RESEARCH DEPARTMENT

VENTNOR U.H.F. RELAY STATION: SUMMARY OF INSTALLATION

Technological Report No. RA-15/8
UDC 621.396.712 1968/44

It uses SI units in accordance with B.S. document PD 5686.

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BRITISH BROADCASTING CORPORATION
ENGINEERING DIVISION
RESEARCH DEPARTMENT

TECHNOLOGICAL REPORT
NO. RA-15/8 1968/44 Sept. 1968

U.H.F. RELAY STATIONS : SUMMARY OF INSTALLATION

NAME: 108.03 Ventnor TYPE: 2

TRANSMISSIONS COMMENCED: (TRADE) 8.7.68 (SERVICE) 22.7.68

SITE DATA

LOCATION: St. Boniface Down

GRID REFERENCE: SZ 567783

HEIGHT, a.o.d. : 299 m (750 ft) a.o.d.

SUPPORT MAST

TYPE: 46.3 m (152 ft) Tower

OVERALL HEIGHT: 50.3 m (165 ft)

FREQUENCIES

BAND: V

CHANNELS: 39 (BBC-1), 42
45 (BBC-2), 49

RECEPTION

PARENT: Rowridge

CHANNELS: 21, 24 (BBC-2)
27, 31 (BBC-1)

POLARIZATION: Horizontal

AERIALS: 2 x 4λ Troughs

AERIAL HEIGHTS: 21.3 m (70 ft)
24.4 m (80 ft)

TRANSMITTERS

TYPE: TWT Amplifier

OPERATING POWER: (1) 50W
(2) 200W

FEEDERS

TRANSMITTING: HF-1 5/8

RECEIVING: UR 67

TRANSMITTING AERIAL

TYPE: One trough on 105° ETN, tilted 15°
One trough on 175° ETN, tilted 20°
One trough on 245° ETN, tilted 4°
Power ratio: Fig.1

RADIATING LENGTH: 4λ

H.R.P. : Fig.2

V.R.P. : Fig.2

MEAN HEIGHT: 44.2 m (145 ft)

RADIATION CHARACTERISTICS

POLARIZATION: Vertical

MEAN E.R.P. : Not applicable

MAXIMUM E.R.P. : (1) 0.42 kW
(2) (3) 1.33 kW

NOTES: (1) Initial Power
(2) Power increase when station 139.01, Newhaven, comes into operation
(3) Includes allowance of 1 dB for loss in 4 channel combining unit

