

Wm. Bradford.

Research Department.

31st October, 1934.

Routine Check of Field Strengths

of Various Transmitters.

(Report No. K.015)

A D D E N D U M.

The measurements of field strength of the West National transmitter in 1933 mentioned in this Report were taken with 50 kilowatts to the aerial, whereas the 1934 measurements were taken with only 30 kilowatts in the aerial.

The correction factor for comparison purposes is .775.

HLK/CHF.

H. Kirke

Research Department.

REPORT No. K.015

13th August, 1934.

Serial No. 1934/29

Work carried out by R.A.ROWDEN.

Drawing Nos. K.015.1
to K.015.4

ROUTINE CHECK OF FIELD STRENGTHS
OF VARIOUS TRANSMITTERS.

(1) Scottish National & Regional Transmitters.

In order to check up previous results, field strength measurements were taken in the large towns and 5 km. polar diagrams plotted.

The polar diagrams are attached, and should be compared with the polar diagrams obtained in 1932 (Report No. 605-A), copies of which are also attached. It will be seen that the polar diagrams are slightly different from those in Report No. 605-A, but the differences are of a minor nature, the general shape being similar, and there does not appear to be anything to account for the changes in field strength in Glasgow, Edinburgh and Dundee. As the changes are not serious, however, it is not proposed to take any action, but to keep a lookout in the future.

The following are the results obtained for the spot readings in the towns:-

BBC R & D



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Scottish Regional: 373.1 metres.

May 1934.

1932.

Dundee: average of 5 points	7.1 mV/m.	8.6 mV/m.
Edinburgh: " " 9 "	23.6 "	25.4 "
Glasgow: " " 20 "	32.3 "	25.0 "

Scottish National: 285.7 metres.

Dundee: average of 5 points	3.7 mV/m.	4.5 mV/m.
Edinburgh: " " 9 "	17.9 "	21.4 "
Glasgow: " " 20 "	25.3 "	24.4 "

(2) West National & West Regional Transmitters.

The principal towns and cities in the West region were visited, and a series of field strength measurements taken.

The following table shows the average values of the spot readings obtained compared with the values obtained in 1933 when the station was opened:-

Location.	No. of Points.	West National 261.1 m.		West Regional 307.1 m.	
		F/S mV/m.	1933 value.	F/S mV/m.	1933 value.
Cardiff	9	24.9	36.2	38.7	47.5
Swansea	5	22.4	25.2	31.7	27.3
Newport	5	23.7	No record.	39.8	No record.
Carmarthen	3	Not taken	4.0	4.5	4.5
Bristol	9	5.8	7.1	12.0	10.6
Exeter	5	1.2	1.8	2.6	2.6

The above measurements were taken between 26th and 29th May inclusive.

(3) North National & North Regional Transmitters.

The following table gives the average values of the spot readings obtained in the towns and cities and important centres in the Northern region:-

