TRACK'AIR
Aerial Survey Systems

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THE TRACKER

snapBASE

Aerial Survey Management Utility

USERS MANUAL

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1 - ABOUT THIS MANUAL

Please note that this manual might not exactly match the software you are using.
As the system is being changed and improved all the time, the written material might become slightly different from the current software release. Manuals are regularly updated to reflect changes made to the software.

UPDATES

Pages numbers include the chapter number and the page number, E.G. 15 - 3, meaning page 3 of chapter 15.
You will receive updates that consist of complete chapters. Simply discard the old chapter pages and replace them with the new chapter.

CHAPTERS

Chapters are in no particular orders. Newly written chapters are added at the end of each manual.

2 - OVERVIEW

Please note that this manual might not exactly match the software you are using. As the system is being changed and improved all the time, the written material might become slightly different from the current software release. Manuals are regularly updated to reflect changes made to the software.

The **snapBASE** module is a management tool that is used to check and keep track of the status and progress of an aerial photography project. **snapBASE** is also used to import and export flight plans from the main database to the portable computers' secondary databases.

The main **snapBASE** functions are:

- Maintain, repair, compress and backup the database
- Export flight plans to the airborne system.
- Create sub flight plans and save them.
- Mark accepted and rejected photography and keep track of the job progress.
- Updates the main database with data collected during the photo flight.
- Archives projects and removes them from the active database.
- Edit the database and change any names and numbers
- Correct film numbering and photo numbering errors
- Exchange flight planning data with other systems.
- Prepare progress reports and film reports.
- Find out about the status of individual photos.

3 - QUICK TOUR

The following will assist you to run the program the first time and get familiar with its operation. The database contains several examples which can be loaded and edited to practice with the system.

Start the program by clicking the **snapBASE** icon 

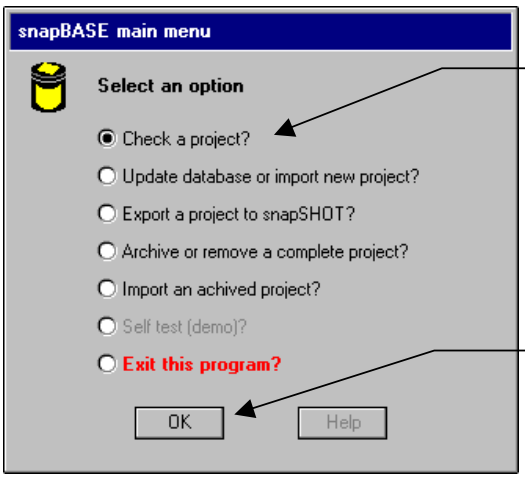


Figure 3-1

The load flight plan dialog is used to select a project from the database. It consists of 2 lists, the projects list and the flight plans list. If a name is highlighted in the project list, then the associated flight plans are automatically displayed in the other list.

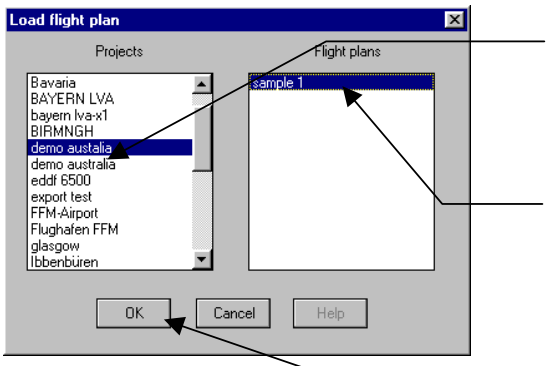


Figure 3-2

Once your project has been loaded, the display will look like this.

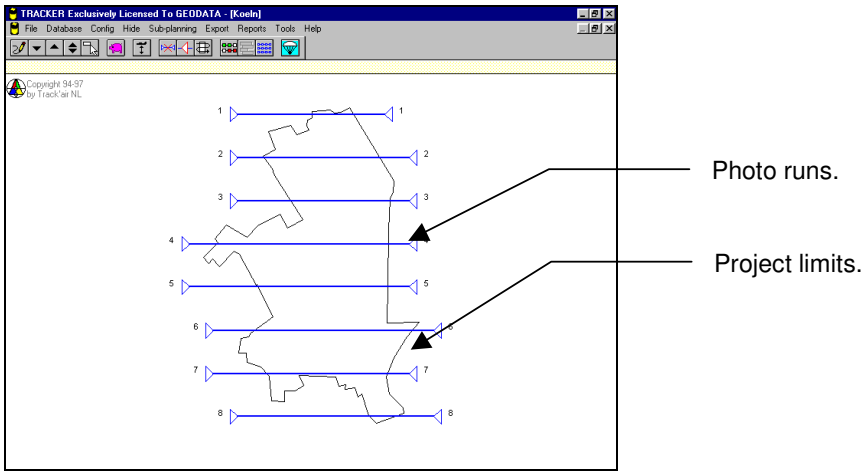
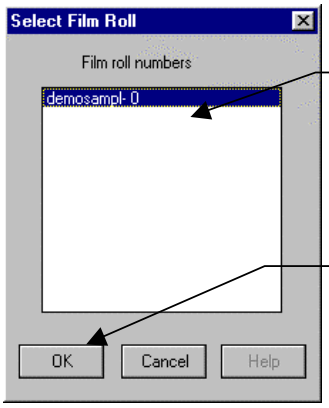


Figure 3-3

The main purpose of **snapBASE** is to log which photography is accepted and which photography is rejected.

To do this, press the editor button  on the main toolbar.

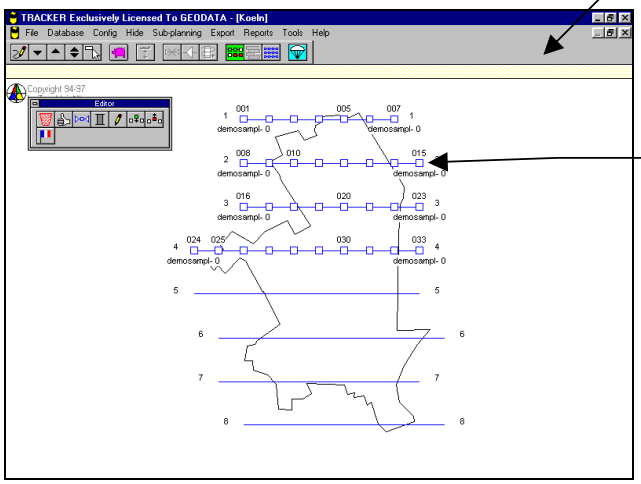


1) Select the film rolls that you want to work on. A maximum of 10 rolls can be processed simultaneously (to prevent cluttering the display).

2) Press **OK.**

Figure 3-4

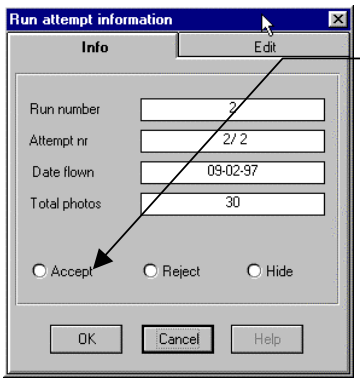
4) the display will change to this:



Initially, the position of each photo is represented by a small empty blue square.

Figure 3-5

5) There are various methods to flag photos as accepted or rejected. For the moment press the run attempt button  on the small toolbar and click within one of the small blue squares.



6) Select the **Accept** option and press **OK**.

Figure 3-6

The photo squares of the selected run are now filled with green, indicating that the photos are accepted.

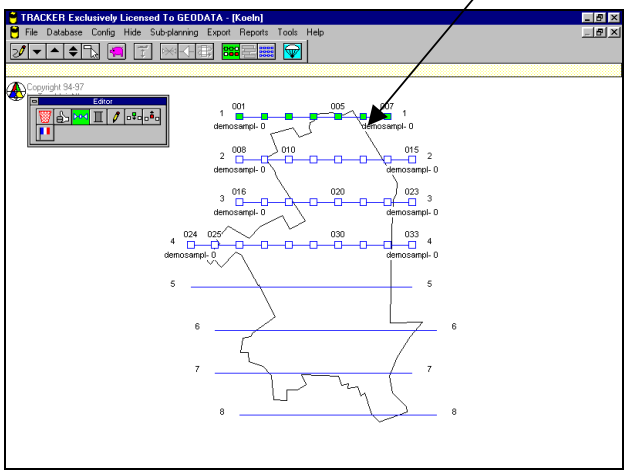
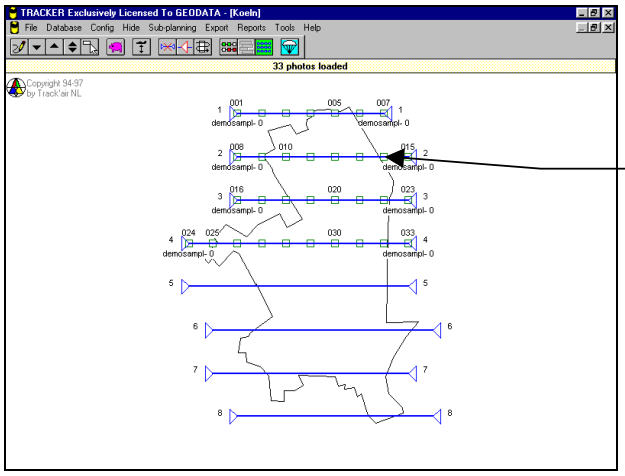


Figure 3-7

8) You can repeat the same operation for each run. Once this is finished, return to the main display by clicking the photo index button  on the main toolbar.



The current index of accepted photography is now displayed. This index can be printed in **snapPLOT**.

Figure 3-8

10) To leave the program, press the Exit button  .

4 - MAIN TOOLBAR

Figure 4-1

SAVE.
Save current sub-plan.

TERRAIN HEIGHT.
Press to enter the terrain height mode to save reference terrain height information for each run.

LINE NOT REQUIRED.
Press and click runs which should not be included in the current sub-plan. Clicking a run a second time will restore it.

END MARKERS.
Press to enter the end markers editing mode to change the position where lines should be started or ended.

SEQUENCING.
In **snapBASE**, sequencing is only used by the internal simulator.

EDITOR.
Press to enter the editor mode to accept/reject the photography. In this mode it is also possible to rename and renumber the film rolls and add/remove individual photo.

INDEX.
Press to show an index of the currently **ACCEPTED** photography and save all changes to the database.

EXIT.
Exit the **snapBASE** application.

5 - BUTTONS SHARED BY ALL MODULES

The following describes the buttons shared by all the Tracker modules:

REFRESH
Click this button to redraw the screen if it has not been properly painted or to remove garbage.

ZOOM IN (REDUCE SIZE).
Clicking this button will increase the scale of the drawing. Click until the drawing is at the required size. A beep and no effects will indicate that the limits have been reached. The maximum scale depends on the original size of the area.

ZOOM OUT (ENLARGE).
Clicking this button will decrease the scale of the drawing. Click until the drawing is at the required size. A beep and no action will indicate that the limits have been reached. The minimum scale depends on the original size of the area.

RESTORE
Clicking this button will restore the drawing to its first size and position.

ZOOM WINDOW.
Press this button down and draw a rectangle around the area to be enlarged.

Note: To draw a rectangle, position the mouse pointer on the rectangle upper left corner position, press the mouse button and while keeping it down, drag the mouse towards the right and down. A rectangle is displayed while this operation is taking place, when its size is satisfactory, release the mouse button.

OPEN NEW PROJECT
Click this button to return to the project selection dialogue box.

EXIT THE PROGRAM.
Click this button to shut down the program.

6 - FEATURES SHARED BY ALL MODULES

The following describes features and behaviors that are common to all TRACKER modules.

DRAGGING THE DISPLAY

To move the entire drawing area, **PRESS AND HOLD** the **LEFT** mouse button anywhere on the map area, drag the mouse to an other spot and release the button. The whole map will be shifted. While the mouse button is held down, the cursor changes to a 4 heads arrow.

