

# Archive Tool User Manual

## 1. General introduction

This tool provides export functionality of single frame recordings that satisfy specific conditions, based on measurements, to an FTP/SFTP server. This is useful to replay frames that failed certain measurements, in order to visualize or identify the problems encountered.

## 2. Parameters

Archive

Parameters

Stream: Surface
Source: Top
Operation: Normal
FTP Enable
FTP Server IP: 127.0.0.1
FTP Server Port: 22
FTP Server Type: SFTP
FTP Username: ftpuser
FTP Password: ftpuser
DNS Server IP: 0.0.0.0
Measurement Fail Rule: Any Measurement Failed
File Path Format: Same Path for OK and NG
File Path:
File Name Prefix Measurement
File Name Prefix:
File Name Suffix:
File Name Append Measurement Decision
Upload Rule: Always
Upload Format: Raw
Upload Measurement
No file write logging
Auto Color Scale
Custom Sensor Configuration

### FTP - Server Setup

Parameter	Explanation	Note
Operation	Normal / Test FTP Server	This is used to test the current FTP server setup. By changing the operation to Test FTP Server, the tool will try to connect and validate the credential of the FTP server. If anything fails, the log will show the success or the failure.
Enable	Enable / disable communication to FTP	Enabling this will cause GoLink to log into the FTP server at the specified address and user credentials. If the FTP server is NOT connected, GoLink will retry every one second
Server IP	FTP server IP to connect to	
Server Port	FTP server port	Typically 21 for standard FTP, 22 for SFTP
Server Username	FTP username	
Server Password	FTP password	
Server FTP Type	FTP or SFTP	
Measurement Fail Rule	<p>Rule that determines whether the measurement for the frame has failed</p> <p>Any, All, One or Always measurement failed</p>	The result of this rule controls how to determine if an input data has failed measurement or not

### FTP - File Path Configuration

Parameter	Explanation	Note
FTP File Path Format	Same or separate file path for good and failed measurement frame,	Decide based on the Measurement Fail Rule. If separate file path is selected, user will need to enter the file path in File Path NG
FTP File Path	Paths to store archive data to FTP server	Specify the home path. 64 characters max.  Use for storing all uploaded data if FTP File Path Format is "Same". Use for storing good data if path format is "Separate"  Make sure the direction of the slash ('/' or '\') is correct!
FTP File Path NG	Paths to store archive failed data to FTP server	Only available when FTP File Path Format is "Separate"

### FTP - File Name Control

Parameter	Explanation	Note
FTP File Name Prefix Meas	Enable/disable prefixing the filename with measurement value	Prefix with the value of a specific measurement. Next parameter selects which measurement to use
FTP File Name Prefix Meas ID	Measurement ID of the measurement value prefix to the file name	Parameter is only available when FTP File Name Prefix Meas is enabled  Only the integer portion of the measurement value is used in the filename
FTP File Name Prefix	User specified string to prefix to the file name	64 characters max
FTP File Name Suffix	User specified string to append to the file name	64 characters max
FTP File Name Append Meas Decision	Append the data measurements' state to the file name	Append _OK or _NG depend on the measurement state, determined based on  Decision is based on the Measurement Fail Rule

When multiple prefix and suffix options are selected, their order in the file name will be

<Measurement Value Prefix>\_<FileName Prefix>\_<Frame>\_<Stamp>\_<Body>\_<File Name Suffix>\_<Measurement Decision>.<Extension>

<Frame>, <Stamp>, <Body> and <Extension> are not configurable

### FTP - Upload Control

Parameter	Explanation	Note
Upload Rule	Determine what conditions would archive data to FTP. Any, All, One or Always measurement failed	While the setting is similar to Measurement Fail rule, the result of this rule decide whether the file will be archived to the FTP
FTP Upload Meas ID	Measurement ID used to determine if archive operation will be triggered	Only available when Upload Rule is set to One measurement
Upload Format	Raw, Picture or both	See FTP Archived File format section for more details
Upload Measurement	Control if measurement results should be uploaded	See FTP Archived File format section for more details
Log file writes	Enable the logging of individual files	When enabled, every file will have an entry in the log. This is useful for debugging, but should be disabled for the execution, as an excessive log can cause instability and performance issues.
Auto Color Scale	Set color scale base on max and min of received data in picture data	If disabled, Color Scale Min and Color Scale Max needs to be filled in
ColorScaleMin, ColorScaleMax	Max and min of color scale when auto color scale is disabled	Max must be larger than min

