

# Using USB to RS-232 Converters with Vortex<sup>®</sup> Devices

Application Note

Polycom Installed Voice  
Business Group

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# GENERAL NOTES

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More and more laptop companies are removing "legacy" connections such as serial and printer connectors in favor of multiple USB connectors. This poses a problem for integrators who want to have up to date laptop computers, yet retain the features that make the older computers interface easily with all devices in the equipment rack. Fortunately, several companies make devices that convert USB signals into RS-232 signals.

A quick web search will reveal many different devices that can accomplish the task of emulating a RS-232 port from a USB port. We decided to include in this help file the most widely available device on the market--the Belkin® F5U103 USB Serial Adapter. This device is available at most office supply stores and most computer warehouse stores.

Other devices from other manufacturers may work fine with Vortex or EF Devices; however, we only recommend converters that use a high quality UART to interface with the RS-232 port. The Belkin uses an Exar ST16C1550CJ UART.

## BELKIN F5U103 NOTES

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The F5U103 can be operated under Windows 98, ME, 2000 and XP. To install the device, plug the unit into the USB port on your computer and follow the on-screen directions.

There are three LED's on the unit. The far right LED (red) is lit if power is supplied to the unit via the USB cable. The two left LED's (green) show RS-232 command status. The far left LED illuminates when data is Transmitted from the computer to the EF Device and the second from the left LED illuminated when data is Received from the EF Device.

### DRIVERS WE USED IN TESTING

- Windows 98: 3.02
- Windows ME: 3.02
- Windows 2000: 1.02
- Windows XP: 1.20



**We strongly recommend using Version 1.02 or higher under Windows 2000. We noticed unreliable operation with Version 1.01 that has been fixed with the release of Version 1.02.**

