

# **Tech Notes**

# **LT-3100 Serial Port Redirector**

This Tech Note describes how to install, configure, and verify the Serial Port Redirector (a virtual serial port redirector for Windows).

The Serial Port Redirector is a Windows application and driver that enables a Windows PC to take full advantage of the LT-3100 Satellite Communications System's Modem capabilities (Modem Data, SMS, and SBD) when the Windows PC is connected, directly or through a local network, to the LT-3100 Satellite Communications System using an Ethernet cable, thus eliminating the range limitations of old RS-232 serial cable installations. The Serial Port Redirector creates a virtual serial port for backward compatibility with old Windows applications requiring a Windows COM port.

### **Required Documentation**

Serial Port Redirector License obtained from Lars Thrane A/S

### **Required Hardware & Dial-up**

Personal Computer or Laptop. The following Windows 32 and 64-bit versions are support: Windows Vista, 7, 8, 8.1, 10, Server 2003, Server 2008, 2008 R2, Server 2012, 2012 R2.

LT-3100 Satellite Communication System with software version 1.03 or later (version 1.06 if used with Windows Dial-up Networking).

The PC and the LT-3100 Communication System shall be connected using an Ethernet cable – either directly or through a network (e.g. a router or switch).

#### Install Instructions

- 1) Download the latest version of the Serial Port Redirector from <u>www.thrane.eu/lt-3100-iridium/</u> to the PC (if used with Windows Dial-up Networking, the version 2.8.11 or later is required).
- 2) Extract the content of the downloaded .zip file using your favorite archive tool (e.g. 7-Zip).
- 3) Run the extracted file named serial-port-redirector.msi. Windows may ask whether you want to allow the application to make changes to your device. If so, say Yes.
- 4) When Serial Port Redirector installer shows up, click on Next.



Figure 1 Installer greetings

5) On the next page check the "I accept the terms in the License Agreement" checkbox and click on Next.

😹 Serial Port Redirector 2.8.11 Setup —	×
End-User License Agreement Please read the following license agreement carefully.	software
FabulaTech End User License Agreement         This SOFTWARE is SHAREWARE product.         That means user has possibility to thoroughly evaluate its usefulness and functionality before making a purchase. This "try before you buy" approach is the ultimate guarantee that the SOFTWARE will perform to his satisfaction. Therefore there is no refund policy for any purchase of this products.         1.License grant. FabulaTech grants you a license to use one copy of the version of this SOFTWARE on any one system for as many licenses as you purchase.         "You" means the company, entity or individual whose funds are used to pay the license fee. "Use" means storing. loading, installing, executing or displaying the	~
☑ I accept the terms in the License Agreement	
Back Next Can	cel

Figure 2 Installer EULA

6) First select "I have license key and want to install full version", then copy the license obtained from Lars Thrane A/S into the text field and click on Next.

🕼 Serial Port Redirector 2.8.11 Setup	_		×
Serial Port Redirector 2.8.11 Select product version to install	FabulaTe	Ch Pabula Tech	Software
<ul> <li>I would like to test and evaluate program (Trial version)</li> <li>I have license key and want to install full version</li> <li>Copy and paste your license key here.</li> </ul>			
BEGIN SERIALPORTREDIRECTOR KEY BLOCKEyAC WUmeX7CpKPzFGw8AFLPHOwtKi3OGbC8D57TjvpvE 9KQyiTZpX/NMPvJuDwAYTDTR7m+qVP+V8IjDSwKK JybT3+wo/oQeXgTh59EoqmF7xuy6ZkRNY4xWUkcr f6nqXQ2ENF3/dvhaNIMZvVq9otR+oQQpvgHMY586 S+8KLyquXtDISW/WLKTnai/VRtpz1zKvNVUznLIz 9sqqjzcVAXV9904+1Ee/IQJST03hBbBgnj6emkyQ SkZCJAdc9bsYl8ByUpLQzPRnOcNHX3XdkJPtNLhZ 1BBPUu2YANq5D/1KHnyljw== END SERIALPORTREDIRECTOR KEY BLOCK	o8WKu5p5THSj2	2XHQ 1BLRgo	DE
Back	Next	Cance	ł

Figure 3 Installer license

记 Serial Port Redirector 2.8.11 Setup	_		×
Choose install location Serial Port Redirector 2.8.11	Fabular	Pabula Te Ann ann an Ann ann an Ann ann an Ann ann an Ann ann an Ann ann an	software
Setup will install Serial Port Redirector 2.8.11 in the following different folder, click Browse and select another folder. Click	folder. To inst Next to contin	all in a ue.	
Destination folder C: \Program Files\Serial Port Redirector\		Browse	
Space requires: 26MB			
Back	Next	Cano	:el

7) Select a destination folder for the installation or keep the default and click on Next.

