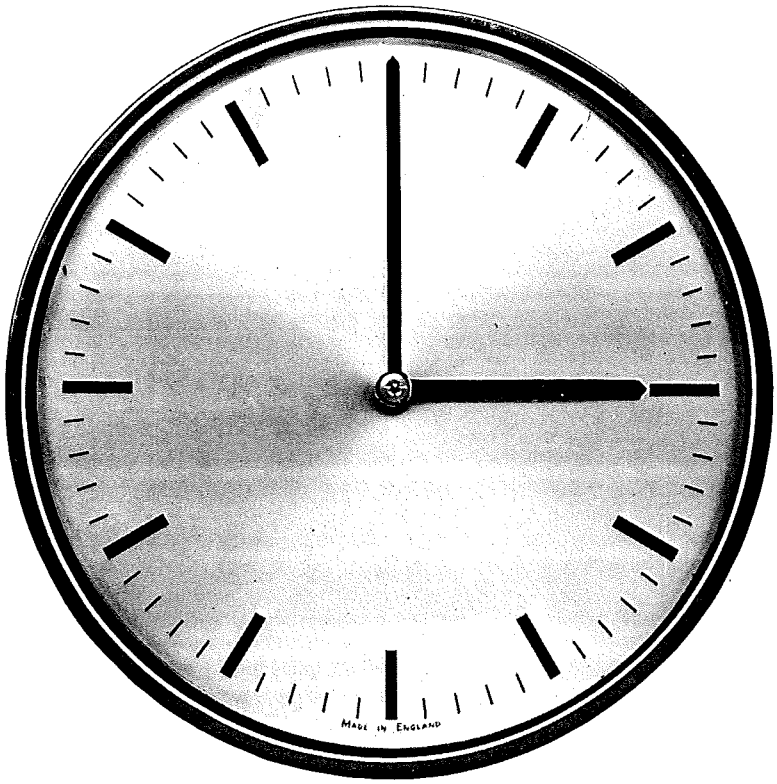
| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | $9\frac{3}{4}$″ | $\frac{7}{16}$″ |
| 12″ | $12\frac{5}{16}$″ | $\frac{7}{16}$″ |
| 18″ | $19\frac{1}{8}$″ | $\frac{7}{16}$″ |

# TYPE CTI/A

Convex Dial with applied Dial markings. Bezel and Dial markings finished to required colours. Supplied complete with 6 ins. by 6 ins. fixing box arranged for conduit entry and connecting short circuiting device.

| Dial size | Projection |
|---|---|
| 10″ O.D. | Proj. 1″ |
| 12″ O.D. | Proj. 1″ |






# TYPE TSI/M

The feature of this clock with spun aluminium bezel is the very small projection which has been reduced to the minimum.

Fitted with circular grained aluminium dial with convex glass. Finish of bezel white or ivory; other finishes at slight extra charge. Supplied complete with 6 ins. by 6 ins. fixing box arranged for conduit entry and connecting short circuiting device.

| Dial size | Overall size | Projection |
|---|---|---|
| 9″ | $9\frac{3}{4}$″ | $\frac{7}{16}$″ |
| 12″ | $12\frac{5}{16}$″ | $\frac{7}{16}$″ |
| 18″ | $19\frac{1}{8}$″ | $\frac{7}{16}$″ |

