

MRG Teletext Page Format
TTI Page file format

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1. Introduction

The TTI file format is used by MRG Systems MiniTED and TED Scheduler to store teletext pages and associated data. The format maps control characters to high ASCII positions so that it can be stored in a text file format. It also stores metadata about the page such as page number and magazine.

2. File Format

A teletext page uses the file extension .tti and contains lines of text. It is a text format file with each line terminated by carriage return and line feed. Each line in the file starts with a two character command code to indicate the type of data that the line contains.

Control character codes below space (hex 0x20) have bit 8 set to translate them up to 128-159. Because MiniTED is a 16 bit application the filenames should be restricted to MSDOS 8.3 filenames.

2.1. PN – Page Number

PN,mppss

Parameters:

m=Magazine number

p= Page number

s=Subpage

Example:

PN,10003

2.2. CT – Cycle Time

CT,n,<t>

Cycle time used when rotating between subpages.

Parameters:

n is the delay in seconds.

t is either C or T for cycled or timed.

If C it means how many times around a magazine cycle before the page is displayed.

If T it means that after N seconds the page is queued to be transmitted

2.3. DE - Description

DE,<text>

A schedule description. This appears in the page list of MiniTED and is for information only.

Parameter:

<text> is up to 24 characters.

2.4. PS – Page Status

PS,ssss

Page Status. ssss is a four character hex number.

Example:

PS,8000 normal parallel transmission

PS,8040 normal serial transmission.

The other bits refer to the "Control Bits" in the Teletext Specification and are specified below.

This conversion table shows how PS bits are mapped to the Teletext standard C bits and also to the MRG Systems ATP420 inserter.

This is the bit field of the PS parameter.

76543210 76543210 ← 16 bits in two bytes

TE.P.MLL L.DIUHSN ← Code letter used in Bit Ref. below.

L=Language bits

Name	MiniTed PS Hex Value	Bit	Bit Ref	C bit number	ATP420 bit number
Erase Page	4000	14	E	C4	0
Newsflash	0001	0	N	C5	1
Subtitle	0002	1	S	C6	2
Suppress Header	0004	2	H	C7	3
Update	0008	3	U	C8	4
Interrupted Sequence	0010	4	I	C9	5
Inhibit Display	0020	5	D	C10	6
Timed Page	Use CT instead	n/a	n/a	n/a	7
Transmit Page	8000	15	T	n/a	See X,I flag
Substitute Page	0800		P	n/a	n/a
Serial Magazine	0040	6	M	C11	n/a don't need it
Language	0000 to 0380		L	12,13,14	n/a

LLL=Language bits.

For a Western European display the following languages are available.

Language	LLL
English	000
German	001
Swedish/Finnish	010
Italian	011
French	100
Portuguese/Spanish	101
Czech/Slovak	110
Undefined	111

ATP420 special note. To make a PS value from the ATP420 page parameters, only use the lower 7 bits. If the transmission flag is I then add 0x8000. If bit 7 is set then use that to set the CT flag. Serial Magazine is the only mode that the ATP420 uses and so is not an option.

Then add the language bits 12,13,14 but with the bit order reversed from Minited to ATP420.

2.5. SC - Subcode

SC,ssss

SubCode: ssss is 0000 to 3F7F. This is generally set to the same as ss in PN

2.6. OL – Output Line

OL,nn,<line>

n is 1 to 27, <line> is a teletext line with the translations detailed above.

2.7. FL – Fastext Link

FL,<link red>,<link green>,<link yellow>,<link cyan>,<link>,<link index>

Parameters:

A three digit page number mpp for each link or 0 for no link.

3. Translations

The teletext character set contains some codes that can not be included in a normal text file. When constructing an “Output Line” command it is necessary to map some characters.

For codes less than hex 0x20 then add 0x80.

If using a system with seven bit characters then you can also use “Viewdata” escapes where if a character has a code less than 0x20 then it is replaced by <esc> followed by the character code plus hex 0x40.

Double height is hex 0x0D which can upset text parsers so it is often replaced with 0x10 and an MRG inserter will map the character back when transmitting it..

5. Scheduling with Ted Scheduler

Ted Scheduler is the teletext scheduling program used with MiniTED. It communicates with the inserter. MiniTED controls Ted Scheduler using files placed in shared folders.

In order to control Ted Scheduler you need to generate the files that Ted Scheduler expects. The file structure for a single inserter system will usually be c:\minited\inserter. Inside that there are folders called User and Schedule.

To output a page to an inserter the first step is to create the .tti page and place it in the User directory. Then create a schedule file in the Schedule directory with commands to output your page.

This illustration shows how to put the page created in section 4 on air.

Assuming that your page is called RAMPLEYS.tti you should write a file called RAMPLEYS.SCT in the Schedule folder containing the following code.

```
AT ,28/01/05 ,00 : 00  
US ,User  
DE ,RAMPLEYS->15000  
OP ,RAMPLEYS ,15000
```

The AT line specifies when the schedule should be run. Set it to a time in the past if you want it to execute immediately.

The US line specifies the folder that contains the page.

The DE line is a description and can contain any text

The OP line is the command that says output RAMPLEYS to page 150, subcode 00

Ted Scheduler will execute the schedule and then respond by message schedule file that expires after 2 minutes..

There are examples of schedule files in the Schedule\Archive folder. Ted schedule files are detailed in the MiniTed manual.