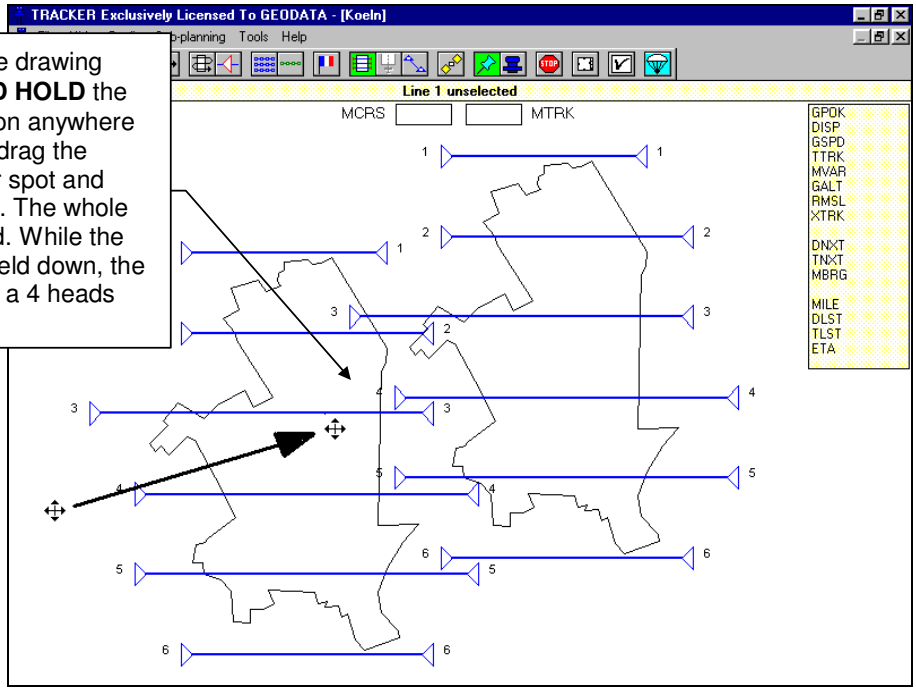
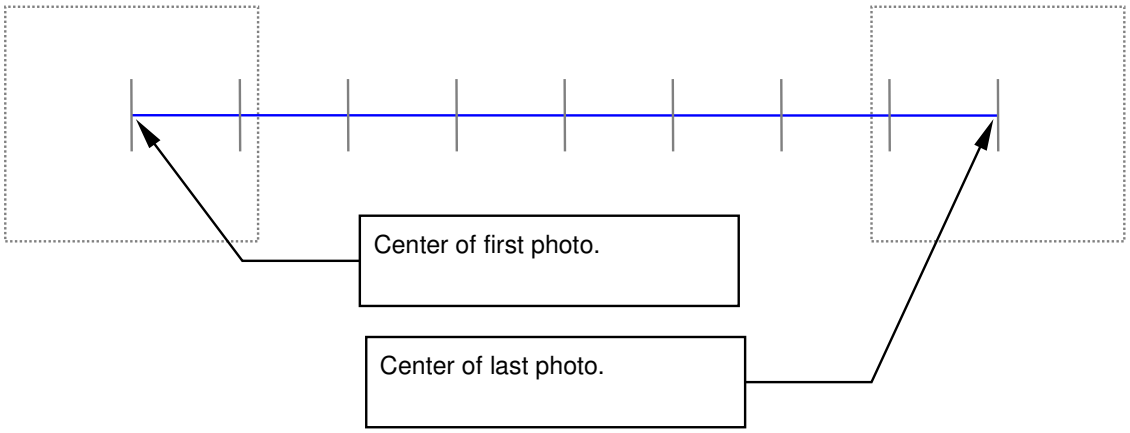


Figure 6-1

GRAPHIC REPRESENTATION OF RUNS

Tracker represents runs and strips by their centerline and crosswise ticks which represents the photo positions.



7 - EDITOR TOOLBAR

Figure 7-1

REJECT.
Press and click photos to be rejected. To reject a range of photos, point to the first photo and move the mouse pointer to the last photo while holding down the left mouse button.

ACCEPT.
Press and click photos to be accepted. To accept a range of photos, point to the first photo and move the mouse pointer to the last photo while holding down the left mouse button.

RUN ATTEMPT INFORMATION.
Press and click a photo to show the corresponding run attempt information dialog box.

FILM INFORMATION.
Press and click a photo to show the corresponding film information dialog box.

SHOW.
Press to show all the run attempts that were previously hidden.

INSERT A PHOTO.
If required (for example to correct a malfunction during the photo flight) it is possible to add a photo to the flight. Press this button and point to the photo positioned just before or just after the missing photo, then drag the mouse pointer to the position where the new photo has to be inserted.

REMOVE A PHOTO.
If required it is possible to remove a photo from the database system. Press this button, then click the photo to be deleted. To delete a range of photos, point to the first photo and move the mouse pointer to the last photo while holding down the left mouse button.
Remark: Normally, this function should never be used. Photos deleted are removed from the system and cannot be recovered or reloaded.

ACTIVATE REJECTION FLAGS.
This button displays a list of comments describing the reasons why photography is rejected. These flags are saved in the database with each photo.

8 - EDITOR MODE

The editor mode groups the functions that allow the user to interact with the database. The following operations can be performed:

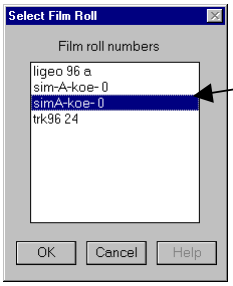
- accept single photo, group of photos, run attempts or film rolls.
- Reject single photo, group of photos, run attempt or film roll.
- Add missing photos.
- Delete individual photos.

In addition, it is possible to use the editor mode to change or correct some of the database information.

- Film numbers.
- Photo numbers.

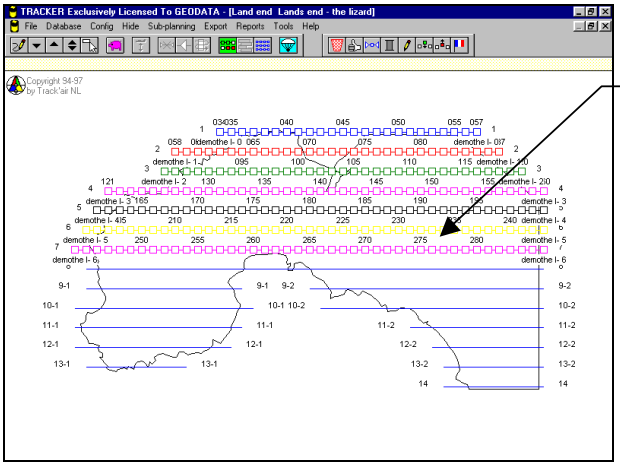
Remark: To save your work, press the photo index button  on the main toolbar.

To access the editor mode, load a project and start the editor mode by pressing the editor button  .
The following dialog will appear:



Select the film rolls you want to work on.
Remark: To prevent cluttering the display, a maximum of 10 rolls can be processed simultaneously. Press **OK**.

Figure 8-1



Each film is represented by a different color. Initially the squares are not filled.

In the **snapBASE** system, photography can only be in one of the following three states:

- Flown: Not filled.
- Accepted (OK for printing, delivery, etc.): Filled with green.
- Rejected (not usable): Filled with red.

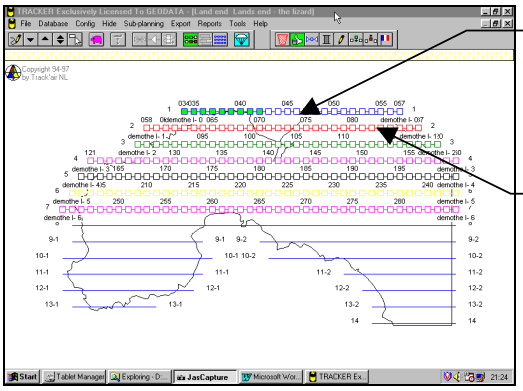
Figure 8-2

ACCEPTING PHOTOGRAPHY

Accepting photography is normally the result of film inspection. This is an essential step in keeping your database functioning and up to date.

There are 4 ways to accept photography.

1/2) Press the accept button  .

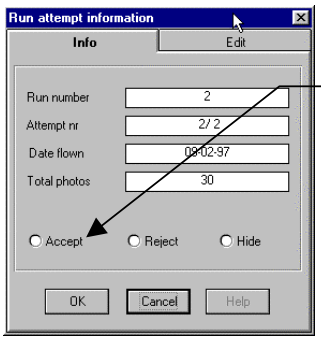


1) Click individual photos one at a time. Once a photo has been clicked as accepted, it is still possible to click it as rejected.

2) To accept a range of photos in one operation, press the left mouse button on the first photo to be accepted, drag the mouse keeping the button down and release the button over the center of the last photo of the range. During the dragging action, a line will assist you to visualize the selection progress.

Figure 8-3

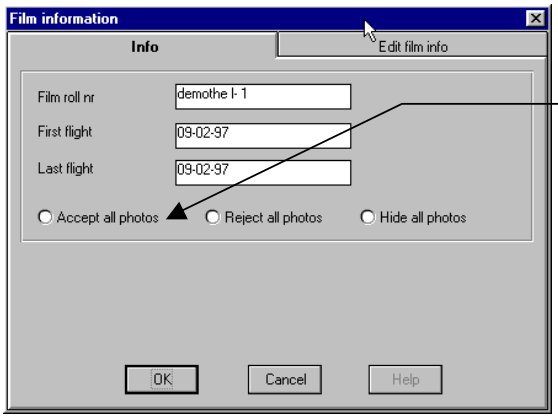
3) Press the run attempt button  and click a photo belonging to the run attempt you want to accept.



This dialog will show up. Select the **Accept** option and press **OK**. The complete run attempt will be accepted in one go.

Figure 8-4

4) Press the Film roll button  and click a photo belonging to the film you want to accept.



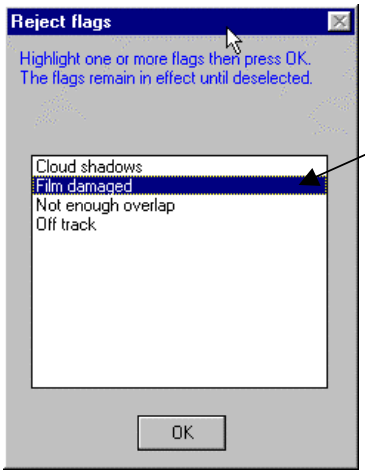
This dialog will show up. Select the **Accept** option and press **OK**. The complete film will be accepted in one go.

Figure 8-5

REJECTING PHOTOGRAPHY

Rejected photography are photos whose quality or coverage do not meet the specifications. In order to insure a good management of the re-flights, its is necessary to log these photos in the **Tracker** database system.
The procedure to reject photography is exactly similar to the procedure used to accept photography.

Use the reject button  . In addition, If you wish to indicate the reason why photos have to be rejected, press first the rejection flags button  and select the cause of rejection prior to rejecting the photos. Refer to the **CONFIG** menu topic for more information about these flags.



Pick a flag explaining the cause of rejection. The flag remains in effect until it has been deselected. All photos rejected after a flag has been set will be marked with the content of the flag. New flags can be added in the configuration window.

Figure 8-6

ADDING PHOTOS.

If required (for example to correct a malfunction during the photo flight) it is possible to add a missing photo to the flight.

1. Press the add photo button 
2. Point to the photo positioned just before or just after the missing photo, then drag the mouse pointer to the position where the new photo has to be inserted. Release the mouse button exactly over the position where the photo should be. All the photo numbers will be automatically updated.

Remark: There is no way for the system to distinguish between a photo which has been added this way and a photo actually taken during the flight.

DELETING PHOTOS.

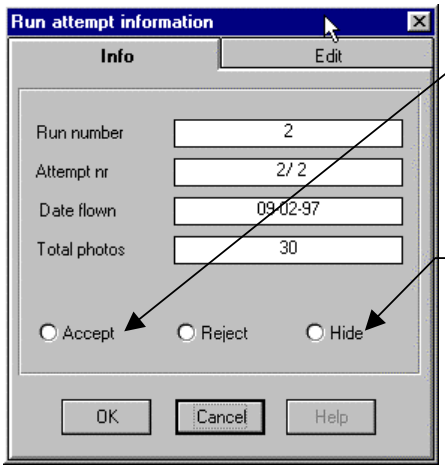
If required, it is possible to remove a photo from the database system.

1. Press this button 
2. Then click the photo to be deleted. To delete a range of photos, point to the first photo and move the mouse pointer to the last photo while holding down the left mouse button. Release the button over the last photo of the range to be deleted.

Remark: Photos deleted are permanently removed from the system and cannot be recovered.

RUN ATTEMPT INFO DIALOG BOX

To access the run attempt dialog box, press the run attempt button  and click a photo belonging to the run attempt you want to check.



