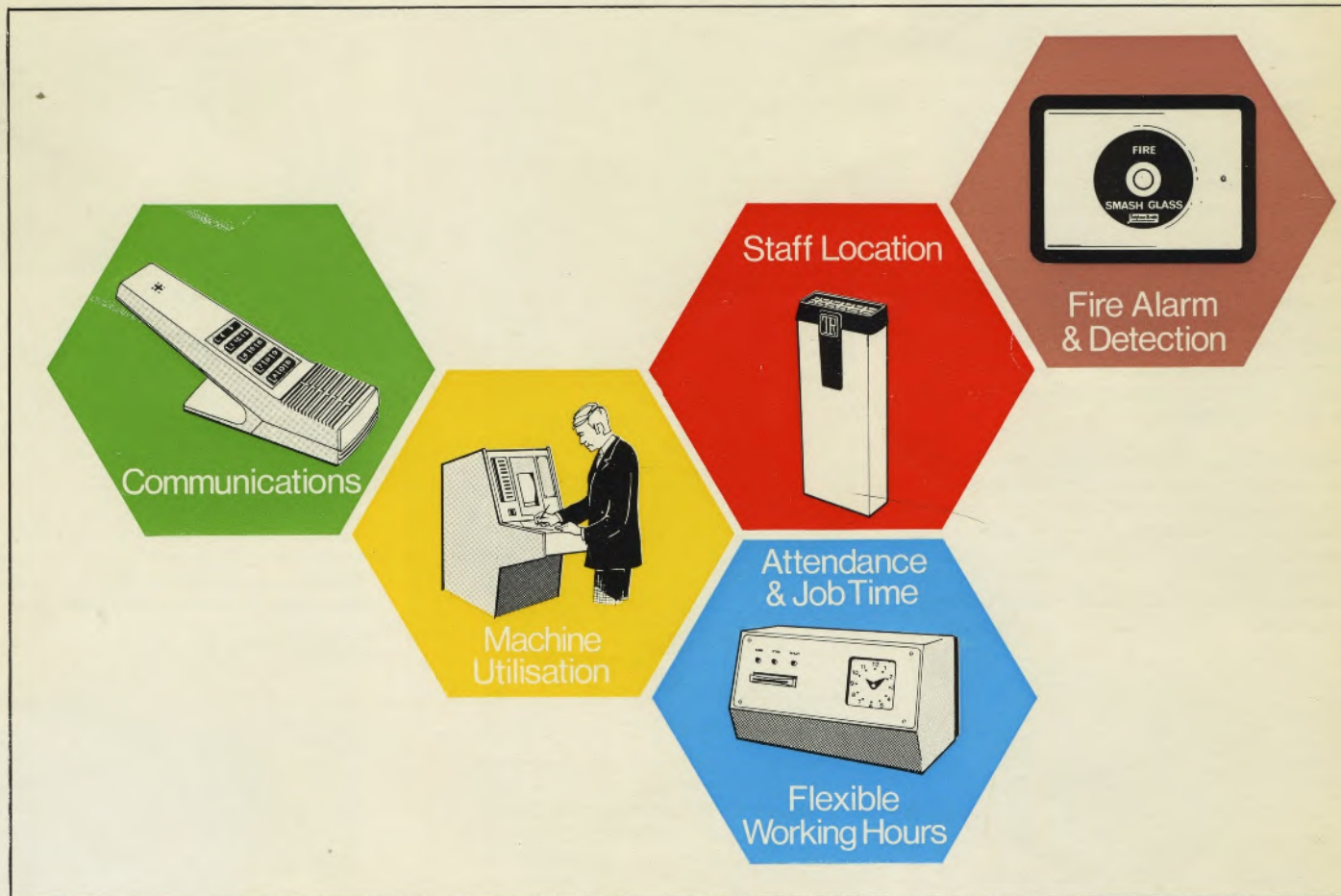




telephone rentals ltd

An international company providing the answers to management problems in the following fields . . .



Telephone Rentals
LIMITED

Incorporating
DICTOGRAPH TELEPHONES LIMITED

OPERATING **TR** SERVICES

Head Office:
197 Knightsbridge
London SW7 1RL
Tel: 01-589 1471
Telex: 919563

Your Local



Consultant

MS1116

The Company

Beginnings

Telephone Rentals' origins date from the start of the 20th century when a small London Company introduced private internal telephones on a rental basis to industry and commerce. After the first world war, and some later modest expansion, Telephone Rentals Ltd was floated in 1929 to deal with the installation and maintenance of internal telephones throughout the UK.

