Rules of Operation for the use of ITU-R (CCIR) Teletext System B

Issue 6

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Contents

Section 1

Introduction

1.1 This technical note covers the operation and interaction of ITU-R (CCIR) Teletext system B services in the Vertical Blanking Interval (VBI) of a single analogue television channel. It applies to services transmitted on Channel 3, Channel 4, S4C, and Channel 5.

1.2 On Channel 3, Channel 4, and S4C, three categories of service are required to co-exist and on Channel 5 there are two categories, each of which may use the same teletext technical specification.

1.3 These Rules of Operation are intended to ensure that there are no technical conflicts between these services. In the case of the allocation of magazines to different licensees for the provision of page-based services, these Rules provide a mechanism for avoiding such conflicts. However these magazine allocations can be varied by Ofcom in cases where all the licensees which are directly affected agree.

Section 2

Technical Background

2.1 Each television line during the VBI can convey a single teletext data packet. The addressing structure allows identification of the packets according to the identity `Packet X/Y' where X can vary from 1 to 8 and Y varies from 0 to 31.

2.2 For mosaic graphics and text displayed on a public teletext receiver, X corresponds to the magazine number indicated by the first digit of the page number, and Y indicates the row number. Row numbers 0 to 24 are capable of direct display as part of the page, and rows 25 to 28 are page related rows carrying additional information. Row 29 is magazine related but is not associated with a specific page.

2.3 All packets with Y = 30 or 31 lie outside the page based transmissions and constitute independent data packets.

2.4 The page based teletext services will be provided in `parallel' mode, by control of the appropriate bit in row 0 of the page headers. This permits separate sourcing of pages of one magazine from those of another, and allows separate magazines to be allotted to different lines or sets of lines within the VBI.

2.5 The rules ordering the transmission of rows and pages within the magazine must be observed.

2.6 Within this document, further references to `magazine X' refer to all addressable pages in the range X00-XFF where X ranges from 1 to 8.

Section 3

The Public Teletext Licensee using Capacity on Channel 3, Channel 4 and S4C

Page Based Services

3.1 The licensee may use magazines 1, 2, 3, 4 and 5 on Channel 3, and magazines 1, 2, 3, 5 and 6 on Channel 4 and S4C. Within any page, packets with Y = 0 to 29 are available to the public teletext licensee. The main introductory page will be on page 100.

Section 4

Channel 3, Channel 4, S4C and Channel 5

Page Based Services

4.1 Page-based ancillary services provided by Channel 3 may use magazine 6, those provided by Channel 4 or S4C may use magazine 4, and those provided by Channel 5 may use magazine 5.

4.2 In the absence of a Public Teletext service, the Channel 3 licensees, Channel 4 and S4C may use magazine 1 to provide a main introductory page on page 100 in order to ensure reliable operation of domestic receivers. The Channel 3 licensees, Channel 4 and S4C may also use magazine 2 to provide information relating to Digital Switchover as agreed with Ofcom.

4.3 In the absence of an Additional Service licensee on Channel 5, the Channel 5 licensee may use magazine 1 to provide a main introductory page on page 100 in order to ensure reliable operation of domestic receivers. The Channel 5 licensee may also use magazine 2 to provide information relating to Digital Switchover as agreed with Ofcom.

4.4 Any subtitling services will be provided on magazine 8 using page mode teletext.

4.5 Additionally, the television broadcast service provider may use magazine 8 for other page-based ancillary services provided that this does not interfere with or constrain the provision of subtitles.

4.6 Within any of these magazines, packets with Y = 0 to 29 will be available.

Data-Packet Based Services

4.7 Packet 8/30 (The Broadcast Service Data Packet) currently has two formats defined by the designation code following the packet address.

4.8 The Channel 3 licensee, Channel 4/S4C or Channel 5 must make provision for the transmission of Format 1 packets. Format 2 packets provide the Programme Delivery Control labels in accordance with ETSI EN 300 231 and are available for use by Channel 3, Channel 4/S4C or Channel 5.

4.9 The "initial page for storage" field must be set to page 100 to reference the main introductory page provided by the public teletext licensee on Channels 3 and 4/S4C, and by the additional service licensee on Channel 5.