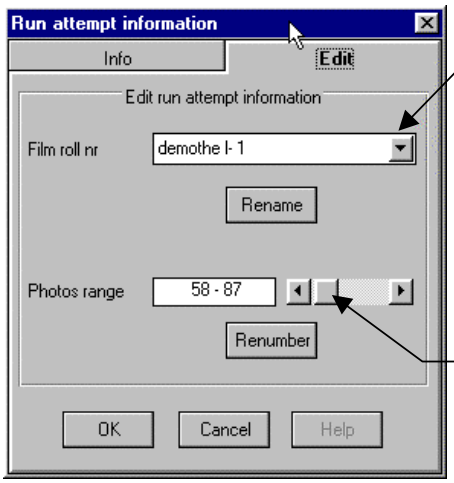
Selecting the **ACCEPT** or **REJECT** option will accept (reject) all photos within this particular run attempt.

In case the same line has been flown more than once, you might have to select the **HIDE** option to hide the current run attempt in order to be able to access the attempts that were hidden under it.

Press the redraw button  on the editor tool box to show again the hidden attempts.

Figure 8-7

Warning: The following functions are meant to allow the user to correct errors which happened during the flight. All these corrections are permanent and cannot be undone!



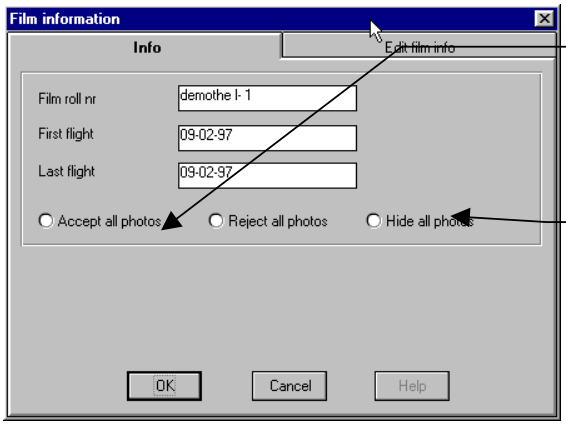
If the film roll number is wrong, you can either select the correct one from the list or type the right number in the box.

If the photo numbering is not correct, you can use the slider to change the numbers of the run attempt. The attempt will be re-numbered consecutively.

Figure 8-8

FILM INFO DIALOG BOX.

To work on the entire film, press the film roll button  and click one of its photos. This will display the film dialog box.

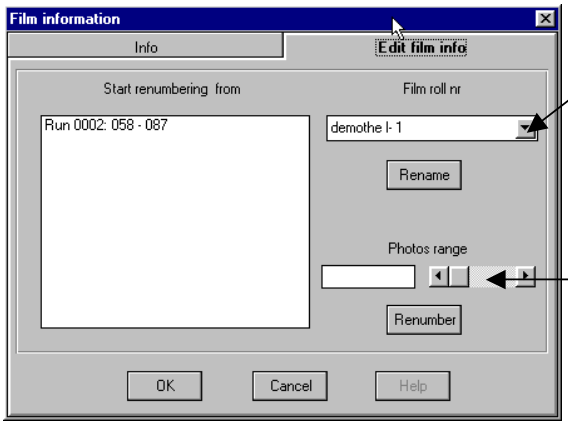


Choose either the **ACCEPT** or **REJECT** option to accept of reject the entire film.

Select the **HIDE** option to temporarily hide the current film. Press the redraw button  on the editor tool box to show again the hidden runs.

Figure 8-9

Warning: The following functions are meant to allow the user to correct errors which happened during the flight. All these correction are permanent and cannot be undone!



If the film roll number is wrong, you can either select the correct one from the list or type the right number in the box.

If this is required, you can give new photo numbers either starting from the beginning of the film or from the start of one of the run attempts.

Figure 8-10

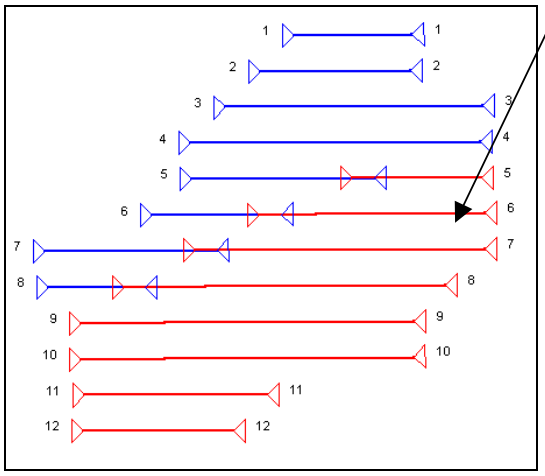
9 - PREPARING SUB FLIGHT PLANS

Please also refer to snapSHOT chapter 44, How to re-fly part of a run.

Using the sliding ends of run markers it is possible to prepare several flight plans derived from the same original flight plan (in TRACKER, these flight plans are called sub flight plans).

Note that this feature is a powerful and versatile project management tool but its usefulness might not be obvious at first sight. If you are new to computer flight planning some of the following might seem confusing and should preferably be considered once you have become more familiar with the system.

THE SLIDING MARKERS



In **TRACKER**, the traditional arrows or triangles used to mark the start and finish of the runs can be moved along the run from one spot to another. This allows you to change the camera on and camera off locations at your convenience, even during the flight. To do this, press the marker button  , pick a marker around the tip of the triangle and drag it along the run with the mouse. When you release the mouse button, the marker will snap to the nearest photo position and remain there. From now on, only the part of the run that is between the markers is active.

Figure 9-1

USE

The first obvious utilization is to move the markers to fly only part of a run. For example when a run has to be interrupted and restarted in flight or if only part of a run has to be completed. One can use the photo index overview to see where the photography ends and move the sliders as required.
Further, In **snapBASE** or directly in **snapSHOT** it is possible to prepare several sub flight plans, save them and retrieve them when needed. This is very handy when it comes to the preparation of the daily photo missions during an ongoing project. For each mission one can easily prepare a new sub flight plan showing only the remaining photography.
Other possible applications:

- Divide the project in various flight altitudes depending on the terrain height
- Exclude areas which should not be flown (lakes, prohibited photo areas, etc.)
- Distribute work between 2 or more planes flying the same project.
- Use colors to differentiate between areas of priority, etc.

PROCEDURE

The easiest way to learn how to use the markers is to experiment with them. Feel free to move, show, hide, save and load as many sub plans as need be. Whatever you do has no effect on the original flight plan.
Most sub planning functions are grouped in the **SUB PLANNING** menu.

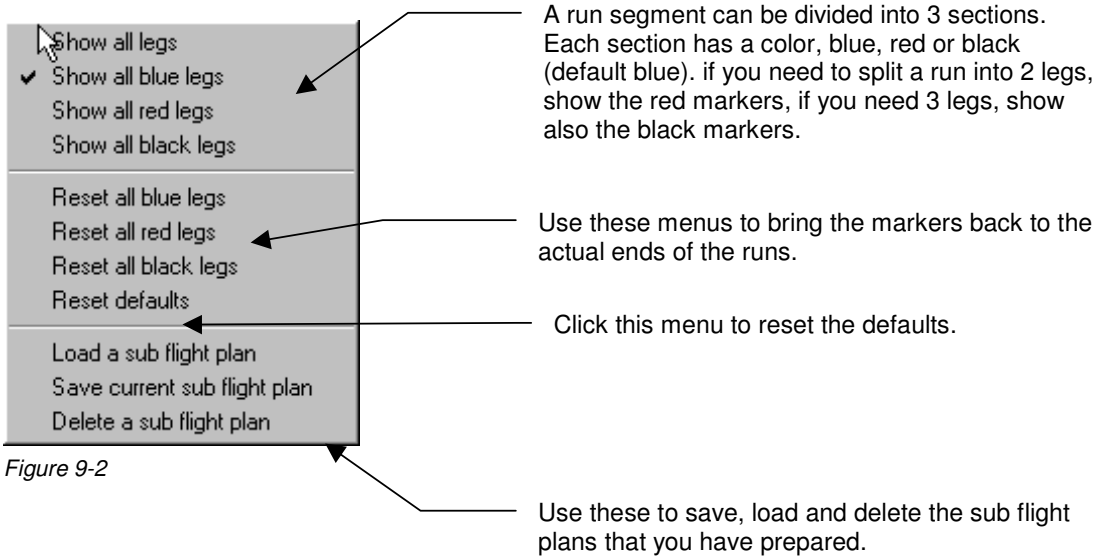


Figure 9-2

To operate on the markers, click the marker button  and click the **right** mouse button on the run to be edited. The sub plan pop up menu will be displayed:

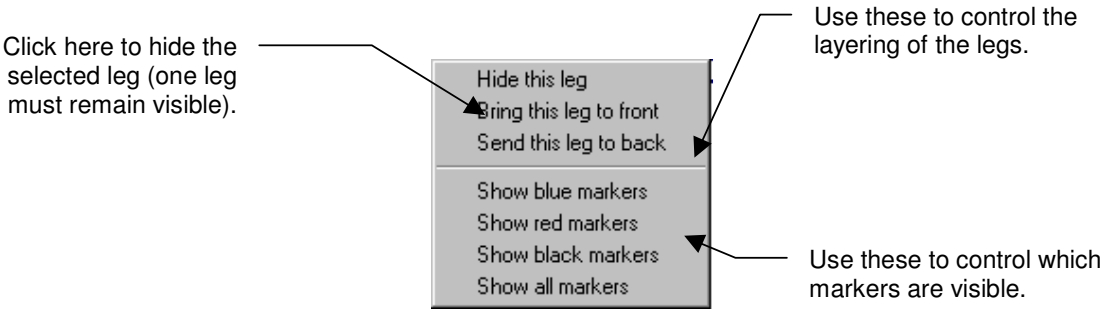


Figure 9-3

EXAMPLE

The following exercise demonstrates how to use the sliding markers to prepare an alternative sub flight plan. In this case a block of photography covers a military training area which the crew might not be allowed to fly when the area is active. If this is the case, then the crew will select the sub plan to avoid flying into the area. During the digitizing, the operator has taken care to draw the outline of the military area. This line will be used to position the markers.

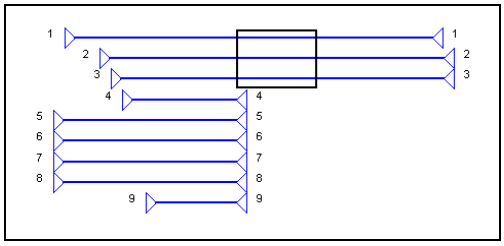
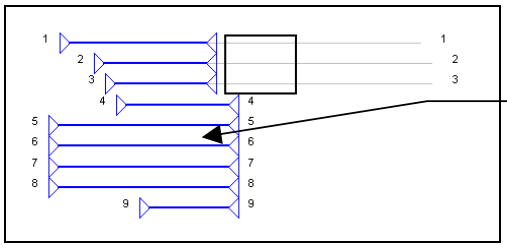
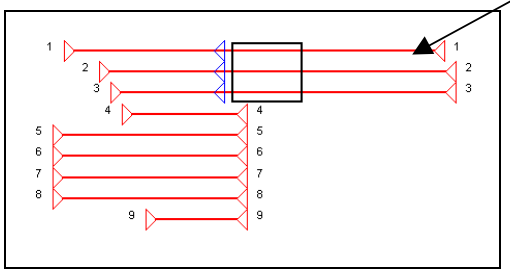


Figure 9-4



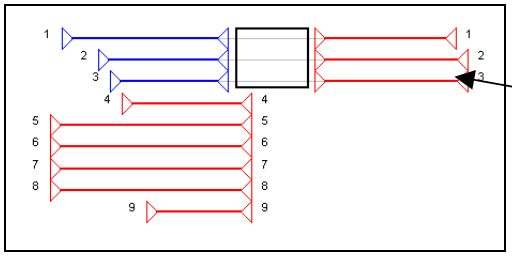
1) First move the blue markers so as to cover the Western part of the runs.

Figure 9-5



2) In the **SUB PLANNING** menu, click the **SHOW RED MARKERS** menu.

Figure 9-6



3) Now move the red markers so as to cover the Eastern part of the runs.

Figure 9-7

10 - SAVING THE TERRAIN HEIGHT

Common to snapBASE, snapSHOT, snapPLAN.

It is possible to save the average ground height for each run. If this is done, the required flying altitude will be displayed in **snapSHOT** each time a run is selected.

