

Futaba File System Utility for T14SG/FX-22/T12FG/T8FG/FX-20 (Version 3.0)

T14SG/FX-22/T12FG/T8FG/FX-20 use original file system that is different from a general file system (FAT, NTFS etc) of personal computer. Therefore, you cannot copy the model data from the SD card onto PC by using the Windows Explorer.

You have to use our utility software (Futaba File System Utility) to copy the model data between T14SG/FX-22/T12FG/T8FG/FX-20 and the PC.

* The previous versions (before version 2.0) do not correspond to T14SG/FX-22/T8FG/FX-20.

■ System requirements

- Microsoft Windows XP, Windows Vista, Windows 7, Windows 8
- Necessary memory and CPU specification is equal the system requirements of Operating System.

1. Installation

There is not installer. You have to only extract the compression file.

2. Uninstallation

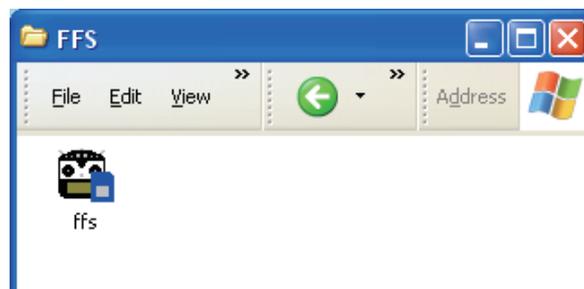
There is not special uninstallation procedure. You have to only delete the file.

***When FFS of the previous version has already been installed, please install FFS of the upgrade version after uninstalling of the previous version. Or please copy FFS of the upgrade product onto the previous version in the superscription.**

3. Mount of SD card

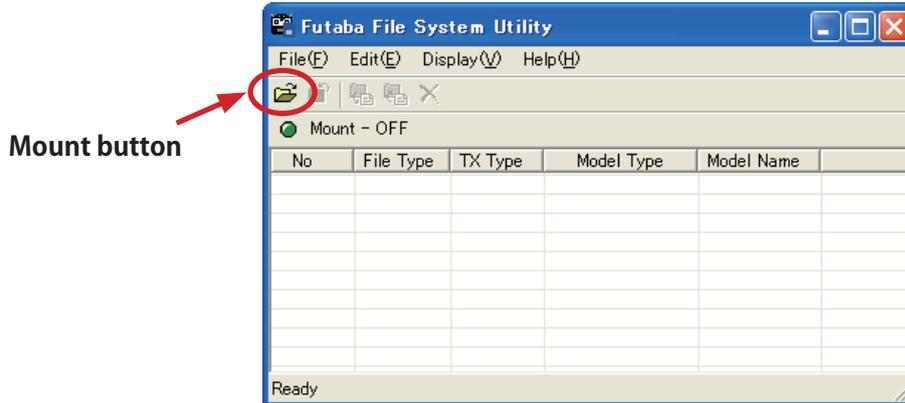
To handle the SD card by this utility, you have to open the card. This operation is called "mount".

3.1. Please attach the SD card to the card reader.



3.2. Please run the utility software (FFS.EXE).

3.3. The utility software starts, and the following screens are displayed. Please select "File" menu → "Mount" menu or push the mount button.



3.4. The selection dialog of the drive is displayed. Please select the icon of SD card drive, and push the "OK" button.



3.5. When the utility software finish mount process, it display the content of the card.

No. : File index

File Type : Refer to following table.

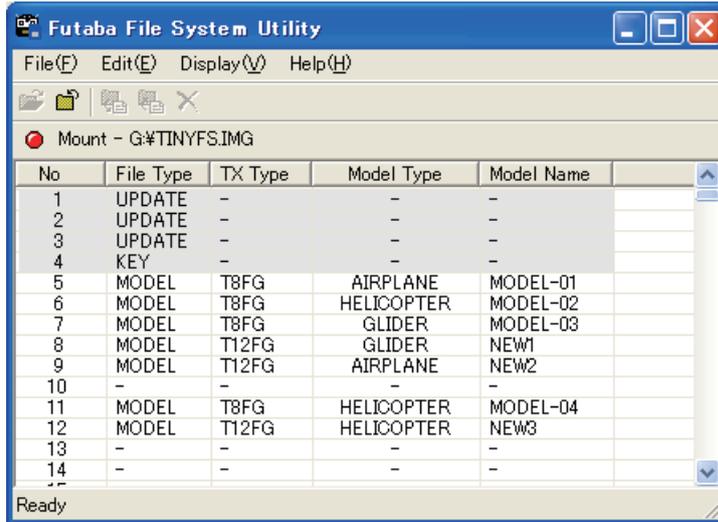
File Type	Content
MODEL	They are files of Model data. You cannot write to file index of first to fourth, because file index of first to fourth is system reserved.
LOG	Telemetry log data. You cannot write to file index of first to fourth, because file index of first to fourth is system reserved. (*)
UPDATE	They are files for software update.
KEY	They are files for software update of Transmitter.
-	Not used.

