



# ASSEMBLY AND OPERATING INSTRUCTIONS

## 1. general information:

All current Android-based navigation programs are designed for native operation via the touchscreen. This is quite simple and precise on the ground, but in flight this often leads to unintentional or incorrect entries, possibly due to the installation position and weather conditions. Our XCREMOTE, designed for XCSOAR and LK8000, makes it easier to operate our XCNAV Edition or a smartphone/tablet in flight. The functions are freely configurable by the user within the framework of 18 available options. In the case of XCSOAR, this is done via our free remote app or the web configurator. With LK8000, the respective functions must be configured in the LK8000 settings.

Our XCREMOTE is based on an ESP32 chip structure. This chip combines considerable computing power with a BT and WiFi module for wireless communication in a very small space. This means that future updates can be carried out via WiFi and smartphone only, without the hassle of searching for the plug and updating via PC. The connection to your navigation computer or phone/tablet can be established either via USB or Bluetooth. A USB OTG adapter is required for operation via USB on a mobile device.

## 2. mounting

XCREMOTE is extremely easy to install. It is equipped with 3 pairs of connection cables. These are labeled as follows:

- PTT (green-yellow)
- S2F (black-black)
- VCC (RED)
- D+ (white)
- D- (yellow)
- GND (black)

**PTT:** The **PUSH TO TALK** button. This is designed as a simple "normally open" button. Pressing the button therefore closes the contact of the two connection cables coming from the radio.

**S2F (Speed to fly switch):** A mosfet is installed on the circuit board, which switches between 1 and 0 each time the button is pressed twice, thus replacing the usual S2F switch. To do this, connect the 2 marked black wires to the corresponding wires of the vario.

The XCVaro in conjunction with XCSoar is an exception: If the XCVaro is configured to position "A" or "B" in the XCSoar NMEA settings, it also recognizes the switching of S2F and Vario wirelessly. To do this, the source for S2F must be set to "EXTERNAL" in the XCVaro S2F settings in the setup menu.

### 3. USB connector

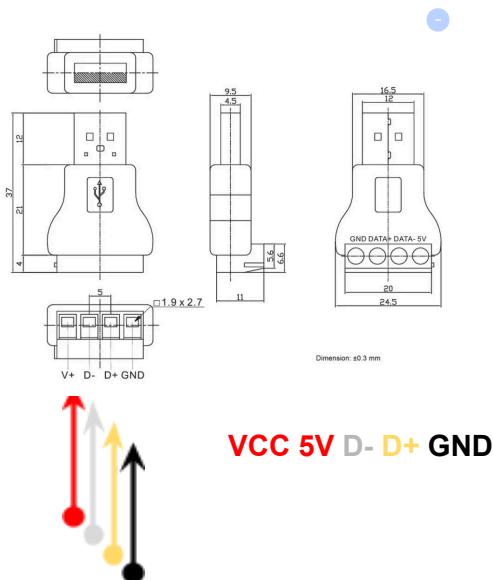
XCRremote comes with AWG24 Tefzel® (M22759/16) aviation cable.

The cable length of the USB cable is 1.5m, the black S2F and the twisted PTT cable strands each have a length of 50cm.

The connections of the supplied USB plug have the following designations:

1. GND
2. Data+
3. Data-
4. 5V

The **long (150cm)** colored cables must be connected to these connections according to their designations. The correct sequence must be checked carefully before connecting for the first time to avoid damage!



