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Reference 696/JPC

27th August 1982

Mr. J. Horton,
Acorn Computers Ltd.,
Fulbourn Road,
Cherry Hinton,
CAMBRIDGE,
CB1 4JN

Dear Mr. Horton,

Thank you for sending me a copy of the draft of the BBC Microcomputer Teletext System User Guide.

There are many points in this document which relate to details of the broadcast software protocol and implementation and which probably will not fully be tested until we have field experience of the device and the broadcast service.

I am confining my comments to points where the document implies that the device may be 'user-hostile', and points where nuances in the teletext specification may not have been appreciated by the writer. I have set these out on an attached list.

Yours sincerely,

J P Chambers

(J.P. Chambers)
HHad of Special Projects Section

Att.
JEH

Comments on Version 3.9 of BBC Microcomputer Teletext System User Guide

1. Possible 'user-hostile' features (Section 4.2)

It is not stated in which order the 4th, 5th, 6th and 7th digits of the page address are entered. Does it accord with the scheme agreed at a BBC/Acorn meeting of March 18th, 1981 and annexed to the meeting note? If not it will not be convenient for the user to select individual subpages as he will need to key 1690001 rather than 1691 to get the first subpage, for example.

It is unfortunate that Acorn choose to label the 24 possible linked pages by the letters A - X. It is intended that other decoders responding to these pages will use a decimal keypad, and that only the first ten links will be regularly used. We cannot expect the teletext editor to label a page 'C' for the BBC Microcomputer and '2' for other decoders. So the Acorn user will need to convert numerical order to alphabetical order and then to QWERTY order.

2. Clarification of teletext details.

2.1 Where does 4 194 304 come from? There are 320000 'normal' pages and a total of 2 097 152 'possible' pages for each of eight independent magazines.

4.1.2 This gives the impression that 'flicker' (parity failure) is a fault, but our transmissions now regularly contain even-parity characters which give this flicker. This will be even more true when software is broadcast in compacted eight-bit code.

9.1 Where does the number 16255 come from?

9.2 Rows 30 and 31 do not relate to pages, whereas 24 to 29 do.

9.2.2. The eight magazines exist independently on a teletext channel, pages of one magazine can be starting and stopping while mixed-up in sequence with rows from pages of other magazines. This very important point should be made. In particular 'each following row' in the last paragraph should be replaced by 'each following row of the same magazine until it receives the next page header of the same magazine but with a different page number or different subcode (if selected).

9.2.3. Rows 30 and 31 are not associated with pages and so they, in combination with the eight magazines, represent 16 independent data channels. One of these, nationally magazine 8, row 30, is the Television Service Data Packet (see 9.5).

The last eight bytes on row 0 are used for time display on existing decoders. The format of this data is not defined, it is not intended for machine use.

9.5.6. Note that Modified Julian Date changes at midnight UTC (i.e. 1 a.m. in British Summer Time) so a conversion to calendar date and clock time involves a possible 'carry' or 'borrow' between UTC and MJD after the offset is applied. It is not sufficient to convert time, and then date, separately in isolation.

JPC/JMCL
27.8.82

Ceefax

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2nd September, 1982

Dear John,

Very many thanks for the draft of the Telesoftware User Guide. Much of this goes way beyond my technical understanding and therefore I have made no comment. As you will see from the enclosed list, I have made one or two changes. The reason is in most cases not that what you said in the draft was wrong but - particularly in the case of page numbering - it was very different from the way we normally explain these things.

With Compliments
GRAHAM CLAYTON

Changes to version 3.6

2. What is Teletext?

Substitute for first sentence....Teletext uses part of the ordinary television signal to carry 'pages' of information which can be received on any suitably equipped television set.

2.1 Page numbering

Substitute complete section...Teletext pages are generally identified by a three figure number., For example the News Headlines on CEEFAX on BBC1 can be called up by dialling 101. A block of one hundred such pages is known as a 'magazine' and the first of the three digits is sometimes referred to as the magazine number. The other two digits are the page number within that particular magazine. Each television channel could carry eight magazines or eight hundred of these pages, but in practice the number is usually limited to much less. This is because the greater the number of pages, the longer the viewer has to wait for the chosen page.

To get over this limitation, the broadcasters use what are called rolling or cycling pages - these are blocks of pages, sometimes thirty or more, which turn over automatically on a single page number. By using a further four digits, known as the sub-code, it is possible to specify the particular rolling page required. The third rolling page on 173, for example, would be known as 173 0003. The last four digits have rather peculiar limits to them because of the way teletext has developed. The minimum value is 0000 and the maximum is 3979, the first and third digits having a maximum of 3 and 7 respectively. The reason is discussed in Section 9.1, which contains details of the way in which pages are numbered.

2.2. Linked pages

Line five, insert electronic...might be an "electronic newspaper".
Line six , substitute index...and forms an index page.
Line ten, delete for a real newspaper...may be required). They form...

3. What does the BBC Microcomputer teletext system do?

Line three, delete often....and are provided.
Lines eleven and twelve, substitute pages...produces a page with

3.1. Terminal mode

Newsflashes (one word).

4.2 Using Terminal mode

Line twenty, substitute broadcaster...the teletext broadcaster (and throughout remainder of text).

Sixteen lines from end of page 14, delete either...do is press key F1.

Page 16, lines fifteen and seventeen, note contents pages would only specify telesoftware pages as three (not seven) digit pages.

Page 20 top. Substitute second sentence...This facility is essential if broadcasters want to increase the number of pages without increasing waiting time for a particular page. (Substitute 140 for 550).