# LAVA Serial and Parallel Cards
## Windows Installation and Configuration Guide
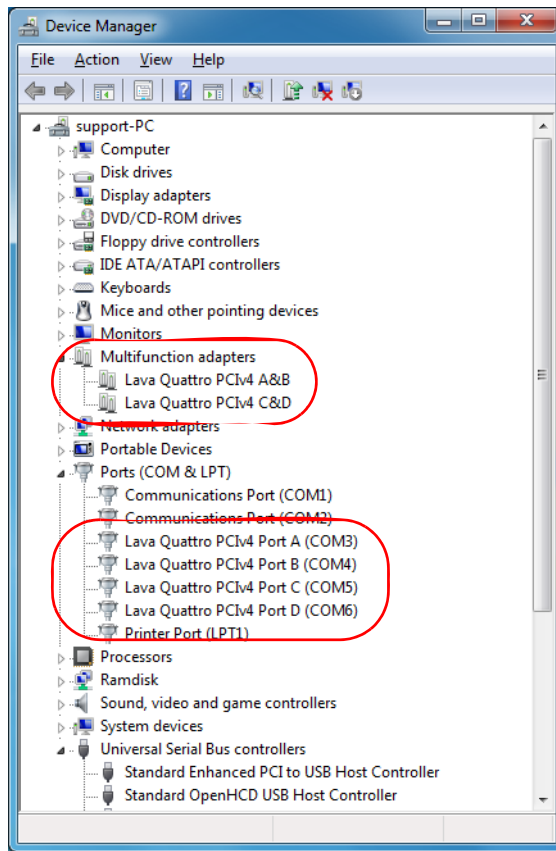
## PCI Serial Cards

***Products:***

- SSerial-PCI (one-port serial PCI card, RS-232, 16550 UART)
- SSerial-PCI/LP (one-port serial PCI card, RS-232, 16550 UART, low profile form factor)
- LavaPort-650 (one-port serial PCI card, RS-232, 16650 UART)
- RS422 SS-PCI (one-port serial PCI card, RS-422, 16550 UART)
- DSerial-PCI (two-port serial PCI card, RS-232, 16550 UART)
- DSerial-PCI/LP (two-port serial PCI card, RS-232, 16550 UART, low profile form factor)
- DSerial-PCI 3.3V (two-port serial PCI card, RS-232, 16550 UART, for 3.3 volt PCI slot)
- DSerial-PCI Powered (two-port serial PCI card, RS-232, 16550 UART, supplies port on serial ports)
- DSerial-PCI OS/2 (two-port serial PCI card, RS-232, 16550 UART, for OS/2 operation)
- LavaPort-PCI (two-port serial PCI card, RS-232, 16650 UART)
- Quattro-PCI (four-port serial PCI card, RS-232, 16550 UART)
- Quattro-PCI/LP (four-port serial PCI card, RS-232, 16550 UART, low profile form factor)
- Quattro-PCI 3.3V (four-port serial PCI card, RS-232, 16550 UART, for 3.3 volt PCI slot)
- Quattro-PCI Powered (four-port serial PCI card, RS-232, 16550 UART, supplies port on serial ports)
- LavaPort-Quad (four-port serial PCI card, RS-232, 16650 UART)
- Octopus-550 (eight port serial PCI card, RS-232, 16550 UART)

***Installation:***

1. With the power turned off, insert the card into any free PCI slot in your PC. Make sure the card is well seated. Turn on your PC and start Windows.
2. Windows should automatically detect the card as a new PCI Serial Controller and ask for the location of the drivers. The installation files are located in the Windows directory of the distribution CD and can also be obtained online. Windows .
   **NOTE:** On installation, 16650 UART PCI serial cards (LavaPort-650, LavaPort-PCI, and LavaPort-Quad) may display a message to the effect that the drivers are not digitally signed. This warning can be ignored in 32-bit versions of Windows. 16650 UART serial cards are not supported in 64-bit versions of Windows.
3. After the necessary files have been detected, Windows will complete the full installation of the card. Depending on the card, a Parent Device may be created in Windows' Device Manager under "Multifunction adapters", with child ports being created in Windows' Device Manager under "Ports (COM & LPT)". As a consequence you may be required to specify the driver location several times. You will need to open Windows' Device Manager to view the installed ports' configuration. The ports will appear under "Ports (COM & LPT)" in a manner similar to the following:

NOTE: COM port numbering can be changed by double-clicking the port entry displayed in Windows' Device Manager. Go to Port Settings | Advanced, and choose the COM port number you want.