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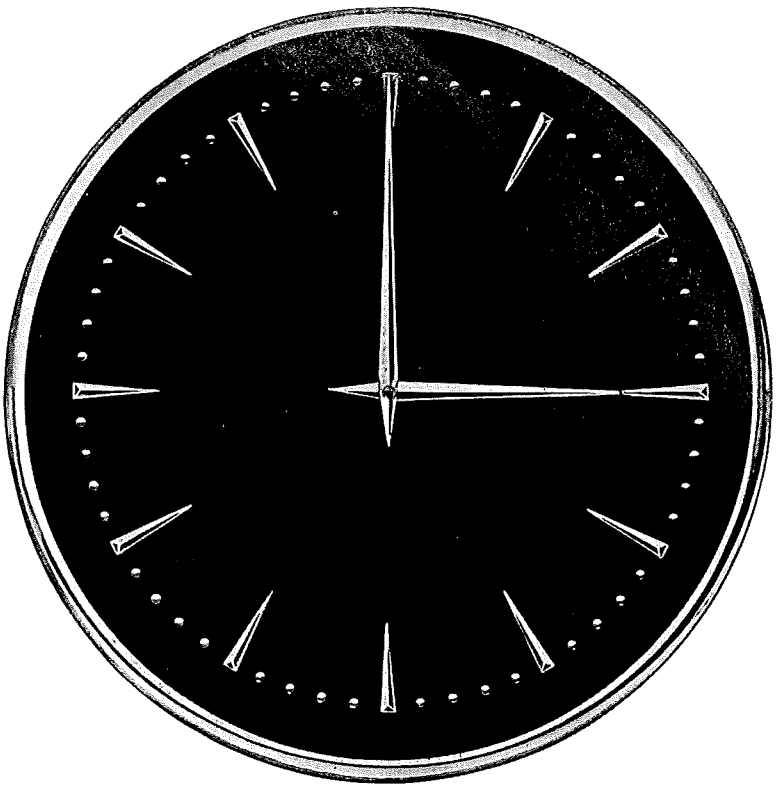
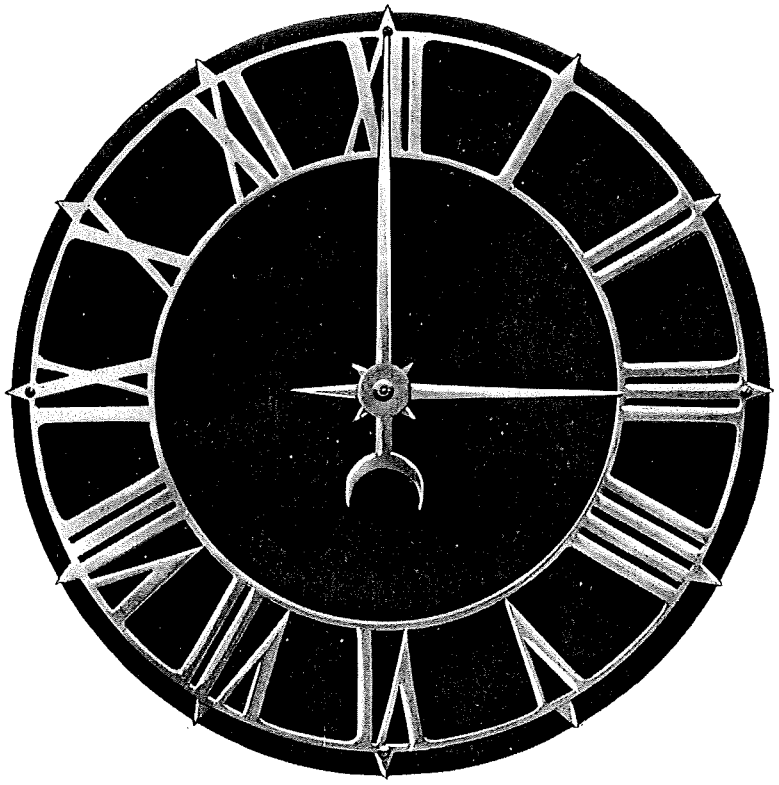
# TYPE TSI/0

The feature of this clock with spun aluminium bezel is the very small projection which has been reduced to the minimum.

Fitted with dial plate with superimposed ciphers and minute divisions. Dial plate finished to required colours. Supplied complete with 6 ins. by 6 ins. fixing box arranged for conduit entry, and connecting short circuiting device.

| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 9″ | 9¾″ | 7/16″ |
| 12″ | 12 5/16″ | 7/16″ |
| 18″ | 19⅛″ | 7/16″ |