- In snapBASE press the altitude button  to show the altitude dialog box.
- In snapPLAN and snapSHOT select the **TERRAIN HEIGHT** menu from the **TOOLS** menu

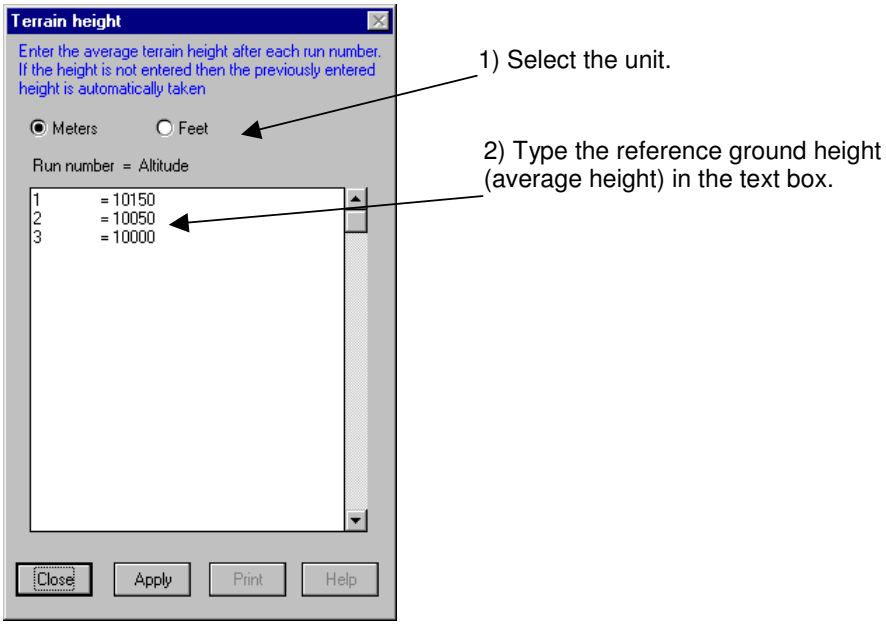
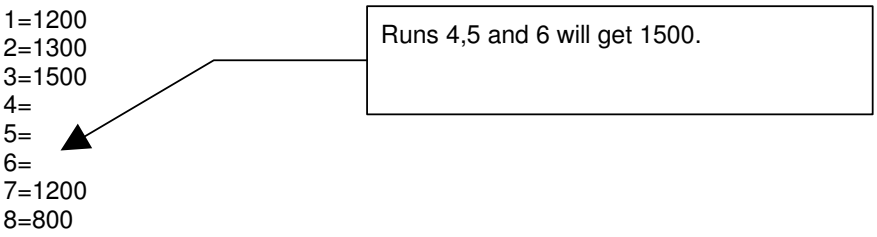


Figure 10-1

Note:
To speed up you can skip typing the heights if they are identical to the last height you typed. In this case the previous height is automatically taken.



11 - FLIGHT SEQUENCE

In **snapBASE**, this function is only used by the simulator. A similar function exists in **snapSHOT** to define pre-selected flight patterns and flight directions. To experiment with this function, proceed as follows:

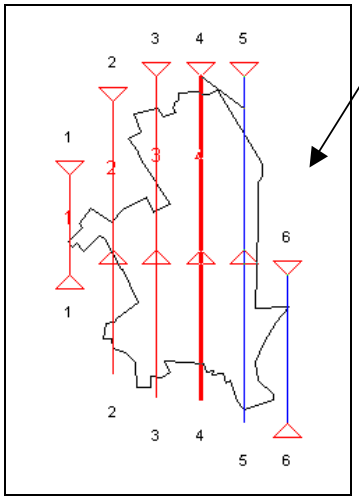


Figure 11-1

1) Press the sequence button  and click the runs one after the other in the order you want to fly them. You have to pay attention to click **between** the markers, otherwise the click is not valid. In addition, it is assumed that you will click each run on the side where you intend to start. A line attached to the other end will help you to visualize this. During this operation the display looks like this:

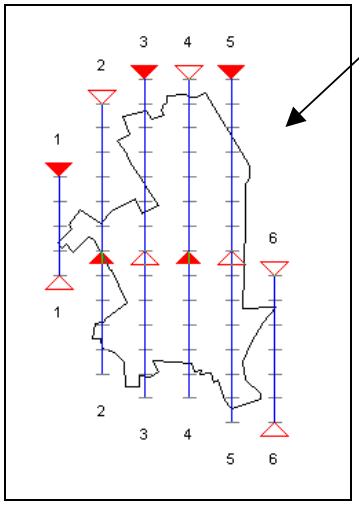


Figure 11-2

2) When you are finished, either click anywhere on the display with the right mouse button or pop up the sequence button manually. The display will now look like this. The start of each run is now a solid triangle.

12 - RUN ATTEMPT SIMULATOR

To facilitate the evaluation of the system, it is possible to simulate a photo mission by using the run attempt simulation. The result of this procedure will be similar to a real photo flight. To proceed with the simulation, please follow these steps:

QUICK FLIGHT

After loading your project, selecting the **FILE** | **RUN SIMULATOR** menu will generate a small flight covering approximately half of the area.

This dialog box will be shown:

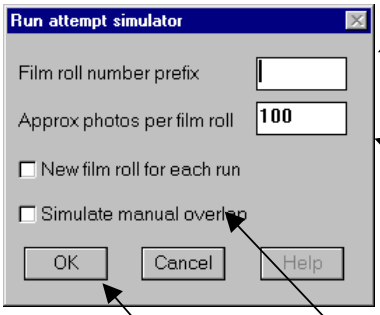


Figure 12-1

Enter any prefix you would like the simulator to use to create the film roll numbers. For example: **demo**

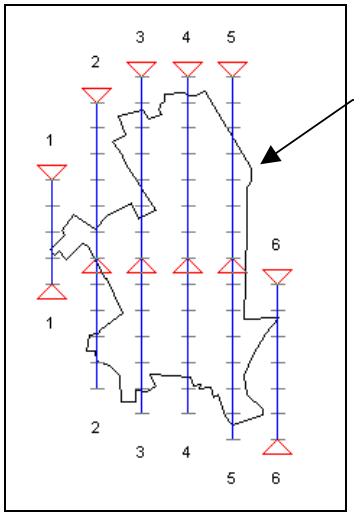
You can either enter how many photos you want on each roll (to simulate a large project with many films) or simply check the **New film roll for each run** option box (not very realistic but handy).

Additionally you may choose to check the **Simulate manual overlap** option box if you want to simulate a flight made in manual overlap mode (the default is pinpoint automatic camera triggering).

Press **OK** to carry out the simulation.

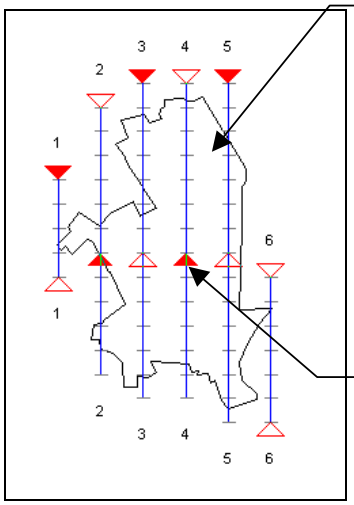
"REAL" MISSION

This is a somewhat more complicated approach that allows to generate more realistic photo coverage.



Press the end of run markers button and move the markers to cover the area that you want to have flown. In our example, the markers were moved so that only the Northern part of the area will be flown.

Figure 12-2



Press the sequence button and click the runs one after the other in the order you want to fly them. You have to pay attention to click **between** the markers, otherwise the click is not valid. In addition, it is assumed that you will click each run on the side where you intend to start. A line will help you to visualize this.

When you are finished, either click anywhere on the display with the **RIGHT** mouse button or pop up the sequence button manually. The display will now look like this. The start of each run is now a solid triangle.

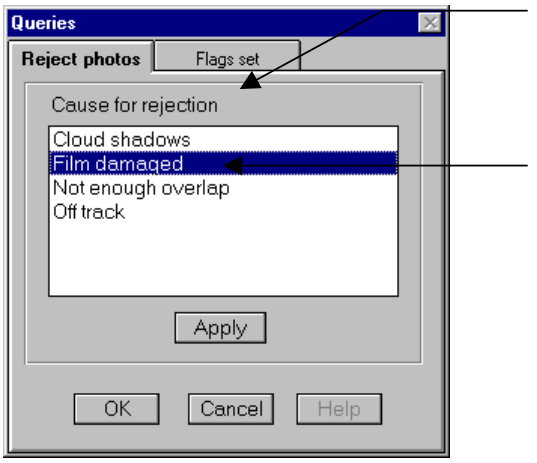
Figure 12-3

Then select the **FILE** | **RUN SIMULATOR** to generate the flight.

13 - USING QUERIES

By definition a query is a question to the database. With powerful relational database such as Access used by **TRACKER**, queries can be very complex. A few simple queries are already available in the **TOOLS** | **QUERIES** menu. In the future **TRACKER** will be equipped with a custom query generator which will allow you to find just about anything you want from your database.

Selecting the **TOOLS** | **QUERIES** menu will display this dialog:



Use this tab to see which flags have been set during the photo flight and display them.

To display which photos have been rejected, select one or more rejection flags and press Apply.

Figure 13-1

14 - DATA MANAGEMENT

common to all Tracker modules.

OVERVIEW

Tracker uses a database system to preserve and manage all the data generated during the operation of the system. The file which contains all your data is an **ACCESS** database named **TRACKER.MDB** which is kept in the **TRACKER** \ **MDB** directory (folder). All TRACKER modules share this database. Without this database, the system cannot work. Each time a module is opened, a backup of the database is automatically created. This is a copy of the current database that can be used to recover the system should this become necessary.

Please note that if you do not use an external backup system (you certainly should), you should at least backup the **TRACKER.MDB** file to a floppy. Failing to do so exposes you to a possible total loss of data in the event of a hard disk failure (it happens!).

In case **TRACKER** is operated across several PC's, it is important that you decide where your **MAIN DATABASE** is going to be located. You can benefit most from the database system if you keep one primary database regularly updated with the current data from the other PC's. Otherwise the data will be scattered amongst several computers and you will be unable to extract profitable information from the database management system. **TRACKER** has a set of built-in functions that facilitate data exchange between the primary database and the others.

Once the main database PC is chosen, it is advisable for a large organization to name a database supervisor who will be in charge of the database maintenance and updating. The main aspects of the database administration are:

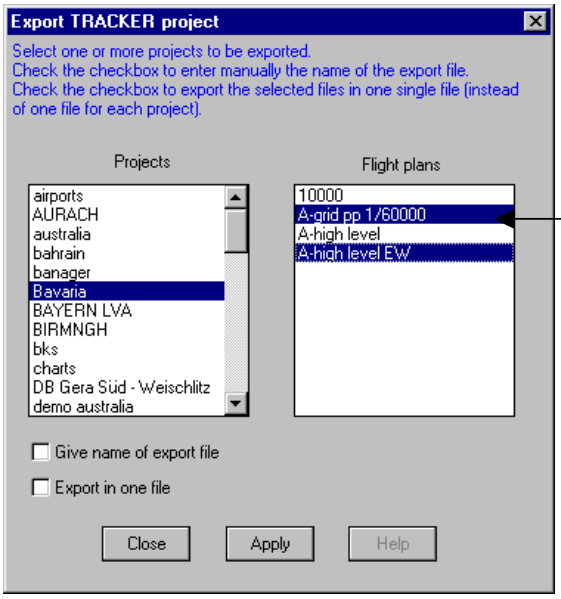
- If the planning is prepared on an office PC, it is necessary to transfer the flight plan to the portable computers used in the aircraft.
- After a flight or as soon as this is possible, it is indispensable to update the main TRACKER database with the data generated during the flights. This is particularly critical if several airplanes are involved.

To sum up, all **TRACKER** modules are linked together by a common database named **TRACKER.MDB.** All data generated by any of these programs are automatically saved to this database and immediately available to the others. In case the planning is not directly done on the portable computer, the flight plans have to be transferred before the flight from the main PC. After the flight, the project and its new flight information have to be copied from the portable PC database back to the main TRACKER database.

