MOVING TERRAIN
Air Navigation Systems AG ®

Moving Terrain

Manual version 7.0 / 7.1 / 7.2 / 7.3 / 7.4 / 7.5

MTUP / 16 - 02 REV M Datum: 12. 09. 2008

Bei der Zusammenstellung von Texten und Abbildungen wurde mit größter Sorgfalt vorgegangen. Trotzdem können Fehler nicht vollständig ausgeschlossen werden. Herausgeber und Autoren können für fehlerhafte Angaben und deren Folgen weder die juristische Verantwortung noch Haftung jeglicher Art übernehmen. Für Hinweise auf Fehler ist der Herausgeber dankbar.

***

Wichtige Hinweise zur Nutzung und zu eventuellen Risiken bei der Anwendung von Moving Terrain:

Sie haben ein hochleistungsfähiges System zur navigatorischen Unterstützung erworben, das Ihnen das Fliegen in einer noch nie dargebotenen Weise erleichtern wird. Wir fühlen uns aber verpflichtet, Sie auf alle damit verbundenen Gefahren hinzuweisen, die unsere Testpiloten in Erfahrung gebracht haben.
Wir haben uns Mühe gegeben, das Moving Terrain System sorgfältig zu entwickeln und ein zuverlässiges Produkt zu erstellen. Das System wurde unter allen denkbaren Flugbedingungen erprobt. Dennoch, auch wenn Sie und wir zunächst keine Fehler mehr finden, wird jegliche Haftung für die Funktion des Systems ausgeschlossen.
Selbst wenn unser System zu hundert Prozent fehlerlos sein sollte, ergeben sich trotzdem Gefahren durch Fehlbedienungen und vor allem durch die Manipulation der GPS-Genauigkeit durch den Betreiber, das US-Verteidigungsministerium. Für die zukünftige Lizenzpolitik des GPS-Betreibers können wir keinerlei Voraussagen machen oder Garantien übernehmen.
Das Moving Terrain System ist ein VFR-Gerät. In keiner Weise ist es sicher, mit dieser Navigatonshilfe unter Instrumentenflugbedingungen zu fliegen, wenn Sie nicht alle vorgeschriebenen Navigationsgeräte in Betrieb haben und sich nach Instrumentenflugregeln auf Instrumentenrouten bewegen.
Ein nicht IFR trainierter und lizensierter Pilot, der in IMC fliegt, ist mit oder ohne Moving Terrain in Lebensgefahr!
Sie sind nach den Luftfahrtvorschriften verpflichtet, die entsprechenden aktuellen Karten in Papierform an Bord mitzuführen. Auch unsere Piloten haben die neuesten ICAO-Karten ständig griffbereit an Bord, obwohl wir in das System viel Vertrauen gewonnen haben.

WARRANTY AND LIABILITY ADVICE

This software is to faciliate your terrestic navigation only. It is not a certified aviation equipment and does not replace any aircraft instrument. You are explicitly cautioned to verify that the hardware employed is functioning correctly and does not interfere with the aircraft or other vessel in a hazardous manner. Data errors and computer errors are possible. This also pertains to the IFR

data and procedures implied in the respective modules. Human error can make the moving map, navdata or any supplemental information incorrect. The pilot in command remains the final authority on the accuracy and sufficiency of the hardware and software.

Warranty and Liability Disclaimer:
The manufacturer, distributor or sales agent resume no liability as to the correct function of the software, the availability of a reference signal (GPS) or the validity of the charts, navdata or any supplemental information like airport information a.o. Never will the manufacturer, producer, sales representative and neither of their staff be liable to you for any consequential incidential or indirect damages (including damages for loss of business profits, business interruption, loss of business information and the like) arising from the use of or inability to use the software even if any of the staff mentioned above has been advised.

There is no warranty, express or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose, regarding the software. The entire risk as to the results and performance of the hardware and software is assumed by you.

Notice:
For our IFR package a continuous improvement programm is being implemented. If applicable, please contact our Help Desk:

Tel: ++49 - 8376 - 9214-0

***

Moving Terrain ist ein registriertes Warenzeichen der:
Moving Terrain Air Navigation Systems AG
Sparenberg 1
D-87477 Sulzberg
Tel: +49 8376 9214-0
Fax: +49 8376 9214-14

Contents

I. General Information

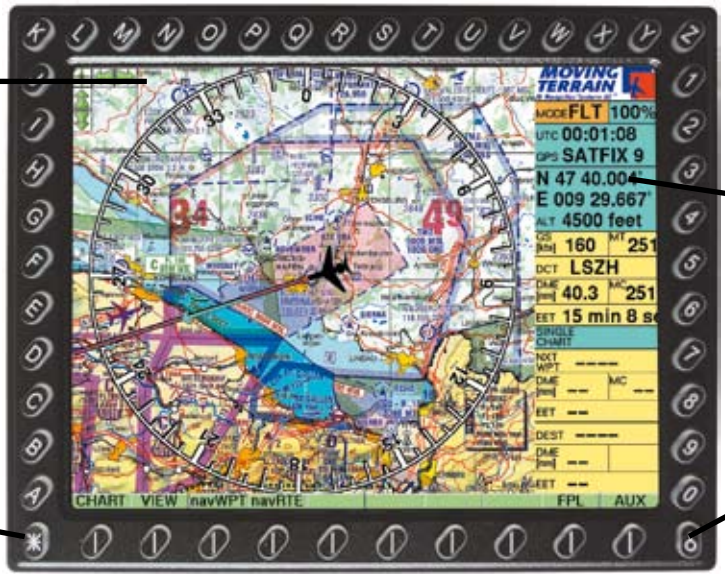
Above: Insertung the Simcard
(MT Blitzplan / Sat Radar)

Instrument Views

Front

Alphanumerical Keys

Map



Info Box

Switch to
Hardware-
Peripherals

ON / OFF
Switch

10 Function keys

Back

Fan

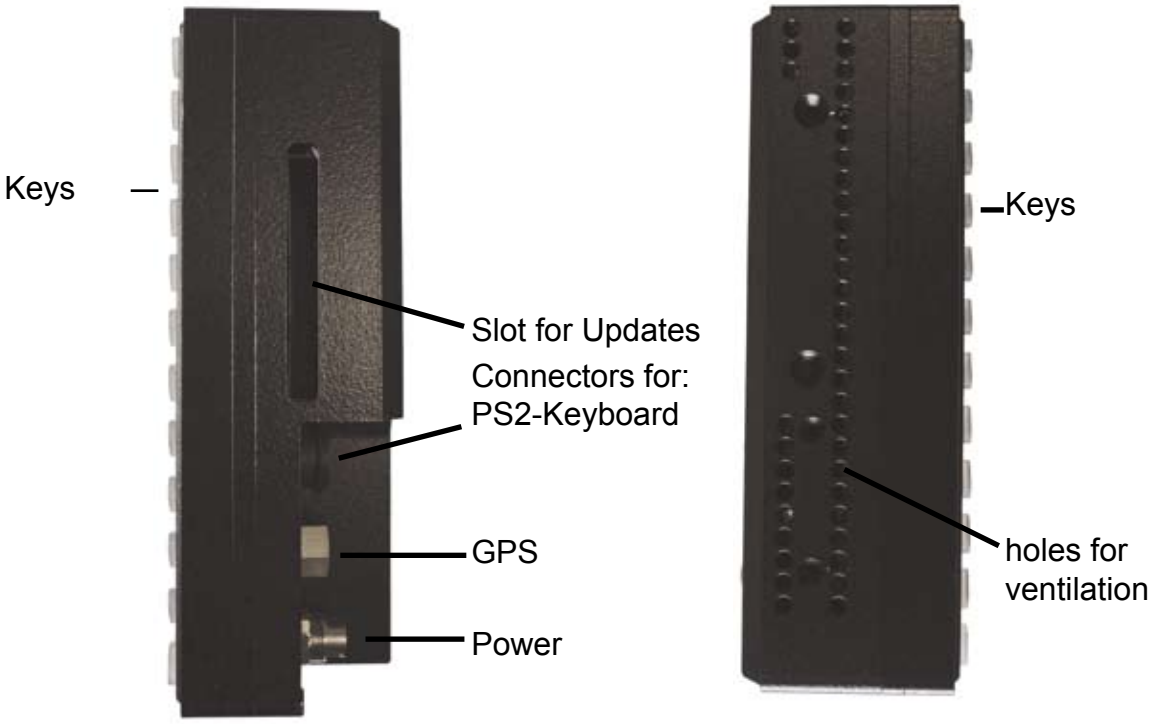
Connectors for
PS2 Keyboard

GPS

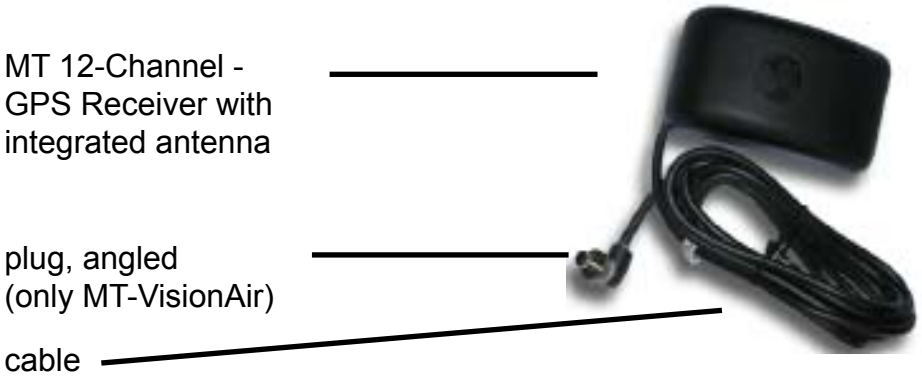
Power

Central Connector

Sides

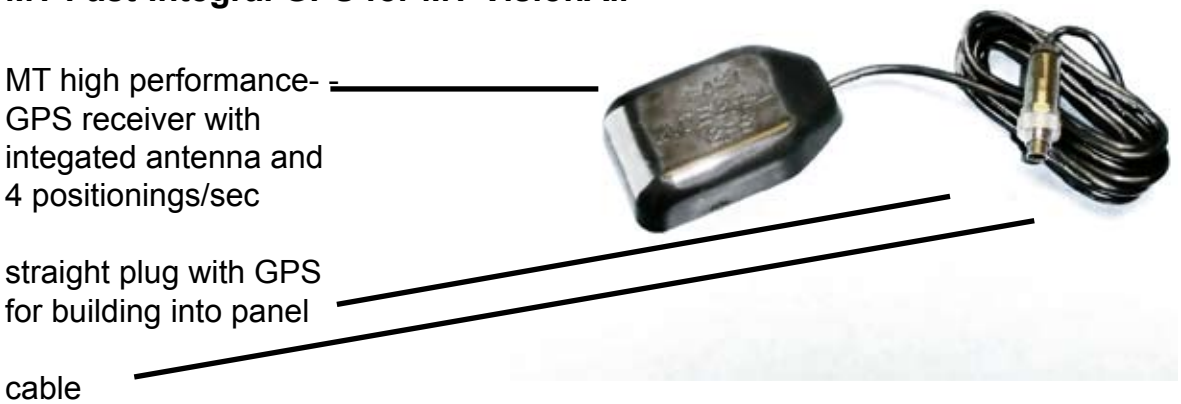


MT-Integral GPS for MT-VisionAir (EP, EP TSO)



straight plug with GPS for building into panel

MT-Fast-Integral GPS for MT-VisionAir



The Fast-Integral-GPS is pincompatibel with the previous MT-Integral-GPS. It has a higher data transmission rate and needs an adjusted software and an according entrance in the INI-file.

Connectors

To connect:	**GPS**	**4-pin Connector**
	Power	**2-pin Connector (aircraft power supply 12-28 V or mains power supply 230V)**

Power On

Power On: (also Power Off!)	**Switch**	**(bottom right) keep pressed for approx. 3 Sec**

Instrument starts.

Connection of a different GPS-Type:
- **GPS has to have a data output + cable (transmission of data to your MT-System).**
- **If your GPS does not have a data cable, please obtain one from your GPS dealer .**
- **A special plug for MT-Systems has to be soldered to the GPS (available from Moving Terrain).**

After the instrument has correctly been connected and switched on:

AGREE press key

You are now in **Flight Mode**.

The map will be positioned by GPS as soon as there are enough satellites available. The cross, which marks your position when motionless, will change into an aircraft-symbol when your aircraft is moving faster than 2 kts.

No further input is necessary.
We wish you a good flight!

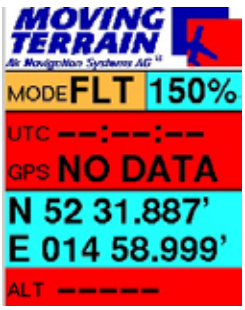
If the map is not positioned immediatly by your system, please check the following messages in the info-box:

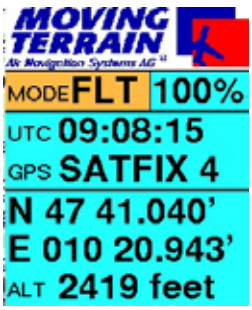
NO DATA: No connection to the GPS.

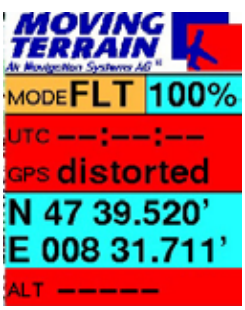
SATACQ: Connection to GPS is OK, but GPS found insufficient number of satellites.

SATFIX 11: Positioning possible. The number after Satfix shows the number of satellites found.

DISTORTED:
Data reception is distorted or a wrong protocol has been chosen.







Basics / Glossar

Essential structural features of Version 7.0

A. Changes to previous version 6.4/6.5:

1. MFD functions on the top level: First select the instrument you want to use, then go on to details. Functions like the BlitzPlan can be accessed from the first screen.

Level 1:

-Handling Basis Moving Map- -Important Modules-

Level 2:

-Additional Modules- -Secundary Functions-

2. The menu levels are displayed continually, so learning is more intuititive.

Menu level, i.e.:

3. Active Airport Philosophy: Once you choose to work with one aerodrome, it stays selected so that you only have to choose it once for Approach Charts, Approach Procedures and Terminal Waypoints.

4. Harmonisation of Flight- & Map Mode: No different windows. The maps can be handled by intuitive scroll-arrows.

5. The NAV page is divided into NAV-Route and NAV-Waypoint. On the NAV-WPT page there is no longer a NEXT-button. You can type in the APT-Identifier or the APTName directly, the system finds the AD from either inputs. On the NAV-RTE page the SIDs, STARs and APPROACHES or BlitzPlan-Routes are selected more easily than before. There are fewer submenues.

6. For those who don‘t have an recent update: The format of the radar-data has been changed last year by the supplier. Of course Version 7.0 is compatible.

B. News

We have used the change to implement many additional interesting ideas from pilots and customers.

1. Can I print my Flight Plan or my Approach Charts on board to be legally on the safe side?
Yes, you can. Even screenshots of Base Charts are possible.

2. Nearest Airport?
Yes, the 3 Nearest Airports will be displayed including Trend Vector, Distance, and Time, plus an Emergency Approach Circle with 1,5 nm radius, 1000 ft over the AD.

3. Automatic Airport Chart at landing?
Yes. It replaces the selection list for multiple charts, which were useful for a lot of pilots but too complex.

4. Better Status-Messages for BlitzPlans.

All news are marked in the manual with a Delta-sign.

Δ

Δ

Tips and features are marked with an !.

!

Basically the two Basic Modi have to be distinguished:

Map Mode
The user controls the map:
The map can be moved by pressing the buttons over/next to the arrows in the left or right top corner = scrolling (used for planning before the flight).

Flight Mode
The GPS controls the map:
The map can‘t be moved by buttons and will be loaded automatically onto the actual position as soon as a sufficient amount of satellites is available.

Saving the settings
To reduce the amount of writing cycles, the actual configuration will only be saved, when at least one essential parameter has changed since the last saving and the modem is idle. This change of configuration will be checked after 3 seconds.

Essential Parameters are:
StartMode (Flight or Map)
actual BaseChart
SingleChart Selection
OffCenter
actual Direct
actual Route
Zoom
MFD-Range
MFD 360 or 120
Brightness
Contrast (Gamma)
Wpt Display
Metric (nm bzw. km)
DialUp Profile
RotateMap
CourseRose
NVG
TAWS Altitude

When you switch off the appliance after changing one of the parameters named above, the settings are saved. Only when you want to put the appliance back into the basic mode, you have to leave the program by AUX - RESET.

Glossar

Base Chart
One chart containing several sheets for larger regions. Displayed in the seamless flowing system (one large map), available worldwide in several scales. Examples:
ICAO Europa 1:500 000, Heli Austria 1:300 000

Single Chart
Single sheet map for a specific region. Examples: Approach Charts, Area Charts or self digitized maps. If you want your own maps digitized, contact us!

Navdata
Worldwide VFR/IFR database for choosing VORs, NDBs, APTs and Enroute Waypoints for creating VFR/IFR flightroutes, independent from Base or Single Charts.

Modules
Additional functions for the Moving Map, which can be activated seperately and are not included in the basic version. Some are not available for the MT-Ultra.

MT-Symbols

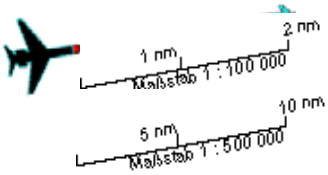
Position symbol
Position in the center of the cross, only in Map Mode. When using the scroll arrows (in the top left or right corner) the direction and speed you are going is indicated by the color on the symbol.

Warning symbol
No Data received from GPS, only in Flight Mode.

Warning symbol
Corrupt Data received from GPS, only in Flight Mode.

Position symbol
Shows the current position with at least 4 satellites in Flight Mode when speed is less than 2 knts.

Aircraft symbol
Appears at a speed over or equal to 2 knots. The position is marked by a red dot at the front.



Trend vector
Light blue arrow: shows an extension of the airplane. On a scale of 1:500000 the tip of the arrow has a distance of 10 nm to the actual position, on a scale of 1:100000 2 nm.

User Waypoint
Green Diamond: Identifier displayed in box

Obstacles
Will be displayed in the map as layer, when the respective database is available.

Vectors

blue	=	Power grid (only with database)
red	=	cable car or power cable (only with database)
white	=	Route
cyan	=	Direct Vector
magenta	=	active route segment

Frequently asked questions

Q: I have SATFIX with several satellites but the map isn‘t moving.
A: You have to be in FLIGHT MODE to activate the Moving Map function. In the basic menue press the corner buttons K or Z to get to the FLIGHT MODE.