## WINDOWS 2000 / XP OPERATION

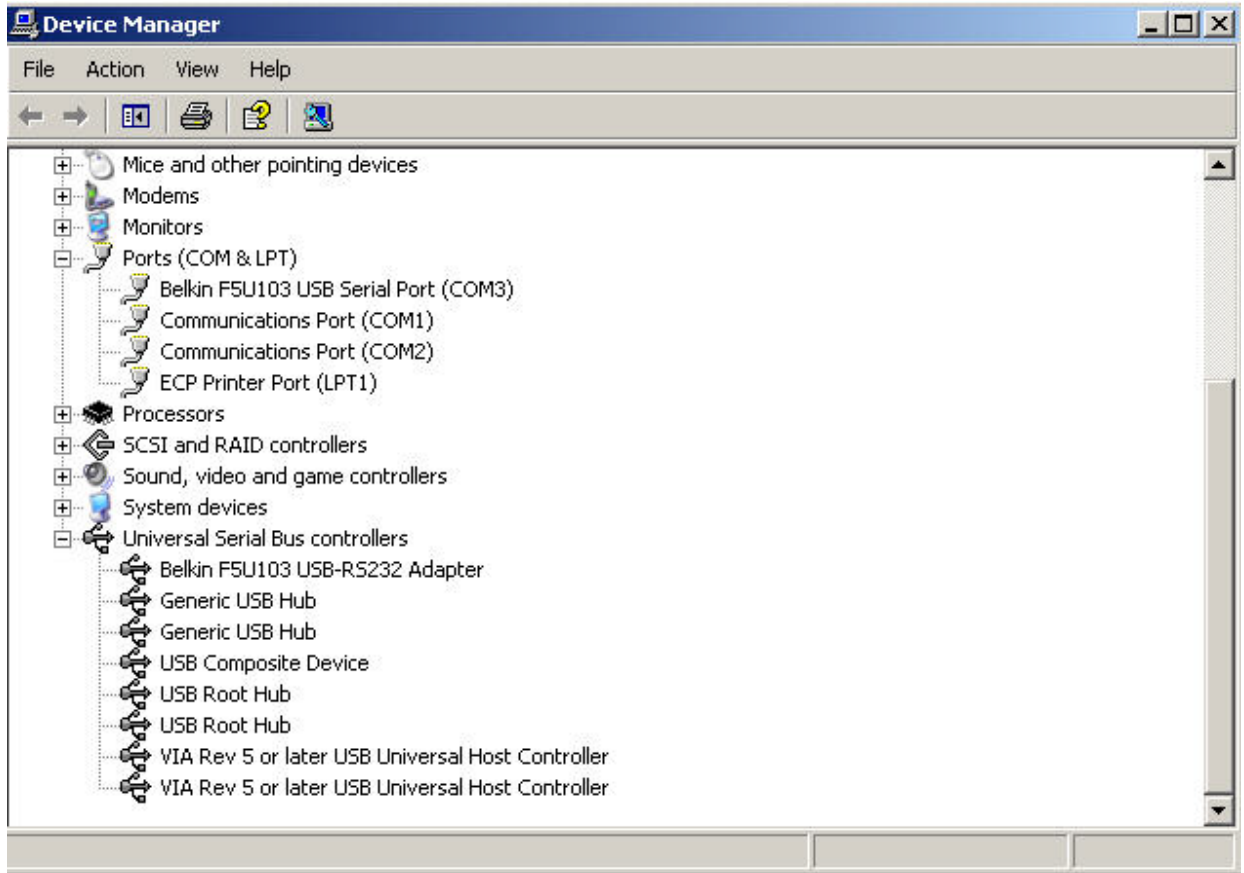
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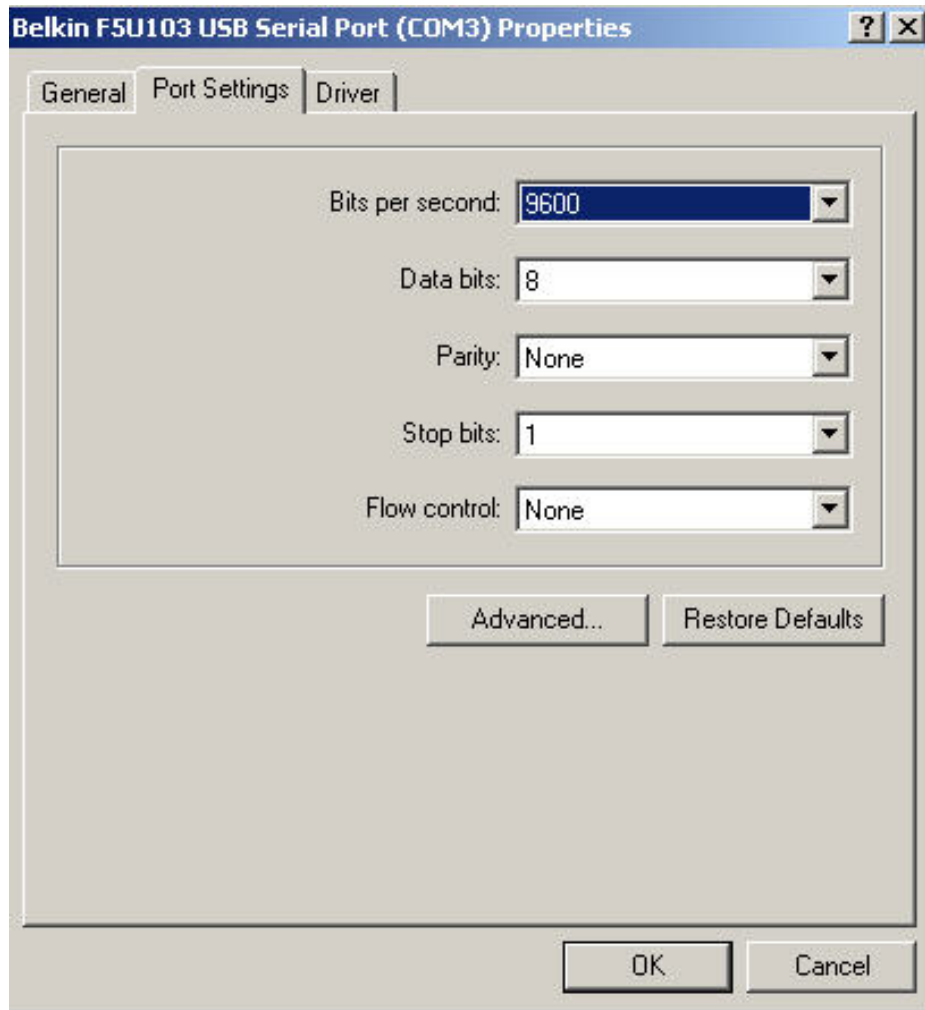
**There seems to be an incompatibility with the VIA South Bridge VT82C686A PCIset and the Belkin F5U103. Under Windows 2000, the F5U103 will hang in Receive Mode even though no data is sent to the unit. Under Windows XP, we experienced frequent "blue screens of death" when trying to send or receive data to the unit. We were able to get the F5U103 to work by using an external USB Hub. Under Windows 98, we experienced no such problems when using the exact same machine.**

