# XP-8000-Atom-CE6 Series User Manual

# (Windows CE-Based Family)



#### ➤ Warranty

All products manufactured by ICP DAS are under warranty regarding defective materials for a period of one year, beginning from the date of delivery to the original purchaser.

#### ➤ Warning

ICP DAS assumes no liability for any damage resulting from the use of this product. ICP DAS reserves the right to change this manual at any time without notice. The information furnished by ICP DAS is believed to be accurate and reliable. However, no responsibility is assumed by ICP DAS for its use, not for any infringements of patents or other rights of third parties resulting from its use.

#### Copyright

Copyright @ 2011 by ICP DAS Co., Ltd. All rights are reserved.

#### > Trademark

The names used for identification only may be registered trademarks of their respective companies.

#### **Contact US**

If you have any problem, please feel free to contact us.

You can count on us for quick response.

Email: service@icpdas.com

XP-8000-Atom-CE6 User Manual

Page: 2

# **Table of Contents**

1

. Introduction	
1.1. Features	9
1.2. Specifications	13
1.3. Overview	15
1.4. Dimension	24
1.5. Companion CD	27
1.6. Rescue CF Card	

Table

## 2. Getting Started ...... 29

- 2.5. Using XPAC Utility to Configure XP-8000-Atom-CE6 Basic Functionality 47
- 2.6. Using Remote Display to Control the XP-8000-Atom-CE6 Remotely 48
- 2.7. Using DCON Utility to Configure the I/O Module..... 50

# 3. Tools and Tasks ......54

3.1. Tools and Tasks on XPAC	56
3.1.1. DCON_CE 5	6
3.1.2. ISQLW355	7
3.1.3. modbus_master_tool 5	8
3.1.4. NAPOPC_CE65	9
3.1.5. INotepad6	0

XP-8000-Atom-CE6 User Manual

Page: 3

3.1.6. RegEdit	
3.1.7. Remote_Display	
3.1.8. Send ToCOM	
3.1.9. TaskMgr	
3.1.10. XPAC_Utility	65
3.1.10.1. Menu Bar	66
3.1.10.2. Property Tabs	68
3.2. Tools and Tasks on PC	
3.2.1. DCON_Utility	
3.2.2. Remote_Display	

# 4. Your First XP-8000-Atom-CE6 Program...82

4.1. Selecting a Development Tools	
4.2. Installing the XP-8000-Atom-CE6 SDKs 85	
4.3. Creating Your First XP-8000-Atom-CE6 Program 90	
4.3.1. Your First XP-8000-Atom-CE6 Program with the VB.net 91	
4.3.1.1. Creating a New Project92	
4.3.1.2. Specifying the Path of the XPAC Reference 95	
4.3.1.3. Adding the Control to the Form98	
4.3.1.4. Adding the Event Handling to the Control 100	
4.3.1.5. Uploading the Application to XP-8000-Atom-CE6 102	
4.3.1.6. Executing the Application on XP-8000-Atom-CE6104	
4.3.2. Your First XP-8000-Atom-CE6 Program with the Visual C# 105	
4.3.2.1. Creating a New Project106	
4.3.2.2. Specifying the Path of the XPAC Reference 109	
4.3.2.3. Adding the Control to the Form .112	
4.3.2.4. Adding the Event Handling to the Control 114	
4.3.2.5. Uploading the Application to XP-8000-Atom-CE6 116	
4.3.2.6. Executing the Application on XP-8000-Atom-CE6118	
4.3.3. Your First XP-8000-Atom-CE6 Program with the Visual C++ 119	9

e

ien

- 4.3.3.1. Creating a New Project ......120 F
- 4.3.3.2. Configuring the Platform......125
- 4.3.3.3. Specifying the Path of the XPAC Reference 126
- 4.3.3.4. Adding the Control to the Form .128
- 4.3.3.5. Adding the Event Handling to the Control 131
- 4.3.3.6. Uploading the Application to XP-8000-Atom-CE6 133

Table

Onli

4.3.3.7. Executing the Application on XP-8000-Atom-CE6135

# 5. Restore and Recovery ...... 136

# 6. XP-8000-Atom-CE6 Updates ...... 146

6.1. OS updates	
6.1.1. OS Updates from Files	
6.1.2. OS Updates using the Recu	se CF Card 150
6.2. SDK updates	

# Appendix A. Application of RS-485 Network152

A.1. Basic RS-485 Network	154
A.2. Daisy Chain RS-485 Network	155
A.3. Star Type RS-485 Network	156
A.4. Random RS-485 Network	158
A.5. Master/Slave Settings	159
A.1.1. XPAC as a Master (Default)	
A.1.1. XPAC as a Slave	162

# Appendix B. Tips & FAQ......164

B1. How to use the Printer	167
B.1.1. How to use the network printer	168
B.1.2. How to use the USB printer	170

Page: 5



Appendix C. Revision History......193



XP-8000-Atom-CE6 User Manual

# 1. Introduction

This chapter provides an overview of the XP-8000-Atom-CE6 and its components that introduces the fundamental concepts for user familiar with the XP-8000-Atom-CE6.

XP-8000-Atom-CE6 User Manual

Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

Page: 7

XP-8000-Atom-CE6 family is the new generation Windows CE 6.0 based PACs of ICP DAS. It is equipped with an Intel Atom Z500 Series CPU, various connectivity (VGA, USB, Ethernet, RS-232/485) and 0/1/3/7 I/O slots for high performance parallel I/O modules (high profile I-8K Series) and serial I/O modules (high profile I-87K series).

The benefits of running Windows CE 6.0 on XP-8000-Atom-CE6 include hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level and achievable deterministic control.

XP-8000-Atom-CE6 is also capable of running PC-based control software such as Visual Basic .NET, Visual C# ..., etc. It has all of the best features of both traditional PLCs and Windows capable PCs.



For software copy protection, programmers can design software based on the 64-bit hardware serial number for making software copy protected.

XP-8000-Atom-CE6 User Manual

Page: 8

# 1.1. Features

The XP-8000-Atom-CE6 family offers the most comprehensive configuration and remote system upgrade solutions to meet specific application requirements. The following list shows the hardware and software features designed to simplify installation, configuration and application.

# Hardware Features

#### **Power CPU Module**

#### The most important features of the CPU module are

- 1. Intel Atom Z510 CPU (1.1 GHz)
- 2. DDR (512 MB), Built-in Flash Disk (2 GB)
- 3. EEPROM (16 KB), CF Card (2 GB)

#### Built-in 1 VGA Port and 4 USB 2.0 Port

The built-in VGA port and USB port can be directly connected to a regular LCD display and USB equipment (keyboard, mouse, memory stick). Users can operate the HMI or SCADA software (running on the XP-8000-Atom-CE6) with display, keyboard and mouse just as how they usually did on regular PCs.

#### Audio with Microphone and Earphone jacks

The microphone and earphone jacks enable connection to external audio device for playing and recording sounds.

# Qe O

#### 64-bit Hardware Serial Number

The 64-bit hardware serial number is unique and individual. Every serial number of XP-8000-Atom-CE6 is different. Users can add a checking mechanism to their AP to prevent software from pirating.

XP-8000-Atom-CE6 User Manual

Page: 9

# Built-in Flash Disk (2 GB)

In normal situation, users can store their AP or data to the CF card or USB Flash disk. But in some vibration environment (for example, like driving ships), the two storage media would be bad connection. Then the built-in Flash disk will be the best storage media in such the vibration environment.

# Rich I/O Expansion Ability (RS-232/485, Ethernet, FRnet, CAN)

Beside the local I/O slots, XP-8000-Atom-CE6 also equips several RS-232/485 ports, two Ethernet ports to connect serial I/O and Ethernet I/O. And with FRnet and CAN communication module in local slot, FRnet I/O and CAN devices are easy to be integrated.

## **Dual Watchdog Timer**

A system could be hanged up when the OS or the AP fails. There are two watchdogs (OS watchdog and Hardware watchdog) designed to automatically reset the CPU when the situations happen. The design will increase the reliability of the system.

# Dual Battery-Backup SRAM (512 KB)

To maintain important data while power off, non-volatile memory is the ideal design. The XP-8000-Atom-CE6 equips a 512 KB SRAM with two Li-batteries to maintain data while power off.

The two Li-batteries can continually supply power to the 512 KB SRAM to retain the data for 5 years; and the dual-battery design can avoid data lost while replacing a new battery.

# **Dual Ethernet Ports**

XP-8000-Atom-CE6 provides two Ethernet ports. The two Ethernet ports can be used to implement redundant Ethernet communication and separate Ethernet communication (one for global Internet, one for private Ethernet).

# **Redundant Power Input**

To prevent the XP-8000-Atom-CE6 from failing by the power loss, the power module is designed with two input connectors. Once a power input fails, the power module switches to the other power input. And there is a relay output for informing the power failure.

#### Ventilated Housing Design Allows Operation Between -25 ~ +75 °C

Each XP-8000-Atom-CE6 is housed in a plastic-based box with a column-like ventilator that can help to cool the working environment inside the box and allow the XP-8000-Atom-CE6 operating between -25 °C and +75 °C

#### **Software Features**

#### Windows Compact Edition CE 6.0

#### Most of the popular features in MS software are included, such as

- 1. FTP Server
- 2. HTTP Server
- 3. ASP (Java script, VB script)
- 4. SQL Server Compact Edition 3.5
- 5. .NET Compact Framework 3.5

#### System Rescue Mechanism



The XP-8000-Atom-CE6 supports Ghost solution suite. Ghost is a popular data backup and recovery utility that can be used to restore your XP-8000-Atom-CE6 hard drive in the event of a hard-drive crash, or any other catastrophe that leaves your computer out of commission.

For more information about backing up and restoring data via Ghost, please refer to "Chapter 5. Restore and Recovery".

# **Remote Display (VCEP)**

ICPDAS VCEP is designed for managing your XP-8000-Atom-CE6 anywhere. No matter where you are, ICPDAS VCEP provides a convenient environment on the Desktop PC and lets you control your XP-8000-Atom-CE6 remotely.



XP-8000-Atom-CE6 User Manual

Page: 11

## **Built-In OPC Server**

**NAPOPC\_CE6** is an OPC server and SCADA software can easily integrate I/O modules through it. Furthermore, it also provides a library which users can use to develop their AP by VC++, C# or VB.Net.

NAPOPC\_CE6 not only supports I/O modules in local slots, but also supports remote I/O modules with the following protocols via the RS-232/485 or Ethernet:

- 1. Modbus/RTU
- 2. Modbus/ASCII
- 3. Modbus/TCP
- 4. DCON

#### **Rich Software Solutions**

On the XP-8000-Atom-CE6, ICP DAS provides the following software solutions to fit in different Indusoft applications. 1. Visual Studio .NET 2005/2008 solution: SDK as well as demo programs for Visual C# .NET, Visual Basic .NET and Visual C++ are provided. ISaGRAF 2. SoftPLC solution: A. ISaGRAF supports IEC61131-3 languages, Ladder Diagram (LD), Structured Text KW (ST), Function Block Diagram (FBD), Sequential Function Chart (SFC), Instruction List (IL), and Flow Chart (FC). B. KW-software supports IEC61131-3 EVC languages and HMI features. 3. SCADA solution: Indusoft provides simple "drag and drop", "point and click" VS.net developing environment for HMI and SCADA applications.

XP-8000-Atom-CE6 User Manual

Page: 12

# **1.2. Specifications**

The table below summarizes the specifications of the XP-8000-Atom-CE6, and lists the accessories that XP-8000-Atom-CE6 supports.

# Specification

Model		XP-8041-Atom-CE6	XP-8141-Atom-CE6	XP-8341-Atom-CE6	XP-8741-Atom-CE6	
Software System						
Operating System	rating System Windows CE 6.0 core version					
.Net Compact Frar	Framework 3.5					
Embedded Service	9	FTP server, ASP Web se	erver (supports VB script, J	AVA script), SQL compact e	edition 3.5	
SDK Provided		DII for Visual Studio.Net 2	2003/2005/2008			
Multilanguage Sup	port	English, German, French Korean, Portuguese	ı, Span <mark>i</mark> sh, Russian, Italian,	, Japanese, Simplified Chin	ese, Traditional Chinese,	
CPU Module						
CPU		Intel Atom Z510 CPU (1.	1 GHz)			
System Memory		512 MB DDR2				
Dual Battery Back	up SRAM	512 KB (for 5 years data	retain while power off)			
Flash		2 GB as IDE Master				
EEPROM		16 KB, Data Retention: 4	0 years, 1,000,000 erase/w	vrite cycles		
CF Card		2 GB (support up 32 GB)				
RTC (Real Time C	lock)	Provide seconds, minute	Provide seconds, minutes, hours, day of week/month, month and year			
LED Indicator		4				
64-bit Hardware Serial Number		Yes, for software copy protection				
Dual Watchdog Tir	mers	Yes				
Rotary Switch		Yes (0 ~ 9)				
DIP Switch		-	Yes (8 bits)			
Audio		Microphone-In and Earph	none-Out			
VGA & Communi	cation Ports					
VGA		Yes (resolution: 1400 x 1050, 1280 x 1024, 1024 x 768, 800 x 600, 640 x 480)				
Ethernet (Giga bit)		RJ-45 x 2, 10/100/1000 Base-T (Auto-negotiating, Auto MDI/MDI-X, LED indicators)				
USB 2.0		4				
COM 1		RS-485 (D2+, D2-); non-isolated				
		Internal communication with the high profile I-87K series modules in slots				
COM 2		RS-232 (RXD, TXD and GND); non-isolated				
СОМ 3	RS-485	D2+, D2-; self-tuner ASIC	C inside			
	Isolation	3000 V <sub>DC</sub>				
COM 4		RS-232/RS-485 (RxD, TxD, CTS, RTS and GND for RS-232, Data+ and Data – for RS-485);				

XP-8000-Atom-CE6 User Manual

Page: 13

COM 5	RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated			
I/O Expansion Slots (for high profile I-8K and I-87K modules only)				
Slot Number	0 slot	1 slot	4 slots	8 slots
Hot Swap * will be available	For high profile I-87K mo	dules only		
Mechanical				
Dimensions (W x L x H)	95 x 132 x 111 mm	N/A	231 x 132 x 111 mm	355 x 132 x 111 mm
Installation	DIN-Rail or wall mounting	DIN-Rail or wall mounting		
Environmental				
Operating Temperature	-25 ~ +75 °C			
Storage Temperature	-30 ~ +85 °C			
Ambient Relative Humidity	5 ~ 90 % RH, non-condensing			
Power				
Input Range	+10 ~ +30 V <sub>DC</sub>			
Isolation	1 kV			
Redundant Power Inputs	Yes, with one power relay (1A @ 24 V <sub>DC</sub> ) for alarm			
Capacity	8 W N/A 30 W 30 W		30 W	
Consumption	7.3 W (0.3 A @ 24 V <sub>DC</sub> ) N/A 9.1 W (0.38 A @ 24		9.1 W (0.38 A @ 24 V <sub>DC</sub> )	9.6 W (0.4 A @ 24 V <sub>DC</sub> )

# Accessories

Model	
DRS-125	125 mm length , Stainless 35 mm DIN-Rail
DRS-240	240 mm length , Stainless 35 mm DIN-Rail
DRS-360	360 mm length , Stainless 35 mm DIN-Rail
DP-660	24 V <sub>DC</sub> /2.5 A, 60 W and 5 VDC/0.5 A, 2.5 W Power Supply with DIN-Rail Mounting
DP-1200	24 V <sub>DC</sub> /5.0 A, 120 W Power Supply with DIN-Rail Mounting
MDR-20-24	24 V <sub>DC</sub> /1.0 A, 24 W Power Supply with DIN-Rail Mounting
MDR-60-24	24 V <sub>DC</sub> /2.5 A, 60 W Power Supply with DIN-Rail Mounting

XP-8000-Atom-CE6 User Manual

Page: 14

# 1.3. Overview

The XP-8000-Atom-CE6 contains several interfaces and peripherals that can be integrated with external systems. Here is an overview of the components and its descriptions. The details of these items are as follows:



XP-8000-Atom-CE6 User Manual

Page: 15





#### XP-8000-Atom-CE6 User Manual

Page: 16



XP-8000-Atom-CE6 User Manual

Page: 17

#### 1. Rotary Switch



The Rotary Switch is an operating mode selector switch which provides four functions, the selection of operating mode and authorization control for the XP-8000-Atom-CE6.

