PC-HELPER

RS-232C 4ch
Serial I/O Unit for USB

COM-4CX-USB
User’s Guide

CONTEC CO.,LTD.
Check Your Package

Thank you for purchasing the CONTEC product.
The product consists of the items listed below.
Check, with the following list, that your package is complete. If you discover damaged or missing items, contact your retailer.

Product Configuration List
- Unit [COM-4CX-USB] …1
- USB cable (1.8m) …1
- USB cable attachment on the main unit’s side (For Mini B connector side) …1
- Clamps for prevention of cable on the main unit’s side …1
- CD-ROM *1 [COM Setup Disk] …1
- Power connector MC1,5/3-ST-3,5 …1
- First step guide …1
- Ferrite core …1
- Warranty Certificate…1
- Serial number label …1

*1 The CD-ROM contains the driver software and User’s Guide (this guide)
Copyright

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1. Before Using the Product

This chapter provides information you should know before using the product.

About the Unit

This product is an USB2.0-compliant unit designed for extending RS-232C compatible serial communication functionality on your PC.

This product supports a baud rate of up to 921,600bps and has separate 128-byte / 384-byte buffer memory for transmit and receive.

It also comes with a Windows driver, which allows products to be used as OS-standard COM ports.

Features

- Max. 921,600bps RS-232C Serial Communication

This product has 4 channel RS-232C-standard serial ports. Baud rates from 300 to 921,600bps can be set for each port. When using the bundled “Standard COM Driver Software”, baud rates from 300 to 921,600bps can be set. When data is transferred at the high speed, it may not be transferred normally, depending on the use environment such as the external device and cable length used.

- Possibly used as Windows-standard COM ports, using the bundled driver library

Comes with a driver software that allows the boards to be used under Windows in the same way as COM ports on the PC.

Under Windows, the product supports the OS-standard Win32 API communication function as well as Visual Basic MSComm.

- Each channel is equipped with separate 128-byte / 384-byte FIFO buffers for transmit and receive.

These are FIFO format, useful for high speed communications and to reduce the load to the CPU when transmitting/receiving.

- Compatible to USB1.1/USB2.0

Compatible to USB1.1/USB2.0 and capable to achieve high speed transfer at Full Speed (12 Mbps).

- USB HUB function

This product has the USB HUB function. Max. 4 COM-4CX-USB can be used in 1 USB port of PC. *1

When you use 4 or more COM-4CX-USB, you can do by connecting COM-4CX-USB to the another USB port of PC side. *2

Also, you can connect the CONTEC’s USB device other than COM-4CX-USB to the USB port of COM-4CX-USB. *3*4
1. Before Using the Product

*1 This product cannot be stacked up for installation.

*2 When you use the USB port included on the COM-4CX-USB, use 5VDC power supply for self-power. For more details on the connection with 5VDC power supply, refer to chapter2 - step3, “Connection with 5VDC Power Supply for Self-power”.

*3 Do not connect the device other than that of CONTEC’s USB to the USB port included on the COM-4CX-USB. Otherwise, this may cause a failure or malfunction.

*4 When connecting multiple units with USB HUB function and set up them, do one at a time and complete setup for the previous unit before starting to do the next unit.
Support Software

You should use CONTEC support software according to your purpose and development environment.

Standard COM Driver Software  **COM Setup Disk** (Bundled)

Under Windows, this software allows you to use the serial ports on the converter as if they were standard COM ports on the PC. By connecting additional units, you can use COM ports in the range COM1 - COM256.

Under Windows, the serial ports can be accessed using the standard Win32 API communication routines (CreateFile(), WriteFile(), ReadFile(), and SetCommState(), etc.) The serial ports are also compatible with the Visual Basic communication control (MSComm). Supports the communication class of .NET Framework 2.0 (SerialPort class).

< Operating environment >

**OS**  

You can download the updated version from the CONTEC’s Web site (http://www.contec.com/downloaddir.html).

For more details on the supported OS, applicable language and new information, please visit the CONTEC’s Web site.