Q: My appliance doesn‘t position itself and the infobox shows NO DATA?
A: When you use a GPS not supplied by Moving Terrain, check if your GPS is switched on, all cable connections are correct and that it transmits the correct protocol.

Q: In which voltage range can I use the MT-VisionAir?
A: From 12 to 36 V.

Q: How much power does the MT-VisionAir need?
A: approx. 15 W.

Q: Where can I see which software version I am using?
A: When you start your system, the first page displayed is our License Agreement. In the top right corner you can see the Software Version.

Q: Where can I see the serial number of my appliance?
A: On the back of the appliance is a label with the serial number:
MTXX/00-YYY-ZZ-SSS where YYY is your serial number,
or MTUP/00-3.60-2- S/N 99YYYY.

Q: When I want to purchase additional modules, do I have to send the appliance to Moving Terrain?
A: Some modules can be activated via telephone, fax or e-mail:
TRACK LOG
ROTATING MAP
Others need additional hardware components or an initial in house installation.

Q: When I switch on the appliance, I don‘t see a map but a gray background.
A: You are outside the coverage of the map. I.e. you have activated „Deutsche Generalkarte mit Flugsicherungsaufdruck 1:200 000“ and your position is outside Germany, a gray background is displayed until you fly into the area of the map. As the VFR/IFR database is very large, choosing a wrong WPT can also result in a positioning outside the map coverage. Please check the plausibility of your WPTs by coordinates.

Q: You pressed the wrong button when looking for a WPT?
A: Press <DOWN> once and start again. In certain areas of the program you can use the button DEL to delete a single character (for example flight plan via BlitzPlan).

Q: How can I delete a Direct?

A: Under <AUX> <SETUP> there is a button <DCT - >. By pressing this button the selected Direct will be removed.
There is only one active DCT, setting a new DCT replaces the old one.

Q: How can I delete a NEAREST?
A: Under <AUX> <SETUP> there is a button <NRST - >. It deactivates the NEAREST function until further activation.

Q: The screen is dark at reboot, you can hardly see anything.
A: Pressing any button (except the AGREE button) will resume the original brightness.

Q: There is no ENTER button. How can I confirm something?
A: The confirmation is replaced by a specific command, for example in GOTO or DCT, in SHOW or SEL, an additional ENTER isn‘t nescessary.

GOTO	going to a specificly choosen point
DCT	Set a DIRECT to a choosen point
SHOW	Showing a Single Chart
SEL	Preselection of a Single Chart, which will be activated, when you fly into the area for which the map is referenced.

Q: I am on the overview map for Europe. How do I get back to the ICAO map?
A: Press

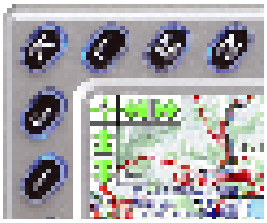
- CHART
- SING.CH, if you are not on the „Single Chart Selection“ Page
- choose the category OVERVIEW with the button << or >>
- and deselect the map „EUROPE“, by pressing UNSEL

II. Basics

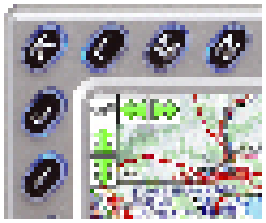
1. MT Basics

1.1. Switching between Flight Mode and Map Mode

- FLT Mode automatically active at start up of the system
- Active mode is displayed at top of the Info box
- Switching mode is possible with key K and is displayed as follows:



Switch to FLT Mode



Switch to Map Mode

1.2. Scrolling maps

General:

- Scrolling is accomplished in Map Mode. Switching from FLT Mode to Map Mode is not necessary. Switching to Map Mode is automatic when the arrow keys are pressed.

Handling:

- Arrows are displayed at top left, pressing the keys above/beside the arrows move the map – scrolling (I/J = below/above, L/M = left/right, K = Map or Flight Mode)
- The same function is in the top right corner but without arrows displayed on the screen (2/1 = below/above, X/Y = left/right, Z = Map or Flight Mode)
- Scrolling speed can be adjusted by repeated pressing of the arrow key for faster scrolling, pressing opposite key slows down scrolling.
- Scrolling speed is displayed as a red bar in the cross hairs (short bar = slow, long bar = fast)
- Stop key below letter K stops the map

STOP = stop map scrolling

- Diagonal scrolling is started by pressing arrow keys up/down and left/ right.

1.3. Key D for Direct Update

For a quick update of the DIRECT you can access the DCT Update from the top menu level by pressing the key D.

1.4. Display of the structure in the MT menu

- The menu structure is displayed at the lower left:

- Important links can be reached at the top level, e.g. radar, TAWS, TCAS and FPL
- NAV Waypoint and NAV Routes are separate, thus structured and easy to understand and reach

1.5. NEAREST Airport

General:

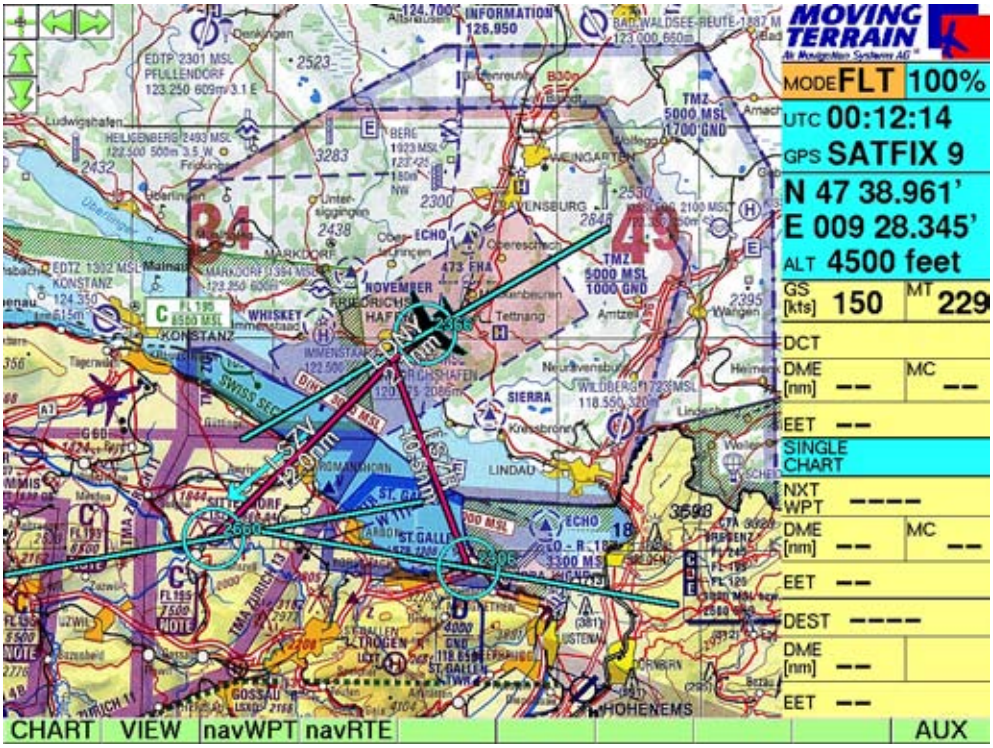
- Shows the three nearest Airports to your current position within a radius of 1,5 nm around the APTs
- Centerline lengthened to 10 nm
- Elevation + 1000 ft
- with DCTs to the APTs with identifier and distance
- the DCTs are carried along

!

The NEAREST APTs stays the same until you request the NEAREST again!

Handling:

Nearest Airport is now activated by pressing **N on the main page** (=toolbar: CHART/VIEW/navWPT/navRTE....)



!

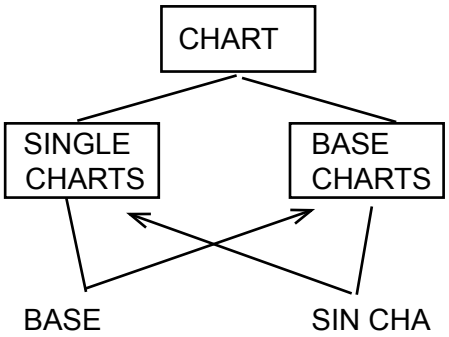
1.6. Deleting NEAREST

Nearest can be deleted via AUX SETUP NRST-

- AUX
- SETUP
- NRST-

From version 7.5b on Deactivation of the **Nearest Airport** by pressing N on the main page again.

2. CHARTS



General:

Base Charts
Seamless charts for large areas: Select by positioning the bar on the required chart and press USE.

Single Charts
Typically airport charts, but also IFR charts from the EFB

Handling:

- Base and Single Charts are selected with the menu button <CHART>

2.1. Selecting a Basechart

- Available base charts can be selected by moving the green bar with <UP> and <DOWN> (in many cases there is only one base chart, the Europe ICAO 1:500,000)
- To confirm press menu key <USE>
- The system automatically switches to the selected chart

2.2. Selecting a Single Chart:

- Single charts can be selected one menu level lower under <CHART> and then <SING.CH>
- First select a category (e.g. VFR-GER) using the keys << and >>
- Enter airport ID via the keyboard or by using keys UP/DOWN in the list
- Preview facilitates orientation
- <SEL> selects the chart, which is automatically displayed when you fly into the area for which the chart is referenced
- The Info box displays the selected chart

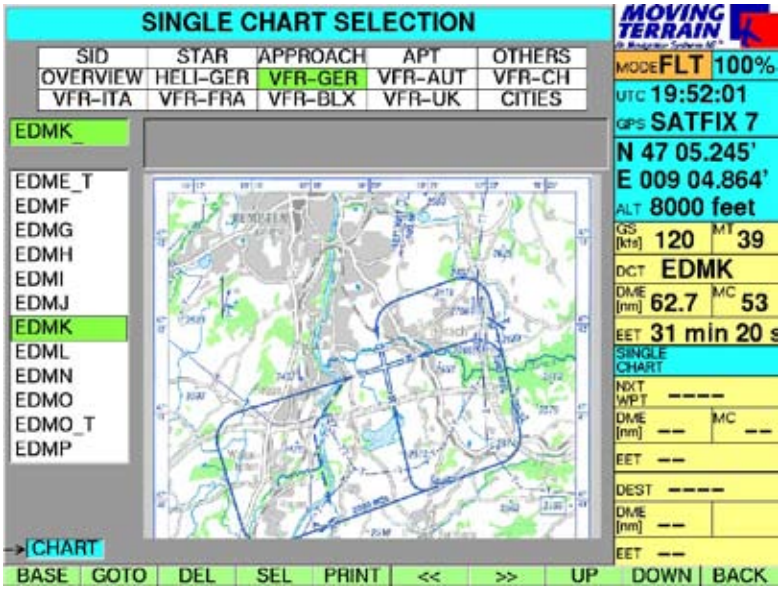
Tip: In the Off-Center Mode the approach chart is displayed earlier, a switch is accomplished under <VIEW><OFF-C>

2.3. Further functions: GOTO / HIDE / UNSEL / PRINT

- GOTO jumps to the chart
- HIDE suppresses the chart without resetting the preselection
- UNSEL deselects the chart
- PRINT prints the chart in a file which can be transferred via CF (Compact Flash)

!

Tip: Direct to an airport automatically loads the appropriate VFR approach chart in the list, select with SEL.



Jeppview VFR Approach Charts

A special category of Approach Charts are the Jeppview VFR Approach Charts

- choosing VFR by the buttons << and >>
- type in the identifier or name of the APT with the keyboard on the frame and confirm it with SEL

!

- choose from the listing by pressing the buttons UP/DOWN
- <SEL> selects the chart, which is automatically displayed when you fly into the area for which the chart is referenced

2.4. Europe Overview Chart

- **Europe overview** chart is a special Single Chart
- It is located in the category Overview: **EUROPE**
- Chart is required to view long routes or to observe weather over a wide area
- Technically the Europe chart is “higher” than the ICAO chart and since it is referenced for all of Europe, it is not automatically hidden like an airport chart.
- Active suppression by the pilot using HIDE or UNSEL is required.

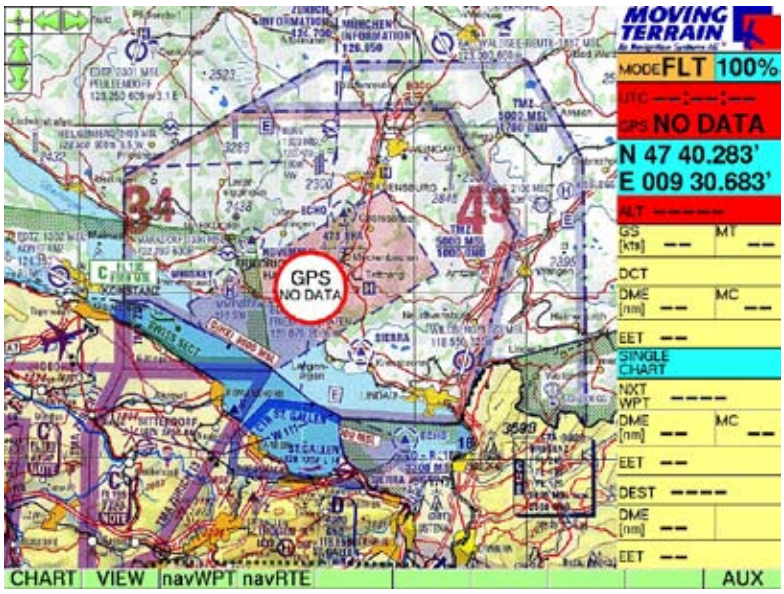
3. VIEW

General:

In this menu all settings are made regarding the display of information. Screen settings such as brightness are located in the menu <SCR> (= Screen)

Handling:

- The <VIEW> menu is located at the top level



3.1. Zooming

3.2. Switch to MFD (Multi Function Display)

- - 50% zoom out (ICAO Europe only)
- + 150% zoom in
- MFD switch to MFD Mode without chart
- - Range setting analogous to ZOOM with indication of required range
- - MAP return to chart
- RNG 0 = 100 NM
- toggle key: ARC / 360: display arc or circle
- 100% quick switch to 100% scale
- INFO- / INFO+ display or hide the Info box at the right edge

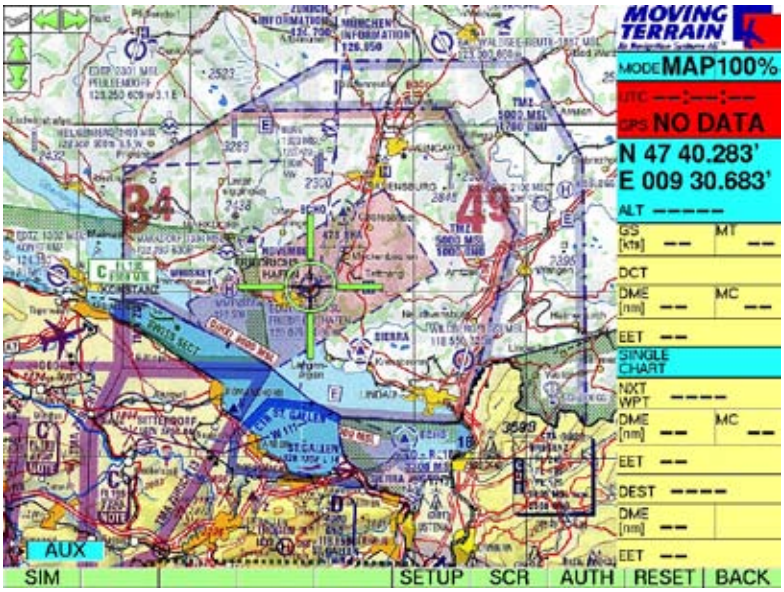
Ranges for MFD mode

nm	km	nm	km
1	2	100	200
2	5	150	300
5	10	200	400
10	20	250	500
15	25	300	600
20	50	400	800
25	75	600	1000
50	100	800	1500
75	150		

3.3. Additional functions available only in FLT Mode: Compass card, center/off-center, rotating chart

- CRS- / CRS+ — display or suppress compass card
- CENTER / OFF-C — aircraft position = red “nose” of the aircraft in the center or offset to the side
- ROTATE / N-UP — (must be activated)
- TRKUP / PLAN — toggle key: TRKUP / PLAN: small window in Info box

4. AUX



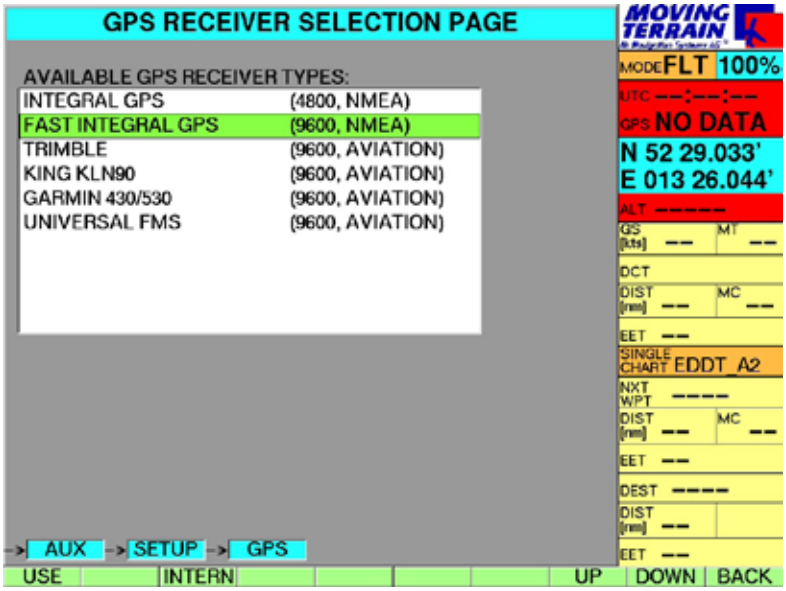
4.1. SETUP

Delete Nearest APT, Direct, WPTs on screen, Switch between nm and km, Setting of GPS-System to be used

- WPT- delete user WPT symbols on screen
- NRST- delete Nearest APT function
- DCT- delete Direct
- DATES display date of obstacle database
- KM switch to metric system (return with NM)

type of data	classical	metrical
ground speed	knots	km/h
cruise speed	knots	km/h
flight altitude	feet	m
elevation	feet	m
range	nm	km

-
- GPS selection of the GPS-system to be used with the according baud rate, Setting with USE



4.2. SCR

Adjust screen setting to environment
Set screen brightness

!
- RESET — return to brightest setting
- NIGHT — darken screen to brightest night setting. Further darkening with LUM -
- DAY — brighten screen to darkest day setting. Further brightening with LUM +
- NVG — (must be activated)
- LUM - — reduce brightness
- LUM + — increase brightness
- CON - — reduce contrast
- CON 0 — contrast back to 0
- CON + — increase contrast
- BACK — return to 1st menu level

Tip:
If the system was dimmed during a night flight, it will start up for the next flight at dark setting.
If you are unable to read the AGREE page properly, press any key except AGREE and the brightness will be reset. Then start the program with AGREE.