Figure 4 Installer location

8) It is recommended to keep the "Start Menu folder" checkbox checked, but to uncheck the "Desktop icon" (it is not necessary to manually start the Serial Port Redirector upon each power cycle of the PC). Click on Install to commence the install.

🙀 Serial Port Redirector 2.8.11 Setup	_		×
Ready to install Serial Port Redirector 2.8.11	Fabula	Pabula Ta Sech Peth Statester Statester	Software
Click Install to begin the installation. Click Back to review or char installation settings. Click Cancel to exit the wizard.	nge any of yo	bur	
Create shortcuts for Serial Port Redirector 2.8.11			
Start Menu folder			
Desktop icon			
Install this application for:			
<ul> <li>Anyone who uses this computer (all users)</li> </ul>			
Only for me (Windows User)			
Back	Install	Can	cel

Figure 5 Installer install

9) When installation has successfully completed, the following page is shown. Uncheck the "View Quick Start guide" and click Finish.



Figure 6 Installer completed

### **Configuration Instructions**

1) If not already open and running, start the Serial Port Redirector from the Windows Start Menu.



Figure 7 Configuration clean install

2) First, enable the Serial Port Redirector by selecting the menu Settings - > Ports are Enabled:



Figure 8 Configuration enable

3) Click menu Port -> Add Client Virtual Port...

🔊 Serial	Port R	edirector - www.fabulatech.com		—	×
Program	Port	Settings Help			
<u>Zh</u> 2		Add Client Virtual Port			$\bigcirc$
		Add Server Virtual Port			
My Cor		Add Server Physical Port			
		Remove			
		Remove All			
		Properties			
	_		_		

Figure 9 Configuration add port

4) In the "Virtual serial port" drop-down box, select an available COM port number. This will become the virtual COM port exposing the LT-3100 Satellite Communications System's Modem service to other Windows application(s).



Figure 10 Configuration port selection

- 5) Next, enter the IP Address of the LT-3100 Satellite Communications System.
  - **NOTE**: The current IP Address of the LT-3100 Satellite Communications System can be obtained through the LT-3100 Satellite Communications System UI (Menu -> System -> Network: IP Address).
  - IMPORTANT:It is recommended to configure a static IP address for the LT-3100 Satellite<br/>Communications System (using the built-in web server: Configuration -> Network).<br/>Otherwise, the IP Address of the LT-3100 Satellite Communications System may change<br/>between power cycles, causing link failure between the Serial Port Redirector and the<br/>LT-3100 Satellite Communications System.

Add Serial Port	×
	Add Client Virtual Port
STA	COM10 ~ Advanced
	Remote IP address or computer name: 169.254.1.1
	TCP-port:
	OK Cancel

Figure 11 Configuration IP address

6) Enter TCP-port number **5020** and click on OK to complete the configuration. When configured correctly the new virtual COM port will be shown (the IP Address shown here may differ):



Figure 12 Configuration completed

7) Finally, the serial interface must be enabled at the LT-3100. Open an Internet Browser and enter the IP address of the LT-3100, e.g. 169.254.1.1. Press the login button and enter user name and password<sup>1</sup>. Then select the *Configuration -> data* menu and check the *Enable serial over network* box and press the *Apply* button.

LT-3100 Satellite Communication ${\rm S}_{\rm S}$ X	+	-		×
← → ♂ ŵ	Q https://169.254.1.1∳s/main.html →	h	\ 🗊	≡
LT-3100 System	Configuration - Data			
Dashboard	Modem data options			
Configuration ^	Enable serial over network			
Authentication	Apply			
Data				
SIP				
Reset				
Sonware update				
Diagnostics				
Legal notice				
Log out				

Figure 13 Enable serial interface

<sup>&</sup>lt;sup>1</sup> The default username and password are admin/admin.

#### Modem configuration

If the Serial Port Redirector is to be used with Windows Dial-up networking, a modem driver must be installed as well.

At the Windows start button enter "phone and modem" and select the *Phone and Modem – control panel* menu.

	Advanced		
The list below d	displays the location: hich you are dialing.	s you have specified.	Select the
Locations:			
Location		Area Code	
My Location			
	New	Edit	Delete
	New	Edit	Delete
	New	Edit	Delete

Figure 14 Phone and Modem

Select the *Modems* tab.

i Phone and Modem	×
Dialing Rules Modems Advanced	
The following modems are installed:	
Modem Attached To	
Add 🕅 Remove Properties	3
OK Cancel App	y

Figure 15 Add new modem

Press the Add button to add a new modem.