⚠️ **CAUTION**

- The maximum number of COM ports able to be used depends on the configuration of your OS.
- ServicePack 1 or later is necessary to use it by Windows 2008 Server or Windows Vista.
- ServicePack 3 or later is necessary to use it by Windows 2003 Server or Windows XP.
- It is recognized as another COM port when replacing the universal serial bus port and putting on the USB hub and substituting it.
- API-SIO(98/PC) is not used.

Cable & Connector  **(Option)**

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-232C Straight Cable with D-SUB 9 pin (1.8m)</td>
<td>RSS-9M/F</td>
</tr>
<tr>
<td>RS-232C Cross Cable with D-SUB 9 pin (1.8m)</td>
<td>RSC-9F</td>
</tr>
<tr>
<td>RS-232C Connection Conversion Straight Cable (25M→9F, 1.8m)</td>
<td>RSS-25M/9F</td>
</tr>
<tr>
<td>RS-232C Connection Conversion Straight Cable (25F→9M, 1.8m)</td>
<td>RSS-25F/9M</td>
</tr>
<tr>
<td>RS-232C Connection Conversion Cross Cable (25F→9F, 1.8m)</td>
<td>RSC-25F/9F</td>
</tr>
<tr>
<td>D-SUB 9 pin Male Connector Set (5 Pieces)</td>
<td>CN5-D9M</td>
</tr>
<tr>
<td>D-SUB 9 pin Female Connector Set (5 Pieces)</td>
<td>CN5-D9F</td>
</tr>
</tbody>
</table>

Accessories  **(Option)**

<table>
<thead>
<tr>
<th>Accessory Type</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB I/O Unit Bracket for X Series *1</td>
<td>BRK-USB-X</td>
</tr>
<tr>
<td>AC adapter (input: 90 - 264VAC, output: 5VDC 2.0A)</td>
<td>POA200-20-2</td>
</tr>
</tbody>
</table>

*1  With this product, only the USB port side is fixable.
*  Check the CONTEC’s Web site for more information on these options.
1. Before Using the Product

Customer Support

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

Web Site

Japanese http://www.contec.co.jp/
English http://www.contec.com/
Chinese http://www.contec.com.cn/

Latest product information
CONTEC provides up-to-date information on products.
CONTEC also provides product manuals and various technical documents in the PDF.

Free download
You can download updated driver software and differential files as well as sample programs available in several languages.

Note! For product information
Contact your retailer if you have any technical question about a CONTEC product or need its price, delivery time, or estimate information.

Limited One-Year Warranty

CONTEC products are warranted by CONTEC CO., LTD. to be free from defects in material and workmanship for up to one year from the date of purchase by the original purchaser.

Repair will be free of charge only when this device is returned freight prepaid with a copy of the original invoice and a Return Merchandise Authorization to the distributor or the CONTEC group office, from which it was purchased.

This warranty is not applicable for scratches or normal wear, but only for the electronic circuitry and original products. The warranty is not applicable if the device has been tampered with or damaged through abuse, mistreatment, neglect, or unreasonable use, or if the original invoice is not included, in which case repairs will be considered beyond the warranty policy.

How to Obtain Service

For replacement or repair, return the device freight prepaid, with a copy of the original invoice. Please obtain a Return Merchandise Authorization number (RMA) from the CONTEC group office where you purchased before returning any product.

* No product will be accepted by CONTEC group without the RMA number.

Liability

The obligation of the warrantor is solely to repair or replace the product. In no event will the warrantor be liable for any incidental or consequential damages due to such defect or consequences that arise from inexperienced usage, misuse, or malfunction of this device.
Safety Precautions
Understand the following definitions and precautions to use the product safely.

Safety Information
This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources. Understand the meanings of these labels to operate the equipment safely.

| ▶️ DANGER | DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. |
| ▶️ WARNING | WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. |
| ▶️ CAUTION | CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage. |

Handling Precautions

▶️ DANGER
Do not use the product where it is exposed to flammable or corrosive gas. Doing so may result in an explosion, fire, electric shock, or failure.

