

The `syshex` package ^{*}

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Abstract

Lightweight L^AT_EX package that makes available package-level[1] commands to make (hexa-)decimal timestamp, which can be useful to create unique filenames.

Résumé

Extension L^AT_EX offrant un horodateur (hexa-)decimal, qui peut trouver son utilité pour produire des noms de fichiers uniques. Les commandes afférentes sont de type ‘implementation’[1].

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^{*}This file describes version v1.1, last revised 2020/04/27.

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Part I

Usage

<code>\usepackage</code>	<code>\usepackage{syshex}</code>
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Requirement

1. `syshex.sty` and its dependencies are in the path of the L^AT_EX engine. See [Part III, section 3](#).
2. Goes in the *preamble*

<code>syshex_date:</code>	<code>\syshex_date:</code>
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Semantics Numeric date

<code>syshex_date_hex:</code>	<code>\syshex_date_hex:</code>
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Semantics Numeric date (hex)

syshex_jobname: \syshex_jobname:
Semantics Combines the job's name and \syshex_time_hex:

syshex_time: \syshex_time:
Semantics Numeric time

syshex_time_hex: \syshex_time_hex:
Semantics Numeric time (hex)

Part II

Listing

Listing 1. All at once

```
\ExplSyntaxOn
\noindent\syshex_date:\\
\syshex_date_hex:\\
\syshex_time:\\
\syshex_time_hex:\\
\syshex_jobname:
\ExplSyntaxOff
```

```
20200427
1343beb
2018
7e2
syshex-1343beb-7e2
```

Part III

Other

1 Acknowledgment

This work has benefited from Q&A's from the L^AT_EXcommunity[2]

2 Install

- 1) Compile `syshex.dtx` (under Unix, `$tex syshex.dtx`)
- 2) Put the generated `syshex.sty` in the search path of the L^AT_EXengine

3 Support

This package is available from <https://www.ctan.org/pkg/syshex> and <https://github.com/rogard/syshex>.

3.1 Platform

- i)* Linux laptop 4.15.0-20-generic #21-Ubuntu SMP Tue Apr 24
↪ 06:16:15 UTC 2018 x86_64 x86_64 x86_64 GNU/Linux

3.2 Engine

- a)* pdfTeX 3.14159265-2.6-1.40.20 (TeX Live 2019)
- b)* pdfTeX 3.14159265-2.6-1.40.21 (TeX Live 2020)
- c)* LuaHBTeX, Version 1.12.0 (TeX Live 2020)
- d)* XeTeX 3.14159265-2.6-0.999992 (TeX Live 2020)

3.3 Results

- 1) `syshex v1.2` compiles satisfactorily on platform *i)* and engines *b)*, *c)*, and *d)*

References

- [1] <https://tex.stackexchange.com/users/112708/erwann?tab=questions>

Change History

v1.0		Add: \syshex_time:	5
General: Initial version	5	Add: \syshex_time_hex:	5
v1.1		Remove: \SyshexDateHex	5
General: Add: dependency to erw-l3 . .	5	Remove: \SyshexDate	5
Remove: internals	5	Remove: \SyshexFilename	5
v1.2		Remove: \SyshexTimeHex	5
General: Add: \syshex_date:	5	Remove: \SyshexTime	5
Add: \syshex_date_hex:	5	Remove: dependency to erw-l3	5
Add: \syshex_jobname:	5		

Index

The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

C		syshex_date:	2
cs commands:		\syshex_date_hex:	<i>1, 2, 6, 31</i>
\cs_new:Nn		syshex_date_hex:	2
.. <i>3, 12, 14, 20, 28, 30, 31, 32, 33, 34</i>		\syshex_jobname:	<i>1, 3, 6, 32</i>
E		syshex_jobname:	3
\ExplSyntaxOff	35	\syshex_time:	<i>1, 3, 6, 33</i>
\ExplSyntaxOn	2	syshex_time:	3
I		\syshex_time_hex:	<i>1, 3, 3, 6, 34</i>
int commands:		syshex_time_hex:	3
\int_eval:n	5, 22	syshex internal commands:	
\int_to_hex:n	13, 29	__syshex_sys_date:	<i>3, 13, 30</i>
S		__syshex_sys_date_hex: . . .	<i>12, 17, 31</i>
sys commands:		__syshex_sys_jobname:	<i>14, 32</i>
\c_sys_day_int	9	__syshex_sys_time:	<i>20, 29, 33</i>
\c_sys_hour_int	24	__syshex_sys_time_hex: . . .	<i>18, 28, 34</i>
\c_sys_jobname_str	16	\SyshexDate	6
\c_sys_minute_int	25	\SyshexDateHex	6
\c_sys_month_int	8	\SyshexFilename	6
\c_sys_year_int	7	\SyshexTime	6
syshex commands:		\SyshexTimeHex	6
\syshex_date:	<i>1, 2, 6, 30</i>	U	
		\usepackage	2

Part IV

Implementation

1 Opening

```
1 <@@=syshex>
2 \ExplSyntaxOn
```

2 Backend

`__syshex_sys_date:`

```
3 \cs_new:Nn \__syshex_sys_date:
4 {
5   \int_eval:n
6   {
7     \c_sys_year_int * 10000
8     +\c_sys_month_int * 100
9     +\c_sys_day_int * 1
10  }
11 }
```

(End definition for __syshex_sys_date:.)

`__syshex_sys_date_hex:`

```
12 \cs_new:Nn \__syshex_sys_date_hex:
13 {\int_to_hex:n{\__syshex_sys_date:}}
14
15 (End definition for \__syshex_sys_date_hex:.)
```

`__syshex_sys_jobname:`

```
14 \cs_new:Nn \__syshex_sys_jobname:
15 {
16   \c_sys_jobname_str--
17   \__syshex_sys_date_hex--
18   \__syshex_sys_time_hex:
19 }
```

(End definition for __syshex_sys_jobname:.)

`__syshex_sys_time:`

```
20 \cs_new:Nn \__syshex_sys_time:
21 {
22   \int_eval:n
23   {
24     \c_sys_hour_int * 100
25     +\c_sys_minute_int * 1
26   }
27 }
```

(End definition for __syshex_sys_time:.)

`__syshex_sys_time_hex:`

```
28 \cs_new:Nn \__syshex_sys_time_hex:
29 {\int_to_hex:n{\__syshex_sys_time:}}
30
31 (End definition for \__syshex_sys_time_hex:.)
```

3 Frontend

```
30 \cs_new:Nn\syshex_date:{\__syshex_sys_date:}
31 \cs_new:Nn\syshex_date_hex:{\__syshex_sys_date_hex:}
32 \cs_new:Nn\syshex_jobname:{\__syshex_sys_jobname:}
33 \cs_new:Nn\syshex_time:{\__syshex_sys_time:}
34 \cs_new:Nn\syshex_time_hex:{\__syshex_sys_time_hex:}
```

4 Closing

```
35 \ExplSyntaxOff
```