Today

Today TR is an international concern employing some 4,000 skilled staff, and with Overseas Companies and other interests in Australia, Canada, France, Republic of Ireland, South Africa and USA.

Operations

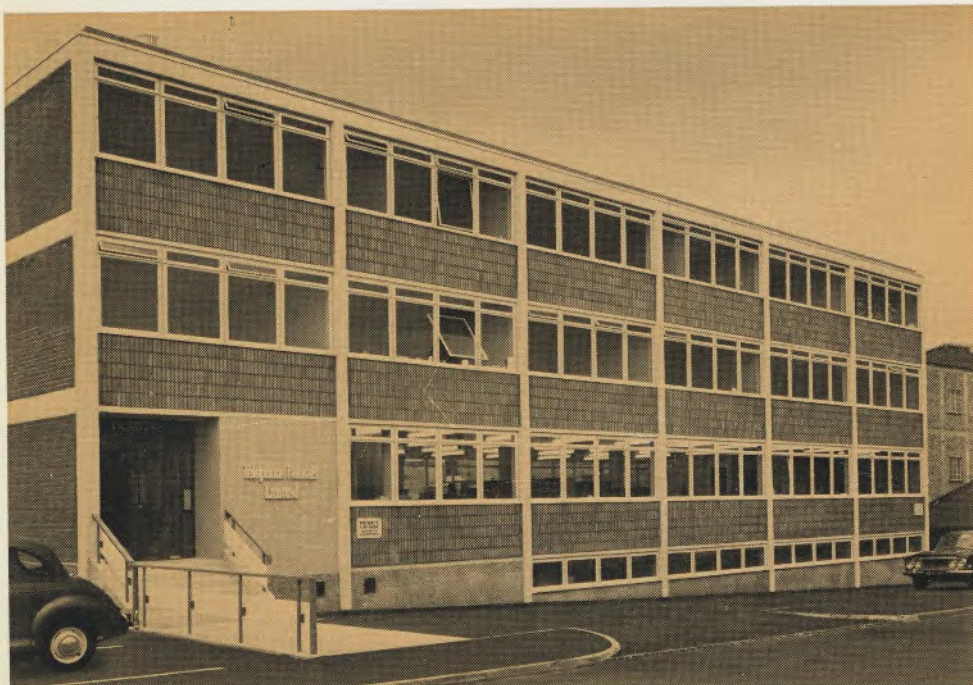
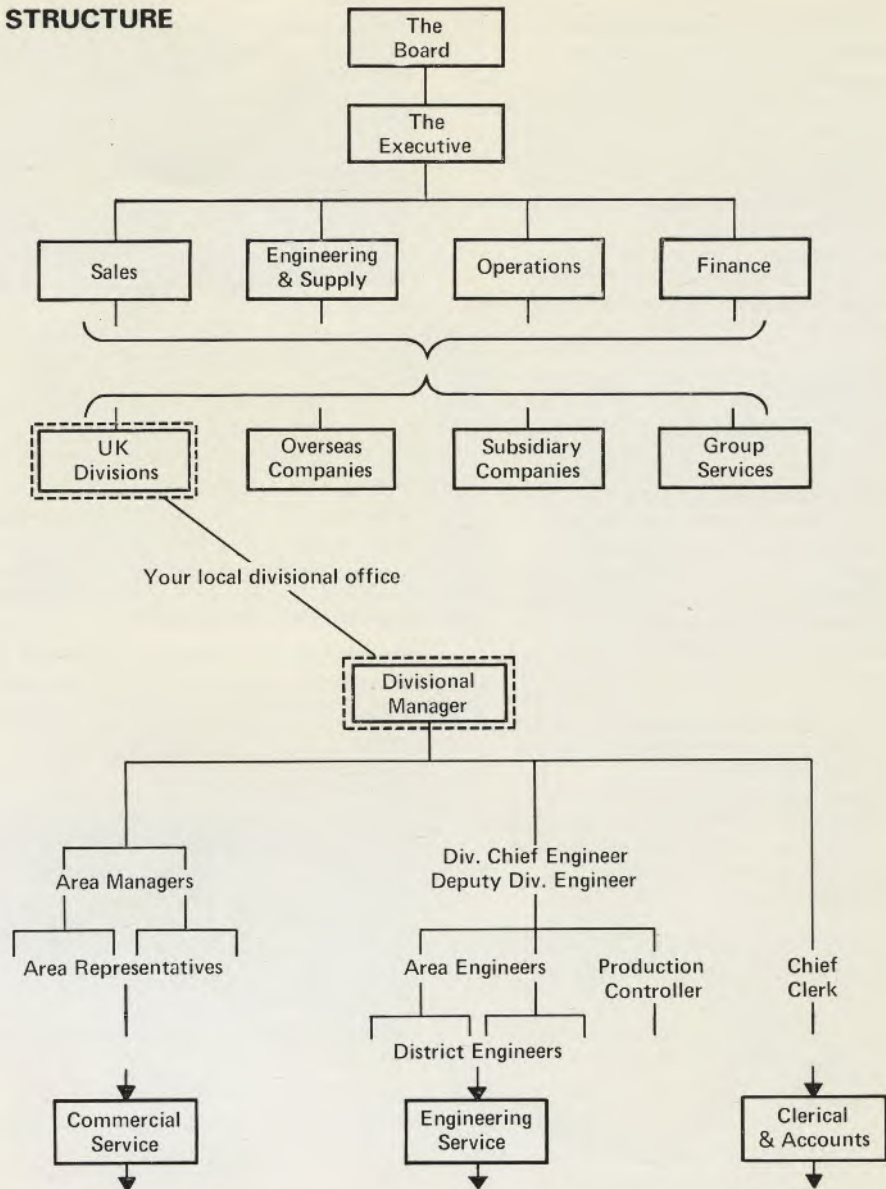
The UK operation is centred upon 17 Divisional Offices each with its own Management, Sales, Engineering and Clerical Staffs, operating with considerable autonomy within general Company policies established by the Board. The latter is located at the Group Head Office, where basic Group services—centralised accounting, data and methods, sales, engineering and purchasing—are also located.

