

Making the new Post Office equipment at Basildon



Hugh Thurgood, left, Design Group Writtle, who is liaison engineer between L.C.D. and Line Communications Unit at Basildon, discusses a point raised on the multiplex package Test Spec with Len Laker, Senior Technician responsible for testing multiplex packages, and Harry Bettridge, right, G.P.O. Inspection Branch resident at Basildon

BELOW, LEFT TO RIGHT

LEFT: Mrs. Kay Fry tagging printed boards in the first stage of assembly. With her is lady Supervisor Mrs. Connie Andrews. **CENTRE, LEFT:** The first stage of assembly: Sybil Styants, right, and Mrs. Ivy Deer are fitting electrical components to the printed boards. **CENTRE, RIGHT:** Mrs. Kathy Jakins, left, and Mrs. Eileen Meeks, putting printed boards through the flow solder machine. An exact height setting controls the level of the board as it passes over the flux, solder and wash



IN A LARGE, extra strongly lit area on the east side of Basildon's B Building, manufacture of equipment for the Post Office's first contract for a pulse code modulation system is going steadily forward.

Developed by the P.C.M. Group of Line Communications at Writtle, this equipment, based on the use of transistors and microelectronic techniques, enables a telephone circuit to carry twenty-four simultaneous conversations. Speech is sampled 8,000 times a second, converted to pulses and multiplexed for transmission. Reconstitution into speech at the other end in no way impairs its quality, in fact there is an improvement.

When you think of the congestion of the telephone lines in the British Isles, made yearly more acute by the building programme and the ever-increasing demand for telephones, the possibility in time of making each line do the work of twenty-four is a great stride forward.

To convert an existing line, terminal equipments are installed at either end, and regenerator units inserted into the cable at intervals of about two thousand yards.

FAR RIGHT: The regenerator units for the P.C.M. system are fitted to the line at intervals of every 2,000 yards. Working on final assembly with a Desoutter automatic screwdriver is Mrs. Cathy Taylor



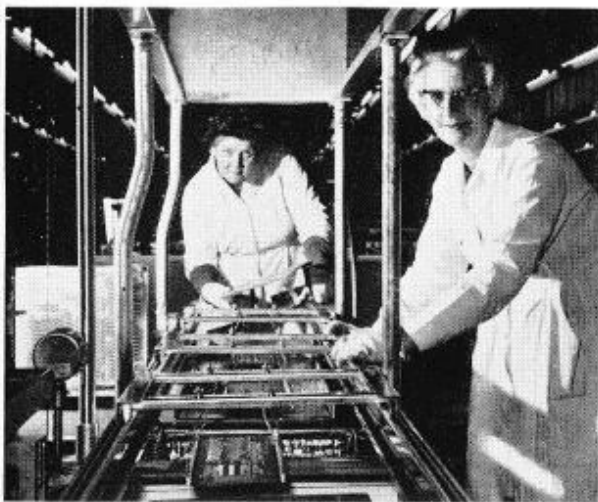


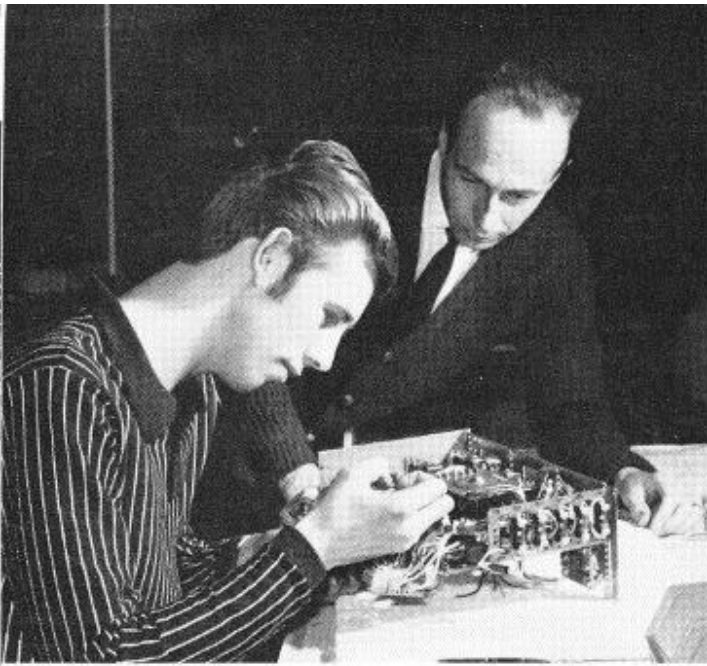
Alf Kimber, Chargehand on gantry assembly, is making spot checks on a batch of completed assemblies. He has in his hand a channel card which forms part of the multiplex equipment

The new systems will be installed in London, the north of England, Scotland, Northern Ireland and Wales. The first London Exchanges to get P.C.M. will be Acorn, Ealing and Shepherds Bush.

First production of new equipment is no novelty in Marconi's, but it never loses its interest. Writtle and Basildon maintain close contact, and Hugh Thurgood, liaison engineer between Line Com-

munications Division at Writtle and L.C. Unit, has been spending most of his time at Basildon, working with Line Communications Unit Superintendent Jack Lofthouse and, methods, production and test engineers. Bob Phillips, Basildon project tester, had spent some time at Writtle in the early stages to integrate production test needs into development. As the area for production gradually became available





Mrs. Peggy Bibby rivets a printed board assembly to its 'package' or card-frame. With her is Laurie Langan, Chargehand on component assembly



TOP: Brian Coppin wiring the d.c./d.c. converter for the terminal equipment. A steady independent power source is important to exclude danger of fluctuation in peak-load hours. With Brian Coppin is Brian Steele, Chargehand on gantry assembly