## 4. XCRemote WebApp

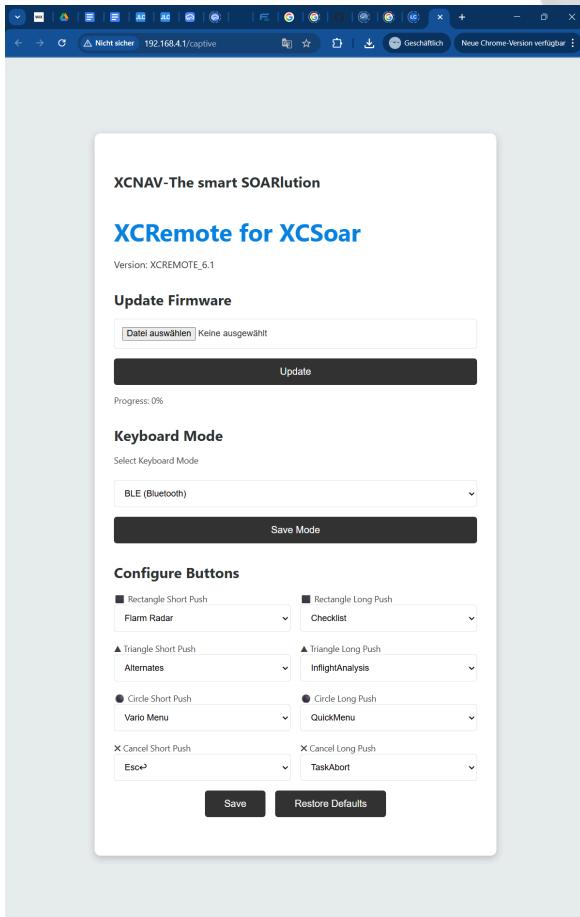
Your XCRemote is very easy to configure via WebApp. To do this, the XCRemote generates its own WiFi signal if required. To enter configuration and update mode, proceed as follows:

1. Hold down the Center Navigation Stick when switching on your aircraft. Alternatively, you can also press the X button for approx. 5 seconds. Also hold down the center stick. After 5 seconds, the following message appears in XCSoar: "**XCREMOTE resets in 2 seconds**". Your remote is now in WiFi mode!
2. Open the WiFi settings of your PC or smartphone and connect to the WiFi "XCREMOTE", the password is also "xcremote" (lower case).  
The XCRemote WebServer page will then open automatically if you are using a PC or iPhone. (Fig.2)  
**For Android devices:** Open your web browser and enter the following IP address in the address bar:

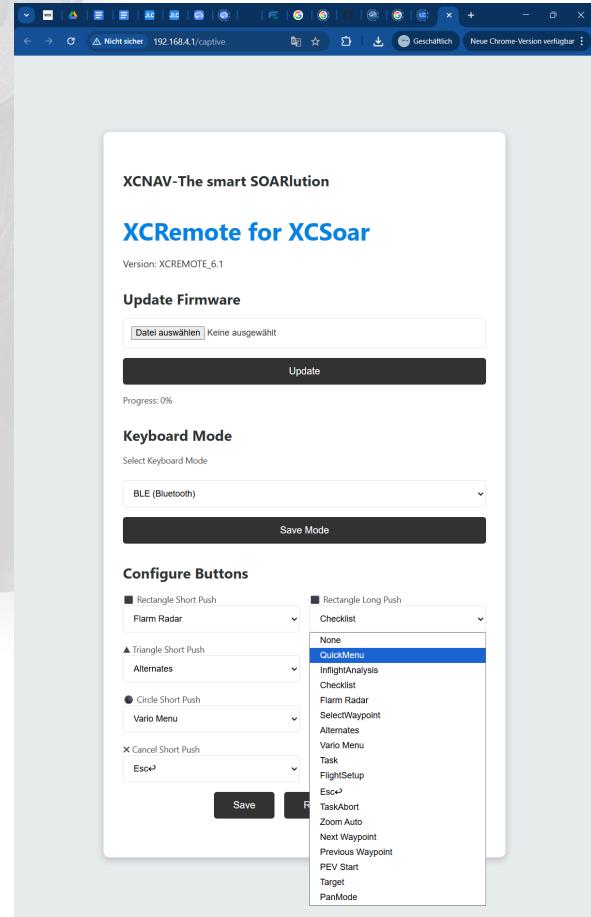
**192.168.4.1**

3. Under **Configure Buttons**, the respective function of a button can be configured with a short or long press. Here too, 18 selection options are available (Fig. 3). Confirm the selection again with **SAVE**, and restart your XCRemote.