* The file number 1-4 cannot read and write a file because of the reservation domain of a system.

Model Type : Refer to following table.

Model Type	content
AIRPLANE	They are the airplane models.
HELICOPTER	They are the helicopter models.
GLIDER	They are the glider models.
UNKNOWN	They are not model data.
-	They are not used or not model data.

Model Name : Model name is displayed.



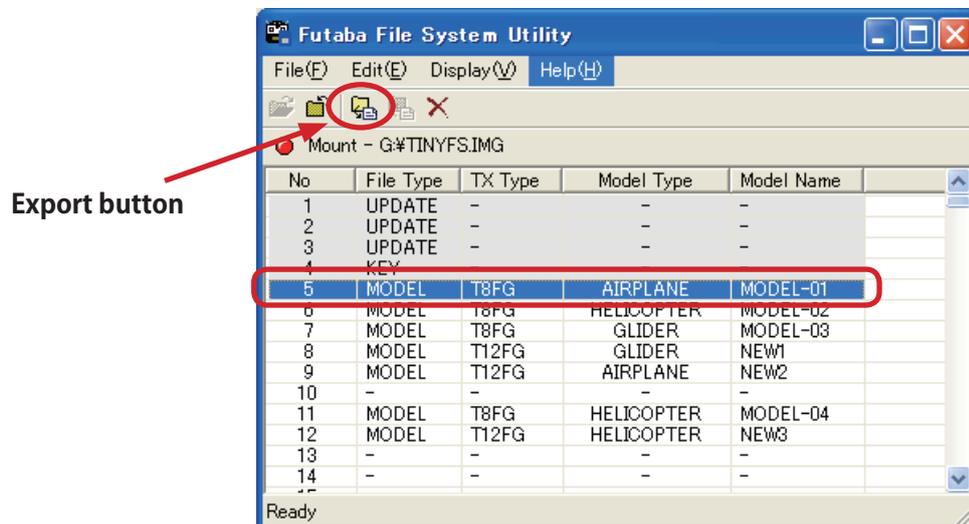
When it is telemetry log data (File Type is LOG), it is displayed as "LOG1."

When telemetry log data is recorded exceeding 1 file size, it is divided and recorded on two or more files. The display in that case → [LOG1] [LOG2] [LOG3] ...

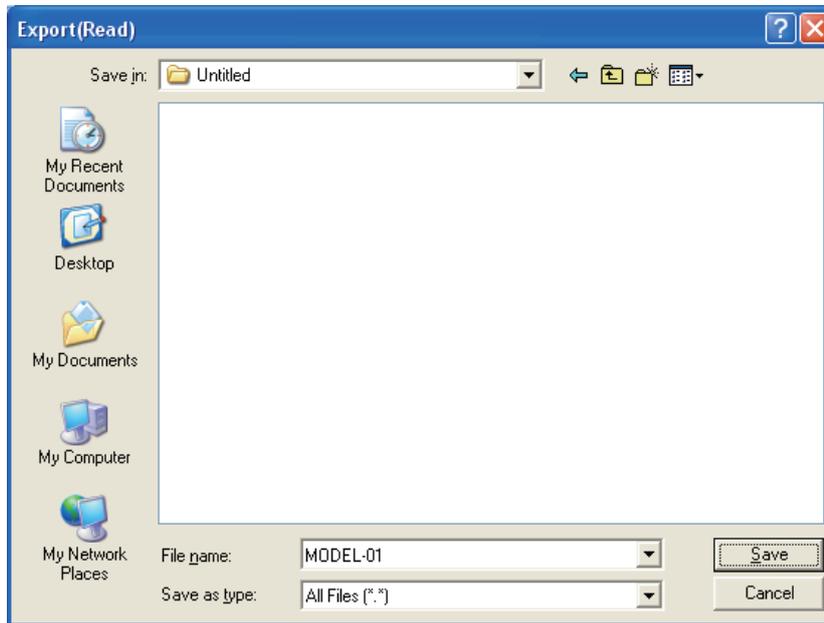
4. Read from SD card (export)

