

Using Bluetooth to Communicate with Z-Max

Introduction

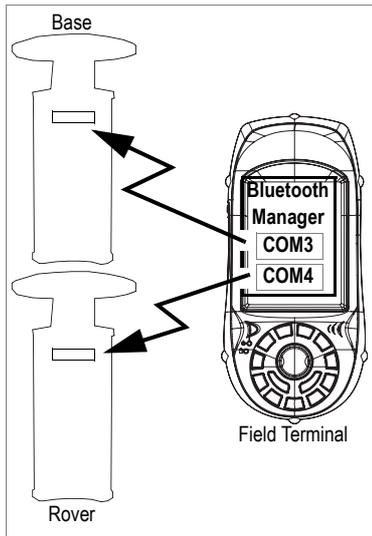
This leaflet explains how to control the Z-Max system from a Bluetooth-enabled field terminal (Thales MobileMapper CE).

Please carefully read these three preliminary notes:

- When using Bluetooth communication, **you will be asked repeatedly to enter the Z-Max PIN number** while setting up the base or the rover. By default, the PIN number for all Z-Max units is "12345".

To enter the PIN number using MobileMapper CE's virtual keyboard, follow the instructions below:

- To display the virtual keyboard, tap  in the task bar and then **Keyboard**. Don't forget to tap inside the **Enter PIN** field before entering the PIN number.
 - To hide the virtual keyboard, tap  in the task bar and then **Hide Input Panel**. If the task bar is hidden by the virtual keyboard, first tap and hold the keyboard's title bar and move it upward until the task bar becomes visible, then select **Hide Input Panel** from the task bar.
- To change the PIN number of a Z-Max unit once communication with this unit has been established via Bluetooth, run **FAST Survey**, select the **Equip** tab, run the **Receiver Utilities** function and select **Bluetooth Settings**. In the **Z-Max Bluetooth Passkey** field, type the new number and then tap **Set New Bluetooth Passkey**. A message will be returned to indicate that the BT Passkey has successfully been set.
 - The "Tap and hold an item" instruction mentioned several times in this leaflet means you have to:
 - Tap on the item using the stylus
 - And keep the stylus in contact with the screen until dots and then a pop-up menu appears. Then you will have to tap one of the functions in the prompted menu.



Controlling and Using Z-Max Via Bluetooth

1. First of all, turn on each of the Z-Max units you will be using (a base and a rover, or simply a rover) by pressing the power button for about two seconds until a beep is emitted.

Detecting Bluetooth-Enabled Devices

In this step, you will run Bluetooth Manager to find the Bluetooth-enabled devices within range of the field terminal.

1. On the MobileMapper CE, tap  in the task bar, then **Settings** and then **Control Panel**.
2. Double-tap the **Bluetooth Manager** icon.
3. In the Bluetooth Manager window, tap on the **ON** button. Wait until Bluetooth Manager has detected the Z-Max.Net unit(s) you have just turned on. Bluetooth Manager will also detect any Bluetooth-enabled devices present in the vicinity such as cell phones, computers, etc.
4. In the **Authentication Request** window that appears following the detection of the Z-Max.Net units, tap successively the PIN number for each unit ("12345" by default; yours may be different) (see preliminary note above).
5. Tap **OK**. Bluetooth Manager then updates the list of Bluetooth-enabled devices to show the serial number of the Z-Max units (rather than obscure Bluetooth ID numbers).



Finding Bluetooth Services

In this step, you will list the services available from the detected Bluetooth-enabled devices.

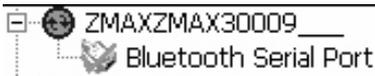
For each detected Z-Max, do the following:

1. Tap and hold the now green Z-Max icon in the list and then tap **Find Services** from the pop-up menu. Wait until a "+" sign appears before the icon.
2. Expand the Z-Max icon by tapping on the "+" sign. This unveils **Bluetooth Serial Port** that is currently red crossed. ("**Bluetooth Serial Port**" is the only Bluetooth service available from the Z-Max units.)



Assigning Virtual Ports to Bluetooth

In this step, you will ask Bluetooth Manager to assign a virtual port in the field terminal for each Bluetooth connection you need.



For each detected Z-Max, do the following:

1. Tap and hold **Bluetooth Serial Port** and then tap **Configure**. This opens the **Configure Serial Port** window.
2. Select a free virtual port (**COM3**: for the base, **COM4**: for the rover) and then tap **OK** to close the window.
3. Tap and hold **Bluetooth Serial Port** and then tap **Connect**. Re-enter the PIN number if requested. Wait until the Bluetooth Serial Port line appears with a green mark meaning that the Bluetooth connection with the Z-Max is now established.

Saving Bluetooth Serial Port Settings

You will save much time when next starting your system if you follow the procedure below the first time you set up the required Bluetooth connections.

For each detected Z-Max, do the following:

1. Tap and hold **Bluetooth Serial Port** and then tap successively **Auto Connect** and then **Save Settings**.

With these options activated, and **provided you do not turn off Bluetooth Manager before shutting down the field terminal**, Bluetooth Manager will automatically restore the Bluetooth connections when you next turn on your field terminal.

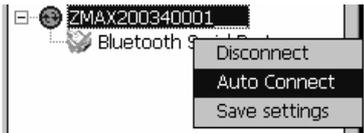
Obviously, Bluetooth Manager will only be able to restore connections with the Z-Max units that are present in the vicinity and powered up at that time.

You will then simply be asked to re-enter the PIN number for each of these units.

Before moving on to FAST Survey, do the following:

2. Tap **OK** in the upper-right corner to close the Bluetooth Manager window. This does not turn off Bluetooth Manager but simply frees the screen for other tasks.
3. For the same reason, close the Control Panel window.

Note the presence of the Bluetooth icon () in the task bar meaning that Bluetooth continues to be active.



Defining and Saving Bluetooth Settings for FAST Survey

FAST Survey can communicate with only one Z-Max unit at a time. This step provides the procedure to let FAST Survey communicate with the desired Z-Max unit via Bluetooth and save these settings in a configuration file so these settings can quickly be restored whenever necessary.

1. Run FAST Survey on the field terminal
2. In FAST Survey, tap on the **Equip** tab and then on the **Comm Setup** function.
3. In the **Port Number** field, select "COM3" (for communicating with the base)
4. Check the **This is a Bluetooth port** option and then select "Other" as the **Bluetooth Driver**
5. Tap **OK** to close the window. FAST Survey is now communicating with the base through COM3. At this stage, you can communicate with the base for configuration or monitoring purposes.
6. Tap  on top of the screen
7. Tap the **Save** button
8. Name the configuration file (for example "Z-Max Base")
9. Tap **OK** and then **Close**
10. Repeat the above steps 2 to 9 for the Z-Max rover you are using. This time you will select "COM4" and not "COM3" in the Comm Set up window (point 3.) and you will enter "Z-Max Rover" as the name for the configuration file (point 8.).

toggling Bluetooth Between Base and Rover

Now that you have saved the two ways FAST Survey can communicate with your Z-Max system, it's easy to toggle Bluetooth communication from the base to the rover or the other way around:

1. Tap  on top of the screen
2. Tap on the name of the configuration corresponding to the unit you wish to communicate with and then tap **Select**. As a result, FAST Survey automatically updates the settings in the Comm Setup function to let you communicate with the chosen unit.

