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Application Note
Timestamped Line Output from SSR-1 Time Tagged Archives

> **This application note has been deprecated in favor of the technique of AN002, which uses an updated STTP parser to produce timestamped line output directly.**

Many applications require time stamping of data from instruments that produce simple, line-oriented, text output. In some cases, the user would like to have a file that includes the output of the instrument with a timestamp prepended to each line. The SSR-1 can be used for these applications.

When recording to a time tagged archive, the SSR-1 associates all recorded bytes with the time they are received. As a result, all of the necessary information is available within the time tagged archive to associate time with larger groupings of data. That could be packets, or in the case of this application note, text lines. In this example, a Python script is presented that extracts the data from a time tagged archive to generate time stamped output lines. The steps for generating the desired output are:

1) Record data into a time tagged archive using the SSR-1
2) Execute the SSR Time Tagged Parser (STTP) on the archive to generate an intermediate file
3) Execute the Python script on the intermediate file to generate the desired output.

The script and data files referenced in this application note are available in the archive *AN001-Files.zip* on the SSR-1 page at www.slerj.com.

STEP 1

An instrument that produces line-oriented output measurements in the following format is recorded into a time tagged archive using the SSR-1. Each output line from the instrument corresponds to a data measurement, and measurements are made at 10Hz. The name of the time tagged archive file is *c1214736.dat*.

```
S D   0.0000134 kg
S D   0.0000135 kg
S D   0.0000135 kg
S D   0.0000135 kg
S D   0.0000136 kg
…
```

STEP 2

The STTP is a utility provided with the SSR-1 to extract data from time tagged archives. Complete documentation for the STTP utility and its output can be found in the SSR-1 User's Manual. STTP is a

Windows^{TM} console application that is executed from a command prompt. In this example, the command line used is:

```
sttp.exe –m sttp_test.txt c1214736.dat
```

This operates on the time tagged archive *c1214736.dat* to produce an intermediate file *sttp_test.txt* that contains the associated time and data records from the archive. The *sttp_test.txt* file looks like:

```
A3 115786 2014 2 3 21 47 38.915
A2 115786 11 5320442020302E30303030
A2 115788 7 313232206B670A
A2 115884 13 5320442020302E303030303132
A2 115886 5 32206B670A
…
```

STEP 3

The Python script, *tsline.py*, produces timestamped line output from the intermediate file. The script was written and tested using Python 2.6. It requires two arguments (input filename and output filename) and is executed as follows:

```
python tsline.py sttp_test.txt test_out.txt
```

The output file contains the original lines with date and time prepended.

```
02/03/2014 21:47:44.559 S D  0.0000134 kg
02/03/2014 21:47:44.657 S D  0.0000135 kg
02/03/2014 21:47:44.753 S D  0.0000135 kg
02/03/2014 21:47:44.851 S D  0.0000135 kg
02/03/2014 21:47:44.947 S D  0.0000136 kg
…
```

SUMMARY

When a line oriented data source is recorded into an SSR-1 time tagged archive, timestamped line output can be generated using the STTP parser and the provided python script. If the time tagged archive is named *ttarchive.dat*, the following commands will produce timestamped line output in the file *output.txt*:

```
sttp.exe –m temp_intermediate.txt ttarchive.dat
python tsline.py temp_intermediate.txt output.txt
```

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http://www.slerj.com/ssr-1.html

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