

CoCo Software 2.2

CoCo Software Release Notes

CoCo-80, CoCo-70X, CoCo-80X, CoCo-90X EDM CoCo-DSA (Dynamic Signal Analyzer) EDM CoCo-VDC (Vibration Data Collector)



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NEW FEATURES 65536 (216) Hz Sampling Rate - Supports 1 Hz Frequency Resolution

Several applications including some legacy applications require a frequency resolution of 1 Hz for optimal data comparisons with historic data. This requires a sampling rate at a power of 2.

Crystal Instruments introduced a new sampling rate of 2n for all Spider and CoCo hardware to support multiples and fractions of 1 Hz frequency resolution.

With 1 Hz frequency resolution, the frequency domain signals will have integer frequencies on the X-axis enabling spectral analysis for integer frequencies.

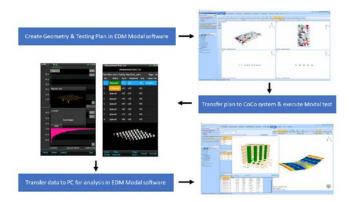
FFT analysis settings		
Sampling rate (fs)	256 kHz	 Format
Block size/Line	256 kHz	^
bioek size, ente	204.8 kHz	
Window	163.84 kHz	
Overlap ratio	131.072 kHz	
ovenap ratio	128 kHz	
Average mode	102.4 kHz	
A	81.92 kHz	
Average number	65.536 kHz	
FFT average on/off	64 kHz	
LPF cutoff frequency (Hz)	51.2 kHz	
LPP cuton frequency (H2)	40.96 kHz	
	32.768 kHz	
	32 kHz	
	25.6 kHz	
	20.48 kHz 16.384 kHz	
	16.384 KHZ 16 kHz	
	10 KHZ 12.8 kHz	
Test summary	12.6 kHz	
Block $T = 0.004 s$	8.192 kHz	.90625E-06 s
	0.1.1.	
Sampling rate (fs) = 256000	6.4 kHz	50 Hz
Frequency range (fa)=1152		
	4.096 kHz	
	4 kHz	
	3.2 kHz	
	2.56 kHz	
	2.048 kHz	
	2 kHz	
	1.6 kHz	~

With the introduction of 65536 Hz (216) and its derivative sampling rates, frequency resolutions of 0.125 Hz, 0.5 Hz, 1 Hz, 2 Hz, 4 Hz, etc. are supported to allow spectral analysis at integer frequencies.

Together with three other sampling banks of 102.4 kHz, 81.92 kHz and 64 kHz, Crystal Instruments products now support at least 72 different and unique sampling rates.

CoCo Hammer Impact Testing in EDM Modal

The rugged and portable CoCo hardware allows convenient measurement recording in the field. The handheld system features a compact display and accurately records and analyzes data. The powerful CoCo system integrates with EDM Modal software to provide a seamless modal analysis procedure. Users can transfer the testing plan and 3D model geometry created in EDM Modal to CoCo hardware for acquiring modal measurements. After a test is executed, users can transfer data back to EDM Modal for post-processing and modal parameter extraction.



General CoCo Features

VDS "Administrator" and "Local Administrator" profiles can access Account Management features on the CoCo.

The CoCo VDS "Administrator" and "Local Administrator" profiles now provide access to the Account Management function on a CoCo unit.

Restore CoCo without computer

Users can now restore a CoCo-70X or CoCo-80X unit using an SD card. A connection to a computer running EDM or VDS is not required.

Skip Page buttons

The next and previous buttons (A and) now provide a 'skip page' function. This added function provides a quicker way to navigate lists. Available for the Factory Route View and File List.

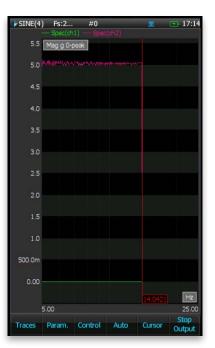
Delete Most Recent Measurement (Route Mode)

This new function is designated to the F3 button under the File List menu and allows users to delete the most recent measurements under a selected point. Available for CoCo-70X, CoCo-80X, and CoCo-90X.

CoCo-70X New Features

Swept Sine Analysis

Swept Sine measurements are added to the CoCo-70X.



CoCo-80X and CoCo-90X New Features GPS Data Acquisition added to all APS CSAs

All APS CSAs now support GPS data acquisition*. It is now possible to capture 8-channel FFT data while simultaneously recording GPS data. This feature can be enabled in the Timestream Recording Setup. Available for CoCo-80X and CoCo-90X. * only applicable to units containing a GPS chip

Waterfall and Colormap Batch Review in CoCo Software

The new 'Waterfall Batch Review' feature provides a full review of waterfall traces. Hard-key functions allow users to toggle between traces. The 'Colormap Batch Review' feature provides a full colormap trace review with hard-key toggle capabilities as well. X and Y axis scaling is easily adjusted using the 'Set Exact Axis Range' parameter. Auto/F4 provides easy access to the axis range settings during live tests.



