



# Digital Switchover Transmitter Details

Existing 81-Site Plan

Issue 2.0

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# Digital Switchover Transmitter Details: Existing 81-Site Plan

This document contains details of the transmission characteristics which the 81 transmitters already carrying digital services will adopt at digital switchover. Information on each transmitter's dependent relay stations will be issued separately, on a region-by region basis.

This information is primarily intended to help systems installers make initial preparations for switchover by highlighting those transmitters where frequency allocations and aerial group requirements are likely to change.

A key to column headings is provided in the Glossary.

Please note that although we anticipate that this frequency plan will remain relatively stable in the run-up to switchover, it may prove necessary to make changes to some aspects of the plan with the aim of maximising coverage across the UK. If you would like to be kept informed of any changes, please join our digital transmitter mailing list by sending an email to [broadcast.technical@ofcom.org.uk](mailto:broadcast.technical@ofcom.org.uk), with the word 'subscribe' as the message subject.

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## Existing 81-Site Plan

Site Name (Region)	NGR	PSB Multiplexes			COM Multiplexes			ERP (kW)	Aerial Group
<b>Anglia</b>									
Sandy Heath	TL204494	21	24	27	48	51	52	200	WH
Sudbury	TL913376	41	44	47	56	58	60	100	EH
Tacolneston	TM130957	55	59	62	42	45	50	100	EH
<b>Border</b>									
Caldbeck	NY299425	25	28	30	23	26	29	100 50	AH
Caldbeck Scotland	NY299425	22	24	27				100 50	AH
Selkirk	NT500294	55	59	62	53	57	60	10 5	C/DH
<b>Central</b>									
Brierley Hill	SO916856	53	57	60	55	59	62	2	C/DV
Bromsgrove	SO947730	23	26	30	41	44	47	0.4	KV
Fenton	SJ902451	21	24	27	22	25	28	2 1	AV
Lark Stoke	SP187426	23	26	30	41	44	47	1.3	KV
Malvern	SO774464	53	57	60	55	59	62	0.4	C/DV
Nottingham	SK503435	21	24	27	48	51	52	0.4	WV
Oxford	SP567105	53	57	60	55	59	62	100 50	C/DH
Ridge Hill	SO630333	22	25	28	21	24	27	20 10	AH
Sutton Coldfield	SK113003	43	46	50	42	45	49	200	BH
The Wrekin	SJ629082	23	26	30	41	44	47	20 10	KH
Waltham	SK809233	54	58	61	29	56	57	50 25	WH
<b>Granada</b>									
Lancaster	SD490662	21	24	27	22	25	28	2	AV
Pendle Forest	SD825383	22	25	28	21	24	27	0.1	AV
Saddleworth	SD987049	42	45	49	48	51	52	0.4	BV
Storeton	SJ314841	22	25	28	23	26	29	0.56	AV
Winter Hill	SD660144	54	59	62	55	58	61	100	C/DH

Site Name (Region)	NGR	PSB Multiplexes			COM Multiplexes			ERP (kW)	Aerial Group
<b>London</b>									
Crystal Palace	TQ339712	23	26	30	22	25	28	200	AH
Guildford	SU974486	43	46	49	48	52	56	2	EV
Hemel Hempstead	TL087044	41	44	47	55	59	62	2	EV
Reigate	TQ256521	53	57	60	21	24	27	2	WV
<b>Meridian</b>									
Bluebell Hill	TQ757613	43	46	54	45	48	61	20	EH
Dover	TR273397	50	51	53	55	59	62	80 40	C/DH
Hannington	SU527568	42	45	51	41	44	47	50 25	BH <sup>a</sup>
Hastings	TQ806100	22	25	28	23	26	30	1 0.5	AV
Heathfield	TQ566220	47	49	52	42	44	41	20	BH
Midhurst	SU912249	55	58	61	50	59	62	20 10	C/DH
Rowridge <sup>b</sup>	SZ447865	21	24	27	22	25	28	200 50	AH AH AV
Salisbury	SU136285	53	57	60	55	59	62	2	C/DV
Tunbridge Wells	TQ607439	47	49	52	41	42	44	4	BV
Whitehawk Hill	TQ329045	53	57	60	48	51	56	4	C/DV
<b>STV Central</b>									
Black Hill	NS831645	43	46	50	41	44	47	100	BH
Craigkelly	NT233872	21	24	27	42	45	49	20 10	WH
Darvel	NS557341	22	25	28	23	26	29	20 10	AH
Rosneath <sup>c</sup>	NS258811	54 54	58 58	61 61	53 53	57 57	60 60	2 0.008	C/DH C/DV
Torosay	NM703357	22	25	28	23	26	29	4	AV

<sup>a</sup> Hannington viewers are at present recommended to use Group E aerials for analogue reception. Group E aerials will be suitable for receiving post-switchover services broadcast in Group B

<sup>b</sup> Rowridge will broadcast both horizontally and vertically polarised signals for all six multiplexes after switchover. All vertically polarised signals will be at an ERP of 200kW. The horizontally polarised signals will be broadcast at 200 kW on channels 21, 24 & 27, and 50kW on channels 22, 25 & 28.