NOTE: Modifying the COM number will not change the actual IRQ and hardware addressing of the COM port. Also, a COM port's IRQ and hardware addressing can only be changed in versions of Windows prior to Windows 2000. Instructions for MS-DOS or Windows operating systems prior to Windows 2000 can be found in the product support pages for individual cards at www.lavalink.com.

## PCI Parallel Cards

***Products:***
- Parallel-PCI (one-port parallel PCI card, EPP)
- Parallel-PCI/LP (one-port parallel PCI card, EPP, low profile form factor)
- Parallel-PCI 3.3V (one-port parallel PCI card, EPP, for 3.3 volt PCI slot)
- Dual Parallel-PCI (two-port parallel PCI card, EPP)

***Installation:***
1. With the power turned off, insert the card into any free PCI slot in your PC. Make sure the card is well seated. Turn on your PC and start Windows.
2. Windows should automatically detect the card as a new PCI Parallel Controller and ask for the location of the drivers. The installation files are located in the Windows directory of the distribution CD and can also be obtained online.
3. After the necessary files have been detected, Windows will complete the full installation of the card. (For the Dual Parallel-PCI you will be required to specify the driver location twice, once for each port being installed.) You will need to open Windows' Device Manager to view the installed ports' configuration. The ports will appear under "Ports (COM & LPT)" in a manner similar to the following:
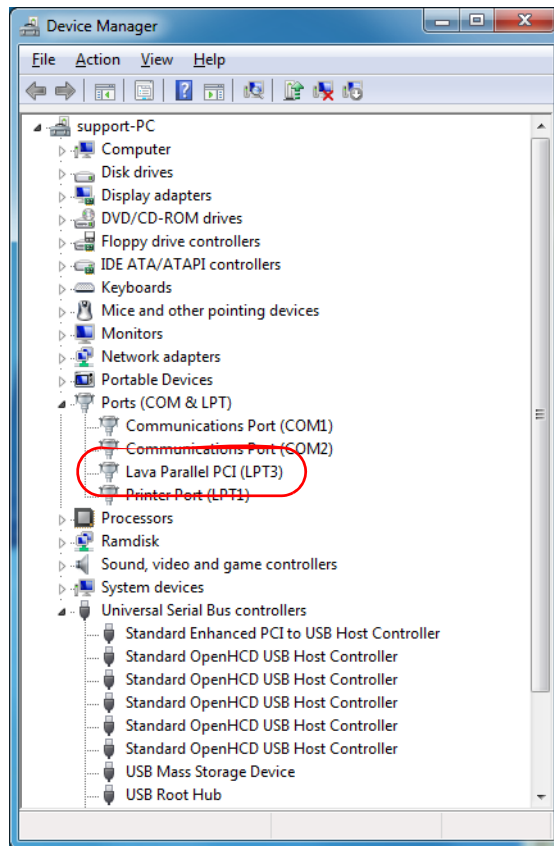
**NOTE:** LPT port numbering can be changed by double-clicking the port entry displayed in Windows' Device Manager. Go to Port Settings, and choose the LPT port number you want.

**NOTE:** Modifying the LPT number will not change the actual IRQ and hardware addressing of the LPT port. Also, an LPT port's IRQ and hardware addressing can only be changed in versions of Windows prior to Windows 2000. Instructions for MS-DOS or Windows operating systems prior to Windows 2000 can be found in the product support pages for individual cards at www.lavalink.com.

**NOTE:** Any Plug and Play devices attached to the ports will now also be detected and installed. Windows may display a message to the effect that the drivers are not digitally signed. This warning can be ignored.
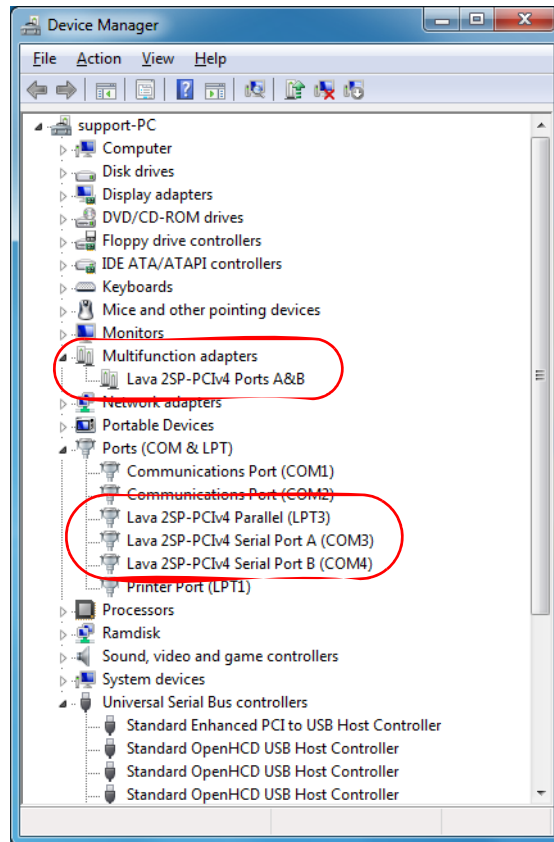
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## PCI Combined Serial and Parallel Cards