▶️ CAUTION
- Do not strike or bend this product.
- Power saving mode (standby mode) is not supported.
  Otherwise, this may malfunction, overheat, cause a failure or breakage.
- Do not touch this product's terminals (USB connector, D-SUB connector) with your hands.
  Otherwise, this may malfunction, overheat, or cause a failure.
  If the terminals are touched by someone's hands, clean the terminals with industrial alcohol.
- Do not close the ventilation hole(s) of this product by, for example, placing an object. This may cause overheating, malfunction, and/or failure of the product.
- Do not touch the external connector when the power is on.
  Otherwise this may malfunction, overheat, cause a failure due to static electricity.
- Make sure that your PC can supply ample power to all this product connected.
  Insufficiently energized products could malfunction, overheat, or cause a failure.
- Do not connect the device other than that of CONTEC's USB to the USB port included on this product.
  Otherwise, this may cause a failure or malfunction.
- When connecting multiple units with USB HUB function and set up them, do one at a time and complete setup for the previous unit before starting to do the next unit.
- The specifications of this product are subject to change without notice for enhancement and quality improvement.
  Even when using this product continuously, be sure to read the manual and understand the contents.
- Do not modify this product. CONTEC will bear no responsibility for any problems, etc., resulting from modifying this product.
1. Before Using the Product

- Regardless of the foregoing statements, CONTEC is not liable for any damages whatsoever (including damages for loss of business profits) arising out of the use or inability to use this CONTEC product or the information contained herein.

- If you use this product in a noisy environment, attach a ferrite core to USB cable or cable of the AC adaptor to stabilize the operation. When attaching a ferrite core, coil it around once or more near the connector while leaving it open, and then close it.

- Regarding “CE EMC Directive Class A Notice”

The ferrite core must be installed in interface connecting cable so that this product may suit the above-mentioned standard.

<table>
<thead>
<tr>
<th>Name</th>
<th>Maker</th>
<th>Turn</th>
<th>Quantity</th>
<th>Installation Site</th>
</tr>
</thead>
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<tr>
<td>E04SR200935A</td>
<td>SEIWA</td>
<td>2</td>
<td>1</td>
<td>on USB cable at product side</td>
</tr>
<tr>
<td>E04SR301334</td>
<td>SEIWA</td>
<td>3</td>
<td>2</td>
<td>on AC adapter at product side</td>
</tr>
<tr>
<td>E04SR200935A</td>
<td>SEIWA</td>
<td>1</td>
<td>1</td>
<td>on USB HUB cable at product</td>
</tr>
</tbody>
</table>

Image diagram

FCC PART 15 Class A Notice

**NOTE**
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**WARNING TO USER**
Change or modifications not expressly approved the manufacturer can void the user's authority to operate this equipment.
Environment

Use this product in the following environment. If used in an unauthorized environment, this product may overheat, malfunction, or cause a failure.

Operating temperature
0 - 50°C

Humidity
10 - 90%RH (No condensation)

Corrosive gases
None

Floating dust particles
Not to be excessive

Inspection

Inspect the product periodically as follows to use it safely.

- Check that the connector has no dust or foreign matter adhering.

Storage

When storing this product, keep it in its original packing form.

(1) Put this product in the storage bag.
(2) Wrap it in the packing material, and then put it in the box.
(3) Store the package at room temperature at a place free from direct sunlight, moisture, shock, vibration, magnetism, and static electricity.

Disposal

When disposing of the product, follow the disposal procedures stipulated under the relevant laws and municipal ordinances.
1. Before Using the Product
2. Setup
This chapter explains how to set up this product.

What is Setup?
Setup means a series of steps to take before the product can be used.
Different steps are required for software and hardware.

Installing the driver
This section enables you to prepare the software and hardware by operating in accordance with each step in this chapter using the bundled CD-ROM. Taking the following steps sets up the software and hardware. You can use the diagnosis program later to check whether the software and hardware function normally.

   Step 1 Setting the Hardware
   Step 2 Installing the Software
   Step 3 Installing the Hardware
   Step 4 Initializing the Software
   Step 5 Checking Operations with the Diagnosis Program

If Setup fails to be performed normally, see the “Setup Troubleshooting” section at the end of this chapter.
Step 1 Setting the Hardware

This section describes how to set up the product and how to connect it to a PC.

