



RESEARCH DEPARTMENT

The service area of the Llanddona television transmitter

REPORT No. K-165

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**THE BRITISH BROADCASTING CORPORATION
ENGINEERING DIVISION**

RESEARCH DEPARTMENT

**THE SERVICE AREA OF THE LLANDDONA
TELEVISION TRANSMITTER**

Report No. K-165

(1963/50)

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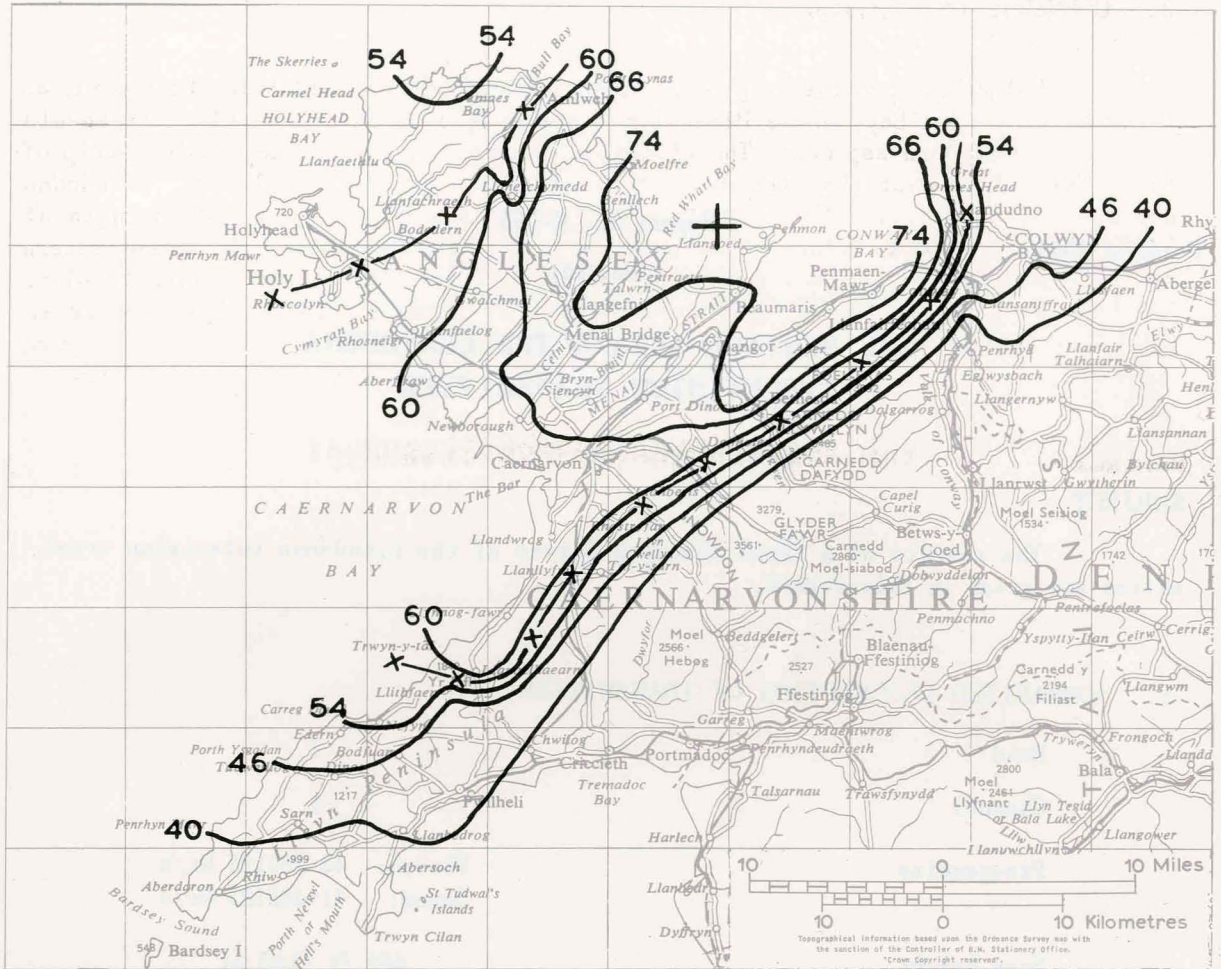
(W. Proctor Wilson)

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**THE SERVICE AREA OF THE LLANDDONA
TELEVISION TRANSMITTER**

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Map T.569 - LLANDDONA

Band I Channel 1 (Measured)

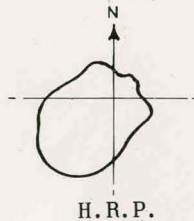
SITE HEIGHT: 460 ft (140 m) a.m.s.l.

AERIAL: TWO TIERS OF VERTICAL DIPOLES

AERIAL HEIGHT: 256 ft (78 m) a.g.l.

E.R.P.: 0.2 - 5.76 kW

POLARIZATION: VERTICAL



RESEARCH DEPARTMENT
TECHNICAL MEMORANDUM NO. E-1076

NOTES:

1. The contours represent the field strength in decibels (dB) relative to $1 \mu\text{V/m}$ at 30 ft (9.1 m) above ground exceeded at 50% of receiving sites in a given locality. The value exceeded at 90% of receiving sites may be as much as 10 dB below the value indicated by the contours, particularly in hilly and built-up areas.
2. —x—x— Limit of service area free from perceptible co-channel interference from all U.K. co-channel transmitters for 90% of the time based on a protection ratio of 45 dB with a reduction of 10 dB for cross polarization and 10 dB for frequency offsets, allowance being made for receiving aerial directivity.