(Fig.2)

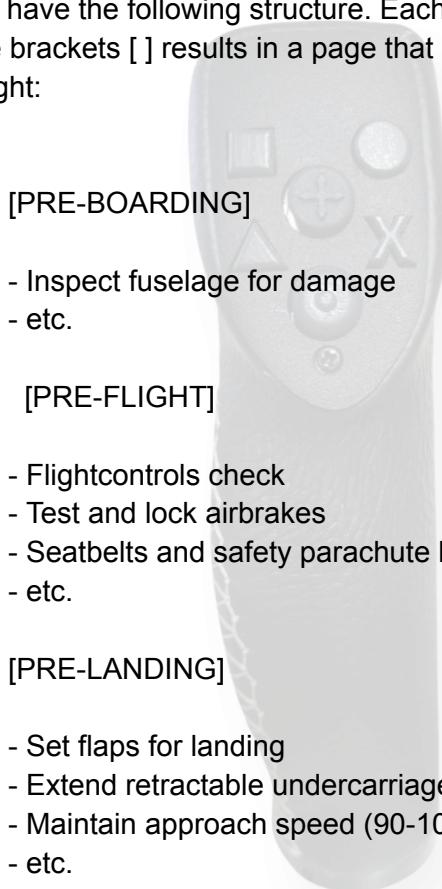


(Fig.3)



## The following functions are available:

- Quick menu
  - Easy access to the most important menus and settings, such as flight settings, without having to scroll through the set-up menu. Items can be selected and confirmed using the center stick.
- Flight Analysis
  - provides an up-to-date overview of the flight with climb values, barogram, etc.
- Checklist
  - A checklist must be created individually and saved as a normal .txt file with the name: xcoar-checklist (lower case), in the XCSoar Data folder. The file should have the following structure. Each paragraph under the heading set in square brackets [ ] results in a page that can be turned with the center stick <left/right>:



- Flarm Radar:
  - Quick access to the Flarm page. This saves having to set this as an extra page and thus increases the overview.

- Select Waypoint:
  - Waypoint selection
- Alternates:
  - Shows the 10 nearest airports in order of distance. Select and confirm with the center stick. After confirmation, the selected airfield is set as the next waypoint.
- Vario Menu:
  - Press 1x:
    - Vario Menu: Centerstick up/down sets MCCready, left/right XCVario volume. ENTER sets MCCready Auto function
  - Press 2x:
    - XCVario Setup Menu: Here the centerstick emulates the setup button of the XCVario. Depending on the settings in the XCVario, this can therefore be operated completely via the XCRremote.
- Task:
  - Task processing and activation
- Flight Setup
  - here you set the QNH, water ballast and mosquito penalties
- ESC:
  - This is set to the short press X button by default. The Escape key can be used to close menus and return to the map.
- Task Abort:
  - Aborts the current task and automatically sets the next airfield or the next outlanding field as the active waypoint. Very helpful if you get too low during a task and may have to land outside. Pressing the key again resumes the planned task.  
**Attention: Since version 7.41, resuming the task only works in the Windows OS. On Android devices, the resumption must be triggered via the quick menu. A bug fix is already being worked on.**
- Zoom Auto:
  - Sets the AutoZoom function in the map. This automatically adjusts the zoom scale to the speed and flight phase. AutoZoom is switched off by manually zooming using the centestick up/down.
- Next Waypoint:
  - Skips the currently set waypoint and sets the next one in the task.
- Previous Waypoint:
  - Returns from the current waypoint to the previous point in the task and sets it active.

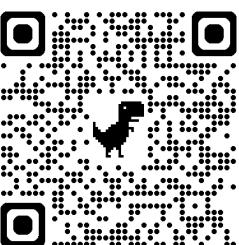
- PEV Start:
  - Sets the PEV start marker
- Target:
  - Shows information about the next waypoint. Use the center stick left/right to scroll between the waypoints of the task. Use the center stick up/down to select the name of the waypoint and confirm with Enter. This allows you to set the frequency of the waypoint airfield as the active or standby frequency in the menu that opens, for example.
- PanMode:
  - Opens the pan mode. The center stick moves the crosshairs over the map and Enter opens the "What's here" menu. The triangle and square buttons function as zoom in/out in pan mode.
- ForeSight Flasher Panic Mode:
  - Activates the panic mode of a connected ForeSight Avionic canopy flasher. To do this, it must be configured to position A or B in the NMEA setup menu.

