

## TELEWRITER PROCUREMENT

### REASONS FOR DEVELOPING THE TELEWRITER

1. From the early days of WW2, the General Staff at the *War Office* constantly argued that some alternative to Morse should be found. There was no longer a large pool of Morse trained personnel available from the General Post Office, since for several years, the G.P.O. had moved over to teleprinters, and the training for Morse operation to a suitable level took significant time and absorbed skilled personnel.
2. From the War Office down to Divisional Headquarters, Creed teleprinters solved the problem but only to a certain extent. Initially there were significant problems of supply, and because the G.P.O. had to a large extent moved over to women teleprinter operators (which at this period did not suit army recruitment), training was still required.
3. However, the main problem was for forward areas, where at the beginning of the war the choice was Wireless, with its problems of security, or Line equipment using Telephony or Morse via Fullerphones.
4. What was required for forward areas was a less complicated, less expensive, DC powered, and lighter apparatus than the conventional teleprinter which weighed at least 60 lbs. The apparatus should also be suitable for Line or Wireless operation.

### PROCUREMENT PROCEDURE

1. Following a number of War Office committees that also involved the *Royal Signals*, a new specification would be formally passed to the *Ministry of Supply* as an approved *War Office* requirement. The *Ministry of Supply* could approach the problem in three different ways. A direct purchase from the trade, a suitable firm could be selected to design and produce the equipment, or thirdly, it might be developed by the *Signals Experimental Establishment* (S.E.E., which in 1942 became the *Signals Research and Development Establishment*, S.R.D.E.), and then be manufactured by a suitable firm.
2. In the case of the Telewriter, it is probable that the third approach was used. In the *Research Establishment*, the design would be carried out, and a prototype or prototypes produced in their model shop, which had considerable skills, ref. A. It is thought that the unit seen in Dollis Hill [FD: by David Jones] in 1945 was such a prototype. The *Research Establishment* was responsible for initial trials and had then to convince the development staff of the Ministry of Supply that the

item was technically satisfactory before orders could be placed by their production staff. A suitable manufacturing company would then be selected, although in some cases the manufacturing company may have become involved at an earlier stage.

3. Before the production was planned, the *Ministry of Supply* had to be informed by the *War Office* as to their total requirements, and the rate at which the item was wanted. As soon as the first units were constructed, further initial field testing would have been carried out under the control of the *Research Establishment*. The unit owned by Peter Prest, which is mounted on a board rather than in a case, is probably such a unit. Many of its screws give the impression of having been taken out several times.
4. Once approval had been obtained a *Royal Ordnance Stores* number would be allocated (YB.02251) and the completed cased units would have been sent to the *Royal Ordnance Stores*, which for *Signals* was at Donnington Shropshire.

#### **WHO PRODUCED THE TELEWRITER ?**

1. Assuming the prototype was designed and developed by one of the Research Establishments, which one depends on the date it was started (examined below). S.E.E. became S.R.D.E. in 1943.
2. At present the manufacturer of the production version is unknown. The initials G.T.L. printed on the case label may be the initials of the manufacturer but much searching has not yielded a likely company with these initials. There is no identifying information on the machine itself other than "Lightweight Telewriter" on the aluminium circuit diagram panel. The complexity of the machine and the number of parts that required special tooling would have required quite a major effort. For example the tooling for the bakelite cover beneath the keys would have been very expensive and only the intention of producing a large number of Telewriters would have made it a suitable design.
3. A natural manufacturer might have been Creed, but they were probably fully engaged in the production of their own teleprinters and anyway may not have approved of the unconventional design of the Telewriter. Many parts of such a machine would have been subcontracted to specialist suppliers and the paper spool, speed governor and clip to hold text do look very similar to Creed components. The body of the motor is the same as a known WW2 motor with Air Ministry markings. The buzzer by SUNCO ( Sun Electrical Company ), the fuse holder by Belling Lee etc.