4.3. AUTH

Authorisation of further modules

- To activate further modules press this key for approx. 3 seconds. This opens the License Manager (dark screen).

-> Please see detailed description under authorisation menu (item 13)

4.4. RESET

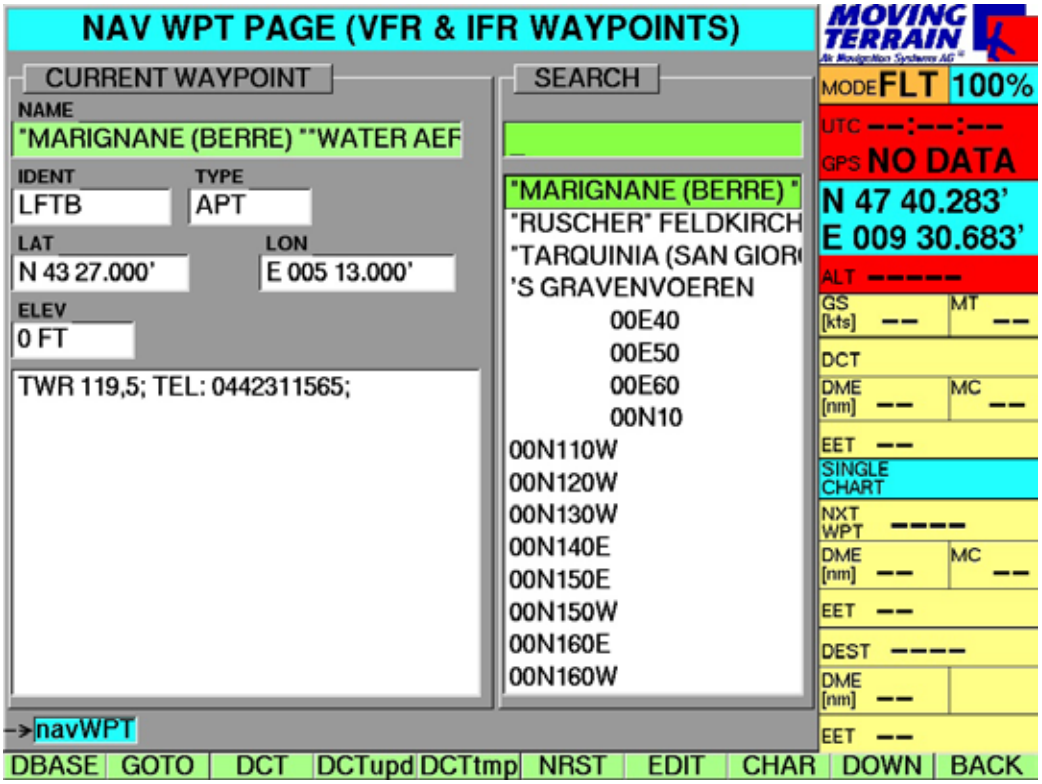
- To return to original state press this key for approx. 3 seconds.
- Then restart of the system is required.

4.5. BACK

Return to 1st menu level

5. Selection of waypoints for direct or flight planning: NavWPT (VFR Menu)

5.1. NAV WPT PAGE (VFR & IFR Waypoints or User Waypoints)



- Enter name or simply ID via keyboard

General :

- Common list of names and IDs
- Enter via keyboard

Handling:

5.2. DBASE: Select database

e.g.:

- VFRIFR Worldwide VFR and IFR database with APTs, NDBs, VORs and IFR waypoints
- TRML Selection of Active Airport
- USER User defined waypoint database
- Streets and house numbers (e.g. BAV S)
  Special database (must be purchased separately)
  Please see separate operating instructions!

- To switch database press <DBASE> and select database. The template of the selected database will be opened automatically, allowing selection of the required waypoint.

- The name of the database is displayed at the top in the blue title line. To switch to a different database repeat the previous step.

- The waypoints/airports can be entered via the fully spelled out name or the ID.

5.3. GOTO: moves the cursor to the selected point

Tip:

!

As the database is very large and different waypoints worldwide can have the same name, check the plausibility by the coordinates. Should your screen turn gray, you are outside the chart coverage.

5.4. DIRECT: Direct track to the chosen point in the database

- DCT Direct track (line in magenta, calculation along great circle route)
- DCTupd update DCT from current position
- DCTtmp reverse DCT: a point on the chart is marked by holding the key and the Direct To the current position is continuously calculated (rarely used!)

5.5. Direct update

- **Direct Update** can be chosen with the letter **D on the main page** (=control-

!

trolbar: CHART/VIEW/navWPT/navRTE....)

Tip:

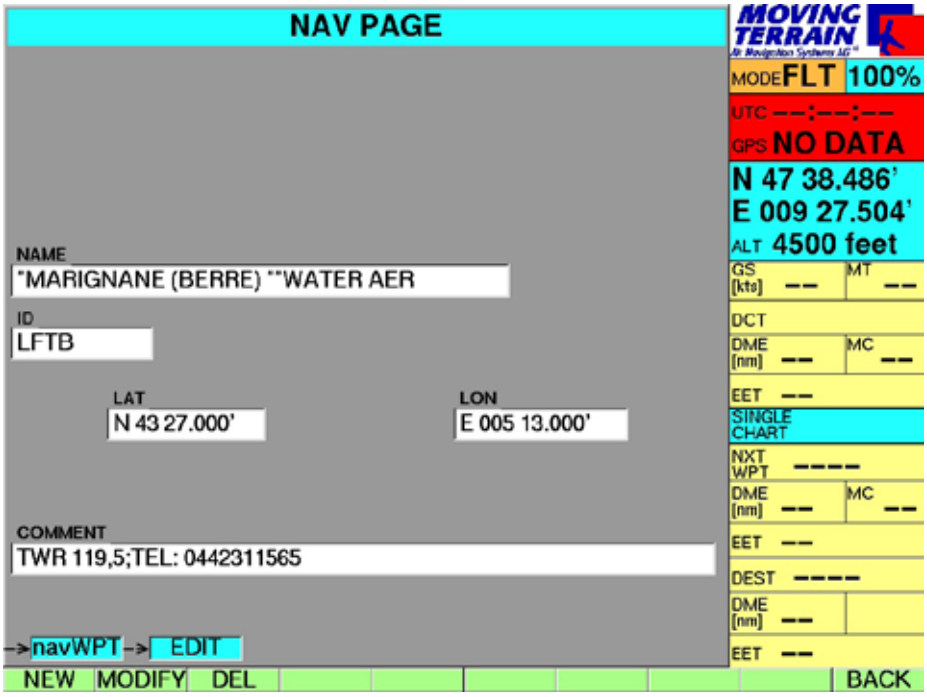
Setting Direct to an airport causes selection of the appropriate VFR approach chart (in case it is available in the system)
This has to be selected manually. Select with <CHART> <SING.CH> and confirm with <SEL>.
With flightplanning (navRTE) the chart is selected automatically.

5.6. Direct can be cancelled

via AUX SETUP DCT-

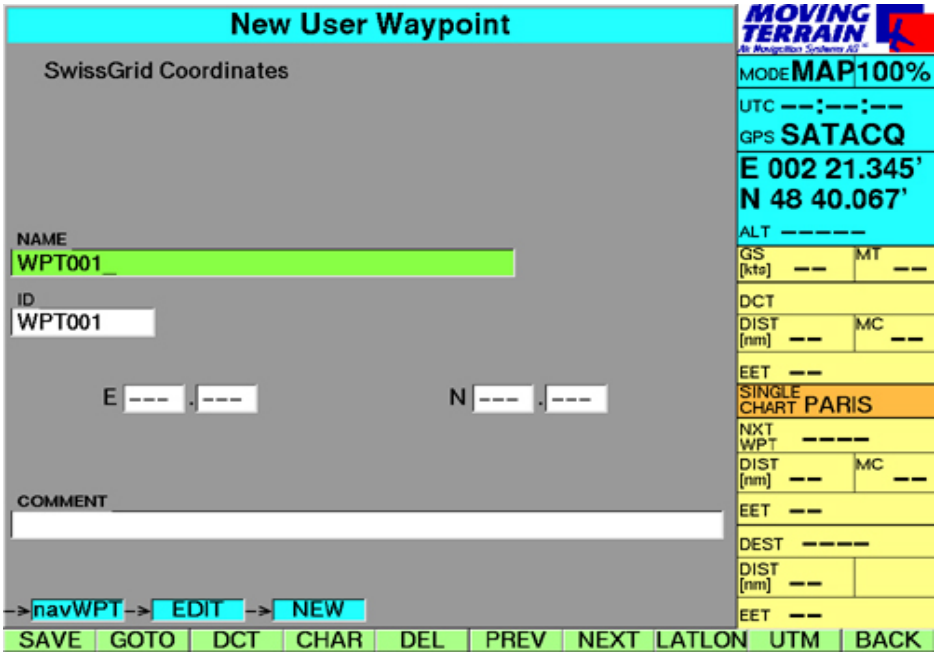
5.7. EDIT: Create and edit an user waypoint

Edit user database



Handling: Creating a waypoint

- EDIT
- NEW



- The coordinates of the current position are automatically entered. An arbitrary name and an ID can be assigned. A comment such as frequency or telephone number can be entered in the comment field.
- Press key NEXT to move to next field and enter appropriate data.
- To create a waypoint with defined coordinates, these can also be modified.

!

Tip:
To define multiple waypoints it is recommended to attach an external PS/2 keyboard. An unlimited number of waypoints can be defined, there is no limit!

Further keys:

- SAVE — save the waypoint.
- GOTO — go to the waypoint
- DCT — set Direct from current position to the waypoint
- CHAR — special characters such as space . - / ( )
- DEL — delete
- PREV — move cursor to previous field
- NEXT — move cursor to next field
- UTM — switch coordinates system to km
  -> LATLON to return
- BACK — return to NAV WPT PAGE

Handling: Editing a waypoint:

- navWPT
- DBASE -> USER
- Select waypoint to be edited
- EDIT
- MODIFY

Make required changes and SAVE

Handling: Deleting a waypoint

- navWPT
- DBASE -> USER
- Select waypoint to be deleted
- EDIT
- DEL

5.9. CHAR: Entering special characters for the search of WPTs

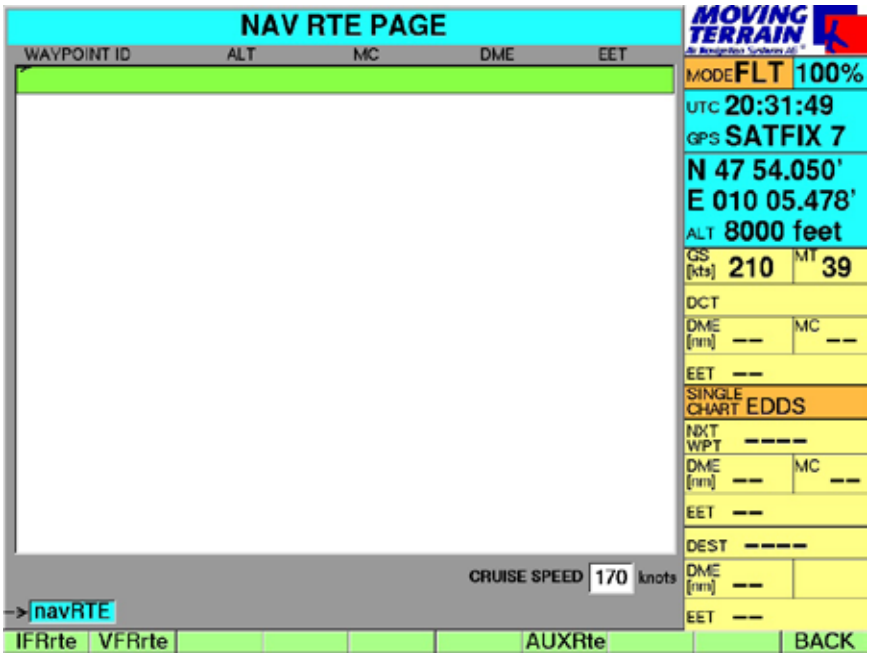
Enables search for a certain waypoint including entry of special characters:

Space . - / DEL

6. Collection of Routings: navRTE (NAV Route)

6.1. Selection of Waypoints

Initially “empty screen”

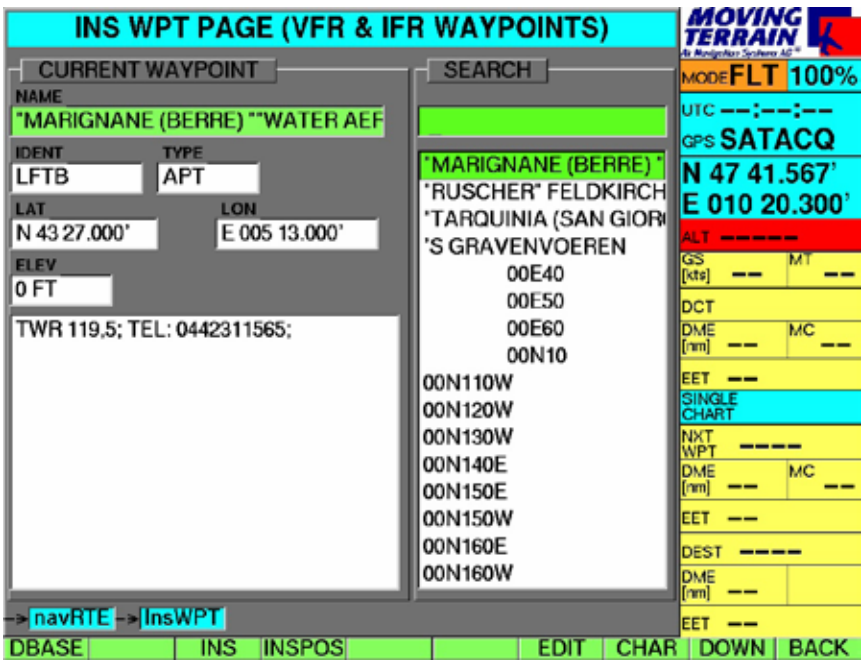


General:

The Nav Rte Page is for route planning (FMS). Any VFR and/or IFR route can be planned by entering waypoints from the NAV database or entire procedures from the IFR section.

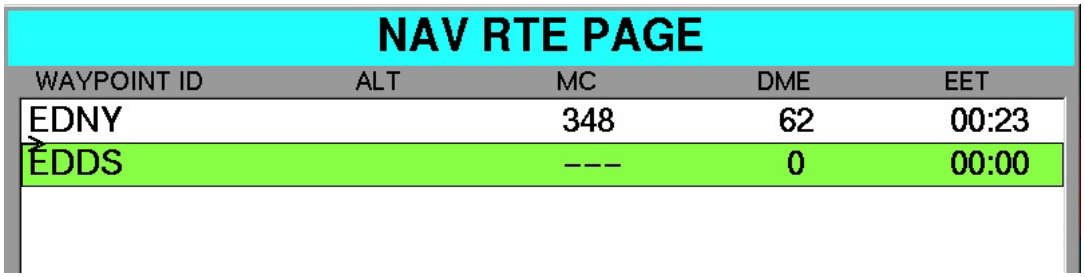
Handling:

- Simply start typing and you will be automatically taken to the INS Nav Wpt Page in order to select waypoints (Airports, VORs, NDBs etc.)



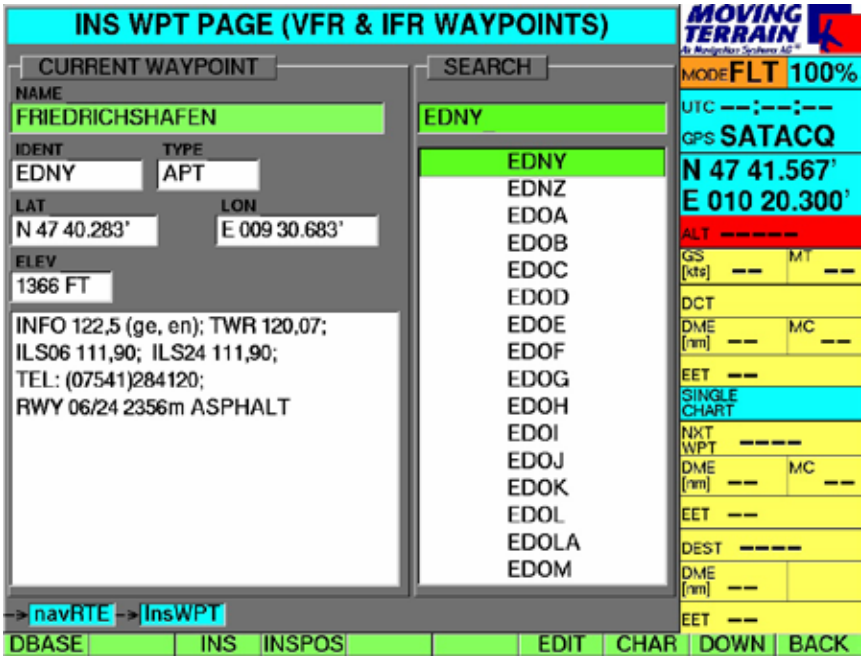
6.2. Insert waypoints

- INS inserts the point into the FMS
- Repeat the first step until the routing is complete
- Switch databases with: DBASE -> USER, return with DBASE -> VFRIFR
- Entry/selection via ID or name
- The small arrow indicates the position at which the waypoint will be inserted, i.e. by moving the arrow with UP/DOWN the waypoint can also be inserted between two points.