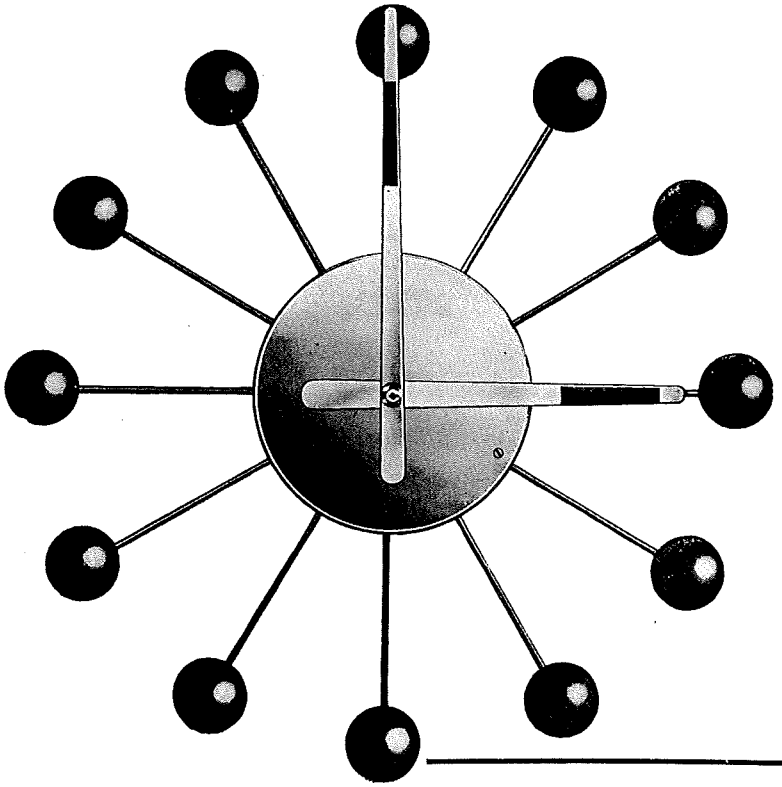




# TYPE BOE

Flush fitting clock consisting of a metal backplate with applied hand cut metal zone backplate and zone finished contrasting colours to specification, complete with 6 ins. by 6 ins. fixing box arranged for conduit entry and connecting short circuiting device.

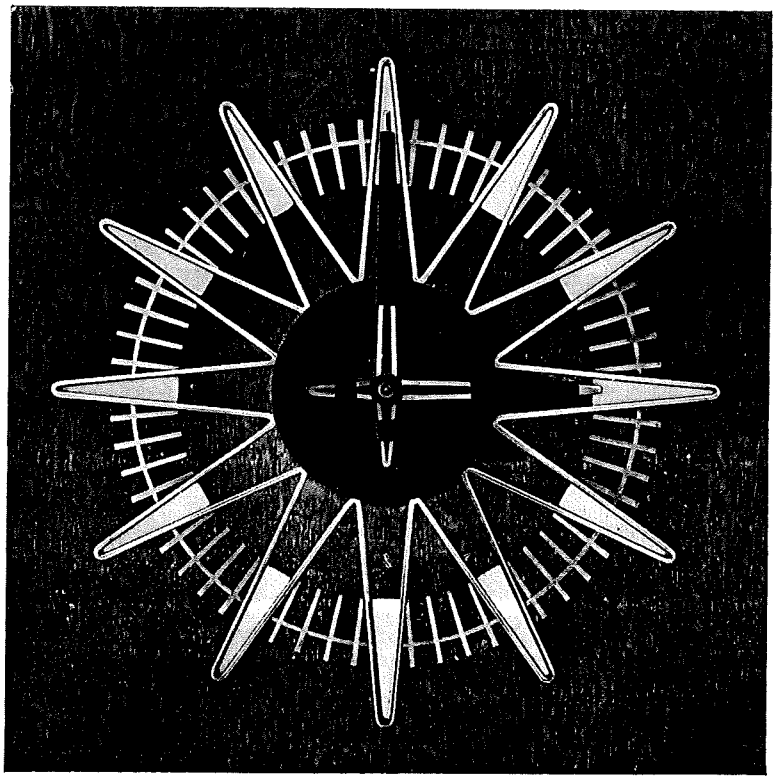
Supplied 12 ins., 15 ins. and 18 ins. dia. or to special requirements.



# TYPE O

Contemporary wall clock. Movement in spun metal case with motifs of contemporary design; finished to individual requirements.

| OVERALL SIZE | PROJECTION |
|---|---|
| 12″ | 2½″ |
| 18″ | 2½″ |



# TYPE SR

Contemporary sunray clock pierced from sheet brass with movement mounted in spun metal casing coloured to user's specification.