Add Hardware Wizard	
Install New Modem Do you want Windo	ws to detect your modem?
	Windows will now try to detect your modem. Before continuing, you should:
	<ol> <li>If the modem is attached to your computer, make sure it is turned on.</li> </ol>
	<ol><li>Quit any programs that may be using the modem.</li></ol>
	Click Next when you are ready to continue.
	☑ Don't detect my modem; I will select it from a list.
	< Back Next > Cancel

Figure 16 Install new modem

Make sure to check the box: *Don't detect my modem*.

Press the *Next* button.

an installation disk, click	r and model of your modem. If your modem is not l k Have Disk.	isted, or if you have
Manufacturer	Models	^
(Standard Modem Types)	🔄 Standard 1200 bps Modem	
Standard Cell Phones	🔄 Standard 2400 bps Modem	
	🔄 Standard 9600 bps Modem	
	🔄 Standard 14400 bps Modem	
	CL., J., J 10000 L., M. J.,	•
This driver is digitally signed	L.	Have Disk

Figure 17 Standard 2400 bps Modem

Select a Standard 2400 bps Modem.

Press the *Next* button.

Add Hardware Wizard				
Install New Modem Select the port(s) you	want to install the modem on.			
	You have selected the following mode Standard 2400 bps Modem On which ports do you want to install C All ports Selected ports COM1 COM2	em: it?		
	[	< Back	Next >	Cancel

Figure 18 Select COM port

Select the COM port and press the *Next* button.



Figure 19 Finish the installation

Finish the installation.

The modem is now installed. Continue to configure the modem.

Phone and Modem	×
Dialing Rules Modems Advanced	
The following modems are installed:	
Modem	Attached To
Standard 2400 bps Modem	COM2
Sector Add	move Properties
ОК	Cancel Apply

Figure 20 Set modem properties

Press the *Properties* button.

Standard 2400 bps Modem Properties						×		
General	Modem Diagnostics Advanced Driver Details Events							
2	Standard 2400 bps Modem							
	Device type: Modems							
	Manufacturer: (Standard Modem Types)							
	Location	1:	Unl	known				
Devic	Device status This device is working properly.							
•	Change se	ttings					~	
					0	K	Cano	:el

Figure 21 Change setting

Press the *Change setting* button.

Standard 2400 bps Modem Properties							×
General	Modem	Diagnostics	Advanced	Driver	Details	Events	
Extra	Settings						
Extra	initializatio	on commands:					
AT	+CBST=71	.0.1					
Initia sens mode	lization co itive infom em's instru	mmands may le lation in the me ction manual fe	ead to the exp odem log. Cor or more detail	posure of nsult you s.	f		
		Ch	ange Default	Preferen	ices		
				0	K	Cance	el

Figure 22 Modem Initialization

Press the *Advanced* tab and enter the *Extra initialization command*: AT+CBST=71,0,1.

# Press the OK button.

Phone and Modem	>
Dialing Rules Modems Advanced	
The following modems are installed:	
Modem	Attached To
Standard 2400 bps Modem	COM2
SAdd	emove Properties
ОК	Cancel Apply

Figure 23 Modem installation and configuration finished

Press the OK button.

**Verification Instructions** 

- 1) If not already open and running, start the Serial Port Redirector from the Windows Start Menu.
- 2) Find the virtual COM port used by the Serial Port Redirector (highlighted by the red circle):



Figure 24 Verification find COM port

3) Start your favorite terminal emulator (e.g. PuTTY from <u>www.putty.org</u>) and open the COM port selected for use by the Serial Port Redirector (see previous step) and baud rate set to 9600 baud.

🕵 PuTTY Configuration		? ×	
Puttry Configuration         Category:         □- Session         □- Logging         □- Terminal         □- Keyboard         □- Bell         □- Features         □- Window         □- Appearance         □- Behaviour         □- Translation         □- Selection         □- Colours         □- Connection         □- Proxy         □- Tenet         □- Rlogin         □- SSH         □- Serial	Basic options for your PuTTY see         Specify the destination you want to connect         Serial line         COM10         Connection type:         Raw       Ielnet         Raw       Ielnet         Load, save or delete a stored session         Saved Sessions         Default Settings         Close window on exit:         Aways       Never         Only on close	? × ssion ct to Speed 9600          Speed         9600         Image: Serial         Image: Image: Image: Serial         Image: Image: Image: Serial         Image: Image: Image: Image: Image: Serial         Image: Im	
<u>A</u> bout <u>H</u> elp	<u>O</u> pen	<u>C</u> ancel	]

Figure 25 Verification PuTTY setup

4) Enter the command "at" in your terminal emulator. If the LT-3100 Satellite Communications System responds with "OK", the Serial Port Redirector has been installed and configured correctly.



Figure 26 Verify AT command