Rental

The Company's business is largely conducted on the basis of 14-year rental/maintenance contracts. This method provides the user with a known annual overhead in respect of his communications and allied equipment, and avoids the need for substantial capital expenditure to purchase a depreciating asset.

Under rental contract, the Company installs, commissions, and thereafter maintains installations from a UK-wide engineering organisation based upon local centres.

STRUCTURE



Typical Divisional Office

SALES

TR systems and equipment incorporate a wide range of operational facilities to meet user requirements at all levels from boardroom to factory production line.

TR Consultants are trained to assess the particular requirements of any organisation from multi-site international Corporations employing staffs of tens of thousands to the simpler problems of communications between the partners in a small solicitors' office. An objective report and recommendations are then provided, based upon one of the widest ranges of modern communications equipment in the UK, and specialist advice is freely available to support discussions between customers and their professional advisers, architects and consulting engineers as well as with Statutory Authorities.

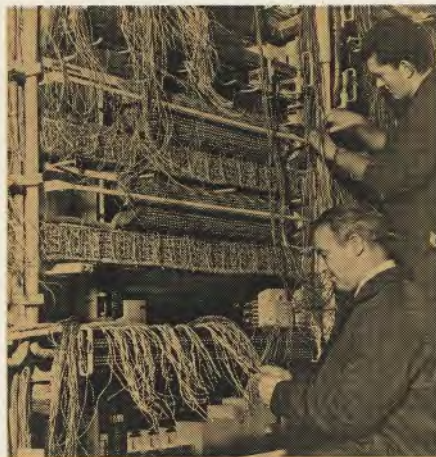
The function of the sales side of the Company is therefore:

- to identify problems
- to determine and propose the optimum equipment solution to those problems
- to negotiate contracts on this basis
- to maintain commercial contact with subscribers after contract, to deal with changing requirements & expansion of activities, and to assist in obtaining maximum utilisation and benefit from installations

The function of the engineering side of the Company is therefore:

- to install equipment
- to maintain it during the life of the contract
- to develop new equipment and effect improvements within the existing range

Some 1,000 trained engineers constitute the field engineering force, organised in District teams within Divisions.



TR Installation engineers at work on a large PABX

GROUP SERVICES

Research

and Development

The Company operates two Development Committees responsible for reviewing trends in systems and equipment and in user-needs, and for changes ranging from minor improvements to major innovations and the introduction of new systems.

A team of development engineers, working to the Committees' briefs, liaise with Suppliers' development resources to match the Company's requirement for reliable equipment with Suppliers' production methods and capabilities.

The Company is represented on a number of national and international Committees in connection with fire protection, paging, data collection and telecommunications.

Stores and Supply

Each Divisional Office maintains local stocks of frequently-used items, including maintenance components, to ensure rapid local attention to user-requirements. A Central Stores—located at Brimsdown, Middlesex—holds bulk stocks and acts as a buffer between Suppliers and the Divisional Stores.