For more information about the operating mode, please refer to "2.3. Configuring the Boot Mode"

#### 2. LED Indicators

The XP-8000-Atom-CE6 contains four LED indicators. The first is labeled PWR, located near the power switch and shows the power status. The three other are



LED Indicator	Color (On state)	Meaning
PWR	Red	Power is on
RUN	Green	OS is running
L1	Yellow	User programmable LED
L2	Red	User programmable LED

XP-8000-Atom-CE6 User Manual

Page: 18

## 3. USB Ports (P1 ~ P4)

The XP-8000-Atom-CE6 contains four USB ports that allow support for the USB devices such as mouse, keyboard or an external USB hard drive. These ports are denoted P1, P2, P3 and P4.





# 4. Ethernet Port (LAN1, LAN2)

The XP-8000-Atom-CE6 contains two Ethernet ports for use with network devices, and are denoted as LAN1 and LAN2.



#### 5. Power Switch

The power switch is a small switch that enables or disables power to electric circuits and loads in the XP-8000-Atom-CE6.

XP-8000-Atom-CE6 User Manual

Page: 19

# 6. Connector

The connector has 10 pins arranged in 2 rows, as follows:

Pin			Signal	Description
Ħ	$\oslash$	1	PWR1	Dower input 1
2	$\oslash$	2	P.GND	
I	$\oslash$	3	D+	COM3: BS-485
4	$\oslash$	4	D-	CONS. 113-405
5	$\oslash$	5	F.G.	Frame ground
Ħ	$\oslash$	6	PWR2	Power input 2
	$\oslash$	7	P.GND	
I	$\oslash$	8	R.COM	Polov output
4	$\oslash$	9	R.NO	
5	$\oslash$	10	F.G.	Frame ground

The pin assignments of the connector are as follows:



# 7. Microphone and Earphone Jacks

The XP-8000-Atom-CE6 contains the microphone and earphone jack to the input and output of sound system.



# 8. CF Card Expansion Slot

The CF card expansion slot is an interface that is used to access and download information on a CF card to a XP-8000-Atom-CE6. The CF card can be used to expand the memory up to 32 GB.

XP-8000-Atom-CE6 User Manual

Page: 20



# 9. VGA Connector

A VGA connector is a 3-row 15-pin connector that can be used with a variety of supported VGA resolutions, ranging from 640 x 400 to 1400 x 1050 px.

#### 10. COM1 (Only for XP-8041-Atom)

Port Type: Female

Baud Rate: 115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200 bps

Data Bits: 5, 6, 7, 8

Parity: None, Even, Odd, Mark (Always 1), Space (Always 0)

Stop Bits: 1, 2

FIFO: 16 bytes



#### 10. DIP Switch (For XP-8141-Atom, XP-8341-Atom and XP-8741-Atom)

The DIP switch can be used to set the Module ID to a number from 0 to 255. Do not use Module ID 0 for communication.

XP-8000-Atom-CE6 User Manual

Page: 21

#### 11. COM2 (RS-232)

Port Type: Female Baud Rate: 115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200 bps Data Bits: 7, 8

Parity: None, Even, Odd

Stop Bits: 1

FIFO: 1 byte



#### 12. COM4 (RS-232/RS-485)

Port Type: Male

Baud Rate: 115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200 bps

Data Bits: 5, 6, 7, 8

Parity: None, Even, Odd, Mark (Always 1), Space (Always 0)



COM4 can be configured as either RS-232 or RS-485, that only can select one at a time and its configuration depends on the pin connections as follows:

RS-232 (RXD, TXD, CTS, RTS and GND)

RS-485 (Data+ and Data-)

There is no software configuration or hardware jumper needed.

# 13. COM5 (RS-232)

Port Type: Male

Baud Rate: 115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200 bps

Data Bits: 5, 6, 7, 8

Parity: None, Even, Odd, Mark (Always 1), Space (Always 0)

Stop Bits: 1, 2

FIFO: 16 bytes

XP-8000-Atom-CE6 User Manual

Page: 22

GND

#### 14. I/O Slots

The XP-8000-Atom-CE6 contains some extra I/O slots except the XP-8041-Atom. The XP-8000-Atom-CE6 use I/O slots that can be expanded. They can serve in local and local expansion. The number of each type of the expansion I/O slot:

XP-8141: 1 I/O slot

XP-8341: 3 I/O slots

XP-8741: 7 I/O slots

XP-8000-Atom-CE6 User Manual

Page: 23

# 1.4. Dimension

The diagrams below provide the dimensions of the XP-8000-Atom-CE6 to use in defining your enclosure specifications. Remember to leave room for potential expansion if you are using other components in your system.

The height dimension is the same for all XP-8000-Atom-CE6. The width depending on your choose of I/O expansion slots. All dimensions are in millimeters.



# XP-8141-Atom-CE6







XP-8341-Atom-CE6







XP-8000-Atom-CE6 User Manual

Page: 25

# XP-8741-Atom-CE6









XP-8000-Atom-CE6 User Manual

Page: 26

# 1.5. Companion CD

This package comes with a CD that provides a collection of the software utility, documentation, drivers, demo program and application. The CD contains several subdirectories located in \XPAC-Atom-CE6\ directory. All of them are listed below.



XP-8000-Atom-CE6 User Manual

Page: 27

# 1.6. Rescue CF Card

The XP-8000-Atom-CE6 come with a Rescue Compact Flash Card that not only supports rescue mechanism but also contains full usage documents, software tools and development resources related to the XP-8000-Atom-CE6. All of them are listed below.



XP-8000-Atom-CE6 User Manual

Page: 28

# 2. Getting Started

This chapter provides a guided tour that describes the steps needed to download, install, configure, and run the basic procedures for user working with the XP-8000-Atom-CE6 for the first time.

Page: 29

XP-8000-Atom-CE6 User Manual

Before starting any task, please check the package contents. If any of the following package contents are missing or damaged, contact your dealer, distributor.



XP-8000-Atom-CE6 Series Module





Page: 30



Software Utility CD

Screw Driver (1C016)

XP-8000-Atom-CE6 User Manual



# 2.1. Mounting the Hardware

Before you work with the XP-8000-Atom-CE6, you should have a basic understanding of hardware specification, such as the dimensions, the usable input-voltage range of the power supply, and the type of communication interfaces. For more information about the hardware details, see section 1.2., "Specifications."

For more information about the hardware dimensions, see section 1.4., "Dimension."

XP-8000-Atom-CE6 User Manual

Page: 31

# 2.1.1. Mounting the XP-8000-Atom-CE6

The XP-8000-Atom-CE6 can be mounted with the bottom of the chassis in the standard 35 mm DIN rail, or any other screw-mountable surface.

#### **Tips & Warnings**



There must be a minimum clearance of 50mm between the XP-8000-Atom-CE6 and the top and bottom side of the enclosure panels must be provided.



XP-8000-Atom-CE6 User Manual

Page: 32

#### Mount the Chassis on a DIN Rail

i. Hook upper tab over upper flange of DIN rail.

- ii. Tilt the module toward DIN rail until it snaps securely to DIN rail.
- iii. Push up retaining clips.





# Grounding

A good common ground reference (earth ground) is essential for proper operation of the XP-8000-Atom-CE6. One side of all control circuits, power circuits and the ground lead must be properly connected to earth ground by either installing a ground rod in close proximity to the enclosure or by connecting to the incoming power system ground. There must be a single-point ground (i.e. copper bus bar) for all devices in the enclosure that require an earth ground.

#### **Surface Mounting**

- i. Install the four mounting screws into the 4 keyhole mounting holes.
- ii. Fasten the screws securely.



XP-8000-Atom-CE6 User Manual

Page: 34

 $Copyright @ 2011 \ ICP \ DAS \ Co., \ Ltd. \ All \ Rights \ Reserved. \\ * E-mail: \ service @ icpdas.com$ 

# 2.1.2. Deploying a Basic XP-8000-Atom-CE6 System

The XP-8000-Atom-CE6 provides a variety of communication interface to suit a range of applications. Here is a simple application for using the XP-8000-Atom-CE6 that is shown below.

i. Use the LAN1 or LAN2 to connect to PC via the router.

ii. Use USB 2.0 ports to connect to the USB mouse and keyboard.

iii. Use the VGA port to connect to the monitor.



# 2.1.3. Inserting the I/O Modules

Except for XP-8041-Atom-CE6, the XP-8000-Atom-CE6 has 1/3/7 I/O expansion slots to expand the functions of the XP-8000-Atom-CE6, allowing it to communicate with external I/O modules, and before choosing the right I/O modules, you first need to know the I/O expansion capacities in order to choose the best expansion module for achieving maximal efficiency.

There are more than 30 high profile I/O modules available for interfacing many different measurements, including thermocouple, voltage, RTD, current, resistance, strain, digital,..., etc., and these modules have their own manuals, so if you are using them you should supplement this manual with the manual specifically designed for the special module.

For more information about the I/O expansion modules that are compatible with the XP-8000-Atom-CE6, please refer to

http://www.icpdas.com/products/PAC/i-8000/8000\_IO\_modules.htm#i87

Here are step by step instructions on how to inserting the I/O modules.


Step 2 Pull top and bottom locking tabs toward module face. Click indicates lock is engaged



## 2.1.4. Powering up the XP-8000-Atom-CE6

The XP-8000-Atom-CE6 works with 24 VDC power, has redundant power inputs, provides two terminal blocks for PWR1 and PWR2 input.

### Step 1 Wire to power supply

There are two ways to supply power to the XP-8000-Atom-CE6.



#### **Tips & Warnings**



Once you wire and power up the power supply, confirm the PWR indicator (Red LED) on the CPU module is on.

If the indicator is not on, check the voltage on the terminal block with a voltage meter. If you measure 24 VDC on the terminal block, the CPU module may be defective. Please contact us.

#### XP-8000-Atom-CE6 User Manual

Page: 38

#### Redundant power supply

The redundant power can be used single and used two self-governed power to supply to the system, PWR1 and PWR2 input at the same time, when one power fails, the other power acts as a backup, and automatically supplies power needs.



### Step 2 Check the boot status

After supplying the power to the unit, and then turning on the power. Here please note the four LED statues to make sure the boot is correct. The boot process will take about 40~50 seconds.





vi. The boot process has been finished successfully.

#### **Tips & Warnings**



After the boot process has been finished, the L1 and L2 LED indicators will be released. The user can use XPAC API to control them.

XP-8000-Atom-CE6 User Manual

Page: 41

# 2.2. Installing the Tools and Utilities

The XP-8000-Atom-CE6 has several tools and utility that allows and supports you quickly and easily to manage the XP-8000-Atom-CE6. Here we will introduce two practical of them and guide you through the installation.



cerbost exe

**Remote Display** is one of the Windows CE operating system toolkits. If your XP-8000-Atom-CE6 is connected to PC through the network, you can use this utility to display the device screen on the host PC and control the XP-8000-Atom-CE6 remotely through this

interface.

For more information on how to use Remote Display to control the XP-8000-Atom-CE6 remotely, please refer to section 2.6. Using Remote Display to Control the XP-8000-Atom-CE6 Remotely.



DCON Utility is a toolkit that is designed to configure, manage and monitor the I/O modules from PC via COM port or Ethernet.

For more information on how to use DCON Utility to configure the I/O module, please refer to section 2.7. Using DCON Utility to Configure the I/O Module.

#### Step 1 Get the DCON Utility and Remote Display

The DCON Utility and Remote Display can be installed from the CD that was provided with the package or by downloading the latest version from ICP DAS web site.

CD:\XPAC-ATOM-CE6\PC\_Tools ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/pc\_tools/

#### **Step 2** Follow the prompts until the installation is complete

XP-8000-Atom-CE6 User Manual

Page: 42

# **2.3. Configure the Boot Mode**

The XP-8000-Atom-CE6 has the following main operating modes, which can be selected by a rotary switch.

ç	7	8	.0
5			0
2	3	2	~

<b>Rotary Switch Position</b>	Operating Mode
0	Normal mode (Default)
1	Safe mode
2~7	(For user defined mode)
8	DCON_CE mode
9	Remote Display mode

The following is a brief introduction of these modes.

#### Normal Mode (Default mode)

Normal mode is the default mode of operation and the one you will use most of the time. Use this mode for more tasks and configurations. Programs also are executed in this mode.

#### Safe Mode

Safe mode is a trouble shooting. All settings will be set to factory default on this mode.

