

**ADAM-6501**

**Universal Web-enabled Communication Controller**

**User's Manual**

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## **Chapter 1 ADAM-6501 Overview**

This chapter gives background information on the ADAM-6501. It shows you the ADAM-6501 overview and specifications.

Sections include:

- ◆ Introduction
- ◆ Features
- ◆ Hardware Specifications
- ◆ Safety Precautions
- ◆ ADAM-6501 Series
- ◆ Chassis Dimensions

## **Introduction**

Advantech ADAM-6501 is a powerful embedded and web-enabled solution platform that connects devices data with enterprise systems. It is possible to access or even diagnose the system problem immediately through any browser. Using Microsoft Windows CE embedded features and compact flash storage, the ADAM-6501 offers a high reliability platform for industrial automation with no risk of hard disk crashes.

### **1.1 Features**

The Advantech ADAM-6501 provides users with the most requested functions as seen below:

- Windows CE-based open embedded system
- Reliable and Powerful Out-of-Box solution platform

The Advantech ADAM-6501 offers the following main features:

#### **Embedded web-enabled HMI/SCADA software (Option)**

HMI/SCADA software and HTTP v1.1.0 compliant (a persistent connection allows multiple downloads with less overhead, and also improves caching while making it easier to create virtual hosts) web server are established on ADAM-6501 and allow you to remotely view and control I/O data from anywhere on anytime.

#### **Rich Legacy Controllers and OPC device connection support**

With one RS-232 (RJ-48 connector), one RS-485 ports and one Ethernet and industrial standard MODBUS/RTU & MODBUS/TCP drivers, ADAM-6501 can connect versatile I/Os and control devices including Advantech ADAM-4000, 5000 and 6000 series and the other 3<sup>rd</sup> Party Controller/Device.

#### **Windows® CE-based open embedded system**

With no hard disk needed, the ADAM-6501 features increased reliability. More importantly, Windows® CE (Windows CE.NET 4.2) unfailingly performs time-sensitive tasks with deterministic responses to events. This is a key feature in most industrial applications.

#### **Reliable and Powerful Out-of-Box solution platform**

ADAM-6501 provides reputed industrial hardware with XScale processor and Windows® CE-based embedded software bundled solution. This translates into long-time stability and powerful computing capability to fulfill most different applications.

### **1.2 Hardware Specifications**

**CPU:** XScale 400MHz

**RAM:** 32 MB compact flash memory, 64 MB SDRAM on board

**Operating System :** Microsoft Windows CE.NET 4.2

**Storage:** 1 External CompactFlash Card Slot(Support up to 512MB CF card, Wireless LAN Card)

**Serial Port:** one RS-232 (RJ-48 connector), one RS-485 ports

- Automatic RS-485 data flow control

- Data bits: 5, 6, 7, 8
- Stop bits: 1, 1.5, 2
- Parity: none, even, odd
- RS-232 max data distance: 50 feet (15.2 meters)
- RS-485 max data distance: 4000 feet (1220 meters)

**Ethernet Port:** One 10/100Base-T Ethernet

**LED:** One power LED

**Power supply voltage:** 10-30 VDC, 24VDC recommended

**Power Requirement:** 0.25A typical under +24V power input

**Power Consumption:** 4W (typical)

**Operating temperature:** 0 ~ 55°C (0 ~ 149°F)

### 1.3 Safety Precautions

The following sections tell how to make each connection. In most cases, you will simply need to connect a standard cable. All of the connector pin assignments are shown in Appendix A.