**One will only encounter this VIA chipset on older machines (1-3 years old) with AMD processors. We have not experienced any such problems with Windows 2000 or XP when using machines with Intel processors.**

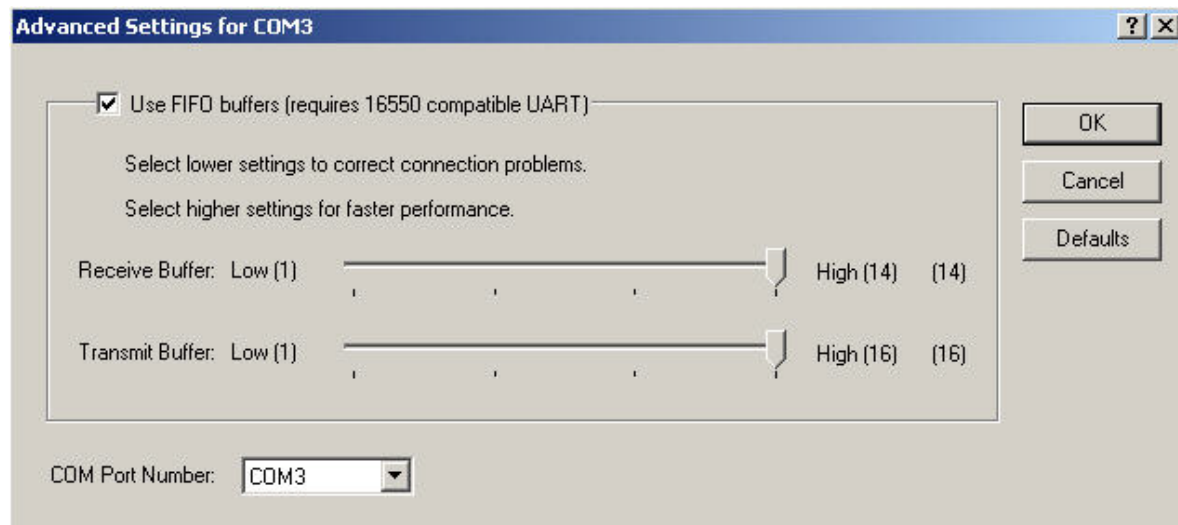
Once the installation of the drivers is complete, double-check to make sure that Windows properly recognizes the F5U103. Go to START, SETTINGS, CONTROL PANEL, SYSTEM and click on the HARDWARE Tab. Now click on the DEVICE MANAGER button. Expand PORTS and you should see BELKIN F5U103 USB-RS-232 ADAPTER listed with a specific COM port setting. Expand UNIVERSAL SERIAL BUS CONTROLLERS and you should see BELKIN F5U103 USB-RS-232 ADAPTER listed:



Right-click on BELKIN F5U103 USB SERIAL PORT and select PROPERTIES. Under PORT SETTINGS, you do not need to change any of the default settings. These settings are independent of Conference Composer™.