| OVERALL SIZE | PROJECTION |
|---|---|
| 12″ | 2½″ |
| 18″ | 2½″ |

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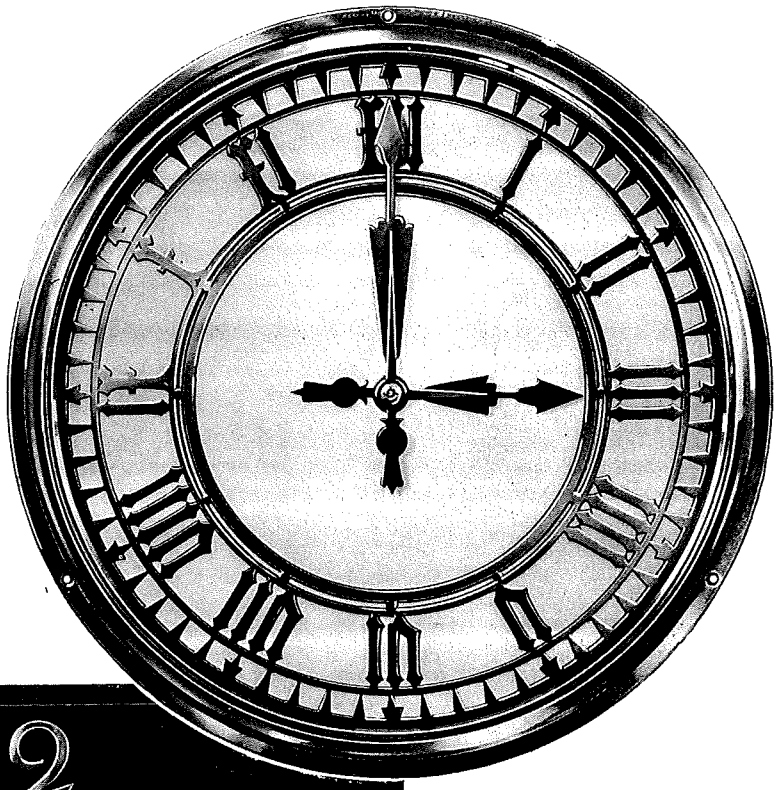
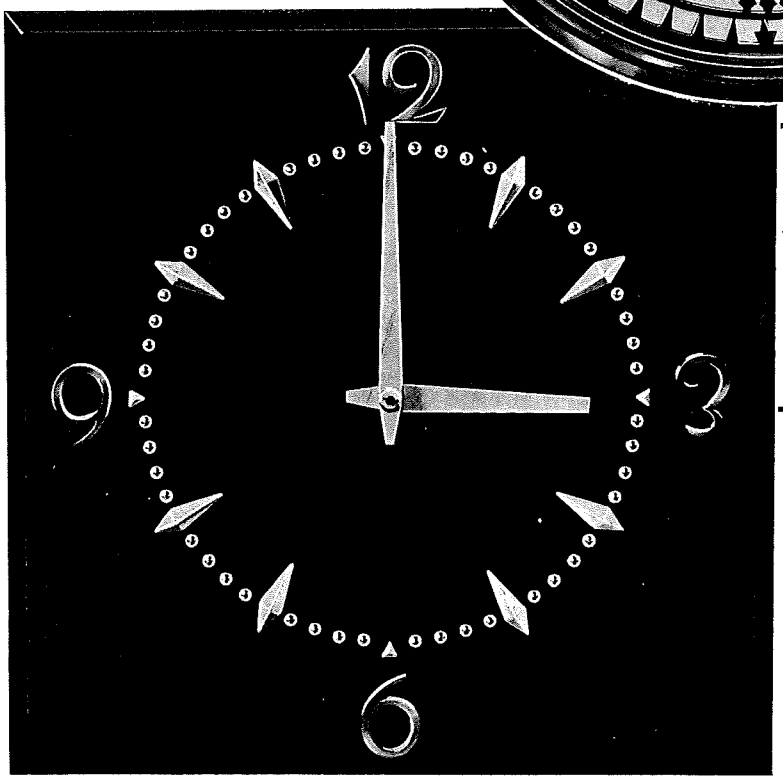
# TYPE GH|I

A heavy cast bezel with bevelled plate glass. Dial plate enamelled to any colour with hand cut bronze zone superimposed.



| DIAL SIZE | OVERALL SIZE | BEZEL PROJECTION |
|---|---|---|
| 6″ | $6\frac{5}{8}$″ | $\frac{7}{8}$″ |
| 8″ | $8\frac{1}{4}$″ | $\frac{7}{8}$″ |
| 10″ | $10\frac{11}{16}$″ | $\frac{7}{8}$″ |
| 12″ | $12\frac{3}{4}$″ | $1\frac{1}{4}$″ |
| 18″ | $19\frac{1}{4}$″ | $1\frac{1}{4}$″ |
| 24″ | $25\frac{3}{4}$″ | $1\frac{1}{2}$″ |