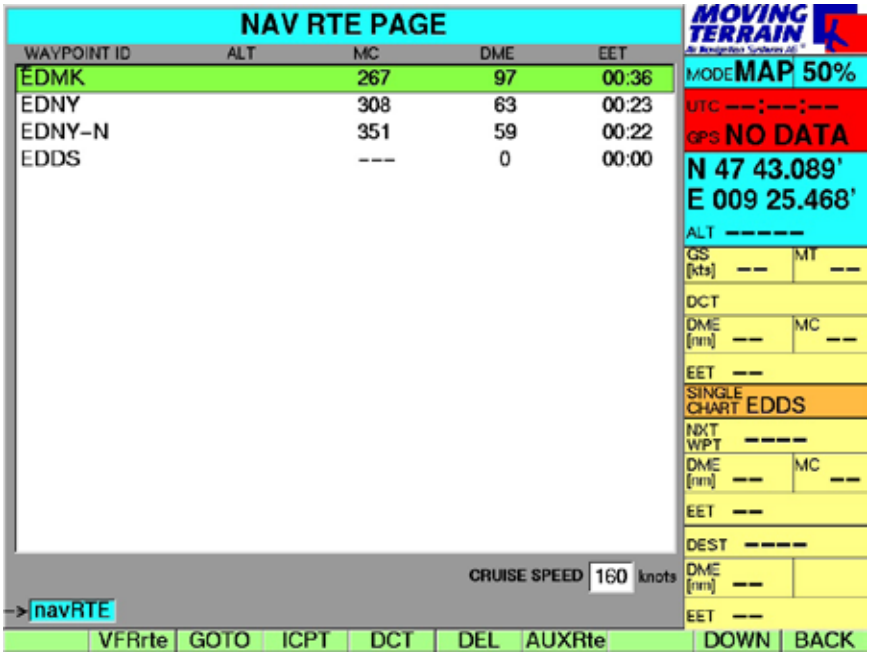


6.3. Further function keys on the INS WPT Page:

- INSPOS — insert position (coordinates in Info box)
- EDIT — access to USER WPT database
- CHAR — entry of special characters: space . - /
- UP/DOWN — move within list



6.4. Example for a route



6.5. Working with the route entered

- GOTO jump to a waypoint

- ICPT The current position is defined as the beginning of a route and the selected route point becomes the NEXT WAYPOINT. The points of the route previous to the selected point are ignored.

Remark: The key ICPT is only visible when FLIGHT Mode is active.

- DCT set Direct track to the waypoint
- DEL delete the waypoint from the FMS
- DELSEG delete flight plan or delete from memory routes or route segments from the screen (not from memory!) => important particularly for IFR planning.

Routes (and their segments) are loaded additively. Not all points can be made visible on the screen.

! **=> If the calculations in the flight plan field are not correct, please verify that only the required route (once only) has been loaded (scroll through list with UP/DOWN!)**

- UP/DOWN move green bar

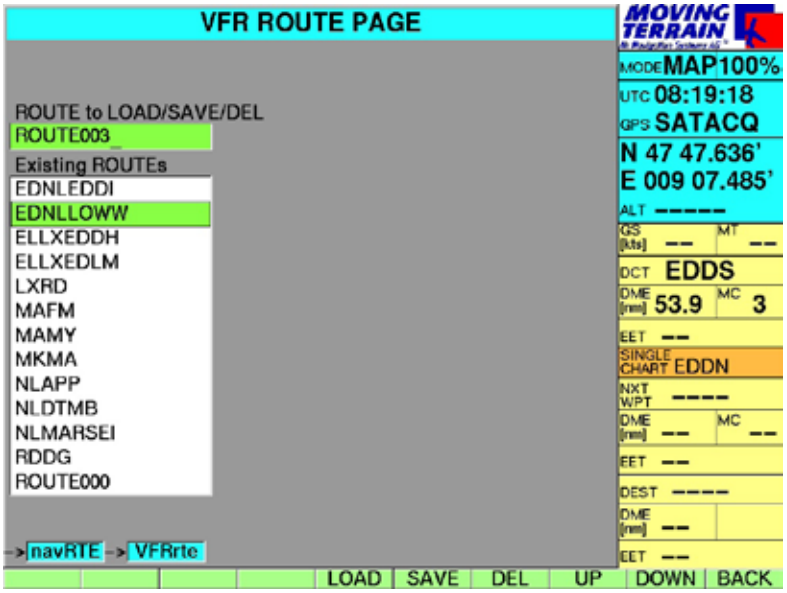
6.6. VFRrte: Save, load, edit and delete of routes

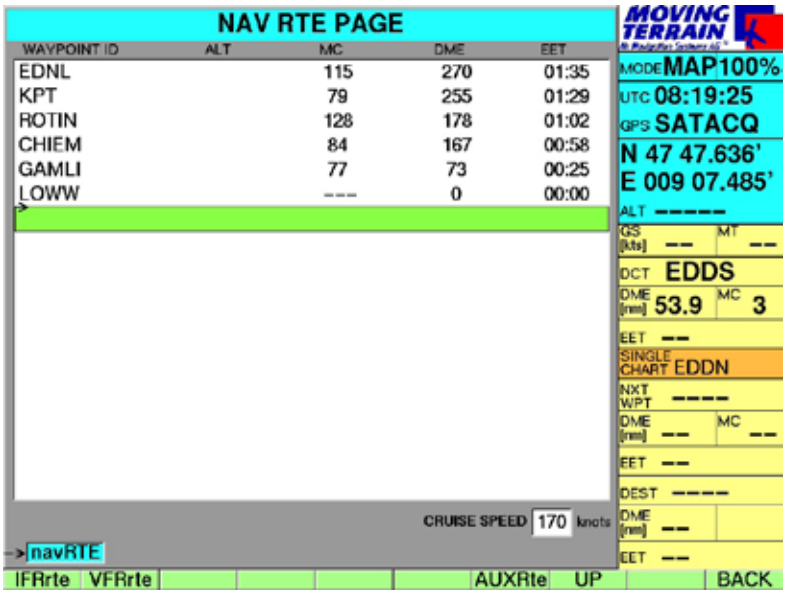
General: User defined VFR routes can be:

- Saved, loaded, edited and deleted

Handling:

- NAVrte -> VFRrte (VFR ROUTE Page)
- LOAD load an existing route; selection by moving green bar with UP/DOWN
- SAVE Save route from the NAV RTE Page
- DEL delete route marked green
- UP/DOWN move green bar
- BACK return to NAV RTE Page





6.7. AUXrte: Entering the Cruise Speed

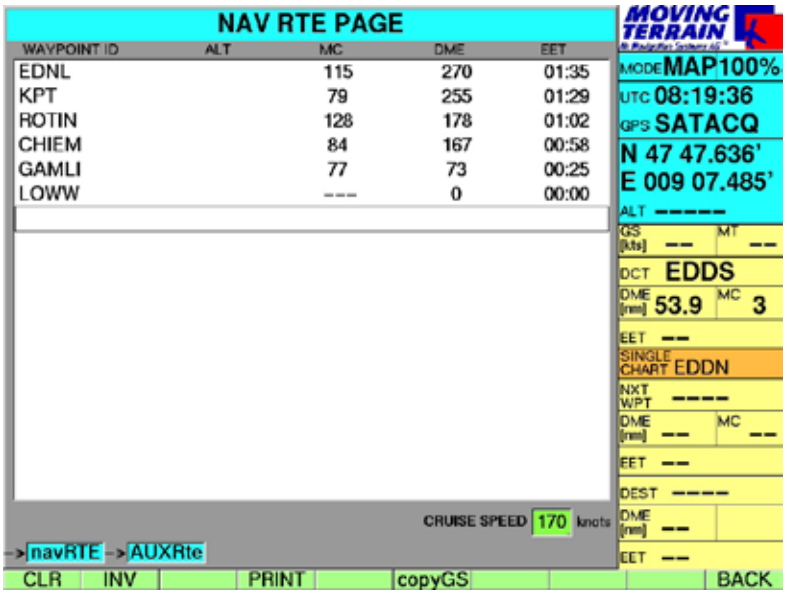
General:
By entering the cruise speed using the keyboard on the frame, the EET of the plan on the NAV RTE Page can be calculated.

Handling:

- NAVrte -> AUXrte
- Enter the cruise speed via keyboard

Further keys are:

- CLR — delete all points of the route
- INV — invert a route (only User defined routes, not for procedures)
- PRINT — plan is prepared for printing for transfer to CF
- Copy GS — transfer GS from GPS



Routes (and their segments) are loaded additively. Not all points can be made visible on the screen. => If the calculations in the flight plan field are not correct, please verify that only the required route (once only) has been loaded (scroll through list with UP/DOWN!)

- **delete positions with DEL**
- **delete the whole contents of NAV ROUTE PAGE with CLR**

III. Module

7. VFR Approach Charts über JeppView VFR

(Supplemental module, not included in basic software)

General:
Basis for the VFR Approach Charts is the purchase of the Jeppview Initial Software for PC (once) and a JeppView Approach chart Package with a coverage of your choice (e.g. JVVDE = VFR Germany, JVVEU = VFR Europe, JVVCE = Central Europe).

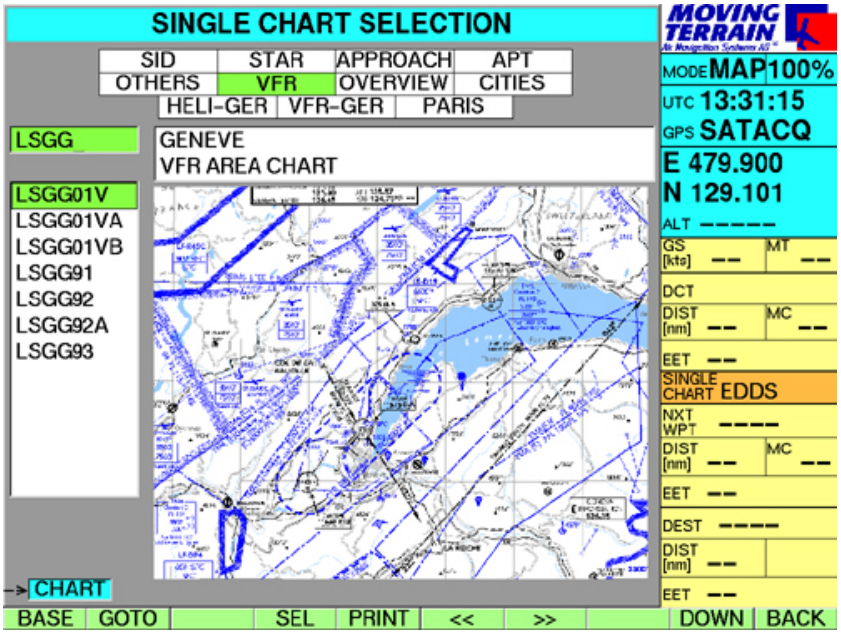
During the approach the display switches automatically from the basechart (ICAO Europe) to the IFR-Approach chart. You see your position on the chart.

Important:
Please note that only maps that are to scale are referenced.

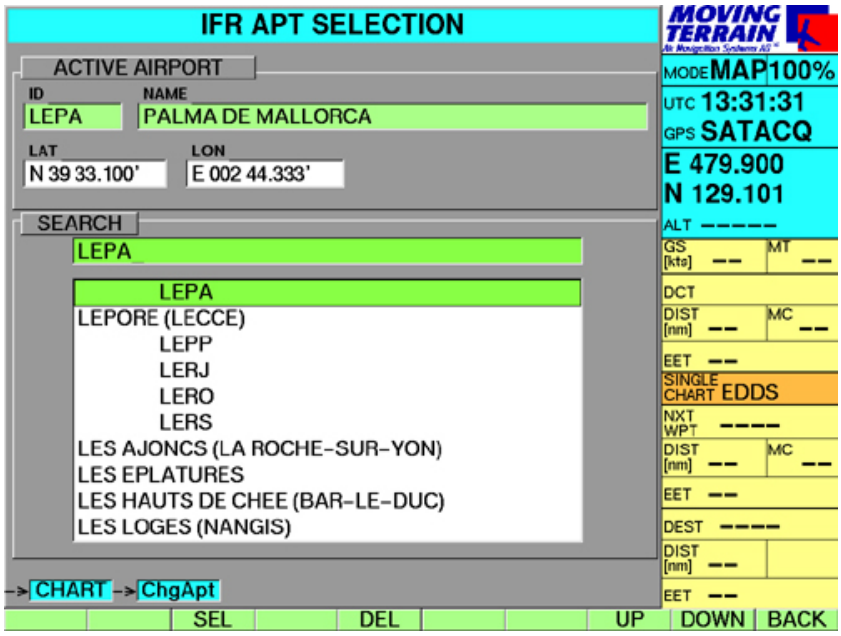
7.1. Choosing of the JeppView VFR Approach Chart

Handling:

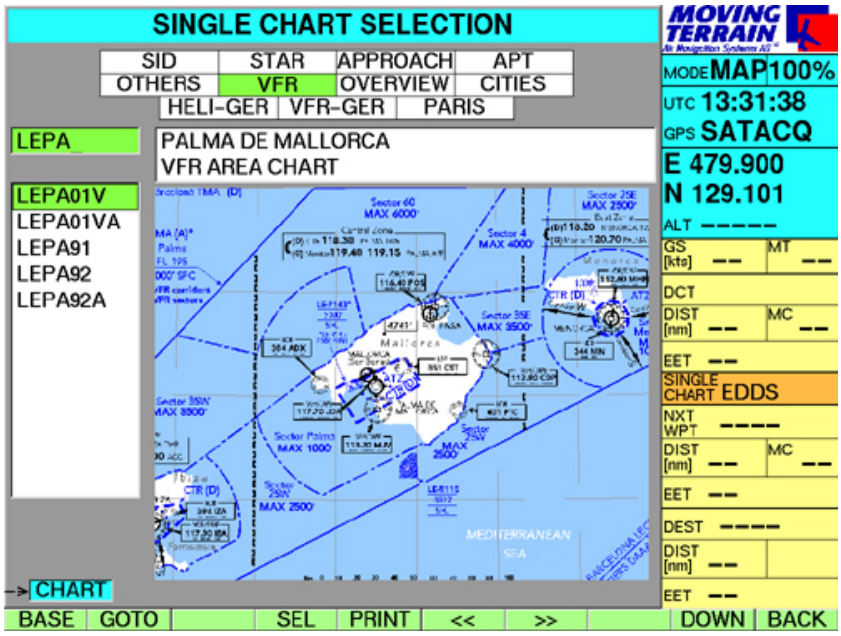
- CHART
- SING.CH
- selection of VFR with the keys << >>



- choose Active Airport: Just type in identifier or name with the keyboard

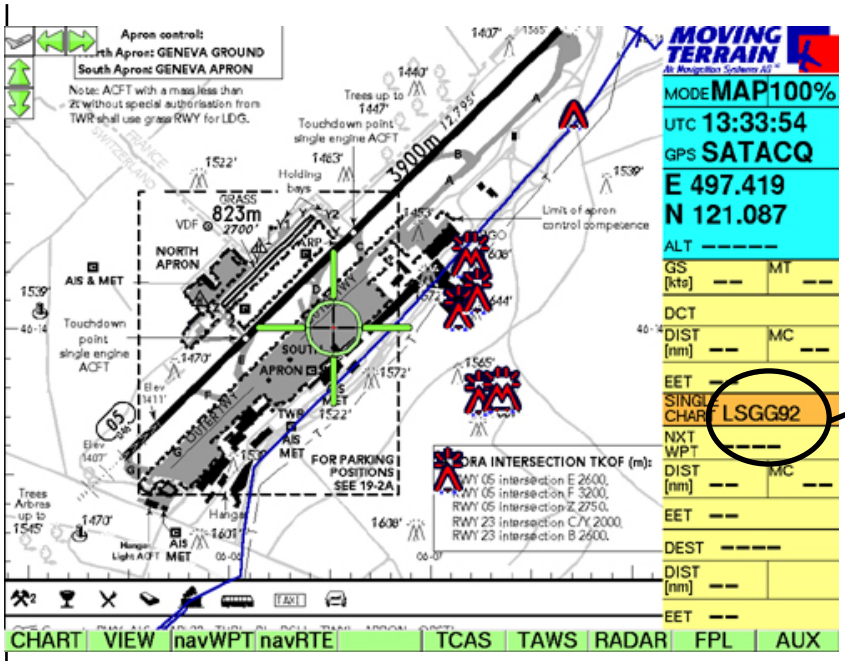


- SEL: select the airport, i.e. only charts of the selected airport are listed.
- Selection of the chart with UP / DOWN



7.2. Viewing the VFR Approach Chart

With GOTO you jump to the Approach Chart and can familiarize yourself with the airport.



Single Chart

7.3. VFR Approach Chart - chosen enroute, shown at landing

With SEL you preselect a VFR Approach Chart. It will be shown automatically as soon as you enter the referenced area.

Printig of chats: see chapter 8.3.7.

8. IFR-Package incl. EFB

(Supplemental module, not included in basic software)

General:

The IFR package includes all necessary features for IFR flight, including:

- IFR-Procedures (SIDs, STARs, APPROACHes) as waypoints that can be inserted in the flight plan (navRTE) including terminal database (for handling see Chapter navWPT)

- Combined worldwide navigation database with APTs, VFR Navaids and IFR Enroute WPTs

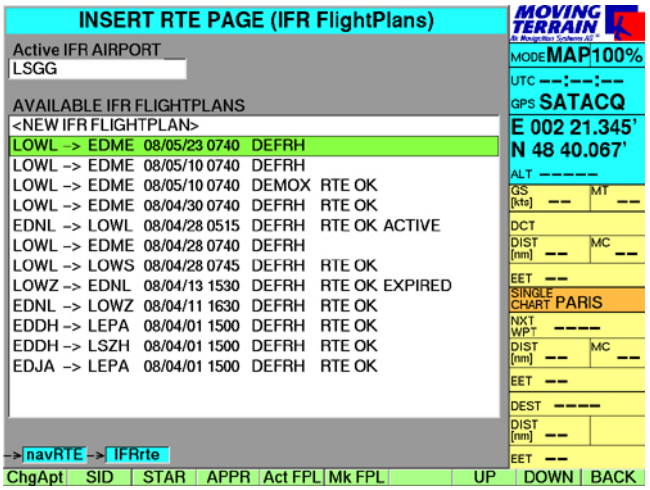
- Electronic Flight Bag (all the charts from your JeppView subscription) grouped in the following categories in the Single Chart Menu: SID, STAR, APPROACH, APT and OTHERS in accordance with the coverage of the JeppView
  Approach Charts and Airport Charts are referenced, i. e. you see your position on the chart. On approach it will switch automatically to the approach chart.

- IFR airway layer: high and low airways can be displayed as a layer on the ICAO chart or in the MFD Mode.