Step Sine

Step Sine testing is added to CoCo-70X, CoCo-80X, and CoCo-90X.

IEPE Tachometer

New CoCo hardware now features an IEPE-powered tachometer channel. Requires the following hardware versions:

- CoCo-70X: 71.6.X
- CoCo-80X: 81.6.X
- CoCo-90X: 91.6.1

EDM CoCo DSA New Features

Export to Single File

Export multiple signals to one file. Supports formats including TXT, CSV, UFF, UNV, and MATLAB.



MAJOR IMPROVEMENTS

General Improvements

Route List collapses to point level when returning to screen The CoCo-70X and CoCo-80X Route screen now collapses to the point level by default. If a user returns to the Route screen after exiting, it will automatically collapse the points.

File Review screen automatically moves to selected machine

The File Review screen automatically moves to the previously selected machine from the Route screen when a user presses the Folder button.

Data Review improvement – repurposed >>| and |<< buttons

The >>| and |<< buttons are repurposed to move from the next or previous measurement entry when reviewing Route Data.

This feature allows users to easily review data across multiple measurement entries with fewer button clicks.

Data Review header in File Review screen

A header is added to the File Review screen containing the machine name, point name, date, and time.

Record	Files			*	- 16:55
Waveform	(ch1)				Review
Factory: V	ATER SE	RVICE			
Point(3/12	28): AC CI	ILLED W	AT >Pid	wp #1	
Entry(1/3)	: Demod(CH: 1,2,3)		
Date & Tir	ne: Aug-2	5-2022 1	6:37:09		
	- Wavefo	m(dh1)			
30.0m	0				
15.0m	di li di li si	UND NS	an distan	1.000	all all the
0.00	and the second		Leading 1	141.44	a hurde
	Addend	and Bash	and a little	d the state	Las studies
-15.0m			a filment a	, William	
					S
1	00(sec).00		:50.00 ms/d	iv 01(se	c).279(ms)
	Spactru	m(ch1)			
500.0µ	(() (RMS)	2	1874	7330	
400.0µ	1.1 10114	1.44	auto n	1. 30	1 44
300.Qu	10.044				期時為
200.0µ	LIG V V		and Links		
100.0L					
					10000
0.00			150.00/div	1750	10.00
		Meas.	150.00/aiv	or	0.00
Traces	Param.	Note	Auto	Cursor	OK

X- and Y-axis settings present between measurement entries during Route Mode

The x- and y-axis settings are present between measurement entries while in Route Mode.

Download CoCo BIN files on Support Site

A download button is added for BIN files on the Support Site (https:// customer.go-ci.com/Support/web/login.aspx).

CI Technical Support Site (4374560) Logout						[4374560] Logout		
	Home Hardware	🛞 Software Up	dates Technic	al Documents	Support	Manuals	Profile	Update Password
Serial number: 4374560								
Software renew period: Dec 31, 2022 (119	days left)							
View complete software download histor	r)4							
Application Software								
Software Item	Description	Size	Published Version	Published Tin	ve.	Current	Version	Action
CoCo-80 Application	Application software runs on the CoCo-80. The update can be conducted on the CoCo-80 when it is connected to the Internet.	0	4.0.62	Mar 19, 2021		2.0.38		View Instructions Download Bin File Update Key B1206B19E5F7A05 258E6F80BC7F190 4017EF593E4D069 F8B
Engineering Data Management(EDM) VDC Mode	PC Host software that downloads and manages the data acquired by the CoCo- 70X.	1.06 GB	6.3.0.5	Oct 26, 2021				View Release Notes Download Setup

Data Review, add Triaxial View

Triaxial Signal Displays are added to the File Review screen. This includes the following types of signal displays:

- 3-Channel Waveform
- 3-Channel Spectrum

- 3-Channel Readings + Waveform
- 3-Channel Readings + Spectrum

Assign Tachometer to Input Channel

Users can assign input channels to the tachometer. This means ICP-based tachometers are now compatible with the CoCo-70X, CoCo-80X, and CoCo-90X. Newly added CSAs are configured to use ch1 as the tachometer. Look for CSAs with "_Ch1Tacho" appended to the CSA name.

Updates to Route Measurement Notes

- List is no longer auto-populated with "Temperature", "Pressure", and "kW Load".
- A "Delete" button is added to the menu
- The selection cursor remains to allow editing after deleting a note.