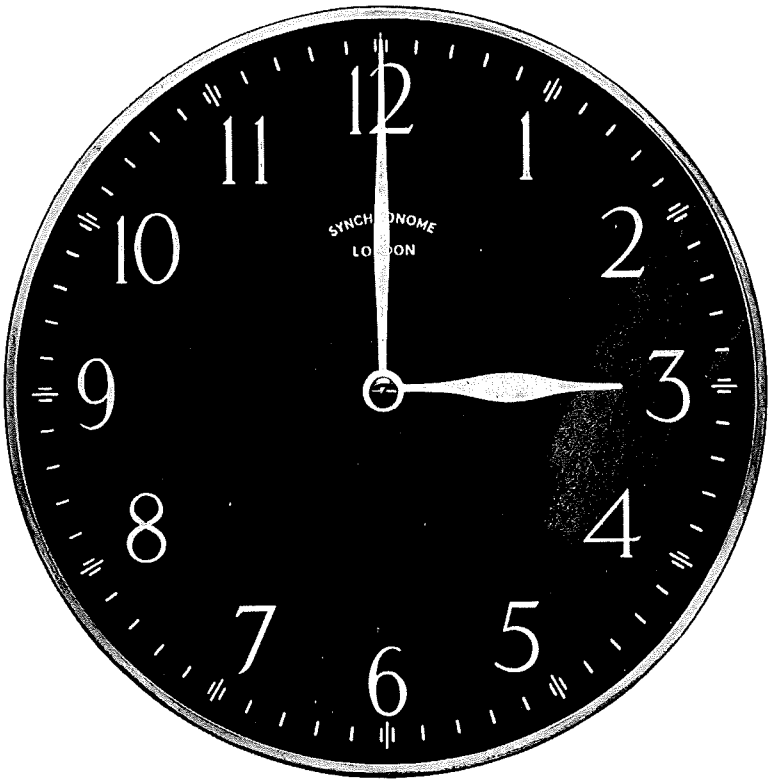



# TYPE N

Ebonised black case fitted with hand-made ciphers and digits finished to approved colour to users specification.

| OVERALL SIZE | PROJECTION |
|---|---|
| 9″ square | $2\frac{1}{2}$″ |
| 12″ square | $2\frac{1}{2}$″ |

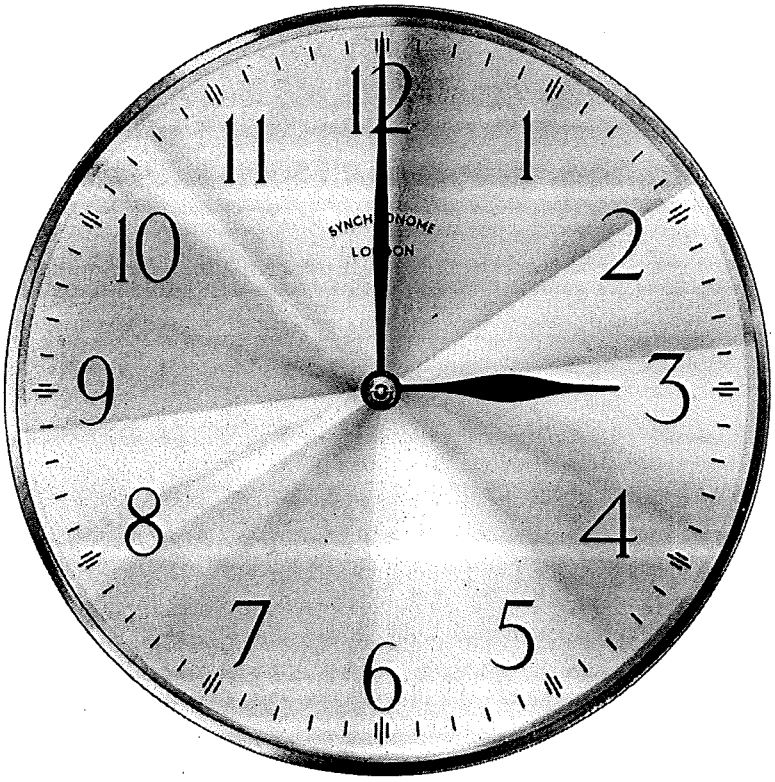
# TYPE B.O.L.




