

# FAQ Maintenance Guideline from Webinterface

# 1. Introduction

• This procedure describes a typical monthly check of a GeoSIG system. It will give some basic information about the state of recorder and sensor.

#### 2. Required Tools

- Recorder and sensor you want to check, running and connected to network
   Computer connected to the same network to access the recorder's webinterface
   Software to read test pulse files recorded in minised format (GeoDAS is recommended)

### 3. Check for existing Procedures

• Please check if there is a project-specific procedure for your system to follow instead. Especially if your system is tied to an alarm system as the execution of the test pulse described in this procedure may cause an alarm.

#### 4. Access the Webinterface

Open your webbrowser, enter the IP address of your Recorder and login as admin (default password 123456)



#### 5. Check Errors and Warnings

Choose tab Status and Maintenance -> Errors and Warnings

Home	Configuration	Status and Mainte	nance D	ata Explorer	Help	Logout	
Errors a	nd Warnings	Recording Status	Hardware	Software	Maintenance		
			Clear Errors	Download SOF	I Information as Fi	le	
Check	k the section <b>E</b>	rrors and Warnin	gs and mak	e sure no erro	rs are present (	(all checkmarks g	reen)
Home	Configuration	Status and Mainten	ance Dat	a Explorer I	Help L	_ogout	GeoSIG
				C-18/08/00/04/01/00			

Errors and Warnings	Recording Status	Hardware	Software	Maintenance	
		Clear Errors	Download SOH	Information as File	
Time Information					
SOH Generation Time:			Tue Apr 25 15	53:32 2023	
Device Identity Info	ormation				
Device Model:			GMSplus		
Serial Number:			102833		
Station Description:			GMSplus (6ch	) - GeoSIG Ltd	
Station Code:			GSGMS		
Network Code:			GS		
Errors and Warning	IS				
Event Storage				File Index	
Event Storage Quota				General Status (Non-Critical):	<b>_</b>
Configuration Parameter	5			Time Synchronisation (Non-Critical)	$\sim$
System Calls			~	Ringbuffer Operations (Non-Critical)	<b>_</b>
File Operations (opening	1)			Network (Non-Critical)	$\checkmark$
File Operations (deleting	)			File Transfer (Non-Critical)	<b>_</b>
Filesystem Requests				I2C Bus	
Firmware Ressources				RTC Status (Non-Critical)	<b>_</b>
Memory Allocation			1	Data Processing	

### 6. Check Battery Voltages

Choose tab Status and Maintenance -> Hardware

Home	Configuration	Status and Mainter	nance	Data Explorer	Help	Logout	GeoSIG
Errors an	nd Warnings	Recording Status	Hardwar	e Software	Maintenance		
			Dov	vnload SOH Inform	ation as File		

If the recorder is powered from AC (AC power input ON), Current Voltage (V) should at least show 13.5V
 If your recorder (only GMS-xx, GMSplus and CR-6plus) has a backup battery, the Backup Battery Voltage (V) should be at least 3.0V

Home Configu	ation Status and Maint	enance Data E	xplorer H	Help	Logout	Seesig where the measure of the second secon		
Errors and Warning	s Recording Status	Hardware	Software	Maintenand	ce			
		Download	SOH Informat	tion as File				
Hardware Statu	15							
Linux Uptime at Sit	e Generation:		0 years, 1 mont	ths, 2 days, 19	hours, 36 minutes, 31 se	conds		
Last Reboot Time:			Mon Mar 27 15	29:13 2023				
The Reason for the	last Shutdown:		RTC logged: Inc	correct Switchir	ng OFF?			
Time of the last shu	itdown:		Mon Mar 27 15	29.08 2023				
Environment Temp	erature:		18.59°C					
Available Disk Spa	e:		59.2 GIB					
Free Disk Space:			36.5 GiB					
AC power input:			ON					
Current Voltage (V)			14.01					
Voltage Limits (V):			Switch-off: 10.6	30 Switch-on: 12	2 50			
Minimum Measured	Voltage (V):		14.01					
Backup Battery Vol	tage (V):		3.25					
Battery-1 voltage (V	0:		13.60					
Battery-2 voltage (V	0:		14.01					
Primary DC/DC cor	iverter output voltage:		14.18					
Digital sensor volta	ge (V):		unknown					

