DCS :SA342 Gazelle NADIR MARK I
Introducing

The NADIR system mixes informations coming from several sensors: Doppler, Compas Gyro, Verticality Gyro, Air speed sensors ... to aid navigation.

It features a flight plan system with up to 9 route points.

The active waypoint distance and direction are displayed at the NADIR/ADF gauge as soon as a valid waypoint is selected.
It can display additional datas such as own ground speed, deviation due to wind, Pitch, Roll and more ... directly at its own display screen.

Here’s a typical display with BUT parameter selected and waypoint 1 active.
Overview
Selectors and keys

**Mode selector**

**ARRET** stands for **OFF**

**VEILLE** stands for **STANDBY**

**TERRE** stands for **GROUND** To set when over ground

**MER** stands for **SEA** To set when over sea

**ANEMO** stands for **AIR SPEED SENSOR**

This is a degraded mode in case the Doppler is damaged, in this mode you'd have to enter Wind datas to set/update the system correctly. This mode is not simulated in this version.

**TEST SOL** stands for **GROUND TEST**

**Parameter selector**

**VENT** stands for **WIND**

**CM DEC** stands for **MAGNETIC HEADING – DECLINATION**

**VS DER** stands for **GROUND SPEED – DEVIATION**

**TEMPS CAP** stands for **CALCULATED TIME - HEADING**

**PP** stands for **CURRENT POSITION**

**BUT** stands for **WAYPOINT**
Keys

ENT stands for ENTER

DES stands for DESTINATION

AUX stands for AUXILIARY

IC stands for MAP INDICATOR

POL stands for POLAR

GEO UTM stands for GEOGRAPHIC – UTM Coordinates systems

POS FIX stands for STORE POSITION

GEL stands for FREEZE

EFF stands for DELETE
Display

With any parameter selected

![DES \( n \) ENT]

To select Point number \( n \) as new active point

With BUT parameter selected

![BUT \( n \)]

To select Point number \( n \) as new active point

With VENT, CM DEC, VS DER, TEMPS CAP parameters

![Ventilation symbol]

Select the parameter to display its datas
Wind datas

Upper line displays the direction in degrees
Lower line displays the speed in km/h
Magnetic Heading - Declination

Upper line displays the helicopter magnetic heading in degrees

Lower line displays the magnetic declination in degrees
Ground Speed - Deviation

Upper line displays the ground speed in km/h
Lower line displays the deviation in degrees
Estimated Time - Heading

Upper line displays the heading to the active waypoint in degrees

Lower line displays the calculated time in minutes to reach the waypoint

The lower line will display 999999 if the helicopter is stationary
Current Position

Upper line displays the latitude in degrees and decimal minutes of the current position. A letter N or S is displayed forward the digit numbers.

Lower line displays the longitude. Letter W or E is displayed forward.
Active waypoint

Latitude and longitude of the active waypoint are displayed the same way of the current position.

A digit is also display to show the waypoint number.
Active waypoint with UTM Coordinates

Upper line displays the X UTM coordinates (northing) in tenth of meters

Lower line displays the Y UTM coordinates (easting)

The third line displays the 2 digits UTM zone, this line can be accessed with the down arrow key
Changing the lines with the Down arrow

Upper line now displays the Y UTM coordinates (easting)

Lower line displays the UTM zone number
Data entering

Point coordinates (GEO or UTM)

Geographic coordinates

Latitude
First key pressed has to be \( N \) or \( S \) and will be considered as N or S for latitude

Then you can enter five digits which will stand for \( {\text{nn }} \circ \text{nn.n'} \)

Longitude
First key pressed has to be \( W \) or \( E \) and will be considered as W or E for longitude

Then you can enter six digits which will stand for \( {\text{nnn }} \circ \text{nn.n'} \)

UTM Coordinates

\( X \) and \( Y \) will be six digits numbers max and will mean tenth of meters

Zone is a number from 1 to 60.
Remarks

When editing datas, the edited line is flashing.

EFF  Key has 2 functions
A short press will erase the last entered digit
A long press (longer than 2s) will exit the edit and resume to the previous display.
You can define new waypoints using different ways

**From the current position to a point**

![Diagram]

Creates a new waypoint with the current position datas.

**From the stored position to a point**

![Diagram]

Creates a new waypoint with the stored position datas.

**From a point to another point**

![Diagram]

Creates a new waypoint with an existing point datas (Copy)

**From a point to another point (Polar)**

![Diagram]
**Auxiliaries**

- **AUX 0** Maintenance (not simulated)
- **AUX 1** Analysis, Damage (not fully simulated)

0 1 2 3 4 refer to auxiliaries
During this Doppler test, correct values are

$V_x = 217 \pm 13 \text{ km/h at the upper line}$

$V_y = 47 \pm 9 \text{ km/h at the lower line}$
Own Ground speed (km/h)
Pitch & Roll in degrees and minutes

Pitch at upper line
Roll at lower line
Every display-able digit is lightened
Display the distances (X and Y) in meters between your current position and the point at the moment you engaged the auxiliary.

Press 7 to disengage the auxiliary.
Zeroing previous damage (not simulated)

F5 residual A (not simulated)
RESET procedures are not simulated in this version.
START UP PROCEDURE

The start up procedure consists of three steps: The initializing, the tests and the reset.

Initializing

As soon as the Alternators are running the NADIR can be initiated.

To do so, turn the Mode selector to the VEILLE position.

AIR is displayed 40s, ERR NAV and PANNE are displayed 70s
After 40s
Once the NADIR has been initialized, after 70s, all advisories are off.
Tests

Two tests have to be conducted: the ground test and the auxiliaries test.

Ground test

PANNE is displayed 10s, AIR and ERR NAV stay displayed +

The double needle from the NADIR/ADF gauge points to 45° (of the dashboard) and the distance counter displays 50 (which means 50 km)
After 10s
The double needle from the NADIR/ADF gauge points to 45° (of the dashboard) and the distance counter displays 50 (which means 50 km)
Auxiliaries test

0 1 2 3 4 is displayed

Doppler test $V_x$ and $V_y$ are displayed

Visual test

(not simulated)

(not simulated)

Reset

Initial reset procedure is not simulated
REMARK

At the start of the mission the game will load automatically the waypoints from the mission editor into the NADIR waypoints if the option "Waypoints preload" in SPECIAL/SA342 is checked.

The first 9 points will be stored in the NADIR, if more than 9 points were defined in the mission. Only the defined waypoints will be loaded if they are less than 9 in the mission file, the missing waypoints will be filled with the current position at the start of the mission.

If the option "Waypoints preload" in SPECIAL/SA342 is not checked, all the waypoints will be filled with the current position at the start of the mission.