If a connection to the sensor or FTP server is dropped during operation, the tool will try to re-establish the connection every one second, or until the service is disabled

## Sensor

☒ Custom Sensor Configuration

Sensor IP:

Sensor Control Port:

Sensor Data / Public Port:

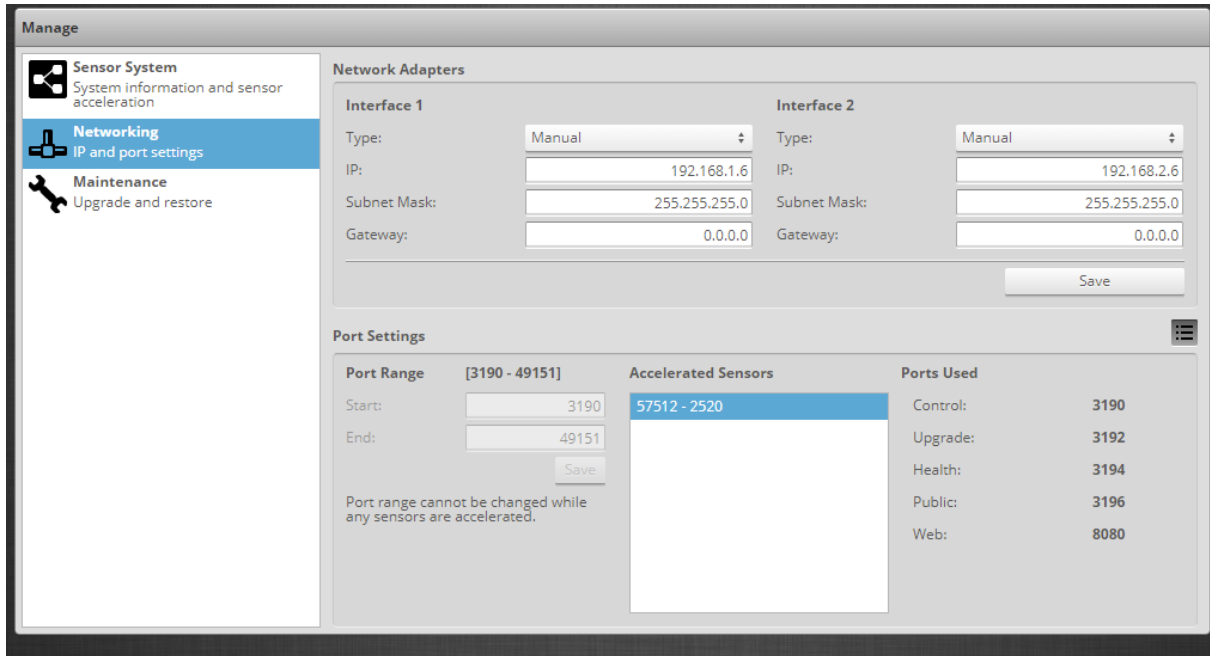
Sensor Health Port:

Sensor Upgrade Port:

Parameter	Explanation	Note
Custom Sensor Configuration	Unchecked by default, allows the user to specify a Sensor IP address different from the usual 127.0.0.1 address.	On GoMax, using 127.0.0.1 may not work. In those cases, the Sensor IP address has to be set specifically to the address of one of the GoMax NICs.
Sensor IP	Sensor IP address to connect to	127.0.0.1 for Sensor and running on PC Interface 1 address when running on GoMax
Sensor Control Port	Sensor control port	Default 3190. Should match GoMax's sensor port setting Note that on emulator this could be different if multiple instances are running
Sensor Data /Public Port	Sensor data port (refer to as Public port on GoMax)	Default 3196. Should match GoMax's sensor port setting Note that on emulator this could be different if multiple instances are running
Sensor Health Port	Sensor health port	Default 3194. Should match GoMax's sensor port setting Note that on emulator this could be different if multiple instances are running
Sensor Upgrade Port	Sensor upgrade port	Default 3192. Should match GoMax's sensor port setting Note that on emulator this could be different if multiple instances are running

Below is an example on how to match GoMax accelerated sensor setting with the tool Sensor's networking setting

Note: If a server is SFTP and Standard FTP is selected and enabled ,it could take a long time for the standard FTP connection to fail. Enable SFTP before enabling FTP function if SFTP is used.



