



TO. ACSL SOTEN Owners

May 30, 2024

Service Letter ACSL-SOTEN-SB24-006

ACSL TAKEOFF for SOTEN Version 1.13.6 Release Notes

Thank you for your continued use of ACSL SOTEN. On May 30, 2024, ACSL TAKEOFF for SOTEN version 1.13.6 was released with the improvements described in this document. Please read this document thoroughly and then follow the instructions to update ACSL TAKEOFF on your devices and the firmware of your ACSL SOTEN aircraft.

The ACSL TAKEOFF for SOTEN ground control application version 1.13.6 includes SOTEN vehicle firmware version 1.2.1, CX-GB100 and CX-GB300 camera firmware version 1.17, and CX-GB200 and CX-GB400 camera firmware version 1.16. When successfully updated, the "System Information" tab in the "Settings" view of the TAKEOFF application should indicate "Nx 1.2.1" as shown in Figure 1.

👾 Connected Position		67% (16:45)	(••	(•)) ⁸ بچي	III TLM	ul RC	21:26
Арр	System Versior	i .					
General	Ny	121					
Comm Links	INA	1.2.1					
Offline Maps	Transmitter	1.14					
MAVLink	Falcon	1.1.1 (v20)					
Remote ID							
Pointer	List of serial nu	mbers connected to the dr	one				
Drone 🔨	-	0.00					
General	Transmitter 1	960					
System Information	Transmitter 2	Not connected					
Firmware			Version Check				
Flight Calibration							5

Figure 1. ACSL TAKEOFF ground control application "System Information" tab. *Note that "Falcon 1.0.9" may be displayed without any change in functionality.



Firmware Update Items

- The camera Electronic Image Stabilization (EIS) feature is now defaulted to ON.
- A gimbal reset function was added to reset the camera gimbal if it begins to behave abnormally. This may occur due to environmental factors such as strong winds. In this case, press the "Reset Gimbal" button, as shown in Figure 2., to re-initialize the camera gimbal. This button can be accessed in the advanced camera settings menu (accessed by pressing the gear icon in the camera settings menu).

Connected Position	< Back	
$:- \qquad $	HDR mode	
▶ CX-GB100 ESS 1/125 ESS 400 Φ 0.0 ESS Auto 3 Manual 1 4 5	EIS mode	ON 💌
	Distortion Correction	
	Sharpness	Sharp +2 🔹
0.0	Show Center Point	
and the second	Firmware version	1.17.0
	Gimbal Reset	Reset Gimbal
	Reset	Restore Settings
	Format SD card	Format

Figure 2. The gimbal reset button.

- The ability to continuously record video in high-temperature environments was improved. When shooting continuously in a high-temperature environment, the "Camera High Temperature " warning message will no longer be displayed but the camera may become quite hot.
- The initial configuration of the video source is now automatic. No manual configuration is required.
- The gimbal tilt (pitch angle) speed is now automatically adjusted depending on the camera zoom factor. At high magnification, the gimbal tilt speed is automatically slowed down to make it easier to adjust the camera view.
- It is now possible to set the gimbal angle with the smart controller S3 switch. When the S3 switch is pulled back, the camera gimbal faces forward, and when it is pushed forward, the camera gimbal faces straight down.
- The speed limit for flight in position (POS) mode when GPS is not reliable has been increased from 0.8 m/s (1.8 mph) to 2.0 m/s (4.5 mph).



ACSL TAKEOFF Ground Control Application Improvements

- Upon the first startup after installation, a popup window prompts the user to select units of measurement.
- Remaining flight time was added to the battery level indicator.
- The live stream video resolution indication was moved to the camera information section.
- The gimbal angle indicator was changed to the industry standard of 0 degrees for forward and -90 degrees for downward.
- The "Vision System" settings element was removed from the general settings. This setting had no effect for ACSL SOTEN and was therefore unnecessary.
- The wording of the setting "Home Altitude" was changed to "Go Home Altitude".
- The wording "Save Overwrite" when saving a flight plan was changed to "Save".
- Improved retrieval of terrain height information for maps.
 The following steps are required to reflect the newly acquired altitude information.
 *Only necessary when upgrading from a previously installed version.
 - o Android
 - 1. Connect your Android device to a PC before updating TAKEOFF. Copy the cached data in the following folder to the PC: Android\data\jp.co.acsl.takeoff\files\TAKEOFF\Missions
 - 2. UNINSTALL THE OLD VERSION OF THE TAKEOFF APP
 - 3. Install TAKEOFF1.13.6
 - 4. Connect your Android device to the PC again and copy the data files copied in step 1 back to the above folder.
 - o Windows
 - 1. Install TAKEOFF1.13.6 (no need to uninstall the old version)
 - Open "Explorer" and open the following folder: C:\Users\(user name)
 - 3. Ensure that the "Hidden Items" checkbox under the "View" tab is checked.

