REV 1.0

Application notes

iSuite™ 3

This document contains application notes on how to reconfigure the unaided sensitivity level for iSuite 3.

April 13, 2005

Fastrax Ltd

Fastrax

TRADEMARKS

Change log

Rev.	Notes	Date
1.0	Initial revision	13-04-2005

CONTENTS

1. MORE SENSITIVE UNAIDED START

The iTrax receiver hardware has a dedicated signal search block designed to produce fast and accurate first fix. The hardware can also be used to search for very weak signals.

If high sensitivity search mode unfortunately also means longer TTFF and in the standard iTrax firmware we need to configure the signal search considering all these performance issues.

Some user might want to tune the signal search sensitivity in order to find very weak signals. This is possible to do with a very simple parameter change from the GPS WB or using a NMEA command.

Note: The more sensitive unaided start is not recommended to be used in a Sony based receiver.

1.1 Configuring the sensitivity

To change the signal search sensitivity for unaided start we need to change the default value for this sensitivity.

From GPS Workbench:

- Select Tools -> iTrax Parameters
- Activate the “Search” page.
- Select the “Search engine sensitivity level for unpredicted search, round 3” parameter.
- Press the Change button.
- Set the value to 6 (default value should be 3)
- Press OK.
- Press OK again.

You have now changed the signal search sensitivity from around –139 dBm to around –141 dBm. You will notice that signal search will take longer after this change. Note also that this new parameter value is stored to the iTrax flash memory after this operation and this value

will not change before you actually reconfigure it yourself using the steps above.

1.2 Configuring sensitivity with NMEA

The sensitivity can be changed also using the NMEA conf command:

$PFST,CONF,707,6

Giving the command without the new parameter value:

$PFST,CONF,707

Will only report the current value back.