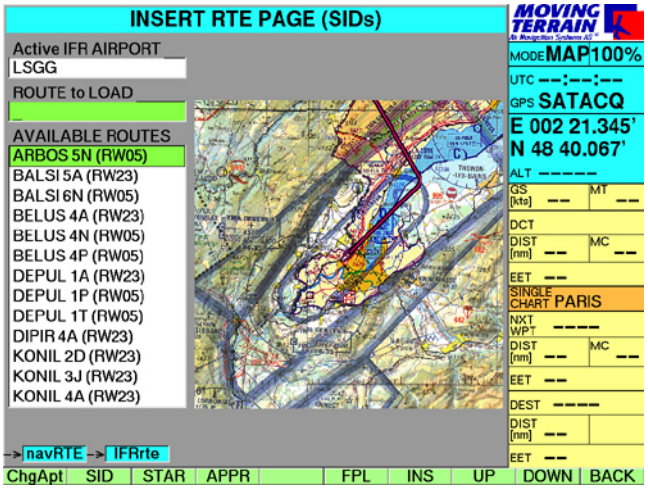
Handling:

8.1. IFR-Procedures

Intuitive menu navigation



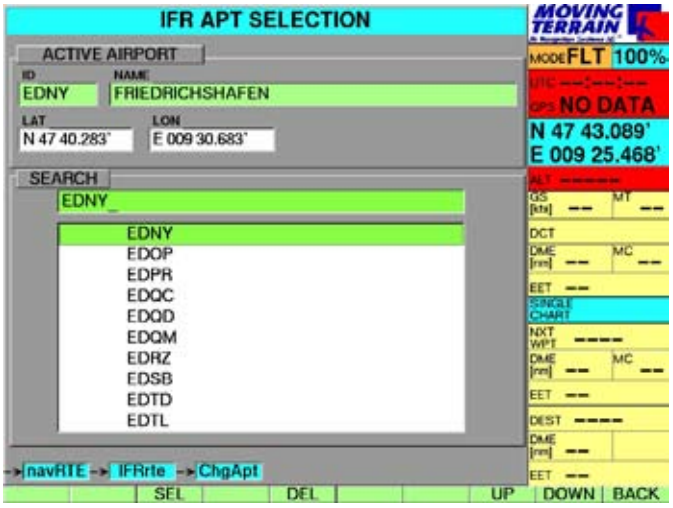
- navRTE
- IFRrte



Select/change Active Airport

- ChgApt enter ID or name of the required airport

- SEL selected airport is activated



8.1.1. Active Airport

The „Active APT" refers to:
Terminal waypoint database TRML
Terminal procedures SIDs, STARs and approaches
EFB charts (CHART – SING.CH)

Please be aware that only charts included in your JeppView subscription will be available in the system.

Once an APT has been selected, it remains the „Active APT" until another airport has been selected or the MT program is exited.

The „Active APT" reduces the work load: once selected, waypoints, procedures, approach and airport charts are in reference to this airport

(only in IFR section, VFR-Approach charts will be selected separately).

MT lists all approaches per type

A scaled-down diagram on the chart provides an overview of how the procedure is to be flown.

Scroll through the various procedures with UP/DOWN.

Select required procedure by name or UP/DOWN
- INS

Once the procedure is activated the route field displays the entry of the procedure. The procedure consists of more waypoints than can be displayed in succession on the screen.

To the beginning (title) of the route with
- UP

To the end of the route with
- DOWN

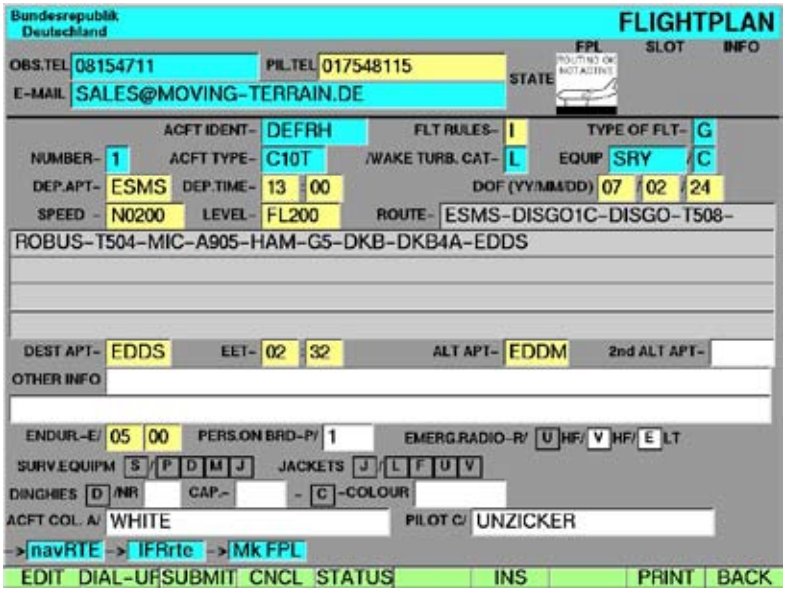
To view the route on the selected chart use
- GOTO to jump to a point marked with UP/DOWN

8.1.2. Enroute Part

Initially it is recommended to compile the enroute section using the Blitzplan module and include it in the route field.
Alternatively the user can also compose the routing by selection of the way-points (see navRTE).

Compiling the routing using MT-Blitzplan (see chapter MT-Blitzplan)

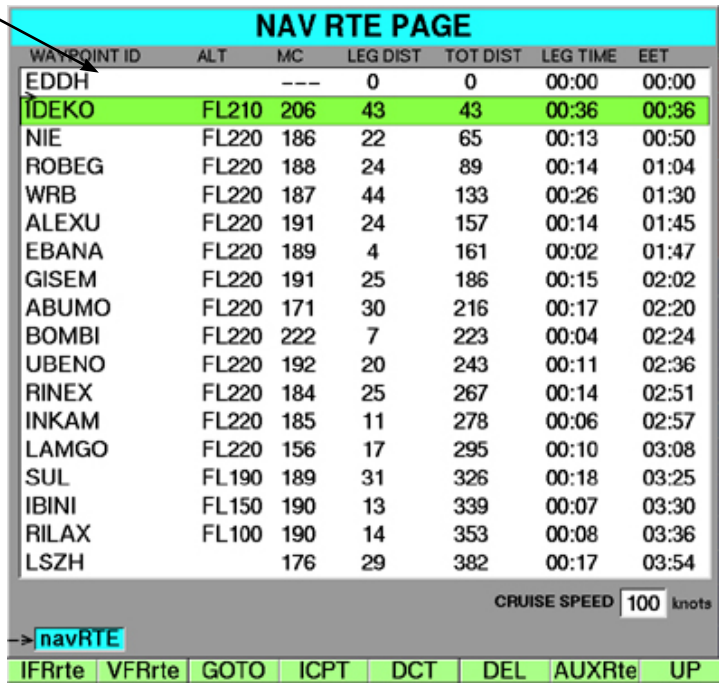
- FPL / MkFPL...



8.1.3. First load enroute section

INS
Extract appropriate information about procedures there

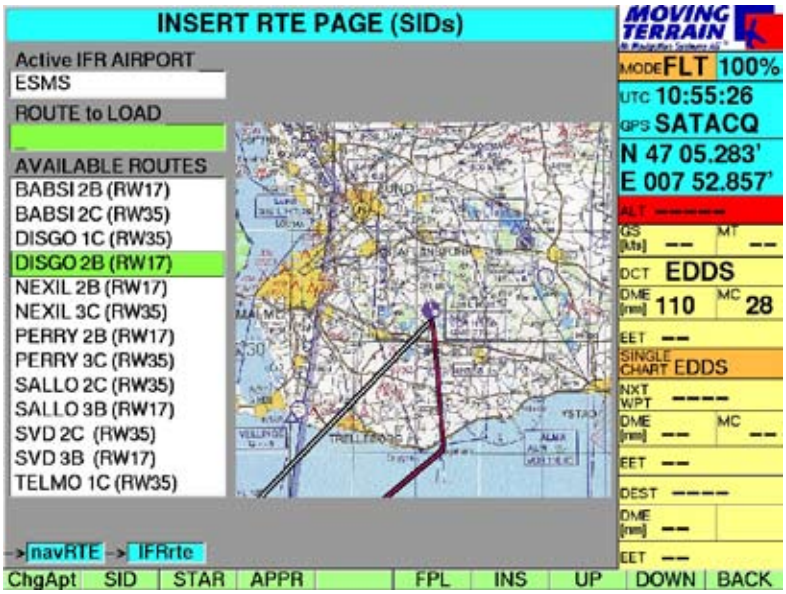
8.1.4. Completing the SID



- Use UP to move to the point after the APT, there the appropriate INFO for the SID is available

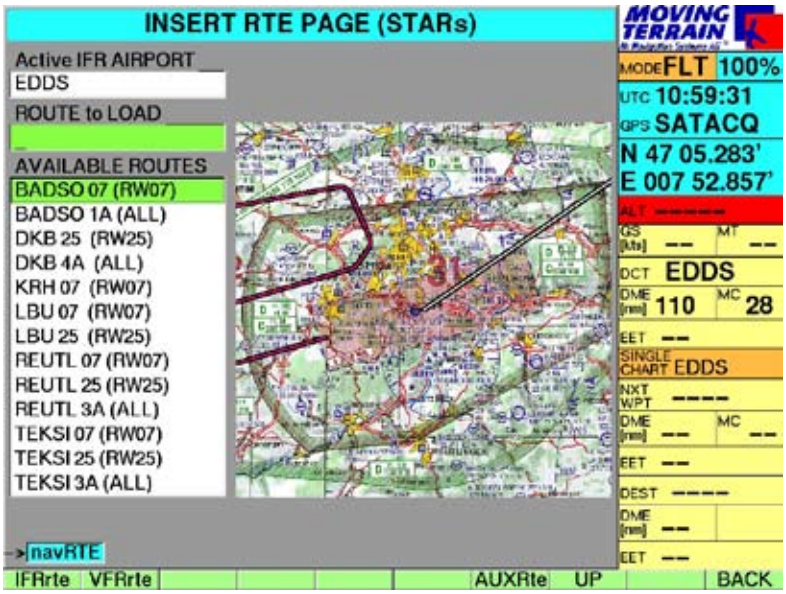
8.1.5. Selecting the SID

- IFRrte
- SID (named as in the routing)
- INS (SID is inserted following the APT)



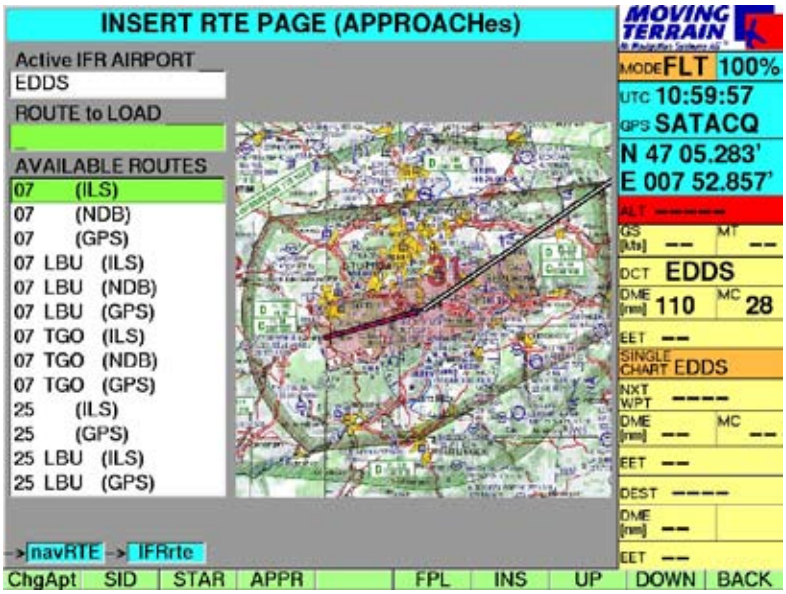
8.1.6. Completing the STAR

- Use DOWN to move to the bottom to APT
- ChgAPT using ID or name (ID has priority)
- SEL
- STAR selected
- INS



8.1.7. Similar procedure for APPROACHES

- Use DOWN to move to the bottom to APT
- APPR selected
- INS

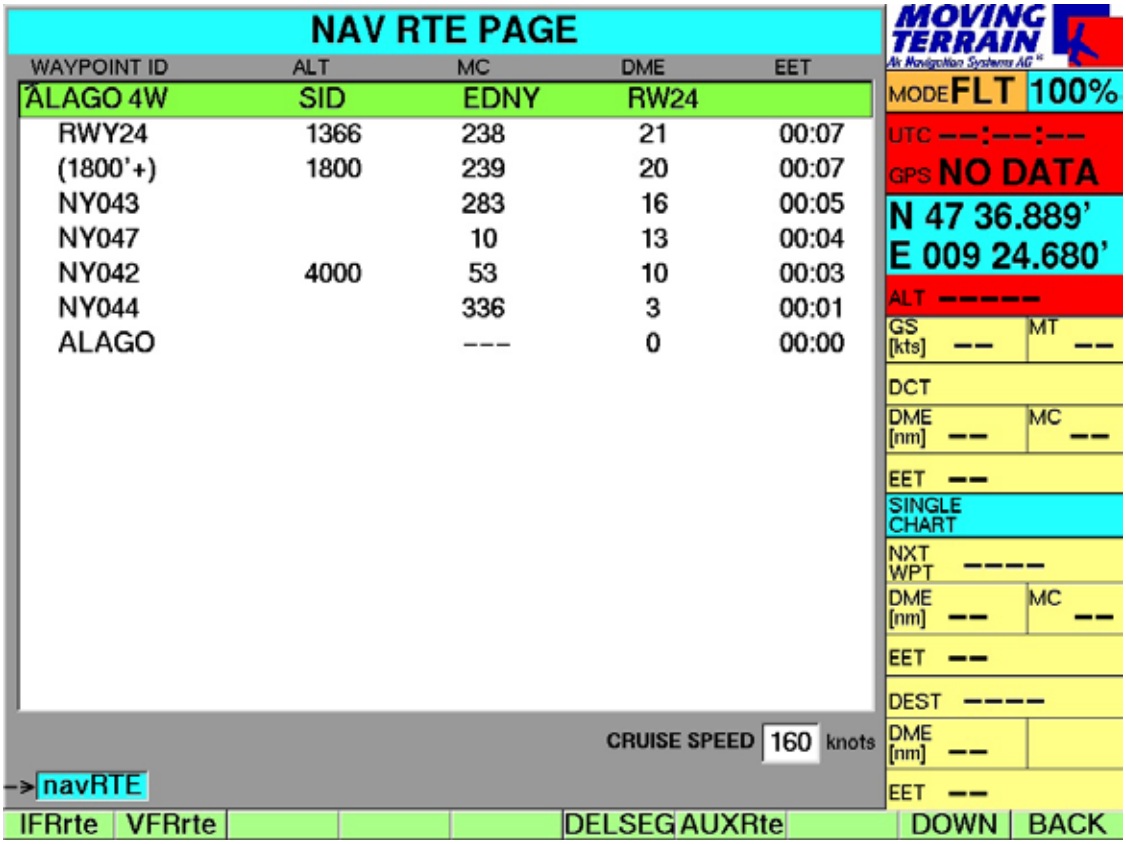


8.1.8. Description of the flight plan field (navRTE)

Title of each route (procedure) stored in the fixed database

Example

Name of route	ALAGO 4W
Type of procedure	SID
Followed by (APT)	EDNY / RW24



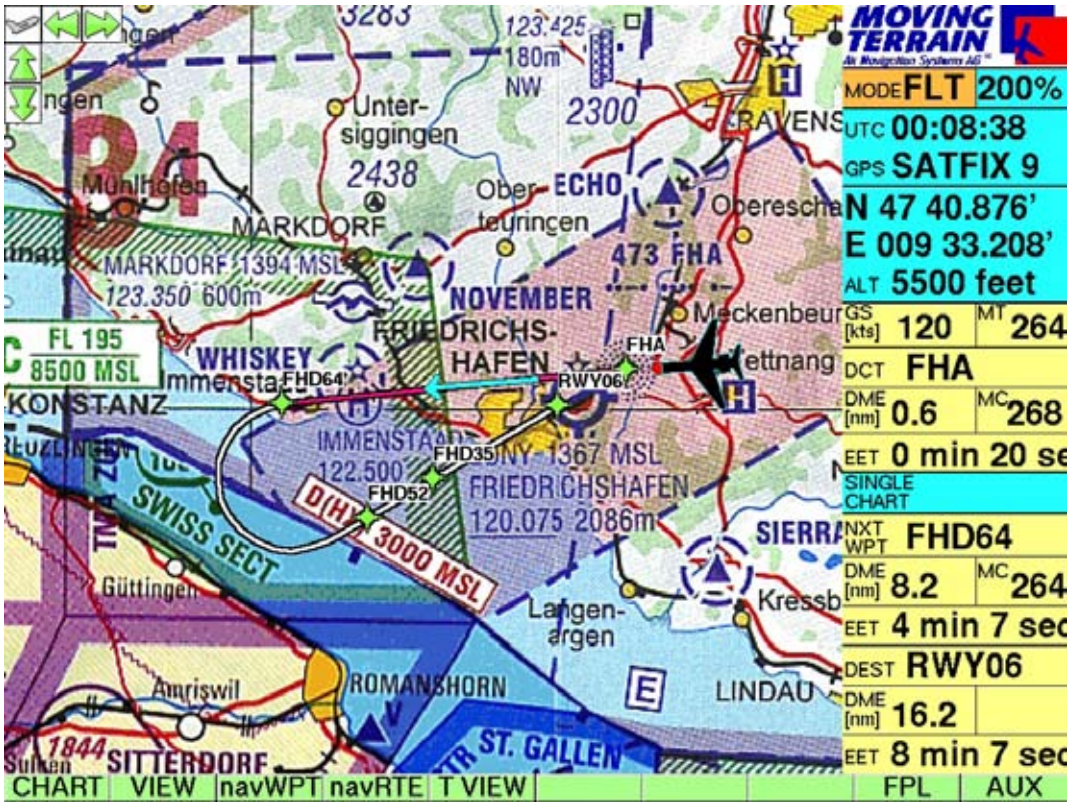
Followed by waypoint listing

Waypoint ID	Name of route
ALT	target altitude (minimum altitude)
MC	magnetic course
DME	in NM
EET	computed using the GS entered in the field “Speed”

Target altitude (minimum altitude) are only displayed as a recommendation.

8.1.9. Example SID

Friedrichshafen



The route display is not a guidance from point to point, but rather a transformation of the procedure directives in vectors that precisely project the flight path on the chart. The chart on display is shown in the Infobox as Single Chart.

The display works on charts of varying scales, including the DFS approach charts.

