THALES

Firmware Release Notes — Survey & GIS

Date: May 17, 2004 (modified June 22, 2006)

Product: **Z-Xtreme**

Subject: ZE21 Firmware Release

Number: Z-Xtreme 2004_01

A. Introduction:

ZE21 is a no-cost firmware update for the Z-Xtreme receiver. It is based on version ZE00. It corrects some firmware defects, such as the misinterpretation of D-files, and provides two improvements: the size of supported PCMCIA cards has been increased to 128 MB and the user can now set the RTCM Type 3 output interval to 2 seconds.

ZE21 began shipping on May 17, 2004.

B. Firmware modifications since ZE00:

1. Correction: The current firmware now correctly interprets the D-files coming from Stop&Go survey work done with Survey Control in the Husky or the survey software from TDS.
2. The problem with issuing the $PASHS,REC,Y/N command has been fixed.
3. The problem with receiver reset in RTK mode has been fixed. The receivers sometimes went to reset with the previous versions. This bug has been fixed in the RTK engine.
4. The capability of handling larger size PCMCIA cards has been implemented. The size of the supported PCMCIA cards has been increased from 85 MB to 128 MB.
5. The capability to set the RTCM Type 3 output interval in seconds has been implemented. To provide backward compatibility, just the non-obligatory parameter has been added at the end of corresponding command:

   $PASHS,RTC,TYP,3,N[,M]
   where M sets the output cycle unit in seconds. The ranges for M: {1-60}

   If there is no the last field in the command, the current value of corresponding output cycle unit is used.
   The default for type 3 output cycle unit is 60 (as for the previous versions without the extra field).

   Example:
   $PASHS,RTC,TYP,3,1,1 sets output rate of type-3 message to once per second;
   $PASHS,RTC,TYP,3,1,60 sets output rate of type-3 message to once per 60 seconds;

   The current values of the output cycle units are represented at the line "UNITS:" of the response for the $PASHQ,RTC:

```
STATUS:
  SYNC:    TYPE:00    STID:0000  STHE:0
  AGE:+000 QA:100.00% OFFSET:00
SETUP:
  MODE:OFF     PORT:A,-   AUT:N CODE:C/A
  SPD:0300 STI:0000 STH:0 IOD:030
  MAX:0060 QAF:100  SEQ:N
  TYPE:  1   2    3   22     6    9  15  16  18/19  20/21  EOT
  FRQ:   99  00  00  00   ON  00  00  00     00     00   CRLF
  UNITS: 1   60  60  60         1   1  60      1      1
  MSG:
```

Note that the same setup commands are also available for Type-2, Type-22 and Type-16 messages.

C. Installing ZE21 Firmware:

This low flash memory version of ZE00 should only be loaded into the Z-Xtreme receiver. ZE00 firmware update should be installed using Thales' Universal Program Loader program. The Universal Program Loading Software is available on the Thales Tech Support FTP site, ftp.thalesnavigation.com, in the \Land Survey\Utility Software\Universal Program Loader\Software\ folder. Please see note below regarding Z-Xtremes with internal PDL radios.

1. Procedure to load ZE21 firmware with Universal Program Loader:

1. Place firmware in directory on your PC's hard drive
2. Connect the receiver to the PC and power the receiver on
3. Launch the Universal Program Loader and use the browsing window to select MZCODE.BIN
4. Click OPEN
5. Select a COM port and click LOAD
6. Issue command $PASHS,INI,5,5,5,5,3,0 for a Z-Xtreme with PCMCIA card or $PASHS,INI,5,5,5,5,1,0 for Z-Xtreme without a PCMCIA card

2. Procedure to access a Z-Xtreme's internal PDL radio:

Both "Evaluate" and "RCS" software applications can be downloaded from the \Land Survey\Utility Software\ folder on the tech support FTP site. Using either Evaluate (or RCS), do the following:

1. Enter the following command through any of the receiver's COM ports: $PASHS,CTS,A,OFF
2. Enter the following command through any of the receiver's COM ports: $PASHS,SPD,D,5
3. Enter the following command through any of the receiver's COM ports: $PASHS,DSY,D,A
4. Enter the following command through any of the receiver's COM ports: $PASHS,DSY,A,D

5. Exit Evaluate (or RCS)
6. Connect one of your PC's serial ports to the Z-Xtreme's COM port A
7. Start Pacific Crest's "PDL Config" program (version 1.20 or later). This program can be downloaded from http://www.paccrst.com/tech_support/updates.shtml.
8. Click on the Pacific Crest icon in the upper left corner of the program to enable a drop down menu
9. Select "Set Capture Method" and select the "Soft Break" option
10. From the main toolbar, select "Load"
11. The software should connect to the radio at 9600 baud and display radio settings. NOTE: If PDL Conf cannot connect to the internal radio after following the steps above, use Evaluate (or RCS) to issue a $PASHS,RST command. Then set the Z-Xtreme's COM port D Baud rate to 38400 instead of 9600 (using the command $PASHS,SPD,D,7) and repeat steps 8-10.
12. After modifying the desired settings (DCE/DTE baud rate=9600, link rate=9600, and Modulation=GMSK) select "Program" from the main toolbar
13. Power cycle the Z-Xtreme
14. Verify base and rover radio settings and frequencies match and then set up RTK system.