

External Antenna Switch Utility

CF-31mk2

Thank you for downloading the External Antenna Switch Utility for the Toughbook CF-31mk2 mobile computing platforms. We recommend that you read this guide prior to using the utility in a production environment.

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NOTE

- This manual provides an overview of functions and features. Consult with your IT department before making any changes to your system.
-  : Reference manuals for each computer provided with the factory image.

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Precautions

- **The External Antenna Switch Utility will only function on the CF-31mk2 family of laptops**

This utility is configured to run on the laptops specified in this document. Although the program will execute on any Toughbook laptop, no changes will be made to units that fall outside of the specified model family.

- **The External Antenna Switch Utility requires the Panasonic Miscellaneous driver to function**

This utility interfaces with the Panasonic Miscdriver and will not execute unless the Misc driver is installed on the Windows 7 or Windows XP image.

- **The AntennaSwitch.exe utility will trigger a User Account Control security prompt in Windows 7**

Depending on the configuration of your Windows 7 image, the AntennaSwitch.exe program may require elevated privileges in order to execute correctly.

- **All changes made with the External Antenna Switch Utility will require a reboot**

Both the command line utility and the Windows GUI based utility require a complete restart of the system in order to commit any changes made with the utility.

- **The AntennaSwitch.exe utility requires the ExAntSet.exe file.**

The AntennaSwitch.exe Windows GUI utility is dependant upon the ExAntSet.exe file. If both files do reside within the same path, the AntennaSwitch.exe will not execute correctly

Specifications

Item	Description
AntennaSwitch.exe	Windows UI based External Antenna Switch utility Compatible with Windows XP and Windows 7
ExAntSet.exe	Command line based utility; useful for deployment and scripting purposes
Single Pass Through Configuration Command Line Switches	/l:wwanm /l:wlanm /l:gps /l:none
Dual Pass Through, Lower Selectable Configuration Command Line Switches	/u:wwanm /u:none /l:wlanm /l:wwana /l:gps /l:none
Dual Pass Through Upper Selectable Configuration Command Line Switches	/u:wwanm /u:wlana /u:gps /u:none /l:wlanm /l:none

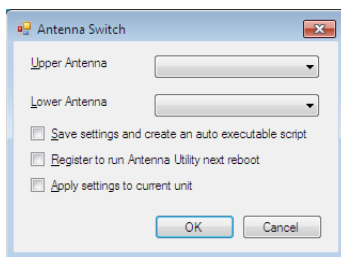
Using the External Antenna Switch Utility

CAUTION

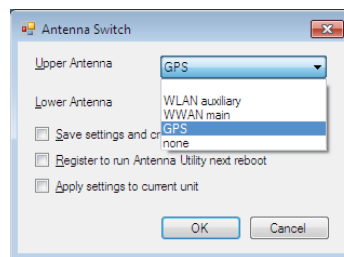
Make sure that you have sufficient battery power to make the required changes to the Toughbook laptop

AntennaSwitch.exe

- 1 Extract the External Antenna Switch Utility files from the EXT_ANT_PACKAGE.ZIP file to a temporary folder on the target device
- 2 Locate and Double Click the AntennaSwitch.exe file
- 3 Click on the Yes button if presented with a User Account Control alert. (Windows 7) One of the following dialogue boxes will appear:

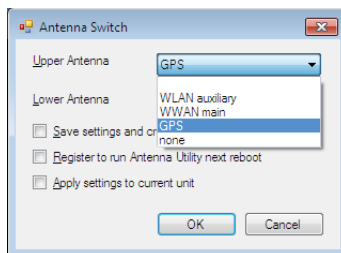


Dual Antenna Pass Through Model

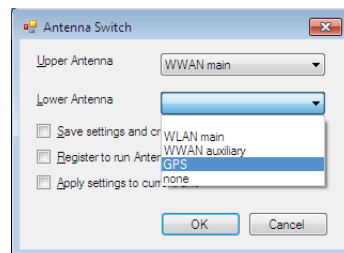


Single Antenna Pass Through Model

- 4 Click the arrows on each drop down box to change the external antenna settings. For dual pass through units, your settings may differ (examples below):



