



IRSEDIS USER'S MANUAL

January 2005

NOTE:

It is important that you are familiar with the SEDIS IV user's manual and the Palm Zire manual before reading this document.

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Introduction

The program IRSEDIS is designed to allow remote control of a SEDIS IV unit with a handheld organizer of type Palm Zire m150 via an infrared connection established between the SEDIS IV and the Palm.

In order to get a good connection please make sure that the infrared port of the Palm is oriented towards the infrared port of the SEDIS IV and the distance between the Palm and the SEDIS IV is less than two meters.

The IRSEDIS software can send commands to the SEDIS IV unit, receive messages sent by the SEDIS IV unit and store these messages to a log-file inside the permanent memory of the Palm.

Starting the software

After you have switched the Palm on please switch to the home screen.

All software installed on the palm is shown on the home screen. The program related to each symbol is started by tapping on the symbol once.

In order to start the IRSEDIS software you have to tap on the symbol labeled 'IRSEDIS' as shown in Figure 1.

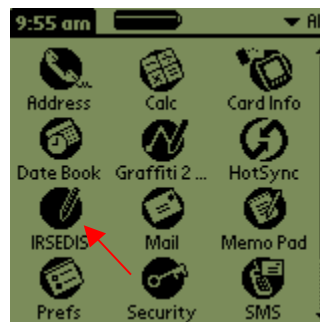


Figure 1:

home screen of the Palm Zire with only standard software and IRSEDIS installed
tap on the symbol marked with the arrow to start the IRSEDIS software

Selecting the serial number

After starting the software you have to enter the serial number of the SEDIS IV you want to communicate with.

Three listboxes are displayed from which you can select the serial number. Each listbox represents one digit of the serial number from the left to the right.

That means the leftmost listbox represents the first digit of the serial number.

You can select a digit by tapping on the desired number.

If the desired number is not shown in the listbox you can use the arrows on the right side of the listbox to scroll the list up or down.

After you have selected the serial number tap *continue* to get into the main menu of the IRSEDIS software.

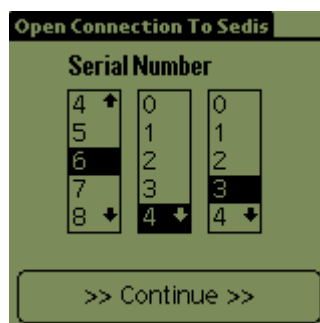


Figure 2:

selecting a serial number
in this example the serial number 643 is selected

The Main Menu

Here you can select between sending commands(*Send*, see sending commands to the SEDIS), displaying received messages(*Receive*, see receiving messages emitted by the SEDIS), working with the log-file(*Log*, see the log-file) and quitting the software(*Quit*). You can select the option you want by tapping on the corresponding button. All options are discussed in detail below.



Figure 3:
The main menu of IRSEDIS

Sending commands to the SEDIS

IMPORTANT:

Sending commands to Sedis while it is recording data will stop the record.

You have the choice between the following commands:

Get status information from the SEDIS (*Status*)

Start recording manually (*Start*)

Stop recording manually (*Stop*)

Program SEDIS to record for a specified time period (*Config*)

Get Drift information of the internal clock of the SEDIS (*Drift*)

You can select the command you want to send by tapping on the related button or you can switch back to the main menu by tapping *back* at the bottom of the display.

All commands are described in more detail below, but please read the *general sending procedure* section first.



Figure 4:
The *Send* menu of IRSEDIS

General sending procedure

Before sending a command you are always asked for confirmation (see Figure 5). **Sending a command to a SEDIS while it is recording data will stop the record** (see the SEDIS IV user's manual).

If despite of this you wish to obtain the *status* or *drift* information, it is recommended to stop recording manually, send the command you wish and start manually recording again.



Figure 5:
Confirm dialog before sending a command

After you have confirmed the *send* command to the SEDIS, the software tries to send the command as long as it gets a response from the SEDIS. This is automatically repeated up to 99 times at most.

The number of send efforts is displayed in the upper middle of the screen (see Figure 6). Usually, the command is successful after two or three attempts.



Figure 6:
a command is send

After the command is successfully send to the SEDIS you will have to switch to the receive page in order to see the SEDIS response.

Get status information (Status)

No user input is necessary for this command.
The SEDIS will respond with information about

- Battery voltage
- Temperature on its AD-converter
- Internal clock/ GPS

Get drift information (Drift)

No user input is necessary for this command.
The SEDIS will run its clock drift check routine and return the measured drift.

Start recording manually (Start)

With this command you can obtain the SEDIS recorded data, starting as soon as possible (usually after 2 minutes), with the *samplerate* and active channels you specified. After selecting the command *start* you have to select the recording channels and *samplerate*. A dialog is displayed for this purpose (see Figure 7).