## DATING OF THE TELEWRITER

1. At present there is no firm information, so dates must be inferred from dates that are certain:

S.E.E. becomes S.R.D.E.	Initially at Horsham	1942
	then at Christchurch	1943

*Royal Electrical and Mechanical Engineers* (R.E.M.E.) take over maintenance and repair of second and fourth echelon Signals Equipment. October 1942

First Echelon repairs	<i>Royal Signals</i>	In the field
Second Echelon repairs	R.E.M.E.	Field workshops
Fourth Echelon repairs	R.E.M.E.	Base workshops

(There were no third echelon repairs for Signals Equipment)

Ref. B: R.A.O.C. Notes on Equipment Volume IV, February 1944

Draft E.M.E.R. TELS T 223/1	Issue Date	March	1945
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Telewriter Working Instructions	YB.04159	December	1945
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Ref. C: Nalder - "During the war years considerable effort was expended in the development of an apparatus known as the telewriter, but it did not prove satisfactory in the field."

Ref. D: Nalder - "Forward of divisional headquarters, however some less complicated and less expensive apparatus was necessary. Attempts to produce a simple form of keyboard instrument usable with line or wireless resulted in an experimental "telewriter" but this was not entirely satisfactory and nothing better had been designed before the end of hostilities."

2. Although the YB.02251 number does not appear in the *R.A.O.C. Notes* document (which only covers the most common equipment), the date of this document and the sequence of stores

reference numbers that it does contain, suggest that the YB.02251 number would have been issued in mid-1943 at the latest (this is not absolutely certain because YB numbers were sometimes re-used). However, assuming this to be true and the implication by Colonel T.B. Gravely (ref. E) that re-design for manufacturing plus the manufacturing process itself would take typically in the order of 2 years, takes the beginning of this process to mid-1941. The initial design and building and testing of the prototype would perhaps have taken 1 year. So that work would possibly of started in mid-1940. This is all very uncertain, but it does tie in with the Nalder statement that “during the war years considerable effort was expended ...” After the first production units were completed there would have been significant testing in the field and since the unit was “not entirely satisfactory”, it is easy to understand that production of the “Working Instructions” and an E.M.E.R. could have run until 1945. The end of the war and the ensuing severe cut backs plus the problems encountered, would have let to the cancelling of the project. EMER TELS T 223/1 does not appear in the 1950 list of EMERs.

#### **OTHER POINTS OF INTEREST**

1. After all the searching, the name Telewriter referring to this machine has only been found in two books, i.e., the two Nalder Books.
2. A complete computer search of 86 electronics related magazines at:  
<https://www.americanradiohistory.com/hd2/IDX-Site/search.cgi>  
has only found a single Telewriter machine for sale on the surplus market Ref F, and two subsequent private adverts Ref. G and Ref. H trying to obtain a handbook and motor for a Telewriter YB-02251. There is very strong evidence that these all relate to the same machine that was eventually donated to the Science Museum London.
3. The style of the keyboard keys is rather dated for the war years, and looks identical to that of the Olivetti Oliver Portable typewriter produced from 1931 to 1933. It is possible that spares from this unit or similar were used.

Ref. A: “The Goldstone Paper” by F. Goldstone, “A report of the running of the Signals Research and Development Establishment from its early days up to 1945”, edited by Louis Meulstee.

Ref. B: "Wireless for the Warrior - Compendium 6" by Louis Meulstee.

Ref. C: Nalder, see previous reference.

Ref. D: Nalder, see previous reference.

Ref. E: "The Second World War 1939-1945 Army Signal Communications" by Colonel T.B. Gravely O.B.E., The War Office, 1950.

Ref. F: "'TELEWRITER" lightweight portable teleprinter, 12v DC., one only £25 (15/- p&p)", advertising in "Short Wave Magazine", December 1961, p. 558.

Ref. G: "Wanted: Motor for Telewriter YB-02251", advertising in "Short Wave Magazine", December 1962, p. 560.

Ref. H: "Wanted: Motor and Handbook, etc., for Telewriter YB-02251", advertising in "Short Wave Magazine", February 1963, p. 669.