The Company operates its own trunk transport fleet to provide at least one consignment to each of the 17 UK Divisional Offices each week. Some 23 tons of equipment are moved weekly in this way from a Central Stores stock of over 6,000 individual items ranging from telephone switchboards to fixing screws and cable.

A computer stock-control system is used to maintain Divisional stock levels

and to generate re-order instructions for Suppliers: the computer (which also deals with other Group services) is located at the Head Office in London.

Central Service Depot

Certain types of equipment—particularly miniature electronic items such as pocket-paging receivers—cannot readily be maintained on site. A Central Service Depot, in the Central Stores Complex, is equipped to provide a rapid turn-round of specialist service on this equipment.

An emergency maintenance spares service is also operated from this unit, to provide immediate availability of major items as a back-up to the local maintenance engineer's holding of spares.

Training

The Company operates a Group Engineering Training Centre covering installation and maintenance techniques, in addition to basic electrical and electronic theory and practice. Programmed-learning techniques are employed in conjunction with practical work covering the whole range of TR services from simple clock installations to complex data communications systems. The Company is one of the largest users of programmed learning techniques in engineering in the United Kingdom and all of the programmed material has been developed by its Chief Instructor and his Staff.

A Group Sales Training Centre provides parallel training for Commercial Staff, both in respect of the Company's commercial practice and in the facilities and application of the TR equipment ranges. New staff attend a planned series of courses which are designed to integrate with training provided at local Divisional Offices and in the field: refresher courses, some using management-orientated techniques in problem-solving, are also provided for established staff.



Specialist service centre for miniature pocket paging receivers



Front of Central Service Depot and Stores Complex—Middlesex

ENGINEERING

TR installation planning and engineering staff co-operate to deal with installation and commissioning with minimum interference to existing factory or other operations.

Maintenance subsequently is covered by a local District team of skilled engineers, many of whom will have 10, 20 or 30 years' experience with specialised communications systems. Fault clearance staff to deal with emergency maintenance are supported by a programme of regular fault prevention visits individually planned for each installation.

Development of new equipment and facilities is the responsibility of a specialist section working in liaison with the sales department at Head Office.

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TR Services—part of the equipment range

COMMUNICATIONS

TR Services include a particularly comprehensive range of telephone systems to meet the differing requirements of users. Simple point-to-point systems, push-button intercom systems, and automatic switchboards (with dial and/or push-button telephones) cover the requirements of small or large users.

The Company is also a Post Office approved supplier of PABX (Private Automatic Branch Exchange) systems for users requiring 50 extensions or more with direct connection to the public exchange network.

A comprehensive range of loud-speaking direct key-calling "master" instruments is available, with dial or push-button calling to choice, and with a full range of secretarial-transfer schemes to provide essential facilities for the executive.

Other facilities include loudspeaking extensions for general offices, preference calling with distinctive ringing, "interrupt" and conference facilities.

Many of the TR systems can be interlinked with a TR paging system to enable rapid location of a colleague away from his own office: automatic connection for reply speech minimizes disturbance for both parties.

No two users' requirements for telecommunications are identical: TR services provide an objective study of individual requirements and unbiased recommendations.



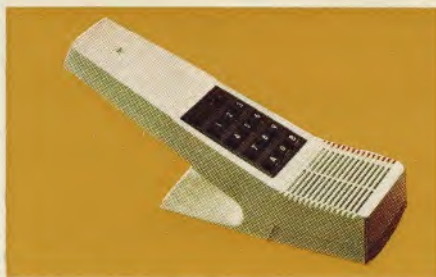
Push-Button Telephone

Two PAX (Private Automatic Exchange) telephones are illustrated—one a normal desk instrument, but with push-buttons in place of the conventional dial, and the other a loudspeaking instrument—the TR Paxmaster.

The latter is one of a "family" of TR Masters—some have loud speech, some not, some have direct keycalling, some not, some have dial-calling, some have push-button calling. Each has its application—the choice could be bewildering—but we help you make it.



Paxmaster



Executive 2000

Departmental communication facilities are essential to back up the PABX or PAX for the busy user: rapid reference for queries, calls for files or drawings, urgent instructions—all form part of the normal day.

TR Executive 2000 provides rapid call and clear loud speech. Small size, crisp clean lines in the modern idiom, choice of colour, noiseless electronic exchange—all add up to a revolution in telephony.

Alternatively, the handsome appearance of a wood-cased loudspeaking instrument appeals to many users—the DT69 illustrated utilises the warm tones of afrormosia in a more traditional design.