15 - EXPORT PROCEDURE

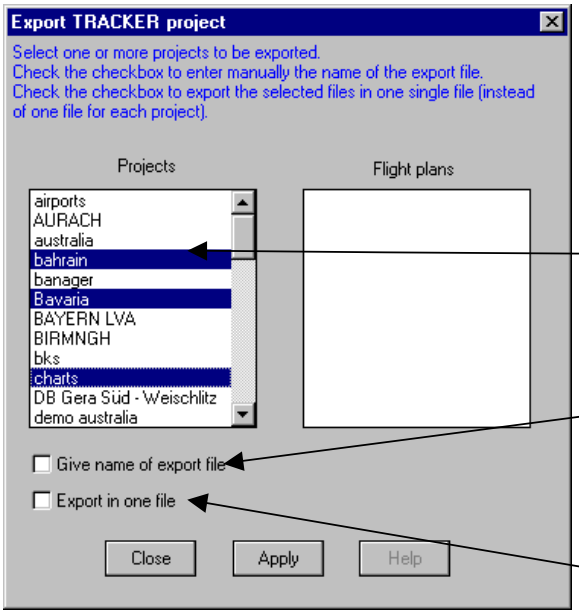
common to snapBASE and snapSHOT.

Start the program or return to the main menu then select the **Export a project or flight plan?** option.



You can either select to export one project with all or part of its flight plans…

Figure 15-1



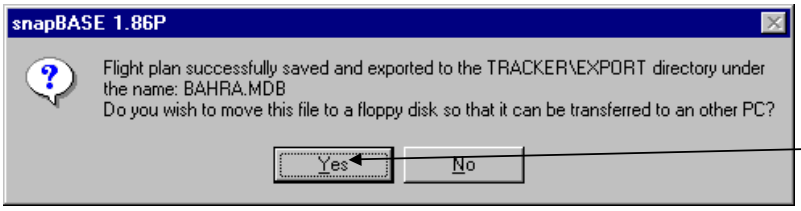
…or you can select to export several projects with all their flight plans.

Check this box if you wish to name of the export file yourself.

Check this box if you wish to export all the selected files into a single MDB file (5 projects maximum)

Figure 15-2

If you exported a single file then you will be asked if you want to copy it directly to a floppy disk.



Press **YES** if you want to copy your file to a floppy.

Figure 15-3

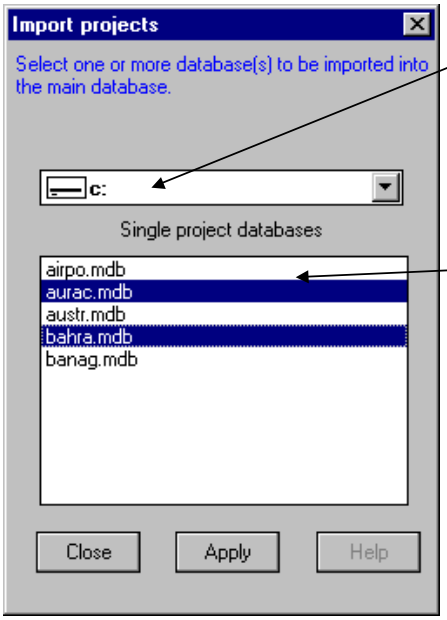
Else if you exported several projects you will be informed that the files have been exported to the **TRACKER/EXPORT** folder.

Figure 15-4

16 - IMPORT PROCEDURE

common to snapBASE and snapSHOT.

Start the program or return to the main menu then select the **Import or update projects or flight plans?** option.



Open the combo box and select the a: drive if the flight plan is on a floppy.

Otherwise, the file to be imported should always be in the **TRACKER/IMPORT** folder.

Highlight the projects to be imported.

Figure 16-1

17 - ARCHIVING

common to snapBASE and snapSHOT.

Archiving is the process of copying part of the database to a backup file. In order to speed up data access a project that has been archived can be removed from the main database. A project that has been archived can be loaded back into the database or sent to another **Tracker** user.
Remark: All archived projects are saved to the **TRACKER/ARCHIVES** folder.

Start the program or return to the main menu then select the **Archive or remove projects?** option.

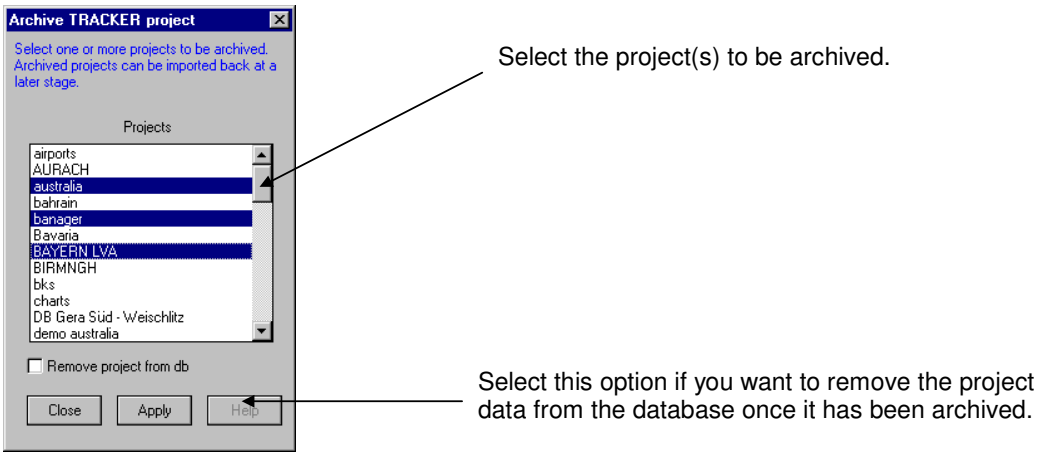


Figure 17-1

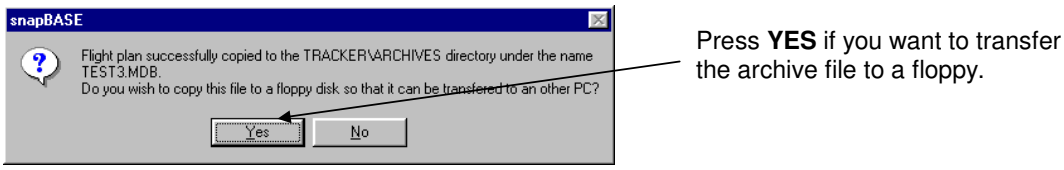


Figure 17-2

IMPORTING AN ARCHIVED PROJECT

Start the program or return to the main menu then select the **Import an archived project?** option.

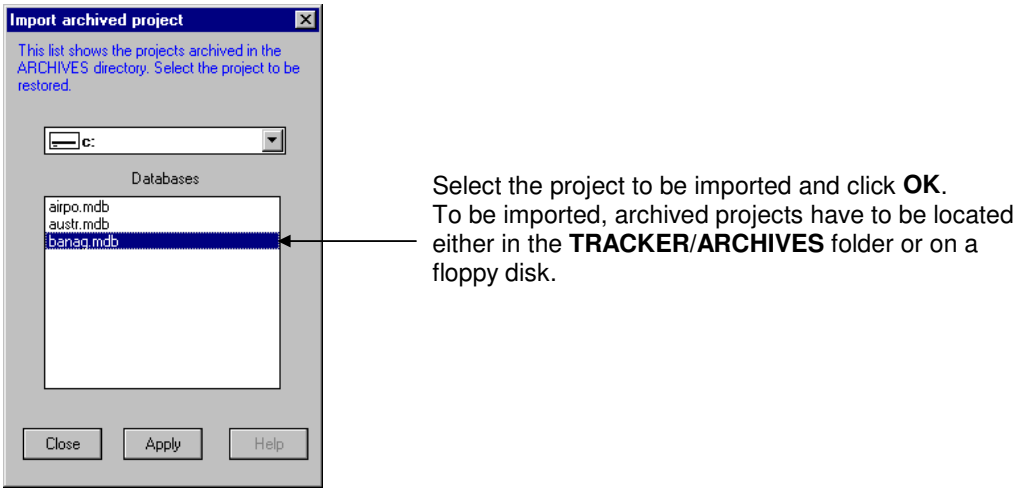


Figure 17-3

18 - MENUS

FILE MENU

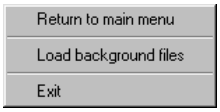


Figure 18-1

Return to main menu.
Select this option to return to the main menu without leaving the program.

Load background files.
Select this option to load a background file.

LOAD BACKGROUND FILES

Selecting the load background file menu will display this form:

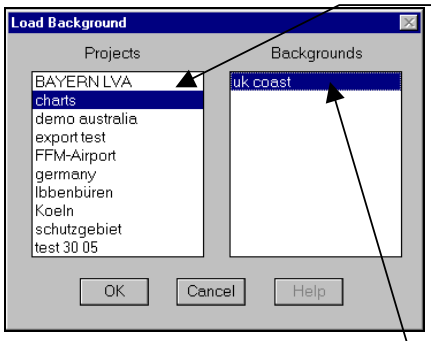
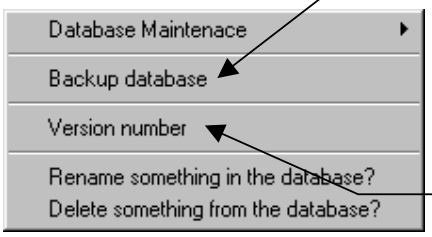


Figure 18-2

Select here the project in which the background was saved.
A backgrounds can be selected from any project and displayed with a flight plan from an other project. It is therefore possible to re-use graphics from different projects or to keep a library of valuable graphical information (restricted airspace, international borders, etc.).
Remark: A background is only displayed if it covers the project area currently in use.

Select here the name of the background.

DATABASE MENU



Backup database.
Automatically create a backup of your database in the directory **TRACKER\MDB\USERBACK\...**

Warning: It is the responsibility of the user to delete his old backups.

Check current database version number.

Figure 18-3

DATABASE MAINTENANCE

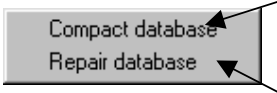


Figure 18-4

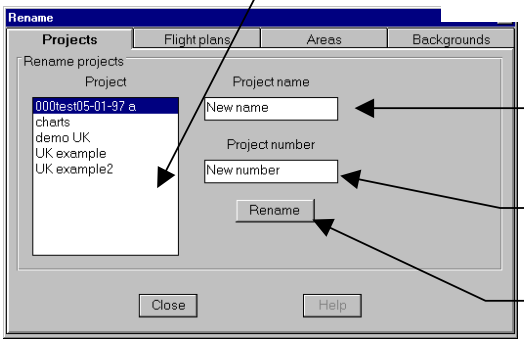
Use regularly this function to compress your database, thus decreasing its size and improving access speed.

Use this function if you encounter problems with loading and/or processing data. Problems with the database can be caused by abnormal program operation (power failure, etc.).

Warning: The following functions allow you to correct errors which happened during the flight. All changes are permanent and cannot be undone. There is no record of the modification kept in the database.

RENAME SOMETHING IN THE DATABASE

1. To rename, select either the project, area limit, flight plan or background file to be renamed.



2. Type new name.

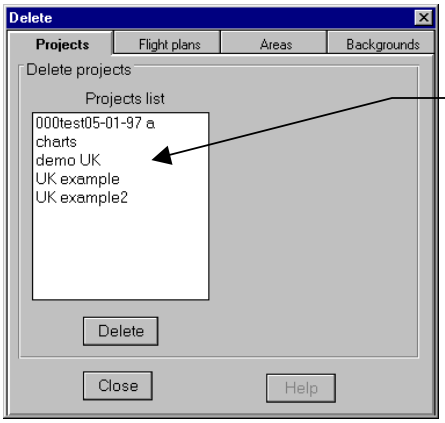
3. Type new number.

4. Press rename,

Figure 18-5

Warning: The following functions allow you to correct errors which happened during the flight. All changes are permanent and cannot be undone. There is no record of the modification kept in the database.

DELETE SOMETHING IN THE DATABASE



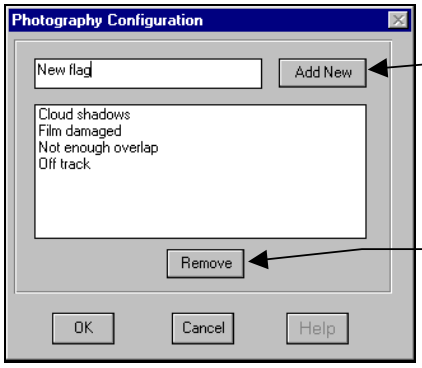
Select the project, flight plan, area or background you want to delete and press the delete button.
Warning: Items are permanently deleted and cannot be restored!

Figure 18-6

CONFIG MENU

Figure 18-7

Reject flags:
During the film inspection, it might be necessary to reject some photography. Use this menu to prepare in advance a list of common causes for rejection.



1) To add a new entry, type the text in this box add press the add button to add the new entry to the list and save it.