Name of each parts

The above figure has connected the USB cable attachment.

Figure 2.1. Name of each parts (Front side)
Step 2 Installing the Software

Install software.

Run `\USB\COM-4CX-USB\Setup.exe` from the supplied CD-ROM.

1) The screens below show the installation. Click [next].

2) Accept the license agreement, then click [Next>].

3) The setup is completed.
2. Setup

Step 3 Installing the Hardware

Under Windows, information about the converter needs to be detected by the OS. This is called hardware installation.

To use more than one of this product, make sure to install them one by one, setting each unit after completing the previous one.

Connection with 5VDC Power Supply for Self-power

If you want to use an external power supply, connect with 5VDC power supply by using +5VDC input pin. Enabling the USB bus power is also possible without using the external power supply. When using the bus power hub, be sure to use the power from the external power supply.

![Diagram of +5 VDC Input Terminal Pinouts]

When using the attached AC adapter [POA200-20-2], please connect directly to the input terminals.

When the accompanying power connector (MC1,5/-ST-3,5, suitable cable: AWG28 - 16) is used to supply power to this unit, strip the end of the suitable cable and insert it to the power connector before firmly securing it using a screw.

![Diagram of Connecting the AC Adapter POA200-20-2]

Beside the AC adapter, a power supply for installation on a DIN rail is also available (as an option). Use the appropriate power supply depending on the operating environment and application. When a power supply for installation on a DIN rail is used, connect the unit using the accompanying power connector MC1,5/-ST-3,5.

⚠️ CAUTION

- Connect 5VDC power supply to the main unit. Next, connect the USB cable to the PC. Do not turn it on or off when using. If you remove, USB cable is first and then 5VDC power supply.
- When the USB module is not used, leave the AC adapter unplugged.
- Continuously using the AC adapter heated affects its life.
- Use the AC adapter not in a closed place but in a well-ventilated place not to be heated.
- Do not remove the power connector [MC1,5/-ST-3,5] attached to the AC adapter.
Connecting the Product

(1) Turn on the power to the PC before connecting this product.

(2) When the PC has been up and running, plug the USB interface connector to a USB port in the PC. The converter can also be connected to the PC via a USB hub of this product.

**Figure 2.4. Connecting the PC**

⚠️ CAUTION
- It may cause a trouble in recognizing and operating the device according to the kind of USB hub.
- It is newly recognized as another COM port number when replacing the universal serial bus port and putting on the USB hub and substituting it.

(3) USB cable can be attached firmly to the main unit by using a USB cable attachment.

**Figure 2.5. Attaching a USB Attachment**

⚠️ CAUTION
- The USB cable attachment cannot be used excluding an attached cable.
- When the USB cable attachment is being used, do not perform removing and connecting the USB cable on the unit side repeatedly. This may damage the USB cable attachment or yourself.
(4) When connecting the USB cable through the USB hub of this product, it can be made easily not to come off by using clamps for prevention of cable on the main unit's side (Appended goods).

Figure 2.6. Usage of clamps for prevention of cable on the main unit's side
Setting with the Found New Hardware Wizard

Windows Server 2008, Windows Vista

(1) “Found New Hardware” wizard is open. Click “Locate and install driver software”.

(2) When the “Found New Hardware” window is displayed, insert the accompanying CD-ROM “COM Setup Disk” into the CD-ROM drive. After a while, the device installation process begins.
(3) Click “Browse my computer for driver software (advanced)”. 

(4) Click “Next”

You have now finished installing the hardware.
Windows Server 2003, Windows XP

(1) The “Add New Hardware Wizard” will be started.

(2) Select “Install from a list or specific location”, then click on the [Next] button.

(3) Specify that folder on the CD-ROM which contains the setup information (INF) file to register the converter.

Source folder is “(CD-ROM drive letter)\USB\COM4CXUSB”.

* Be sure to uncheck [Search removable media (floppy, CD-ROM)].
2. Setup

⚠️ CAUTION

In Windows XP, the Hardware Wizard displays the following alert dialog box when you have located the INF file. This dialog box appears, only indicating that the relevant driver has not passed Windows Logo testing, and it can be ignored without developing any problem with the operation of the board.

