



# Digital Switchover Transmitter Details

Channel Islands

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# Digital Switchover Transmitter Details: Channel Islands

This document contains details of the transmission characteristics which the television transmitter network in the Channel Islands adopted at digital switchover.

A key to column headings is provided in the Glossary.

If you would like to be kept informed of any changes or update to these details, 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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## Fremont Point transmitter group - Public Service Broadcaster (PSB) Multiplexes

Site Name	NGR	BBC A		D3&4		BBC B		Aerial Group
		Channel	ERP	Channel	ERP	Channel	ERP	
<b>Fremont Point</b>	<b>XD908280</b>	<b>44</b>	<b>3.2kW</b>	<b>41</b>	<b>3.2kW</b>	<b>47</b>	<b>3.2kW</b>	<b>BH</b>
Alderney	XD865798	49	200W	60	200W	55	20W	C/DV
Gorey	XD985222	59	10W	52	10W	48	10W	C/DV
Les Touillets	XD581511	54	1.5kW	56	1.5kW	51	1.5kW	C/DH
St Brelades	XD852206	59	15W	52	15W	62	15W	C/DH
St Helier	XD920195	62	40W	59	40W	52	40W	C/DV
St Peter Port	XD610503	24	10W	27	10W	21	10W	<b>AV</b>
Torteval	XD515482	59	20W	50	20W	48	20W	C/DV

## Glossary

Site Name:	The name of the transmitter site. Primary transmitters in each transmitter group are highlighted in <b>bold</b> , with their dependent relays listed alphabetically below them. Public Service Broadcaster (PSB) and Commercial (COM) multiplexes are shown in separate tables.
NGR:	The location of the transmitter site, in Ordnance Survey National Grid Reference format.
Multiplex names:	The post-switchover name of the multiplex. See below for more details
Channel	The UHF channel number of the multiplex. The centre frequency, $F_c$ (in Megahertz) of the multiplex can be calculated using $F_c=8n+306$ , where $n$ is the UHF channel number. A + or - following the channel number indicates that the frequency is offset by +0.167MHz or -0.167MHz with respect to the channel centre. Channel numbers highlighted in red are likely to be affected in future by the clearance of channels 61 and 62: see the '800 MHz Clearance' section below.
ERP	The Effective Radiated Power of the multiplex, in watts (W) or kilowatts (kW)
Aerial Group:	Suggested aerial group for reception of the 3 PSB multiplexes (and the 3 COM multiplexes, where broadcast) from this transmitter. 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:	All frequencies at this transmitter were formerly used by analogue channels.
	One or more digital frequencies at this transmitter were formerly unused at this transmitter by analogue TV, but all digital channels fall within the former analogue aerial group.
	One or more digital frequencies at this transmitter were formerly unused at this transmitter by analogue TV, and at least one of these frequencies also falls outside the former analogue aerial group.
DSO	Digital Switchover
Single Frequency networks (SFNs)	In order to maximise digital coverage, some transmitter sites will operate as Single Frequency Networks (SFNs) at switchover. In an SFN, neighbouring transmitters use the same frequencies as each other.

## Multiplex Names

The naming convention for the six multiplexes changed at switchover, and the table below compares their pre-switchover and post-switchover designations:

Pre-Switchover Name	Post-Switchover Name	Operator
Multiplex 1	BBC A	BBC
Multiplex 2	D3&4	Digital 3 & 4
Multiplex A	SDN	SDN
Multiplex B	BBC B	BBC
Multiplex C	Arqiva A	Arqiva
Multiplex D	Arqiva B	Arqiva

## 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 Modes

The post-switchover transmission mode for all multiplexes except BBC B is 64QAM modulation, coding rate 2/3, & 8K FFT.

The BBC B multiplex uses the DVB-T2 standard: 256QAM modulation, coding rate 2/3, & 32K FFT.

## 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 switch over 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 known transitional arrangements affecting individual transmitters are provided in footnotes.

## **800 MHz clearance**

In order to align the frequencies released by digital switchover for alternative uses with those released by other European countries, UHF channels 61 and 62 will be 'cleared' of digital TV services over the coming years. UHF channels 39 and 40 (which were previously among the channels due to be released for other uses after switchover) will instead now be retained for TV broadcasting.

In order to minimise changes to domestic aerial groups, the general approach for adopting these changes is that multiplexes using channels 61 or 62 will move to channels 49 or 50, and multiplexes using channels 49 or 50 will move to channels 39 or 40. Other channels may also be affected in some cases. The changes will either be carried out at digital switchover, or sometime after switchover completes (e.g. during 2013). If the changes are to be carried out at digital switchover, an updated version of this guide will be issued.

Multiplexes using channels 61, 62, 49, or 50 are highlighted in **red** in this guide to indicate that these allocations are likely to change in the future.

## **Transmitter Locations**

Maps showing the location of TV transmitters within individual regions are available on Ofcom's website at:

<http://stakeholders.ofcom.org.uk/broadcasting/guidance/tech-guidance/>

## Document History

Version	Date	Details
1.0	4/11/2008	Document Issued
2.0	5/1/2011	Format and text changed for post-switchover situation, and analogue details removed. Initial 800Mhz clearance information added. Gorey and Torteval BBC B frequencies changed. Les Touillets polarisation corrected.

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