4.1. Please select the model data or telemetry log data.

4.2. Please select "Edit" menu → "Export" menu or push the export button.

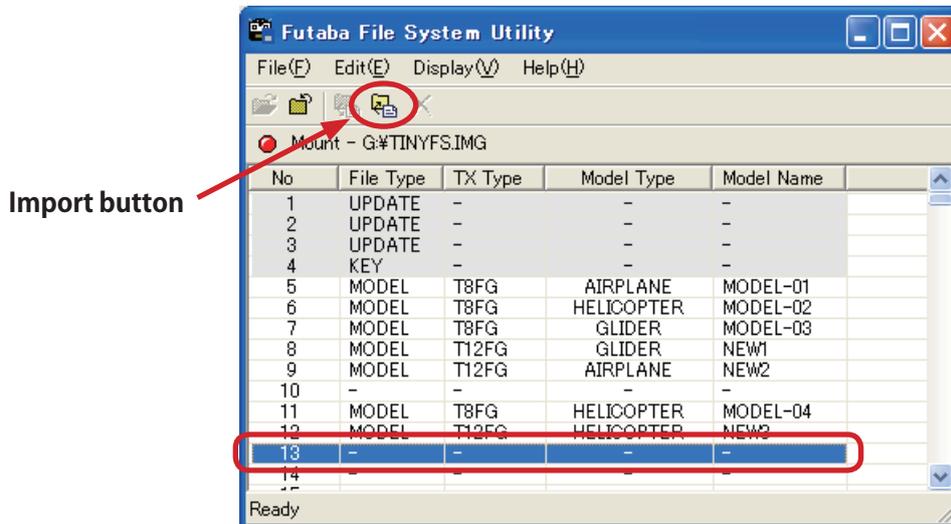


- 4.3. Export dialog is displayed. Please select destination of copy and push "Save" button. The utility software copy the data from SD card to the selected folder of your PC. If telemetry log data is exported, it is saved by CSV. Please input a file name in an export dialog and push "Save" button. A file extension is added automatically.