#### Warning!

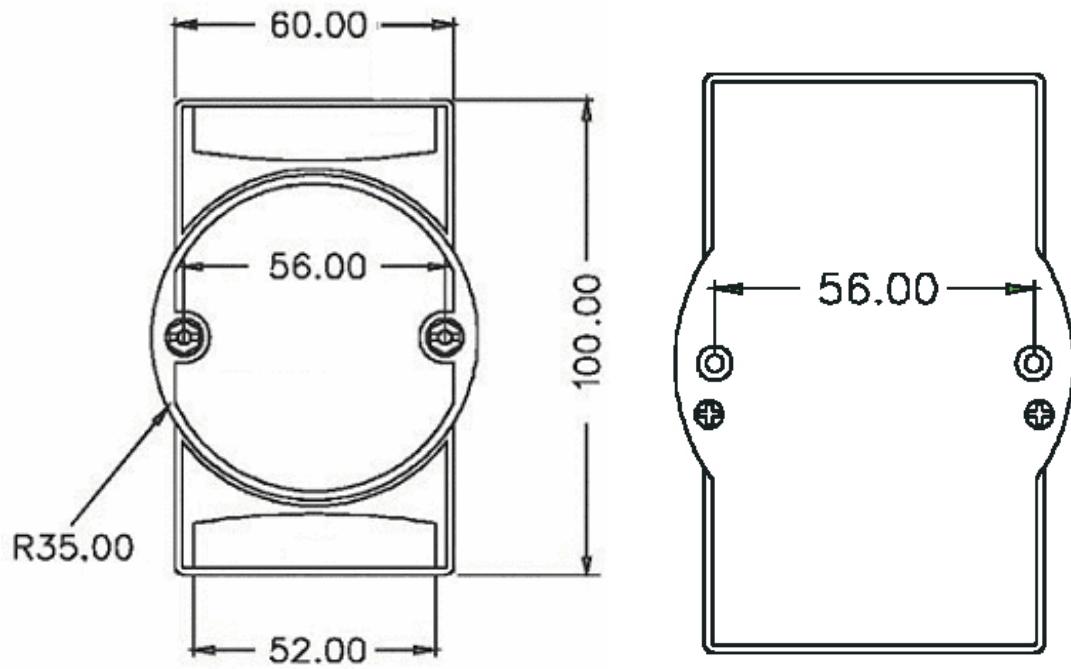
Always completely disconnect the power cord from your PC chassis whenever you are working on it. Do not make connections while the power is on. A sudden rush of power can damage sensitive electronic components. Only experienced electronics personnel should open the PC chassis.

#### Caution!

**Always ground yourself to remove any static electric charge before touching ADAM-6501. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times.**

**Place all electronic components on a static-dissipative surface or in a static-shielded bag..**

#### 1.4 Chassis Dimensions



## **Chapter 2 Hardware Functionality**

This chapter shows how to set up the ADAM-6501's hardware functions, including connecting peripherals, switches and indicators.

Sections include:

- ◆ ADAM-6501 Peripherals
- ◆ RS-232/485 Interfaces Assignment
- ◆ LAN: Ethernet Connector
- ◆ Power Connector
- ◆ LED Indicators

## 2.1 ADAM-6501 Peripherals

The following figures show the connectors on ADAM-6501. The following sections give you detail information about function of each peripheral.



Figure 2-1: ADAM-6501 front view

## 2.2 COM1 & COM2: RS-232/485 Interfaces

The ADAM-6501 offers two serial communication interface ports. COM 1 is RS-232 ports and COM 2 is RS-485 ports, and Table 2-1 lists the setting of serial ports.

Table 2-1: Serial ports default setting

COM Port	Default Setting
COM1	RS-232 (Full RS-232 with RJ-48 connector)
COM2	RS-485

### Automatic Data Flow Control Function for RS-485

In RS-485 mode, ADAM-6501 automatically senses the direction of incoming data and switches its transmission direction accordingly. Therefore no handshaking signal (e.g. RTS signal) is necessary. This feature lets you simply and quickly build an RS-485 network with just two wires. More importantly, application software previously written for half duplex RS-232 environments can be maintained without need for modification.

### **2.3 LAN: Ethernet Connector**

The ADAM-6501 is equipped with 10/100 Based-T Ethernet port. The Ethernet port provides a standard RJ-45 jack on board, and LED indicators on the front side to show its Link (Yellow LED) and Active (Green LED) status.

### **2.4 Power Connector**

The ADAM-6501 comes with a Phoenix connector that carries 10~30VDC external power input. The recommended power input is 24VDC.

