DS-0321 FFT Analysis Software

Operation manual

DS-0371 1-ch Signal Output Module

Waveform Conversion from ORF file to Voltage signal

ONO SOKKI CO., LTD.



This document explains how to convert ORF format data to voltage signal in which signals have been recorded by using the DS-0350 Recording software.

Operation

- (1) Press the "STOP" button on the main toolbar to stop measurement.
- (2) In the "Configuration" window, click "Input/Output Setting" > "Sig Output Setting" > "OPEN".

Pield Measurement Carrelly Edit No. France State Data Diss State (III) Meddelly Meddelly Cprime	🖥 Onosokki DS-3000(DS-0320) -	- DWindow 13			
Image: State	File(E) Measurement Control(Q)	Edit(E) Input/Output Setting(\$	Analysis (A) Data Disp Setting (D) Mode (M) View (V)	Window (M) Options (Q) Help (H)	- 8
Friedmark (New Series Condition) Hermal W Arrestere Condition Hermal W			D □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		8.8 ./min L1000 U800
Trigger Mol Carlo M Ca	Frequency Range 20kHz 💌	Sampling Condition Internal	Averaging Mode Power Sum 🛛 Averaging	Count 10	
Order Anton I × Image: Control Control Control Image: Control Control Control Image: Control Imad	Trigger Mode OneShot 💌	Sampline Point Count 2048	Averaging Condition Count 💌 Averaging	Time 10	
Image: Control Image: Control Image: Control control Image: Control Image: Control control Image: Control Image: Control	Configuration		• × mm Current Overent-ID	Schedule Schedule-3D CH 1 V Time	Peal V
• Ge • G					
b Mos Control 0 Mos Control Open 0 Mos Control Setting Open 0 Mos Control Open 0 Mos Contro Open </td <td>▶ File</td> <td></td> <td>CH1: Time Real</td> <td></td> <td></td>	▶ File		CH1: Time Real		
Productor Series	Meas Control				
Concentration Setting Construction Setting Press Runs Setting Construction Setting Security Condons Setting Construction Setting Description Condensition Setting Construction Setting Description Condensition Setting Construction Setting Description Condensition Setting Condensition Setting Vering Condensition Setting Vering Condensition Setting Vering Condensing Setting			1		
Oral Calibration Safety One In Sum Calibration Safety O	Input/Output Setting	(
United service Set Service Is and Service Version Is addition service Version Version Version Version Version Version Version Version Version Version Version Ve	Cross Combination Setting	Open	0.5		
• basis interim Com • basis Com • Works Com • Works Com • basis Com • basis Com • Works Com • Works Com • Com Com • Com Com • Com Com	k Eren Banes Setting	206.141			
P spins Condition String Vendon P individe String OverDet UnA/OLD String OverDet UnA/OLD String OverDet P individe String OverDet	Input Setting	Open		***	
 Polyacional Satira Polyacional Satir	Sampling Condition Setting	Internal	> contraction of the state of the state		
P Trans 200 France OverSet Und/Od Setting OverSet Und/Od Setting OverSet P Control Setting OverSetting	Rotation Input Setting		-0.5		
Und/Gil String Oprime Vinder Function Proprocess Oprime Answard String Oprime Answard String Oprime Status Oprime Note Oprime Vinter Oprime Solution Oprim Solution <td< td=""><td>▶ Trigger Condition Setting</td><td>OneShot</td><td></td><td></td><td></td></td<>	▶ Trigger Condition Setting	OneShot			
Window Function Setting Opm	Unit/Cal Setting	Öpen	-1		
* Time alter Proposed with the second seco	Window Function Setting	Open			
Proversion: 2 Proversion: 3 0.000 0.011 0.012 0.003 0.000 0.014 Proversion: Concentration: Concentration:<	Time-axis Preprocessing Setting	Open			
1 Sa Colucitantia X5 X500mu Y 0.155V 1 August contra X500mu Y 0.155V 1 August contra X500mu Y 0.155V 1 Vice Vice 1 <	Averaging Setting	Power Sum	0 0.005 0.001		0000 004
CH2 (String) CH2 Time Real Marks (String) CH2 Time Real Vice Image: String Image: String Image: String Image: String Image: String	h Sin Outrant Souther	(3)	× 5.996ms ¥ 0.155V		1
	Apabers Selling	(open)			
	▶ Data Disp Setting		CH2 Time Real		
Vere Vere Voron Vo	▶ Mode				
Worker Worker 06 0 <t< td=""><td>View</td><td></td><td></td><td></td><td></td></t<>	View				
	▶ Window				
	▶ Option				
3 0	▶ Help		0.0		
			÷.		
-05 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1			3 ° •		
-05 -1 -0.005 6.01 0.015 0.02 0.025 0.00 0.04 X: 4.705ms V: 159.016.v/ Feat. V: 21 [m](0) 1.02 V] [] X*axis Zoom 1.0 V] [] [] 0001 V] • V					
-1 -1 -1 -1 -1 -1 -1 -1 -1 -1			-0.5		
-1 0 0005 001 0.015 0.02 0.025 0.005 0.04 X 4.705ms Y 199.016.0/ [Peak ♥ d) [00:0] [00 001 ♥ ▲ ♥]					
0 0.005 0.01 0.015 0.02 0.025 0.00 0.04 X 4.7155ma ½ 1192016.0/ [Peak. ♥ 27 [b](b] tog ♥) [] X*aakis Zoom tn ♥ [g](0001 ♥ ▲ ♥			-1		
0 0.0006 0.01 0.015 0.02 0.005 0.006 0.04 X 4.705ms ½ 199.050√ ° [Peak ♥].d] [bb(b) Log ♥] T¥sada Zoom Ln ♥ [bg) 0.001 ♥ ▲ ♥]					
X 4.715/m V 102016/v/ Presk. ♥ ⊴1 [b](\$) tog ♥) X*asin Zoom tn ♥ [g] 0001 ♥ ▲ ♥			0 0.005 0.01		0 0.035 0.04
Pesk V 4 [k] (k] Loc V X-axis Zoom Ln V [g] (001 V • V			X: 4.705ms V: 159.016-M		
			Park and d linker and	Manie Zoon Lin and Lin prove and a	
			reak 💌 🗆 🖽 La Log 🔍	V-axe zoom ▼ ▲	1. III