#### 4.1 Update:

Select the new firmware via "**Select file**" and press "**UPDATE**"

Then restart your XCRemote again.

You can find the latest software releases on our GitHub repository.



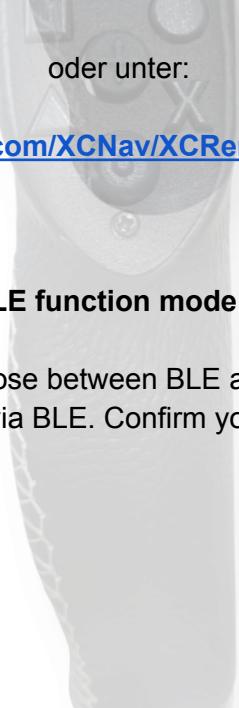
oder unter:

<https://github.com/XCNav/XCRemote/tree/main>

#### 4.2 Switching between USB and BLE function mode

Under **Keyboard Mode** you can choose between BLE and USB mode.

By default, the remote is configured via BLE. Confirm your selection with **SAVE** and restart your XCRemote.



#### **4.3 XCSoar/LK8000 function selection**

##### **SELECT YOUR NAVIGATION APP**

Here you can select which app you want to use with your XCRemote. Switching between the two protocols is possible as often as you like and must be confirmed using the **SAVE** button.

When selecting the LK8000 protocol, the setting options for the button assignment are hidden at the same time. For operation with LK8000, the buttons can be configured directly in the app. (see 7.Configuration LK8000)

#### **5.XCREMOTE APP for XCSoar**

**IMPORTANT:** Our XCRemote app is not absolutely necessary for the operation of the XCRemote, but is only used to customize the functions.

With our XCRemote app, you can configure your XCRemote to suit your taste. Each of the buttons can be freely assigned from a selection of 18 functions.

##### **DOWNLOAD:**

Here you can download our XCRemote App:



<https://github.com/XCNav/XCRemote/blob/main/XCRemote.apk>

##### **How it works:**

The app works like a translator: it recognizes the key pressed and then forwards the configured function request to XCSoar.

Example: A long press on the round key sends the default key command "F1" for the "**QUICKMENU**" to the connected device (XCNAV, cell phone, tablet, etc.) Assuming we have selected the function "**FLARMSCREEN**" for the long press on this key in the app, this now sends the key command "F4" to XCSoar and thus opens the Flarm page. To do this, the app must be running in the background and selected as the keyboard before XCSoar is started (see Fig. 3)

This means that the key assignment of your XCRemote itself is not changed, but only an individual "MASK" is placed over the incoming commands, which then only works on the respective device. This makes the app particularly suitable for club operations, as each pilot can store their own settings on their end device without having to change the standard

assignment of the XCREmote installed in the club aircraft. For general changes to the functions, use our web configurator.

## Operation:

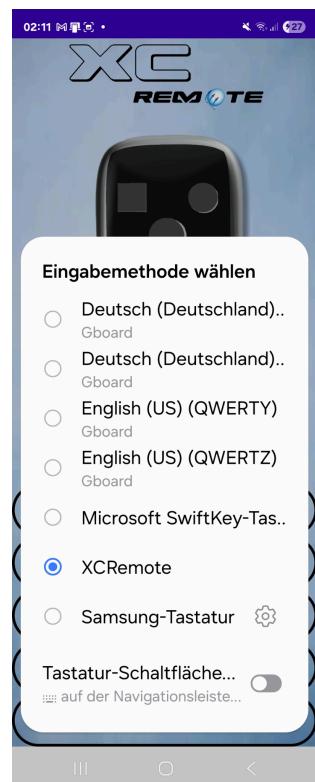
1. Open the XCREMOTe app
2. Select the desired language (English/German)
3. To configure, press or hold the desired button on the pictogram (Fig. 4) to select the desired function with a short or long press.
4. Select the desired new function in the overview (Fig. 5) This point only needs to be taken into account for initial configuration or reconfiguration. Once settings have been made, they remain saved even after closing the app.
5. You can restore the original configuration using the "BACK TO DEFAULT SETTINGS" button. (Fig. 4)
6. Activate the app using the "CLICK AND ACTIVATE XCREMOTe" button (Fig. 4)
7. Select "XCREMOTe" in the overview (Fig. 6)
8. Start XCSOAR via the respective button (Fig.4)