*Products:*
- SP-PCI (one-port serial RS-232 16550 UART & one-port parallel EPP PCI card)
- 2SP-PCI (two-port serial RS-232 16550 UART & one-port parallel EPP PCI card)

*Installation:*
1. With the power turned off, insert the card into any free PCI slot in your PC. Make sure the card is well seated. Turn on your PC and start Windows.
2. Windows should automatically detect the card as a new PCI Serial Controller and a new PCI Parallel Controller and ask for the location of the drivers. The installation files are located in the Windows directory of the distribution CD and can also be obtained online.
3. After the necessary files have been detected, Windows will complete the full installation of the card. Depending on the card, a Parent Device may be created in Windows' Device Manager under "Multifunction adapters", with child ports being created in Windows' Device Manager under "Ports (COM & LPT)". As a consequence you may be required to specify the driver location several times. You will need to open Windows' Device Manager to view the

installed ports' configuration. The ports will appear under "Ports (COM & LPT)" in a manner similar to the following:



**NOTE:** COM and LPT port numbering can be changed by double-clicking the port entry displayed in Windows' Device Manager. For serial port numbering go to Port Settings | Advanced, and choose the COM port number you want. For parallel port numbering go to Port Settings, and choose the LPT port number you want.

**NOTE:** Modifying the COM/LPT number will not change the actual IRQ and hardware addressing of the port. Also, a port's IRQ and hardware addressing can only be changed in versions of Windows prior to Windows 2000. Instructions for MS-DOS or Windows operating systems prior to Windows 2000 can be found in the product support pages for individual cards at www.lavalink.com.

**NOTE:** Any Plug and Play devices attached to the ports will now also be detected and installed. Windows may display a message to the effect that the drivers are not digitally signed. This warning can be ignored.
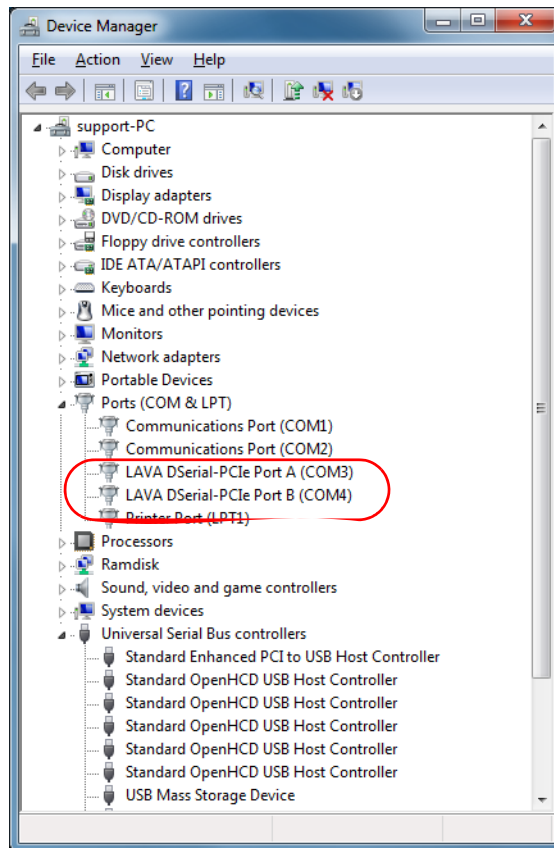
## PCIe Serial Cards

**Products:**
- SSerial-PCIe (one-port serial PCIe card, RS-232, 16550 UART)
- SSerial-PCIe/LP (one-port serial PCIe card, RS-232, 16550 UART, low profile form factor)
- DSerial-PCIe (two-port serial PCIe card, RS-232, 16550 UART)
- DSerial-PCIe/LP (two-port serial PCIe card, RS-232, 16550 UART, low profile form factor)
- Quattro-PCIe (four-port serial PCIe card, RS-232, 16550 UART)

**Installation:**
1. With the power turned off, insert the card into any free PCIe slot in your PC. Make sure the card is well seated. Turn on your PC and start Windows.