3) To remove an entry from the list, highlight it then press this button.

Figure 18-8

HIDE MENU

Selecting one of the entries will hide or show the corresponding drawing. This might be necessary when a large drawing is cluttering the display and slowing down the drawing functions.

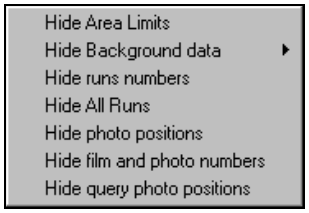


Figure 18-9

SUB PLANNING MENU

Refer to the topic **PREPARING SUB FLIGHT PLANS**.

EXPORT MENU

Figure 18-10

Use this function to export the current flight plan to snapshot.

TOOLS MENU

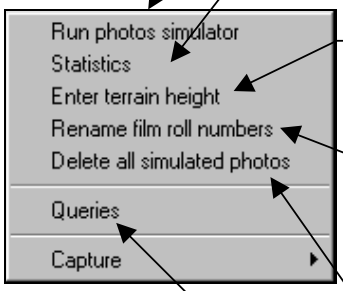


Figure 18-11

Run photo simulator.
Select this menu to start the photo simulator. Please refer to the topic **PHOTO SIMULATOR** in this manual for more details.

Statistics.
Select this option to display a window showing some useful information about the status of the current flight plan (see below)

Enter terrain height.
Use this function to keep a record of the terrain height for each run.

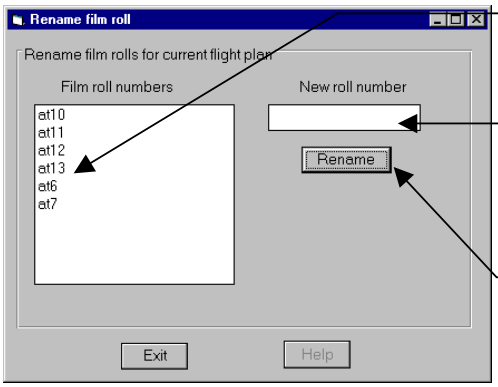
Use this function to correct film rolls numbers (see below).

Delete all simulated photos.
Press to remove the simulated photos contained in the flight plan. Actual photos are not removed.

Queries: Use to create colored overview displaying various information (flags, cause for rejection, etc.)
See the Queries topic for more details.

Warning: The following functions allow you to correct errors which happened during the flight. All changes are permanent and cannot be undone. There is no record of the modification kept in the database.

RENAME FILM ROLL NUMBERS MENU



1). Select the film to be renamed.

2). Enter its new name.

3). Press the **Rename** button.

Figure 18-12

STATISTICS MENU

This function displays the following dialog.

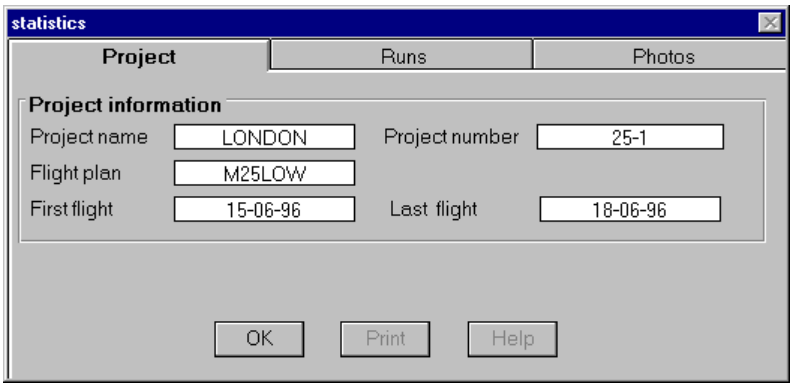
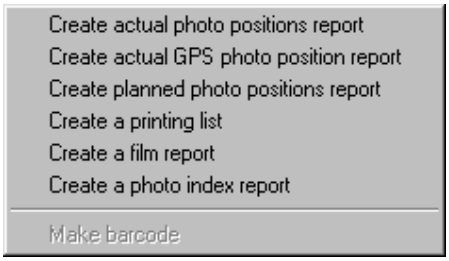


Figure 18-13

19 - REPORTS MENU



CREATE ACTUAL PHOTO POSITIONS REPORT

This function creates a list of all the actual photo positions:

For example:

Project number: oo1
Project name: airports

Run number: 1

Run attempt no: 1 Date: 4/6/97

4537 E 313701 N 379592
4537 054.65165 -006.23922
4538 E 313913 N 379695
4538 054.65252 -006.23590
4539 E 314118 N 379794
4539 054.65337 -006.23268
4540 E 314326 N 379895
4540 054.65423 -006.22942
4541 E 314533 N 379996
4541 054.65509 -006.22618
4542 E 314739 N 380095
4542 054.65593 -006.22295

Run attempt no: 2 Date: 4/6/97

4580 E 316592 N 381002
4580 054.66365 -006.19389
4581 E 316390 N 380903
4581 054.66281 -006.19706
4582 E 316182 N 380804
4582 054.66197 -006.20032
4583 E 315976 N 380704
4583 054.66111 -006.20355

CREATE ACTUAL GPS PHOTO POSITION REPORT

This function creates a report using the data recorded in flight from the GPS.

CREATE PLANNED PHOTO POSITIONS REPORT

This function creates a list of all the planned photo positions:

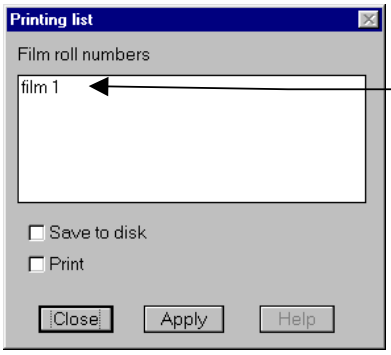
Project number: oo1
Project name: airports

Run number: 1
1 N 54.6517 W 006.2392
2 N 54.6525 W 006.2360
3 N 54.6534 W 006.2327
4 N 54.6543 W 006.2295
5 N 54.6551 W 006.2262
6 N 54.6560 W 006.2230
7 N 54.6568 W 006.2197
8 N 54.6577 W 006.2165
9 N 54.6585 W 006.2133
10 N 54.6594 W 006.2100
11 N 54.6602 W 006.2068
12 N 54.6611 W 006.2035
13 N 54.6619 W 006.2003
14 N 54.6628 W 006.1970
15 N 54.6637 W 006.1938

Run number: 2
16 N 54.6479 W 006.2372
17 N 54.6487 W 006.2340
18 N 54.6496 W 006.2307
19 N 54.6504 W 006.2275
20 N 54.6513 W 006.2242
21 N 54.6522 W 006.2210
22 N 54.6530 W 006.2177
23 N 54.6539 W 006.2145
24 N 54.6547 W 006.2113
25 N 54.6556 W 006.2080
26 N 54.6564 W 006.2048

CREATE A PRINTING LIST (LIST OF ACCEPTED PHOTOGRAPHY).

This function creates a list of accepted photography, which can be sent to the lab.



1. Select the film roll.
2. Select save to disk and/or print.
3. Press apply.

Figure 19-1

For example:

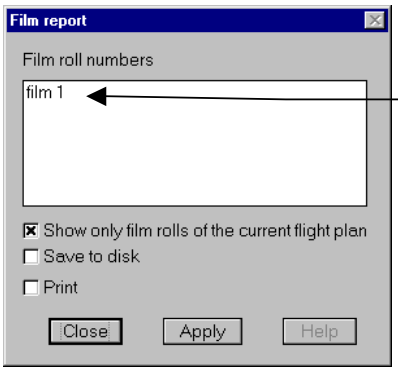
Printing list

Project name: Koeln
Project number: 1
Flight plan name: 4000
Date: 10-02-97
Film number: film 2

Run 1 152 - 157
Run 2 158 - 164
Run 3 165 - 181
Run 4 182 - 188
Run 4 189 - 191
Run 5 192 - 222
Run 6 223 - 252
Run 7 253 - 282
Run 8 283 - 312
Run 9 313 - 342
Run 10 343 - 374
Run 11 375 - 404
RUN 1 405 - 410

CREATE A FILM REPORT

This function creates a film report.



1. Select the film roll.
2. Select save to disk and/or print.
3. Press apply.

Figure 19-2

For example:

Film report for film roll: 9706
Date: 8/11/97

Project	Area	Run	Date	Scale	Course	From-To
Koeln	2000	1	10/6/97	2000	179	5066 - 5070
Koeln	2000	2	10/6/97	2000	359	5071 - 5079
Koeln	2000	3	10/6/97	2000	179	5080 - 5090
Koeln	2000	4	10/6/97	2000	359	5091 - 5100
Koeln	2000	6	10/6/97	2000	179	5101 - 5112
Koeln	2000	6	10/6/97	2000	359	5113 - 5121
Koeln	2000	7	10/6/97	2000	359	5122 - 5132
Koeln	2000	8	10/6/97	2000	179	5133 - 5141
Koeln	2000	8	10/6/97	2000	359	5142 - 5175
Koeln	2000	9	10/6/97	2000	179	5176 - 5189
Koeln	2000	9	10/6/97	2000	359	5190 - 5229
Koeln	2000	10	10/6/97	2000	179	5230 - 5287
Koeln	2000	11	10/6/97	2000	359	5288 - 5343
Koeln	2000	12	10/6/97	2000	179	5344 - 5398
airports	runways	1	10/6/97	2500	245	5012 - 5013
airports	runways	1	10/6/97	2500	245	5014 - 5027
airports	runways	1	10/6/97	2500	65	5028 - 5041
airports	runways	2	10/6/97	2500	342	5042 - 5051
airports	runways	1	10/6/97	2500	65	5052 - 5065
airports	runways	1	10/6/97	2500	65	5066 - 5079

Remarks: This file is a tab delimited file. Depending on the editor you use to view the file, the text might have to be reformatted.

CREATE A PHOTO INDEX REPORT

See chapter 22.

20 - CAPTURE MENU

(This feature is not required for normal operation)

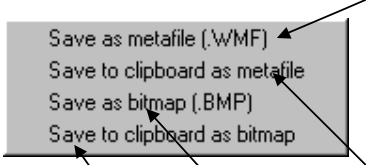


Figure 20-1

Select this menu to save the current display as a Windows **metafile**. A metafile is a Windows graphic file that can easily be imported into other applications. metafile can be scaled but cannot easily be edited.

Select this menu to place on the **clipboard** a copy of the current display in the Windows metafile format. A metafile is a Windows graphic file that can easily be imported into other applications. Metafiles can be scaled but cannot easily be edited.

Select this menu to save the current display as a Windows **bitmap**. A bitmap is a Windows graphic file that can easily be imported into other applications. Bitmaps do not scale very well but can be easily edited in a bitmap editor such as Paintbrush.

Select this menu to place on the **clipboard** a copy of the current display in the Windows bitmap format. A bitmap is a Windows graphic file that can easily be imported into other applications. Bitmaps do not scale very well but can easily be edited in a bitmap editor such as Paintbrush..

21 - OPTION : FILM ANNOTATION

The Tracker system supports film margin annotation for the Leica RC30 and Zeiss TOP.

OVERVIEW

The system was designed to provide maximum flexibility and ease of use:

- There is no special action to be taken to print the margin on the film, the system automatically communicates with the camera and instructs it to print the margin text.
- The text of the margin can contain plain text as well as data fields that are linked to the database. The value of these fields is automatically filled by the system.
- Different margin layouts can be prepared in advance with the help of the margin editor and selected at will before or during the flight.
- A standard default margin can be prepared once and for all. **snapSHOT** will automatically use the default margin if no other choice was made.
- All the variable parameters such as project name, time, run numbers, altitude, positions, etc, are automatically updated by **snapSHOT** when necessary.

HOW DO THE MARGINS WORK?

snapSHOT stores margin as a sort of template that uses a combination of plain text and place holders for the variable data (time, run numbers, altitude, etc).
The user types the plain text and the place holders are automatically filled by **snapSHOT**. For example, if you want to display the latitude, **snapSHOT** will automatically replace the latitude place holder NNNNNNNN by the actual value of the latitude.

The margin is prepared by picking blocks of information from a list in the order you want them to appear on the film. Each information block contains an optional caption (plain text) and a data field (place holder) which is automatically filled by **snapSHOT**.