<sup>c</sup> In addition to the main horizontally polarised signals at 2kW, the Rosneath transmitter will also broadcast a separate beam at 0.008kW vertically polarised. This is intended to improve reception in Rosneath itself.

Site Name (Region)	NGR	PSB Multiplexes			COM Multiplexes			ERP (kW)	Aerial Group
<b>STV North</b>									
Angus	NO394407	53	57	60	54	58	61	20 10	C/DH
Bressay	HU503387	22	25	28	21	24	27	2	AV
Durris	NO764899	22	25	28	23	26	29	100 50	AH
Eitshal	NB305303	23	26	29	22	25	28	20 10	AH
Keelylang Hill	HY377102	43	46	50	42	45	49	20 10	BH
Knockmore	NJ321497	23	26	29	53	57	60	20 10	WH
Rosemarkie	NH761622	42	45	49	43	46	50	20 10	BH
Rumster Forest	ND197385	21	24	27	30	59	62	20 10	WH
<b>Tyne Tees</b>									
Bilsdale	SE553962	23	26	29	43	46	50	100 50	WH
Chatton	NU105264	42	45	49	41	44	47	20 10	BH
Fenham	NZ216648	21	24	27	22	25	28	0.4	AV
Pontop Pike	NZ147527	54	58	61	55	59	62	100 50	C/DH
<b>Ulster</b>									
Brougher Mountain	IH350527	22	25	28	21	24	27	20 2	AH
Divis	IJ287750	21	24	27	23	26	29	100 50	AH
Limavady	IC711296	55	59	62	54	58	61	20 10	C/DH
<b>Wales</b>									
Aberdare	SO034012	21	24	27	22	25	28	0.1	AV
Blaenplwyf	SN569756	21	24	27	22	25	28	40 10	AH
Carmel	SN576153	53	57	60	54	58	61	20 10	C/DH
Ferryside	SN317104	21	30	24	27	-	-	0.025 0.005	AV
Kilvey Hill	SS671940	23	26	29	22	25	28	2	AV
Llanddona	SH582810	53	57	60	43	46	50	20 10	EH

Site Name (Region)	NGR	PSB Multiplexes			COM Multiplexes			ERP (kW)	Aerial Group
<b>Wales (cont)</b>									
Moel y Parc	SJ123701	42	45	49	48	51	52	20 10	BH
Pontypool	ST284990	23	26	29	22	25	28	0.05	AV
Presely	SN172306	43	46	50	42	45	49	20 10	BH
Wenvoe	ST110741	41	44	47	42	45	49	100 50	BH
<b>West</b>									
Bristol Ilchester Crescent	ST577700	41	44	47	42	45	49	0.2 0.1	BV
Bristol Kings Weston	ST547775	43	46	50	53	57	60	0.2	EV
Mendip	ST564488	54	58	61	48	52	56	100	C/DH
Ridge Hill West	SO630333	29						20	AH
<b>Westcountry</b>									
Beacon Hill	SX857619	53	57	60	42	45	51	20 10	EH
Caradon Hill	SX273707	22	25	28	21	24	27	100 50	AH
Huntshaw Cross	SS527220	55	59	62	48	52	56	20 10	C/DH
Plympton	SX530555	54	58	61	42	45	56	0.4	EV
Redruth	SW690394	41	44	47	48	51	52	20 10	BH
Stockland Hill	ST222014	23	26	29	22	25	28	50 25	AH
<b>Yorkshire</b>									
Belmont	TF218836	22	25	28	30	53	60	150 50 100	WH
Chesterfield	SK382764	23	26	29	43	46	50	0.8 0.4	WV
Emley Moor	SE222128	41	44	47	48	51	52	174	BH
Idle	SE164374	21	24	27	42	45	49	0.05	WV
Keighley	SE068443	54	58	61	53	57	60	2	C/DV
Olivers Mount	TA040869	53	57	60	54	58	61	2 1	C/DV
Sheffield	SK324870	21	24	27	42	45	49	1	WV