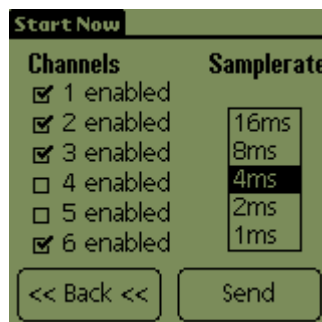


Figure 7:
selection of acquisition parameters
in this example a samplerate of 4 milliseconds and the channels number 1,2,3 and 6 are selected

On the left hand side of the dialog you can select the channels you want to be recording by tapping on the box left to the channel number. The box will be marked after that. To disable a channel tap on its box again and the mark will be removed.

On the right hand side of the dialog you can select the *samplerate* from the listbox.

You have the choice between *samplerates* of 16, 8, 4,2 and 1 milliseconds.

The *samplerate* is selected by tapping on the corresponding number.

After you have entered the recording parameters you desire you tap *Send* to send the programmed configuration to the SEDIS. If you don't wish to send the command, tap *Back* to return to the *Send* menu.

A samplerate of 1 millisecond is only available for three recording channels.

If you have selected a samplerate of 1 millisecond with more or less than three active channels and you have tapped *send* the following dialog will appear on the display of the palm:

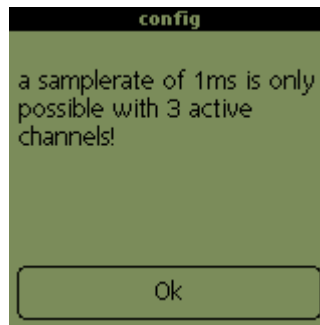


Figure 8:
rejection of a samplerate of 1msec and more or less than 3 active channels

After you have tapped *ok* the software will return to the *send menu*.

Samplerates of 16, 8, 4 and 2 milliseconds work with all possible configurations of active channels.

Stop recording manually (Stop)

With this command you can stop the current data acquisition of a SEDIS.

Although any other command send to a SEDIS while it is recording data would stop its data acquisition, sending the stop command is the recommended way.

No user input is necessary for this command.

Program the SEDIS (Config)

With this command you can program the SEDIS to start recording automatically at the specified date and time and to stop recording at the specified date and time. The acquisition parameters (active channels, *samplerate*) have to be programmed as well.

After you have tapped the *Config* you will be asked to enter the start time (see Figure 9).

Day	Mon	Yea	Hou	Min
21 ↑	08 ↑	03	08 ↑	28 ↑
22	09	04	09	29
23	10	05	10	30
24	11	06	11	31
25 ↓	12	07 ↓	12 ↓	32 ↓

Cancel >> Next >>

Figure 9:
selection of a start time
in this example 2004, December 23 at 10:30 is selected

Five listboxes are displayed. From left to the right you can select the day, month, year (04 means 2004), hour and minute of the desired start date and time. The way how to use these listboxes is described in the section 'Selecting a serial number'.

After you have chosen the start time tap *Next* at the bottom right side of the screen to continue with the input of the stop date and time (see Figure 10).

Day	Mon	Yea	Hou	Min
09 ↑	01	03	08 ↑	28 ↑
10	02	04	09	29
11	03	05	10	30
12	04	06	11	31
13 ↓	05 ↓	07 ↓	12 ↓	32 ↓

Cancel >> Next >>

Figure 10:
selection of the stop time
in this example 2005, January 10 at 10:30 is selected

After you have chosen the stop time tap the 'Next' button at the bottom right side of the screen to continue with the input of the recording channels and *samplerate* (see Figure 11). Read the section 'Start acquisition manually' for explanations on the procedure of entering these parameters. After you have selected the parameters tap *Next* to continue.

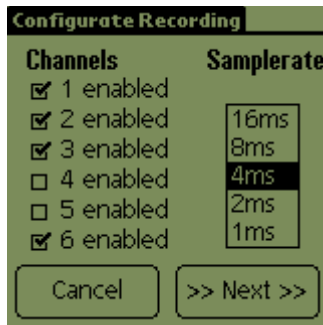


Figure 11:
 selection of acquisition parameters
 in this example channels 1,2,3 and 6 are active and a samplerate of 4 milliseconds is selected

After you have entered all the necessary data for programming the SEDIS all input will be displayed for your confirmation.

The selected start time is displayed in the first line, the stop time in the second, the samplerate in the third and the active channels in the fourth.

Each channel is represented by one digit and the channels are ordered from left to right.

A '1' means that the channel is active, a '0' that it is inactive.

Please check carefully whether there is no mistake and if all parameters are valid tap *Yes*.

After that the command will be send to the SEDIS.

If you don't accept the parameters tap *No* and you will return to the *Send* menu..