(3) In the "Sig Output Setting" window opened, select "Signal Output Mode" > "Timerecord Signalout".

Output Mode Continuous ✓ Signal Type SIN ✓ Sine Wave Frequency 1000 Hz Amplitude 1 V DC Offset 0 V Unit V ✓ ✓ Burst Setting Taper Taper Time Interval 2 s Output Time 1 s	Signal Output Mode Waveform Off CH1 Sign Wavef	Wave Signalout Wave Signalout SweepAverage Sign Fimerecord Signalo nal Output ON/O form Output Sett	FF Addition Function ON/OFF
Signal Type SIN Sine Wave Frequency 1000 Amplitude 1 Image: Constraint of the structure 0 Unit V Pink Filter Output Impedance Burst Setting Taper Cycle 1 Time Interval 2 Sine 1 Sin	Outpu	it Mode	Continuous 🛛 Exe
Sine Wave Frequency 1000 Hz Amplitude 1 V DC Offset 0 V Unit V V V Pink Filter Output Impedance 0.2 V Burst Setting Taper Taper Time Interval 2 s Output Time 1 s	Signal	Туре	SIN
Amplitude 1 V DC Offset 0 V Unit V V V Pink Filter Output Impedance 02 V Burst Setting Taper Setting Cycle 1 s Time Interval 2 s Falling 1 s Output Time 1 s Falling 1 s	Sine	Wave Frequency	1000 Hz
DC Offset 0 V Unit V V Pink Filter Output Impedance 0 Burst Setting Taper Setting Cycle 1 7 Time Interval 2 s Output Time 1 s Falling 1 s	Ampli	tude	1 V
Unit V V Pink Filter Output Impedance 002 V Burst Setting Cycle 1 Taper Setting Cycle 1 s Time Interval 2 s Output Time 1 s Falling 1 s	DC Of	ffset	0 V
Pink Filter Output Impedance 0Ω Burst Setting Taper Setting Cycle 1 Time Interval 2 Output Time 1 Falling 1	Unit		V
Burst Setting Taper Setting Cycle 1 Time Interval 2 Output Time 1 S Falling	🗖 Pi	nk Filter	Output Impedance 0Ω 💌
Time Interval 2 s Rising 1 s Output Time 1 s Falling 1 s	Burst Cycle	Setting 1	Taper Setting
Output Time 1 s Falling 1 s	Time	Interval 2	s Rising 1 s
	Outpu	it Time 1	s Falling 1 s



(4) In the "Time Record Sig Output" window opened, click on the "Folder" icon. Then, select and open the target ORF file of which signal is to be converted.

Sig Output Setting					[1] Press the	Folder" icon.
Signal Output Mode Time Time Record Sig Outp Select Record Data File Memory Transfer R Record No. Record CH CH1 -	erecord Signalout ut ange 0 0 4 Amplitude	✓ □ v □ ude Mode at Recording ✓	Amplitude [V]			
Repetitive Outpu	Recent file list Desktop My Document My Computer My Network	Coffline Coffline Coll 112test_0006.or Coll 112test_0006.or Coll 110test_0004.or Coll 110test_0003.or Coll 110test_0001.or Coll 110test_0001.or Coll 110test_0001.or Coll 110test_0001.or Coll 10008.orf Coll 1008.orf Coll 1008.or	f [2] Sele the C	ect and oper DRF file.	n Copen Cancel	

(5) After checking that the desired ORF file has been selected, click on the "File View" icon. The File View window will open.