The screenshot shows the 'Manage' window with a sidebar containing 'Sensor System', 'Networking' (selected), and 'Maintenance'. The main area is divided into 'Network Adapters' and 'Port Settings'.

**Network Adapters:**

Interface 1		Interface 2	
Type:	Manual	Type:	Manual
IP:	192.168.1.6	IP:	192.168.2.6
Subnet Mask:	255.255.255.0	Subnet Mask:	255.255.255.0
Gateway:	0.0.0.0	Gateway:	0.0.0.0

**Port Settings:**

Port Range: [3190 - 49151]

Start: 3190  
End: 49151  
Save

Accelerated Sensors: 57512 - 2520

Ports Used:

Control:	3190
Upgrade:	3192
Health:	3194
Public:	3196
Web:	8080

Port range cannot be changed while any sensors are accelerated.

### 3. Measurements and Features

The measurements reflect the health statistics of the FTP capability. These numbers are updated *only* when the sensor is running and sending data through the measurement pipelines.

#### General

Stats	Explanation
Sensor Service State	Idle (0): Sensor not enabled Connected (1): Connected to sensor Disconnected (2): Sensor connection enable, but couldn't connect to sensor
Sensor State	Detail state information of the sensor (not the sensor service). Online, offline, busy etc (i.e. GoState from GoSDK)
FTP State	FTP service state. Same values as Sensor service state  Idle (0): FTP server not enabled Connected (1): Connected to FTP server Disconnected (2): FTP server connection enable, but couldn't connect to sensor

FTP State Reason	None (0) Fail to Connect (1) Fail to Login (2) Failed Ping (3) Connecting (4)
Uptime	Uptime in seconds
Encoder Value	Not used. Will be removed in the future
Frame Count	Frame count received
Archive Count	Number of archive operations. Each frame could have more than one archive operations (i.e. each file write is an operation)
Queue Count	Internal queuing statistics
Archive Success Count	Number of successful archive operations. An archive action could fail due to network or FTP server availability.
Archive Fail Count	Number of unsuccessful archive operations

## 4. FTP Archived File Format

Data that passes the FTP upload rule will be archived. An archive record, containing stamps, measurements and height information are always uploaded when the FTP upload rule is met

For surface and profile height maps, users can choose to also in picture format which allows users to get a visual representation of the surface data. The table below describe the archived file formats