If you have malicious software or a program caused the XP-8000-Atom-CE6 cannot be boot or run the normal mode, you can boot in safe mode to solve the problem.

#### DCON\_CE

In this mode, the VCEP will be run automatically, and other settings are same as the normal mode.

For more information about the DCON CE, please refer to section 3.1.1. DCON CE.

XP-8000-Atom-CE6 User Manual

Page: 43

#### **Remote Display**

In this mode, the cerdisp.exe will be run automatically, and other settings are same as the normal mode.

For more information about the Remote Display, please refer to section 2.6. Using Remote Display to Control the XP-8000-Atom-CE6 Remotely.

#### **User Mode**

The positions 2, 3, 4, 5, 6, 7 of rotary switch are reserved for user's applications.

When XP-8000-Atom-CE6 is boot with one of these positions, it is boot at normal mode. User's application can check the rotary switch position to run at different mode.

#### XP-8000-Atom-CE6 User Manual

Page: 44

## 2.4. Changing the User Interface Language

The "Regional Settings" is a Windows CE functionality that allows users to easily change the XP-8000-Atom-CE6 user interface with your native language.

Here are step by step instructions on how to change the XP-8000-Atom-CE6 user interface language.

# Step 1 Click Start menu, point to Settings, click Control Panel, and then click Regional Options



# Step 2 Click User Interface Language tab, choose to your local language, and then click OK

Regional and Langua	ge Settings	<b>?</b> OK ×
Regional Settings	User Interface Language	Input Language
User Interface Land	guage ————	
The option will and alerts.	determine the language used fo	or the menus, dialogs
	English (United Sta	tes) 💌
	English (United Stat French (France) German (Germany) Italian (Italy) Portuguese (Brazil)	.es)
	Spanish (Spain - Int	ernational Sort)

Step 3 Click OK, and then reboot XP-8000-Atom-CE6 for changes to take effect



XP-8000-Atom-CE6 User Manual

Page: 46

#### 2.5. Using XPAC Utility to Configure XP-8000-Atom-CE6 Basic Functionality

The XPAC Utility is a collection of the XP-8000-Atom-CE6 system tool that allows user quickly and easily manage and configure the XP-8000-Atom-CE6.

Here are step by step instructions on how to use XPAC Utility to configure XP-8000-Atom-CE6 basic functionality.



For more information about the XP-8000-Atom-CE6 basic functionality, please refer to section 3.1.10. XPAC Utility.

XP-8000-Atom-CE6 User Manual

Page: 47

### 2.6. Using Remote Display to Control the XP-8000-Atom-CE6 Remotely

The "Remote Display" is a Windows CE functionality that allows XP-8000-Atom-CE6 to be controlled and monitored from a remote location. This tool is composed of two parts, a client and a server. The server is a program named cerdisp.exe running on XP-8000-Atom-CE6. The client is a PC-based program named cerhost.exe running on the PC.

Here are step by step instructions on how to use Remote Display to control XP-8000-Atom-CE6 remotely.

#### Step 1 On PC side, click client program, cerhost.exe

The Remote Display can be installed from the CD that was provided with the package or by downloading the latest version from ICP DAS web site.

CD:\XPAC-ATOM-CE6\PC\_Tools\Remote\_Display\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/pc\_tools/remote\_display/



# Step 2 On XPAC side, click server program, cerdisp.exe

The cerdisp.exe are pre-installed on the XP-8000-Atom-CE6, located under \System\_Disk\Tools\Remote\_Display



XP-8000-Atom-CE6 User Manual

Page: 48

Step 3 Click OK button, click Connect button, type the IP address of the host PC

About CERDis	p	
<b>20</b>	Remote Control for Windows CE Version 2.03	
	CE Remote D	isplay ?
ОК	Settings Connect	Hịde E <u>x</u> it
Connect		
Hostname:	0.1.0.118 Cancel	

### Step 4 The remote connection has been established

WindowsCE	
<u>File Zoom T</u> ools <u>H</u> elp	
<u>File Edit View G</u> o	
Cerdisp	
om-CE6 User Manual	Page: 49

XP-8000-Atom-CE6 User Manual

### 2.7. Using DCON Utility to Configure the I/O Module

The DCON Utility is a client utility that runs on PC, and communicates with XP-8000-Atom-CE6 via DCON protocol. The DCON Utility allows users to remotely connect to I-7K and I-87K series I/O modules for management through the COM port and Ethernet port.

This tool is composed of two parts, a client and a server. The server is a program named DCON\_CE\_Vxxx running on XP-8000-Atom-CE6. The client is a PC-based program named DCON Utility running on the PC.

Here are step by step instructions on how to use DCON Utility to configure the I/O modules.

#### Step 1 On XPAC side, click server program, DCON\_CE\_Vxxx

The DCON\_CE\_Vxxx are pre-installed on the XP-8000-Atom-CE6, located under \System\_Disk\Tools\DCON\_CE

#### **Tips & Warnings**



Please remember the port number appearing in the right-hand window. Sometimes XP-8000-Atom-CE6 will block a port through the firewall. You can use this information to open these ports so you can use certain applications.



XP-8000-Atom-CE6 User Manual

Page: 50

### Step 2 On PC side, Run the DCON Utility

The DCON Utility can be installed from the CD that was provided with the package or by downloading the latest version from ICP DAS web site.

CD:\XPAC-ATOM-CE6\PC\_Tools\DCON\_Utilityy\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/pc\_tools/dcon\_utility/



### Step 3 Click WINCE common button



XP-8000-Atom-CE6 User Manual

Page: 51

Step 4 Click XPAC\_CE tab, type the IP address of the XPAC, and then click Connect to XPAC\_CE button



#### **Tips & Warnings**



If DCON Utility cannot connect to XP-8000-Atom-CE6, the Ethernet connection between Host PC and XP-8000-Atom-CE6 might be rejected by fire wall, please contact with MIS to open the Ethernet port.

XP-8000-Atom-CE6 User Manual

Page: 52

# Step 5 Click on the module name from the list to configure the settings form

K[314] The I/O Woulles I	ound
ch Run Terminal La	nguage Help
EE 🎇 💭 Start	0 End 10 (Address 0~255)
Checksum format Status Disable N,8,1 Disable Disable Disable Disable	Description XPAC_CE System(DCDN) [Parallel bus module] or [None] [Parallel bus module] or [None] 8*AI (mA_mV,V) 4*AD (mA,V)
Configuration for 87017 M   figuration Setting:   bcot: DCON   ess[dec]: 1   drate: 9600   sksum Disable   format: Engineering   t range: 109 + 2-10 V   s Setting: 60Hz   e: Nome Parity(N,8,1)	odule Version: A600 X   Channel Enable/Disable Setting: Running I   V CH:0 +000.000 V CH:4 +000.003   V CH:1 +000.000 V CH:5 +000.013   V CH:2 +000.004 V CH:6 +000.016   V CH:3 +000.008 V CH:7 +000.001   V Select All Clear All Exit   V Modbus Response Delay Time Delay Time: 0 Charactering
	Ch Run Terminal La   Image: Construction of the second

#### **Tips & Warnings**



DCON_Utility ×	I
30 seconds timeout to communicate with the WINCE device Please re-connect again	
	-
P-8000-Atom-CE6 User Manual Page: 53	



This chapter provides information of the XP-8000-Atom-CE6 and its components that introduces the fundamental concepts for user familiar with the XP-8000-Atom-CE6.

XP-8000-Atom-CE6 User Manual

Page: 54

There are several tools and utilities built-in and designed for use with the XP-8000-Atom-CE6. Some of these tools and utilities are installed on the XP-8000-Atom-CE6 controller, some are available on PC.

Both the XP-8000-Atom-CE6 side and PC side tools and utilities can be found separately on the CD that was provided with the package or by downloading the latest version from ICP DAS web site.

#### **Tools and Utilities on XPAC**

CD:\XPAC-ATOM-CE6\System\_Disk\Tools\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/system\_disk/tools/



#### **Tools and Utilities on PC**

#### CD:\XPAC-ATOM-CE6\PC\_Tools\

ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/pc\_tools/



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 55 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

# 3.1. Tools and Tasks on XPAC

# 3.1.1. DCON\_CE

The DCON\_CE is a server program based that runs on XP-8000-Atom-CE6, and communicates with PC via DCON protocol.

The DCON Utility is a client utility that runs on PC, and communicates with XP-8000-Atom-CE6 via DCON protocol. The DCON Utility allows users to remotely connect to I-7K and I-87K series I/O modules for management through the COM port and Ethernet port.

This tool is composed of two parts, a client and a server. The server is a program named DCON\_CE\_Vxxx running on XP-8000-Atom-CE6. The client is a PC-based program named DCON Utility running on the PC.

# 3.1.2. ISQLW35

The "ISQLW35" is a Windows CE functionality that implements SQL Server Compact 3.5 Query

🍯 Objects 🧱 SQL 🛄 Grid 🗊 Notes	
Databases	
Tools SOL 🚯 AL 🙀	X

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 57Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

## 3.1.3. modbus\_master\_tool

Modbus_VB.NET_Demo Default ID:1	
Modbus TCP/RTU(Checked:TCP UnChecked:	RTU)
COM Port 1 Baudrate 19200	Create
IP Address 10.0.0.80 Timeout 500	
Address 6~10	
	RCoils
Address 16~20	
	RRegs
Write Address 7 Value 1	WCoil
Write Address 16 Value 12345	WReg

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 58Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

## 3.1.4. NAPOPC\_CE6



NAPOPC\_CE6 DA Server is a free OPC DA Server (The "OPC" stands for "OLE for Process Control" and the "DA" stands for "Data Access") working on XPAC, ViewPAC & WinPAC controllers provided by ICP DAS Ltd. The first standard (originally called simply the OPC Specification and now called the Data Access

Specification) resulted from the collaboration of a number of leading worldwide automation suppliers working in cooperation with Microsoft. Originally based on Microsoft's OLE COM (component object model) and DCOM (distributed component object model) technologies, the specification defined a standard set of objects, interfaces and methods for use in process control and manufacturing automation applications to facilitate interoperability. **NAPOPC\_CE6** DA Server integrates OPC, Modbus TCP Slave and Modbus RTU Slave three kind Slave services, as well as integrates Modbus TCP Master, Modbus RTU Master and DCON three kind Master communication protocols. It also provides one advanced function "Rule Script" for use in the I/O integration and transformation, and some conditional Logic operation.

# 3.1.5. INotepad

The INotepad is a Windows CE application, which is a common text-only editor. The resulting files have no format tags or styles, making the program suitable for editing system files that are to be used in a DOS environment.



# 3.1.6. RegEdit

The RegEdit is a Windows CE application, which provides a hierarchical representation of the registry on a target computer, similar in appearance to the Windows Registry Editor. The standard registry roots are represented; you can add keys beneath a root to point to existing registry keys, or you can add your own keys. Values can be changed for existing keys, or added for new keys, and default keys can be specified. For more information, see Registry Settings Management in Deployment.

2 🖾 🙂 💾 单 🔳 🔂			
<u>File H</u> elp			×
	Name	Data	
HKEY_CURRENT_USER			
🗉 🛅 TCPIP6			
🗉 🛅 TCPIP			
🕀 🧰 TAPI			
🕀 🛄 nls			
🛄 MUI			
🗀 init			
🕀 🛄 Drivers			
🕀 🛄 System			
🕀 👜 Comm			
🕀 🛄 Time Zones			
😟 🛄 SOFTWARE			
🕀 🛄 ExtModems			
🕀 🛄 Printers			
E Services			
Ident			
Explorer			
I Windows CE Services			
Loader			
Platform			

# 3.1.7. Remote\_Display

The "Remote Display" is a Windows CE functionality that allows XP-8000-Atom-CE6 to be controlled and monitored from a remote location. This tool is composed of two parts, a client and a server. The server is a program named cerdisp.exe running on XP-8000-Atom-CE6. The client is a PC-based program named cerhost.exe running on the PC.

For more information on how to use remote display to control the XP-8000-Atom-CE6 remotely, please refer to section 2.6. Using Remote Display to Control the XP-8000-Atom-CE6 Remotely.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 62 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## 3.1.8. Send ToCOM

The SendToCOM uses the serial port to communicate with expansion module. To use the SendToCOM, you can send data to expansion module through the serial port, and receive data from other device through the serial port.

For more information about these commands for communicating with expansion module, please refer to:

Connection Status COM Port Baudrate Data Bit Parity Stop Bit Slot COM Port 115200 8 0 0-None Pa 1 2 2 2 Close End string with None LF_CR CR CR_LF LF Commands Current Packet Size (bytes) 0 Current Packet Size (bytes) 0 Total Packet Bytes 0 Total Packet Bytes 0 Packet Quantity send 0 Packet Quantity received 0 Start Stop Set Start Time Start Time Stop Time Stop Time	
End string with None LF_CR CR CR_LF LF String +CRC commands Responses Current Packet Size (bytes) O Current Packet Size (bytes) O Auto send Internal (ms) 500 Fotal Packet Bytes O Total Packet Bytes O Start Stop Set Packet Quantity send O Packet Quantity received O Start Time Start Time Stop Time Stop Time	
Clear	
Clear	

CD:\Napdos\io\_module\87k\_high\_profile\_modules.htm

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 63 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

# 3.1.9. TaskMgr

The TaskMgr is a Windows CE application, which provides real time info on all processes and threads including System threads, similar in appearance to the Windows Task Manager.



# 3.1.10. XPAC\_Utility

XP-8000-Atom-CE6 Utility is a collection of software applications that enable management and configuration of XP-8000-Atom-CE6 system and features.

XPAC Utility [1.0.2.8]		. ×
File Help		
General Display IP Config Network Device Information	Auto Execution Rotary Execution M	
	Welcome to use XPAC Utility This tool will help you easy to use XPAC CE series. Task Bar setting: Auto Hide Always On Top HIVE Registry: Auto Save To Flash (Default)	
Backplane Battery Batterv1 : OK Batterv2 : OK	🔿 Maunal Save To Flash	
RTC Battery		
Configure the synchronization with a time server	Configure	,

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 65Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### 3.1.10.1. Menu Bar

The XPAC Utility includes the following function menu. All function menus will be explained later.

### ➤ File menu

File	Help	
Sav	е	
Sav	e and Re	eboot
Reb	oot	
Res	tore Utili	ty Default Settings
Exit		

The menu commands	Used to
Save	Saves the settings into Flash.
	The new settings don't take effect until the XPAC restart.
Save and Reboot	Saves the settings into Flash and restart the XPAC.
	The new settings will take effect after the XPAC restart.
Reboot	Restart the XPAC
Restore Utility Default Settings	Restore the settings of XPAC Utility to its default
Exit	Exit the XPAC Utility.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 66Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### ➤ Help menu

File Help

The menu commands	Used to
About	Display a dialog box with information about XPAC Utility, including the current version and copyright information.