Shallow Square section bezel fitted with quarter plate bevelled glass.

Black dial plate with white lettering. Bezel finished to requirements.

| Nominal size | Actual Diam. O.A. | Projection |
|---|---|---|
| 9″ | 9″ | $\frac{7}{8}$″ |
| 12″ | 11$\frac{1}{4}$″ | $\frac{7}{8}$″ |
| 18″ | 17$\frac{3}{4}$″ | 1$\frac{3}{16}$″ |




# TYPE B.O.S.

Shallow Square section bezel fitted with quarter plate bevelled glass.

Circular grained aluminium dial with black lettering. Bezel finished to requirements. Complete with 6 ins. by 6 ins. fixing box arranged for conduit entry and connecting short circuiting device.

| Nominal size | Actual Diam. O.A. | Projection |
|---|---|---|
| 9″ | 9″ | $\frac{7}{8}$″ |
| 12″ | 11$\frac{1}{4}$″ | $\frac{7}{8}$″ |
| 18″ | 17$\frac{3}{4}$″ | 1$\frac{3}{10}$″ |

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# FIXING BOX

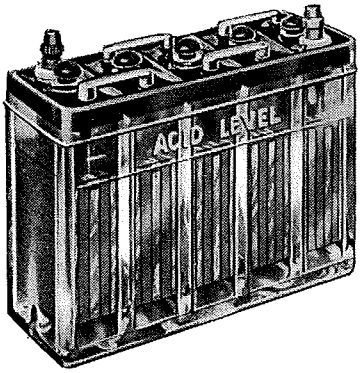

Fixing Box 6 ins. by 6 ins. arranged for conduit entry and connecting/ short circuiting device.

When supplied for use with Synchronous Clocks boxes fitted with Fused Clock Connector.

# CURRENT SUPPLY FOR SYNCHRONOME CLOCKS

## SMALL INSTALLATIONS

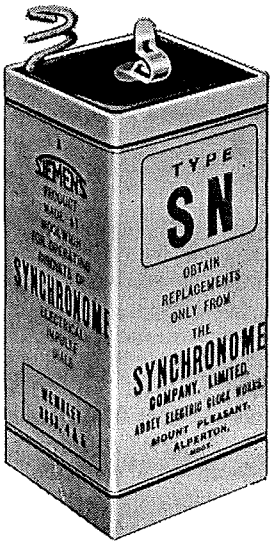
Excepting for large circuits we recommend that dry cells be used, as they provide the simplest and most economical method of operation. Apart from their renewal every two to three years, they require no attention whatsoever. The type here listed has a long shelf life and is specially made for use on Synchronome Time Circuits.




TYPE "WT 10" 10 volts, 10 A.H. Size $8\frac{5}{8}$ in. × $3\frac{1}{8}$ in. × $5\frac{3}{4}$ in. Approximate weight, $9\frac{3}{4}$ lbs.

*Exide Mass type cells are specially designed for intermittent discharge.*

*Prices include inter-cell connecting straps, but not acid.*




TYPE "SN" Dimensions: 4 in. × 4 in. × 8 in. high. Approximate net weight, 6 lbs.


## LARGE INSTALLATIONS

For large circuits we recommend the use of a storage battery which can be kept fully charged by means of a suitable charger as detailed below. Thus, in effect, the system becomes mains operated but is protected against stoppage due to main supply failures, as, in the event of a failure occurring the battery ensures that the clocks continue to work uninterruptedly. If the battery can be kept permanently trickle-charged, we recommend Type "WT10" accumulators, but if re-charging can only be carried out at intervals then a battery of larger capacity (Type "DFG") should be used.

TYPE "DTG" 2 volts 20 A.H. $2\frac{7}{8}$ in. × $2\frac{3}{8}$ in. × $5\frac{3}{4}$ in. high. Approximate weight, $3\frac{1}{4}$ lbs.

TYPE "DFG" 2 volts 45 A.H. $3\frac{1}{2}$ in. × $3\frac{1}{2}$ in. × $8\frac{1}{2}$ in. high. Approx. net weight, 5 lbs.


## CHARGING EQUIPMENT

**Trickle-Charger for A.C. Mains**

Consisting of double wound transformer, metal rectifier, milliammeter, adjustable resistance, "extra charge" switch to enable charging rate to be increased if required, double pole mains switch and fuse, totally enclosed in cast metal incombustible case.

