FlyingDream AAT Driver

Quick Guide

V1.1

1. Introduction：

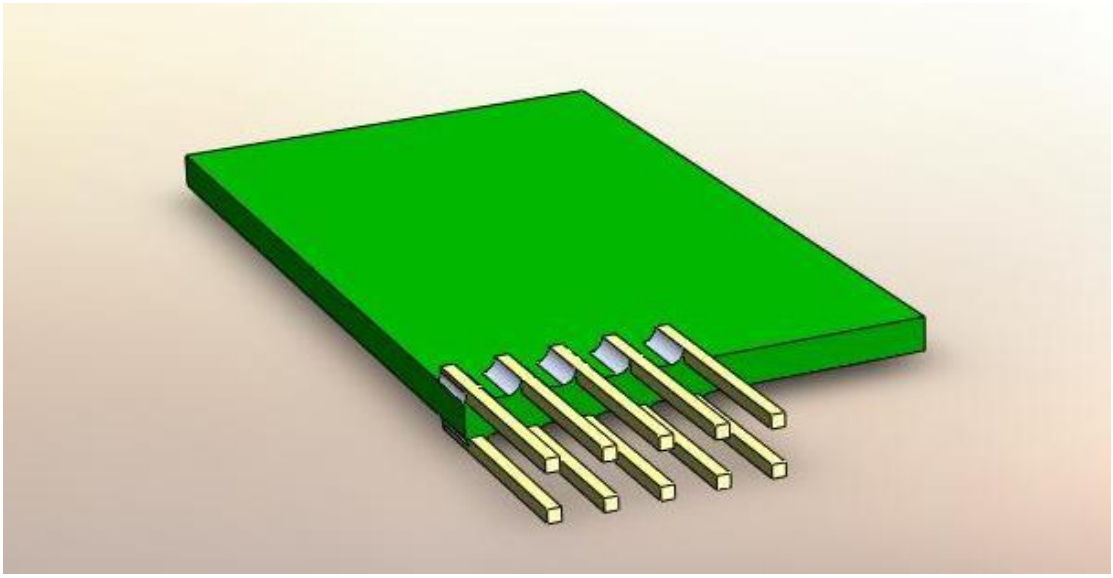
AAT Driver is designed to drive the FlyingDream AAT system. It includes two parts: the TeleFlyLite module and the Driver module.

The TeleFlyLite module is used to modulate the GPS data to audio signal. The audio signal can be transmitted via a audio channel of the AV transmitter. By connecting a Driver to the audio output connector on the receiver, the driver can decode out the data and drive the FlyingDream AutoAntennaTracker to keep tracking on the target.

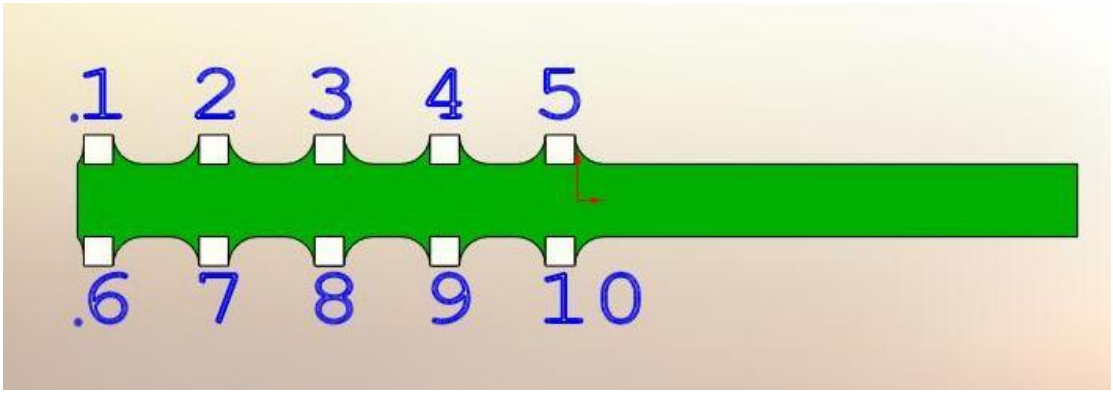
2. Connecting TeleFlyLite Module

The TeleFlyLite module is compatible with almost all GPS receivers that communicate with NEMA-0183 protocol. The module keeps a 5Hz update rate, independence on the update rate of GPS.