DT 69

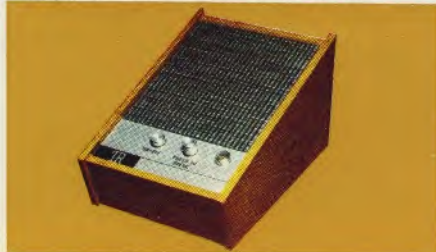
Rapid, reliable, clear communications are at least as essential on the shop floor as in the office.

Loudspeaking radial systems provide for production communications between machines, assembly lines, maintenance areas and the production office.

The specially-designed control console shown works in conjunction with any number of loudspeaking outstations for job allocation and processing, machine utilisation information, and service calls.



Production Communications Console



Communicator Sub-station

DATA COMMUNICATIONS



Teleprinter Terminal

The transmission of data from point to point, whether as individual "messages" or as blocks of data for computer processing, can often be integrated with an internal telephone system.

The tie-lines connecting the telephone systems in different premises of an enterprise can be used for this purpose (in addition to normal speech) by the provision of suitable connecting equipment.

TR Data Communications range includes teleprinters, modems and VDUs in addition to complete computer-based message switching systems which provide an economic alternative to the usual torn-tape manual message centre for large networks.

A specialist staff will be pleased to review possibilities for you—we have some interesting case-history studies.

STAFF LOCATION



Personal Call Pocket Receiver

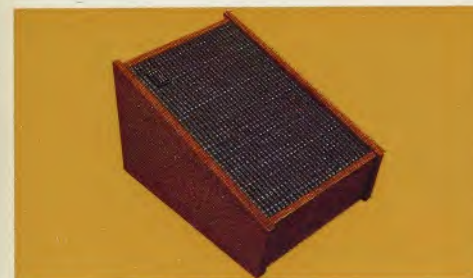


Personal Call Transceiver

The rapid location of, and communication with, members of staff who are not at their normal workplace or office is essential if customer dissatisfaction and an inflated telephone account for "call-backs" are to be avoided.

Two main methods are available. The Loudspeaker system uses solid-state transistor amplifiers for reliability and space economy in conjunction with a comprehensive range of speakers from high output units for factory applications to soft "whisper" speakers for private offices.

An alternative system uses miniature personal pocket-paging units to alert the called person only, by a discreet "bleep" (or a lamp signal). Provision can be included for a spoken message to follow the "bleep" and in the latest development, for the holder to acknowledge and reply all from a single composite unit—a transceiver.



Office Whisper Speaker



Industrial Diffuser Speaker

The choice of a suitable staff location system for a specific application can be simplified by a TR consultative study of requirements. A speaker system or pocket paging, types of speaker for widely-varying conditions, amplifier type and capacity, suitable microphone (or microphones), suitable music sources for production lines—all aspects are covered objectively by TR Consultants backed by one of the most extensive equipment ranges currently available from one supplier.



Small Amplifier with inbuilt Microphone



400-watt Industrial Amplifier

The microphone is a critical component of any speaker system. The TR range includes types for any application, that illustrated being a general-purpose paging model with speaker circuit selection keys to permit broadcasting to be made selectively to individual departments, or over the whole premises, as required.



Microphone with Speaker Selection Keys

Music sources from the TR range include a high quality radio receiving and control unit for BBC and other transmissions, and also a semi-automatic tape reproducer. The latter is employed in conjunction with a library cassette service of selected music under which cassettes are issued and changed frequently by one of the largest libraries of recorded music currently available.

The provision of special re-inforcing systems for entertainment purposes in works canteens is also covered by the TR range of services to subscribers.



Tape Reproducer



Hotel Room Service Unit

A specialist range of equipment is available to cater for Hotel room services. Discreet bedhead units, in connection with central receptionist-controls, provide multi-channel music to guest choice, communications to and from room-service, and baby listening facilities.

Essential requirements for fire safety in Hotels and Guest Houses are catered for from the TR Security Service range, including fire alarm and AUTOMATIC heat and smoke detection, and emergency lighting.



Hotel Reception Control

TIME CONTROL FLEXIBLE WORKING HOURS

TR Time Control service provides for synchronised time indication by wall clocks, attendance and job-timing recorders, machine utilisation and production control from a basic time source.

A number of automatic time recording and data capture equipments are available for attendance recording and for the creation of Flexible Working Hours records. The design of attendance and job time cards to meet requirements of individual users is carried out, free of charge, as part of the TR Consultative study of users' requirements.



