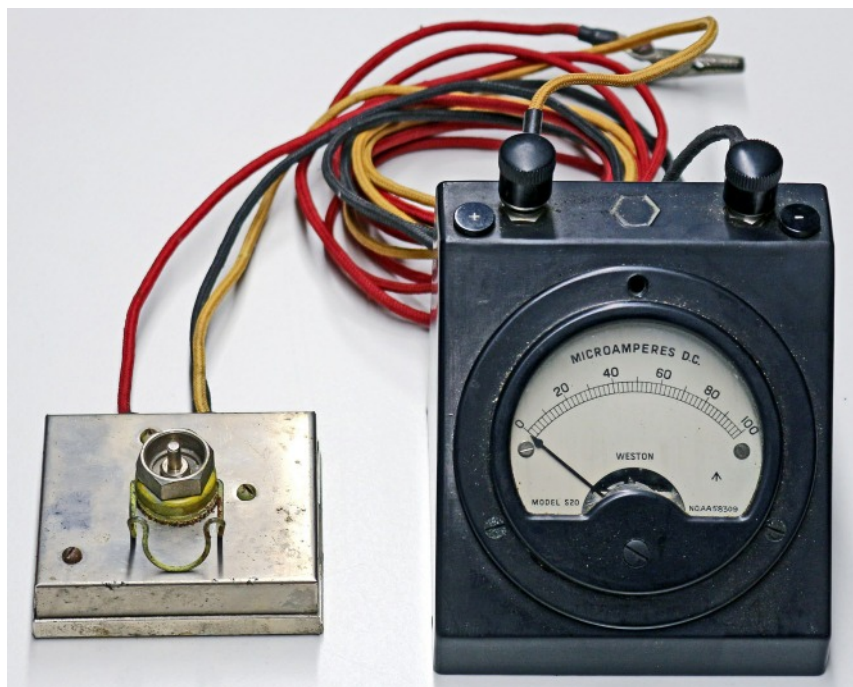


Volume 2 AMENDMENT No. 3

Date of issue: October 2021.

After the publication of 'Wireless for the Warrior' Volume 3 'Wireless Sets of WW2', a small number of minor (typing) errors and incorrect data was spotted. Corrections, additional photos and newly found items are published in 'Volume 2 Amendments'. Double side printed on A4 paper, cut away circa 7mm from the bottom and side of the sheet. The prepared sheets will fit snugly between the inside cover and dust cover flap. It is further suggested to amend the text corrections in the book with e.g. a (red) pencil or a fine-liner.



Voltmeter Valve UHF No. 1 RF output meter for Wireless Set No. 19 B.

Diode Head No. 1 (left) and 100uA meter comprising Voltmeter Valve UHF No. 1.

DATA SUMMARY

Organisation: British Army.
Design: Believed Signals Experimental Establishment.
Manufacturer: Pye Radio Ltd.
Year of Introduction: Probably 1941.
Purpose: RF output test set for WS No. 19 B.
Function:
Circuit features: Dummy load, diode rectifier, 100uA meter.
Frequency: 240MHz.
Aerial: Diode head connected to WS 19 B Set aerial socket via Aerial Feeder No. 2 or No. 3.
Valves: Rectifier EA50.
Power supply: 6V.
Consumption: 150mA.
Size (mm); weight (g):

	height	length	width	weight
Diode head	18	54	65	184
Meter	72	83	90	323
Complete set in case	142	140	253	2260

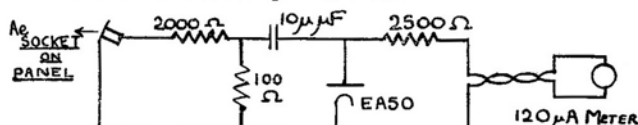
REMARKS

Voltmeter Valve UHF No. 1 was a RF output meter for measuring the output of the B set transmitter of a Wireless Set No. 19 (any mark). It was comprised of a Diode Head No. 1 assembly (ZD00467) and a separate 100uA meter (ZA 10495), requiring 6V for the EA50 diode filament. The diode head was connected to the B set aerial socket on the front panel via the standard B set Aerial Feeder No. 2 or No. 3.

Apart from technical details and description of the test meter in two Ordnance Technical Notes (these were issued before the REME took over specific duties from Ordnance), and a notification in EMERs Telecommunications A317, no further information was found. It may be doubtful whether apart from '.. a special production by Messrs Pye ..', that any were made later.

Sender Output.

Measured using circuit below. Obviously, layout of meter circuit must be identical for comparable results.



At 240 Mc/s.

Meter reading, zero mod.	...	...	...	...	67 μ A.
Less steady current	...	...	...	...	17 μ A.
i.e. ...	...	...	...	...	50 μ A.
Meter reading, fully mod.	...	...	...	...	80 μ A.
Less steady current, i.e.	...	...	...	...	63 μ A.