Click on the ADVANCED TAB. Raise both the RECEIVE BUFFER and TRANSMIT BUFFER to their highest levels. You can also change which COM Port the F5U103 will use by selecting the COM PORT NUMBER drop-down box.

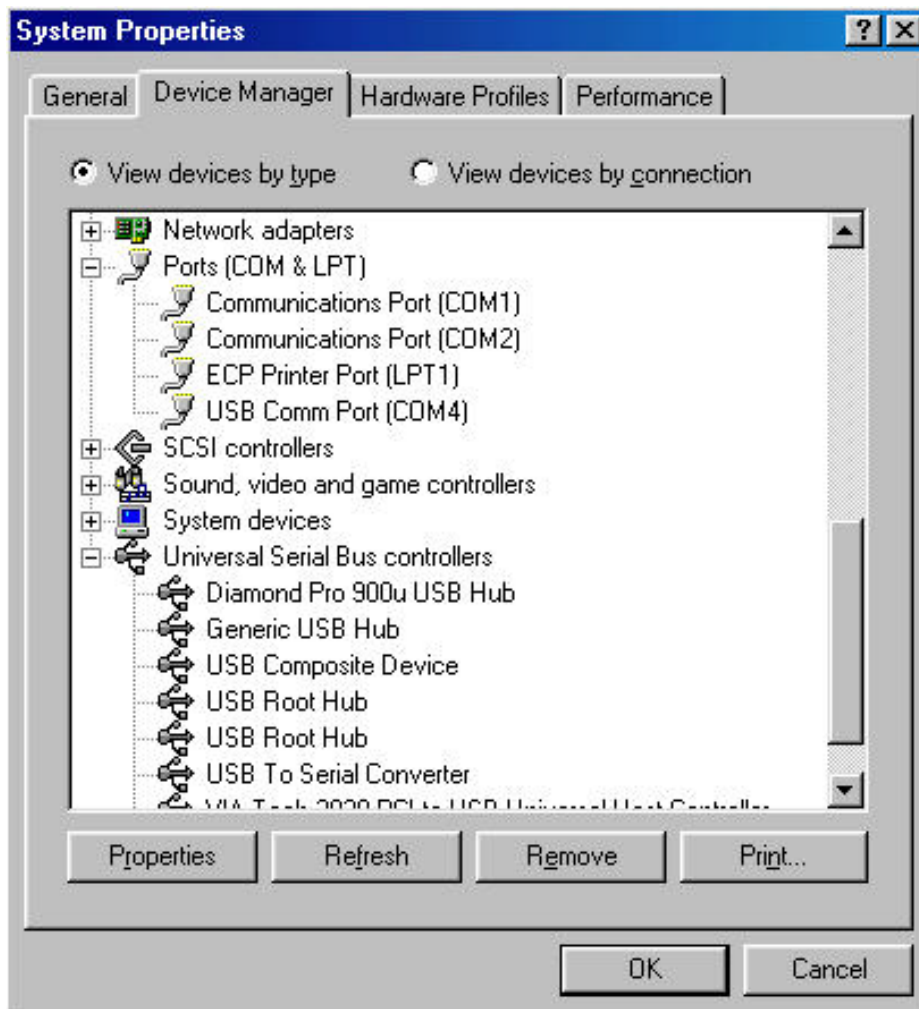




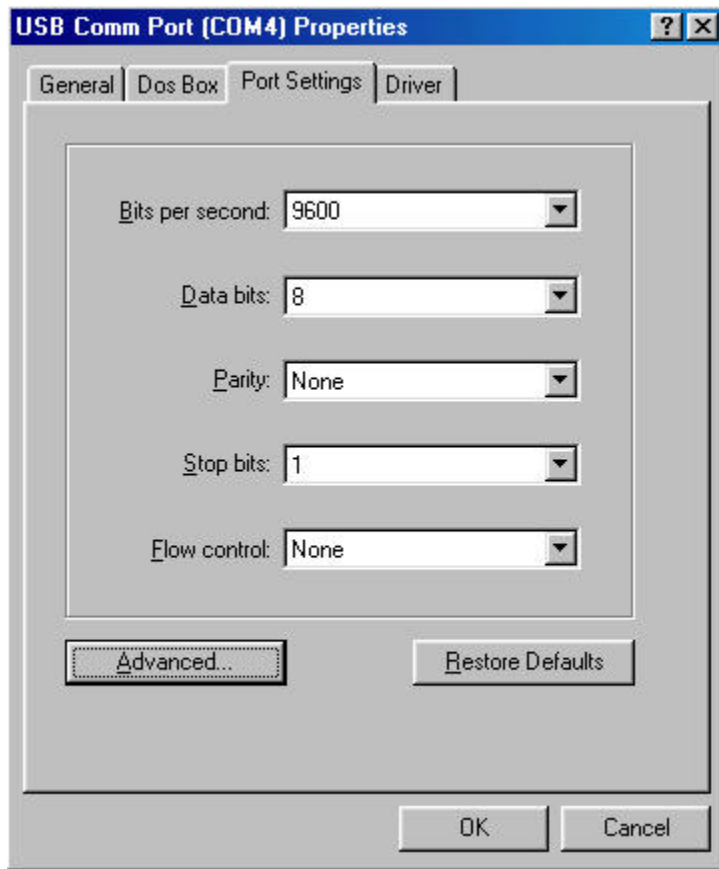
**Conference Composer can only address COM Ports 1-4. If you select a COM Port via the COM PORT NUMBER box that is outside of the range of numbers (1-4), Conference Composer will not be able to communicate with the EF Device.