Dual Antenna Pass Through Model
Upper Selectable Antenna



Dual Antenna Pass Through Model
Lower Selectable Antenna

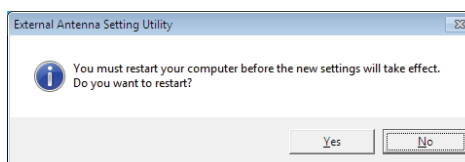
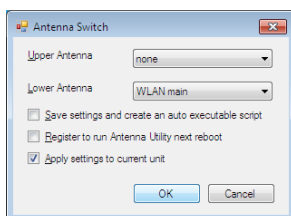
- Dual Pass Through models with Upper Selectable - lower antenna WLAN Main or None
- Dual Pass Through models with Lower Selectable - upper antenna WWAN Main or None
- None = Use the internal laptop antenna

Using the External Antenna Switch Utility

AntennaSwitch.exe (cont.)

- 5 To apply the external antenna settings immediately, click on the check box next to “Apply settings to current unit”.

At the restart prompt (shown below) click on the “Yes” button to restart the laptop immediately or the “No” button to restart the laptop at a later time. Remember: the external antenna settings will not be applied until AFTER a complete system restart.



- The following instructions are optional and are intended for use by IT personnel during imaging and deployment activities

- 6 To save the external antenna settings to a batch file, click on the check box next to “Save settings and create an auto executable script”.

The utility will save the settings you choose to a batch file in the same location as the AntennaSwitch.exe utility. The naming convention will vary however the name of the file will follow the settings you choose in the AntennaSwitch.exe utility.

Example: U-wwanm_L_wlanm.bat

- Upper Antenna = WWAN Main
- Lower Antenna = WLAN Main

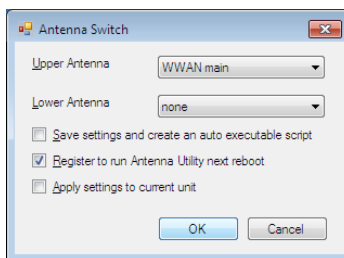
Sample script file contents:

```
ECHO OFF
PUSHD .
CD /d %~dp0
.\ExAntSet.exe /u:wwanm /l:wlanm
POPD
```

Using the External Antenna Switch Utility

AntennaSwitch.exe (cont.)

- 7 To apply the external antenna settings as part of an image build (prior to deployment), click the check box next to the “Register to run Antenna Utility next reboot” option and then click on the OK button to commit these changes.



The utility will register the ExAntSet.exe application to run a single instance upon the next reboot and copy the utility files to the C:\Program Files\Panasonic\ExAntenna folder.

CAUTION

- Do not reboot the system until you have completed a successful capture of the operating system to use as a reference image.
If you reboot before the capture, you will need to run the
- AntennaSwitch.exe utility with the “Register to run Antenna Utility next reboot” option again.
You must create an additional line(s) of script to remove the ExAntenna
- folder from the client image after the RunOnce instance has executed for the External Antenna Switch Utility.
The reference image must have the Panasonic Miscellaneous driver
- installed on the client system. If the Panasonic Misc driver is not installed on the client image, the ExAntSet.exe utility will not function.

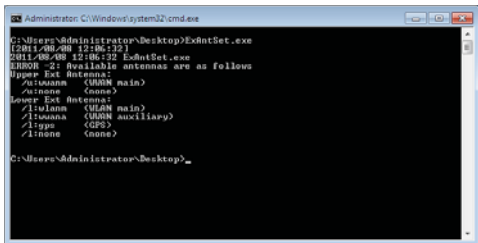
Using the External Antenna Switch Utility

ExAntSet.exe

NOTE

- The ExAntSet.exe is a Windows Command Line utility
- This command line utility can be used for changes that need to occur in an automated manner/environment (SMS, Scripting, Windows PE, etc).
- The ExAntSet.exe utility requires the Panasonic Miscellaneous driver and will not function without this driver

