



CCC with Waveform Plotting

## Product Description

COM Conformity check is designed to detect formatting errors in the COMTRADE standard, COMNAME standard, and the COMTRADE-Synchrophasor template. Formatting errors can be defined as any deviation from or misinterpretation of the defined standard format.

Over the past 20 years the evolution of the COMTRADE standard has seen many variations, but one commonality remains, misinterpretation caused by format errors. These misinterpretations can lead to issues such as sending restoration crews to the wrong location or providing relay technicians with incorrect settings. The COMTRADE-Synchrophasor template is defined in the 2013 COMTRADE standard and is used to store and transfer Synchrophasor data.

The COMNAME standard was created to alleviate issues with time sequence data record reporting, saving, exchanging, and archiving. When the format is not properly followed the issues mentioned above become problematic. CCC is designed to validate that filenames are compliant with the COMNAME standard.

For each record COMTRADE checked CCC will create an error report with the same filename as the COMTRADE record but with a .CCC extension. COMNAME records will have an error report with a .CNC extension. COMTRADE-Synchrophasor records will have an error report with a .CSC extension. All error reports are saved to a directory specified by the user.

## A Multi-Standard Format Error Detector

Code	Line	File	Error Description
0014,	0008,	CFG,	Channel Unit is not the correct length (must be 1 - 32 characters) in analog channel 6.
0029,	0020,	CFG,	Normal state has to be either 0 or 1 in digital channel 2.
0025,	0024,	CFG,	Incorrect Digital Channel Number (must be successive and sequential, cannot start with 0).
0039,	0037,	CFG,	Day is incorrect in the date and time stamps (must be 1 - 31).

### Example COMTRADE Error Report

Log	Field	Description
038,	000,	Filename is not complaint with the COMNAME standard.
001,	001,	The Start Date must be 6 digits.
005,	002,	The Start Time must be between 4 and 12 digits.
009,	003,	The Time Code must be between 1 and 7 digits.
039,	004,	There must be a field for the Substation Identifier.
040,	005,	There must be a field for the Device Identifier.
041,	006,	There must be a field for the Company Name.

### Example COMNAME Error Report

Code	Line	File	Error Description
0086,	0015,	CFG,	In a COMTRADE-SynchroPhasor record channel pairs must be successive, error occurred on analog channel 13
0000,	0000,	DAT,	No errors.

### Example COMTRADE-Synchrophasor Error Report

## Features

- Can check a single COMTRADE record or an entire directory of COMTRADE records.
- Can check a single COMNAME file or an entire directory of COMNAME files.
- Can check a single COMTRADE-Synchrophasor record or an entire directory of COMTRADE-Synchrophasor records.
- Can detect up to 91 errors in a COMTRADE record.
- Can detect up to 43 errors in a COMNAME filename.
- Can detect 5 errors in a COMTRADE-Synchrophasor record along with the 91 errors that can be detected in a COMTRADE record.
- Gives the user the ability to view the file that was checked (if it's a COMTRADE or COMTRADE-Synchrophasor record the CFG file will always be displayed) or Plot the DAT file (also only applies to COMTRADE and COMTRADE-Synchrophasor records).
- Displays the content of the error report on the application interface.
- Supports all three revisions of the COMTRADE standard (1991, 1999, 2013) including the COMTRADE-Synchrophasor template defined in the 2013 revision.
- Supports the latest revision of the COMNAME standard.
- Can correct six COMTRADE errors, these are described in the manual.

## Example COMTRADE Errors

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Here are just a few of the 87 possible COMTRADE errors:

- Analog channel unit not listed.
- Incorrect analog or digital channel number.
- Incorrect number of columns (data separators).
- Missing or extra analog or digital channel.
- Missing normal state in digital channels.
- Incorrect fault time.
- Incorrect number of scans in DAT file.
- DAT File incorrect size.
- Each line needs to end with a carriage return, and line feed.
- DAT File type listed in CFG file incorrect.
- And many more...

## Example COMNAME Errors

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Here are just a few of the 42 possible errors:

- The start date must be 6 digits.
- The start time must be between 4 and 12 digits.
- The time code must be between 1 and 7 digits.
- There must be a field for the Substation Identifier.
- There must be a field for the Device Identifier.
- There must be a field for the Company Name.
- If the Time Code is seven characters in length the first character must be the sign.
- The start date must be numeric.
- The start time must be numeric.
- And many more.....

## Example COMTRADE-Synchrophasor Errors

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Here are they five synchrophasor errors:

- In a COMTRADE-Synchrophasor record channel pairs must be successive.
- In a COMTRADE-Synchrophasor record all channel pairs must include an A,M,R, or I in the phase identification field.
- In a COMTRADE-Synchrophasor record in the analog channel identifier the station\_name:channel\_name is restricted to 33 characters. (analog channel)
- In a COMTRADE-Synchrophasor record each phasor channel must have a channel pair to represent the complex number.

- In a COMTRADE-Synchrophasor record in the digital channel identifier the station\_name:channel\_name is restricted to 33 characters. (digital channel)

## Requirements and Support Services

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- **Requirements** - The software works with Windows 7, 8, 10 and 2008/2012/2016 servers. The software requires 3MB of storage space and, depending on usage, may use up to 9MB of available memory.
- **Technical/Custom Support** - Standard technical support services are available at 609.335.2007 or at [support@softstuf.com](mailto:support@softstuf.com). For custom development services please contact our support team at [support@softstuf.com](mailto:support@softstuf.com).
- **Warranties** - Softstuf warrants that the software will substantially achieve the functionality as advertised and described in the Manuals. In the event any future deficiency is discovered in the software then Softstuf shall at its own sole expense make the changes necessary to correct said deficiency within a reasonable time of being notified.

## Download, Activation, and Upgrades

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- CCC can be downloaded from the Demos page of the Softstuf Website.
- The download of CCC will include ten COMTRADE test records.
- Until activated CCC will only read these ten records.
- CCC is activated by an activation code.
- A unique serial number is listed on CCC's activation dialog box. This is needed to create the activation code.
- Please provide this serial number upon purchase of the software, an activation code will be sent when the serial number and payment has been received.
- Purchasing can be done by email ([sales@softstuf.com](mailto:sales@softstuf.com)), phone (609-338-7736) from 9 AM to 5 PM Monday thru Friday, or purchase order.
- Upgrades are available for download from the Upgrades page of the Softstuf website.

## Ordering Information

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<i>Item</i>	<i>Part Number</i>	<i>Description</i>
1	CCC-WEB	Downloadable zip file containing the software and all software documentation.

## Contact Us

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