In this case, click on the [Continue Anyway] button.

"The software you are installing for this hardware:
COM-4CX-USB　Hx Port"

* The name of the connected product will be displayed.

**Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.**

(3) Installation of the "Communication Port" starts next. If prompted for a file by the OS, specify the location of the setup information (INF) file, as described above.

You have now finished installing the hardware.

The check method of the completion of hardware installation

(1) Select "System" from "Control Panel" and open [Device Manager].
(2) Check that the names of the boards you are using are registered correctly in the folder.
(3) Similarly, confirm that the COM ports have been added in the [Ports] folder.
Step 4 Initializing the Software

This assigns COM ports to the serial ports on the board. In case of Windows Vista, XP, Server 2003 and 2000, you can also change a previously assigned COM port number to a different number.

For use under Windows 7, Server 2008, Vista, Server 2003, XP

On Windows 7, Server 2008, Vista, Server 2003 and XP, the COM ports are already assigned by the hardware installation step. Run Device Manager as described below if you wish to view or modify the COM port settings.

Start Device Manager

(1) Select "System" from "Control Panel" and start [Device Manager].

(2) Check that the new COM ports are displayed in the [Ports] folder.
2. Setup

Updating the Settings

1. If you wish to change a port number, open the properties page for the port and click the [Advanced...] button under [Port Settings].

2. Use the [COM Port Number] combo box to modify the COM port number.

3. Clicking the [Advanced...] button opens the “Advanced Settings for COMn” window.

You have now finished installing the initial setting of Software.
Step 5 Checking Operations with the Diagnosis Program

Use the diagnosis program to check that the product and driver software work normally, thereby you can confirm that they have been set up correctly.

What is the Diagnosis Program?

These programs perform some simple checks on the terminal operation. Two programs are provided.

Terminal program (CTstCom.exe)

Data entered from the keyboard is sent directly from the port. The function of the program is equivalent to the Hyper Terminal program provided with Windows.

Serial Communications Diagnostic Program (CommChk.exe)

Performs actual communications and indicates whether the results are correct or not (error).

The following describes the procedure for testing using the serial communications diagnostic program (CommChk.exe).

Check Method

Obtain an RS-232C cross cable. If you do not have a cross cable, you can use a switch on the board to perform testing of a single COM port using loopback communications. See the figure below for the switch settings.

Switch setting for using a cross cable
Using the Diagnosis Program

Starting the Diagnosis Program

When 32bit Windows OS is used, Run\Utility\CommChk\i386\CommChk.exe from the supplied CD-ROM.
When 64bit Windows OS is used, Run\Utility\CommChk\amd64\CommChk.exe from the supplied CD-ROM.

Communication Settings

COM Setup: Specify the number of the COM port you wish to test.
If connecting two COM ports via a cross cable, specify the respective COM ports in [Device1] and [Device2].
When performing loopback communications on a single COM port, set the same port number in both [Device 1] and [Device 2].

Communication Settings: Specify the [Bits / Second], [Data bits] and other settings you wish to use.
Start test
Click the [Start] button to start the test using the specified conditions.

View test result
The test result is displayed in the [Message] window.
A successful completion message appears if the test completed OK.
Step 5 Uninstalling the Driver Libraries

To uninstall COM-4CX-USB Drivers, follow the procedure below.

About the uninstall function
The install function deletes the COM-DRV driver and registry information, available from [Add/Remove Programs].


1. Click on the [Start] button on the Windows taskbar. From the Start Menu, select “Settings” – “Control Panel”.
2. Double-click on “Add/Remove Programs” in the Control Panel.
3. Select “CONTEC COM-4CX-USB Drivers” from the displayed application and then click on the [Add/Remove] button. Follow the on-screen instructions to uninstall the function libraries.

If your problem cannot be resolved
Contact your retailer.
3. External Connection

This chapter describes the interface connectors on the product and the external I/O circuits. Check the information available here when connecting an external device.

Using the Connectors

Connecting to a Connector

To connect an external device to this product, plug the cable from the device into the interface connector of unit shown below.