- 1 Extract the External Antenna Switch Utility files to a temporary folder on the target device (CF-31 mk2)
- 2 Open the Windows command line utility (Windows XP or Windows 7)
- 3 From the command line, enter the following : ExAntSet.exe <enter>
The utility will display a full list of command line switches that you can use with the ExAntSet.exe utility on your target machine (see below).



```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\Administrator\Desktop>ExAntSet.exe
[2011/08/08 12:06:12]
2011-08-08 12:06:12 ExAntSet.exe
ERROR - 2: Available antennas are as follows
Upper Ext Antenna:
  /u:wwanm  <UWIN main>
  /u:none   <none>
Lower Ext Antenna:
  /l:wwanm  <UWIN main>
  /l:wwana  <UWIN auxiliary>
  /l:gnss   <GPS>
  /l:none   <none>
```

IMPORTANT

- Using the ExAntSet.exe utility without command line switches will only display the options that are possible on the target machine.

Below is a complete list of all command line switches that are available with the ExtAntSet.exe command line utility:

Command Line Switch Matrix

Single Pass Through Configuration	/l:wwanm /l:wlanm /l:gnss /l:none
Dual Pass Through Lower Selectable Configuration	/u:wwanm /u:none /l:wlanm /l:wwana /l:gnss /l:none
Dual Pass Through Upper Selectable Configuration	/u:wwanm /u:wlanm /u:gnss /u:none /l:wlanm /l:none

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ExAntSet.exe

NOTE

- Without the use of the /s (silent) option, the command line utility will require end user interaction (restart prompt)
- Using the NONE option - use internal antenna only, regardless of docking station use

4 To change the external antenna options for your laptop, you can enter one of the following sets of commands:

Single Pass Through Command Line Examples

ExAntSet.EXE /L:WWANM	Set lower external antenna to WWAN main
ExAntSet.EXE /L:WLANM	Set lower external antenna to WLAN main
ExAntSet.EXE /L:GPS	Set lower external antenna to GPS
ExAntSet.EXE /L:NONE	Set lower external antenna to NONE

Dual Pass Through (Upper Selectable) Command Line Examples

ExAntSet.EXE /U:WWANM /L:WLANM	Set upper external antenna to WWAN main, set lower external antenna to WLAN main
ExAntSet.EXE /U:WLANA /L:WLANM	Set upper external antenna to WLAN auxiliary, set lower external antenna to WLAN main
ExAntSet.EXE /U:GPS /L:WLANM	Set upper external antenna to GPS, set lower external antenna to WLAN main
ExAntSet.EXE /U:NONE L:NONE	Set upper external antenna to NONE, set lower external antenna to NONE (use internal antennas only)

Dual Pass Through (Lower Selectable) Command Line Examples

ExAntSet.EXE /U:WWANM /L:WLANM	Set upper external antenna to WWAN main, set lower external antenna to WLAN main
ExAntSet.EXE /U:WWANM /L:WWANA	Set upper external antenna to WWAN main, set lower external antenna to WWAN auxiliary
ExAntSet.EXE /U:WWANM /L:GPS	Set upper external antenna to WWAN main, set lower external antenna to GPS
ExAntSet.EXE /U:NONE L:WLANM	Set upper external antenna to NONE, set lower external antenna to WLAN main
ExAntSet.EXE /U:NONE L:NONE	Set upper external antenna to NONE, lower external antenna to NONE (use internal antennas only)

Other Command Line Examples

ExAntSet.EXE /L:NONE /s	Set upper external antenna to NONE (use internal antenna), lower external antenna to NONE, and silence all messages and prompts (Windows GUI)
ExAntSet.EXE /L:NONE /F:OUTPUT.TXT	Set upper external antenna to NONE (use internal antenna), lower external antenna to NONE, and send output messages to a text file name OUTPUT.TXT