Main battery should be replaced every 3 years (See Warnings and Safety in User Manual)
 Backup battery should be replaced every 5 years (See Warnings and Safety in User Manual)

Battery installation date can be set under Status and Maintenance -> Maintenance

# 7. Check Time Synchronisation

Choose tab Status and Maintenance -> Recording Status

Home C	onfiguration	Status and Mainte	nance Da	ata Explorer	Help	Logout	
Errors and W	arnings	Recording Status	Hardware	Software	Maintenance		
			Down	load SOH Inform	mation as File		

Check the field Synchronisation Status
 Device Synchronises to: should show NTP or GPS (whenever possible, an external time source such as NTP or GPS should be used)
 Synchronisation Status should show Locked

ome Configuration	Status and Maintenan	e Data E	xplorer	Help	Logout	
rrors and Warnings	Recording Status	Hardware	Software	Maintenance		
		Download	SOH Informa	ation as File		
Recording Status						
Total number of stored e	vent files:		1297			
Queued Events:			0			
Time of Last Detected Event			Tue Apr 25 16	28:53 2023		
Timestamp of the oldest Data:			Wed Apr 26 14	4:17:02 2023		
Synchronisation St	atus					
Device Synchronises to			NTP			
Synchronisation Status:			Locked			
Max. Synchronisation In	verval		0			
NTP Synchronisation Fa	ilures:		0			
Pulse Detected:			True			
Source Valid:			True			
Autolock Enabled			True			
Last Lock Time:			Wed Apr 26 14	4 30 22 2023		
Time Elapsed since last	lock:		Now			
Drift Rate of the Clock, F	PPS:		0.3			
GPS Status:			Unavailable			

# 8. Remove offset

Choose tab Status and Maintenance -> Maintenance Home Configuration Status and Maintenance Data Explorer Help Logout						
Home	Configuration	Status and Maintenance	Data Explorer	Help	Logout	

Home	Configuration	Status and Mainter	nance Da	ta Explorer	Help	Logout	
Errors ar	nd Warnings	Recording Status	Hardware	Software	Maintenance		

• In the field Miscellaneous Requests, choose Request baseline correction from the dropdown of commands -> click [Run Command]

rrors and Warnings Re	cording Status Hard	ware Softw	are Maintena	ince	
😴 Data Management					
Trigger by request and create a	data file	No manual tr	iggers configured		()
Request data from ringbuffer st	arting from 2023-04	-26 👩	14:33:05 Dura	ation, seconds 100	Request 👔
Delete files from the storage	All files (A	LL)	♥ 2023-04-2	3 🔯 14:33	Delete 🚺
Status and Informatio	n				
Request actual status of the sy	stem in a file Update S	OH Information	Download SOH Fi	le	1
System Commands					
Ping remote host					Ping 1
Miscellaneous Reques	ts				
Synchronise instrument time wi	th PC time Local Time	e 🗸 Wed Apr 26 20	023 16:33:37 GMT+	0200 Synchronise	1
Battery maintenance command	Set main t	pattery installation	i date 🗸 💈	2023-04-26 👩 Se	et Date
Execute selected command	Request b	aseline correction	1 🗸 Run Cor	nmand	
Send any command	Request t Request t	est nulse from se aseline correctio	nsor 0		Sendi 🚺
ice type: GMSplus Dev al number: 102833 Sta ion code: GS.GSGMS	vice date and til tion description Erase the	ors and warnings table dware reboot entire data stora	ge	Device State Summar	y 🗾 Context Help 🌘

Running selected com and nsor is not correctly placed, this will result in wrong data. Continue If the offset is removed from a Signal where the Se

#### 9. Request Test Pulse

Choose tab Status and Maintenance -> Maintenance

Home Configuration		Status and Mainter	nance Da	ta Explorer	Help	Logout	
Errors a	nd Warnings	Recording Status	Hardware	Software	Maintenance		

