

# The **syshex** package <sup>\*</sup>

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## Abstract

Lightweight L<sup>A</sup>T<sub>E</sub>X package that makes available package-level[1] commands to make a (hexa-)decimal timestamp, which can be useful to create unique filenames.

## Résumé

Extension L<sup>A</sup>T<sub>E</sub>X offrant un horodateur (hexa-)decimal, qui peut trouver son usage dans des noms de fichiers uniques. Les commandes afférentes sont de type ‘implementation’[1].

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<sup>\*</sup>This file describes version v1.3, last revised 2020/04/27.

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# Part I

## Usage

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<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<sup>A</sup>T<sub>E</sub>X engine. See [Part III, section 3](#).
2. Goes in the *preamble*

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

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

<u>syshex_jobname:</u>	\syshex_jobname:
	<b>Semantics</b> Combines the job's name and \syshex_date_hex:
<u>syshex_time:</u>	\syshex_time:
	<b>Semantics</b> Numeric time
<u>syshex_time_hex:</u>	\syshex_time_hex:
	<b>Semantics</b> 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
2043
7fb
syshex-1343beb-7fb
```

## Part III

# Other

### 1 Acknowledgment

This work has benefited from Q&A's from the L<sup>A</sup>T<sub>E</sub>Xcommunity[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<sup>A</sup>T<sub>E</sub>Xengine

### 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] The L<sup>A</sup>T<sub>E</sub>X3 Project Team *The L<sup>A</sup>T<sub>E</sub>X3 interfaces*, 2019, <http://ftp.math.purdue.edu/mirrors/ctan.org/macros/latex/contrib/l3kernel/interface3.pdf>
- [2] <https://tex.stackexchange.com/users/112708/erwann?tab=questions>

# Change History

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

## Part IV

# Implementation

### 1 Opening

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

### 2 Backend

`\__syshex_date:`

```
3 \cs_new:Nn \__syshex_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\_date:.)*

`\__syshex_date_hex:`

```
12 \cs_new:Nn \__syshex_date_hex:
13 {\int_to_hex:n{\__syshex_date:}}
```

*(End definition for \\_\_syshex\_date\_hex:.)*

`\__syshex_jobname:`

```
14 \cs_new:Nn \__syshex_jobname:
15 {
16   \c_sys_jobname_str--
17   \__syshex_date_hex:--
18   \__syshex_time_hex:
19 }
```

*(End definition for \\_\_syshex\_jobname:.)*

`\__syshex_time:`

```
20 \cs_new:Nn \__syshex_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\_time:.)*

`\__syshex_time_hex:`

```
28 \cs_new:Nn \__syshex_time_hex:
29 {\int_to_hex:n{\__syshex_time:}}
```

*(End definition for \\_\_syshex\_time\_hex:.)*

### 3 Frontend

```
30 \cs_new:Nn\syshex_date:{\__syshex_date:}  
31 \cs_new:Nn\syshex_date_hex:{\__syshex_date_hex:}  
32 \cs_new:Nn\syshex_jobname:{\__syshex_jobname:}  
33 \cs_new:Nn\syshex_time:{\__syshex_time:}  
34 \cs_new:Nn\syshex_time_hex:{\__syshex_time_hex:}
```

### 4 Closing

```
35 \ExplSyntaxOff
```