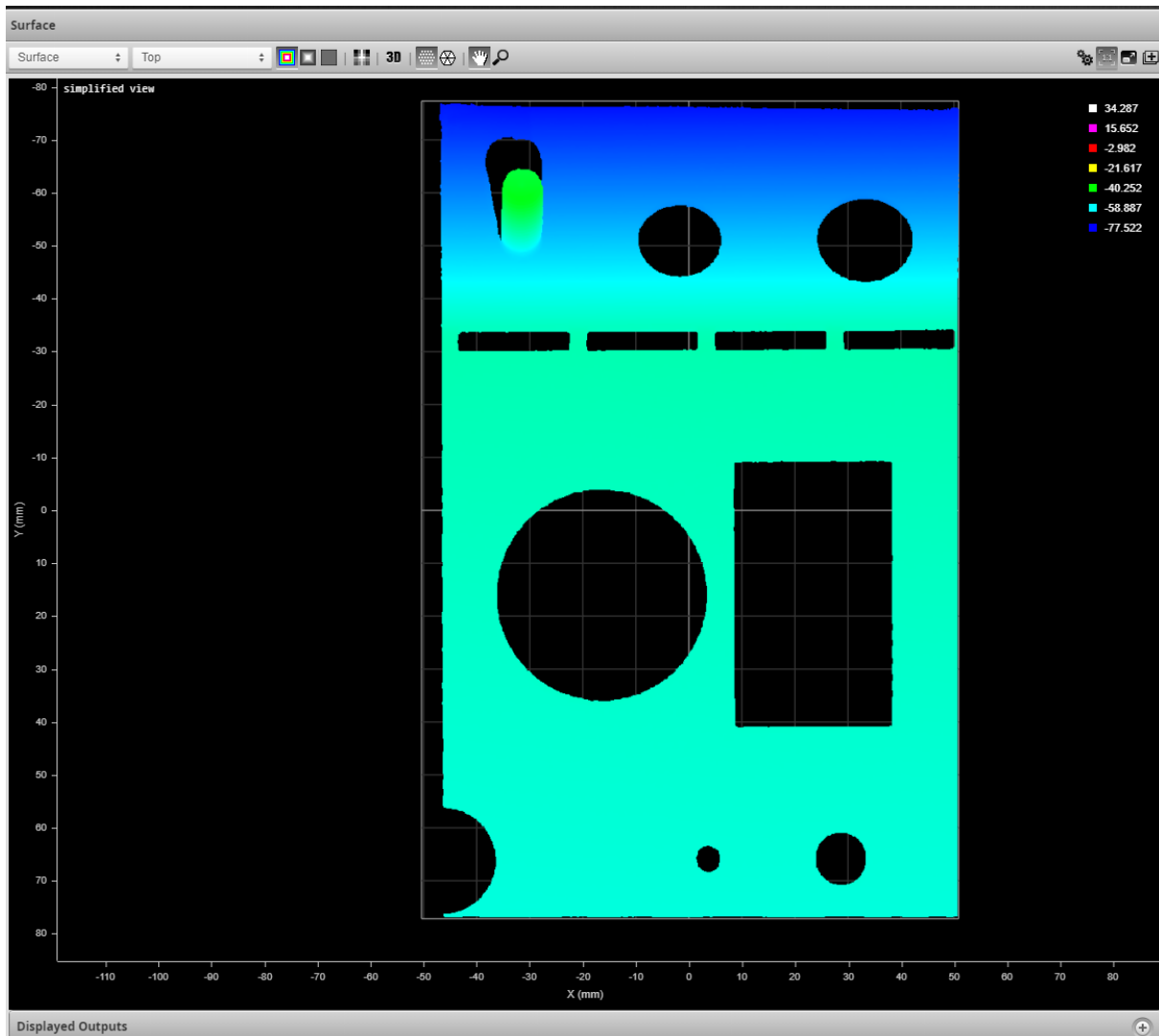
Data Type	Format Type	Explanations
Archive record (.rec)	rec	Each rec file is a complete record of the frame. It contains all the data (surface/profile/intensity data) required to replay the actual frame. The rec file also has the full job file configured, as it was when starting the execution. The data can be loaded back on the sensor or on the emulator using the normal Replay mode. Note that to be able to use the rec file in the emulator, a proper scenario has to be loaded first. A scenario can be saved from the sensor by exporting a support file (gs file) and to import this support file in the emulator.
Surface Height Map (Uniform)	Picture	24-bit bmp. Each pixel is a pseudo color value (same color rainbow scale as in Gocator Firmware). The last Y (encoder) position is at row 0 (i.e. vertically flip from the data received from the Gocator Data Protocol)

Measurements	XML or CSV	XML or CSV of the measurement results.
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Note: Measurements and Pictures could take a significant amount of CPU to generate when the system is running in real-time. Users could only store the archive record (.rec) and regenerate these results in offline mode