	Manage This PC	-	
File Computer Vi	ew Drive Tools		~ 😮
Navigation Details pane	Medium icons Small icons List EII Details Tiles E Content	Group by ▼ Sort by ▼ Hitem check boxes ↓ Item check boxes ↓ I	ions
Panes	Layout	Current view Show/hide	
\leftrightarrow \rightarrow \checkmark \bigstar \blacksquare > Thi	s PC	✓ ♂ Search This PC	م
> 🖈 Quick access	∨ Folders (7)	_	

4. Delete all data files in the following folder:
 C:\Users\(user name)\AppData\Local\cache\MapCache300
 *A file named "mapCache" will be automatically generated a few

seconds after deletion

• Android only: added a feature to save flight logs to any location on the device.



PRECAUTION 1:

When the firmware is updated, the following settings in the TAKEOFF application will be automatically changed to the default values. Please note that previously saved settings will not be retained. If desired, record these settings before performing the update.

• Restrictions (GPS) settings will now default to those shown in Figure 3.

App Alto control parameters General Maximum autonomous yaw rate 45 Comm Links Maximum autonomous translation acceleration/deceleration 9.8 Offline Maps Maximum autonomous translation acceleration/deceleration 9.8 MAVLink Maximum manual horizontal flight speed 33.5 General Maximum manual descent speed 4.4 General Maximum manual ascent speed 6.7 System Information Maximum manual ascent speed 6.7 Flight Calibration Automatic takeoff speed 2.24 Automatic takeoff speed 2.24 mph Safety Features Go Home altitude 33.3 ft Gimbal Adjustment Go Home horizontal speed 11.18 mph Stick Sensitivity Adju Go Home horizontal speed 11.18 mph	S TAKEOFF							-	
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Option Go Home horizontal speed 11.18 mph Reset Transmitter Bi Go Home vertical speed 4.47 mph	Stick Sensitivity Adju	Go Home altitude			33.3		ft		
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4.47 mph	Reset Transmitter Bi	Co Home vertical speed							
LTE	LTE	oo nome verticat speed			4.47		mph		
Maximum altitude relative to ground 0.0 ft		Maximum altitude relative to ground			0.0		ft		
Load Write		Load		W	rite				



• The Safety Features settings menu has been changed as shown in Figure 4.

₩ Connected Position	55%(13:45)	(• >	A ()	III TLM	ull RC	23:33	R
Flight Calibration	Safety Features						
Maintenance Lifespan Management	Transmitter loss tolerance time (autonomous) Time until emergency mode activation due to communication	on loss wit	30 th the transmitter	s non-LTE conn	ec ection)		
Restriction (GPS)	GCS communication loss tolerance time (autono	mous)	30	S	ec		
Safety Features Gimbal Adjustment	Time until emergency mode activation due to communicatic Note: Emergency mode will NOT be activated if the drone an	on loss wit d transmi	th TAKEOFF (durin itter are connected	g LTE connecti I as Pilot.	on)		
Stick Sensitivity Adj	Go Home route		Straight lin	ne 🔹	7		
Option							
Data Erasure							
Reset Transmitter Bi							
LTE	Load	ading con	Write)			

Figure 4. The Safety Features new default settings.

• The Option settings menu has been changed as shown in Figure 5.

Connected Position		55%	% (13:45)	(••)	A 100 Aug	رگ ¹⁶ ((•))	ul TLM	III RC	23:34	R
Flight Calibration	Collision Avc	vidance Sens	sor							
Maintenance	A	voidance	Warning (Yellow)		Da	nger (Red)		Alert sound	1	
Restriction (GPS)	Top		6.6	ft	3.3		ft			
Safety Features	төр		0.0	it.	5.5		it	U		
Gimbal Adjustment	Bottom		6.6	ft	3.3		ft			
Stick Sensitivity Adj	Forward		11.5	ft	8.2		ft	\Box		
Option										
Data Erasure										
ITF										
			Load			Irite				

Figure 5. The Option new default settings.

PRECAUTION 2:

When using the smart controller to update the firmware, be sure to remove the SD card from the smart controller, uninstall the TAKEOFF app, and then install the latest version of the TAKEOFF app and update the SOTEN vehicle firmware.