**

## WINDOWS 98 / ME OPERATION

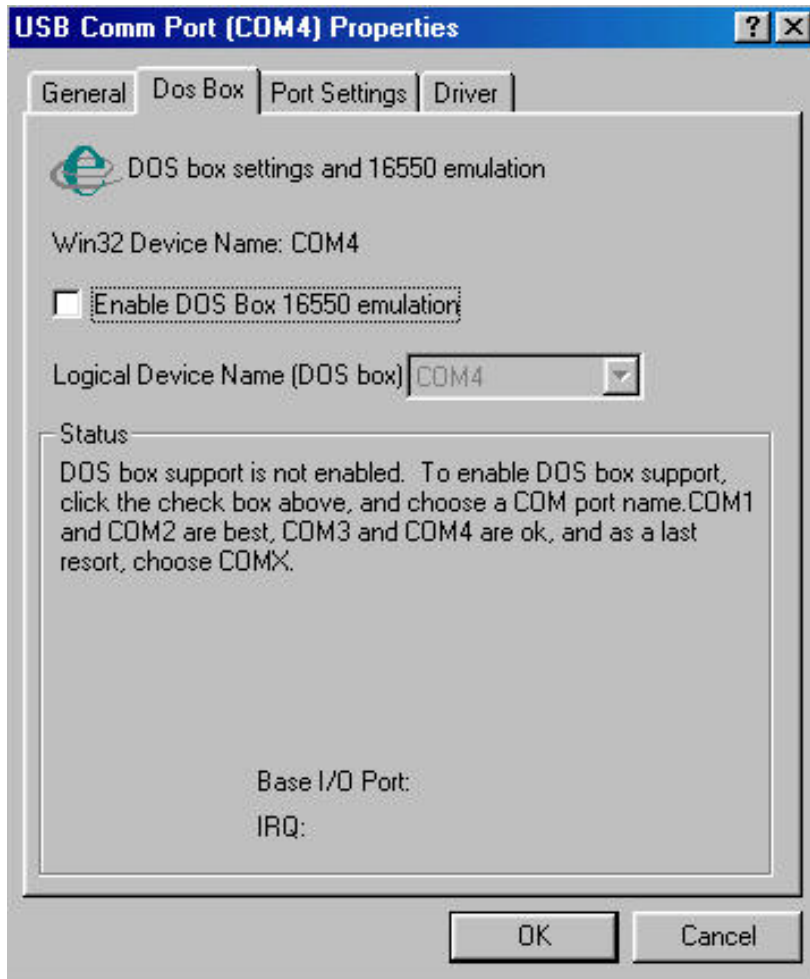
Once the installation of the drivers is complete, double-check to make sure that Windows properly recognizes the F5U103. Go to Start, Settings, Control Panel, System and click on the Device Manager Tab. Expand Ports and you should see the F5U103 listed with a specific COM port setting. Expand Universal Serial Bus Controllers and you should see USB to Serial Converter listed:



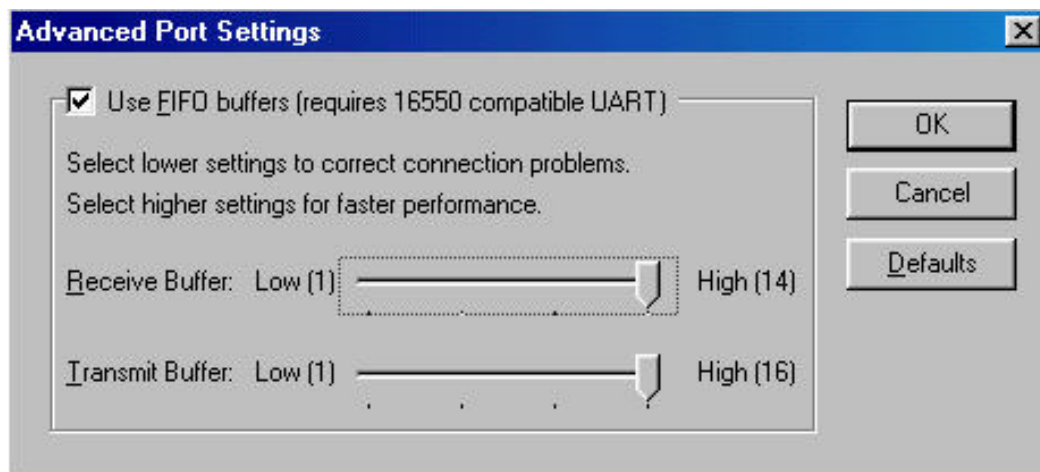
Right-click on USB COMM PORT and select PROPERTIES. Under PORT SETTINGS and DOS BOX, you do not need to change any of the default settings. These settings are independent of Conference Composer.







Click on the ADVANCED box in the PORT SETTINGS Tab. Raise both the RECEIVE BUFFER and TRANSMIT BUFFER to their highest levels. Unlike Windows 2000 and XP, you cannot change which COM Port the F5U103 will use.





**Conference Composer can only address COM Ports 1-4. Windows 98 / ME will not let you change the default COM port setting unlike Windows 2000 and XP. If you install the F5U103 and Windows 98 / ME gives the unit a COM port that is not 1-4, you may need to uninstall a device that is currently using COM Port 1-4. Otherwise, Conference Composer will not be able to communicate with the EF Device.**



**We've noticed that the fastest "real-world" data rate under Windows 98 / ME is 38400. This will not cause a problem in normal operation. The only occasion that this will be an issue is during a firmware upload; however, this function of the F5U103 will only slow down the data rate of the firmware upload and will not prevent Conference Composer from sending new firmware to the EF Device.**

# TECHNICAL SUPPORT

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For support on the Vortex product line, call toll-free (USA/Canada) 888-248-4143, then select option 1, then option 3.

For exclusive Integrator and Consultant focused support (through our PASS program), dial 1.408.474.2048; this number will bet you help on video and Vortex products.

For general technical support, dial 1.800.POLYCOM

## POLYCOM IVB CONTACT INFORMATION

Our address is:

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