References

- Ordnance Technical Notes (Wireless) No. W7 and W17, Jan. 1942
- EMERs Telecommunications A317, Schedule of Army Telecommunications Test Sets, Jan.1947.



Operating instructions for the Voltmeter Valve UHF No. 1 were glued to the back side of Diode Head No. 1.

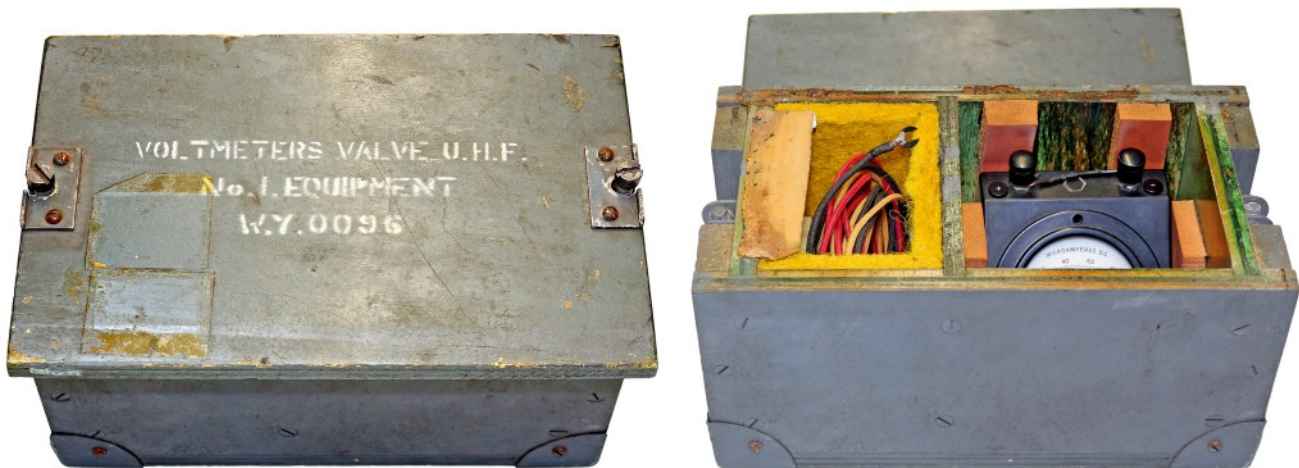
To test W.S. No. 19 'B' Sender output, plug voltmeter into end of aerial feeder No. 2 or No. 3 connected to 'B' aerial socket. Voltmeter lead connections:-
 BLACK + YELLOW - to 0-100 microammeter Z.A.10495.
 RED +6V to 6V tap on battery supplying set. (If a separate battery is used, connect negative to chassis of W.S. No. 19.)



100uA meter in a Bakelite case (ZA 10495).



Diode Head No. 1 (ZD 00467) with connection leads.



Voltmeter Valve UHF No. 1 equipment WY 0096 in transit case.

SECURITY

COPY No. 476

THE DIRECTORATE OF MECHANICAL MAINTENANCE,
THE WAR OFFICE (M.M. 8),
GOLDEN CROSS HOUSE,
DUNCANNON STREET, W.C. 2.

57/Maint./231 (M.M. 8).

January, 1942.

ORDNANCE TECHNICAL NOTE (WIRELESS) No. W/17

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H. A. LEWIS,
for Director of
Mechanical Maintenance.

JHR/8

WIRELESS SET No. 19, PROVISION OF TEST EQUIPMENT

In order to meet the special test requirements for the Wireless Set No. 19, it has been decided that the following additional equipment will be issued as soon as it becomes available:—

Output meter 3 range No. 2.—This is the 3 range No. 1 model modified to read to 100 mW. A contract for these was still outstanding and the manufacturers agreed to this modification although, unfortunately, it was not found practicable to alter the impedance. However, the amount of mis-match with the Wireless Set No. 19 is small and will not unduly affect results. For precise measurements, however, the following instruments will be provided:—

Output power meter, type T.F. 340.—This is a standard M.E. production with provision for matching to set outputs of varying impedances. This instrument should cover requirements of all future wireless sets.

Wavemeter H.F. 20-300 Mc.—This is an existing M.E. production having an accuracy of ± 1 per cent. Although this is necessarily low, due to the wide frequency range covered, it is sufficiently accurate for the checking of "B" Sender frequency and the wide range will allow of its use with other sets of this type which may be introduced in the future.

U.H.F. valve voltmeter.—This is a special production by Messrs. Pye for the measurement of "B" Sender output. Technical details were given in Ordnance Technical Note W/7 under the heading "Measurement of 'B' Sender Output". Attention is drawn to the fact, however, that the 120 uA meter will be issued separately and will, therefore, not be contained in the valve voltmeter assembly which is in the form of a small metal unit, suitable for plugging direct into the "B" Sender output socket.

(B42/40) 1600 2/42 W.O.P. 9895