**Trickle-Charger for D.C. Mains**

As above, without transformer, but with safety device to prevent back current.



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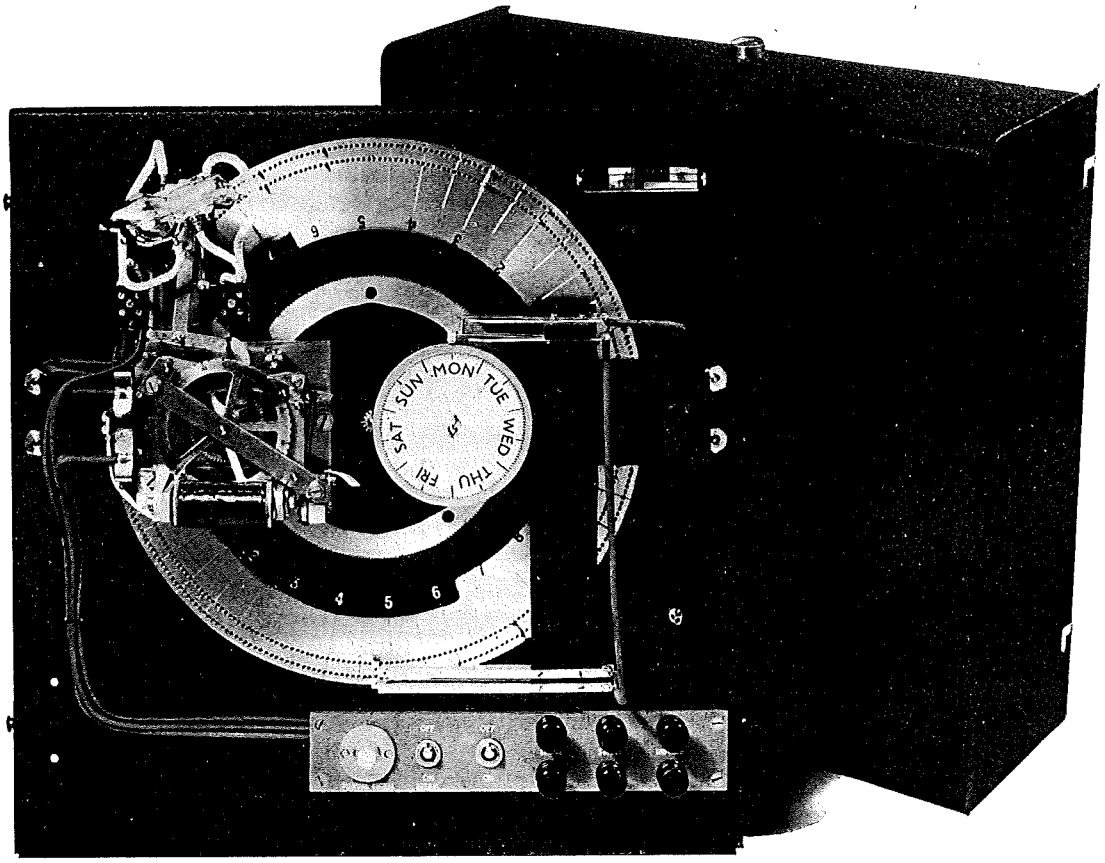


# THE SYNCHRONOME PROGRAMME CONTROLLER

For operating Electric Bells, Hooters, Syrens and all other forms of Warning Signals, to a predetermined programme in exact synchronisation with the clocks in the premises, an Automatic Bell Controller forms a valuable addition to the SYNCHRONOME system in Schools, Factories, Business Establishments, etc.

This instrument may be included anywhere in a circuit of electrical impulse dials, to control an independent circuit comprising any number of electric bells or other sound-producing devices.

A variety of programmes can be performed according to the type of instrument selected. The standard range of instruments operate to five minutes selectivity and will operate up to 4 separate bell or hooter circuits or provide 4 day to day changes of programme.

Each instrument has built in Duration Reducer limiting the sounding of the Bells or Hooters to approximately 10–12 seconds as experience proves sounding for 30 seconds to be too long. Automatic Week-end Silencer is also provided and mercury tube contact to carry 5 amps. at 230–250 volts is a standard fitment.

**THE SYNCHRONOME CO., LTD.**
**ABBEY ELECTRIC CLOCK WORKS**
**WOODSIDE PLACE · ALPERTON, MIDDX.**
Telephone: WEMBLEY 3643