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 67Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### 3.1.10.2. Property Tabs

PAC Utility [1.0.2.8]	_ ×
File Help	
General Display IP Config Network Device Infor	mation Auto Execution Rotary Execution M
	Welcome to use XPAC Utility This tool will help you easy to use XPAC CE series. Task Bar setting: Auto Hide Always On Top HIVE Registry: Auto Save To Flash (Default)
Backplane Battery Battery1 : OK Battery2 : RTC Battery	OK
Configure the synchronization with a time serv	er Configure

The XPAC Utility includes the following property tabs, all property tabs will be explained later.

- 📐 General
- 🔪 Display
- ↘ IP Configure
- Network
- ↘ Device Information
- ↘ Auto Execution
- ↘ Rotary Execution
- ↘ Multi-IO Modules

### ➤ General tab

The System Setting tab provides functions to configure the task bar, HIVE registry and monitor RTC battery.



The tab use to	How to use
Lock or Auto-Hide the	Auto-Hide: Select the Auto Hide check box
taskbar	Lock: Select the Always On Top check box.
Auto or Manual save to	Auto Save To Flash (Default):
Flash	Select the Auto Save To Flash (Default) option
	Manual Save To Flash:
	Select the Manual Save To Flash option
Check the status of the battery	See the Battery1 and Battery2 field that displays the battery status.
Automatic synchronization of system time	Refer to the AppendixB.2 How to configure the service for automatically synchronizing with the internet time server

### > Display tab

The Display tab provides functions to configure the monitor setting.



The tab use to	How to use
Adjust the screen resolution	Move the slider to the resolution you want, and then click apply button
Change the Screen Refresh Rate	Select a screen refresh rate, and then click apply button

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 70Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### > IP Config tab

The IP Config tab provides functions to configure either DHCP (Roaming) or manually configured (Static) network settings and to monitor the MAC address. Generally, DHCP is the default settings, but if you don't have a DHCP server, you must configure the network settings by using manual configuration.

XPAC Utility [1.0.2.8]				_ ×
File Help				
General Display IP Cor	nfig Network Device	Information	Auto Execu	ution Rotary Execution M 🔍 🕨
LAN 1:		LA	N 2:	
MAC Address:	00-90-FB-30-31-01	MA	AC Address:	00-0D-E0-12-45-23
O Use DHCP t	o get IP address	0	Use DHCP 1	to get IP address
🖲 Assign IP a	ddress	۲	Assign IP a	ddress
IP Address:	10.1.0.45	IP	Address:	10.1.0.38
Mask:	255.255.0.0	] Ma	ask:	255.255.0.0
Gateway:	10.1.0.254	] Ga	iteway:	10.1.0.254
DNS Server:	10.0.0.3		IS Server:	10.0.0.3
	Apply	]		Apply

The tab use to	How to use
Check the MAC address	See the MAC Address 1 and MAC Address 2 fields that display the physical address of LAN1 and LAN2.
Configure the network settings	Obtaining an IP address automatically from DHCP:
	Select the Use DHCP to get IP address option.
	Manually assign an IP address:
	Select the Assign IP address option.

### ➤ Network tab

The Network tab consists of two tabs, Access and Login, which provides functions to enable/disable the FTP access, enable/disable anonymous FTP access, configure the FTP directory path, change HTTP document root directory and maintain the FTP accounts.

XPAC Utility [1.0.2.8]
File Help
General Display IP Config Network Device Information Auto Execution Rotary Execution M 💶
Access Login
FTP 💿 Enable 🔿 Disable
Allow Anonymous 💿 Enable 🔿 Disable
Set FTP default download directory to:
\Temp Apply
Set HTTP document root directory to:
System_Disk\ICPDAS\www\ Apply
#### Access tab

This tab provides functions to enable/disable the FTP access, enable/disable anonymous FTP access, configure the FTP directory path, and change HTTP document root directory.

XPAC Utility [1.0.2.8]			_ ×		
File Help					
General Display IP Config	Jetwork Device Info	ormation   Auto Execution   Rotary Execu	tion M		
Access Login	•				
FTP	🖲 Enable	🔿 Disable			
Allow Anonyma	<sup>ous</sup> 💿 Enable	🔿 Disable			
Sot ETP dofaul	t download directory	to:			
	Set FTP default download directory to:				
[\\iemp					
Set HTTP docu	ment root directory f	to:			
\System_Disk\	ICPDAS\www\	Apply			

The tab use to	How to use
Enable/disable the FTP access	Enable: Select the Enable option Disable: Select the Disable option.
Enable/disable anonymous FTP access	Enable: Select the Enable option Disable: Select the Disable option.
Change the FTP directory path	Enter a new path in the Set FTP default download directory to field, and then press the Apply button.
Change the HTTP directory path	Enter a new path in the Set HTTP document root directory to field, and then press the Apply button.

#### Login Access tab

This tab provides functions to maintain the FTP accounts.

XPAC Utility [1.0.2.8]
File Help
General Display IP Config Network Device Information Auto Execution Rotary Execution M
Access Login
User name Password
Anna **** Add Delete
User name Password
Anna ****

The tab use to	How to use
Maintain the FTP	Refer to the AppendixB.3 How to add a user
accounts	account to remote login the XPAC from PC.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 74Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Device Information tab

The Device Information tab provides functions to monitor necessary device information of the XPAC. The system information is the most important note of version control for upgrading system.

XPAC Utility [1.0.2.8	3]			_ ×
File Help				
IP Config Network	Device Information	Auto Execution 📔	Rotary Execution   Multi-IO Modules	•
Slot 1:	CPI	Ј Туре:	АТОМ	
Slot 2:	Ser	rial Number:	01-73-5C-26-14-00-00-E5	
Slot 3:	8144 Bao	kplane Version:	1.0.12.0	
Slot 4:	CPI	J Version:	1.0.14.0	
Slot 5:	os	Version:	1.0.0.0	
Slot 6:	.NE	T CF Version:	3.5.7338.0	
Slot 7:	SQ	L CE Version:	3.5.5692.0	
	XPa	acSDK Version:	2.0.0.5	
	CPU	J Tempureture:	70 °C	

#### ➤ Auto Execution tab

The Auto Execute tab provides functions to configure programs running at WinPAC startup, it allows users to configure ten execute files at most.

#### **Tips & Warnings**



The allowed file types are .exe and .bat, and they are executed in order of program 1, program 2, etc.

XPAC Utility [1.0.2.8]			_ ×
File Help			
General Display IP Cont	fig Network I	Device Information Auto Execution Rotary Ex	ecution M
_	Program 1:	\System_Disk\Tools\XPAC_Utility\XPAC_Utili	Browse
	Program 2:	\System_Disk\Tools\DCON_CE\DCON_CE_X	Browse
	Program 3:		Browse
	Program 4:		Browse
At most 10 programs	Program 5:		Browse
can be specified to execute automatically	Program 6:		Browse
at system startup.	Program 7:		Browse
	Program 8:		Browse
	Program 9:		Browse
	Program10:		Browse
		Clean	pply

The tab use to	How to use
Configure programs running at startup	Press the Browse button to select the execute file which you want, and then press the Apply button.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 76Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### ➤ Rotary Execution tab

The Rotary Execution tab provides function to decide which mode XP-8000-Atom-CE6 executes at startup.

neral Display IP	Config Network Device	e Information Auto Execution Rotary Exec	ution M. (
	Rotary Switch 0	Normal Mode	Browse
,18,	Rotary Switch 1:	Safe Mode	Browse
u a o	Rotary Switch 2:		Browse
522	Rotary Switch 3:		Browse
	Rotary Switch 4:		Browse
	Rotary Switch 5:		Browse
	Rotary Switch 6:		Browse
	Rotary Switch 7:		Browse
	Rotary Switch 8:	System_Disk\Tools\DCON_CE\DCON_CE	Browse
	Rotary Switch 9:	\System Disk\Tools\Remote Display\cer	Browse

The tab used to	How to use
Run at Normal Mode	Rotary Switch to 0 and reboot XP-8000-Atom-CE6, and then it is in the Normal Mode.
Run at Safe Mode	Rotary Switch to 1 and reboot XP-8000-Atom-CE6, and then it is in the Safe Mode. (In Safe Mode, XP-8000-Atom-CE6 clears the data saved in the registry, starts as factory default, and no applications run at startup.)
Run at Normal Mode but execute DCON_CE_V600.exe	Rotary Switch to 8 and reboot XP-8000-Atom-CE6, and then it is in the Normal Mode but executes DCON_CE_V600.exe. This makes users can use DCON Utility on PC side to configure I/O

	modules without a monitor.
Run at Normal Mode but execute cerdisp.exe	Rotary Switch to 9 and reboot XP-8000-Atom-CE6, and then it is in the Normal Mode but executes cerdisp.exe. This makes users can use cerhost.exe on PC side to remote display Windows CE without a monitor.
Run at Normal Mode but execute user-specified program.	Rotary Switch to 2 ~ 7 and reboot XP-8000-Atom-CE6, and then it is in the Normal Mode but executes the program user specified in the field of "Rotary Switch 2 ~ 7".

#### > Multi-IO Modules tab

The Multi-IO Modules tab provides function to check the driver of multi-IO modules, such as 8114, 8144, 8142, and 8112.

Each serial port of the Multi-IO modules has different numbers for use. The 8144 has four serial ports that are numbered MSB1~3.



For more information about expansion RS-232/RS-422/RS-485 communication module that are compatible with the XP-8000-Atom-CE6, please refer to

http://www.icpdas.com/products/Remote\_IO/i-8ke/selection\_rs232\_i8k.htm

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 79 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

# 3.2. Tools and Tasks on PC

### 3.2.1. DCON\_Utility

The DCON Utility is a client utility that runs on PC, and communicates with XP-8000-Atom-CE6 via DCON protocol. The DCON Utility allows users to remotely connect to I-7K and I-87K series I/O modules for management through the COM port and Ethernet port.

This tool is composed of two parts, a client and a server. The server is a program named DCON\_CE\_Vxxx running on XP-8000-Atom-CE6. The client is a PC-based program named DCON Utility running on the PC.

For more information on how to use DCON Utility to configure I/O modules, please refer to section 2.7. Using DCON Utility to Configure I/O Module.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 80 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 3.2.2. Remote\_Display

The "Remote Display" is a Windows CE functionality that allows XP-8000-Atom-CE6 to be controlled and monitored from a remote location. This tool is composed of two parts, a client and a server. The server is a program named cerdisp.exe running on XP-8000-Atom-CE6. The client is a PC-based program named cerhost.exe running on the PC.

For more information on how to use remote display to control the XP-8000-Atom-CE6 remotely, please refer to section 2.6. Using Remote Display to Control the XP-8000-Atom-CE6 Remotely.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 81 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com





### 4. Your First XP-8000-Atom-CE6 Program

This chapter provides a guided tour that describes the steps needed to set-up a development environment, download, install, configure for user programming with the XP-8000-Atom-CE6. Before writing your first program, ensure that you have the necessary development tool and the corresponding XP-8000-Atom-CE6 SDKs are installed on your system.



Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

# 4.1. Selecting a Development Tools

XP-8000-Atom-CE6 is a Windows CE-based unit. Windows CE is a mature embedded operating system which supports rapid development. Two standard development tools are list as follows which are highly integrated, with comprehensive support for developing applications of Windows CE-based XP-8000-Atom-CE6.

#### Visual Studio



XP-8000-Atom-CE6 has .NET Compact Framework 3.5 installed. Visual Studio takes full advantage of the .NET Compact Framework, which uses public Internet standards to enable integration with new and existing applications running on any platform. Supported languages include Visual C#, Visual C++ and Visual Basic .NET.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 84 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 4.2. Installing the XP-8000-Atom-CE6 SDKs

The XPAC SDK is a Software Development Kit (SDK) that contains C header files, C libraries and documents.

#### **Step 1** Get the XP-8000-Atom-CE6 platform SDK

The XP-8000-Atom-CE6 platform SDK can be installed from the CD that was provided with the package or by downloading the latest version from ICP DAS web site.

#### **Platform SDK:**

CD:\XPAC-ATOM-CE6\SDK\PlatformSDK\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/sdk/platformsdk/

#### Step 2 Install the XP-8000-Atom-CE6 platform SDK

i. Double-Click XP-8000-Atom-CE6 platform SDK installation file

ii. On the first page of the wizard, click Next button



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 85Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

iii. On the next page of the wizard, click Accept option, and then click Next button

End-L Be sur and th	ser License Agreement to carefully read and understand the following end-user license agreement, en indicate whether you accept or do not accept the terms of the agreement.
This so terms the en	ftware will not be installed on your development workstation unless you accept the of the end-user license agreement. For your future reference, you can print the text d-user license agreement by clicking the PRINT button.
	SOFTWARE LICENSE TERMS
	WINDOWS EMBEDDED CE 6.0 CUSTOMIZED OEM SOFTWARE DEVELOPMENT KIT for
	XPacSDK for Windows Compact Edition, 1.3.0
	~
Pre:	s the PAGE DOWN key to see more text. ccepti ODecline
_	

iv. On the next page of the wizard, fill the User Name and Organization fields, and then click Next button

	ReacSDK for Windows Compact Edition Set	որ 🔀	
	Customer Information Please enter your customer information	$\mathfrak{S}$	
	User Name: Anna Organization: ICP DAS	Back Next > Cancel	
XP-8000-Atom-(	CE6 User Manual, version 1.0.	1 Last Revised: June	2011 Page: 86

Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

#### v. Choose setup type



#### **Tips & Warnings**



If your PC only has installed Microsoft Visual Studio 2008 without installing Microsoft Visual Studio 2005, in this step, please choose custom type, and then make the Documentation unavailable.

Select the way you want features to be installed.	
Click on the icons in the tree below to change the v	way features will be installed.
Native Development Support     Microsoft .NET Compact Framev     Common     Occumentation	Documentation of the WinCE platform APIs
Will be installed on local hard drive Entire feature will be installed on lo	e bocal hard drive
Entire feature will be unavailable Location: C:\Program Files\Windows CE Tools\	wce600\XPacSDK_CE\

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 87Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

If you fail this step, you might encounter an error message as below. Please reinstall again and be sure to follow this step.