3. COMMENTS ON SERVICE

Holme Moss provides a good service to the north coast of Wales to a point as far west as Colwyn Bay, while Blaen-Plwyf serves that part of the Lley Peninsula which has a southern aspect. The Llanddona transmitter serves the coastal strip of North Wales from near the extremity of the Peninsula to, and including, Llandudno and most of Anglesey. Co-channel interference is severe. A field strength of 57 dB($\mu V/m$) is protected for 90% of the time; hence the service in the south-western half of the Lley Peninsula and the west of Anglesey will be poor from time to time. Holyhead will in due course be served by its own relay station. The service in North Wales is severely restricted by the mountainous terrain. Neither Betws-y-Coed nor Llanrwst is served.

APPENDIX

Town	Field Strength (dB(μ V/m)) for Stated Percentage Locations		
	10%	50%	90%
*Aberdaron	42	38	34
Abererch	53	46	40
Aberffraw	67	64	62
Abersoch	57	51	46
*Amlwch	63	59	55
*Bangor	79	71	64
*Beaumaris	76	71	66
Beddgelert	40	36	34
Benllech	94	92	88
Bethel and Saron	72	70	66
Bethel	68	67	63
*Bethesda	77	65	58
Bodedern	58	55	52
Bodfordd	77	75	71
Bont-Newydd	63	60	58
Botwnnog	45	37	35
Bryngwran	64	59	57
Brynkir	61	56	53
Bryn-Siencyn	73	70	65
Bryn-yr-Efail	65	61	58
Cae-Athraw	72	70	67
Caellwyn-Grŷdd	83	79	76
Caergeiliog	61	59	56
*Caernarvon	69	64	57
Carmel	78	75	72
Cemaes Bay	58	52	47
Chwilog	44	40	38
*Clynnog-Fawr	65	59	57
*Colwyn Bay	54	48	42
*Conway	59	51	45
Cwm-y-Glo	63	60	56
*Deganwy	68	65	60
Deiniolen	62	58	52
Dinorwic	61	56	48
Dwygyfylchi	76	69	64
Dwyran	65	63	60
Edern	60	54	49
Efail Newydd	53	51	48

*Population over 1,000

Town	Field Strength (dB(μ V/m)) for Stated Percentage Locations		
	10%	50%	90%
Fachwen	58	53	48
Four Crosses	59	56	50
Four Mile Bridge	61	59	56
Gadlys	72	69	67
Gaerwen	74	72	68
Gallt-y-Foel	75	73	70
Garn Dolbenmaen	53	49	44
Gerlan and Braich Melyn	73	66	60
Glanrhyd	66	64	60
Groeslon	68	63	60
Gwalchmai	71	66	62
Gyrn Gôch	63	61	57
Hendre	40	39	37
Hermon	78	70	63
*Holyhead	59	54	50
Llanaelhaiarn	57	52	47
Llanbedrgoch	91	87	85
Llanbedrog	62	58	52
*Llanberis	53	48	43
Llanddeusant	58	56	53
*Llandudno	63	54	40
Llandudno Junction	63	60	55
Llanengan	42	39	36
Llanerchymedd	64	59	55
Llanfachraeth	57	55	52
Llanfaelog and Bryndu	66	61	58
Llanfaethlu	65	60	57
*Llanfairfechan	82	78	74
Llanfair P.G.	71	70	68
Llanfechell		52	
Llanfwrog	54	52	50
Llangaffo	75	73	69
Llangefni	78	69	63
Llangian	38	33	30
Llanllechid and Caellwyn-Grŷdd	83	79	76
Llanllyfni	59	54	50
Llannor	52	46	39
Llanrhos	72	61	56
Llanrug	69	65	60
Llansaintfraid-Glan Conway	63	61	57
Llithfaen	53	42	34

*Population over 1,000

Town	Field Strength (dB(μ V/m)) for Stated Percentage Locations		
	10%	50%	90%
*Menai Bridge	71	64	60
Mochdre	57	51	37
Moelfre	90	85	81
Morfa Nevin	56	53	50
Nantlle	48	42	38
*Nevin	59	56	53
Newborough	68	65	62
Pen-Isor-Waen	70	67	65
*Penmaen-Mawr	79	73	67
Penrhyn-Bay	55	47	45
Penrhyn-Side	67	62	41
Pentraeth	78	75	73
Pentre Berw	75	67	61
Pen-y-Ffridd	86	84	81
Pen-y-Groes	59	54	49
Pen-y-Groeslon	60	55	51
Penysarn	65	63	61
Pistyll	67	65	58
Pont-Llyfni	59	54	52
Port Dinorwic	78	70	61
*Pwllheli	48	40	37
Rhiwlas	83	80	74
Rhos-Gadfan	82	79	75
Rhos-Meirch	85	82	80
Rhosneigr	64	59	55
Rhostryfan	76	74	71
Rhosybol	69	67	62
Rhyd-Ddû	58	56	47
Rhyd-Wyn	51	48	46
Rhy-y-Clafdy	49	48	44
Sarn	45	40	35
Tal-y-Sarn	58	49	43
Trearddur Bay	59	56	53
Treffynon	59	57	54
Tregarth	84	76	71
Trevor	62	59	53
Tudweiliog	58	51	48
Tywyn	69	65	61
Valley	60	58	56
Waunfawr	70	64	53

*Population over 1,000

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