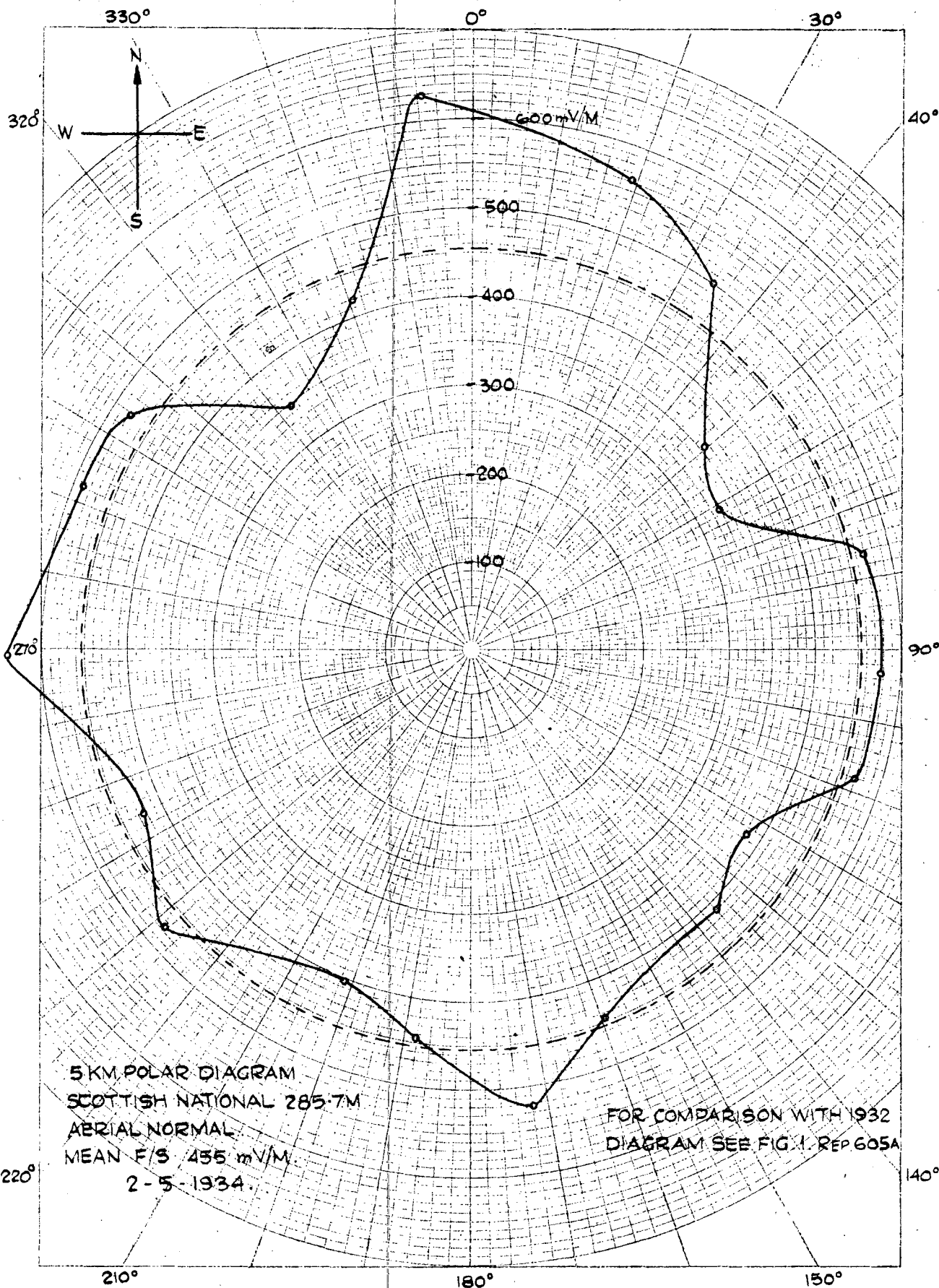
Location.	No. of Points.	North National 296.2 m.		North Regional 449.1 m.	
		F/S mV/m.	1931 value.	F/S mV/m.	1931 value.
Manchester	10	21.0	26.2	49.4	40.0
Liverpool	10	2.9	3.2	9.3	9.1
Leeds	10	20.0	44.0	46.5	No record.
Sheffield	10	7.0	6.7	23.4	23.2
Hull	6	1.8	2.6	9.8	8.6
York	5	6.1	No record.	15.0	No record.
Doncaster	5	4.6	No record.	14.6	No record.
Harrogate	5	8.1	No record.	21.1	No record.

The above measurements were taken between May 8th and 14th inclusive.

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RAR/CHF.