Beside the green route path, the ID of the terminal waypoints are superimposed. This makes for perfect orientation, DCT to a waypoint further along the route can be easily visualized and can be created by the press of a button via the navRTE page.

8.2. Worldwide Navdatabase with APTs, VFR Navaids and IFR, Enroute WPTS

See chapter navWPT (item 5.).

8.3. Electronic Flight Bag: EFB

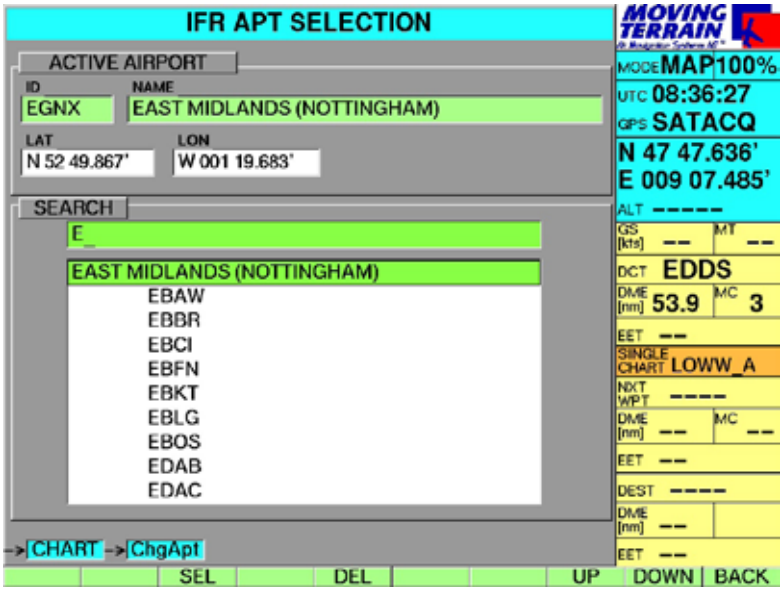
8.3.1. JeppView Charts: SIDs, STARs, APPROACHES, APT, OTHERS

General:
This is where the charts from the JeppView subscription are located. During the approach the system automatically switches from the base chart (ICAO Europe) to the IFR approach chart. Current position is displayed on the chart. The previously loaded procedure is also displayed on the JeppView chart.

Important:
Please be aware that only scaled charts are referenced, including approach and airport charts. SIDs, STARs and charts from the category Others are not referenced.

Handling:

- CHART
- SING.CH
- Select active airport: simply start typing, e.g. enter ID via keyboard
- SEL: airport is selected, i.e. only charts for the selected airport are listed.



Please be aware that only airports within your JeppView coverage are displayed.

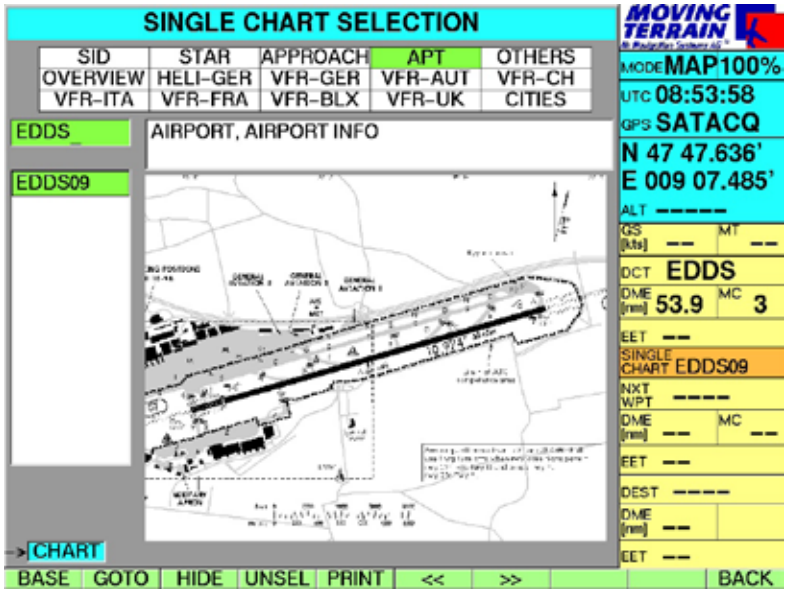
-> CHART

-> SING.CH

-> SID STAR APPROACH APT OTHERS

8.3.2. Selection of categories

with: << >>



8.3.3. SIDs and STARs displayed

SHOW
return with CHART (no Moving Maps, *as not to scale)*

8.3.4. APPROACHes and APTs and Docking / Parking charts (in others)

SEL select chart

HIDE hide chart

UNSEL unselect chart

8.3.5. Automatic loading of the AIRPORT chart

at speed reduction at landing (first chart in APT section)

8.3.6. Particularities of the APPROACH CHARTS

This key is only displayed in FLT Mode and enables a quick switch to the approach chart:

- TVIEW = Top View
- PVIEW = Plan View
- VVIEW = Vertical View
- POS = return to current position

8.3.7. Automatic switch to the approach chart

When the speed is reduced below 65 knots the display automatically switches to the APT chart.

Premise:

- The airport must be selected as ACTIVE AIRPORT
- An APT chart must be available
- The first chart in the category APT is always selected automatically
- In a few instances a different chart must be selected manually

8.3.8. Jeppview VFR Approach Charts

A special category of Approach Charts are the Jeppview VFR Approach Charts.

- Selection of VFR with the keys << and >>
- choose Active Airport: Just type in identifier or name with the keyboard and confirm with <SEL>
- Select in listing with UP/DOWN
- With <SEL> you chose the chart that will be automatically shown as soon as you enter the area for which the chart is referenced.

8.3.7. Printing of charts and routes

Using PRINT charts and routings can be printed as files.

At the end of flight planning, select which print outs are required for the flight.

Possible choices for printing:
- Flight plan as a form
- Flight plan as a list (prints the entire list, even if it cannot be completely displayed on the screen, including imbedded procedures)
- The route on the map of Europe or from the MFD (print by pressing key P when the screen displays the chart)
- Charts from the EFB: SIDs, STARs, APPR, APTs

Since all charts and routes selected for printing are deleted when the device is restarted, it is necessary to complete the selection in one draw.

It is recommended to limit the selection, as the printing with photo printers takes time and is not cheap.

These print files are copied from the device using a prepared Compact Flash:
- Turn off the device, insert the CF and turn the device back on
- All the files to be printed are automatically copied to the CF
- Turn device off
- Remove CF

The CF can be inserted in standard printers and the files printed.

8.4. MT IFR Enroute Layer

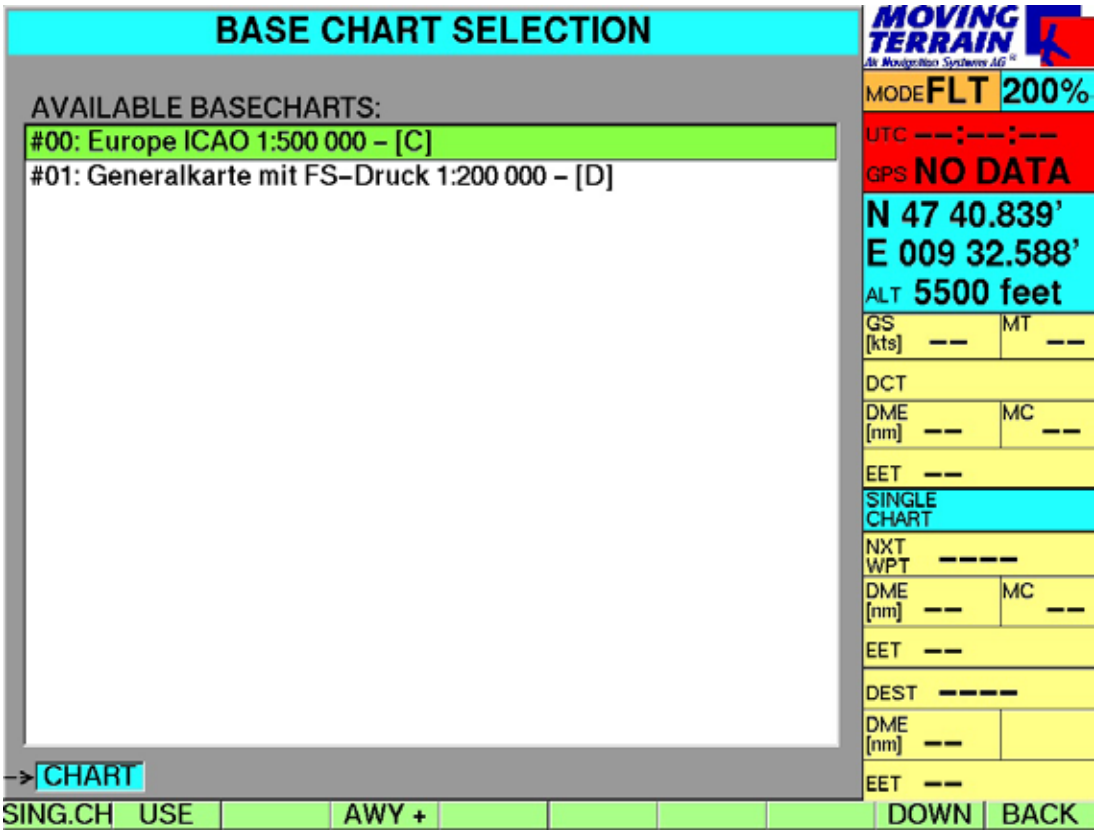
General:
The IFR layer is a data generated layer.
The layer visualizes low and high altitude airways for Europe.

Handling:
Activating the layer

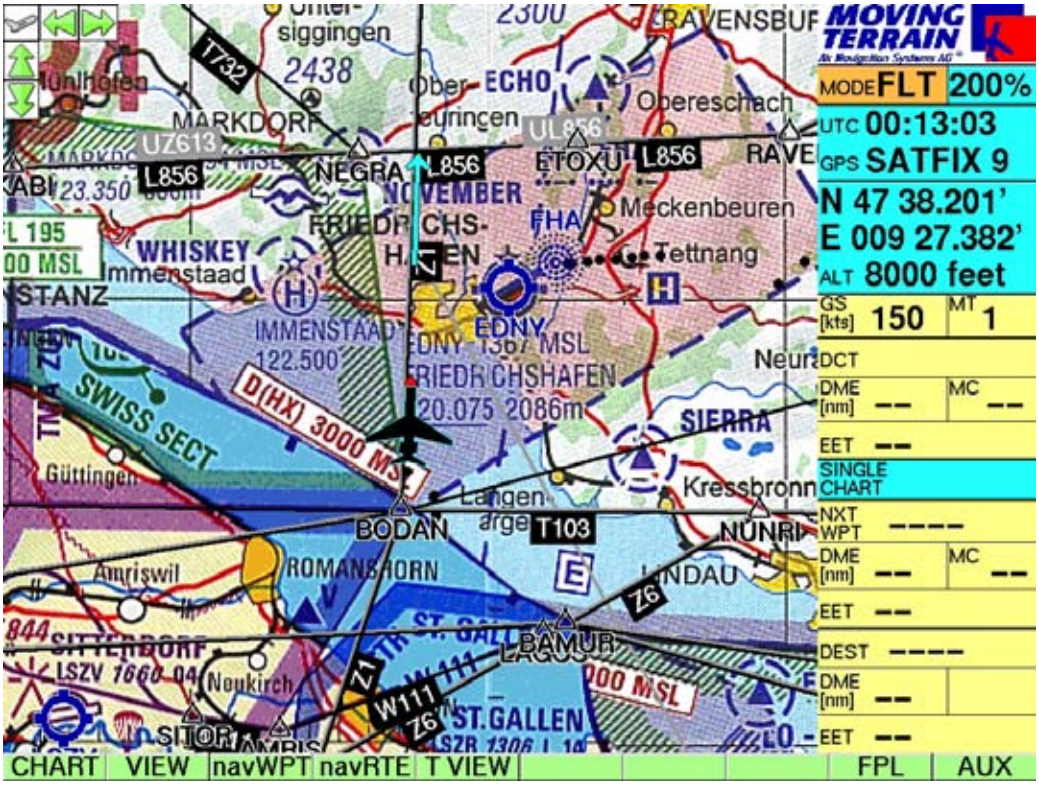
- CHARTS
- AWY+
- BACK

Deactivating the layer

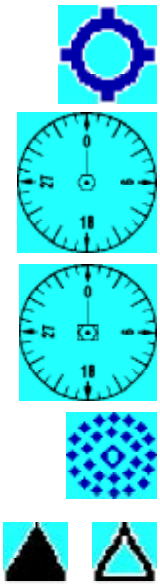
- CHARTS
- AWY-
- BACK



8.4.1. Display on the ICAO chart



8.4.2. MT-IFR Layer legend



- ✓ **APT**
- ✓ **VOR**
- ✓ **VOR TAC, VOR DMI**
- ✓ **NDB**
- ✓ **ENR WPTs**
- ✓ **ENR Airways high = gray**
- ✓ **ENR Airways low = black**

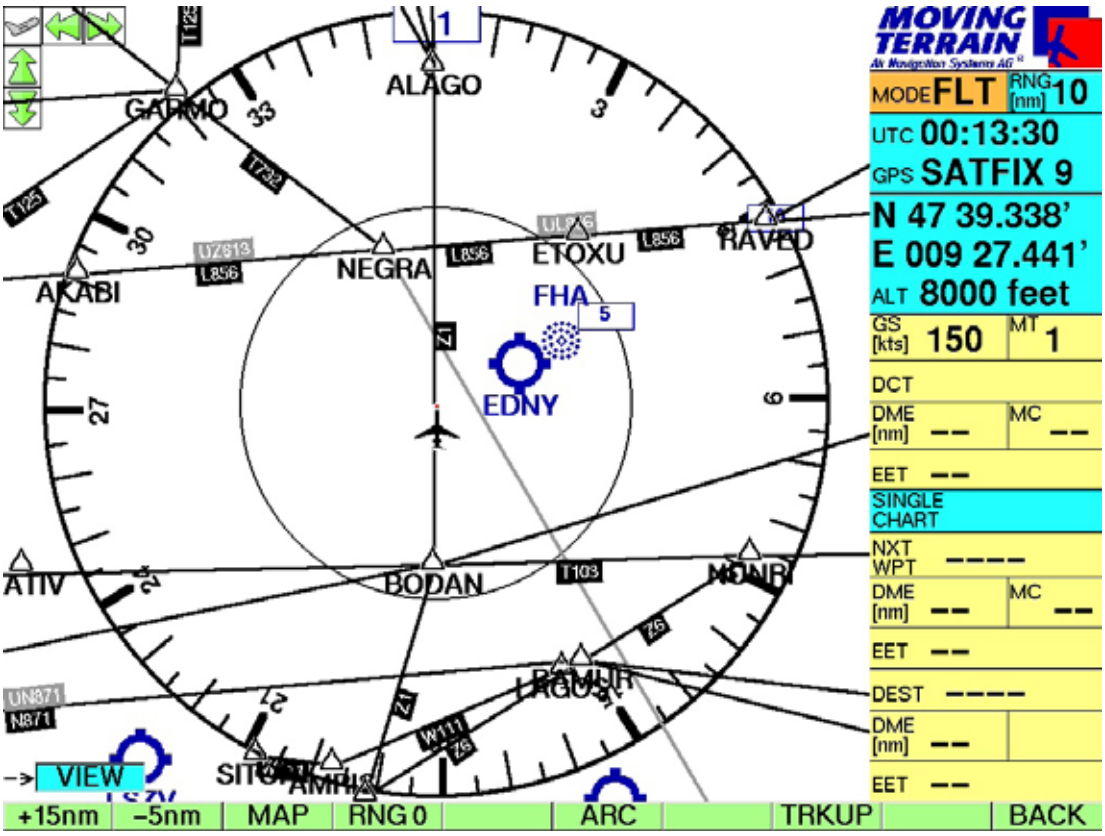
8.4.3. Display in MFD Mode

Handling:

- VIEW
- MFD
- Set Range with + or -

!

With a too large range the layer cant‘ be displayed



Return to map:

- VIEW
- MAP

The related database enables the direct selection of the VORs, APTs, NDBs and Enroute Waypoints. It can be found under <navWPT>.

9. MT Track / Automatic Logbook

9.1. MT Flight Recorder

(Supplemental module, not included in the basic software)

General:

The MT Flight Recording and Tracking module enables the recording of flights. The recording begins automatically as soon as a valid position is displayed in flight mode (SATFIX).

! Important: The track must be stored before the device is powered off, otherwise it will be automatically deleted.

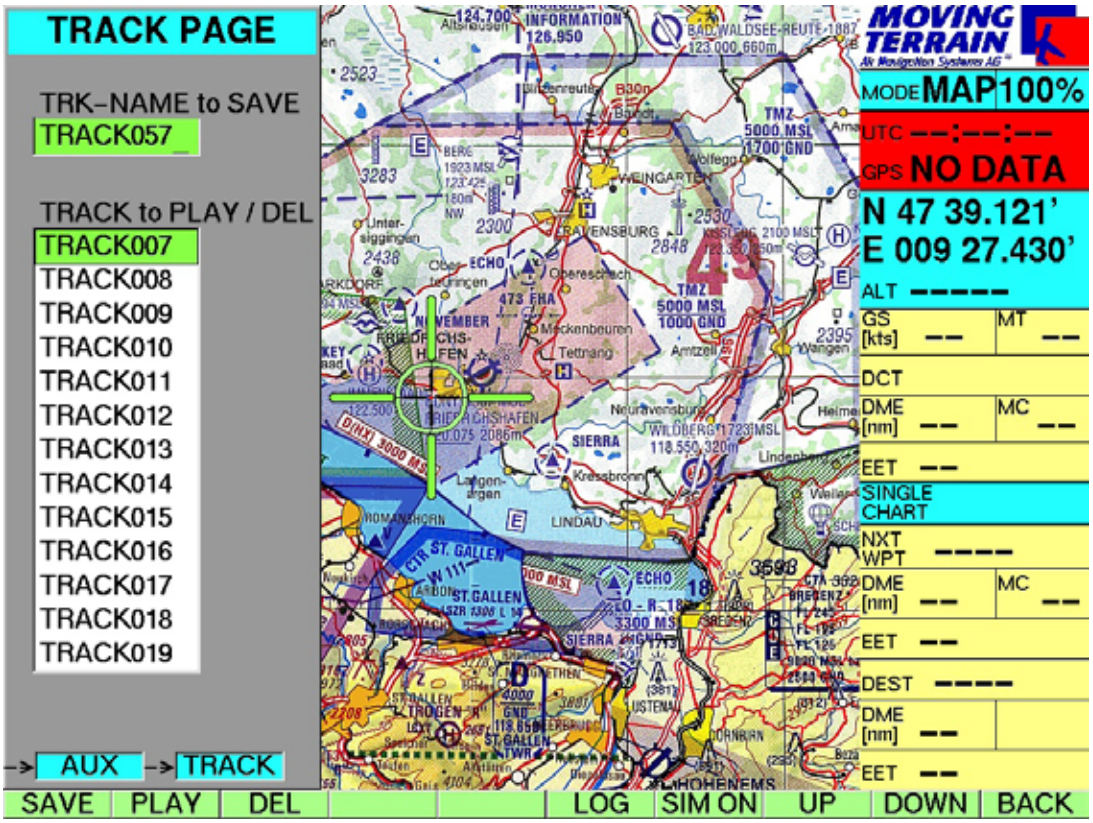
MT Track = actual flight track

- Recording begins with valid position (SATFIX) in flight mode
- Position is recorded every 10 seconds (track points)
- Track is automatically deleted when the system is powered off, so it has to be stored if the track is to be displayed later.