(Fig.4)



(Fig.5)

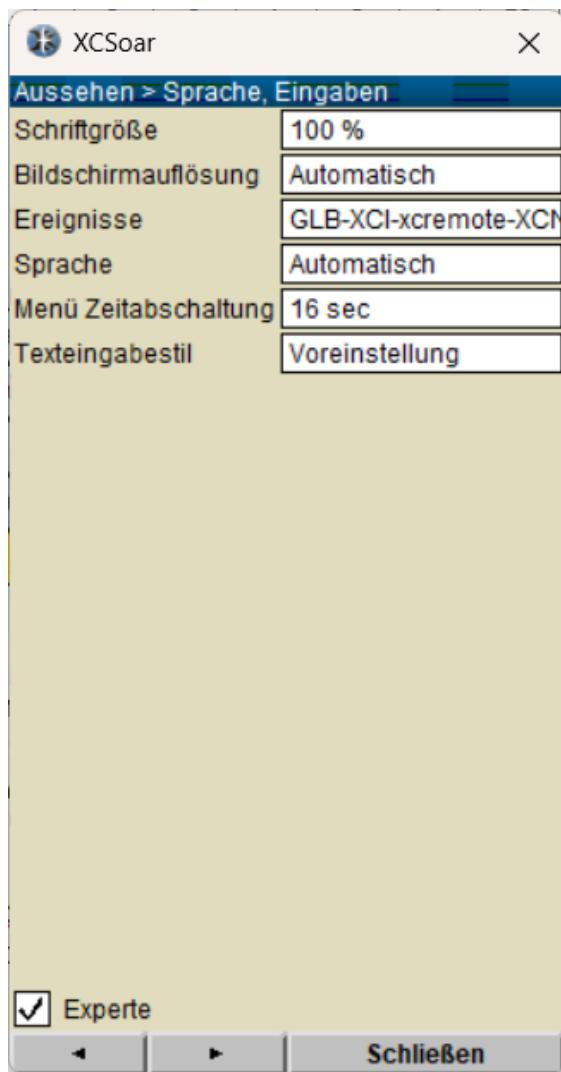


(Fig.6)

## 6. configuration in XCSoar

To be able to use your remote with XCSoar to its full extent, XCSoar still needs to be configured. To do this, download the file GLB-XCI-xcremote-XCNav.xci under : SETTINGS>SYSTEM>LOOK> LANGUAGE; INPUTS>EVENTS and restart XCSoar. (Fig.7&8).

(Fig.7)



(Fig.8)