Figure 12:
 confirmation dialog for programming parameters
 in this example the start date and time are 2004, December 23 at 10:30,
 the stop date and time are 2005, January 10 at 10:30,
 the samplerate is 4 milliseconds and the channels 1, 2, 3 and 6 are active

Receiving messages emitted by the SEDIS

To watch the messages from the SEDIS received by the IRSEDIS software you have to chose 'Receive' in the Main Menu.

You will get into the Receive dialog.

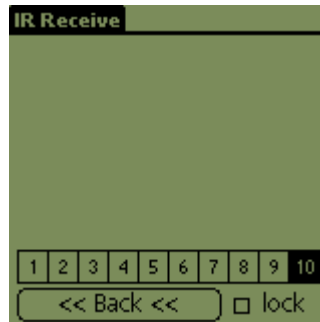


Figure 13:
Receive dialog

In this example page 10 is selected and the display is not locked

In the Receive dialog data is ordered into pages.

Only one page can be displayed at once because of the small size of the display of the Palm. The currently displayed page can be selected with the numbered buttons at the bottom of the screen.

New data will be added as the last line of page 10 and all lines already received will be shifted upwards by one line. The first line of page 10 will become the last line of page 9 and so on (see tables 1 & 2)..

Line number	Page 10	Page 9	Page 8
1	777	444	111
2	888	555	222
3	999	666	333

Table 1:
Example of received data.
The page size is reduced to only 3 instead of 10 lines for simplicity.

Line number	Page 10	Page 9	Page 8
1	888	555	222
2	999	666	333
3	NEW LINE	777	444

Table 2:
Previous table with a new line added

The Receive dialog offers the possibility to lock the display, e.g. new lines received are not shown until the display is unlocked again. This allows for a more convenient reading of the received messages.

To lock the display you have to tap on the small quadrilateral labeled 'lock'.

The quadrilateral will be shown checked (see Figure 13).

To unlock the display, e.g. new lines are displayed, tap on the quadrilateral again.



Figure 14:
Receive dialog with locked display

In order to get back into the Main Menu tap the 'Back' button in the bottom left corner of the display.

The log-file

All data received by the Palm are permanently stored in an internal log-file. After choosing *Log* in the Main menu you are asked to confirm to enter the *log mode* (see Figure 15). **No new messages can be received while the software is in *log-file mode*.**

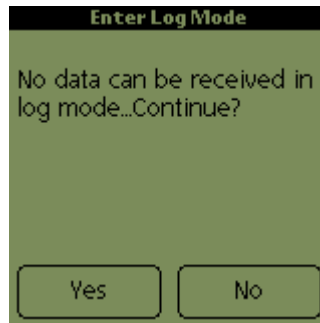


Figure 15:
Confirmation dialog before entering *log mode*

If you chose *Yes* the program will enter the *Log Menu*. If you chose *No* the program will switch back to the *Main Menu*.

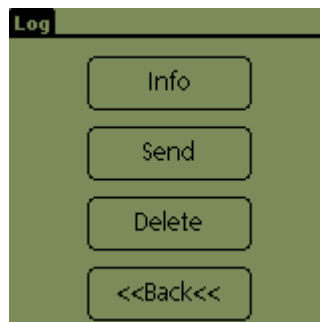


Figure 16:
The *Log Menu*

The *Log Menu* offers the following options:

- Get information about the number of lines stored in the log-file (*Info*)
- Transfer the log-file to another Palm or a computer (*Send*)
- Delete the log-file (*Delete*)
- Return to the *Main Menu* (*Back*)

Get information about the log-file

The size of the permanent memory doesn't allow the log-file to exceed 25.000 lines. An overflow will occur and other memory areas will be overwritten if the log-file grows beyond the size of the permanent memory. To prevent this, the log-file would be deleted automatically by the software if it gets too large and all the information stored in the log-file will be lost.

With this option you can control the number of lines currently in the log-file.

If the log-file gets too large you can transfer the log-file to a computer (see transfer the log-file) and delete it afterwards (see delete the log-file).

Please ensure that the log-file of the Palm is emptied before taking it to the field. In the field you probably have no possibility to backup the data to a computer or another Palm!

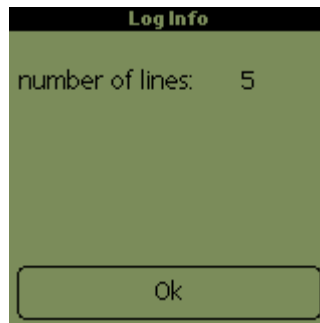


Figure 17:
number of lines contained in the log-file

Transfer the log-file

The log-file will be send as plain text through the infrared port of the Palm at a speed of 9600 baud (bits per second) . It can be received by any device with infrared capabilities. The recommended way to backup the log-file is to receive it on a computer running the Hyperterminal program and store it to the computer's harddisc.

Delete the log-file

Before the log-file is deleted you will be asked for confirmation (see Figure 18).

After deleting the data there is no means to recover them.



Figure 18:
Confirmation dialog for deleting the log-file