Wall Clock

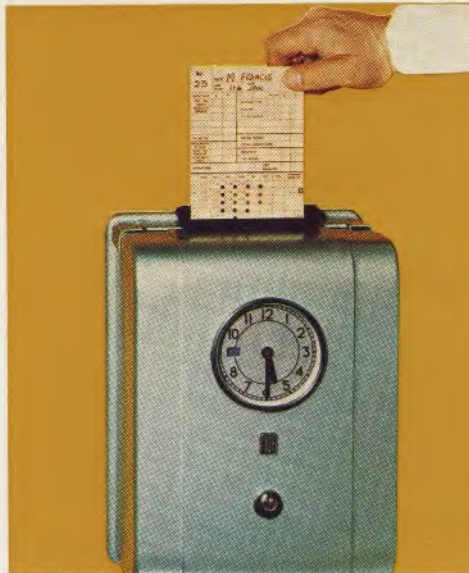


Cabinet Speaker/Clock

A TR-designed and highly flexible programme controller—the Chronogram—is available for the automatic signalling of "start" "stop" and other signals to works, office and canteen areas. The audible signals may be sounded by conventional hooters or bells, or may alternatively be sounded over the speakers of a TR broadcasting system installed for paging purposes.



Time Signal Hooter



Attendance & Job Time Recorder

TR have made a special study of the philosophy and practice of FLEXIBLE WORKING HOURS from its inception in Western Germany and its now ready acceptance in British industry and commerce.

No less than four different supervisory and recording systems are available in the TR range and cater for user requirements from small offices to large corporations requiring computer-compatible systems. Case Histories of some of the larger users have been prepared to assist potential new users in dealing with the personnel aspects of a proposed system—copies are available on request.

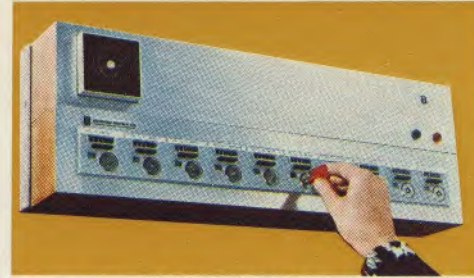


Badge Reading Terminal



Paper Tape Output Unit

Simple data collection equipment for attendance, job and FWH data is provided from a Badge-Reading system. In place of conventional time cards, employees use plastic coded badges to record their arrival or job times: output of employee identity and time (with other manually-entered data as required) is to punched paper or magnetic tape for off-line batch processing to produce management control information schedules and/or payroll.



Personal Time Meters for FWH

For Flexible Working Hours schemes where detailed recording is not required, the personal time meter system is available. Employees switch on personal meters to accumulate hours and minutes worked regardless of the actual times of arrival and departure. The easily-read digital meters provide indications direct to employees and supervisors of hours worked in relation to the "standard" working week.

PRODUCTION CONTROL AND RECORDING



Production Recording & Control Console



Bottling Line Transducer

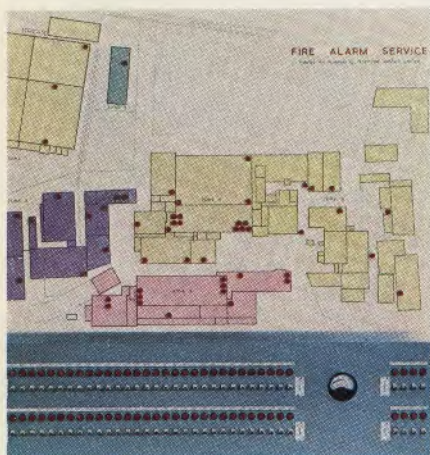
Production Control and Recording systems provide for machine utilisation monitoring and production counting from transducers fitted at machines. At a central point—the production office perhaps—machine downtime is integrated into a choice of stoppage causes, displayed upon reset digital counters and upon a time-based chart for subsequent analysis.

The central display is individually tailored to the production organisation of each user: the console assembly illustrated was designed for a large bottling complex in the South-East.

FIRE PROTECTION

The responsible Manager's attitude towards Fire Protection is now reinforced by Statutory requirements in respect of most classes of premises including particularly shops, offices, factories and hotels.

TR Fire Alarm systems range from small units providing for warning to be sounded in the event of fire by breaking the familiar break-glass alarm point, to specialist alarm and communications systems for high-rise buildings. A comprehensive study of the Factories Act, the Fire Precautions Act, and other relevant legislation has placed TR Services in a position to survey premises, advise on systems to comply, and to assist in discussions, with local fire authorities concerning specific premises. A special study has been made of the requirements for hotel and other residential premises where fire precautions, including particularly *automatic* heat and smoke detection equipment, are essential.