Plea This 🔂 In	nstaller Information	≤[ <sup>n,</sup>
Stat	ToolsMsmCA(Error): IHxFilters filter registration failure: Err = 0x80040305, Context = pFilters->SetNamespace(	
	Namespace )	
	<u> </u>	

**Step 3** Follow the prompts until the installation is complete



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 88Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Step 4 Get the XP-8000-Atom-CE6 SDK and copy it to the PC

The XP-8000-Atom-CE6 SDK can be obtained from the CD or by downloading the latest version from ICP DAS web site. You can copy it to a location that you have specified.

CD:\XPAC-ATOM-CE6\SDK\XPACSDK\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/sdk/xpacsdk/

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 89Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### 4.3. Creating Your First XP-8000-Atom-CE6 Program

The best way to learn programming with XP-8000-Atom-CE6 is to actually create a XP-8000-Atom-CE6 program.

Here we will guide you through creating this simple program in both VB.net, C# and C++.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 90Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

#### 4.3.1. Your First XP-8000-Atom-CE6 Program with the VB.net

Here we will demonstrate how to create a VB.net program running on XP-8000-Atom-CE6 with the VB.net development tool

- 1. Create a new project
- 2. Specify the path of the XPAC reference
- 3. Add the control to the form
- 4. Add the event handling for the control
- 5. Upload the application to XP-8000-Atom-CE6
- 6. Execute the application on XP-8000-Atom-CE6

In this tutorial, we will assume that you have installed XPAC platform SDK on PC and used the Visual Studio 2008 for application development.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 91 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 4.3.1.1. Creating a New Project

The Visual VB.net project template is a composite control that you use in this example creates a new project with this user control.

#### Step 1 Start Visual Studio 2008



Visual Studio 2008

#### Step 2 On the File menu, point to New, and then click Project



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 92 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

#### Step 3 In the Project types pane, expand Visual Basic, and then click Smart Device

**Step 4** In the Templates pane, click Smart Device

#### **Step 5** Type a name in the Name field, and then click OK

Here we will enter the name "SDKInformation" and a different location for the project if you wish

New Project				? 🔀
Project types:		Templates:	.NET Framework 3.5	▼
Visual Basic		Visual Studio installed templates		
- Web		👔 Smart Device Project		
⊡ Smart Devi	ce	My Templates		
Reporting Test		📷 Search Online Templates		
<ul> <li>Other Project T</li> <li>Test Projects</li> </ul>	ypes			
-				
A project for Smart	Device applications. C	Choose target platform, Framework version, and template	in the next dialog box.	
<u>N</u> ame:	SDKInformation			
Location:	C:\Documents and Settings\Windows\My Documents\WM_Windows4 My Documents 🗸 🛛 🛛 🛛 🗸			Browse
Solution Na <u>m</u> e:	ntion Name: SDKInformation			
			OK	Cancel

- Step 6 In the Target platform item, choose Windows CE
- Step 7 in the .NET Compact Formwork version item, choose .NET Compact Framework Version 3.5
- Step 8 in the Templates pane, choose Device Application, and then click Next

Add New Smart Device Project -	SDKInformation		? 🛛
Target platform: .NET <u>C</u> ompact Framework version: <u>T</u> emplates:	Windows CE .NET Compact Framework	Version 3.5	<b>~</b>
Device Class Library Application	Console Control I plication Library	Empty Project	Description: A project for creating a .NET Compact Framework 3.5 forms application for Windows CE Platform
Download additonal emulator images	and smart device SDKs		OK Cancel

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 94Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 4.3.1.2. Specifying the Path of the XPAC Reference

The XPAC SDK provides a complete solution to integrate with XPAC and it's compatible with Visual C#, Visual Basic .net and C++. In order to use a component in your application, you must first add a reference to it.

#### Step 1 Get the XPacNET.dll and copy it to the project folder

The XPacNET.dll can be obtained from the link below that has been provided on the CD or by downloading the latest version from ICP DAS web site.

CD:\XPAC-ATOM-CE6\SDK\XPacNET\ <u>ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/sdk/xpacnet/</u>



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 95 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com Step 2 In Solution Explorer, right-click the References node, and then click Add Reference...

Solution Ex	cplore	er - MyPorject		6
	\$	¥ 🗉 🖧		
🧔 Solutio	n My	Porject' (1 project)		1
		B <u>u</u> ild		
		R <u>e</u> build		
		Deploy		
		Clea <u>n</u>		
		A <u>d</u> d		
		Add <u>R</u> eference		
		Add Web Reference		
	æ	View Class Diagram		
		Set as StartUp Project		
		Debug		
	ж	Cut		
	13	Paste		
	×	Remove		
		Rena <u>m</u> e		
		Unload Project		
	ß	Open Folder in Windows Explorer		
		Change Target Platform		
		Properties		
l			1	
	***	- Calation Frankrus - Charter -		_
Resource	View	Solution Explorer Class View		

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 96Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

Step 3 Select "Browse" tab and add the XPacNET.dll

dd Reference					?
.NET Projec	ls Browse	Recent			
Look in: 📔	) MyPorject		~	G 🗊 📂 🛄 -	
MyPorject	311				
File <u>n</u> ame:	XPacNET.d	ш			~
Files of <u>type</u> :	Component	t Files (*.dll;*.tlb;*	olb;*.ocx;*.ex	œ)	*
				OK	Cancel

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 97Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### 4.3.1.3. Adding the Control to the Form

You can drag various controls from the Toolbox onto the form. These controls are not really "live"; they are just images that are convenient to move around on the form into a precise location.

After you add a control to your form, you can use the Properties window to set its properties, such as background color and default text. The values that you specify in the Properties window are the initial values that will be assigned to that property when the control is created at run time.

Toolbox				
🖃 All Device Controls 🛛 🔼				
🕨 Pointer				
🙄 BindingSource		<b>.</b>		779
ab Button	SDKInformation*	FormI.vb [Design]*	Start Page	₹ ×
CheckBox				^
E ComboBox	Form1			
🗟 ContextMenu				=
🚰 DataGrid		00		
🗗 DataSet		o Button1 o		
📅 Date Time Picker		00		
🗊 DomainUpDown				
SecollBar SecollBar				
📾 ImageList 💽				
Server Explorer 📯 Toolbox				~
	<			>
	🕞 main Manul			
	inanimenui			
XP-8000-Atom-CE6 User Manua	I, version 1.0.1	_ast Revised: June 20	011 Page: 9	8
	,			

#### **Step 1** From the Toolbox, drag a Button control onto the form

Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com



#### **Step 2** Right-click the Button control, and then click Properties

Step 3 In the Properties window, type Check the SDK version, and press ENTER to set the Text property

Properties		×
Button1 System.Window	ws.Forms.Button	-
₽₽₽↓ 🔲 🛩 📧	1	
Appearance		^
BackColor	Control	
🛨 Font	Tahoma, 10pt	
ForeColor	ControlText	
Text	Check the SDK Version 😽	
Behavior		
ContextMenu	(none)	~
Text The text contained in the o	control. rties	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 99Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 4.3.1.4. Adding the Event Handling to the Control

You have finished the design stage of your application and are at the point when you can start adding some code to provide the program's functionality.

#### **Step 1** Double-click the button on the form

Form1			
	o Check the SDK Version	B	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 100Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Step 2 Inserting the following code

MessageBox.Show(XPacNET.XPac.pac\_GetXPacSDKVersion())



#### **Tips & Warnings**



The "XPacNET" of "unsing XPacNET" is case- sensitive.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 101 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

#### 4.3.1.5. Uploading the Application to XP-8000-Atom-CE6

XP-8000-Atom-CE6 provide FTP server service, you can upload files to XP-8000-Atom-CE6 or download files from a public FTP server.



Step 1 On the Build menu, click Build SDKInformation



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 102Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

- Step 2 Open the browser and type the IP address of XP-8000-Atom-CE6
- Step 3 Upload the SDKInformation.exe application and the corresponding XPacSDK\_CE.dll and XPacNET.dll files to the XPAC

#### **Tips & Warnings**



For applications programming in C# and VB.net with .net compact framework, when executing these application on the XP-8000-Atom-CE6, the corresponding XPacSDK\_CE.dll and XPacNET.dll must be in the same directory as the .exe file.



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 103 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 4.3.1.6. Executing the Application on XP-8000-Atom-CE6

After uploading the application to XP-8000-Atom-CE6, you can just double-click it on XP-8000-Atom-CE6 to execute it.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 104Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### 4.3.2. Your First XP-8000-Atom-CE6 Program with the Visual C#

Here we will demonstrate how to create a Visual C# program running on XP-8000-Atom-CE6 with the Visual C# development tool

- 1. Create a new project
- 2. Specify the path of the XPAC reference
- 3. Add the control to the form
- 4. Add the event handling for the control
- 5. Upload the application to XP-8000-Atom-CE6
- 6. Execute the application on XP-8000-Atom-CE6

In this tutorial, we will assume that you have installed XPAC platform SDK on PC and used the Visual Studio 2008 for application development.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 105 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 4.3.2.1. Creating a New Project

The Visual C# project template is a composite control that you use in this example creates a new project with this user control.

#### Step 1 Start Visual Studio 2008



Visual Studio 2008

#### Step 2 On the File menu, point to New, and then click Project



# **Step 3** In the Project types pane, expand Visual C#, and then click Smart Device

**Step 4** In the Templates pane, click Smart Device

#### **Step 5** Type a name in the Name field, and then click OK

Here we will enter the name "SDKInformation" and a different location for the project if you wish

New Project				? 🔀
Project types:		Templates:	.NET Framework 3.5	▼
<ul> <li>Visual Basic</li> <li>Visual C#</li> <li>Windows</li> <li>Web</li> <li>Smart Devi</li> <li>Office</li> <li>Database</li> <li>Reporting</li> <li>Test</li> <li>Other Project T</li> <li>Test Projects</li> </ul>	се урез	Visual Studio installed templates         Image: Smart Device Project         My Templates         Image: Search Online Templates		
A project for Smart	Device applications. C	hoose target platform, Framework version, and template	in the next dialog box.	
<u>N</u> ame:	SDKInformation			
Location:	C. Documents and Settings \Windows \My Documents \WM_Windows 4 My Documents 👽 📴 rowse			
Solution Na <u>m</u> e:	SDKInformation	Create directory	/ for solution	
			OK	Cancel

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 107Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

- Step 6 In the Target platform item, choose Windows CE
- Step 7 in the .NET Compact Formwork version item, choose .NET Compact Framework Version 3.5
- Step 8 in the Templates pane, choose Device Application, and then click Next

Add New Smart Device Project -	SDKInformation	? 🛛
Target platform: .NET Compact Framework version: Templates: Device Application Class Library Application	Windows CE NET Compact Framework Version 3.5 Console Control Library Empty Project	Description: A project for creating a .NET Compact Framework 3.5 forms application for Windows CE Platform
Download additonal emulator images	and smart device SDKs	OK Cancel

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 108Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com
## 4.3.2.2. Specifying the Path of the XPAC Reference

The XPAC SDKs provides a complete solution to integrate with XPAC and it's compatible with Visual C#, Visual Basic .net and C++. In order to use a component in your application, you must first add a reference to it.

#### Step 1 Get the XPacNET.dll and copy it to the project folder

The XPacNET.dll can be obtained from the link below that has been provided on the CD or by downloading the latest version from ICP DAS web site.

CD:\XPAC-ATOM-CE6\SDK\XPacNET\ <u>ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/sdk/xpacnet/</u>



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 109 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

# Step 2 In Solution Explorer, right-click the References node and then click Add Reference...

E Form1		
Fot	Depl <u>o</u> y Clea <u>n</u>	
Prograd	bbA	•
	Add <u>R</u> eference	
	Add Web Reference	
8	ų ⊻iew Class Diagram	
	Set as StartUp Project Debug	
9	Cut	
1	E Paste	
>	K Remove Rename	
	Unload Project	
Ć	Open Folder in Windows Explorer	
	Change Target Platform	
Ę	Properties	

#### Step 3 Select "Browse" tab and add the XPacNET.dll

Reference						? 🛽
IET Projec	ts Browse	Recent				
Look jn: 🔀	SDKInforms	ation	~	001	• 🛄 🤨	
SDKInfor	mation					
AFACINET	.0.11					
File <u>n</u> ame:	XPacNET	411				

## 4.3.2.3. Adding the Control to the Form

You can drag various controls from the Toolbox onto the form. These controls are not really "live"; they are just images that are convenient to move around on the form into a precise location.

After you add a control to your form, you can use the Properties window to set its properties, such as background color and default text. The values that you specify in the Properties window are the initial values that will be assigned to that property when the control is created at run time.

Pointer		
🖥 BindingSource	Form1.cs [Design]* Start Page Object Browser	ר <u>י</u> י ו
ab Button		
CheckBox	Form1 📃 🗖 🗙	
📑 ComboBox		
🚡 ContextMenu	o hutton1 b	9
🗾 DataGrid		
🔄 DataSet		
📲 Date TimePicker		
🗊 DomainUpDown		
🕪 HScrollBar		
🗊 ImageList 🔍 👽	<	2
	🔄 mainMenul	

#### Step 1 From the Toolbox, drag a Button control onto the form

#### Step 2 Right-click the Button control, and then click Properties

Form1		
8	outton1 B	
Ċ-	View	Code
	强 Bring	to Front
	🐴 Send	to Back
	🕂 Align	to Grid
	🔒 Lock	Controls
	Select	: Form1'
	🔏 Cut	
	🝙 Сору	
	Paste	
	× Deleta	
	Prope	rties
🖹 mainMenul		

Step 3 In the Properties window, type Check the SDK version, and press ENTER to set the Text property

Properties		X
button1 System.Window:	s.Forms.Button	-
2 I 🗐 🗲 🔄		
Appearance		^
BackColor	Control	
🛨 Font	Tahoma, 10pt	
ForeColor	ControlText	
Text	Check the SDK Version 👻	
Behavior		
ContextMenu	(none)	~
Text The text contained in the co	ontrol. ies	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 113Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## 4.3.2.4. Adding the Event Handling to the Control

You have finished the design stage of your application and are at the point when you can start adding some code to provide the program's functionality.

#### Step 1 Double-click the button on the form

Form	n1	
	o Check the SDK Versior	B
	00	>

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 114Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Step 2 Inserting the following code

MessageBox.Show(XPacNET.XPac.pac\_GetXPacSDKVersion());



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 115Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### 4.3.2.5. Uploading the Application to XP-8000-Atom-CE6

XP-8000-Atom-CE6 provide FTP server service, you can upload files to XP-8000-Atom-CE6 or download files from a public FTP server.