TeleFlyLite has two rows of pins spacing 0.1 inch：



Here is the pinout diagram and descriptions：



index	description	comment
1	Audio Output	Connecting to the audio input of the AV Transmitter
2	GND	
3	GND	
4	5V GPS Power output	Optional, for power on a 5V GPS
5	5V GPS data in	Connecting to the TX of a 5V GPS(TTL)
6	12V Power supply	
7	SetHome switch	Optional, Connecting to a switch for SetHome function
8	GND	
9	+3.3V GPS Power output	Optional, for power on a 3.3V GPS
10	3.3V GPS data in	Connecting to the TX of a 3.3V GPS

Most of the pins are not necessary to be connected. But 4 pins are important:

#1 Audio Output

#2 GND (or #3,#8)

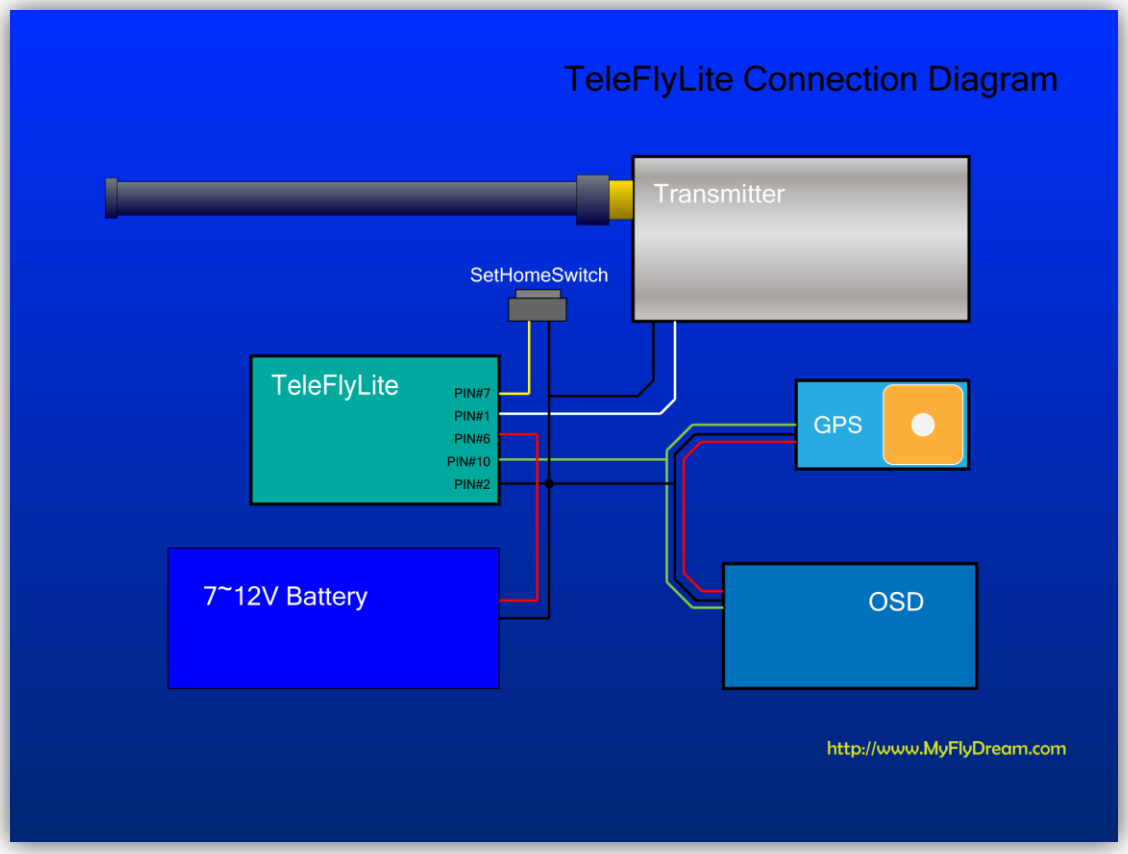
#6 Power supply

According to the GPS, #5(5V GPS data) or #10(3.3V GPS data) should be used.