![Interface Connector Shape](image)

- Connector used
  - DELC-J9PAF-20L9E equivalent (mfd. by JAE, Male)

- Applicable connectors
  - 17JE-13099-02(D8C) (mfd. by DDK, Female)
  - CNS-D9F (mfd. by CONTEC, Female) (Five connector set)

**Figure 3.1. Interface Connector Shape**

Connector Pin Assignment

Pin Assignments of COM-4CX-USB Interface Connector

- DCD (Data Carrier Detect)
- RXD (Receive Data)
- TxD (Transmit Data)
- DTR (Data Terminal Ready)
- SG (Signal Ground)
- RI (Ring Indicator)
- CTS (Clear to Send)
- RTS (Request to Send)
- DSR (Data Set Ready)

**Figure 3.2. Pin Assignments of Interface Connector**
Types of Cable and Example Connections

When using an RS-232C interface, different cables are required depending on the type of device to which you are connecting (computer or modem, etc.). Check the requirements of the external device and select either a straight-through or crossed (null modem) cable as appropriate. If special treatment of the signal lines in the connector is required, ensure that this is done in accordance with the specifications.

**Figure 3.3. Example Connection to a Modem (Straight cable)**

**Figure 3.4. Example Connection to a PC (Cross cable)**

**Figure 3.5. Example Connection to a Device**
4. Function

This section describes the features of this product.

Communication Function

Serial Data Transmission

Sends and receives data in accordance with the RS-232C standard.
The baud rate for each channel can be set independently in the range 300 to 921,600bps by software.

⚠️ CAUTION

It becomes 230,400bps or less when using it for three or above simultaneous channels.

RS-232C Control Lines

All ports include the RTS, CTS, DTR and DSR control lines.
The lines can be controlled by Hardware automatic.

⚠️ CAUTION

Automatic control becomes either of RTS/CTS or the DTR/DSR control setting. It is not possible to set it at the same time.

Send and Receive Data Buffers

Each channel has a separate 128-byte send and 384-byte receive buffer.
The buffers operate as FIFO buffers and help reduce the load on the CPU for high-speed communications or system operation.

Setting the Baud Rate

This converter can set the following baud rate using the software.

Baud Rate: 300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400,
          57600, 115200, 230400, 460800, 921600bps

XON/XOFF Automatic control function

This converter is controlled by the software flow automatically on hardware. Therefore, it is not necessary to observe with software like a current application, and the best system can be constructed.
5. About Software

The "Standard COM Driver Software COM Setup Disk" from the supplied CD-ROM provides the following functions.

- Operation under Windows and Linux.
- The serial ports can be used in the same way as the standard COM ports on the PC.
- The boards can be used for all types of serial communications such as for remote access service (RAS) and uninterruptible power supply (UPS) applications.
- Under Windows, the serial ports can be accessed using the standard Win32 API communication routines (CreateFile( ), WriteFile( ), ReadFile( ), and SetCommState( ), etc.)
- The serial ports are also compatible with the Visual Basic communication control (MSComm).
- Supports the communication class of .NET Framework (SerialPort class).

Refer to the \PCI\Readmee.txt and \Linux\Readmee.htm files on the CD-ROM for details.

About Sample programs

Sample programs are provided in the \Samples folder on the CD-ROM. Use the sample programs for reference and testing when developing software.

Visual Basic sample programs
(1) Transmit/Receive sample
- Sends data entered from the keyboard and displays received data on the screen.
- Source folder: \Samples\Vb folder

Visual Basic 2005 sample programs
(1) Transmit/Receive sample
- Sends data entered from the keyboard and displays received data on the screen.
- Source folder: \Samples\VB.NET folder

Visual C# 2005 sample programs
(1) Transmit/Receive sample
- Sends data entered from the keyboard and displays received data on the screen.
- Source folder: \Samples\VCS folder

Visual C++ sample programs
(1) Transmit sample
- Sends data entered from the keyboard. Execute from the command prompt.
- Source folder: \Samples\Vc\Comsend.c file
(2) Receive sample
- Displays received data on the screen.
- Source folder: \Samples \Vc\Comread.c file
CD-ROM Directory Structure