• In the field Miscellaneous Requests, choose Request test pulse from sensor from the dropdown of commands -> click [Run Command]

ome Configuration Status and Ma	intenance Data Explorer	Help Logout	Geosig swiss made to measure
Errors and Warnings Recording Statu	s Hardware Software	Maintenance	
🗢 Data Management			
Trigger by request and create a data file	Trigger Now No manual trigg	ers configured	0
Request data from ringbuffer starting from	2023-04-26	33:05 Duration, seconds 100	Request 1
Delete files from the storage	All files (ALL)	2023-04-26 👩 14:33	Delete 🕕
Status and Information			
Request actual status of the system in a file	Update SOH Information Do	ownload SOH File	0
System Commands			
Ping remote host	[		Ping 🕕
✓ Miscellaneous Requests			
Synchronise instrument time with PC time	Local Time 🗸 Wed Apr 26 2023	3 16:38:30 GMT+0200 Synchronise	0
Battery maintenance command	Set main battery installation da	ate 🗸 2023-04-26 👩 Set	t Date
Execute selected command	Request test pulse from sense	or V Run Command	0
Send any command	Request test pulse from sens		Send (1
vice type: GMSplus Device date and t rial number: 102833 Station description tion code: GS.GSGMS	Reset errors and warnings Reset trim table Make hardware reboot Erase the entire data storage	Device State Summary	Context Help

A popup will appear, confirm clicking [Yes]

Running selected command nsor is not correctly placed, this will result in wrong data. Continue Yes No If the offset is removed from a Signal where the Se

A miniseed file with the recorded pulse (file prefix CAL\_) will be saved to the SD-card of your recorder
 Choose tab Data Explorer, choose Automatically Detected Events from the dropdown and search for the recorded test pulse (file prefix CAL\_)



You can download the file by clicking on it

## 10. Check Test Pulse

• The shape of the test pulse is depending on the sensor type. A reference pulse recorded at the factory is shipped for each sensor on the usb key, the file can be found in the folder Calibration\Test\_files\_Sensors (file prefix TP\_ with the SN of the sensor). It is also recommended to record a test pulse after installation and keep it with later records for comparison.

10.1 Test pulse of AC-7x

Double-click the file to open it in GeoDAS
 Click into the yellow part of the window to make the cursor appear
 Move the cursor to the flat part of the pulse
 Check that the value of the flat part for each axis is within the range of 0.1125g-0.1375g



10.2 Test pulse of AC-2x

Double-click the file to open it in GeoDAS
Click into the yellow part of the window to make the cursor appear
Move the cursor right after the peak, the point that forms the beginning of a straight line with some slope
Check that the value right after the peak for each axis is within the range of 0.09g-0.11g
Visually check that the angle of the slope is similar on all axis (compare with a reference pulse file if unsure)



## 10.3 Test pulse of AC-4x

Double-click the file to open it in GeoDAS
 Click into the yellow part of the window to make the cursor appear
 Move the cursor to the filat part of the pulse, x- and y-axis should show a similar value, the z-axis should show a higher value
 Open a reference file of the same sensor and check that the flat part for each axis on the newly recorded pulse does not deviate more than +/-10%

GSGMS File: TP_58324_102845_20220505_072002 Start: 05.05.20	22 07:20:01.4	Length: 13.305 sec (2661 samples at 200 sps)						
Peak: 0.2492 g at 07:20:06 Window RMS / PP: 0.0446 / 0.2682 g	0.2290							
0.20								
0.10								
0.10								
8 0.00			-					
S =		Deference						
-0.10		Reference						
-0.20		0.2299						
	_					1		
0.24 Peak: 0.2532 g at 07:20:06 Window RMS / PP: 0.0452 / 0.2726 g	0.2330							
0.16				Auto	New TD	Deferrer	Deviation 9/	
0.00		0.0346		AXIS	New IP	Reference	Deviation %	
Q		0.2315		X	0.229	0.2299	-0.39	
8 0.00	•			Y	0.233	0.2315	0.65	
<sup>→</sup> -0.08				Z	0.313	0.3128	0.19	
-0.16			_	-				
0.24		0.3128						
Peak: 0.3388 a at 07:20:06 Window RMS / PP: 0.0606 / 0.3661 a	0.2124					······		
0.32	0.5154							
U.16								
8 0.00								
			1					
.0.16								
-0.32								
07:20:02 07:20:04 0	7.20:06.475	07:20:08 07:20:10 07:20	0:12			Time		07:20:1