**Step 1** On the Build menu, click Build SDKInformation

File	Edit	<u>V</u> iew	<u>P</u> roject	Build	Debug <u>T</u> ools Te <u>s</u> t <u>W</u> indow <u>H</u> elp
				<b>##</b>	Build Solution Ctrl+Shift+B Rebuild Solution Deploy Solution Clean Solution
					Build SDKInformation
					Rebuild SDKInformation Deploy SDKInformation Clean SDKInformation Project Only
					Batch Build Configuration Manager
				۲	Compile Ctrl+F7

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 116Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

- Step 2 Open the browser and type the IP address of XP-8000-Atom-CE6
- Step 3 Upload the SDKInformation.exe application and the corresponding XPacSDK\_CE.dll and XPacNET.dll files to the XPAC

#### **Tips & Warnings**



For applications programming in C# and VB.net with .net compact framework, when executing these application on the XP-8000-Atom-CE6, the corresponding XPacSDK\_CE.dll and XPacNET.dll must be in the same directory as the .exe file.



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 117 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## 4.3.2.6. Executing the Application on XP-8000-Atom-CE6

After uploading the application to XP-8000-Atom-CE6, you can just double-click it on XP-8000-Atom-CE6 to execute it.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 118Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### 4.3.3. Your First XP-8000-Atom-CE6 Program with the Visual C++

Here we will demonstrate how to create a C++ program running on XP-8000-Atom-CE6 with the Visual C++ development tool

- 1. Create a new project
- 2. Configure the platform
- 3. Specify the path of the XPAC reference
- 4. Add the control to the form
- 5. Add the event handling for the control
- 6. Upload the application to XP-8000-Atom-CE6
- 7. Execute the application on XP-8000-Atom-CE6

In this tutorial, we will assume that you have installed XPAC platform SDK on PC and used the Visual Studio 2008 for application development.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 119 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## 4.3.3.1. Creating a New Project

The Visual C++ project template is a composite control that you use in this example creates a new project with this user control.

#### Step 1 Start Visual Studio 2008



Visual Studio 2008

#### Step 2 On the File menu, point to New, and then click Project



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 120 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

#### Step 3 In the Project types pane, expand Visual C++, and then click Smart Device

**Step 4** In the Templates pane, click MFC Smart Device Application

#### **Step 5** Type a name in the Name field, and then click OK

Here we will enter the name "SDKInformation" and a different location for the project if you wish

New Project			? 🛛
Project types: Visual Basic Visual C# Visual C# Visual C++ CLR General MFC Smart Devi Test Win32 Other Project T Test Projects	ice 'ypes	Iemplates: Visual Studio installed templates ATL Smart Device Project MFC Smart Device Application Win32 Smart Device Project My Templates Search Online Templates	NET Framework 3.5
An application for V	Windows Mobile and o	other Windows CE-based devices that uses the Micr	rosoft Foundation Class Library
<u>N</u> ame:	SDKInformation		
Location:	C:\Documents and S	ettings\Windows\My Documents\WM_Windows4 1	My Documents 💉 Browse
Solution:	Create new Solution	💌 🔽 Create di	rectory for solution
Solution Na <u>m</u> e:	SDKInformation		
			OK Cancel

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 121Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Step 6 On the first page of the wizard, click Next

MFC Smart Device Application	ı Wizard - Read_IO 🛛 🔹 🔀
F G Welcome Wizard	e to the MFC Smart Device Application
Overview Platforms Application Type Document Template Strings User Interface Features Advanced Features Generated Classes	These are the current project settings:                 Pocket PC 2003 Platform                  Single document interface          Click Finish from any window to accept the current settings.         After you create the project, see the project's readme.txt file for information about the project features and files that are generated.

Step 7 On the next page of the wizard, select XPacSDK\_CE to be added to the project, and then click Next

Platform	IS
Overview Platforms Application Type Document Template Strings Jser Interface Features Advanced Features Generated Classes	Select platform SDKs to be added to the current project.  Installed SDKs:  Pocket PC 2003 Smartphone 2003
	XPacSDK_CE Instruction sets: x86

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 122Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

Step 8 On the next page of the wizard, select Dialog based, and then click next

MFC Smart Device Application	Wizard - Read_IO		? 🛛
Applicati	on Type		
Overview Platforms Application Type Document Template Strings User Interface Features Advanced Features Generated Classes	Application type: Single document Single document with DocList Concument/View architecture support Resource language:	Use of MFC: Use MFC in a shared DLL Use MFC in a static library Use MFC in a static library ext > Finish Canc	e

Step 9 On the next page of the wizard, click next

User Int	erface Features	
Overview Platforms Application Type Document Template Strings User Interface Features Advanced Features Generated Classes	Command bar: Menus and buttons Status bar Dialog title: SDKInformation	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 123Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

Step 10 On the next page of the wizard, click next

MFC Smart Device Application	Wizard - Read_IO	? 🛛
Advance	ed Features	
Overview Platforms Application Type Document Template Strings User Interface Features Advanced Features Generated Classes	Advanced features:          Windows Help         Printing and print preview         ActiveX controls         Windows sockets         Number of files on recent file list:         Image: Control of files on recent files	ncel

#### Step 11 On the next page of the wizard, click Finish

Genere			
Overview	Generated classes:		
Platforms Application Type Document Template Strings	CSDKInformationApp CSDKInformationDlg		
User Interface Features	Class name:	.h fil <u>e</u> :	
Advanced Features	CSDKInformationApp	SDKInformation.h	
Generated Classes	Base dass:	.cpp file:	
	CWinApp	SDKInformation.cpp	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 124Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

## 4.3.3.2. Configuring the Platform

When developing applications by using Visual C++, you must configure the Platform to indicate what platform and device you intend to download the application to. Before you deploy your project, check the platform.

On the Debug configuration toolbar, select Release, and then on the Pocket PC 2003 (ARMV4) configuration toolbar, select XPacSDK\_CE (x86), as shown in the following illustration.

Release	<ul> <li>XPacSDK_CE (x86)</li> </ul>	•	

Page: 125

## 4.3.3.3. Specifying the Path of the XPAC Reference

The XPAC SDKs provides a complete solution to integrate with XPAC and it's compatible with Visual C#, Visual Basic .net and C++. In order to use a component in your application, you must first add a reference to it.

#### **Step 1** Right-click the project name, and then click Properties

Solution Explorer - SDKInfor	mation	×
B 0 0 4		
🧔 Solution 'SDKInformation' (1	project)	
SDKInformation		
😐 🛄 res 🔛	Buna	
- h Resource.h	Rebuild	
- h Resourceppc.h	Deploy	
SDKInformation	Clea <u>n</u>	
- Johnstin	Project Only	
- 🕶 SDKInformation	Custom <u>B</u> uild Rules	
SDKInformation	Tool Build Order	
- 🛃 SDKInformation	Add	
- 🚰 stdafx.cpp	References	
in sudix.it	Add Web Reference	
a a	⊻iew Class Diagram	
	Set as StartUp Project	
	Debug 🕨	
×	Cut	
13	Paste	
×	Remove	
	Rename	
	Unload Project	
ß	Open Folder in Windows Explorer	
	Properties	

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 126 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

- Step 2 In left pane, expand Configuration Properties, and then click Link
- Step 3 In the right pane, choose the XPacSDK\_CE.lib in the Additional Dependencies item

mfiguration: Active(Release)	*	<u>P</u> latform:	Active(XPacSD)	K_CE (x86))	~	Configuration Manager
∓ Common Properties	Additional D	ependencies		XPacSDK_CE.lib		
Configuration Properties	Ignore All D	efault Libra	nies	No		-
Debugging	Ignore Specif	fic Library				
Deployment	Module Defi	nition File				
	Add Module	to Assembly	у			
🖃 Linker	Embed Mana	ged Resour	ce File			
<ul> <li>General</li> <li>Input</li> <li>Manifest File</li> <li>Debugging</li> <li>System</li> <li>Optimization</li> <li>Embedded IDL</li> <li>Advanced</li> <li>Command Line</li> <li>Resources</li> <li>XML Document Generator</li> <li>Browse Information</li> <li>Build Events</li> <li>Custom Build Step</li> <li>Authenticode Signing</li> </ul>	Force Symbo	l Reference	s			
	Delay Loade	d DLLs				
	Assembly Li	nk Resource				

## 4.3.3.4. Adding the Control to the Form

You can drag various controls from the Toolbox onto the form. These controls are not really "live"; they are just images that are convenient to move around on the form into a precise location.

After you add a control to your form, you can use the Properties window to set its properties, such as background color and default text. The values that you specify in the Properties window are the initial values that will be assigned to that property when the control is created at run time.

- Step 1 In Resource View, expand the resources tree by opening the top level folder
- Step 2 Open the Dialog folder and then double-click the dialog resource name IDD\_SDKINFORMATION\_DIALOG



The resource editor appears in the right pane.

**Step 3** From the Toolbox, drag a Button control onto the form



#### Step 4 Right-click the Button control, and then click Properties



Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

# Step 5 In the Properties window, type Check the SDK version, and press ENTER to set the Text property

Properties		×
IDC_BUTTON1 (Butto	n Control) ICeButtonEditor	+
21 🗉 🗲 📧		
🖻 Åppearance		^
Caption	Check the SDK version	
Client Edge	False	
Horizontal Alignment	Default	
Modal Frame	False	
Multiline	False	
Notify	False	
Static Edge	False	~
Caption Specifies the text displayed	by the control. ation Explorer Properties	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 130Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

## 4.3.3.5. Adding the Event Handling to the Control

You have finished the design stage of your application and are at the point when you can start adding some code to provide the program's functionality.

#### Step 1 Double-click the button on the form



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 131 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

#### Step 2 Inserting the following code

char sdk\_version[32]; TCHAR buf[32]; pac\_GetSDKVersion(sdk\_version); pac\_AnsiToWideString(OS, buf); MessageBox(buf,0,MB\_OK);

#### Step 3 Inserting the following code into the header area

#include "XPacSDK\_CE.h"

```
>// SDKInformationDlg.cpp : implementation file
///
#include "stdafx.h"
#include "SDKInformation.h"
#include "SDKInformationDlg.h"
#include "XPacSDK_CE.h"
= #ifdef _DEBUG
L #define new DEBUG_NEW
#endif
```

### 4.3.3.6. Uploading the Application to XP-8000-Atom-CE6

XP-8000-Atom-CE6 provide FTP server service, you can upload files to XP-8000-Atom-CE6 or download files from a public FTP server.



**Step 1** On the Build menu, click Build SDKInformation

File	<u>E</u> dit	<u>V</u> iew	<u>P</u> roject	Build	<u>Debug Tools Test Window Help</u>
				Ш	Build Solution       Ctrl+Shift+B         Rebuild Solution
					Build SDKInformation
					Rebuild SDKInformation Deploy SDKInformation Clean SDKInformation Project Only
					Batch Build Configuration Manager
				۲	Compile Ctrl+F7

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 133Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

Step 2 Open the browser and type the IP address of XP-8000-Atom-CE6

Step 3 Upload the SDKInformation.exe application



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 134Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

## 4.3.3.7. Executing the Application on XP-8000-Atom-CE6

After uploading the application to XP-8000-Atom-CE6, you can just double-click it on XP-8000-Atom-CE6 to execute it.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 135Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com



## 5. Restore and Recovery

This chapter provides information of the XP-8000-Atom-CE6 restore and recovery, and a guided tour that describes the steps needed to restore and recovery the XP-8000-Atom-CE6. The XP-8000-Atom-CE6 come with a recuse CF card that is a tool that you can use to boot the XP-8000-Atom-CE6 in the event that the operating system on the XP-8000-Atom-CE6 fails to start.

The recovery file of the recuse CF card can be found separately on the CD that was provided with the package or by downloading the latest version from ICP DAS web site.



There is a ghost file, Atom\_Rescue\_Disk.gho that is used to restore the rescue CF card if it has partitioned or formatted.

The Atom\_Rescue\_Disk.gho file can be found from the CD that was provided with the package or by downloading the latest version from ICP DAS web site.

CD:\XPAC-ATOM-CE6\Rescue\_Disk\

ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/rescue\_disk/

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 137 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## 5.1. Recovering the XP-8000-Atom-CE6

The XP-8000-Atom-CE6 come with a recuse CF card that is a tool that allows users to restore the XP-8000-Atom-CE6 to factory default settings by reinstalling the XP-8000-Atom-CE6 OS image. If the XP-8000-Atom-CE6 crashes and won't start up, you can use the rescue CF card to start up the XP-8000-Atom-CE6 computer and then fix the problem that caused the crash.

Here are step by step instructions on how to recovering the XP-8000-Atom-CE6.





Step 2 Reboot the XP-8000-Atom-CE6 and go to the BIOS by pressing the DEL key



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 138Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Step 3 Select Boot menu, and then select Hard Disk Drives

	Seattle States	BIOS SE	TUP UTILITY		
Main Advanced	PCIPnP	Boot	Security	Chipset	Exit
Boot Settings				Spec	ifies the
► Boot Settings (	Configuratio	n		Prio	rity sequence available
<ul> <li>Boot Device Pri</li> <li>Hard Disk Drive</li> </ul>	ior i ty s			Hard	Drives.
				•	Select Screen
				Enter F1	r Go to Sub Screen General Help
				F10 ESC	Save and Exit Exit
					and and and
v02.67	(C) Copur igh	t 1985-2	009. America	n Megatrend	s, Inc.

