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# Television Technical Performance Code

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# 1. Introduction

- 1.1 Under the 1990 and 1996 Broadcasting Acts (the '1990 Act' and the '1996 Act' respectively) Ofcom is required to include conditions in the licences for Channels 3, 4 and 5, and in the licences for multiplex services issued under the 1996 Act, relating to transmission standards and reliability. Specifically, Ofcom must include such conditions as are appropriate for securing that the signals carrying these services attain high standards of technical quality and reliability throughout so much of the service coverage area as is for the time being reasonably practicable (see section 66(4) of the 1990 Act and section 12(1)(g) of the 1996 Act). Accordingly, these licences include conditions requiring the licensee to do all they can to ensure the relevant provision of this Television Technical Performance Code are observed.
- 1.2 While digital television multiplexes licensed under the 1996 Act must also hold licences issued under the Wireless Telegraphy Act 1996, Ofcom also licenses some digital terrestrial television multiplexes under the Wireless Telegraphy Act 2006 alone. In some cases, these licensees are also required to observe this Television Technical Performance Code.

## 2. The Television Signal

- 2.1 All picture, sound, test and other signals broadcast by licensees must comply with the technical standards specifications which are for the time being applicable in the UK.
- 2.2 For digital terrestrial television services the currently applicable transmission standards are described in 'Reference Parameters for Digital Terrestrial Television Transmissions in the United Kingdom', available from Ofcom<sup>1</sup>.

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<sup>1</sup> [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0017/36512/dttt\\_uk.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0017/36512/dttt_uk.pdf)

## 3. Technical Quality Standards

- 3.1 Multiplex licensees, Channel 3 licensees, the Channel 4 licensee, and the Channel 5 licensee must provide Ofcom with a description of their procedures for ensuring high standards of technical quality.
- 3.2 These licensees are required to make their own assessment of the technical quality of their service. The objective of this monitoring should be to confirm the effectiveness of their procedures for ensuring high standards of technical quality.
- 3.3 Timing differences between the sound and vision of the transmitted programmes should not be annoying to the viewer.
- 3.4 Where programmes are scheduled to carry access services, Channel 3 licensees, the Channel 4 licensee and the Channel 5 licensee must ensure that the presence and reliability of those access services is given the same priority as ensuring the presence and reliability of those programmes' vision and sound components.

## 4. Reliability

- 4.1 For multiplex services licensed under the Broadcasting Act 1996 which are required to observe this Code (currently Multiplex 2, Multiplex A, Multiplex B, Multiplex C and Multiplex D) standards of reliability (measured in terms of service availability to viewers) must be maintained to levels that are as high as reasonably practicable. The minimum standard of availability is 99.8% for viewers served by reference transmitters<sup>2</sup> and 99.0% for other transmitters. These availability figures should take account of a loss of video and sound or control data essential to view the services due to any cause under the control, either directly or through contract arrangements, of the licensee.
- 4.2 These multiplex licensees should notify Ofcom of any significant transmitter outages as soon as possible after they occur. Recognising that broadcasters will have specific contractual fault reporting arrangements with their own transmission providers, this Code does not specify minimum time or population thresholds which constitute a 'significant' outage. Ofcom will instead agree specific thresholds with individual multiplex operators directly so as to minimise any administrative burden on licensees. However, as guidance, we would normally expect to be notified within 24 hours of transmitter outages which last 30 minutes or more at Reference Transmitters, and of 2 hours or more at other transmitters.
- 4.3 A transmitter outage is considered to occur when the transmitter becomes incapable of radiating a decodable transport stream to its planned coverage area. For periodic maintenance purposes the transmitter power may be reduced by up to 3dB, or other changes made which result in up to an equivalent loss of population coverage, without the transmitter condition being treated as an outage.
- 4.4 Multiplex licensees must submit an annual report on transmission performance each July. The report should include a summary of reliability performance results for distribution and transmission in an agreed format, an analysis of viewer complaints relating to poor reception and technical faults, and a brief description of any notable developments in the technical architecture of the service. The report should also provide a description of the steps licensees have taken during the year to enhance (where appropriate) service continuity plans to be used in case of a major infrastructure failure, as well as details of any exercises undertaken to test those plans. This description should include how licensees have built on the experiences of previous incidents affecting broadcast transmission infrastructure, as well as how they have addressed recommendations set out in any formal reviews of those incidents carried out by Ofcom.
- 4.5 Channel 3, Channel 4 and Channel 5 licensees must submit an annual report each July. The report should include an analysis of viewer complaints relating to poor reception quality and technical faults, a summary of any significant service-affecting studio or playout faults,