For example:
GPS time GGGGGGGG
will be replaced by:
GPS time 13:03:24

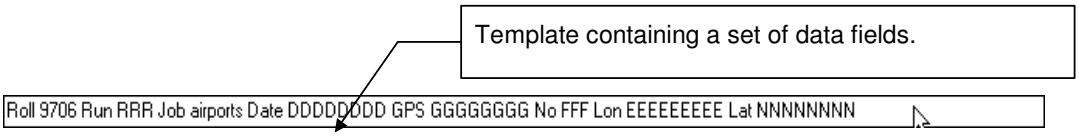


Figure 21-1

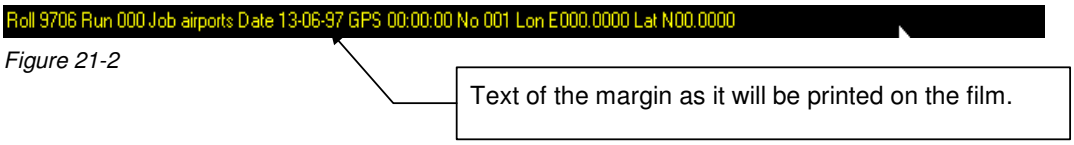


Figure 21-2

WHERE TO PREPARE THE MARGINS?

The margins can be prepared indifferently in **snapBASE** or in **snapSHOT**. In case the margin is prepared on a different computer than the one used during the mission, the margin will be automatically transferred along with the flight plan. The selected margin will be also automatically loaded and displayed in the camera. This allows the text of the margins to be prepared in advance in the office.

DEFINITION OF DATA FIELDS

The data fields are place holders (or templates) which are used by **snapSHOT** to recognize where the data has to be written. A data field is represented by one character repeated several times (HHHHHH).
There are 2 types of data fields:
Fixed length, such as the date or time.
Variable length, such as the project name or film roll number. The characters representing the variable length data fields are preceded by a @.
If you modify a data field in the editing window, it will loose its link to the database and will not work anymore.

DEFINITION OF FIELDS CAPTIONS

The data field caption is the title which proceeds the data, E.G. **JOB, TIME, FILM**, etc. You may edit the captions in the data fields caption panel. You can change the wording, the language or simply remove a caption that you do not want to display. The captions are stored in the database and are the same for all projects.

DEFINITION OF FREE FIELDS

Free fields are simply small strings of text which you can save to avoid retyping, E.G. **Copyright TRACK'AIR**

BEHAVIOR OF THE MARGIN

- There can be only one margin saved with each flight plan.
- If no margin has been saved then the system will automatically use the default margin.
- To disable sending the margin, deselect **Tracker sends data to right margin** on the EDI configuration panel.

PREPARING A NEW MARGIN.

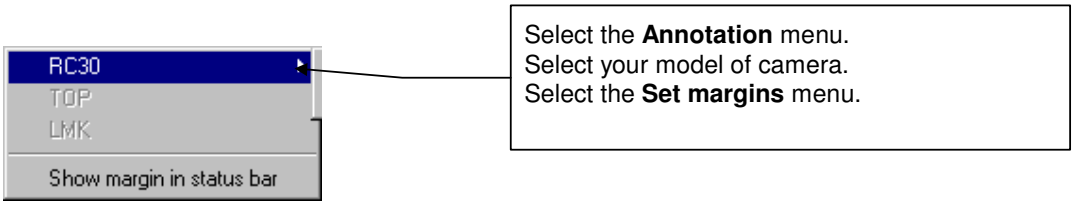


Figure 21-3

The margin editor will be displayed. It has 4 panels: **Prepare new margins, Data fields' captions, Free fields, and EDI configuration.**

Select the first panel **Prepare new margins** that is used to prepare, save and load the margin layouts.

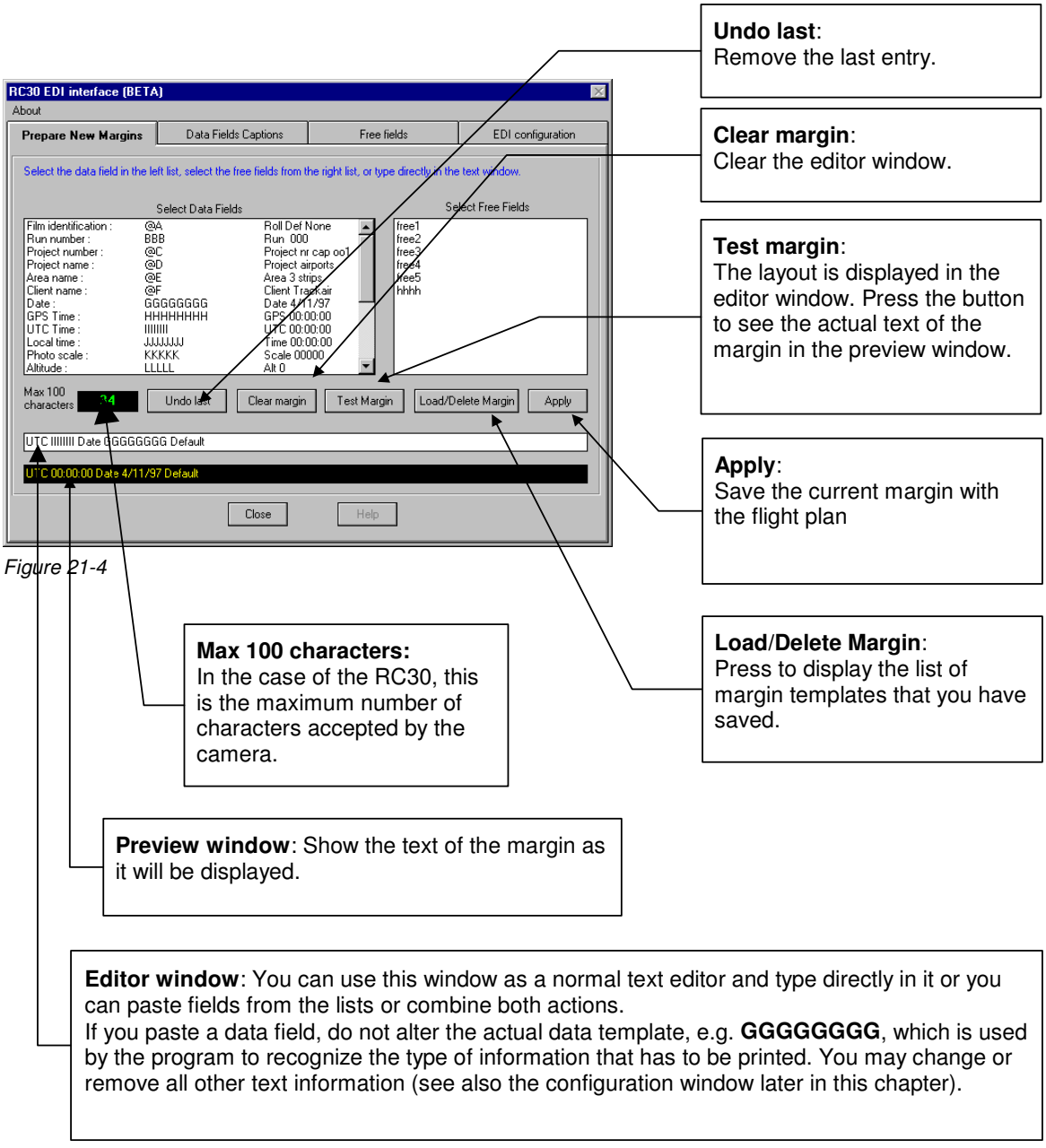


Figure 21-4

If this is the first time that the margin is used, **snapSHOT** will display a default margin in the text editor:
For example:
Area @EEEEE Date DDDDDDDD GPS GGGGGGGG Lat NNNNNNNN Lon EEEEEEEEE Run RRR
The @ characters represent variable length text, in this case the name of the area.
The DDD, etc. represent fixed length text, such as the time or the date.

SAMPLE MARGIN

To create a new margin layout, clear the editor window.
Follow this example:

First pick the Roll number in the data field list. The editor window will show:

Roll @AAAA
Add the run number:
Roll @AAAA Run RRR
Add the Job name:
Roll @AAAA Run RRR Job @DDDDDDDD
Add the time, lat, long, etc.
Roll @AAAA Run RRR Job @DDDDDDDD GPS GGGGGGGG
Roll @AAAA Run RRR Job @DDDDDDDD GPS GGGGGGGG Lat NNNNNNNN Lon EEEEEEEEE

At any stage you can press the **Test** button to see the actual text:

Figure 21-5

Once the margin is complete, press the apply button to make this margin the active one. You will be prompted to save the margin for later use:

