

CFH Plugin Test

The CFH plugin can be tested playing the sample audio file *ZH_DECODE.WMA* on a MP3 device connected to the PC microphone input. Before starting the replay, CFH configuration values can be entered:

The screenshot shows the 'SkySonde Client Configuration 1.1.8.6' window with the 'Hygrometer' tab selected. Under 'Instrument Plugins Available', 'EnSci CFH' is checked. In the 'CFH Configuration' section, the 'Hygrometer Number' is 2L2720, 'CFH Detector Signal (V)' is 2.718, and 'Specular (V)' is 4.322. The 'Multiple Instruments Configuration' section shows 'Daisy Chain Index' set to 'Any'. At the bottom, a text box reads 'EnSci Cryogenic Frostpoint Hygrometer (plugin by ETH Zurich, Nov 2016)'. Buttons for 'Factory Defaults' and 'OK' are at the bottom right.

Instrument Plugins Available (check to enable instrument):	
<input checked="" type="checkbox"/>	EnSci CFH
<input type="checkbox"/>	Anasphere SLWC
<input type="checkbox"/>	ETH COBALD
<input type="checkbox"/>	NOAA Valve Cutter
<input type="checkbox"/>	MetOne OPC

CFH Configuration	
Hygrometer Number:	2L2720
CFH Detector Signal (V):	2.718
Specular (V):	4.322

Multiple Instruments Configuration	
Daisy Chain Index:	Any

EnSci Cryogenic Frostpoint Hygrometer (plugin by ETH Zurich, Nov 2016)

which appear at the left bottom of the plugin data window after pressing 'OK'

The screenshot shows the 'Plugin Instrument Data' window for the 'EnSci CFH' plugin. It is divided into three sections: 'Flight Data', 'Pre Flight Configuration', and 'Instrument Configuration'. 'Flight Data' shows 'n/a' for Mirror Temperature, Detector Signal, Optics Temperature, CFH Battery, and 'n/a' for Daisy Chain Index. 'Pre Flight Configuration' shows the CFH Serial Number (2L2720), Detector Signal (2.718), and Specular (4.322). 'Instrument Configuration' shows 'n/a' for CFH Serial Number, Code Version, CAL A, CAL B, CAL C, CAL D, Detector Signal, Specular Setpoint, Reflectivity, Setpoint Temperature, AD630 Offset, and PIC Version.

Flight Data	
Mirror Temperature (°C)	n/a
Detector Signal (V)	n/a
Optics Temperature (°C)	n/a
CFH Battery (V)	n/a
Daisy Chain Index	n/a

Pre Flight Configuration	
CFH Serial Number	2L2720
Detector Signal (V)	2.718
Specular (V)	4.322

Instrument Configuration	
CFH Serial Number	n/a
Code Version	n/a
CAL A	n/a
CAL B	n/a
CAL C	n/a
CAL D	n/a
Detector Signal (V)	n/a
Specular Setpoint (V)	n/a
Reflectivity (%)	n/a
Setpoint Temperature (°C)	n/a
AD630 Offset	n/a
PIC Version	n/a

After about half a minute of audio the window should look like

Plugin Instrument Data			
EnSci CFH			
Flight Data		Instrument Configuration	
Mirror Temperature (°C)	24.99	CFH Serial Number	2720
Detector Signal (V)	2.71648	Code Version	6.250
Optics Temperature (°C)	25.71	CAL A	241868
CFH Battery (V)	11.953	CAL B	346808
Daisy Chain Index	1	CAL C	372264
Pre Flight Configuration		CAL D	61729
CFH Serial Number	2L2720	Detector Signal (V)	2.71828
Detector Signal (V)	2.718	Specular Setpoint (V)	4.32175
Specular (V)	4.322	Reflectivity (%)	88.02
		Setpoint Temperature (°C)	34.46
		AD630 Offset	0.02988
		PIC Version	6.800

with SkySonde having produced a data recording file similar to *zh999_20170410.cs* which has the CFH configuration data (both pre- and transmitted) in its header:

NOAA/GMD balloon flight data file

SkySonde Client Version:, 1.1.8.6
Balloon Flight Name:, zh999
Attached Instruments:, Radiosonde
Station Name:, Zurich, CH
Station Latitude:, 47.37929
Station Longitude:, 8.54872
Station Altitude:, 510.00 [m]
Station Pressure:, 1020.00 [mb]
Station Temperature:, 18.000 [deg C]
Station Humidity:, 45.000 [% RH]
Radiosonde Serial Number / ID:,
Pressure/Altitude Source:, iMet Radiosonde
Solar Radiation Correction:, Yes
CFH Plugin built:, Nov 2016
CFH Hygrometer Number:, 2L2720
CFH PreFlight Detector Signal:, 2.718
CFH PreFlight Specular:, 4.322
CFH Transmitted Serial Number:, 2720
CFH CodeVersion:, 6.250
CFH Cal A:, 241868
CFH Cal B:, 346808
CFH Cal C:, 372264
CFH Cal D:, 61729
CFH Detector Signal:, 2.71828
CFH Specular Setpoint:, 4.32175
CFH Reflectivity:, 88.01826
CFH Setpoint Temperature:, 34.457
CFH AD 630 Offset:, 0.0298789978027344
CFH PIC Version:, 6.800
CFH Daisy Chain Index:, 1

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