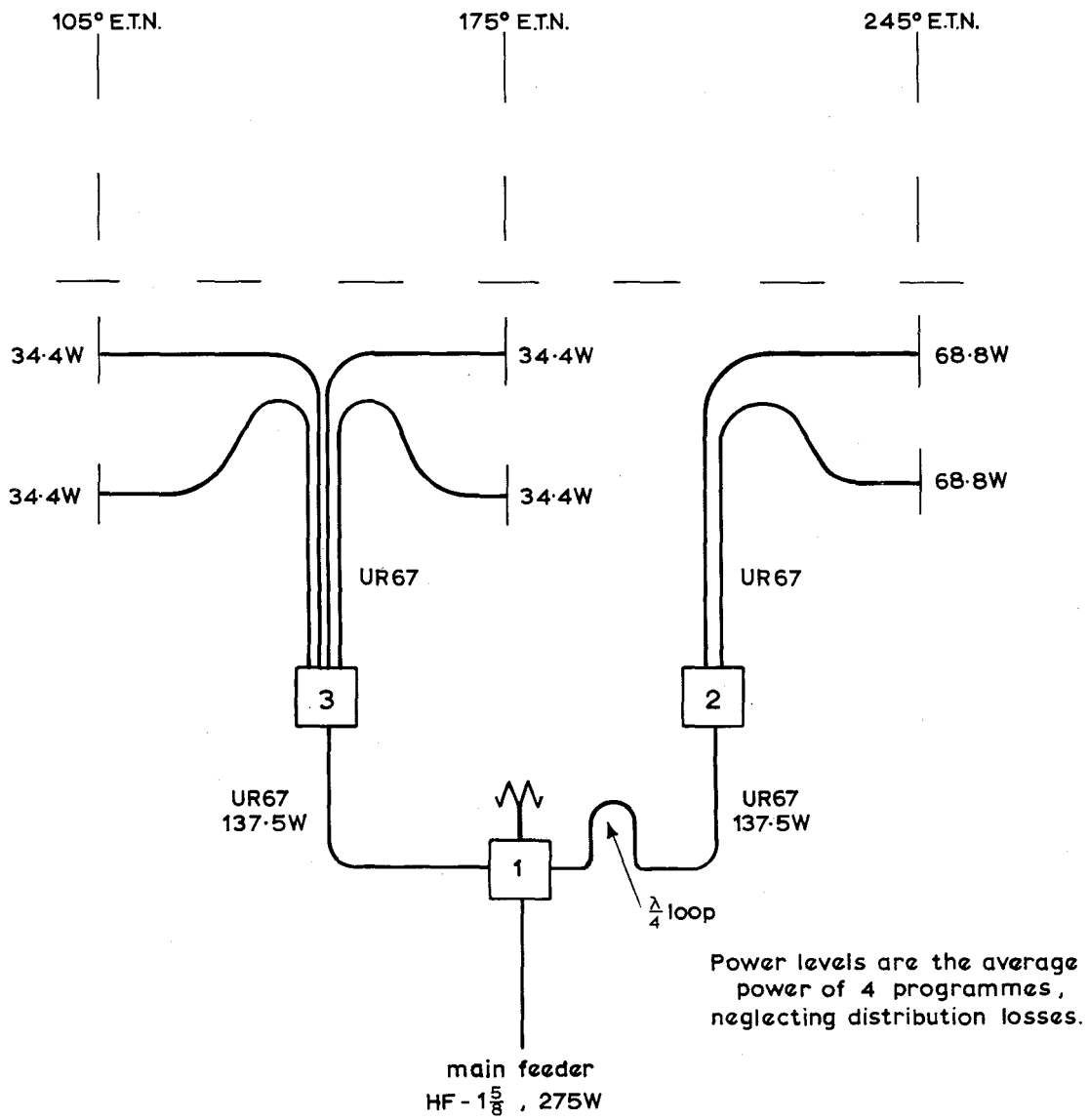

Fig.1. Arrangement of distribution feeder (one-half aerial)

1 : split-drum hybrid
2 : cable transformer
3 : 4-way transformer

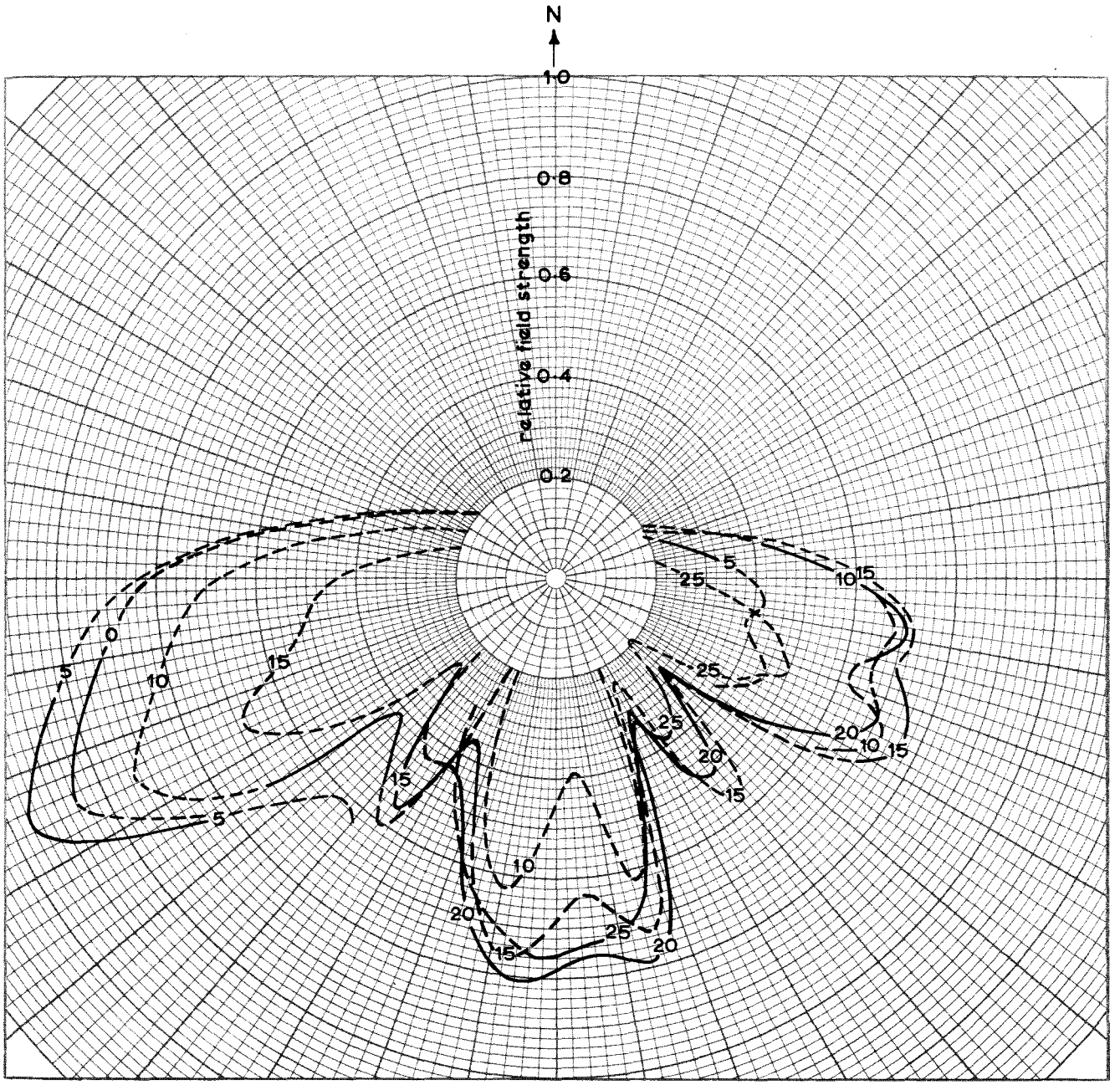

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Fig. 2. Vertical and horizontal radiation patterns

VERTICAL POLARIZATION

Initial operation : unit field corresponds to an E.R.P. of 0·32kW

Final operation : unit field corresponds to an E.R.P. of 1·00kW

——— Radiation pattern giving service

– – – – Other parts of radiation pattern

Numbers on patterns are angles below the horizontal, degrees