Click the "File View" icon
Click the The View Icon.
suments¥Onosokki DS-
~ 256000
Mode Amplitude [V]
tecording 💌 0.001 🛄
<.orf> [1/1 (0.00002s / Line)] Store Time=4.99998s - FileView
s <u>S</u> elect <u>Q</u> ursor <u>V</u> iew <u>H</u> elp
Search: X: 0.0s Y: −188.541mV 🚺 🕨
White was a solution of the second sec
All Data > 4.99998s
s to 5s REV:0.0 r/min
Search: X: 0.0s Y: -188.541mV Search: X: 0.0s Y: -188.541mV Y: -188.541mV Image: Search: X: 0.0s

ΟΝΟ Ο ΚΚΙ

Note	
1.	When the ORF file is opened for the first time, check if it shows "All Data" in the bottom of the window. If not, click "File" on the menu bar and select "Preview File".
2.	If there are two or more records, select the desired Record No. The following window shows the case which "Record 2" is selected
	Image: Second and a second
	Kec.2 (CHI) Search: X: 0.0s Y: -94.535mV 447.21mV MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM
	Analysis Range: 0.0s to 5s REV:0.0 r/min

- (6) The "Time Record Sig Output" window will show the following information, as selected in the File View window:
 - Memory Transfer Range (address number)
 - Record No.

ig Output	Setting		
Signal Outp	ut Mode Timerecor	d Signalout 🛛 👻	
Time Rec	ord Sig Output		
-Select File	Record Data		
c:¥doc ¥ds−03	uments and setting 320¥offline¥201110	s¥all users¥documents¥onoso Itest_0001.orf	kki ds-3000 🛄 🚳
Memor Record	y Transfer Range d No.	0 ~ 256000 2	
	Record CH	Amplitude Mode	Amplitude [V]
CH1	СН1 🔽	Amplitude at Recording 🔽	0.001
✓ Repe	titive Output hronize with Start		Data Transfer
			OK Cancel



(7) Specify the output signal amplitude in "Amplitude Mode" of the "Time Record Sig Output" window. If "A/D Data Full-Scale Amplitude" is selected, specify the corresponding output voltage in the "Amplitude" field.

Sig Output Setting
Signal Output Mode Timerecord Signalout 💌
Time Record Sig Output
Select Record Data
c:¥documents and settings¥all users¥documents¥onosokki ds-3000 🚳 ¥ds-0320¥offline¥201110test_0001.orf
Memory Transfer Range 0 \sim 256000
Record No. 2
Record CH Amplitude Mode Amplitude [V]
CH1 CH1 ▼ Amplitude at Recording ▼ 0.001 Amplitude at Recording ▼ 0.001
Repetitive Output
Synchronize with Start Data Transfer
OK Cancel

(8) Click the "Data Transfer" button. The ORF data specified will be loaded to DS-3000. When the ORF data has been loaded, a message such as "Data loading has been completed" will be displayed.

Sig Output Setting	×
Signal Output Mode Timerecord Signalout 👻	
Time Record Sig Output	
Select Record Data	
c:¥documents and settings¥all users¥documents¥onosokki ds-3000 ¥ds-0320¥offline¥201110test_0001.orf	
Memory Transfer Range 0 ~ 256000	
Record No. 2	
Record CH Amplitude Mode Amplitude [V]	
CH1 CH 1 💌 Amplitude at Recording 💌 0.001	
Repetitive Output	
Synchronize with Start	
)
OK Carcel	

Note

1. If the setting is to be changed after the data has been loaded, repeat the above procedure from Step (4).

(9) In the "Time Record Sig Output" window, check the "Synchronize with Start" checkbox. (A function to start output when "START" button is pressed) If "Repetitive Output" is checked, it will be repeated until the "STOP" button is pressed. If both check boxes are not checked, the signal voltage will be converted only once, followed by 0 V until the "SIG OUT" button is pressed to turn it off.

Sig Output Setting		X
Signal Output Mode Timere	cord Signalout 🛛 👻	
Time Record Sig Output		
Select Record Data — File		
c:¥documents and sett ¥ds-0320¥offline¥201	ings¥all users¥documents¥onoso 10test 0001.orf	okki ds-3000 🛄 🎑
Memory Transfer Rang	e 0 ~ 256000	
Record No.	2	
Record CH	Amplitude Mode	Amplitude [V]
СН1 СН 1 🗸	Amplitude at Recording ⊻	0.001
Repetitive Output]	
Synchronize with Sta	rt	Data Transfer
		OK Cancel

The figure below is an example display to monitor the signal output waveform by connecting the Signal Out connector to the CH-1 input port.





