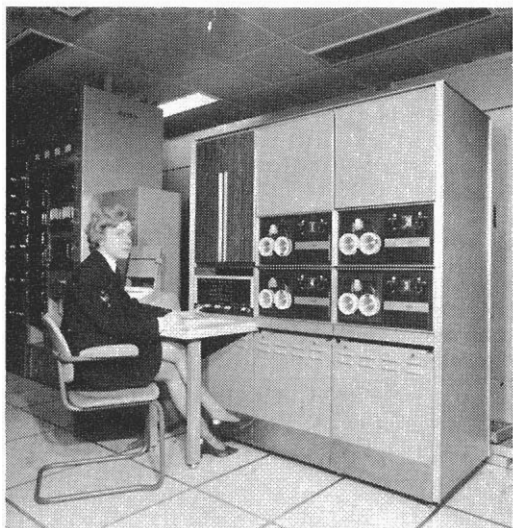


**COMMUNICEN WHITEHALL
MESSAGE FILE AND
RETRIEVAL SYSTEM — MFERS**

The MFRS is a small-sized, random-access computer which is connected to all the outgoing lines of TARE to record all outgoing messages. It is built by the Standard Telephones and Cable Company, and has recently been accepted into service by the Royal Navy at Commcen Whitehall, where it has been on proving trials for several months. Messages in the MFRS are stored on wide magnetic tape at the normal TARE operating speed of 50 kilobauds; four tapes are operated at any one time on the computer, and sufficient tape is kept for approximately 48 hours' use. Stations requiring reruns of traffic from Commcen Whitehall are therefore warned against asking for reruns more than 48 hours old. It is significant that MFRS recording is absolutely faithful; if a message is garbled on entry into TARE, but is clean enough to be routed correctly, the TARE will route the garbled version, and this will be recorded by the MFRS. This is an important point, and underlines the point made in RNSO S36/67 para. 3d, that requests for mutilated or incomplete messages must be directed to the calling station; the MFRS can only provide for ZFX action. Operation of the MFRS is fairly simple, and is achieved in Whitehall by petty officer wrens who form part of the TARE team. The computer is set up and programmed from its own special teleprinter mounted alongside, but all normal signal transactions take place on teleprinter equipment of the normal type sited at the TARE console. The actions required of an operator are few: starting the computer, setting up tapes as others are filled, allocating tapes, logging the contents of tapes, requesting repetitions of messages from the MFRS and finally arranging for transmission of the tape produced from the request.



The computer is maintained by the same civilian technicians who maintain the TARE; its start programme, however, is carried out by the operator. Starting involves the operator setting up a special tape, and then, by means of digital control keys, selecting the information contained on the tape to condition the ferrite cores which form the permanent 'memory' of the computer and allow the operator to check the settings. Once the computer is correctly programmed, its tape decks are loaded with four tapes, and the first one to be used is allocated by the operator from the local teleprinter; all further tape allocations are made from the machine in TARE. When a tape is nearly full, the MFRS will request a further allocation and at this point, the operator then allocates a new tape. When it is full, MFRS will print out a report showing the contents of the tape by message serial numbers. When the MFRS is set up, the operator tells the computer which numbered day of the week it is, since the instrument is designed to work over a 7-day period. The day number is printed in parentheses alongside the message serial numbers which appear in the tape report to differentiate between similar numbers of different days. To recover a message of which a rerun has been requested, the operator literally asks the computer for it, by typing the message serial number (and day number) followed by a question mark. If the message is not on one of the tapes actually set on, the computer will indicate that it is 'not within range' and the operator then puts on the right tape, having consulted her log to find out on which tape the message is recorded. She then asks again, in the same form, for the message. When the message is contained in a tape which is on the computer, the instrument looks for the message position on the tape which it finds in an index at the end of the tape; having found the position, the computer tells the operator 'OK', positions the tape, and extracts the message at 75 bauds directly on to a re-

perforator and page copy. The maximum waiting time for a message is 90 seconds, unless the operator has to change tapes, when it may extend to about five minutes. It is worth reiteration that the MFRS can only print what is fed into it from TARE, be it a garbled message or an incomplete one which has been terminated in TARE for some reason, eg, a delay of 40 or more seconds occurring during transmission of a message into TARE, or the TARE itself having terminated a message to allow transmission of a Flash message on the outgoing line.

After some teething troubles, the MFRS has become a very reliable instrument. It does halt from time to time, however, usually due to faulty tapes or to the operator's having missed a request for a tape change. Restarting takes only a matter of minutes, but the computer is unable to record whilst it is off, of course. The photograph shows PO Wren Pauline Rummery using the programme keys to re-start the computer after one such halt.