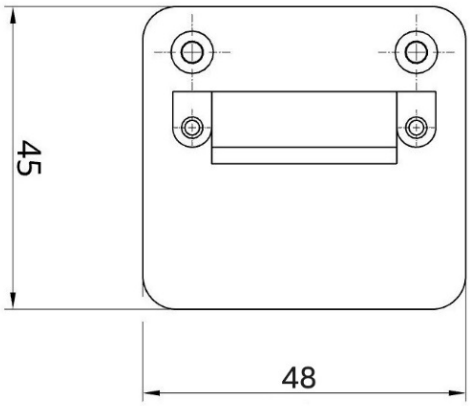
TRIG TY91/TY92 (TC90) - Adapter BLE Bluetooth

easyVFR EXPERIMENTAL



Bluetooth Low Energy adapter (BLE) for a TRIG TY91/92 VHF transceiver (aviation radio).

The adapter was developed as an interface between a TRIG TY91/92 and the navigation software easyVFR. It realizes the data transfer between the navigation software (SD) and the hardware of the TC90 control head of the radio (BLE ↔ RS-232). The adapter simply plugs into the existing wiring to the TC90 control head and is held securely to the housing by two knurled screws.

No additional power supply is necessary. The adapter can be operated with 12 V and 24 V aircraft voltage. An internal mini-fuse (125 mA) is integrated in the housing.

The power supply is protected against reverse polarity and short-circuit proof.

A control unit already connected to the TC90 (EFIS, Garmin G3X, etc.) remains functional.

No further electrical or mechanical work required!

Important: This is a prototype for experimental use only!

1 Radio Configuration

No further configuration is required on the radio.

2 Firmware Requirements

The adapter works from firmware 1.5 of the TC90 control head onwards.

The current firmware version appears briefly after power-on. It should show at least **Controller v 1.5**.

3 Connector Pin Assignment

This is an excerpt from the TRIG installation manual:

5.7.1 TC90 Interface - Pinout

Pin	Signal	Direction
1	Ground	-
2	TMAPA	Bidirectional
3	TMAPB	Bidirectional
4	Ground	-
5	RS232 Tx	Output
6	RS232 Rx	Input
7	Ground	-
8	Remote ON	Output
9	Power IN	Input
10	Power Ground	-
11	Reserved	-
12	Step Button	Input
13	Transfer Button	Input
14	Reserved	-
15	Reserved	-

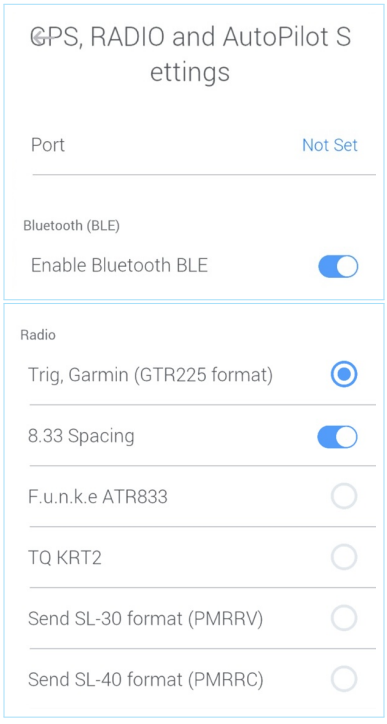
Figure 1: Pin assignment TRIG TY91/92 TC90

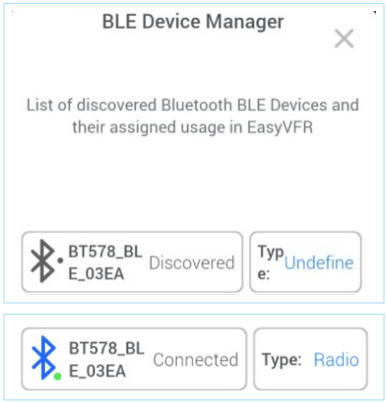
4 Configuration in EasyVFR

Important: The adapter is not connected via regular Bluetooth settings. BLE devices are usually not displayed there.

4.1 Enable Bluetooth and select radio

- Switch on aircraft power, turn on the radio.
- Enable Bluetooth on your phone / tablet.
- Start EasyVFR4.





4.1.1 Enable Bluetooth BLE in EasyVFR

1. Open menu
2. **System** → **GPS, Radio and AutoPilot Settings**
3. Scroll down and activate option **Enable Bluetooth BLE**

4.1.2 Select radio protocol

1. Continue scrolling down to the Radio section
2. Select matching radio/protocol
3. If your device is not listed: test protocols, recommended from top to bottom
   - **GTR225** is the most comprehensive (incl. 8.33 kHz),
   - **SL40/SL30** are older legacy protocols.