Central Control and Mimic Diagram

Today's city blocks of high-rise buildings, often in multi-occupancy, present special problems. The evacuation of 1,000 or more office staff into busy streets is not to be lightly undertaken in the event of a minor, well-contained, incident: on the other hand a major emergency requires clear evacuation arrangements to be signalled and implemented without delay.

TR have designed a system for such applications, based on the principle that a simple and reliable communications channel, independent of normal telephone services, is essential to support the usual means of raising an alarm from conventional alarm points. Specially-designed telephone call-points are used throughout the building to operate to a central manned control point from which the initial alarm can be extended into other areas (or the whole) of the building, dependent upon the extent of the incident reported. Provision is incorporated for an automatic alarm to be given over the whole or any part of the premises.



Fire Communications in Multi-storey Offices



Simple Alarm Point



Automatic Heat Detector



Automatic Smoke Detector

The TR automatic heat detector system is fully F.O.C. (Fire Offices' Committee) approved. Reliable heat detectors, designed to operate automatically to sound an alarm when the temperature rises above a certain level (usually 135°F), are employed in conjunction with central control equipment which extends all alarms direct by Post Office lines into the nearest public fire station or control centre.

For even earlier warning, automatic smoke detectors can be integrated with the system to protect high value plant (computers etc.), areas infrequently visited (warehouses) and important escape routes (staircases, lobbies etc.).



Distinctive Audible Warning Unit

Conventional bells, hooters and sirens used to signal alarm conditions are now being superseded by alternative devices which produce a penetrating alarm note easily recognisable and distinguishable from bells used for, daily works "start" and "stop" signals etc.



Emergency Lighting

Emergency lighting systems from the TR range can be integrated with fire alarm/detection schemes to provide illumination of escape routes in the event of an emergency affecting normal mains supply.

The system is powered from a high-performance secondary battery and is brought into operation automatically and immediately the mains supply fails. A range of emergency lamp fittings, directional and 'EXIT' signs is available for incorporation in these systems.

SECURITY GUARD PROTECTION

This TR System has been designed to provide full protection for a security guard (and consequently the premises he patrols) together with supervision of his activities. Carefully sited patrol checkpoints are provided throughout the premises which the guard operates during the course of each patrol: patrols are initiated on an entirely irregular basis and if any patrol is not correctly completed within an allocated period, an alarm is raised automatically. The alarm can also be raised manually by the guard himself at any time from any checkpoint: inbuilt system protection is incorporated against malicious or accidental damage to the installation cabling. As for all TR Security installations, provision is made for remote extension of alarm signals—in this case obviously, to the Police.



Security Guard's Control and Supervisory Unit

**OPERATING DIVISIONS
IN THE UNITED KINGDOM**

Central London

233 Shaftesbury Avenue, WC2H 8ER
Telephone: 01-836 9292

South London

29/39 Harrington Road, SW7 3HB
Telephone: 01-589 0091

East Midlands

Spencer House, Digbeth, Birmingham B5 6DF
Telephone: 021-622 3626

West Midlands

Herbert House, 59/71 Cornwall Street
Birmingham B3 2EQ
Telephone: 021-236 8991

North Midlands

Greystones Hall, Greystones Hall Road
Sheffield S11 7BB
Telephone: Sheffield 665291 (STD—0742)

East Anglian

TR House, Bretton Way, Peterborough PE3 8DD
Telephone: Peterborough 62322 (STD—0733)

Eastern Counties

TR House, Caxton Hill, Hertford SG13 7ND
Telephone: Hertford 54575 (STD—0992)

East and West Ridings

TR House, 471 Stanningley Road
Bramley, Leeds LS13 4AR
Telephone: Pudsey 78343 (STD—09735)

East Lancashire

TR House, Southmoor Road
Wythenshawe, Manchester M23 9LS
Telephone: 061-998 8611

Merseyside and North Wales

TR House, 1 Bridle Way, Bootle, Merseyside
L30 4AA
Telephone: 051-525 1756

North Eastern

TR House, Redburn Road, Westerhope
Newcastle upon Tyne NE5 1PN
Telephone: Newcastle upon Tyne 860301
(STD—0632)

Northern Ireland

TR House, 306 Antrim Road
Belfast BT15 5AD
Telephone: Belfast 748307 (STD—0232)

South Eastern

TR House, 1 Christopher Road
East Grinstead, P.O. Box No. 6
Sussex RH19 3BU
Telephone: East Grinstead 21181
(STD—0342)