M. Kurke

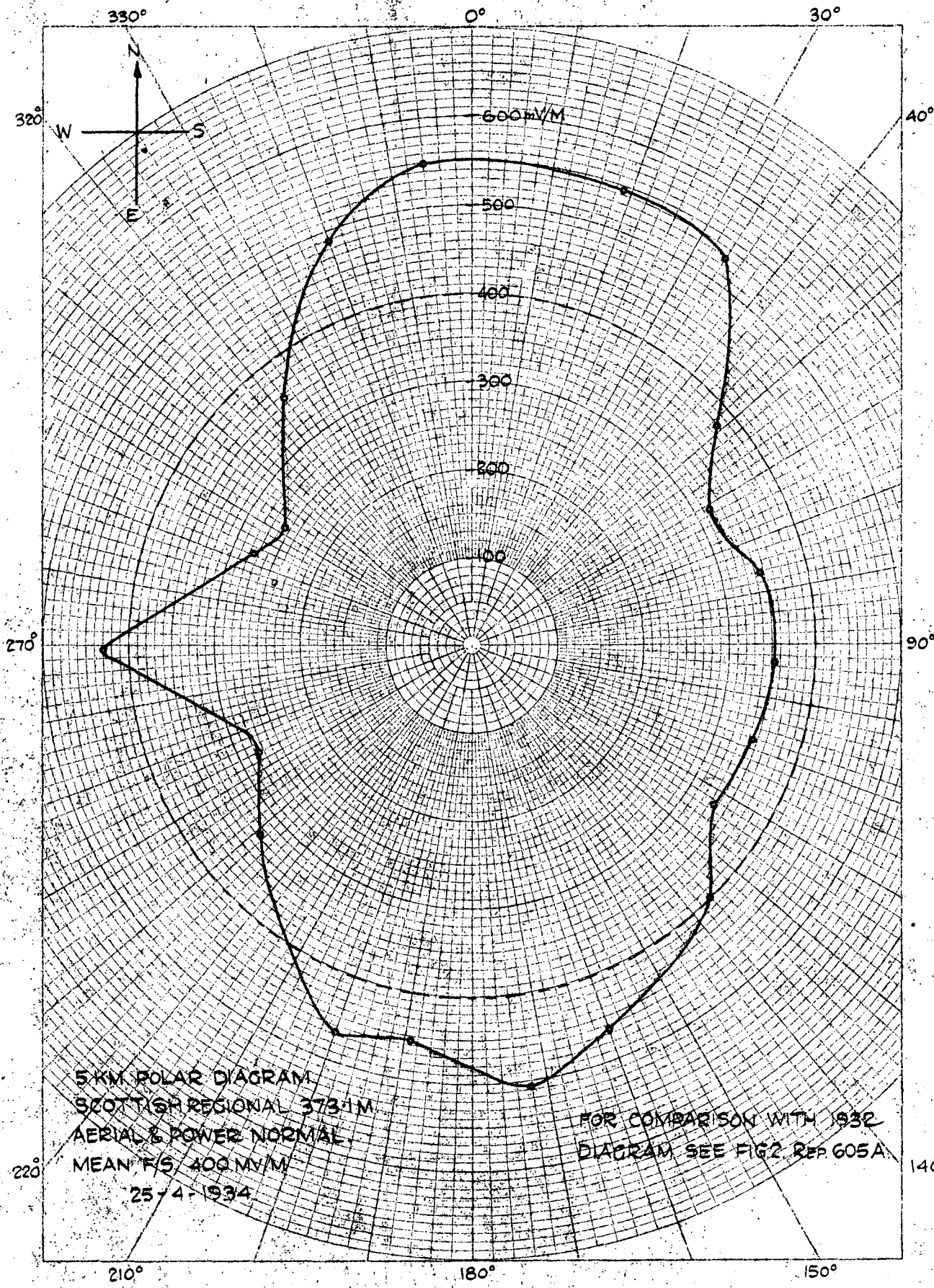


5 KM. POLAR DIAGRAM
 SCOTTISH NATIONAL 285.7M
 AERIAL NORMAL
 MEAN F/S 435 mV/M
 2-5-1934.

FOR COMPARISON WITH 1932
 DIAGRAM SEE FIG. 1. REP 605A

DATA SHEET NO. 13 CIRCULAR CO-ORDINATE

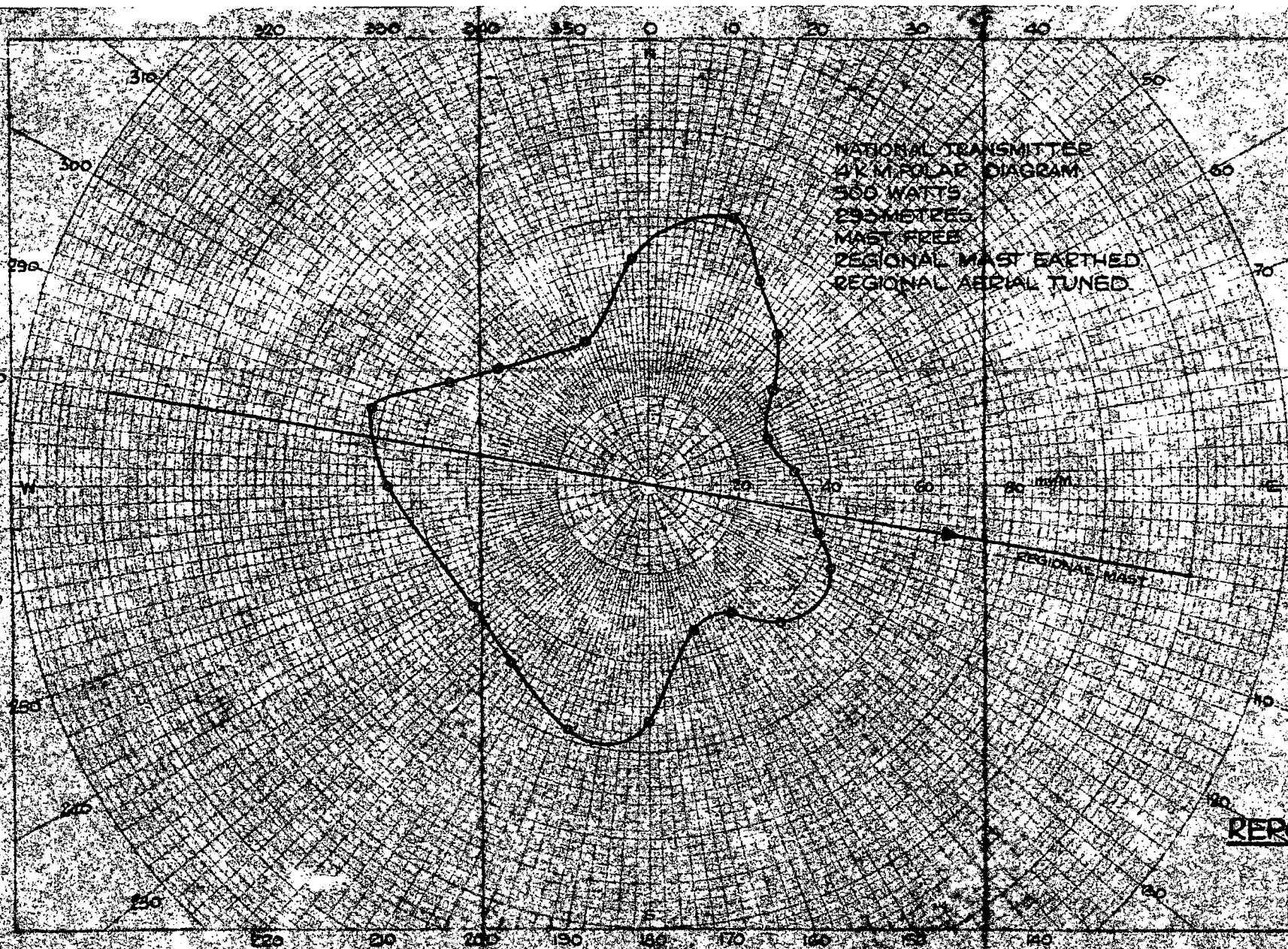
B B C. RESEARCH DEPT.	
DRN. <i>J.L.</i>	REPORT.
APPD. R.A.R.	K.015.1.



5 KM POLAR DIAGRAM
 SCOTTISH REGIONAL 373.1M
 AERIAL & POWER NORMAL
 MEAN F/S 400 MV/M
 25-4-1934

FOR COMPARISON WITH 1932
 DIAGRAM SEE FIG 2 REP 605A

CIRCULAR CO-ORDINATE
 E.I. 10-13-34



NATIONAL TRANSMITTER
 41 MFC LAP DIAGRAM
 500 WATTS
 29.5 METRES
 MAST FREE
 REGIONAL MAST EARTHED
 REGIONAL AERIAL TUNED