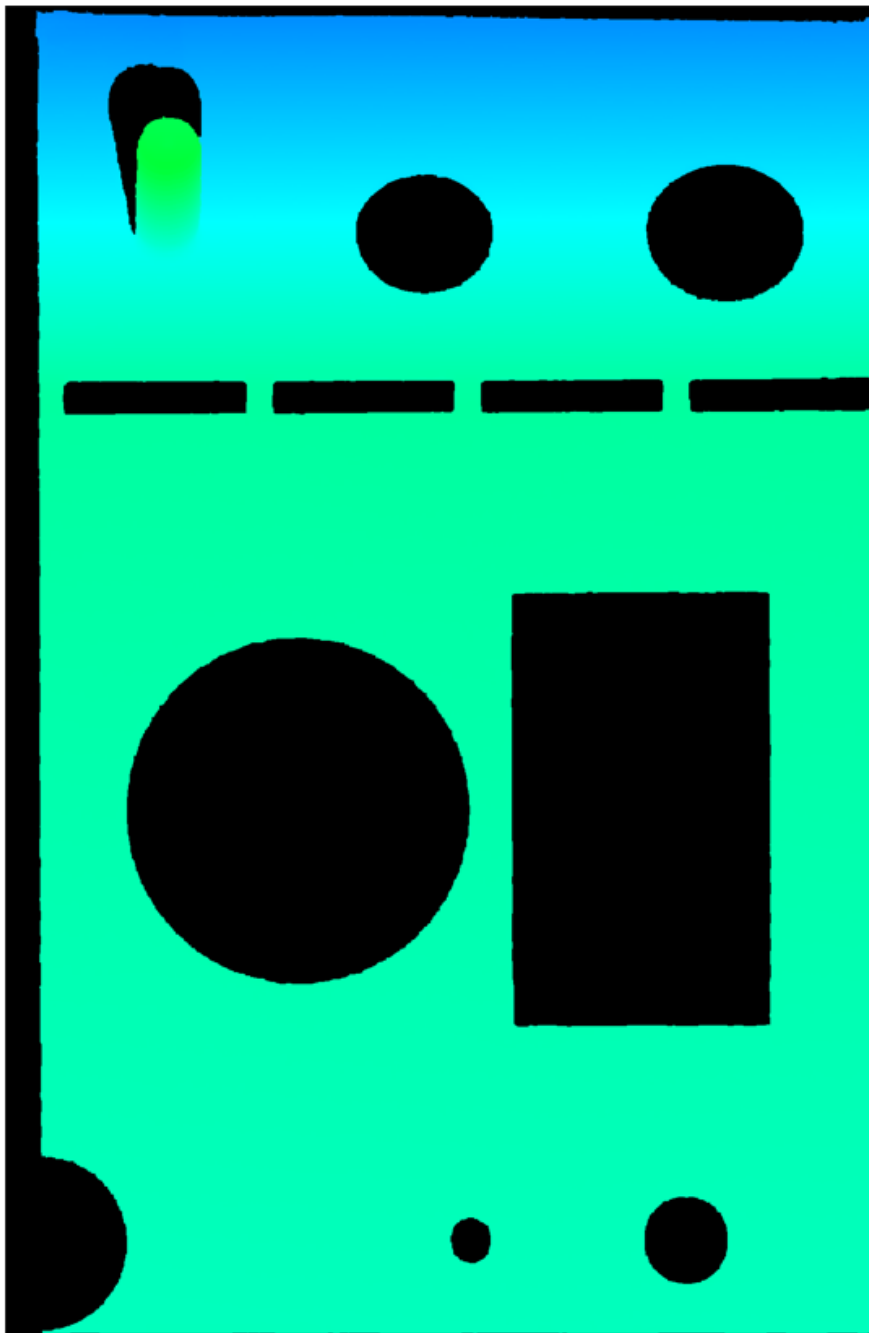
## 5. Application Example

Visualizer in Gocator UX



Picture Data Format (when viewing with Windows Paint)





Note that the color scheme may not be exactly the same as in the Gocator UX.

## 6. Replaying frames

Frames are recorded as rec files, and contain a single frame per file. The file can be loaded back on the sensor or on the emulator using the normal Replay mode.

## On sensor

If you use the same sensor that was used for generating the rec files, it is possible to just reload the rec file from it and enable the replay mode. At that point, the frame is displayed and all the tools should be executed on that current frame.

## On Emulator

It is possible to reload the rec file in the emulator, but a proper scenario has to be loaded first. A scenario can be saved from the sensor by exporting a support file (gs file) and to import this support file in the emulator. When the support file is loaded in the emulator, a new rec file can be loaded by disabling the Replay Protection. As on sensor, once the rec file is loaded, the tools should be executed on the current frame.