South Wales

Frixa House, East Canal Wharf
Cardiff CF1 5QQ
Telephone: Cardiff 22851 (STD—0222)

South Western

TR House, 19 Tyndalls Park Road
Bristol BS8 1HP
Telephone: Bristol 30212 (STD—0272)

Scottish

TR House, 775 Boydstone Road, Thornliebank
Glasgow G46 8QP
Telephone: 041-638 6526

Western Home Counties

TR House, Lennox Road, Basingstoke
Telephone: Basingstoke 26311 (STD—0256)
SUB-OFFICES

Dundee

13 Whorterbank, Lochee, Dundee
Telephone: Dundee 60711 (STD—0382)

Edinburgh

24a Alva Street, Edinburgh EH2 4PY
Telephone: 031-225 5519

Leicester

7 Saxby Street, Leicester
Telephone: Leicester 56740 (STD—0533)

Norwich

13 Riverside Road, Norwich NOR 18S
Telephone: Norwich 20824 (STD—0603)

GROUP SERVICES

Central Stores and Central Service Depot

Mollison Avenue, Brimsdown
Enfield, Middlesex

Group Engineering Training Centre

DT Works, Aurelia Road, Croydon, CR9 3AR

Group Sales Training Centre

TR House, Caxton Hill, Hertford SG13 7ND
Telephone: Hertford 53868 (STD—0992)

**SUBSIDIARY AND ASSOCIATED
COMPANIES**

U.K. AND REPUBLIC OF IRELAND

The Irish Telephone (New System)

Company Limited

'Ashurst', Mount Merrion Avenue
Blackrock, Co. Dublin
Telephone: Dublin 887371

Electro-Rentals Limited

1 Gleneagle Road, Streatham, SW16 6AY
Telephone: 01-769 7834

Keeley Street, Birmingham B9 4HR

Telephone: 021-772 8888

Attack House, Thirstin Road, Honley

Huddersfield HD7 2JH

Telephone: Huddersfield 63151 (STD—0484)

Dictograph Telephones Limited

Aurelia Road, Croydon CR9 3AR
Telephone: 01-684 2427

Attack Fire (Robots) Limited

Attack House, Thirstin Road, Honley
Huddersfield HD7 2JH

Telephone: Huddersfield 62111 (STD—0484)

Grampian Reproducers Limited

Hanworth Trading Estate, Hampton Road West
Feltham

Telephone: 01-894 9141

OVERSEAS

FRANCE

Le Téléautomate Société Anonyme

45 Boulevard Richard-Lenoir, 75011 Paris
Telephone: 805-46-00

**La Téléphonie Européenne Société
Anonyme**

97 Quai de la Marne,
94340 Joinville le Pont
Telephone: 873-61-11

REPUBLIC OF SOUTH AFRICA

Telephone Rentals (South Africa)

(Proprietary) Limited

TR Services (Pty) Ltd

Johannesburg

TR House, South Street, Wynberg
P.O. Box 38, Bergvlei, Sandton, Transvaal
Telephone: 40-8216

Durban

161 Gale Street, P.O. Box 45
Dalbridge, Durban, Natal
Telephone: 62244

Cape Town

TR Services (Cape) (Pty) Ltd

TR House, Milner Street
Metro Industrial Township, Milnerton
P.O. Box 81, Paarden Eiland, Cape
Telephone: 51-3325

Port Elizabeth

5 Crawford Street, P.O. Box 3347
Port Elizabeth
Telephone: 4-3498

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TR Services Pty Ltd

Head Office

TR House, Help Street, Box No. 308
P.O. Chatswood, N.S.W. 2067
Telephone: 419 2331

BRANCHES at

**Adelaide, Brisbane, Hobart
Melbourne, Perth**

CANADA

Canadian Telephone Rentals Limited

TR Services Limited

Head Office

287 MacPherson Avenue, Toronto
M4V 1A5, Ontario
Telephone: (416) 925-9333

Montreal

6546 Leger Blvd
Montreal H1G 1L5, P.Q.

UNITED STATES OF AMERICA

New York

TR Services Inc.

567 Vickers Street
Tonawanda, New York 14150
Telephone: Area Code 716-694-3750

This leaflet is correct at the date of printing. If the specifications herein are altered (arising from the Company's policy of continuous improvements in its product range), the leaflet will be superseded and should be disregarded.

The range of TR equipment is changed from time to time resulting from new developments and changes in market requirements. Certain of the equipment illustrated may be withdrawn or superseded by new models during the life of this leaflet.