Handling:

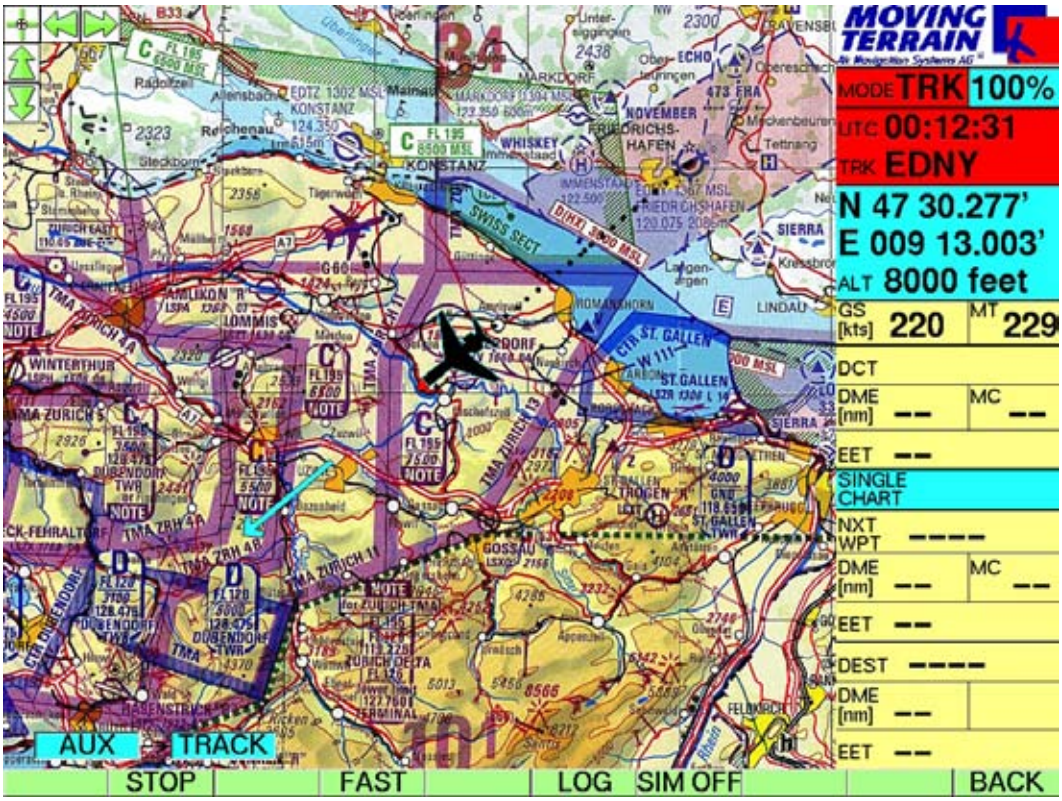
9.1.1. Select Track Page

- AUX
- TRACK



9.1.2. Further function keys:

- SAVE save the currently recorded (flown) tracks (before power off!) under an individual name (or a system provided name)
- PLAY play track
- DEL delete track
- UP
- DOWN
- BACK back to Map Mode



9.1.3. Function keys when replaying the track:

- FAST / NORM Fastest / delayed playback of the recorded tracks
- STOP end playback
- BACK return to Map Mode
- LOG flight log

Without interrupting the Replay Mode it is possible to:

VIEW	zoom the chart, hide Info box
CHART	switch chart
CHART/SIN.CHA	select Single Chart
DCT	establish Direct
navWPT/navRTE	work with navWPT or navRTE Page

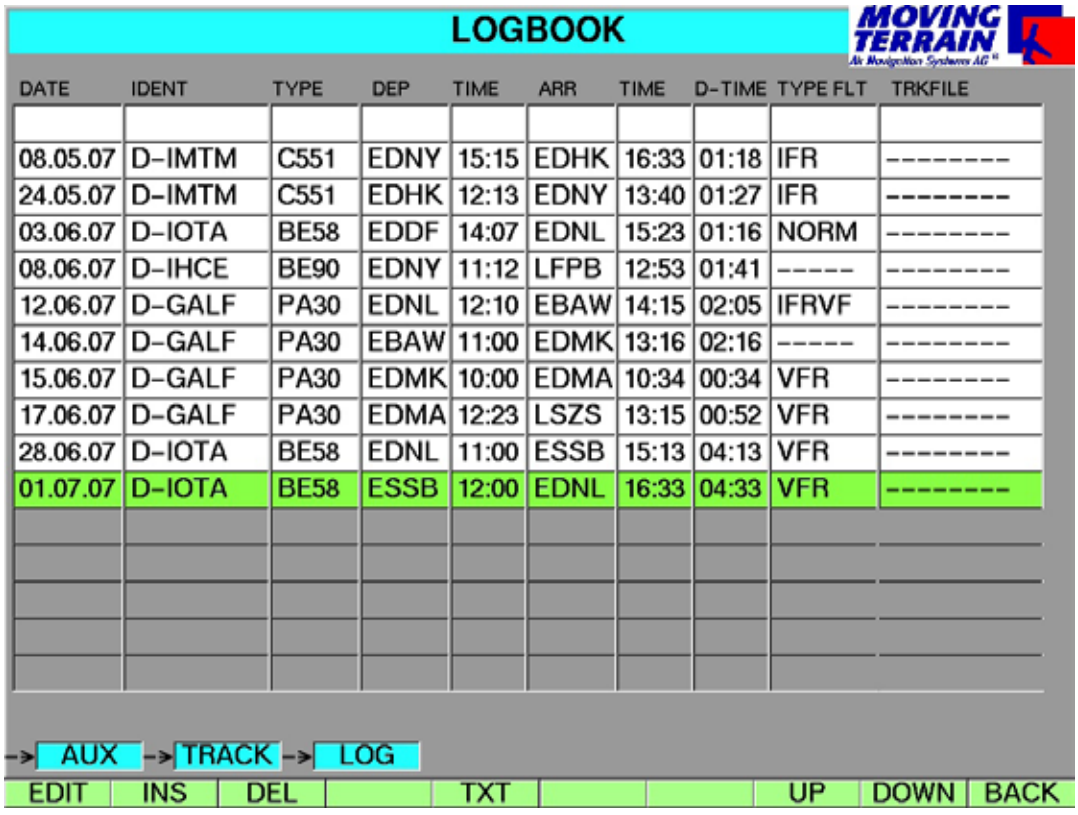
Replay is ended when switching back to the Map Mode.

9.2. MT Automatic Flight Log

General:
The MT Automatic Flight Log automatically documents flights and thus serves as a log book. The date, departure and arrival times as well as flight duration are automatically recorded. The other fields such as airports can be added as required.

9.2.1. The following data is transferred from the GPS

- DATE date of flight
- (Dep) TIME departure time: is recorded when the speed is larger than 40 knots over ground
- (Arr) TIME arrival time: speed less than 40 knots over ground
- D-TIME flight time: HH:MM total (calculated)



[fictional data, no actual flights!]

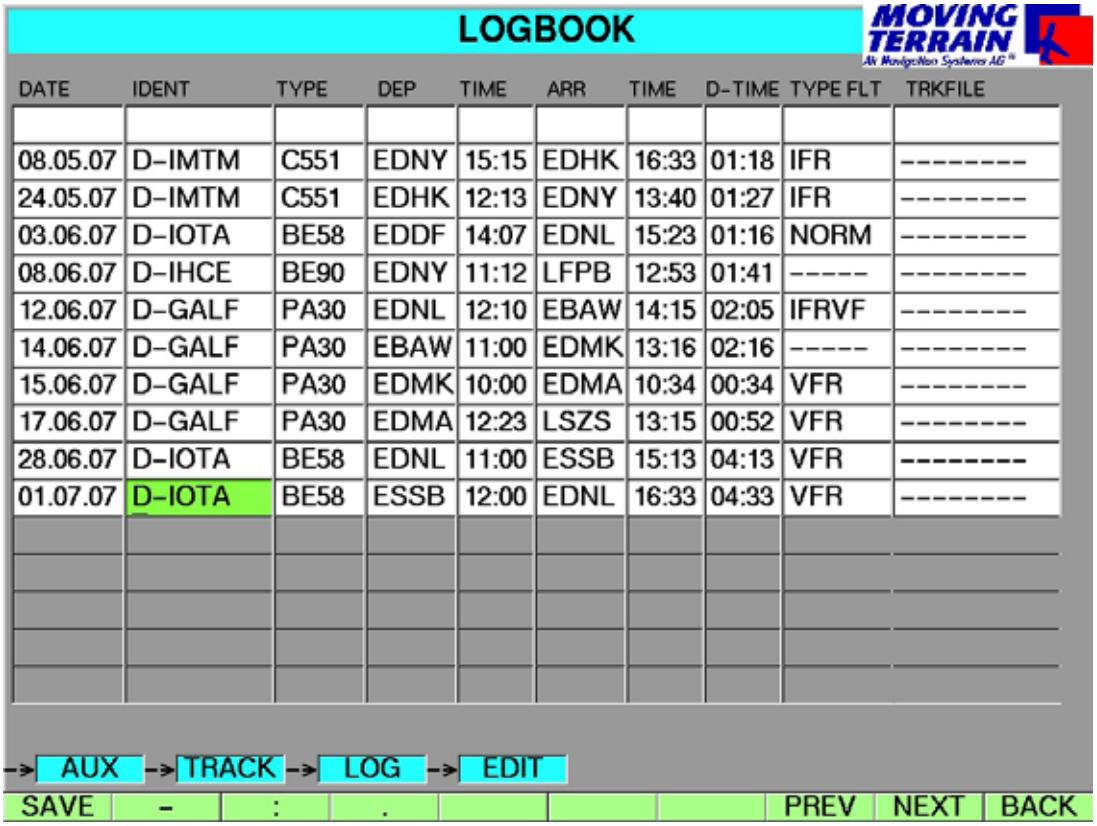
9.2.2. The following data can be appended in the log book

- IDENT tail number of aircraft
- TYPE type of aircraft
- DEP ID of departure airport
- ARR ID of destination airport
- TYPE FLT 5 characters for individual remarks, e.g. IFR
- TRACKFILE name of the associated track stored in the MT system that can be replayed

Handling:

Entries in one line each can be accomplished by pressing the key:

- EDIT



[fictional data, no actual flights!]

Enter the data using the keyboard on the frame and use the associated function keys for the following

Special characters

–
:
.

the according function keys.

Move from field to field with
- PREV
- NEXT

Confirm entries with
- SAVE

The system automatically returns to the main page of the log book

To edit further lines select these with
- UP
- DOWN

Delete entire entry with
- DEL

Insert flights with
- INS

By pressing
- TXT

the current status is written to a general TXT file fltlog.txt in the directory MOVTER.PRO\TRACKS.

This file can be edited and processed further.

If you put an Update Chip (formatted by MT) into the swiched off unit and start the unit again, the file "fltlog.txt" will be written into the directory MISC onto the Chip. Switch the unit off after you see "Update successful" and remove the chip. The file can now be edited and processed further with any editor if you put the chip into the card reader of your office computer.

10. MT Rotating Chart

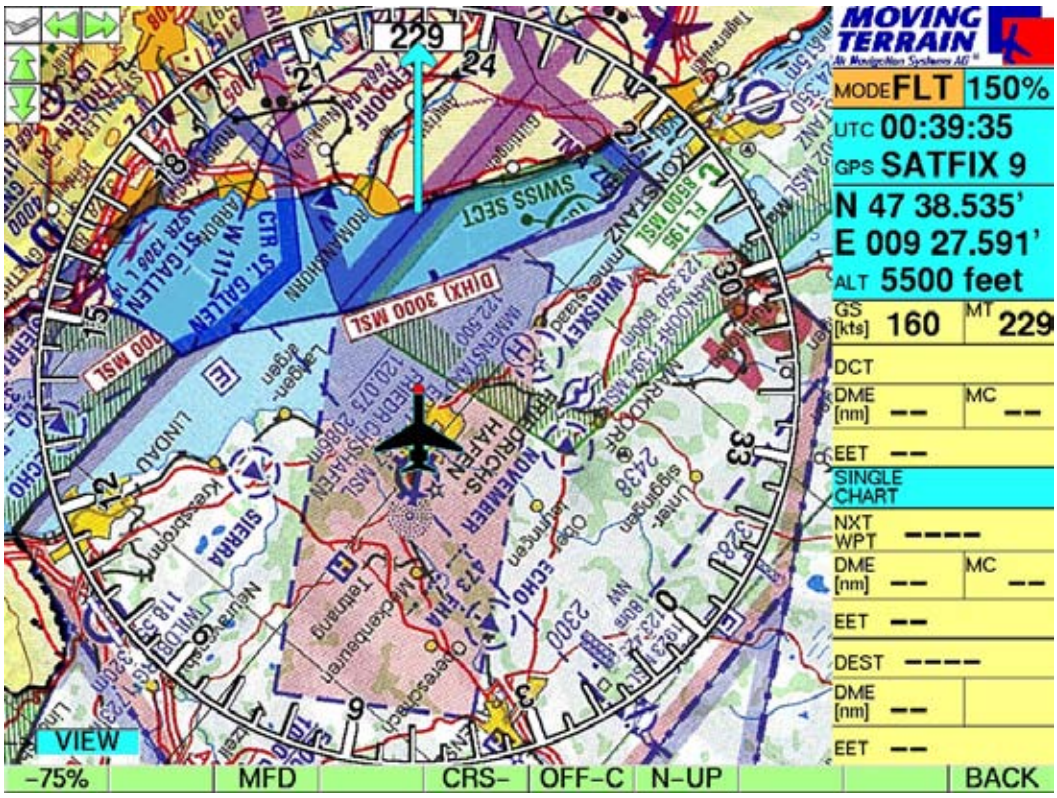
(Supplemental module, not included in the basic software)

General:

In the main window the chart rotates in the direction of flight.
Rotation is performed independent of scale for all charts, Base Charts and Single Charts.

Handling:

- VIEW
- ROTATE



- In Flight Mode the chart can be displayed in 75% or 150% ZOOM.
- In Map Mode the chart can be zoomed smaller or larger.

All functions via navWPT or navRTE Page work as usual.

North Up Mode can be selected at any time:

- VIEW
- N-UP

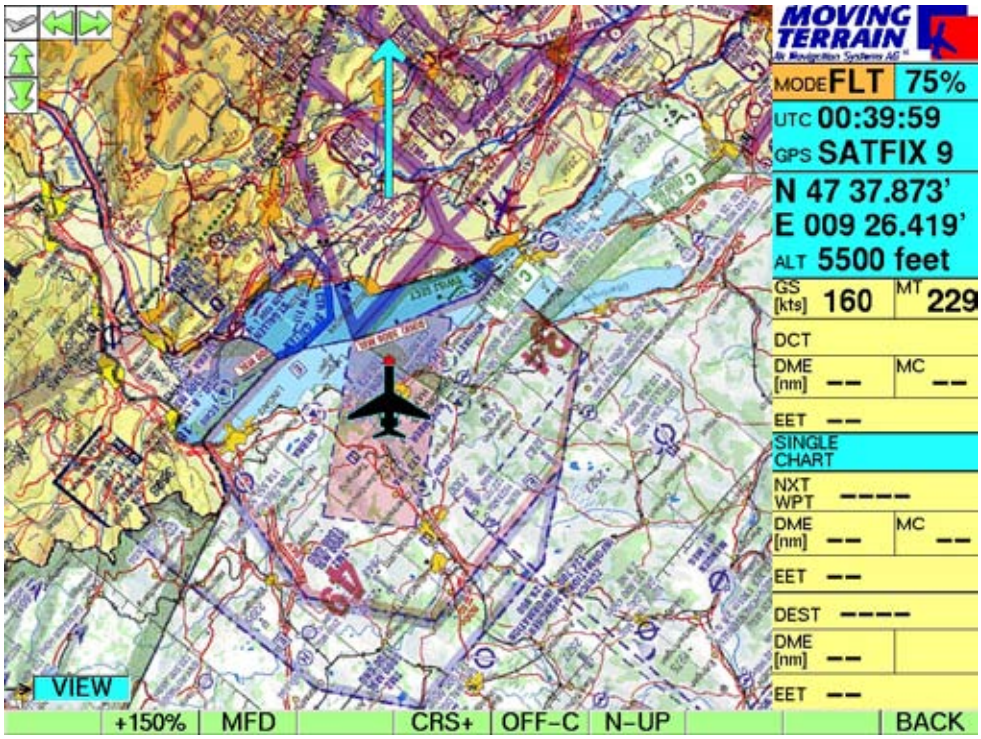
Current position can be displayed in the center of the screen
- CENTER (in the VIEW bar)

or moved to the lower edge (see figure below)
- OFF-C (in the VIEW bar)

In the Rotating Mode the chart can be displayed in two zoom levels:

- 75 %
- 150 %

N-UP switches back to the North-Up Mode.



Further function keys (see VIEW menu):

- MFD switch to MFD Mode without chart
  Range setting analogous to ZOOM with indication of required range
  MAP return to chart
  RNG 0 = 100 NM
  Toggle key: ARC / 360: display as arc or circle
  Toggle key: TRKUP / PLAN: small window in the Info box

- CRS - / CRS + display or hide compass card

11. Program MT Chart

(Supplemental module, not included in the basic software)

With MT Chart you can reference your own charts (scans). Using the assigned coordinates these can be controlled from the MT main program. MT Chart is a Windows program and does not run on the MT-VisionAir.