# Step 4 Set 1st Drive as PS-Flash Module, PS-Flash Module means compact CF card

Hard Disk Drives		Specifies the boot	
ist Drive 2nd Drive	ISATA:PS-Flash Rodal (SATA:PM-268 ATA FI)	available devices.	
		<ul> <li>Select Screen</li> <li>Select Item</li> <li>Change Option</li> <li>F1 General Help</li> <li>F18 Save and Exit</li> <li>ESC Exit</li> </ul>	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 139Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Step 5 Press F10 to save and exit setup

Hard Disk Drives	Hard Disk Drives			
ist Drive 2nd Drive	ISATA:PS-Flash Rodul ISATA:PH-268 ATA FIJ	available devices.		
	Save configuration changes and exit	setup?		
		Change Option     F1 General Help     F10 Save and Exit		

Step 6 After restarting, the system will enter the XP-8000-Atom-CE6 Recuse Utility, and then enter (1), create XPAC\_CE default partition

====				
==		Main Menu		==
	**	the following 3 steps	help you	**
	**	restore default XPAC_C	E OS.	**
(1)	Step	1: create XPAC_CE defau	lt partitio	n.
(2)	Step	2: format and restore X	PAC_CE to f	actory default (
(3)	Step	3: reboot		
(6)	Displ	lay directory informatio	on on built-	in flash
ase (	enter	your choice:		

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 140Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

- Step 7 Wait a while until we enter the XP-8000-Atom-CE6 Recuse Utility again, and then enter (2), format and restore XPAC\_CE to factory default OS
- **Step 8** Wait a while until we enter the XP-8000-Atom-CE6 Recuse Utility again, and then enter (3), reboot
- Step 9 Repeat step 1 ~ 4 to set 1st Drive as PM-2GB-ATA F1, PM-2GB-ATA F1 means Built-in flash, and then reboot the XP-8000-Atom-CE6

Hard Disk Dri	Specifies the boot	
1st Drive 2nd Drive	[SATA:PM-2GB ATA F1] [SATA:PS-F1ash Modu]	available devices.
	Save configuration changes and exit setup?	
	ICancel]	E Select Screen 14 Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit

Step 10 The XP-8000-Atom-CE6 will take about 8 minutes to complete the process

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 141 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## **5.2. Restoring the Rescue CF Card**

The rescue CF card is rescue equipment that allows you to perform some maintenance tasks on your system in case of failure.

Once the rescue CF card are partitioned or formatted, you must restore the rescue CF card.

#### Requirements

For restoring the Rescue CF card, you should prepare Ghost 11 or later, which you could obtain by contacting Symantec (<u>http://www.symantec.com</u>)

Here are step by step instructions on how to restore the rescue CF card. In this demonstration, we will use Symantec Norton Ghost32 V.11 (The Symantec Norton Ghost V.11 or above version are recommend).

#### Step 1 Get the rescue ghost file, Atom\_Rescue\_Disk.gho

The Atom\_Rescue\_Disk.gho file can be installed from the CD that was provided with the package or by downloading the latest version from ICP DAS web site.

CD:\XPAC-ATOM-CE6\Rescue\_Disk\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/rescue\_disk/ Step 2 Start the Symantec Norton Ghost32 V.11, and then click OK



Step 3 Click Function Menu, point to Local, point to Disk, and then click From Image



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 143Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

Step 4 Select rescue ghost file, Atom\_Rescue\_Disk.gho, that you saved and then click Open

Look m					
CONTRACTOR OF A	D D 2.10	DRTRI NTFS drive			
N	lame	Size	Date		
Renoue D	ak.090	93,782,815	2010/01/25/022	ED2 PM	
File particl Files of types Image file desce	*.(HD	_	V	gen Gancel	

#### **Step 5** Select the destination to CF card and click then OK

Drave	Size(MB)	Size(HD) Tupe		Heads	Sectors	
1	152626 152626	Basio Basio	19457 19457	255	63 63	
<b>H</b>	7359	Basic	938	-255	63	
-						
	<u>g</u> K			Çancel		

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 144Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com
## Step 6 Recovery the rescue ghost file, Atom\_Rescue\_Disk.gho, into CF card and then click OK

	: 6host 11.0.2	Copyright (C) 1998-i	2007 Syman	tec Corporatio	m. All rights r	eserved.
Vest	ination Drive Det	ails				
	Part Type	ID Description	Label	New Size	Old Size	Data Size
	1 Primary (	)b Fat32	NO NAME	7357	7357	162
			Free	1	1	
			Total	7359	7359	162
		<u>0</u> K		Cand		

#### Step 7 The rescue CF card has been done

0X 25X 50X 75X 100X  Statistics  wreant.complete 13 seed Old/rews 0 22 Constants Const	Progress Indicator				
Statutice     13       screed Officiency     330       Screed Officiency     13       Screed Officiency     12       Screed Officiency     140       One adapted     004       Own adapted     0025       Screed officiency     12       Own adapted     0025       Screed officiency     140	0%	25%	50%	75 X	100%
urrent partition 1/1 Types 07 402.3, See 7357 MS, NO NEKE Iurrent file VHDHDTLSYSTEK02.0EIUVERUBIUSE.T4	Statistics Percent complete Speed OBL/WAN Hill remaining Hill remaining Time elements Time remaining Details Connection type Source Destination Corrent partition Current file	13 330 22 140 004 025 Local Lo	CUE DESX\Nessee_Dask.5 59 Mil av 7357 HG, NO NHE UVERSVB105A14	Т) ) но, 7355 на	7

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 145Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com



## 6. XP-8000-Atom-CE6 Updates

This chapter provides information of the XP-8000-Atom-CE6 OS and firmware, and a guided tour that describes the steps needed to update the XP-8000-Atom-CE6 OS or firmware.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 146 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com ICP DAS will continue to add additional features to XP-8000-Atom-CE6 SDK and OS in the future, so we advise you to periodically check the ICP DAS web site for the latest updates.

XP-8000-Atom-CE6 updates services provides a software update service for XP-8000-Atom-CE6. It can be divided into two categories, OS updates and SDK updates.

Both the OS updates services and SDK updates services can be found separately on the CD that was provided with the package or by downloading the latest version from ICP DAS web site.



CD:\XPAC-ATOM-CE6\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/

## 6.1. OS updates

OS updates are part of the XP-8000-Atom-CE6 updates services to provide additional and more efficient features and functionality for XP-8000-Atom-CE6 operating system.

There are two ways to update the OS:

1. Update from file (Please refer to section 7.1.1)

(We recommend that you use this one for more quicker and easier to update)

2. Update from recuse CF card (Please refer to section 7.1.2)

### 6.1.1. OS Updates from Files

Here are step by step instructions on how to update the XP-8000-Atom-CE6 OS.

## Step 1 Get the latest version of the XP-8000-Atom-CE6 OS image, NK.BIN

The latest version of the XP-8000-Atom-CE6 OS image, NK.BIN, can be obtained from ICP DAS web site.

ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/resc ue/ce6/



#### Step 2 Replace the order XP-8000-Atom-CE6 OS image

The XP-8000-Atom-CE6 OS image, NB.BIN are pre-installed on the XP-8000-Atom-CE6, located under \System\_Disk

Step 3 Reboot the XP-8000-Atom-CE6, the XP-8000-Atom-CE6 OS image has been updated completely

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 149 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### 6.1.2. OS Updates using the Recuse CF Card

The XP-8000-Atom-CE6 can be reinstalled with the XP-8000-Atom-CE6 Rescue Utility. Before reinstalling the XP-8000-Atom-CE6, make sure the necessary updating files have been are available on your CF card.

For more information on how to reinstall the XP-8000-Atom-CE6, please refer to section 6.1. Recovering the XP-8000-Atom-CE6

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 150Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

## 6.2. SDK updates

SDK updates are part of the XP-8000-Atom-CE6 updates services to provide additional and more efficient features and functionality for XP-8000-Atom-CE6 applications.

Here are step by step instructions on how to update the XPAC SDK.

#### **Step 1** Get the latest version of the XPAC SDK components

The latest version of the XPAC SDK componens can be obtained from ICP DAS web site.

ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/sdk/

#### Step 2 Copy the latest version of DLL to PC and XPAC

The DLL files on PC are located at anywhere only the solution can reference it.

The DLL files on XP-8000-Atom-CE6 are located at the same directory as the .exe file.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 151 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### Appendix A. Application of RS-485 Network

RUS D

nmur

ation

Tu

This chapter provides tips and a guided tour on using and maintaining the XP-8000-Atom-CE6.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 152Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

The RS-485 length can be up to 4000 ft or 1.2 km over a single set of twisted–pair cables, if the RS-485 network is over 4000 ft or 1.2Km, the RS-485 repeater must be added to extend the RS-485 network.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 153Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

## A.1. Basic RS-485 Network

The basic component of the RS-485 network consist of a Master Controller (or using a PC as a host controller), and some RS-485 devices.



## A.2. Daisy Chain RS-485 Network

All RS-485 devices are wired directly to the main network, If the network is up to 1.2 km, it will need a repeater (7510 series) to extend the network length.



## A.3. Star Type RS-485 Network

There are branches along the main network. In this case, it is better to have a repeater to isolate or filter the noise that is made by devices.



There is a better choice to use 7513 as a RS-485 hub on start type network.



## A.4. Random RS-485 Network

There are branches along the main wire. In this case, it is better to have a repeater to isolate or filter the noise that is made by devices.



## A.5. Master/Slave Settings

The RS-485 network based on master-slave architecture consists of a single master device and one or more slave devices.

The XPAC provides two RS-485 communication interfaces based on the master-slave system architecture, all of which have a pull-high/pull-low resistor, user can set it to master or slave for implementing an RS-485 multi-drop network.

One of the RS-485 communications, COM3, its pull-high/pull-low resistor located on power board, the other, COM4, located on the right side and its pull-high/pull-low resistor located on the bottom of the right side, as shown below.



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 159 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## A.1.1. XPAC as a Master (Default)

When one of XPAC is set to master, then all the other devices on the same network must be slave mode. If the network is up to 1.2 KM, it will need a repeater (7510 series) to extend the network length.



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 160 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com When XPAC as a master using COM3 communication interface, the pull-high/pull-low resistor located on the power board must adjust to enable as shown below.



When XPAC as a master using COM4 communication interface, the pull-high/pull-low resistor located on the power board must adjust to enable as shown below.



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 161 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## A.1.1. XPAC as a Slave

For most of application, when using one 7520 series as RS-232/485 converter, its pull-high/pull-low resistors are set to enabled. Then the XP-8000-Atom-CE6 and all the other devices on this network must be slave mode (the pull-high/pull-low resistors must be disabled).

If there are repeaters on the RS-485 network, there will be pull-high/pull-low resistors on both sides of the repeaters (I-7510)



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 162 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com When XPAC as a master using COM3 communication interface, the pull-high/pull-low resistor located on the power board must adjust to enable as shown below.



When XPAC as a master using COM4 communication interface, the pull-high/pull-low resistor located on the power board must adjust to enable as shown below.



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 163Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com



This chapter provides information to help you deploy and use XP-8000-Atom-CE6.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 164Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

n d v

We will continue to add flexibility and support to the XP-8000-Atom that always can be found at: CD:\XPAC\XPAC-ATOM-CE6\Document\faq\ ftp://ftp.icpdas.com/pub/cd/xpac-atom-ce6/document/faq/

The following section presents several common application of XP-8000-Atom.

The XP-8000 tips and FAQs can be categorized as follows:.

#### **Ethernet Application**

How to set up the FTP server? How to set up the Web server?

#### **General IO Expansion**

How to use GSM/GPRS? How to set up a printer? How to set up an Egalax USB touch panel? How to set up an ELO USB touch panel? How to set up a Penmount USB touch panel? How to set up an Egalax serial touch panel? How to set up an ELO serial touch panel? How to set up a Penmount serieal touch panel? How to calibrate an Egalax USB touch panel? How to calibrate an ELO USB touch panel? How to calibrate a Penmount USB touch panel? How to calibrate an Egalax serial touch panel? How to calibrate an ELO serial touch panel? How to calibrate a Penmount serial touch panel? Ho to link serial devices through RS-485? How to set up a communication module I-8112/I-8114/I-8142/I-8144 uses MSA? How to change the display type? How to use wireless Ethernet solution?

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 165Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### **NAPOPC Server**

How to optimize communication performance in NAPOPC\_CE6? How to use ET-7000 modules in NAPOPC\_CE6? How to use FRnet modules in NAPOPC\_CE6? How to use ZigBee modules in NAPOPC\_CE6? How to set up an Egalax USB touch panel?

#### **System Maintenance**

How to find the system information? How to recover the default factory settings? How to add a shortcut to the desktop and programs? How to change the Input Panel size? How to enter character without a keyboard? How to automatically hide the taskbar? How to set the taskbar always on the top? How to configure an authoritative time server in Windows server?

#### Troubleshooting

Why do I cannot install SDK? Why do I insert new I-8000 module but XPAC Utility can's find in Device tab?

#### **Update Software**

How to update OS image?

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 166 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## **B1. How to use the Printer**

XP-8000-Atom-CE6 have ability to access the printer, you can connect to the printer via Ethernet network or USB.

#### **Tips & Warnings**



XPAC only supports HP Laser Jet Printers which support PCL6 driver.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 167Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### **B.1.1.** How to use the network printer

Here are step by step instructions on how to use a shared printer.

#### Step 1 On PC side, check the name of the PC and the shared printer

System Restore	Automa	atic Updates	Remote	Ĩ		
General	Computer Name	Hardware	Advanced	Ĺ		
Windows on the ne	uses the following in twork.	formation to identify	your computer			
Computer <u>d</u> escriptic	n:					
	<u>For example:</u> "	'Kitchen Computer''	or "Mary's			
full computer name	: ServerName.					
Workgroup:	ICPDAS COM					
o use the Network	Identification Minard	l to ioin o				
formain and create	a lozali Auto HD Lao	-F-L M-to-d	Network ID	Droportion		0
D. To roname this same	out Consul Sharing	Porto Advance d		моранцая		2
o rename (nis con	Dut General Shains	Ports Advanced		work. To		
	enable	e sharing for this printer with	click Share this printer.	WOIN. TO		
	O Do <u>n</u> ot sł	nare this printer				
	Share this	s printer				
Changes will t	ake	PrinterName	)			
	C Drivers					
	If this print Windows, users do r the shared	ter is shared with users r you may want to install not have to find the print d printer.	unning different versions additional drivers, so tha driver when they conne	of t the ct to		
			Additional Drive	rs		
			OK	Connert	Applu	Halo

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 168Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com



#### Step 2 On XPAC side, open a WordPad format file

File Edit View Format Tools 📴 🖬 🔏 📭 💽 Tahom 💌 14 🗠

#### Test !!!

Print			? OK
Printer:	PCL Laser	Print Range	Orientation
Port:	Network		OPrtrait
Net Path:	NRD1-User2\Anna	- O Selection	O Landscape
Paper Size:	A4	Margins (inches	5)
Advanc	ced Draft Mode	Left: 1.25" Right: 1.25"	Top: 1 <sup>1</sup> Bottom: 11

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 169 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### **B.1.2. How to use the USB printer**

Here are step by step instructions on how to use a shared printer.