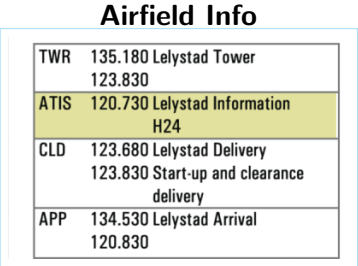
4.1.3 Open BLE device list and assign adapter

1. EasyVFR now continuously scans for BLE devices
2. Menu → **Bluetooth BLE devices**
3. Select the adapter from the list (e.g. **SD-TY9X**)
4. Tap the Type until **Radio** is set (cycle: AutoPilot / GPS/Traffic / Radio / undefined)
5. EasyVFR connects; indicated by "Connected" (incl. Bluetooth icon).

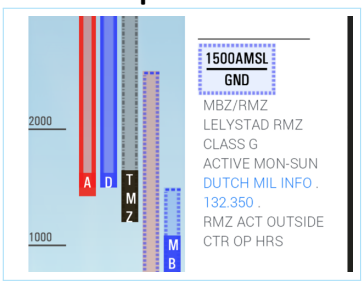
4.1.4 Send frequencies (Remote Tuning)

1. Tap frequency in:

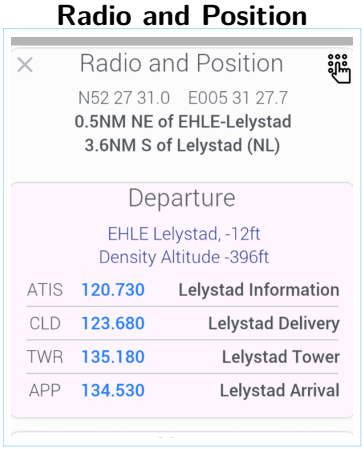
Airfield Info

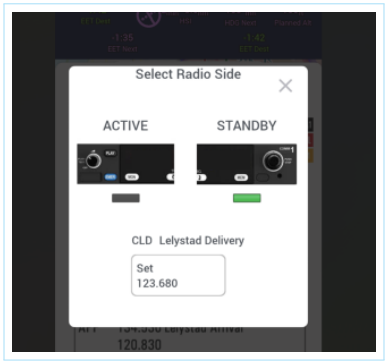


Airspaces Info



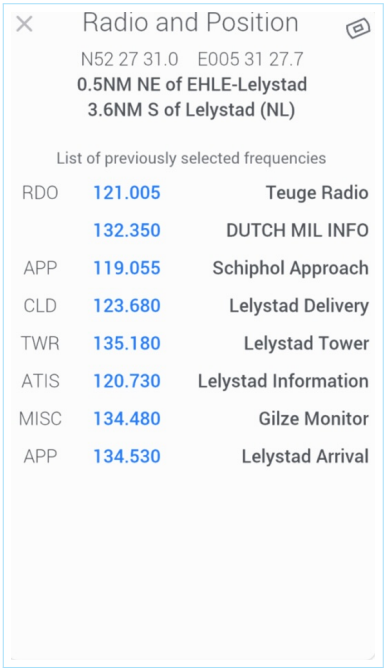
Radio and Position





2. Then select **Active** or **Standby** (depending on the radio, only Standby may be possible) → press **Set**.

4.1.5 Optional control aids (Radio Card)



1. Keypad icon: manual frequency entry
2. Clock icon: recently set frequencies (History)

5 Contact

If you have any questions, problems or feedback, please contact us:

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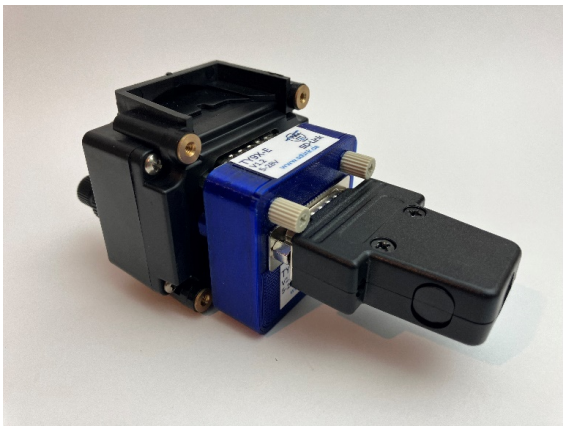
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