2. Windows should automatically detect the card as a new PCIe Serial Controller and ask for the location of the drivers. The installation files are located in the Windows directory of the distribution CD and can also be obtained online.
3. After the necessary files have been detected, Windows will complete the full installation of the card. You may be required to specify the driver location several times, once for each port being installed. You will need to open Windows' Device Manager to view the installed ports' configuration. The ports will appear under "Ports (COM & LPT)" in a manner similar to the following:



**NOTE:** COM port numbering can be changed by double-clicking the port entry displayed in Windows' Device Manager. Go to Port Settings | Advanced, and choose the COM port number you want.

## PCIe Parallel Cards

***Products:***
• Parallel-PCIe (one-port parallel PCIe card, EPP)
• Parallel-PCIe/LP (one-port parallel PCIe card, EPP, low profile form factor)

***Installation:***
1. With the power turned off, insert the card into any free PCIe slot in your PC. Make sure the card is well seated. Turn on your PC and start Windows.
2. Windows should automatically detect the card as a new PCIe Parallel Controller and ask for the location of the drivers. The installation files are located in the Windows directory of the distribution CD and can also be obtained online.
3. After the necessary files have been detected, Windows will complete the full installation of the card. You will need to open Windows' Device Manager to view the installed ports' configuration. The ports will appear under "Ports (COM & LPT)" in a manner similar to the following:
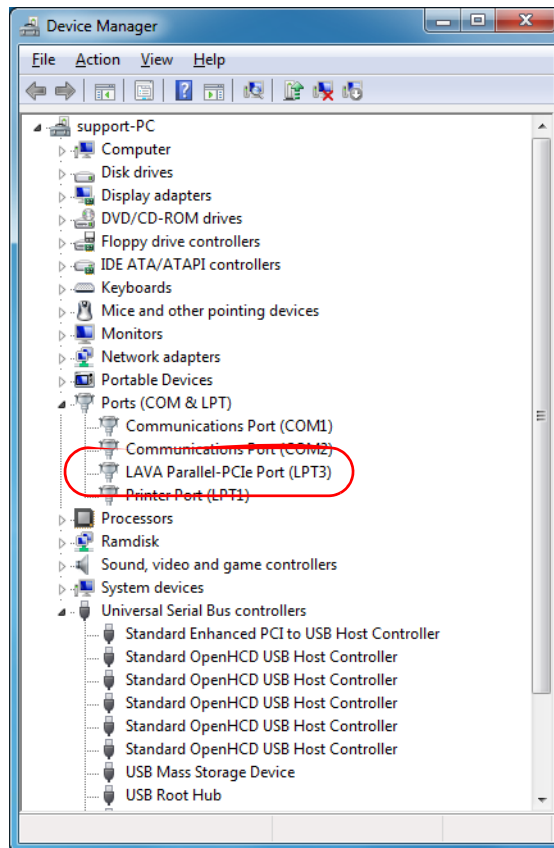
**NOTE:** LPT port numbering can be changed by double-clicking the port entry displayed in Windows' Device Manager. Go to Port Settings, and choose the LPT port number you want.

**NOTE:** Any Plug and Play devices attached to the ports will now also be detected and installed.
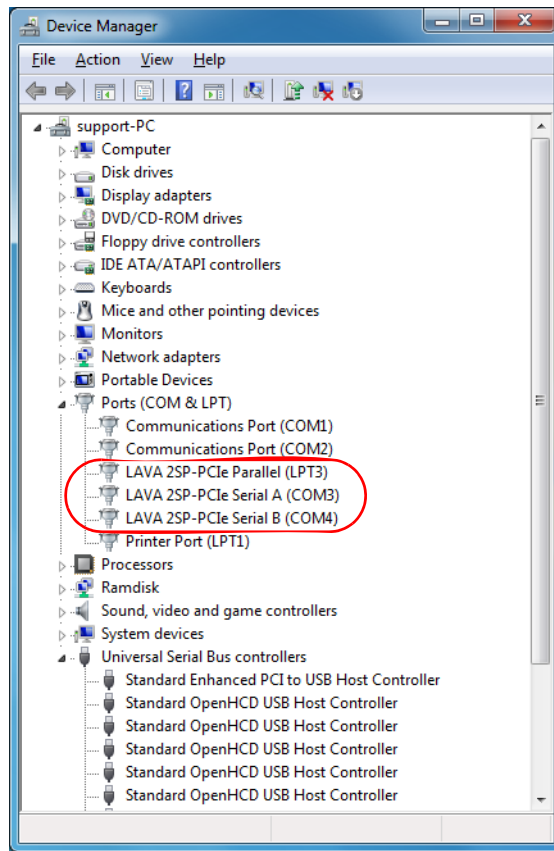
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## PCIe Combined Serial and Parallel Cards