## 10.4 Test pulse of AC-6x

Double-click the file to open it in GeoDAS
 Click into the yellow part of the window to make the cursor appear
 Move the cursor to the fila part of the pulse, depending on the sensor generation, the pulse may be negative or positive
 Open a reference file of the same sensor and check that the flat part for each axis on the newly recorded pulse does not deviate more than +/-10%



## 10.5 Test pulse of VE-1x

Double-click the file to open it in GeoDAS
Click into the yellow part of the window to make the cursor appear
Check that the pulse is with similar shape as shown in the picture below
Move the cursor to the peak of the positive pulse to read the value for each axis
Open a reference file of the same sensor and check that the peak for each axis on the newly recorded pulse does not deviate more than +/-10%



## 10.6 Test pulse of VE-2x

Double-click the file to open it in GeoDAS
Click into the yellow part of the window to make the cursor appear
Check that the pulse is with similar shape as shown in the picture below
Move the cursor to the peak of the positive pulse to read the value for each axis
Open a reference file of the same sensor and check that the peak for each axis on the newly recorded pulse does not deviate more than +/-10%

	Peak: 1.553 mm/s at 09.11.02.330 Window RMS / PP: 0.197 / 2.739 mm/s	o less surpres area spot							
1.5					-	-			
1.0		1			-R(	ete	renc	e –	
0.5						010	TOTIC	<u> </u>	
					1.652				
0.0			$\sim$			1			
0.5							$\neg \frown$		
1.0									
		V			4.000	-			
1.5	09:11:00:567 09:11:01:691 09:11:02:330	09:11:02.615	09:11:03.639	09:11:04.663	1.600	x			Time
	ile: TP_59220_SL1_57704_SL2_57781 Start: 18.09.2019 09:10:52.600 Length: 26.800	ec (5360 samples at 200 sps)		- New Yorkson Concerns		6		-	names
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1.0		V				-)	V		
		v							
1.5	09:11:00.567 09:11:01:691 09:11:02:330	09:11:02.615	09:11:03.639	09:11:04.663	09:11	:05.687	09.1	11.06.711	Time
	ile: TP_59220_SL1_57704_SL2_57781 Start: 18.09.2019 09:10:52.600 Length: 26.800	ec (5360 samples at 200 sps)		CADOSED CO.	77500	0.01010			27015
.5	Peak 1.022 minus al 05 11.02.330 Window Roks / PP. 0.2057 2.801 minus				A		<b>D</b> - (	Devieties 0/	
0					AXIS Ne	WIP	Reference	Deviation %	
					X	1.5530	1.6520	-5.99	9
2.3		Lunny			Y	1.5600	1.6080	-2.99	2
0.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	Z	1.6220	1.5960	1.63	3
).5									
1.0									
		V							
.6	20 11 00 COT 00 11 00 COT 00 11 00 200	00.44.00.045	00.44.02.020	00.44.04.002	00.14	05 007		1.05.744	

### 10.7 Test pulse of VE-5x-SP

Double-click the file to open it in GeoDAS
Click into the yellow part of the window to make the cursor appear

Check that the pulse is with similar shape as shown in the picture below
 Move the cursor to the peak of the positive pulse to read the value for each axis
 Open a reference file of the same sensor and check that the peak for each axis on the newly recorded pulse does not deviate more than +/-10%



## 10.8 Test pulse of VE-5x-BB

Double-click the file to open it in GeoDAS
Click into the yellow part of the window to make the cursor appear
Check that the pulse is with similar shape as shown in the picture below
Move the cursor to the peak of the positive pulse to read the value for each axis
Open a reference file of the same sensor and check that the peak for each axis on the newly recorded pulse does not deviate more than +/-10%