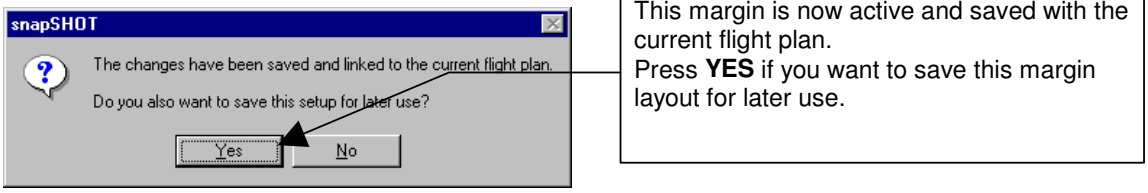


Figure 21-6

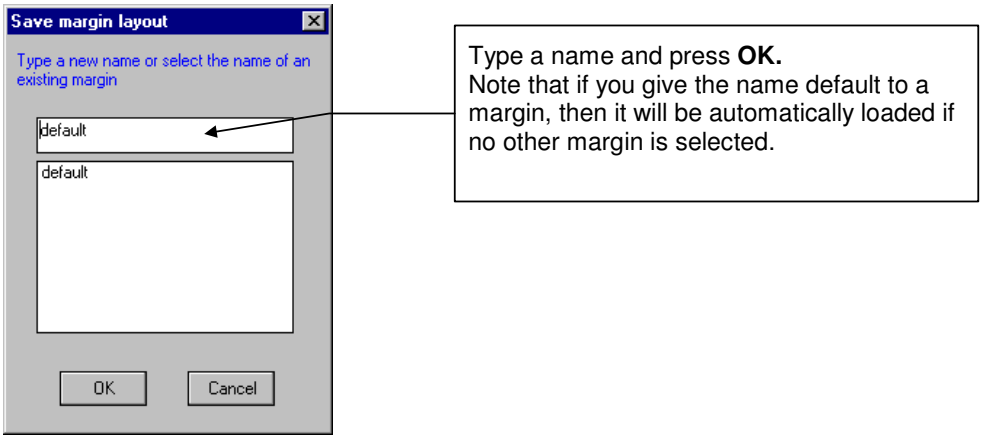


Figure 21-7

DATA FIELDS CAPTIONS PANEL

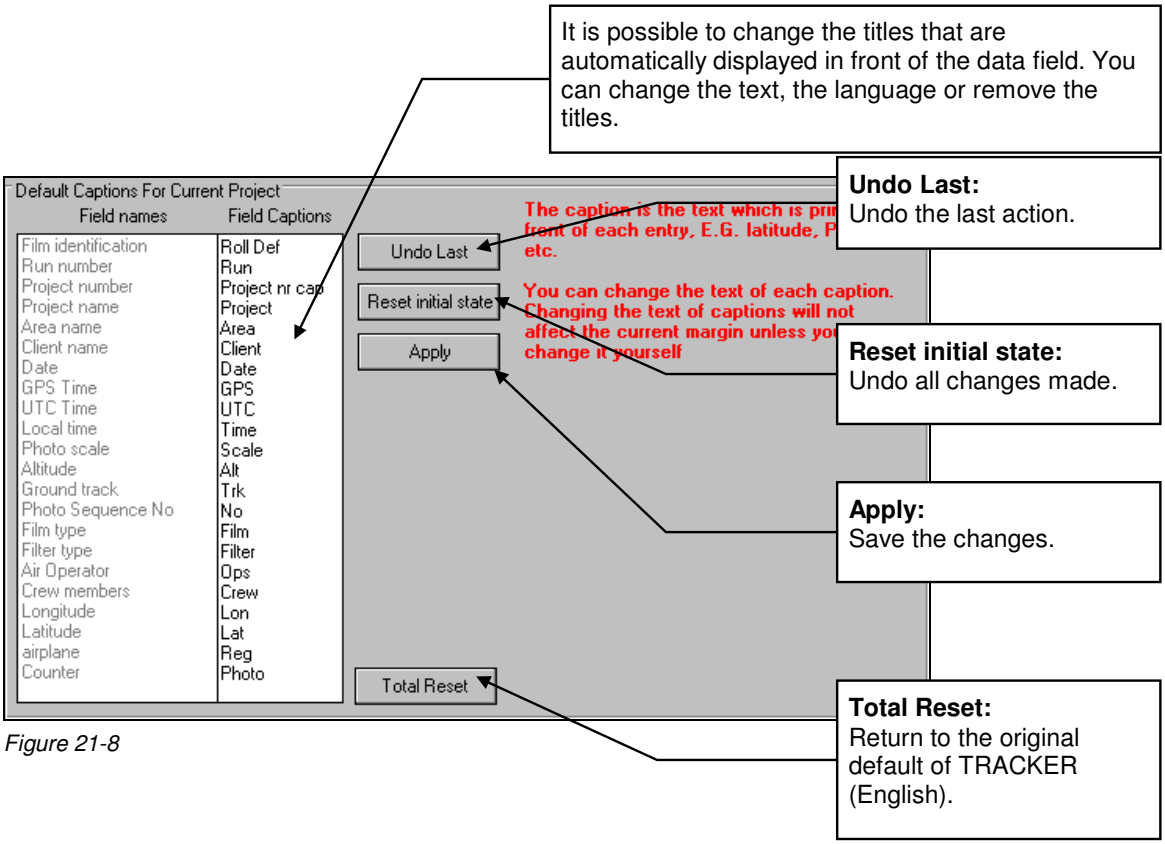


Figure 21-8

FREE FIELDS PANEL

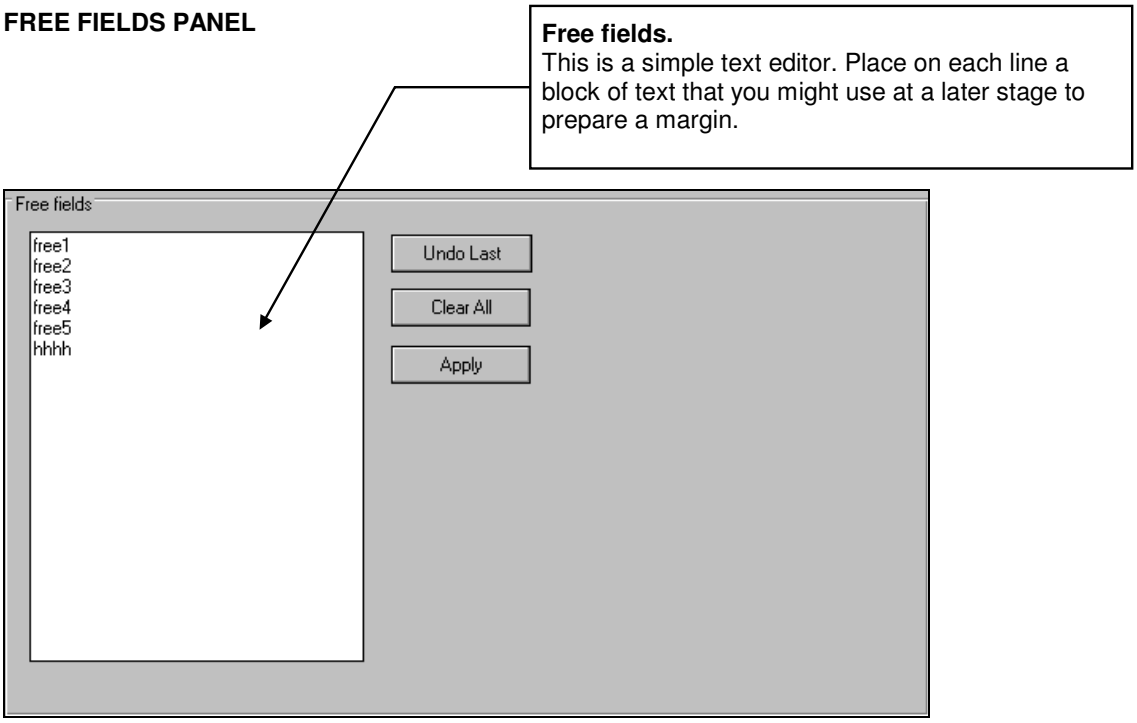


Figure 21-9

EDI CONFIGURATION PANEL (RC30 ONLY)

To configure the way the program interacts with the camera, select the last panel.

Tracker sends data to the right margin: When this check box is marked, Tracker will send the margin to the camera.
This is the default, do not change other than for testing purpose.

Camera sends Margin data after each exposure: When checked, the RC30 will send data after each exposure.
This is the default, do not change other than for testing purpose.

Camera prints internal data to the left margin: When checked, the RC30 will print its internal data to the left margin**.**

Camera sends line feed: When checked, the RC30 will send a line feed character after each line.
This is the default, do not change other than for testing purpose.

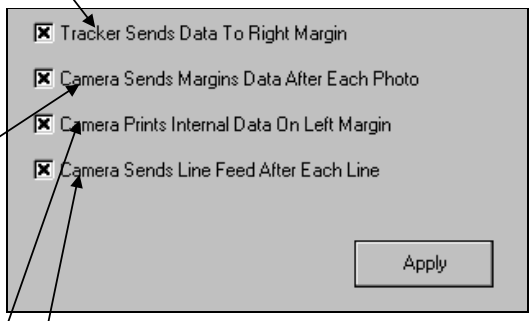
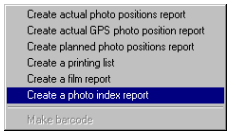


Figure 21-10

CABLES CONNECTIONS (RC30)

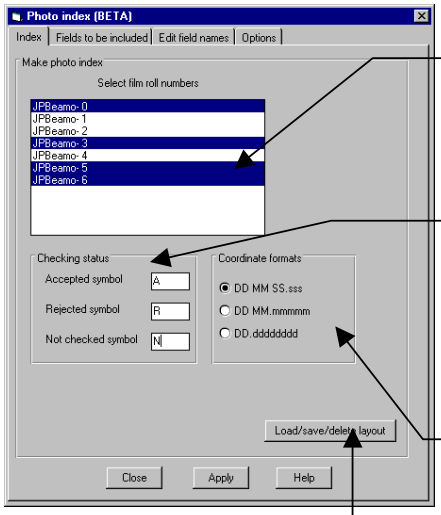
Figure 21-11

22 - PHOTO INDEX MENU



This function allows you to create customs reports using the standard comma delimited file format, which can easily be imported in any word processor or spreadsheet for further editing and formatting.

INDEX (TAB1)



Select film roll numbers
Select here the rolls, which have to be included in the report.

Checking status
If you want to distinguish photos which have been accepted, rejected or which are new, you can type a symbol, which will be printed in front of the photo number. For example, A for Accepted, R for Rejected and N for Not yet checked.

Coordinate formats
This is the format which will be used to print the geographical coordinates. For example:
DD MM SS.sss = 125 05 56.123
DD MM.mmmmm = 125 05.30234
DD.ddddddd = 125.3657789

Load/save/delete layout
You can prepare different layouts, save and retrieve them when required. Pressing this button will display the following dialog box:

LOAD SAVE DELETE LAYOUT

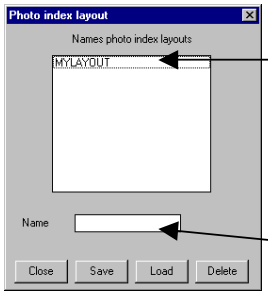
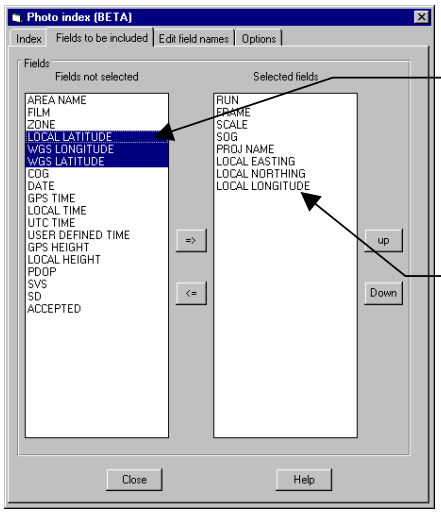


Photo index layouts names
This is the list of the previously saved layouts.
To load a layout, select it then hit the Load button.
To delete a layout, select it then hit the Delete button.

Type new Name
To give a name and save the current layout, type the new name, then hit the save button.

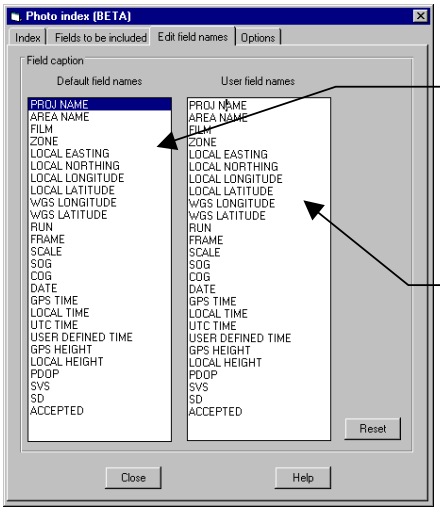
FIELDS TO BE INCLUDED (TAB 2)



Fields not selected
This list displays the items which are available in the database and which can be displayed in the report. To add some of the fields, select them then hit the => button

Selected fields
This second list displays the items, which have been select in the report. To change the order, in which the field will be presented, select an item and use the UP or DOWN button to change its place in the list.

EDIT FIELD NAMES (TAB 3)

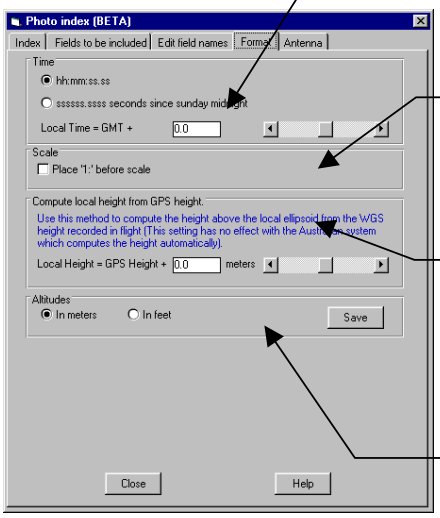


Default field names
This list displays the default field name used by the Tracker software.

User field names
If you wish to change the way the title fields appears in the report (language, etc.), type in this list the new word or spelling.

Use the **Reset** button to restore the English default.

FORMAT (TAB 4)



Time
Select the format used to display the times, hh:mm:ss.ss, hours, minutes and seconds or ssssss.ssss seconds since Sunday midnight (GPS time).

Local Time = GMT +
Enter here the offset between local time and GMT (UTC) time recorded by the GPS

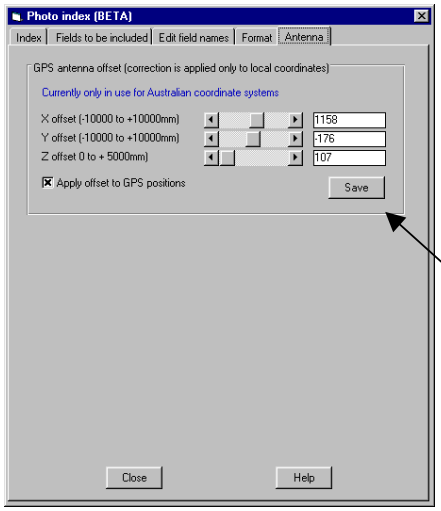
Scale
If you wish to display the photo scale with a 1: (as in 1:25,000), then select this option.

Compute local height from GPS height.
By default, Tracker displays the WGS84 height. If you know the difference between the local height and the WGS height, you can enter the value here.

Altitudes
Select here the unit used to display the altitude, feet or meters.

Save: Hit the save button to save these parameters.

ANTENNA (TAB 5)



GPS antenna offset (correction is applied only to local coordinates). FOR AUSTRALIA ONLY

Enter here the offset between the GPS antenna phase center and the camera projection center. These values should be accurately surveyed.

By convention, the X offset represents the lateral offset (across the aircraft axis) between the camera and the antenna. If one looks towards the front of the airplane, the offset is positive if the camera is left of the antenna, negative if the camera is right of the antenna.

By convention, the Y offset represents the longitudinal offset (along the aircraft axis) between the antenna and the GPS. If one looks towards the front of the airplane, the offset is positive if the camera is to the rear of the antenna, negative if the camera is to the front of the antenna.

The Z offset is the vertical separation between the plan of the projection center and the plan of the antenna.

Apply offset to GPS positions: Select this option to activate the correction.

Save: Hit the save button to save these parameters.

23 - NOTES