11.1 Scanning

Before launching MT Chart, the needed chart must be scanned. For interfacing with Moving Terrain, the chart must be prepared as a bitmap file in Windows BMP format (files with ending *.BMP). In addition, color resolution must be 24-bit, i.e. 16 million colors = true colors.

Otherwise it does not matter whether you scan the chart with a hand-held scanner at home, at a service center close by or send it to us for conversion to this type of file. You may use any standard scanner, as long as your file is saved as a 24-bit BMP file.

For good, color-accurate and undistorted results it is best to use a color flat-bed scanner.

Your original charts must satisfy the following prerequisites:
- They must be to scale (not distorted)
- Latitude / longitude must be readable on the grid or other points must be capable of exact referencing.
- For large areas it is important to make sure that the chart is based on a cylindrical projection (e.g. Mercator). Conic (section) projections are not suitable.

The program also tolerates rotated scans. For the sake of clarity they should be north-up, although the software compensates for errors caused by rotation.

11.2. Referencing

Upon launching MT Chart you will see a special referencing symbol (diagonal crosshairs) in the center of the screen, an as yet empty Navdata box and three menu items. In the map (Alt + A) choose the “Open” function or press F2. The “Load Custom Chart” file dialog will appear. Now select the drive, directory and file (in BMP format!) you wish to reference. You can move within the rectangular areas with the direction arrows, to the next box by pressing the tabulator and back to the previous box by simultaneously pressing Shift and Tab.

Once you have selected the chart you wish to reference (its name must be visible in the single-line box under file name), confirm by pressing Enter. The file will then be automatically converted to the Moving Terrain MTC format. You now have the choice of deleting or saving the BMP file. From now on you will only need the MTC file. We recommend deleting the BMP file from your hard disk. If you lack the means to scan charts yourself and had the file created externally, it is advisable to make a backup copy on another storage medium before you start work.

Now comes the most important part in the preparation of your chart for using with Moving Terrain: referencing. The more carefully you perform this step, the better will be the results you achieve subsequently together with the GPS. For referencing you must exactly reference three points on the chart (longitude and latitude). Move the chart with the direction arrows or the right mouse button to place the referencing symbol at a point whose coordinates are known to you or which can be read off the chart. For visual approach charts we recommend, e.g. the grid at the edge of the chart. If no coordinates are provided on the chart (e.g. street map), you can also drive/fly/walk to several points on the chart and measure the coordinates with the GPS.

You must reference 3 points. Please note: your reference points should be distributed as far as possible over the chart. They should not be too close together and not lie in a straight line.

The MT program will also run if you have referenced only 2 points, but you will be forfeiting an important safety backup and verification of accuracy.

To create a reference point, move the desired chart point beneath the referencing symbol and select the referencing menu (Alt + R) or press F8. In the dialog that appears you can give this reference point a name and enter its coordinates (up to 1/1000 angular minute). Again you can move from one box to another by pressing the tabulator and to the previous box by simultaneously pressing Shift and Tab. The point can be saved by pressing Enter (Save). Save three points in this manner. The program will now evaluate the accuracy of your input and the deviation of the chart from the rectangular reference due to the projection. The following evaluations will be provided:

comments	very good	good	medium	poor but useful	unuseable
del psi *	0-1	1-2	2-6	6-10	>10

Confirm this message by pressing Enter. The referencing quality can also be seen at MAP/ INFO.

Now save the correctly referenced chart with the Save function in the map

menu (Alt + A) or by pressing function key F3. This will save the chart in the Moving Terrain format together with your referencing and it is ready for use in the Moving Terrain program.

(* Del psi is the internal evaluation criterion and is calculated from the relative angles of rotation of the chart between the earth coordinate system and the pixel system ensuing in each case from the straight line between the input points. The program simultaneously evaluates projection and referencial errors.)

11.3. Further functions in MT Chart

Map menu
In addition to the functions as outlined in Chapter 3.1 – Open, for opening BMP or MTC files, Save for saving MTC files with referencing, and Info for showing the quality of your referencing – the map menu (Alt + A) also contains the following functions:

Goto...
This function is used to check the chart into which you have entered coordinates. The referencing symbol is displayed precisely over the point stipulated by you. However, if the coordinates are off the edge of your chart, an error message will be displayed.

Zoom...
As in the main Moving Terrain program you can also view your own charts, except in the standard display, at a magnification factor of 200% or a reduction factor of 50%. Map Menü

11.4. The charts on your Moving Terrain system

The charts prepared with the MT Charting module are available as single charts on your system. They must first of all be copied into your system's \MOVTER.PRO\CUSTOM directory.

To replay self-digitized, referenced single charts on your MT-VisionAir:

Create a ZIP file (e.g. WINZIP) from your *.MTC files and name it
SINGLECH.ZIP

Any number of charts may be combined in this ZIP file. Now copy the SINGLECH.ZIP to the existing directory
\DATA\
on the Microdrive (Compact Flash Type II) prepared by Moving Terrain
That is all the preparation needed.
Now insert the microdrive (Compact Flash Type II) into the switched off MT-

VisionAir device and switch it on.
The updating process will start automatically.
Wait a few minutes (depending on the size of the file) until all the charts have been loaded onto the device.
Now switch the device off and remove the microdrive (Compact Flash Type II).
Upon restart you can activate your single charts with

- CHART
- SIN.CHA

In the event that this procedure does not run correctly, the most probable reason is that insufficient space is available for the charts on your device's hard drive (or partition thereof). In this case please contact us. We will be pleased to help you find a solution.

To replay self-digitized, referenced single charts on your MT-ULTRA:
Start a burn prorgram in order to burn a CDR. Create a new directory on this CDR called CUSTOM. Now attach the *.MTC files you made in the directory CUSTOM. Burn the CD. Using the MT UPDATE UTILITY ,corresponding to your software version, you can now install the new charts you made onto your system. Choose option 1. Update from Moving Terrain CD in the update program.

12. Special Coordinates

(Supplemental module, not included in the basic software)

General:

In addition to display of the coordinates in the latitude – longitude system, there are further coordinate formats available.

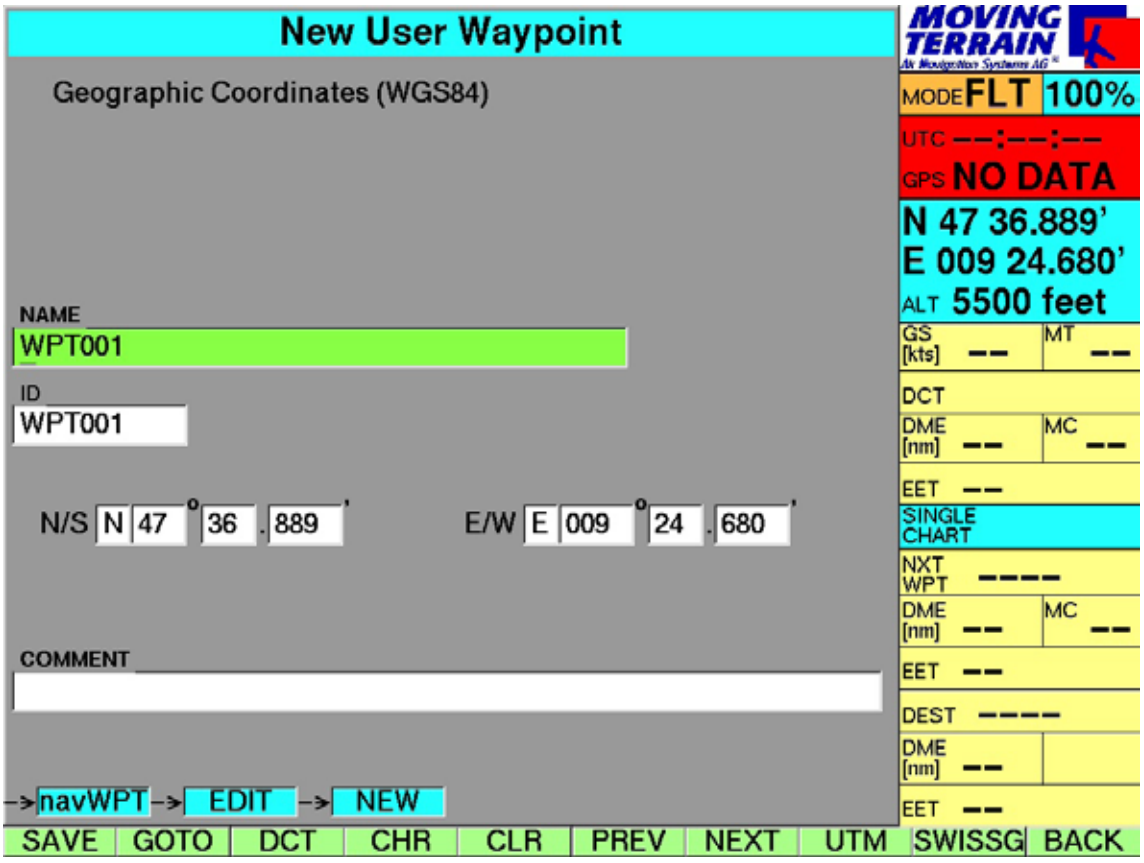
Handling:

- navWPT
- EDIT
- NEW/MODIFY

Now the following coordinates are available:

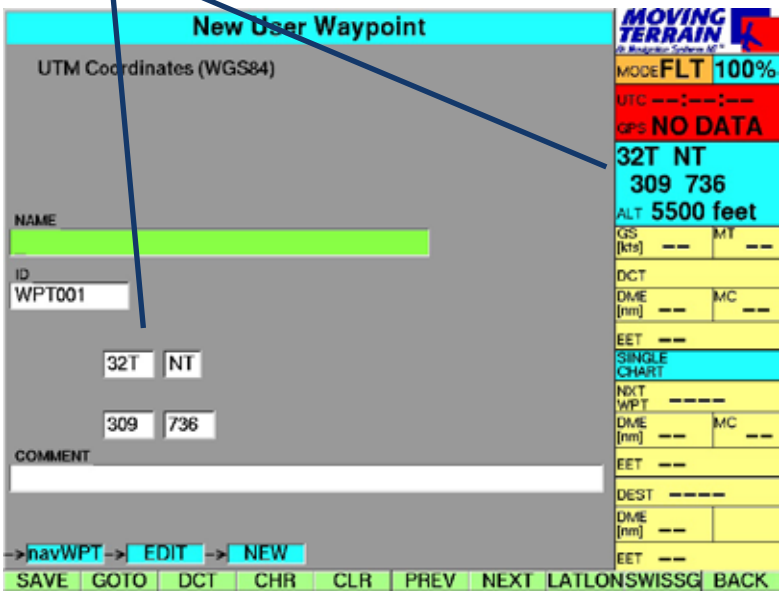
LAT/LON
UTM
SWISSG

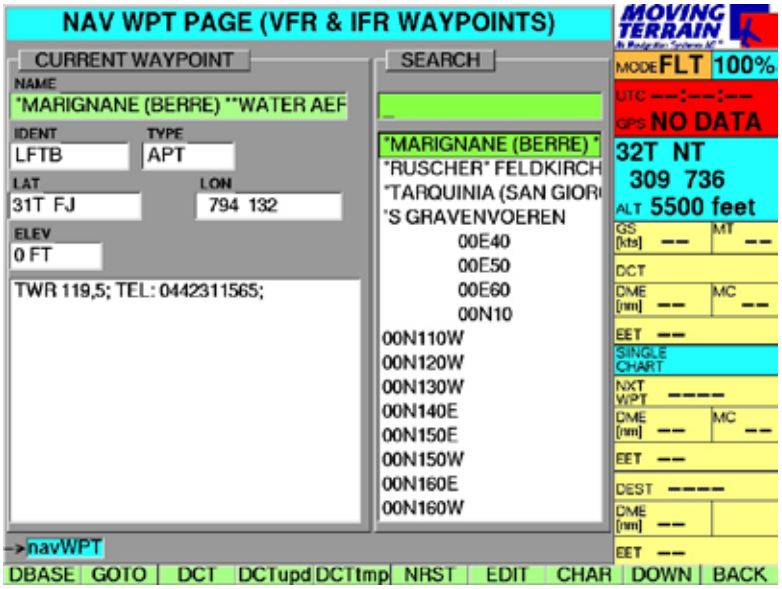
Once selected, a coordinate system remains active until a new choice is selected. When restarting the system the setting has to be reselected.



The coordinates are shown in the INFO BOX in the selected format.

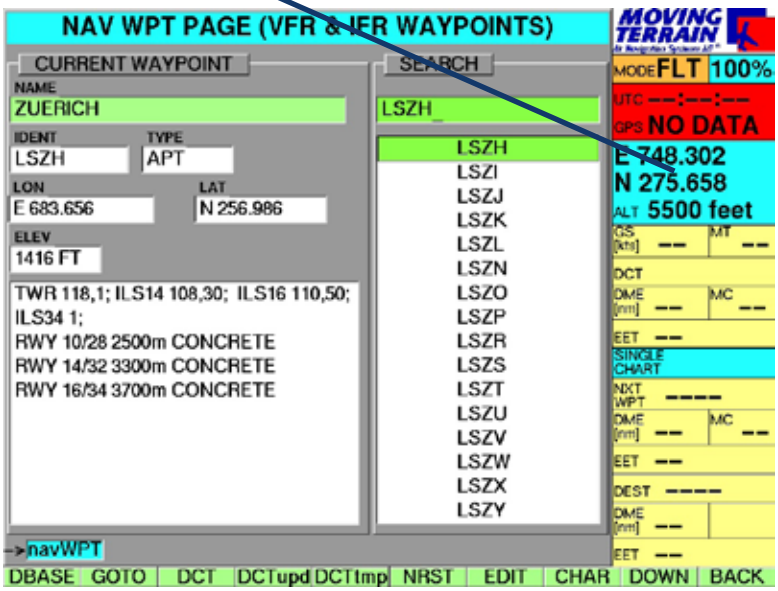
11.1. UTM:

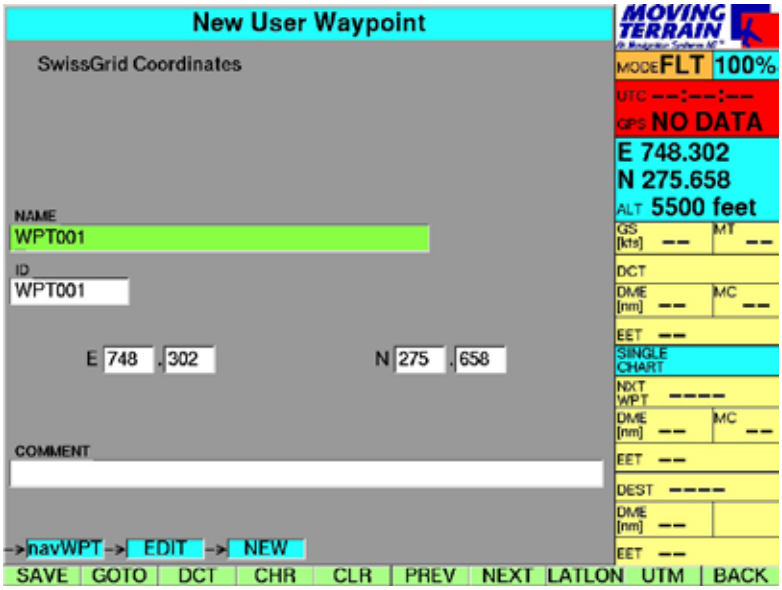




11.2. SWISS Grid

is only valid for the area of Switzerland





13. MT - UPDATE

General:

- Updates are installed via Compact Flash.
- The data storage media must either have been acquired from us or else must be configured in house following the acquisition.

Handling:

The update itself is easy and convenient:

- With the the unit turned off, please insert the CompactFlash into the side slot with the MT- label facing towards you. Then switch on the MT VisionAir. Now the update will run automatically.

- The message UPDATE SUCCESSFUL will be shown on the screen when the update is finished. Please turn off your unit again and remove the CompactFlash. The unit is now ready to use.

- Depending on the number of charts, an update can take up to 40 minutes!

Attention: Never insert or remove the CompactFlash while the unit is switched on!

Now the system has been updated with current data and is serviceable as usual.

Important:

! In case the data storage media is not recognized (which can be recognized by the fact that Moving Terrain is started!), power off the system and try again. The data storage media sometimes have startup problems.

! During an update process all of the data is loaded from the data storage media to the system, which may take some time. Please plan for this time and do not perform the update at the last minute.

Please take notice of further notes on the screen during the update.

Loading data onto the MT-VisionAir from the Internet or from data received by e-mail:

A Compact Flash prepared by us is required. Using the appropriate adapter, insert the CF in your office computer.

The data is provided by us in the following form:

VFR/IFR Data	IFR60.ZIP
Obstacle Data	OBSTACLE.ZIP
Software-Update	SW60.ZIP

These data files must be copied onto your Compact Flash in the directory
\DATA\
(do not unpack!).

Remove the Compact Flash from your office computer and the adapter and insert it in the powered off system MT-VisionAir.
When it is powered on, the update process will run automatically. After completion of the update, power the system down, remove the Compact Flash and restart the system.

This procedure basically works the same for Single Charts (*.MTC files) (see MT-Charting).

14. Unlocking of additional modules

General:
Unlocking of additionally acquired software modules can be conveniently performed on your MT-VisionAir device without having to send it in.
For this purpose we need the SITE CODE of your Moving Terrain.

Handling (determining the Site Code):

- AUX
- AUTH (press and hold for approximately 3 seconds = prevents unintentional activation!) leads to Moving Terrain Licensing Manager.
- Continuing with "Y", the Moving Terrain License Manager provides information about the currently unlocked modules.
- By pressing "A" the SITE CODE is displayed.

MOVING Terrain: <MTPRO.EXE> License Maintenance
==========
The base version of the MT Programm is now authorized at this site

The following OPTIONS are enabled:

z. B.
FMS
Track/Flight-Recording
IFR Complete
==========

[A=Authorize] [Q=Quit]
Please select from the menu above: a

Site Code: xxxx xxxx xxxx xxxx xx

Please Enter Site Key
and Press any Function Button to Finish
or Press <Q> to Quit:

- The Site Code must be entered into the attached form and faxed to Moving Terrain AG (+49 8376 - 9214-14).
- Moving Terrain will fax back the "Site Key".
- The SITE KEY is immediately entered via the keyboard on the frame.
- Please confirm by pressing one of the function keys below.
- The module is now unlocked.
- Power off system and restart.