***Products:***
- SP-PCIe (one-port serial RS-232 16550 UART & one-port parallel EPP PCIe card)
- 2SP-PCIe [9, 9] (two-port serial RS-232 16550 UART [DB-9 & DB-9] & one-port parallel EPP PCIe card)
- 2SP-PCIe [9, 25] (two-port serial RS-232 16550 UART [DB-9 & DB-25] & one-port parallel EPP PCIe card)

***Installation:***
1. With the power turned off, insert the card into any free PCIe slot in your PC. Make sure the card is well seated. Turn on your PC and start Windows.
2. Windows should automatically detect the card as a new PCIe Serial Controller and a new PCIe Parallel Controller and ask for the location of the drivers. The installation files are located in the Windows directory of the distribution CD and can also be obtained online.
3. After the necessary files have been detected, Windows will complete the full installation of the card. You may be required to specify the driver location several times, once for each port being installed. You will need to open Windows' Device Manager to view the installed ports' configuration. The ports will appear under "Ports (COM & LPT)" in a manner similar to the following:

**NOTE:** COM and LPT port numbering can be changed by double-clicking the port entry displayed in Windows' Device Manager. For serial port numbering go to Port Settings | Advanced, and choose the COM port number you want. For parallel port numbering go to Port Settings, and choose the LPT port number you want.

**NOTE:** Any Plug and Play devices attached to the ports will now also be detected and installed.
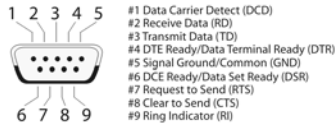
## DISABLING SIGNED DRIVER REQUIREMENT IN WINDOWS 8 AND 8.1 64-BIT

The following steps should temporarily disable this requirement in Windows 8 and 8.1, allowing you to install our card.
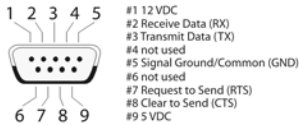
**NOTE**: Before proceeding remember to save all your work as these steps will require you to reboot your system.

1.  Open the Window's Settings section by pressing Win + I, or alternatively by launching the Charm Bar and clicking on the Settings icon at the bottom. Once the settings section has been opened, click on "Change PC Settings" at the bottom of the page.
2.  For Windows 8: Under the "PC settings" section click "General", and scroll down to the "Advanced startup" section and click "Restart now".
    For Windows 8.1: Under the "PC settings" section click "Update and recovery", click "Recovery", scroll down to the "Advanced startup" section and click "Restart now".
3.  The computer will bring you to another series of options, click "Troubleshoot".
4.  Under the troubleshooting menu click "Advanced options", followed by "Startup Settings" and finally "Restart".
5.  At this point the computer will reboot, bringing you to the "Startup Settings". One of the items on the menu is to "Disable driver signature enforcement". Press number 7, or F7, to disable the signature enforcement and to continue booting.
6.  Once the signed driver requirement has been disabled you should be able to install an unsigned card without the digital signing.
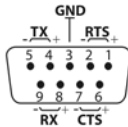
# HARDWARE NOTES



Standard RS-232 DB-9

#1 Data Carrier Detect (DCD)
#2 Receive Data (RD)
#3 Transmit Data (TD)
#4 DTE Ready/Data Terminal Ready (DTR)
#5 Signal Ground/Common (GND)
#6 DCE Ready/Data Set Ready (DSR)
#7 Request to Send (RTS)
#8 Clear to Send (CTS)
#9 Ring Indicator (RI)



LAVA RS-232 Powered DB-9

#1 12 VDC
#2 Receive Data (RX)
#3 Transmit Data (TX)
#4 not used
#5 Signal Ground/Common (GND)
#6 not used
#7 Request to Send (RTS)
#8 Clear to Send (CTS)
#9 5 VDC



LAVA Standard RS-422

# GENERAL NOTES

This document does not include instructions for discontinued or obsolete LAVA cards or for ISA bus serial, parallel, or combination serial and parallel cards.

This document does not include instructions for non-serial and non-parallel cards (eg. USB, Firewire, video, drive interface cards).

Linux installation instructions can be found in the product support pages for individual cards at www.lavalink.com.

# TECHNICAL SUPPORT CONTACT INFORMATION

| Tel | +416-674-5942 (9:00 am to 5:00 pm Monday to Friday (Eastern Time)) |
|---|---|
| Fax | + 416-674-8262 |
| Help tickets | lavalink.com/helpdesk |
| Support forum | forum.lavalink.com |
| Internet | www.lavalink.com |