

## TRX-2000

- **Firmware update of the optional integrated FLARM® module**
- **Firmware update of TRX-2000**
- **Update of obstacle database and FLARM®-Net file**

The integral FLARM® module requires the same update procedures and interval as an original FLARM® system. In the same step, the TRX-2000 Firmware and the FLARM-Net file should be updated to the newest release.

The FLARM® firmware update is mandatory. Please read the statement of the FLARM-Team for detailed information about the 2011 update:

### **FLARM Software Maintenance 2011**

*Every few years, all FLARM devices have to undergo a scheduled maintenance through software update. The next such free, but mandatory update is due end February 2011 for version 4; this behaviour is explained in the operating manual. **Update now for free both software version 5 and obstacle data, in any case before the next flight!***

*Release 5 contains a new, higher performance FLARM engine which will be able to process more aircraft, a major redesign of the software required for integration of FLARM-features into hang-gliders and powered aircraft (PowerFLARM), its software-data-fusion with transponder-data and related requirements from regulators like EASA and FCC. This requires a modification to the radio communication amongst the units where we introduce frequency hopping to increase the radio bandwidth and reliability as well as some back-and-forth radio bursts for checking radio communication quality. In addition, version 5 accepts all sizes of microSD cards. An updated obstacle database, which has grown to over 35'000 objects is available, too.*

### **When is the next scheduled service update due?**

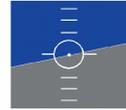
*Since its creation FLARM has maintained scheduled updates, initially in a one year cycle, in 2006 a two year cycle, and last time in 2008 a three year cycle. As the technology matures, we further extend this period to now four years, i.e. **version 5 expires on March 1, 2015**. This is more convenient for some users, but slows down the innovation cycle, possibly delaying the use in new applications.*

### **Why scheduled, mandatory updates?**

*The ability to update the whole network without being limited by constraints of the past is one of the key features of FLARM and has allowed it to adapt to rapidly expanding requirements. Many parts of aircraft require scheduled maintenance; this is not a concept which is new to aviation.*

*Best regards  
The FLARM team*

(from: [www.flarm.com](http://www.flarm.com))



# Step by step instruction

## 1. General information about required files

### TRX-2000 related files:

TRXDB.B02: FLARM®Net database snapshot (created 02/2011)  
TRXFW20.B01: TRX-2000 Firmware file, Rev. 20

**Alle TRX-2000 related files are provided for download at section "Support.Downloads.TRX-2000" on [www.garrecht.com](http://www.garrecht.com).**

### FLARM® related files:

Flarm\_50x.fw: FLARM® Firmware file, Rev. 5.0x (x may indicate a number)  
alps20110124\_.obs: FLARM® Obstacle database (created 24 JAN 2011)

**All FLARM® related files are provided for download at section "Mandatory Update 5.0" on [www.flarm.com](http://www.flarm.com).**

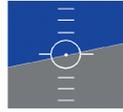
## 2. Prepare your microSD memory card (SDSC, no SDHC type) for the update process

1. Remove all old .fw und .obs files from the memory card
2. Create the folder GAV in the root of the memory card
3. Copy the files TRXDB.B02 und TRXFW20.B01 into the subfolder GAV of the memory card
4. Copy the files flarm\_50x.fw und alps20110124\_.obs into the root of the memory card

## 3. Performe the update process

1. Switch of the TRX-2000 and disconnect the external power supply
2. Insert and lock the prepared microSD card into the microSD card slot of the TRX-2000
3. Re-establish external power supply and switch on the TRX-2000
4. The unit performs the firmware update of the TRX-2000 (not FLARM® firmware) first. The LCD backlight illumination starts blinking periodically and the TRX-2000 restarts few times.
5. After performing the TRX firmware update successsfully, the device restarts and the integral FLARM® module will detect the memory card.
6. The integral FLARM® module starts the firmare update and the update of the obstacle database (NOTE: This process takes 2-3 min.)

**DO NOT BREAK THE POWER SUPPLY NOR SWITCH OFF THE DEVICE DURING THE UPDATE PROCESS!!**



7. After completing the firmware and file updates, the screen of the TRX-2000 shows firmware revisions of TRX and FLARM® firmware as well as the revisions of the FLARM® Net file and the obstacle database.

Have a great season 2011

*The Garrecht Avionik team*