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<sup>2</sup> A list of reference transmitters for Channels 3, 4, 5, and the multiplex services is provided in Annex 1 of this document.

and a brief description of any notable changes in the technical architecture of the service. Such annual reports may be included in the relevant multiplex report for efficiency.

## 5. Coverage

- 5.1 The coverage of multiplex services is defined as that which is provided by the transmitters listed in the Annex to the Licence when operating in accordance with the Technical Performance Code. In order to meet this condition, transmitters must normally operate with an effective radiated power equal to the maximum power contained in the appropriate Wireless Telegraphy Act Licence.

## 6. Electromagnetic Fields

- 6.1 All transmitter equipment operating at powers above 10 watts EIRP (effective isotropic radiated power) must – as a condition of the service’s Wireless Telegraphy Act licence – comply with international guidelines on electromagnetic field (EMF) emissions for the protection of the general public. These guidelines have been issued by ICNIRP (the International Commission on Non-Ionizing Radiation Protection). More guidance on EMF requirements is available on the Ofcom website at <https://www.ofcom.org.uk/spectrum/emf/compliance-and-enforcement-guidance>.

# A1. List of Digital Television Reference Transmitters

Transmitter	Channel 3 Region
Sandy Heath	Anglia
Sudbury	Anglia
Tacolneston	Anglia
Caldbeck	Border
Selkirk	Border
Brierley Hill	Central
Bromsgrove	Central
Fenton	Central
Lark Stoke	Central
Malvern	Central
Nottingham	Central
Ridge Hill	Central
Sutton Coldfield	Central
The Wrekin	Central
Waltham	Central
Lancaster	Granada
Pendle Forest	Granada
Saddleworth	Granada
Storeton	Granada
Winter Hill	Granada
Crystal Palace	London
Guildford	London
Hemel Hempstead	London
Reigate	London
Bluebell Hill	Meridian
Dover	Meridian
Hannington	Meridian
Hastings	Meridian
Heathfield	Meridian
Midhurst	Meridian
Oxford	Meridian
Rowridge	Meridian
Salisbury	Meridian
Tunbridge Wells	Meridian
Whitehawk Hill	Meridian

Transmitter	Channel 3 Region
Darvel	STV Central
Rosneath	STV Central
Torosay	STV Central
Angus	STV North
Bressay	STV North
Durris	STV North
Eitshal	STV North
Keelylang Hill	STV North
Knockmore	STV North
Rosemarkie	STV North
Rumster Forest	STV North
Bilsdale	Tyne Tees
Chatton	Tyne Tees
Fenham	Tyne Tees
Pontop Pike	Tyne Tees
Aberdare	Wales
Blaenplwyf	Wales
Carmel	Wales
Kilvey Hill	Wales
Llanddona	Wales
Moel y Parc	Wales
Pontypool	Wales
Preseli	Wales
Wenvoe	Wales
Beacon Hill	West & South West
Bristol Ilchester Crescent	West & South West
Bristol Kings Weston	West & South West
Caradon Hill	West & South West
Huntshaw Cross	West & South West
Mendip	West & South West
Plympton	West & South West
Redruth	West & South West
Stockland Hill	West & South West
Belmont	Yorkshire
Chesterfield	Yorkshire

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Brougher Mountain	Northern Ireland
Divis	Northern Ireland
Limavady	Northern Ireland
Black Hill	STV Central
Craigkelly	STV Central

Emley Moor	Yorkshire
Idle	Yorkshire
Keighley	Yorkshire
Olivers Mount	Yorkshire
Sheffield	Yorkshire