### 6.1 Default button mapping for XCSoar

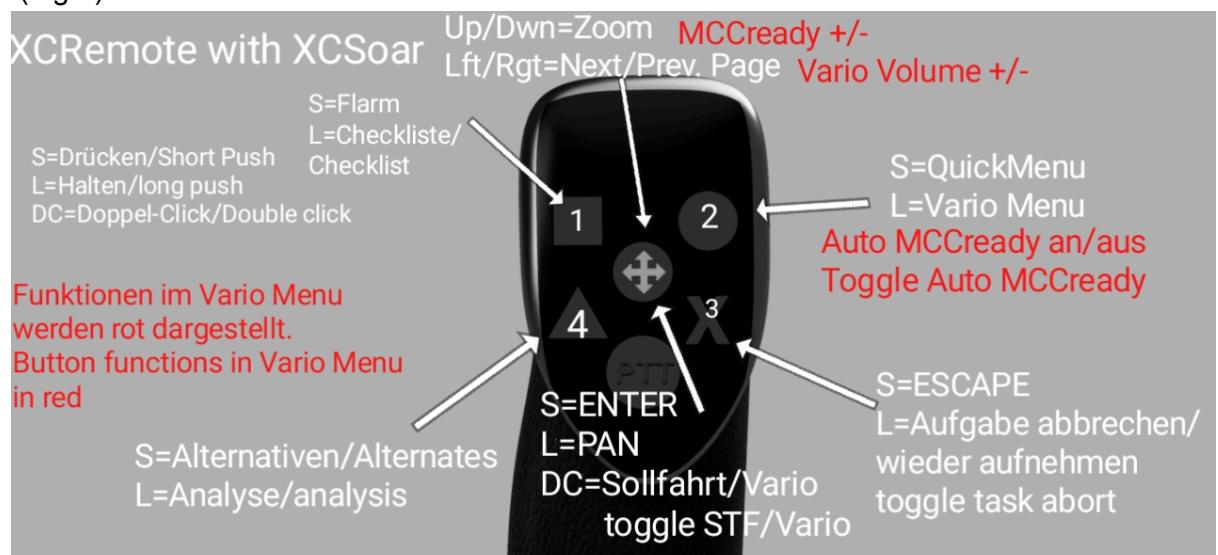
Your XCREmote has 4 function buttons plus a navigation button. The buttons execute different commands after a short or long press, which can be individually configured via the WebApp as described above. The default button assignment is as follows (Tab.1 & Fig.8). This can be restored at any time in the WebApp using the "RESTORE DEFAULTS" button.

**XCRremote Defaults for XCSoar:**

BUTTON	FUNCTION SHORT	FUNCTION LONG	DOUBLE CLICK
SQUARE BUTTON	FLARMSCREEN IN PAN MODE: ZOOM +	CHECKLIST	-
CIRCLE BUTTON	1X: VARIO MENU 2X: XCVARIO SETUP MENU IN PAN MODE: ZOOM -	QUICKMENU	-
X-BUTTON	RETURN TO MAP / ESC	CANCEL/RESUME THE TASK	ANDROID ACTIVE APPS
TRIANGLE BUTTON	ALTERNATES	INFILIGHT ANALYSIS	-
NAVIGATION BUTTON L/R	PREVIOUS / NEXT PAGE	PREVIOUS / NEXT PAGE	-
NAVIGATION BUTTON UP/DWN	MAP: ZOOM +/-; MENU: SELECTION Vario Menu: MCCready +/-	MAP: ZOOM +/-; MENU: SELECT	-
NAVIGATION BUTTON CENTER	ENTER / CONFIRM	PAN MODE	S2F / VARIO

(Tab.1)

(Fig.8)



To use your XCRemote with LK8000, you can configure the user menu under the system settings on page 10. Your XCRemote calls up the first 5 items of the user menu as follows

#### XCRemote defaults for LK8000:

BUTTON	FUNCTION SHORT	FUNCTION LONG	DOUBLE CLICK
<b>SQUARE BUTTON</b>	CUSTOM MENU !	CUSTOM MENU 2	-
<b>CIRCLE BUTTON</b>	CUSTOM MENU 3	CUSTOM MENU 4	-
<b>X-BUTTON</b>	ESC / BACK	CUSTOM MENU 5	-
<b>TRIANGLE BUTTON</b>	SCROLL BOTTOM INFO BAR	BROWSE INFO PAGES	-
<b>NAVIGATION BUTTON L/R</b>	MULTIMAPS PREVIOUS / NEXT	MULTIMAPS PREVIOUS / NEXT	-
<b>NAVIGATION BUTTON UP/DWN</b>	MAP: ZOOM +/-; MENUS: SELECTION	MAP: ZOOM +/-; MENUS: SELECTION	-
<b>NAVIGATION BUTTON CENTER</b>	ENTER / CONFIRM	CUSTOM MENU 6	S2F / VARIO

(FIG.10)