- (10) If it is desired to specify the output time range, use the File View waveform window, which will be shown when the File View window is opened in the above Step (5), and drag the cursors to specify the time range and click "Data Transfer".
 - [1] When the range is specified by moving the cursors, the specified range will be shown in blue.

Op	oomoa ra	iige	
🕵201110test_0001.orf<.orf> [1/1 (0.00002s / Lin	e] Store Ti	e-4.99998s - FileView	
<u>F</u> ile <u>D</u> isplay range <u>X</u> -Axis <u>S</u> elect <u>C</u> ursor <u>V</u> iew <u>H</u> elp			
Record.2			
Rec.2 [CH1] Sea	h: 1.992	34s to 2.579707s (586.97265d	śms) 🔺 🕨
447.21mV to a the state the state in the state	A at see	A dama had an a sha h h	Marian de all also de
୦୵ ୄୄଐୄୗଐୄୄୗ୲ୄୗୄୖୄ୶ୄୗ୳ୗୄୖ୶ୢୖୄ୷୳ ୢୖ୷ ୄ୷ ୷୷୷୷୷		<u>∩awawawawa</u> ∧ ∧a	<u>Y VVVII YVII (VYI</u>)
-447.21mV			
	< All Da	ta >	4.99998s
Analysis Range: 14.492188ms to 4.985488s		REV:0.0 r/	min

Specified range

[2] When the "Specify Range" button is clicked to save the change, the waveform color within the specified range will become green.

Click the "Specify Ran	inge"	
🕵 2011 Otest_0001.orf <.orf> [1/1 (0.00002s	2s / Line)]Store Time-4.99998s - FileView	
<u>File Displatrange X-Axis Select Cursor View</u>	Help	
	\frown	
Record.2		
Rec.2 [CH1]	Search: X: 🕇.992734s Y: -38.160mV 🔳	•
447.21mV MARAM ALLA M. A. A.	we had a the trade also so to death and a share the share to all the	
-447.21mV	a na na na hana a ta	
▲		<u> </u>
	< All Data > 4.99991	8s
Analysis Range: 1.992734s to 2.579707s	7s REV:0.0 r/min	

[3] Once the range is fixed, the "Transfer Memory Range" field in the "Sig Output Setting" window will show the updated memory transfer range.

Sig Output	Setting		×
Signal Outp	out Mode Timereco	ord Signalout 🛛 🔽	
Time Re	cord Sig Output		
File	t Record Data		
c:¥doo	uments and setti	ngs¥all users¥documents¥onoso IO1 0001(kki ds-3000 🛄 🙉
Memo	ry Transfer Range	102028 ~ 132081	
Recor	d No.	2	
	Record CH	Amplitude Mode	Amplitude [V]
CH1	СН1 🔽	Amplitude at Recording 🔽	0.001 🛄
☑ Repo ☑ Synd	etitive Output chronize with Star	t	Data Transfer
			OK Cancel



[4] If the specified time range is to be changed, repeat the above steps [1] and [2].

Remarks

• Setting the output time range by the memory address

- 1. From the menu of the File View window, click "X-axis Unit" and then "Address". The scale of the X-axis will change from time-scale to address-scale.
- 2. Clicking on a point in the waveform screen in the File View window will show a cursor line, together with an indication of the corresponding address value such as "Search: X: 27826". Take a note of the address value indicated.

🕵 201110test_0001.orf Corf> [1/1 0.00	002s / Line)]Store Time-4.99	990s – FileView	
<u>File</u> <u>Display range</u> <u>X</u> -Axis <u>Select</u> <u>Cursor</u> <u>V</u>	ew <u>H</u> elp		
Record.2 ▼			
Rec.2 [CH1]	Search: X: 27826	Y: −153.047mV	• •
	and the state of t	www.www.	Martin Martin
4			•
	< All Data >		255999
Analysis Range: 102028 to 132081		REV:0.0 r/min	

3. From the menu of the File View window, click "Select Range" > "Analysis Range". In the "Analysis Range" window opened, enter the "Start Address" and "End Address" and then click "OK" to save the change.

Note that the indication of "File size: 0 --- 256000" is showing the start and end addresses (entire data length) of the ORF file.

Analysis Range		
File Information		
Sound Level		
Range		
 Input Start Input Start Input Stop 	_Stop Address Address _Time R Address _Time R	ange ange
		Calculate
Start Address	102028	
Time Range	30053	
Stop Address	132081	
File size: 0	- 256000	
Record Informatio	л	
room		
,	0//	1



- 4. When the range is finalized, the address area specified in the "Transfer Memory Range" field of the "Sig Output Setting" window will be displayed (refer to the above Step (10)-[3]).
- 5. To select the entire range again, enter the start and end Address values given in "File size: 0 --- 256000" to the "Start Address" and "End Address" in the "Analysis Range" window in the above Step [3].