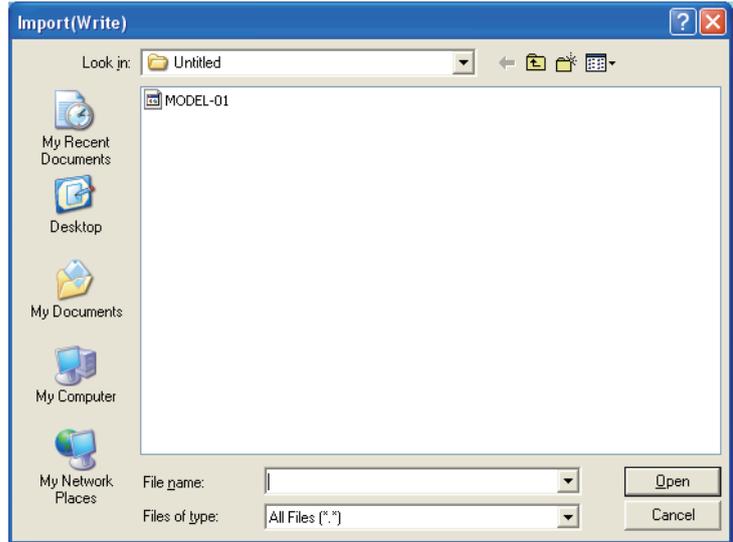


5. Write to model data (import)

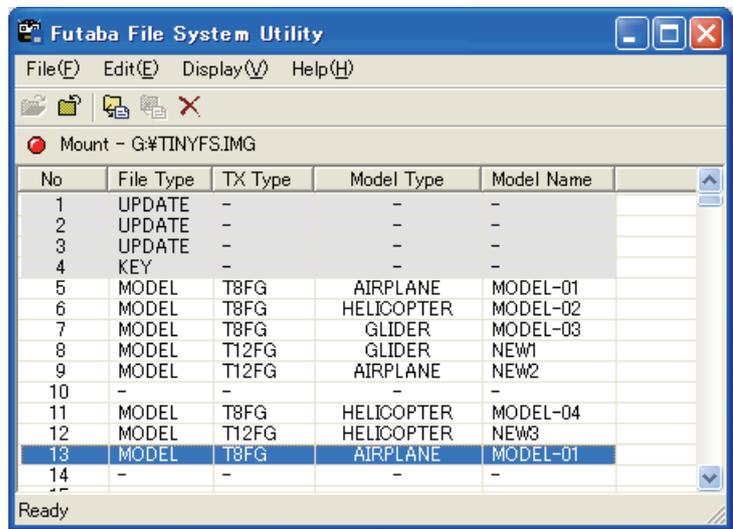
- 5.1. Please select the destination of writing the model data.
5.2. Please select "Edit" menu → "Import" menu or push the import button.



5.3. Import dialog is displayed. Please select the model data and push "Open" button.



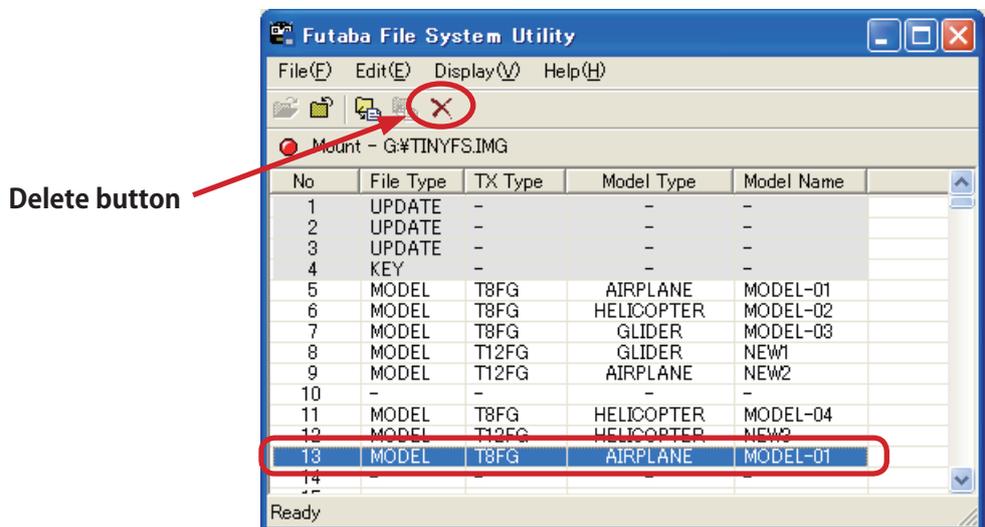
5.4. The utility software copy the model data to the SD card.



6. Delete data

6.1. Please select the model data or telemetry log data.

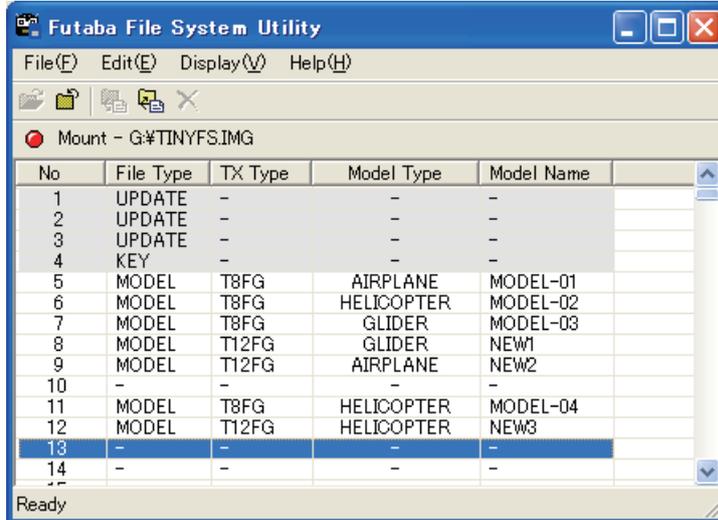
6.2. Please select "Edit" menu → "Delete" menu or push the delete button.