## Glossary

Site Name ( <b>Region</b> )	The name of the transmitter site. Transmitters are grouped according to the ITV regional service they broadcast (shown in bold), and this will determine their place in the digital switchover sequence.
NGR	The location of the transmitter site, in Ordnance Survey National Grid Reference (Landranger) format.
PSB Multiplexes / COM Multiplexes	The UHF channel numbers which will be used by the Public Service Broadcaster (PSB) multiplexes and the Commercial (COM) multiplexes at this site after switchover. The nominal centre frequency, $F_c$ (in Megahertz) of the multiplex can be calculated using $F_c=8n+306$ , where $n$ is the UHF channel number. See below for more information on multiplex names.
Multiplex Channels colour coding	Where individual multiplexes use channels which are outside the suggested aerial group for reception of the existing analogue services (excluding Channel 5), they are shown shaded in yellow. See below for more information on aerial groups.
ERP	The Effective Radiated Power of each multiplex, in kilowatts (kW), which will be adopted after switchover. Where differing power levels will be used at a particular site, each power is shown vertically aligned with the corresponding multiplex channel numbers. Note that certain multiplexes at some sites may not adopt full-power transmissions immediately at switchover: see the note on Transitional Transmission Characteristics on page 7.
Aerial Group	Suggested aerial group for reception of all multiplexes from this transmitter after digital switchover. See below for more information on aerial groups. The final character in this column indicates whether signals are horizontally (H) or vertically (V) polarised.
Aerial Group Colour codes	At switchover, all digital multiplexes will fall within the suggested aerial group for reception of the existing analogue services (excluding Channel 5). If aerials are in good condition, replacement will generally not be required. At switchover, one or more digital multiplexes will fall outside the suggested aerial group for reception of the existing analogue services (excluding Channel 5). Therefore a replacement aerial of a different group may be required. If householders have already replaced their aerials to receive digital television or are receiving digital television through their analogue aerial reliably prior to switchover, replacement should not be needed.

## Multiplex Names

This guide indicates only which frequencies are to be allocated to multiplexes carrying the public service channels (PSB multiplexes) and other (COM multiplexes). Information on which frequency will be used for specific individual multiplexes will be published in the detailed frequency listings for each region:

The current designations of the six multiplexes will change at switchover, and the table below compares their current and future names, as well as their PSB and COM status:

Current Multiplex Name	Post-Switchover Name	PSB or COM	Operator
1	BBC A	PSB	BBC
2	D3&4	PSB	Digital 3 & 4
A*	SDN	COM	SDN
B	BBC B	PSB	BBC
C	NGW A	COM	National Grid Wireless
D	NGW B	COM	National Grid Wireless

\* We expect that five, S4C and Tele G which are currently carried on multiplex A, will move to a PSB multiplex prior to switchover.

## Aerial Groups

Television aerials are designed to operate most efficiently over a specific range of frequencies, as shown in the table below. For guidance, this document suggests a suitable aerial group for reception of the digital services from each transmitter. Where a transmitter uses a semi-wideband channel grouping (E or K), a wideband (W) aerial is also suggested as an alternative. The colour codes in the table below are often used by aerial manufacturers to aid identification of the aerial's group.

Aerial Group	Channels	Colour Code
A	21-37	Red
B	35-53	Yellow
C/D	48-68	Green
E	35-68	Brown
K	21-48	Grey
W	21-68	Black

## Transmission Mode

It is anticipated that the post-switchover transmission mode for all six multiplexes will be 64QAM modulation, rate 2/3.

## Transitional Transmission Characteristics

Transmission frequencies are intensively used in many parts of the UK. To avoid unnecessary interference being caused to viewers, a certain number of multiplexes will need to operate with 'transitional' transmission characteristics for a limited period following switchover at particular transmitters. These transitional characteristics are only likely to affect a small proportion of sites. For example, some channels may need to operate at slightly reduced power levels compared to the final post-switchover allocations shown in this booklet. This is primarily in order to prevent interference being caused to neighbouring transmitters which may not switchover until later in the regional sequence. Full power

operation will be adopted when these interference constraints are removed, generally when the neighbouring transmitter or region switches over.

Details of transitional arrangements affecting particular transmitters will be published in the detailed regional frequency listings as switchover plans are finalised.

