# JANUS REMOTE

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# LTE POTSwap<sup>TM</sup> Firmware Loading Instructions

### Overview

The LTE POTSwap operates on firmware that can be updated in order to incorporate new features or address operating issues. New firmware can be loaded via a connection to the POTSwap's CONFIG port (USB mini connector). The firmware upgrade procedure is accomplished using a terminal emulation program running on a personal computer (PC) and transferring the firmware using the Xmodem protocol.

## **Requirements:**

- LTE POTSwap
- USB-to-mini USB cable
- PC running Windows, loaded with:
  - SiLabs CP210x USB to UART Bridge driver for the POTSwap USB CONFIG port.
  - Terminal emulation program with Xmodem-1K file transfer support.
  - POTSwap binary file. Available for download on the Janus website. (File name takes the form 'POTSWAP3-LTE-yymmdd-RCn.bin')

The SiLabs CP210x USB to UART Bridge driver may be automatically installed by the Windows operating system when the POTSwap is connected to a PC with internet access.

The driver is also available from Sllicon Laboratories at:

www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers

At the above web page, select the 'Downloads' tab and download the "CP210x Windows Drivers" package.

Extract the files and run the appropriate installation package:

"CP210xVCPInstaller\_x86.exe" for legacy 32 bit systems

"CP210xVCPInstaller\_x64.exe" for 64 bit systems

The terminal emulation program must have the ability to send a binary file using the XMODEM-1K protocol. Acceptable programs include:

- ExtraPuTTY A PuTTY variant that includes support for the XMODEM-1K file transfer protocol.
- Terra Term An open source terminal emulator.
- HyperTerminal Included on Windows XP and earlier Windows operating systems.

This Application Note uses the ExtraPuTTY program to demonstrate the POTSwap firmware loading procedure.

ExtraPutty can be downloaded from:

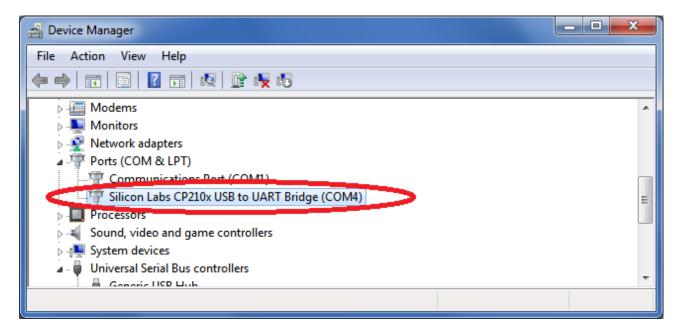
```
www.sourceforge.net/projects/extraputty/
```

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#### **Procedure:**

This procedure demonstrates LTE POTSwap firmware loading using the ExtraPutty application.

With the POTSwap powered on connected via the USB CONFIG port, use the Windows Device Manager to determine the COM port that the POTSwap is using:



#### Open ExtraPutty.

On the configuration page, select "Terminal" under the Category list.

Check the box for "Implicit CR in every LF"

🕵 PuTTY Configuration (Save mode : File)			_		×	
Category:						
Session	^	Options controlling the terminal emulation				
Logging     Logging     Ferminal     Features     Features     ExtraPuTTY     Settings     StatusBar     FilesTransfer     Window     Appearance     Behaviour	<	Set various terminal op Auto wrap mode ir DEC Origin Mode Implicit CR in ever Use background of Enable blinking te: Answerback to ^E: PuTTY	nitially on initially on y LF CR colour to erase screen kt			
Translation     Selection     Colours     Hyperlinks     Onnection     Proxy     Telnet     Rlogin     Fin SSH		Local echo: Auto Local line editing: Auto Remote-controlled prin Printer to send ANSI p	-	Force off		~
About	~		0	pen	Cancel	



#### Procedure continued

On the configuration page, select "Session" under the Category list.