FIG. 1.
REPORT N°605A

DRN BY	20
CHK BY	22
APP BY	23

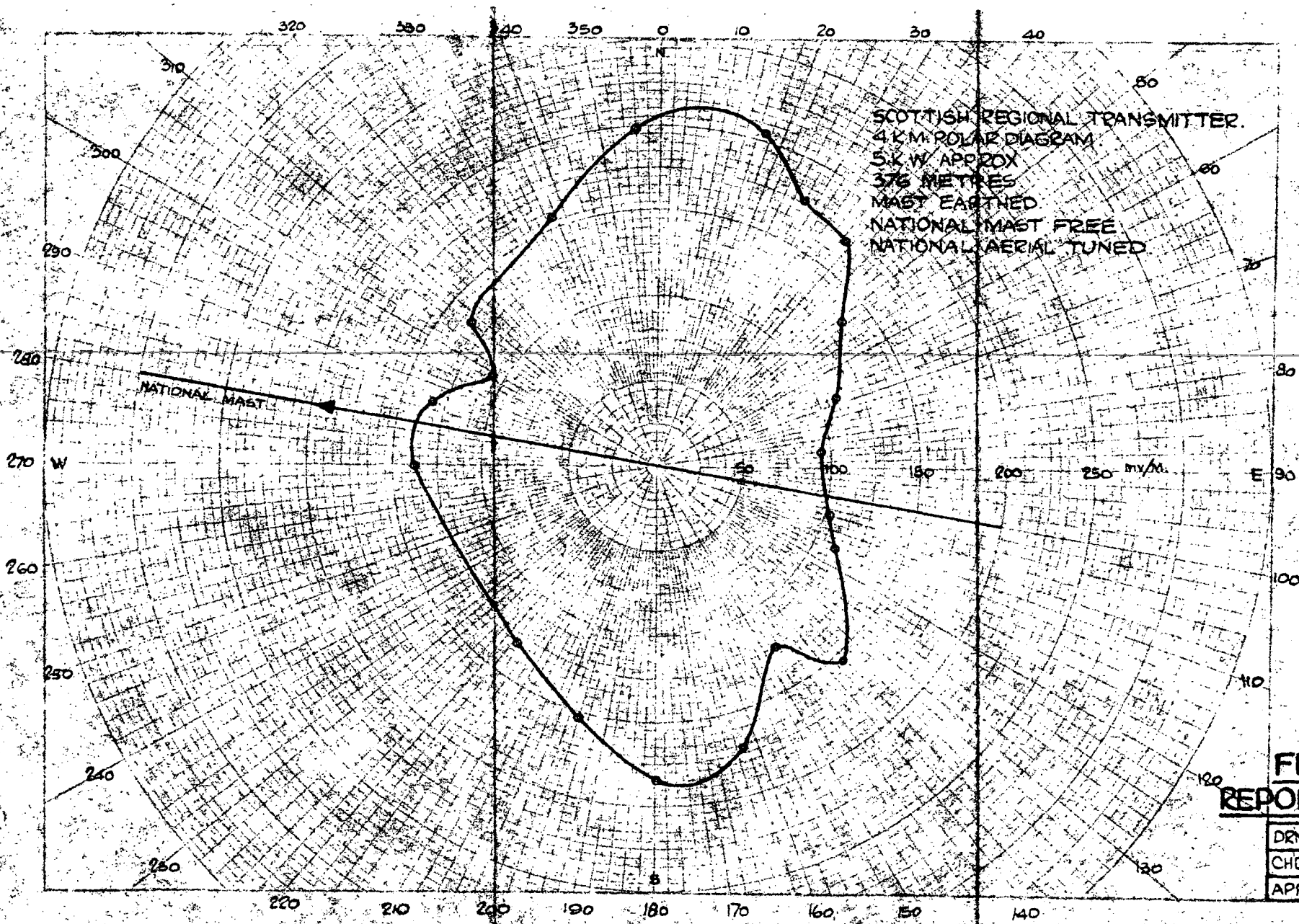


FIG. 2.
REPORT N°605A

DRN BY.	<i>[Signature]</i> 25-6-32
CHD BY.	<i>[Signature]</i>
APPD BY.	<i>[Signature]</i>