\n
|– PCCARD  PC card related files
|– PCI      PCI board related files
|  |– ComDrv  Windows device driver and INF files, etc.
|  |– InstDoc Installation instructions for each OS.
|– Samples  Various sample programs
|  |– VB      Sample program for Visual Basic
|  |– VC      Sample program for Visual C++
|  |– VB.NET  Sample program for VisualBasic.NET (for SerialPortClass)
|  |– VCS     Sample program for VisualC.NET (for SerialPortClass)
|– USB      USB related files
|  |– COM1USB
|  |– COM4USB
|  |– COM4CXUSB
|– UsersGuide Manual of hardware (PDF)
|– UTILITY  Various utilities
|  |– CommChk Self diagnostic program (Loopback communication test)
|  |– CTstCom Self diagnostic program (Terminal utility)
6. About Hardware
This chapter provides hardware specifications and hardware-related supplementary information.

## Hardware specification

### Table 6.1. Specification

<table>
<thead>
<tr>
<th>I/O</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>4ch</td>
</tr>
<tr>
<td>Interface type</td>
<td>RS-232C</td>
</tr>
<tr>
<td>Transfer method</td>
<td>Asynchronous serial transfer</td>
</tr>
<tr>
<td>Baud rate</td>
<td>300 - 921,600bps *1 *2 *7</td>
</tr>
<tr>
<td>Data length</td>
<td>7, 8 bits</td>
</tr>
<tr>
<td></td>
<td>1, 2 stop bits *1</td>
</tr>
<tr>
<td>Parity check</td>
<td>Even, Odd, Non-parity *1</td>
</tr>
<tr>
<td>Controller chip</td>
<td>XR21V1414 or equivalent</td>
</tr>
<tr>
<td></td>
<td>(Mounting the FIFO memory as the common buffer of RS-232C communication and USB. Each channel has 384-byte receive and 128-byte transmit FIFO buffers.)</td>
</tr>
</tbody>
</table>

### USB section

<table>
<thead>
<tr>
<th>Bus specification</th>
<th>USB Specification 2.0/1.1 standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB transfer rate</td>
<td>12Mbps (Full-speed) *3</td>
</tr>
<tr>
<td>Power supply</td>
<td>Either self-power or bus-power can be used. *4</td>
</tr>
</tbody>
</table>

### Common section

<table>
<thead>
<tr>
<th>Number of terminals used at the same time</th>
<th>63 terminals (Max.) *5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption (Max.)</td>
<td>5VDC 200mA</td>
</tr>
<tr>
<td>Operating temperature *6</td>
<td>0 - 50°C, 10 - 90%RH (No condensation)</td>
</tr>
<tr>
<td>Connecting distance</td>
<td>15m (Typ.)</td>
</tr>
<tr>
<td>Dimension (mm)</td>
<td>180(W) x 140(D) x 34(H) (No protrusions)</td>
</tr>
<tr>
<td>Weight</td>
<td>300g (Not including the USB cable, attachment)</td>
</tr>
<tr>
<td>Connector</td>
<td>9-pin D-SUB connector, DELC·J9PAF·20L9 [mfd. by JAE, M(male) type] equivalent</td>
</tr>
<tr>
<td>Attached cable</td>
<td>USB cable 1.8m</td>
</tr>
</tbody>
</table>

*1 These items can be set by software.
For the “Standard COM Driver Software COM Setup Disk” on the supplied CD-ROM, the range is 300 - 921,600 bps.

*2 Data transmission at high speed may not be performed normally depending on the environment including the type of status of connected material of cable and environment.

*3 This depends on the PC environment used (OS and USB host controller).

*4 If using a bus-power hub, use self-power for the COM-4CX-USB.

*5 As a USB hub is also counted as one device, you cannot just connect 63 USB unit.

*6 To suppress the heating, ensure that there are spaces for ventilation (about 5cm) around this product.

*7 It becomes 230,400bps or less when using it for three or above simultaneous channels.
Physical dimensions

![Physical dimensions diagram]

Figure 6.1. Physical dimensions