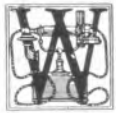


Greyhound Racecourse Totalisators



WHEN the Betting Act became law in 1928 the first Ericsson Totalisator was developed to cover the requirements of the Racecourse Betting Control Board (R.B.C.B.) of Great Britain. Subsequent experience on equipment manufactured, installed and maintained for the R.B.C.B., and the introduction of fully mechanized machines on Greyhound Racing Tracks, led to the development of the Ericsson C60 Totalisator. The system has been improved and simplified, while retaining the essential features and safeguards required by the R.B.C.B., and is

now sufficiently flexible to cover the requirements of the smallest of Greyhound or the largest of Horse Racecourses.

The cardinal features of the Ericsson Totalisator are —

- (1) It automatically displays to the public the exact accumulating amounts invested on each runner for win, place and totals.
- (2) It is fraud and fool-proof, unfailingly accurate, and more rapid in operation than any other totalisator.



Wimbledon Greyhound Racecourse—General View



**Plymouth Greyhound Racecourse—
The Indicator**



**Glasgow (White City) Greyhound Racecourse—
Control Switchboard and Miniature Indicator**

The functions of a totalisator are to issue a ticket, upon which, details are printed to identify the runner, the stake value and whether win or place, the race and the race meeting, and to register the stake upon some recording device in strict accordance with the particulars printed upon the ticket. Preferably, the recording device should automatically display or control displays to the public, to show the accumulating totals invested on each runner for each class of stake.

The totalisator must command the confidence of the public by its unflinching accuracy in recording and totalling the amounts wagered, in its freedom from breakdowns, and in the speed with which stakes are registered and queues at selling windows kept down.

In the Ericsson system the equipment is built up of items of apparatus, the soundness of design of which has been proved by years of public service in automatic telephone exchanges throughout the world. It comprises, in the main, two standard components, the relay and the rotary line switch, built up into circuits which are designed to allow a liberal factor of safety for all operations. Every operation during the actual recording of the stake is checked, and an alarm is given should any portion of the equipment fail to function correctly and within a predetermined time. If for any reason the stake cannot be recorded the relative ticket *is not issued*, and the alarm conditions automatically set up indicate the trouble.

For every ticket issued, from any part of the track, an impulse is given to



Wimbledon Greyhound Racecourse—Clubroom Selling Windows and Miniature Indicator

a rotary line switch in an adding machine appropriate to the runner and the class of stake selected. The adding machines are located at a central point, namely, the control room, and rotary line switches for each denomination served by the ticket machines and for each digit displayed on the indicator, each adding machine serves one runner for one class of stake, i.e. for win or for place. The runner and class of stake are selected on the ticket machine when the demand is made, and the stake impulse is thus routed to the appropriate adding machine.

Each ticket machine issues tickets of one value only, being permanently wired to a particular denominational common according to the requirements of the track. A machine issuing 2/- tickets can therefore impulse 2/- switches only, the appropriate switch in the adding machine is thus selected automatically.

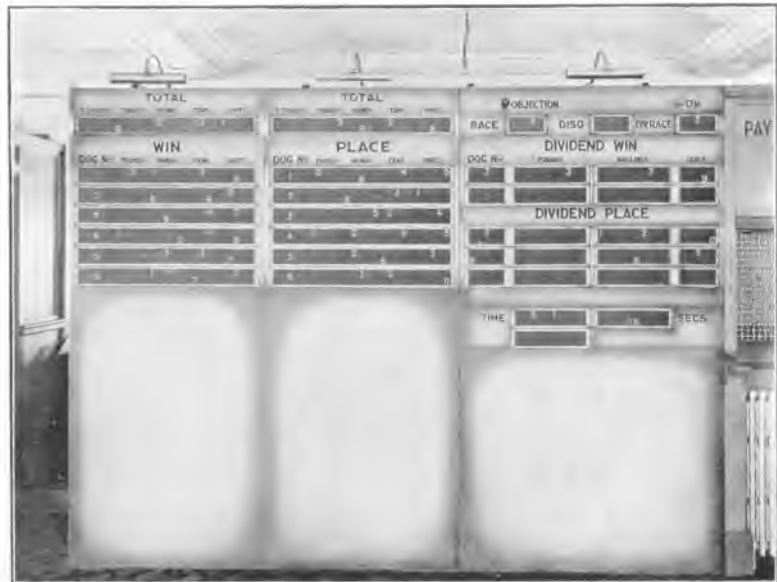
Electrical linking arrangements are provided between the different denominational switches in any one adding machine, so that when a switch of lower denomination has been stepped ten steps by the issue of ten tickets of that value, the switch of next higher denomination is stepped one step by an impulse received from the switch of lower denomination in passing from its ninth to its tenth position. The whole arrangement provides an electrical counter, similar in effect to a standard "veeder" counter, except that it is not confined to unit impulses, the tens, hundreds, &c., sections of the counter being capable of individually responding to impulses from appropriate ticket machines.