### **Analogue Channel Changes**

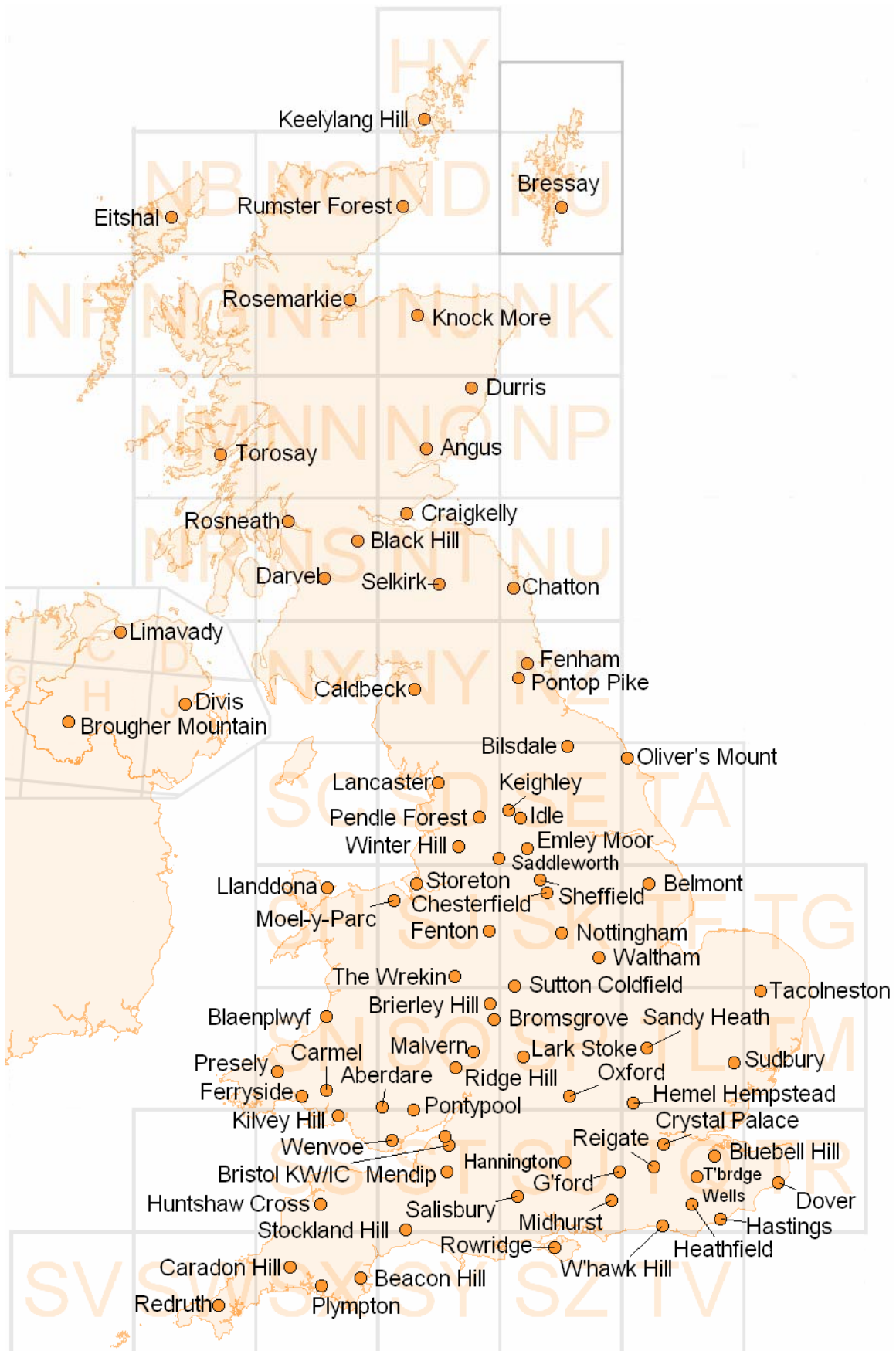
For practical engineering reasons, some analogue channel allocations may need to be altered in the period immediately before switchover begins at a particular transmitter. This may involve swapping the frequencies of some programme services. In other cases, a previously unused analogue frequency may need to be used temporarily to allow high-power digital broadcasts to begin.

Viewers will be informed of any such channel changes by Digital UK and the broadcasters in the run up to switchover.

### **Switchover Dates**

Up-to-date information on switchover dates is available from Digital UK ([www.digitaluk.co.uk](http://www.digitaluk.co.uk)).

## Transmitter Locations



## Document History

<b>Version</b>	<b>Date</b>	<b>Details</b>
1.0	5/7/2007	Document issued
2.0	24/10/2007	Additional explanatory text, revised document format, and new colour coding. Change to Ferryside data.