Set Connection Type to Serial

Set the Serial line to the COM port determined by Device Manager.

Set the Speed to 115200

It is suggested to give these settings a name and save them.

🕵 PuTTY Configuration (Save mode : File)				$\times$	
Category:					
	Basic options for your PuTTY session				
Logging	Specify the destination you want to connect to				
i i enninai i ii Keyboard	Serial line	9	peed		
Bell	COM4		115200	$ \geq $	
Features	Connection type:		00.11		
⊡. ExtraPuTTY Settings	○ Raw ○ Telnet ○ Rlogin ○ ○ Cyqterm	SSH 🤇	Serial	ノー	
StatusBar					
	Load, save or delete a stored session				
i indow	Saved Sessions COM4-115200				
Appearance Behaviour					
Translation	Default Settings COM4-115200		Load		
Selection			Save		
Colours Hyperlinks			Delete		
			Delete		
- Data					
Proxy Telnet					
Riogin	Close window on exit:				
⊞- SSH	Always ONever	Only	on clean exi	t	
Serial	O Never, Auto-Connect				
iCvntem					
About	Open		Cancel		

Start the terminal emulator program.

Power the POTSwap, or use the reset push button to re-start it.

The POTSwap will output diagnostic information for about 30 seconds, at the end of which the following is output:

```
WireLine III Board - POTSwap [version]
Entering Terminal Mode, 10 seconds to type first command
Type ? for help, Q to exit
FW: hh:mm:ss MMM DD YYYY
READY
```

You have 10 seconds to enter a "?" character followed by the "Enter" key. (Otherwise it proceeds to begin normal operation.)

#### The POTSwap will respond with:

3

```
Terminal Mode Help - USART1 Debug Port (WLR) hh:mm:ss MMM DD YYYY

?, H This help page

Q, QUIT Exit Terminal Mode

XMODEM Download upgrade binary

UPDATE Update Application

REBOOT Restart Application

CONFIG Configure Settings

IDENTIFY Display PHONE#/IMEI/MEID

APN Context Access Point Name

READY - Stack:nnn
```



#### Procedure continued

Enter "xmodem" (not case sensitive) followed by the "Enter" key.

The POTSwap will respond with:

Waiting for XMODEM transfer..

The POTSwap will begin sending 'C' characters while it waits for the XMODEM transfer.

From the drop-down menu at the top of the ExtraPutty window select:

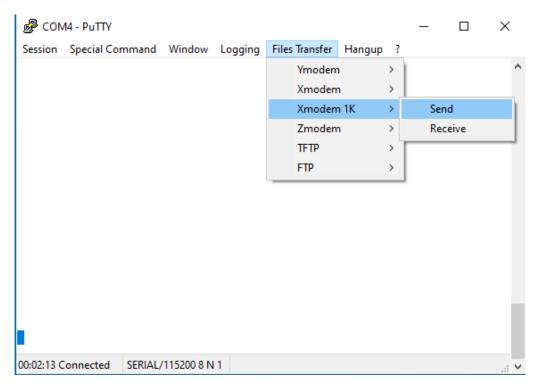
File Transfer >> Xmodem 1k >> Send.

A new window will open and allow you to browse for the POTSwap binary file.

An example file name downloaded from the janus-rc.com website would be:

POTSWAP3-LTE-220718-RC13.bin

Find and select the appropriate file, and the transfer will begin. (Note: At this point if you need to abondon the transfer, enter the <ESC> key twice to return to the POTSwap Terminal Mode.)



POTSwap will send a series of "." (period) characters when the transfer is complete.

Press the <ESC> key once and the POTSwap should respond with 'READY"...

Enter "UPDATE" followed with <enter>.

Potswap will respond with:

Update Flash..

If the POTSwap does not automatically reboot, power cycle it.



Do not interrupt the power or press the RESET button on the POTSwap during the few seconds following the reboot. Doing so risks corrupting the new firmware load and rendering the POTSwap inoperative.