ABOVE: Mrs. Maureen White, left, and Mrs. Sylvia Holcroft, inspecting 7A signalling units

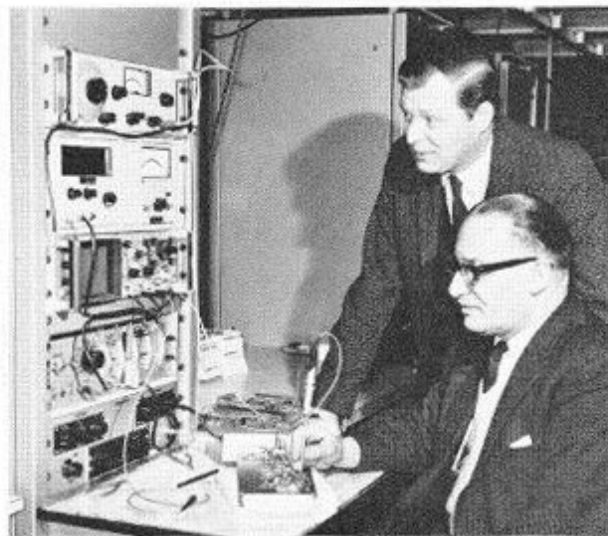
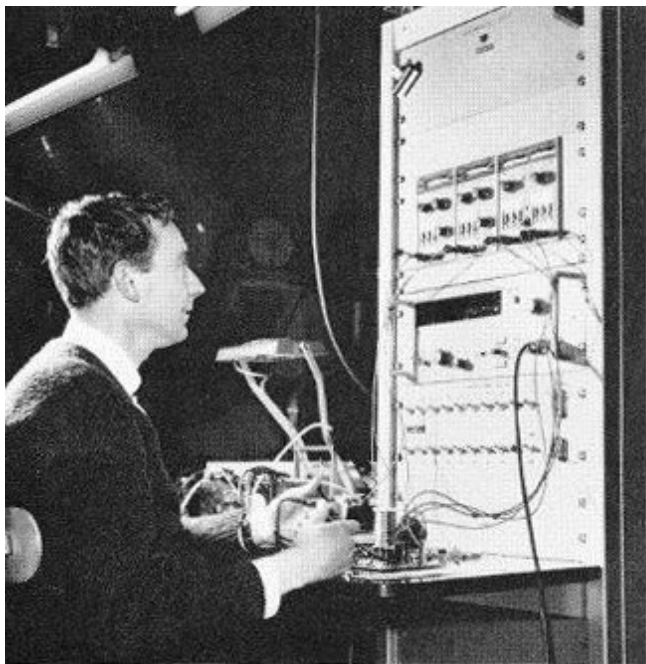
last summer, the whole process of dovetailing a new programme into the Works got under way. Limited production was started as soon as possible on the assembly benches while the special test equipment, all designed and built in the Company, was still arriving and being manhandled into the marked-out positions.

More assembly staff were needed, and Personnel Officer Mrs. Barbara Brigden brought in about

BELOW, LEFT: This was the pre-production signalling unit 4A, the first-off for design approval. Recalling an early problem are, left to right, Bert Holmes, Test Section Leader, Dennis Green, Test and Inspection Supervisor and Jim Ridley, Inspection Supervisor

BELOW: Discussing the wire wrapping on the multiplex equipment are, left to right, John Taylor, Methods Engineer, Arthur Chapman, Chargehand on final assembly of completed multiplex equipment, and Cyril Phillips, Methods Engineer





ABOVE, LEFT: Senior Technician Ron Roffey operates the manual section of the Marconi-designed Autoscan test equipment, which locates and identifies the faults indicated by the punchtape-operated machine shown on our cover. He tags the boards and returns them for repair. RIGHT: Bob Phillips, Project Tester, standing, with Eddie Van Wynn, who is calibrating a regenerator unit 2A

fifty 'new girls'. According to our system they had four weeks in the Basildon training centre before joining L.C. Unit under P.C.M. Production Foreman Fred Osborne. Ninety per cent of the assembly staff are women whose, smaller, neat fingers cope well with the printed board assemblies. Tweezers are in use all round the shop, and magnifiers are used to assist in micrologic inspection. Spot checks are made on batches of assembled

printed boards, so that the quality of individual work is kept under regular observation, and the fault norm is remarkably low—it was 2.5 in a thousand the week these pictures were taken.

The pre-production order, 01, was finished in January; 02, the first Post Office order, is more than half despatched and will be completed in June, and Line Communications Unit at Basildon is already working on follow-up orders.

Obituaries

IT WAS with much regret that we heard of the death of Mr. Robert Allan Nightingale, Manager, Mechanical Engineering Research Laboratory, Writtle, who had been with the Company for nearly thirty years and had established a high reputation in his work on a wide range of equipment.

Two of his three sons are with the Company, Roger at Widford and Paul at Writtle. We offer our deepest sympathy to his wife and family.

WE REGRET to record the death of Mr. George Leslie Hazell, Supplies Division, a Company member for nearly forty-two years and for many a trustee of the Provident Society and Employees' Hospital Fund. Mr. Hazell's daughter, Mrs. Tessa Brown, brother Alf and two nephews, Rhett Hazell and Derek Barker, are at New Street and to all relatives and friends we extend our sincere sympathy.

Veterans: don't forget—

THE MARCONI Veterans' Association are holding their thirty-second annual reunion at the New Street Staff Dining Hall, Chelmsford, on Saturday, 20 April, at 12 noon.

The President for the current year is Veteran C. J. M. Simpson, who joined the Company in 1910 and retired in 1952. He served as Chief Cashier, Assistant Accountant, and Manager Staff Department.

Anyone who has not received an invitation should kindly notify the Secretary of the Association at Room 4F, Marconi House, Chelmsford.