4.10 The Channel 3 licensees, Channel 4 and S4C may utilise a specific Data Packet 8/31 based service with the addressing parameters of Data Group 11, Service Packet Address 13 (Decimal) to broadcast Ancillary & Technical data for the purposes of controlling Digital Switch Over caption insertion equipment.

Section 5

Commercial Additional Service Licensees on Channel 3 and Channel 4/S4C and the Additional Service Licensee on Channel 5

Page Based Services

5.1 The Commercial Additional Service licensees on Channel 3 and Channel 4/S4C may use magazine 7 to provide additional services free-to-air, by subscription (including pay per view) or to closed user groups; or using any combination of these methods. The Additional Services Licensee on Channel 5 may use magazines 1, 2, 3, 4, 6 and 7 for any combination of services provided free-to-air or to subscription or closed user groups. The main introductory page will be on page 100.

Data-Packet Based Services

5.2 There is a re-definition of the packet X/Y identity in terms of data channels:

Packet No.	Data Channel
8/30	0
1/30	1
2/30	2
3/30	3
4/30	4
5/30	5
6/30	6
7/30	7

Packet No.	Data Channel
8/31	8
1/31	9
2/31	10
3/31	11
4/31	12
5/31	13
6/31	14
7/31	15

Sixteen channels are available, of these data channel 0 in Packet 8/30 is reserved for the Broadcast Service Data Packet. In accordance with the current specification, Commercial Additional Services on Channels 3 and 4/S4C, and Additional Services on Channel 5 will be limited to data channels 8, 9, 10, 11 in Packet X/31.

Section 6

VBI Line Allocations

6.1 The current allocation of VBI line numbers, within the UK PAL-I and PAL-I1 specifications, to different service providers on Channel 3 and Channel 4/S4C is given in Table 1, and that for Channel 5 is given in Table 2.

Table 1: VBI Line Allocations for Channel 3 and Channel 4/S4C

Line	User of Line
6	Ancillary & Technical
7	Commercial Licence A (C3) Commercial Licence B (C4/S4C)
8	Commercial Licence A (C3) Commercial Licence B (C4/S4C)
9	Commercial Licence A (C3) Commercial Licence B (C4/S4C)
10	Public Teletext
11	Public Teletext
12	Public Teletext
13	Public Teletext
14	Public Teletext
15	Public Teletext
16	Public Teletext
17	Public Teletext
18	Public Teletext
19	Ancillary & Technical
20	Ancillary & Technical
21	Ancillary & Technical
22	Ancillary & Technical

Line	User of line
318	Ancillary & Technical
319	Ancillary & Technical
320	Commercial Licence A (C3) Commercial Licence B (C4/S4C)
321	Commercial Licence A (C3) Commercial Licence B (C4/S4C)
322	Commercial Licence A (C3) Commercial Licence B (C4/S4C)
323	Public Teletext
324	Public Teletext
325	Public Teletext
326	Public Teletext
327	Public Teletext
328	Public Teletext
329	Public Teletext
330	Public Teletext
331	Public Teletext
332	Ancillary & Technical
333	Ancillary & Technical
334	Ancillary & Technical
335	Ancillary & Technical (Subtitles)

Table 2: VBI Line Allocations for Channel 5

Line	User of Line
6	Ancillary + Technical
7	Additional Services
8	Additional Services
9	Additional Services
10	Additional Services
11	Additional Services
12	Additional Services
13	Additional Services
14	Additional Services
15	Additional Services
16	Additional Services
17	Additional Services
18	Additional Services
19	Ancillary & Technical
20	Ancillary & Technical
21	Ancillary & Technical
22	Ancillary & Technical

Line	User of line
318	Ancillary & Technical
319	Ancillary & Technical
320	Additional Services
321	Additional Services
322	Additional Services
323	Additional Services
324	Additional Services
325	Additional Services
326	Additional Services
327	Additional Services
328	Additional Services
329	Additional Services
330	Additional Services
331	Additional Services
332	Ancillary & Technical
333	Ancillary & Technical
334	Ancillary & Technical
335	Ancillary & Technical