Updates for the Note Codes:

- UI Simplification 'Select Note Code' and 'Note Code Entries' are moved to the Note (f3) menu on the Route screen. This combines all note-related functions under the 'Note' menu.
- Simplified operation Note codes are now reset when route data is synced with VDS to prevent duplicate note codes.

CoCo-80 Improvements

Supports CVAT user profiles

Users can now access the Account Management function on a CoCo-80 with a CVAT "Administrator" or "Local Administrator" profile. These profiles are treated as administrator accounts with abilities to access and manage other accounts.

Route screen - shortened text for OnSite

The text next to each route point representing the number of collected OnSite measurements is shortened to allow longer names to be displayed.

CoCo-70X Improvements

'Rec Wav' button added to CoCo-70X UI

The 'Rec Wave' button allows users to record voice annotations. This function was activated through touchscreen on the CoCo-80X. The CoCo-70X allows users to optionally map this function to the Sensor key. These functions are configured in the Display Options menu.

CoCo-80X Improvements

8-channel FFT CSA added

• An 8-channel FFT CSA is added.

CoCo-90X Improvements

CSAs from CoCo-80X missing on CoCo-90X are added

- The following CSAs are added to CoCo-90X:
 - APS_AutoCorr(2)
 - APS_AutoCorr(4)
 - APS_AutoCorr(8)
 - APS_RMS(4)
 - APS_RPM(4)
 - APS RPM(8)
 - APS_RPM_RMS(4)

- o Corr(8)
- Transient(2)
- Transient(8)

EDM CoCo Mode

Combined License Keys

(For non-commercial users) Commercial and non-commercial CoCo units can combine use of a single license key.

CSA Editor - Enter cut-off frequencies in Hz instead of frequency ratio

The CSA Editor now allows users to enter cut-off frequencies in Hz instead of a frequency ratio, making this feature easier to use. When using any of the 'fixed' filter types (such as Fixed Low Pass, Fixed High Pass, Fixed Band Pass, etc.), this feature allows users to enter the cut-off frequencies in Hz (instead of f/fs).

Copy points without appended text

EDM-VDC Mode no longer appends the word "copy" when copying points. Users are prompted to enter a new name If points are copied into the same machine.

SOFTWARE RELEASE HISTORY

Dates of software releases

Туре	Release	Exact Version	Release Date
Release	EDM 4.2	CI 4.2.0.3	02/28/2014
Patch	EDM 4.2.0	CI 4.2.0.14	07/02/2014
Release	EDM 5.0	CI 5.0.0.2	11/27/2014
Patch	EDM 5.0.1	CI 5.0.1.3	02/27/2015
Release	EDM 5.1	CI 5.1.0.6	08/12/2015
Release	EDM 6.0	CI 6.0.0.1	05/19/2016
Patch	EDM 6.0.2	CI 6.0.2.9	08/09/2016
Release	EDM 6.1	CI 6.1.0.4	02/07/2017
Patch	EDM 6.1	CI 6.1.0.27	08/22/2017
Release	EDM 7.0	CI 7.0.0.6	02/01/2018
Patch	EDM 7.1	CI 7.1.0.7	07/19/2018
Release	EDM 8.0	CI 8.0.0.1	02/02/2019
Release	EDM 8.1	CI 8.1.0.1	11/13/2019
Release	EDM 9.0	CI 9.0.0.4	06/05/2020
Release	EDM 9.1	CI 9.1.0.0	02/03/2021
Release	EDM 10.0	CI 10.0.0.2	10/26/2021
Release	EDM 10.1	CI 10.1.0.1	09/09/2022

Туре	Release	Exact Version	Release Date
Release	ECX 1.0	1.0.7	07/26/2016
Release	ECX 1.2	1.2.3	02/22/2017
Patch	ECX 1.2	1.2.5	03/07/2017
Release	ECX 1.4	1.4.1	03/15/2018
Release	ECX 1.6	1.6.0	12/05/2019
Release	ECX 1.8	1.8.7	06/25/2020
Release	ECX 2.0	2.0.2	02/10/2021
Patch	ECX 2.0	2.0.6	05/07/2021
Release	ECX 2.2		

SYSTEM REQUIREMENTS

Minimum System Requirements:

- Operating System Support: Windows 10 or higher
- Operating System Type: 64-bit
- Processor Speed: 1.5 GHz Dual-Core x86
- RAM: 8 GB
- Available Storage Space: 10 GB

VERSION COMPATIBILITY

Product and Software version	EDM CoCo- DSA Version	EDM CoCo- VDC Version	VDS Version
CoCo-80 ECX 4.0.62	10.1	6.4	1.8.0.3
CoCo-70X ECX 2.2	10.1	6.4	1.8.0.3
CoCo-80X ECX 2.2	10.1	6.4	1.8.0.3
CoCo-90X ECX 2.2	10.1	6.4	1.8.0.3

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