6.3. The confirm dialog is displayed. Push "OK" button.



6.4. The utility software delete the selected data.



7. Display SD card information

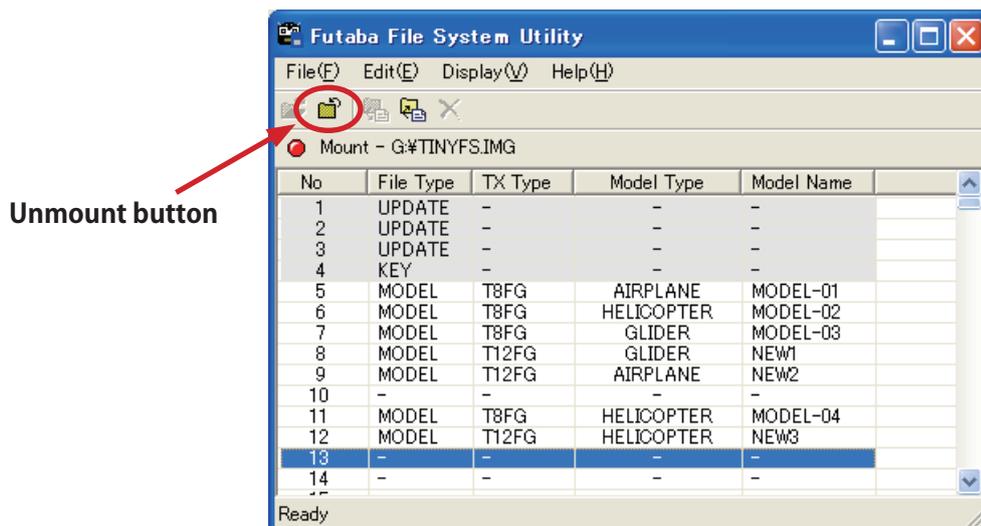
7.1. Please select "Display" menu → "Property" menu. The utility software display the card information dialog.



8. Unmount SD card

Before SD card detach the card reader, You have to close the SD card. This operation is called "unmount".

8.1. Please select "File" menu → "Unmount" menu or push the unmount button.



8.2. The confirm dialog is displayed, Push "OK" button.



8.3. You can detach the SD card, after this operation.

9. Telemetry log data

Telemetry log file created with the transmitter corresponding to a telemetry log function is convertible for CSV.

The file of CSV can be opened by software, such as Microsoft Excel.

(The contents of a telemetry log data)

- The record time of data
- Each channel signal of a transmitter
- Slot number
- The kind of sensor
- Telemetry data

< The example of a conversion file >

TIME	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12	CH13	CH14	CH15	CH16	RECEIVER BATTERY	RECEIVER EXTERNAL	TEMPERAT	ALTITUDE	ALTITUDE SENSOR	
0	0	0	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
115	0	0	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
157	0	0	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
200	0	0	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
237	0	0	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
278	0	0	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
342	0	5.1	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
374	0	6.3	0	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
416	0	15.2	0.7	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	1	0
459	0.1	22.6	5.7	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	0	0
511	0	33.8	17.4	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	0	0
553	0	41.5	25.6	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	24	0	0
638	0	65.6	49.4	0	0	-100	-0.3	0	0	0	0	0	0	0	0	0	4.8	---	3.1	25	-1	-1

The record time of data

Unit : ms (1/1,000sec)

*Although an interval is set up with a transmitter, since record time is moved slightly according to conditions, there are a set period and a difference.

Each channel signal of a transmitter

Unit : % Neutral → 0%

Telemetry data

The kind of sensor

R	S	T	U	V	W
0	0	1	3	3	
RECEIVER BATTERY	RECEIVER EXTERNAL	TEMPERAT	ALTITUDE	ALTITUDE SENSOR	
4.8	---	3.1	24	1	0
4.8	---	3.1	24	1	0
4.8	---	3.1	24	1	0
4.8	---	3.1	24	1	0
4.8	---	3.1	24	1	0
4.8	---	3.1	24	1	0
4.8	---	3.1	24	1	0
4.8	---	3.1	24	1	0
4.8	---	3.1	24	0	0
4.8	---	3.1	24	0	0
4.8	---	3.1	24	0	0
4.8	---	3.1	24	0	0
4.8	---	3.1	25	-1	-1

Slot number

The kind of telemetry data

Telemetry data