#### Step 1 On XPAC side, open a WordPad format file



? 0K Print Printer: Hewlett-Packard LaserJ **Print Range** Orientation × All Portrait Port: LTP1 v O Selection () Landscape Net Path: Margins (inches) Paper Size: A4 V 1.25" 1" Left: Top: Draft Mode Advanced Right: 1.25" Bottom: 1 Color

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 170Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

# B.2. How to Online Debug the XP-8000-Atom-CE6

Debug XP-8000-ATOM-CE6 programs in Visual Studio 2005/2008

## Step 1 Make sure the following file are listed with the matching version numbers

Path		File
C:\Program Files\Common Files\Microsoft		1. ActiveSyncBootstrap.dll
Shared\CoreCon\1.0\Bin		2. ConMan2.dll
		3. ConManPS.dll
		4. DesktopDMA.dll
		5. eDbgTL.dll
		6. TcpConnectionC.dll
C:\Program Files\Common Files\Microsoft Shared\CoreCon\1.0\Bin\1033		conmanui.dll
C:\Program Files\Common Files\Microsoft		1. Device Agent Transport.dll
Shared\CoreCon\1.0\Target\wce400\X86		2. eDbgTL.dll
		3. TcpConnectionA.dll
		4. clientshutdown.exe
		5. CMAccept.exe
		6. ConmanClient2.exe

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 171Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

#### Step 2 If the version matches correctly and the entire file are there, copy the following files to XP-8000-ATOM-CE6 :\ System\_Disk\ICPDAS\System folder

- Clientshutdown.exe
- ConmanClient2.exe
- CMaccept.exe
- eDbgTL.dll
- TcpConnectionA.dll

#### Step 3 On the "Tools" menu, click "Options..." command

<u>F</u> ile	<u>E</u> dit	<u>V</u> iew	<u>P</u> roject	<u>B</u> uild	Debug	D <u>a</u> ta	F <u>o</u> rmat	Tools Window Community Help
								Attach to Process Ctrl+Alt+P
								😘 Connect to Database
								Connect to Server
								🔄 Code Snippets Manager Ctrl+K, Ctrl+B
								Choose Toolbox Items
								<u>A</u> dd-in Manager
								Macros
								Create <u>G</u> UID
								Dotfuscator Community Edition
								<u>E</u> xternal Tools
								📑 Device Emulator Manager
								Import and Export Settings
								<u>C</u> ustomize
								Options

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 172Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## Step 4 On the "Options" dialog, select "XPacSDK\_CE" from the "Show devices platform" list, and then click the "Properties..." button

Options		? 🛛
<ul> <li>Keyboard</li> <li>Startup</li> <li>Task List</li> <li>Web Browser</li> <li>Projects and Solutions</li> <li>Source Control</li> <li>Text Editor</li> <li>Database Tools</li> <li>Debugging</li> <li>Device Tools</li> <li>General</li> <li>Devices</li> <li>Form Factors</li> <li>HTML Designer</li> <li>Office Tools</li> <li>Test Tools</li> <li>Text Templating</li> <li>Windows Forms Designer</li> <li>Workflow Designer</li> </ul>	Show devices for platform: XPacSDK_CE Devices: XPacSDK_CE x86 Device Default device: XPacSDK_CE x86 Device	Save As Rename Delete Properties
		K Cancel

#### Step 5 On the "XPacSDK\_CE x86 Device Properties" dialog, click the "Configure..." button

Default output location on device:	
Root Folder	× .
Transport:	
TCP Connect Transport	Configure
Bootstrapper:	
ActiveSync Startup Provider	Configure
Detect when device is disconnected	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 173Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

Step 6 On the "Configure TCP/IP Transport" dialog, select the "Use specific IP address" option and type the IP address of XP-8X4X-CE6, and then click the "OK" button

Options			2 🛛
→ K → Source → Proje → Source → Text → Datail → Debu	Aeyboard tartup 'ask List Veb Browser cts and Solutions se Control Configure TCP/IP	S <u>h</u> ow devices for platform: XPacSDK_CE De <u>v</u> ices: XPacSDK_CE x86 Device Transport	Save As ? 🔀
■ Devin	<ul> <li>Use fixed port num</li> <li>Device IP address</li> <li>O Obtain an IP ad</li> <li>Uge specific IP</li> <li>10.0.9.43</li> </ul>	nber: 5655 dress automatically using Activ address:	veSync
			OK Cancel

#### Step 7 On the "XPacSDK\_CE x86 Device Properties" dialog, click the "OK" button

XPacSDK_CE x86 Device Properties	? 🔀	
Default output location on device:		
Root Folder	✓	
T <u>r</u> ansport:		
TCP Connect Transport	Configure	
Bootstrapper:		
ActiveSync Startup Provider	Configure	
Detect when device is disconnected		
	OK Cancel	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 174Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

Step 8 On the "Options" dialog, click the "OK" button

Options	
<ul> <li>Keyboard</li> <li>Startup</li> <li>Task List</li> <li>Web Browser</li> <li>Projects and Solutions</li> <li>Source Control</li> <li>Text Editor</li> <li>Database Tools</li> <li>Debugging</li> <li>Device Tools</li> <li>General</li> <li>Devices</li> <li>Form Factors</li> <li>HTML Designer</li> <li>Office Tools</li> <li>Test Tools</li> <li>Text Templating</li> <li>Windows Forms Designer</li> <li>Workflow Designer</li> </ul>	Show devices for platform: XPacSDK_CE Devices: XPacSDK_CE x86 Device Save As Rename Delete Properties Default device: XPacSDK_CE x86 Device OK Cancel

#### Step 9 On the XP-8000-ATOM-CE6 controller side, run the "ConmanClient2" and the "CMAccept.exe" applications which is located at: \System\_Disk\ICPDAS\System

<u>File Edit View G</u> o	Favorites					×
Address System_Disk\IC	PDAS\SYSTEM					•
AUTOINIT AutoInit	reboot redraw	regsvr32 sleep	XPacSDK CE TcpConne	eDbgTL DeviceAge Con	manClien) CMAccept client	tshut
514c36bf- c13e-409					<u>t2</u>	
XP-8000-Ator	m-CE6 User I	Manual, versi	on 1.0.1 Las	t Revised: June	e 2011 Page	e: 175

Step 10 On the "Tools" menu, click "Connect to Device..." command



Step 11 On the "Connect to Device" dialog, select "XPacSDK\_CE" from "Platform" list and then click the "Connect" button

Connect to Device	? 🔀
To connect to a physical device or launch an emulator image, select a platform;  Platform:  Periods:  XPacSDK_CE  XPacSDK_CE x86 Device	<u>Connect</u> Cancel

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 176Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

Step 12 On the "Tools" menu, click "Connect to Device..." command



Step 13 Connection established. Then you can debug on line

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 177Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

If the connection fails shown as follow, return to step 11 to do the action below



Open the command prompt, run the

"ConmanClient2.exe/transport:tcpconnectiona.dll/property:port=5000/id:Con" at: \System\_Disk\ICPDAS\System, and then run the "CMAccept.exe"

E	ile	<u>E</u> dit	<u>H</u> elp		
Pe	ocke	t CMD	v 6.00		
< >	Con	manCl:	ient2.ex	<pre>/transport:tcpconnectiona.dll /property:port=5000 /id:Con</pre>	
ζ>	CMA	ccept	.exe		

Configure TCP/IP Transport		? 🔀
☑ Use fixed port number:       5000         Device IP address       O         O       Obtain an IP address automatically using ActiveSync		R
<ul> <li>O Uge specific IP address:</li> <li>10.0.9.10</li> </ul>		~
	ОК	Cancel

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 178Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

# B.3. How to automatically synchronize the XPAC clock with an Internet Time Server

Here are step by step instructions on how to automatically synchronize the XPAC clock with an Internet Time Server.



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 179 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

- Step 3 Select the domain name in the Server drop down list, and then enter a value in the Autoupdate Frequency field
- Step 4 Check the Automatically synchronize with an internet time server check box

Internet Time	1.0.0.1	📃 🗖 🔛
Step1: Server:	pool.ntp.org	<u>v</u>
Step2: Autoupda Step3: V Automatically	ite Frequency: 14	140 minute Internet time server
	Update Now	
Step 4:Go to "Fil driver Auto update stop	e">"Save and Rel o <mark>ped</mark>	poot" to enable

Step 5 On the File menu, click Save and Reboot

File Help
Save
Save and Reboot
<u>R</u> eboot
Restore Utility Default Settings
Exit

- Step 6 The XPAC will automatically synchronize with an internet time server regularly
- Step 7 Press Update Now to synchronize XPAC clock immediately



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 180Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com
# B.4. How to add a user account to remote login the XPAC from PC

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 181Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## B.4.1. How to add a user account

Here are step by step instructions on how to add a user account.



 XP-8000-Atom-CE6 User Manual, version 1.0.1
 Last Revised: June 2011
 Page: 182

 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.
 \* E-mail: service@icpdas.com

## Step 3 The user has been added to the allowed under the remote login and included in the following list

XPAC Utility [1.0.2.8]
File Help
General Display IP Config Network Device Information Auto Execution Rotary Execution M 🔍 🕨
Access Login
User name Password
Add Delete
User name Password
Anna ****

# Step 4 On the File menu, click Save and Reboot for changes to take effect

File	Help
Save	e
Save	e and Reboot
Reb	oot
Rest	tore Utility Default Settings
E <u>x</u> it	

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 183Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

### B.4.2. How to Use telnet to remote login the XPAC from PC

Here are step by step instructions on how to use telnet to remote login the XPAC from PC.

### Step 1 On the PC, open a MS-DOS command prompt

Windows Catalog	Run
Windows Update	
Programs 🕨	Type the n 2. Type "Cma" ent, or Internet rest
Documents +	Open: Ind
liggs	
Help and Supp	OK Cancel Browse
<b>op</b> Run	3
Shut Down	3
/ start 🔰 🔤 C:\WINDOWS\:	Syste

#### Step 2 At the command prompt, type "telnet (IP address)"



XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 184 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

## Step 3 The connection has been set up, and then type the name and password



Step 4 The remote login has been completed



Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### B.4.3. How to remove the user from the login list

Here are step by step instructions on how to remote the user from the login list.

# Step 1 Click a user from the list which you want to remove, and the user will display in the field, and then press Delete to delete the user from the login list

XPAC Utility [1.0.2.8]		
File Help		
General Display IP Config Network Device Information Auto Execution Rotary Execution M 💶 🕨		
Access Login		
User name Password		
Anna **** Add Delete		
User name Password		
Anna ****		

## Step 2 On the File menu, click Save and Reboot for changes to take effect

ile Help	
Save	
Save and Reboot	
<u>R</u> eboot	
Restore Utility Default Settings	
Exit	

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 186 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

# B.5. How to use XPacSDK to program the XP-8000-Atom-CE6

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 187Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### **B.5.1.** How to Read the XPAC Mode with XPacSDK

The rotary switch is used to set the operating mode.



During normal operation, the position of the rotary switch has no effects on XP-8000-ATOM-CE6.

You can use XPacSDK to read back the value of the rotary switch.

int pac\_GetRotaryID();

The returning value of pac\_GetRotaryID() is what the arrow points to.

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 188 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### **B.5.2.** How to Read the Module ID with XPAC API

The DIP switch can be used to set the Module ID to a number from 0 to 255. Do not use Module ID 0 for communication.

During normal operation, the positions of the DIP switches have no effects on XP-8000-ATOM-CE6.

You can use XPacSDK to read back the value of the DIP switches.

int pac\_GetDIPSwitch();

Below is the figure of DIP switches similar to that of XP-8000-ATOM-CE6.

The first DIP switch is the LSB and the 8th DIP switch is the MSB.

If the DIP switch slides up to the "ON" side, it represents 1.

If the DIP switch slides down to the number side, it represents 0.

In this way, the eight-bit DIP switches can be represented by 0 ~ 255.

	ON

XP-8000-Atom-CE6 User Manual, version 1.0.1 Last Revised: June 2011 Page: 189 Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

### **B.5.3.** How to Use the Multi-IO Module with XPAC API

The Multi-IO Modules tab provides function to check the driver of multi-IO modules, such as 8114, 8144, 8142, and 8112.

For more information about expansion RS-232/RS-422/RS-485 communication module that are compatible with the XP-8000-Atom-CE6, please refer to

http://www.icpdas.com/products/Remote\_IO/i-8ke/selection\_rs232\_i8k.htm



XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 190Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved. \* E-mail: service@icpdas.com

#### Step 4 Program the multi-IO module

Opening 8144 in Slot 1



#### **Code Snippets**

{

BOOL ret; HANDLE hOpen; char buf[4096];

hOpen = uart\_Open("MSA1");
ret = uart\_SendCmd(hOpen,"\$01M", buf);
uart\_Close(hPort);
}

For more information about expansion RS-232/RS-422/RS-485 communication module that are compatible with the XP-8000-ATOM-CE6, please refer to

http://www.icpdas.com/products/Remote\_IO/i-8ke/selection\_rs232\_i8k.htm

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 191Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

# B.6. How to update software from XP-8000-CE6 to XP-8000-Atom-CE

The CPU type of XP-8000-CE6 and XP-8000-Atom-CE6 is x86-based and the OS is also Windows CE6.0, so all software are compatible. All old programs and applications on XP-8000-CE6 can run smoothly on XP-8000-Atom-CE6 without any modification and re-compiling. Upgrading applications only just copy and play from XP-8000-CE6 to XP-8000-Atom-CE6.

The software compatibility is listed as following:

Compatibility Comparison	O: Compatible, X: Incompatible
Items	Compatibility
OS image	X
Rescue Disk	X
VC/C#/VB.net programs	0
XPacSDK_CE6 SDK	O (Since V2.0.0.5 and later)
All DCON 8K series library	0
XPAC utility	O (Since V1.0.2.7 and later)
NAPOPC_CE6	0
Tools on System_Disk	0

#### Software compatibility with XP-8000-CE6 (LX800)

Compatibility Comparison	O: Work, X: Doe	sn't Work
API Functions	XP-8000-CE6	XP-8000-Atom-CE6
pac_EnableLED	Х	0
The others	0	0

Note: The version of XPacSDK\_CE6 must be V2.0.0.5 or later



This chapter provides revision history information to this document.

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 193Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com

The table below shows the revision history.

Revision	Date	Description
1.0.0	June 2011	Initial issue

XP-8000-Atom-CE6 User Manual, version 1.0.1Last Revised: June 2011Page: 194Copyright © 2011 ICP DAS Co., Ltd. All Rights Reserved.\* E-mail: service@icpdas.com