It will thus be seen that the position of the denominational switches of any one adding machine represents a measure of the number of tickets issued for the runner concerned. The switches do, in fact, register the number of unit stakes invested in the particular

runner, and where the unit stake is 2/-, as is usually the case, a direct reading is provided in pounds and tenths of a pound.

All indicators are controlled directly from the switches in the adding machines, being connected in parallel thereto and providing a visual indication in figures of the position of the adding machine switches. The figures on the public indicators are built up by illuminated lamps which change their formation with the varying positions of the switches, which in turn vary with the issue of tickets from the ticket machines. In addition to the public indicators, large and small miniature indicators are provided to display results in the club and in the control room respectively, the reading on each being shown by means of individual lamps lighting up figures.

Provision is made on the indicators for the display of winners, the dividend to be paid per unit stake on winning tickets, and miscellaneous signals with regard to racing results. The setting up of winners is directly under the control of some official of the racecourse, usually the judge, and suitable controlling equipment is provided for this purpose near the winning post. As soon as the winners have been declared, the control room staff work out the dividends and set them up provisionally on the miniature indicator in the control room. When these have been checked by the totalisator manager or other responsible official, they are then displayed on the public indicators.



Wimbledon Greyhound Racecourse—The Clubroom Indicator

Safeguards are provided to ensure that tickets cannot be obtained from a ticket issuing machine for a race which has been run and thus upon a known winner. As soon as the race starts, all ticket machines are locked to prevent the further issue of tickets. In order to bring the machine into use again for the next race, each ticket seller has to operate a lever on the side of the machine, which automatically changes the race number printing drum, inside the machine, to the following race number. All tickets subsequently issued will bear this new number. The mechanical linking arrangement between the race number change and the electrical circuit of the machine ensures a really satisfactory control of ticket selling. The interior of a machine cannot be interfered with in any way by a ticket seller.

Ticket issuing machines are grouped in selling buildings situated in various enclosures round the track, and are looped together to one set of common conductors which are finally connected to the apparatus in the control room. The circuit arrange-



Wimbledon Greyhound Racecourse—Selling Booth (inside) and Ticket Issuing Machines

ments are such, that for each group of ticket machines and class of stake only *one machine at a time* can use the common conductors, and a feature of the system is the chain relay control which permits this to be done with great speed and without any deterioration of the general accuracy level of the rest of the equipment. A full-load ticket-issue speed of 60 to 75 tickets per minute can be obtained, even on heavily loaded groups, a particularly desirable feature when demands for multiple tickets are made and queues are forming at selling windows.

The chain relays are provided one per ticket machine, and form part of a relay set which is individual to a machine. If a group of machines are operated simultaneously, their relative chain relays set themselves in a queue and operate *one at a time*

to allow each ticket machine in turn, access to the common conductors over which the stakes are routed. A chain relay can operate only when its turn comes and when any relay previously operated has released. The chain relays of machines not initiating a stake operation at the moment, and of machines which have registered their stakes and are in the process of printing the relative tickets, form no part of the queue which is made up only of machines initiating bets at approximately the same time. Ticket machines are cleared out of the queue at the rate of over 30 per second, and this speed, together with the small number of machines initiating a stake operation at approximately the same time, makes the waiting time in the queue negligible, even for a large group of machines. With a group of 100 machines in one chain relay control, the ticket issue speed, with all machines serving the public

in the last five minutes preceding the start of each race, varies between 60 and 75 tickets per minute per machine, as previously stated. Of course, this does not mean that 6,000 to 7,500 tickets are being issued to the public in any one minute, the lag of the backers forming queues at selling windows, the making of the demand for a particular runner, and the handling of cash, all slow down the actual issue of tickets to the public. The issue speed quoted above is the average speed at which any ticket is ejected from the machine.

It is desirable that the whole totalisator should be under full control throughout all stages, and the Ericsson Totalisator being all electric is particularly suitable from this point of view. The ticket machines are under constant control, the totalisator is started and stopped by electrical contacts operated by a "Yale" lock, and all instructions to selling buildings are given by means of coloured lamps and hooters. Only the authorized person, equipped with the starting key, can operate the controls, all of which are conveniently grouped on the control switchboard. The possibility of accidental or malicious misoperation is thus reduced to one person who is under the direct supervision of the Totalisator Manager.



**Glasgow (White City) Greyhound Racecourse
Controlroom Apparatus**

The following greyhound tracks have already been equipped with Ericsson Totalisators, each of which fully justifies the claims made for this equipment

- Dunmore Park, Belfast
- Perry Barr, Birmingham
- The Stadium, Sheffield
- Darnall, Sheffield
- Wimbledon Stadium, London
- White City, Glasgow
- Penny Cross, Stadium, Plymouth
- Boundary Park, Norwich.

Other totalisators for track use are in course of construction.