If you want to supply power to the GPS from TeleFlyLite, please use #4(5V) or #9(3.3V). Otherwise just keep it free. If you are using an OSD, it supplies power to the GPS usually.

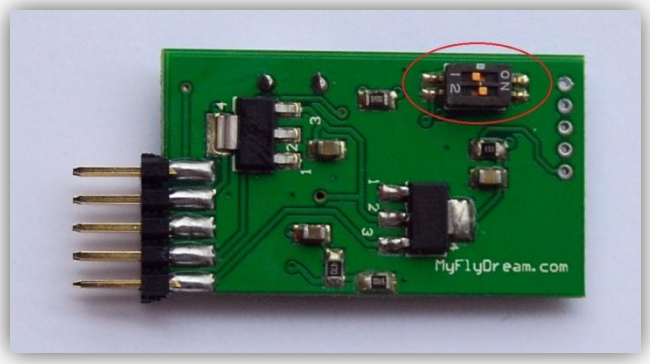
#7 SetHome Pin is optional。When Pin #7 connects to the GND，the driver will record current coordinate as the Home position. The system will not track without setting this position. Though there is a SetHome button on the AAT Driver which for the same purpose, but to ensure the downlink is good, we recommend you to connect a non-self-locking switch between #7 and GND as a SetHome switch.

Connection Diagram 1 (Power the GPS by OSD)



3. Adapting the GPS baudrate

There is a 2 way DIP switch on the backside of the TeleFlyLite module.



There are 4 optional baudrates to be select.

For example the status ”OFF-ON” means 38400bps is selected as shown in the above picture

Status(1,2)	Baudrate (bps)
ON-ON	9600
OFF-ON	38400
ON-OFF	57600
OFF-OFF	115200

If your GPS works on other baudrates, please connect the two pads as show in this picture:

Then the baudrate configuration table becomes:

Status(1,2)	Baudrate (bps)
ON-ON	4800
OFF-ON	38400
ON-OFF	19200
OFF-OFF	115200

Once the TeleFlyLite Module communicates with the GPS successfully, the red LED on the module will blink at half of the frequency of the GPS update rate. If the baudrate configuration is wrong, the red LED will keep on without blinking.

4. Connect the driver

Connect the driver to the tracker with the 6 PINs socket:

Connect power plug (DC 12V, positive inside) to the left socket. Connect your TV or other video device to the yellow RCA socket.

Looking like this:

There are two LED indicators on the driver. Here is a description table of the indicators:

LED	Status	Message
RED	OFF	No downlink data.
RED	BLINKING	Downlink is good.
RED	ON	The driver is working in test mode.
YELLOW	OFF	Bad GPS status
YELLOW	BLINKING	GPS status is normal. More satellites locked , Faster the blinking.
YELLOW	ON	Very good GPS status.

The Yellow LED indicates the status of the GPS.

Yellow LED status	GPS Status
Off	No satellites locked
Blinking very slowly	1~3 satellites locked(wait for more please….)
Blinking slowly	4~5 locked (wait for more….)
Blinking fast	6~7 locked (acceptable tracking performance)
Blinking very fast	8~9 locked (nice tracking performance)
On	Very good GPS status. (perfect tracking performance)

5. Connect to your cellphone.

The AATDriver has a building Bluetooth module. So you can connect you cellphone to the AATDirver and check the telemetry data by the FDStation software.
FDStation is a J2ME program. Your cellphone must be compatible with ClDC 1.1 and MIDP 2.0, and also support the Bluetooth API (JSR 82).
The FDStaion software can be download from:
http://www.myflydream.com/Home/MFDDownload/tabid/58/Default.aspx

Here are some screen shots of the FDStation software:

[This document is unfinished. You can require the a newer copy from m1911@139.com]