### **2.5 LED Indicators**

There are one power LEDs on the ADAM-6501 front panel for indicating system status:

ON : Power ON

Off : Power OFF

### **Chapter 3 Initial Setup**

This chapter shows how to initial the ADAM-6501, sections include:

- ◆ Initial Procedure
- ◆ Configure ADAM-6501

### 3.1 Initial Procedure

The ADAM-6501 offers an easy setup feature: It takes four easy steps for your initial setup before use. Take out the ADAM-6501 from the package and follow the steps below for initial setup:

**Step 1:** Connect all peripheral devices, such as RJ-45 connector of Ethernet connection, RS-232 (RJ-48 connector) and RS-485 connectors.

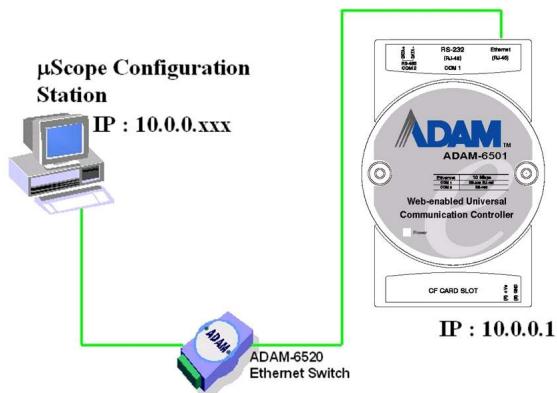
**Step 2:** Connect the power cord to the ADAM-6501 and plug the other end of the cord into the power outlet, and then ADAM-6501 boots up immediately.

**Step 3:** The ADAM-6501 default IP is set as 10.0.0.1. Please set the IP of your host computer to be static IP : 10.0.0.XXX for connection with ADAM-6501.

**Step 4:** Using the uScope tool to re-configure the IP of ADAM-6501 to meet your network configuration. The path of uScope Remote Display Tool in ADAM-6501 CD is “\uScope Remote Display Tool\uScope.EXE”.

### 3.2 Configure ADAM-6501 : uScope Remote Display Tool

This tool works only with Ethernet connection. it's requires both of your computer and the ADAM-6501 has same Subnet Mask. The default IP address for ADAM-6501 is : 10.0.0.1 and the default Subnet mask is: 255.255.255.0. So you can set your computer IP address to 10.0.0.2 and set the Subnet mask to 255.255.255.0.



\*actually you can set any IP address that other than 10.0.0.1 from 10.0.0.1 to 10.0.0.255 . If you connected your computer and ADAM-6501 to a router, don't set your computer IP address the same as the Router's.

Connect ADAM-6501 with your computer by using a cross-over Ethernet cable. Or connect both ADAM-6501 and your computer into a hub.

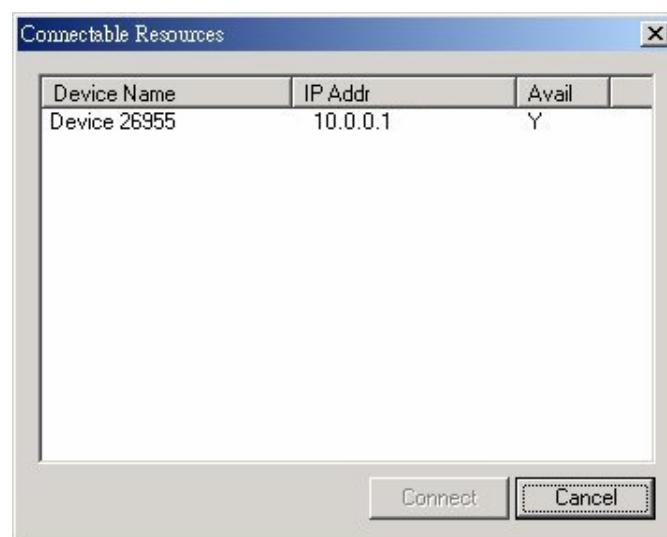
After ADAM-6501 boot up, it will broadcast its IP to the network. uScope Remote Display tool running on your computer will detect the UDP message sent out by ADAM-6501 and show the device name and IP in its

device list. You can select and connect to the device (ADAM-6501) in the list as you want.

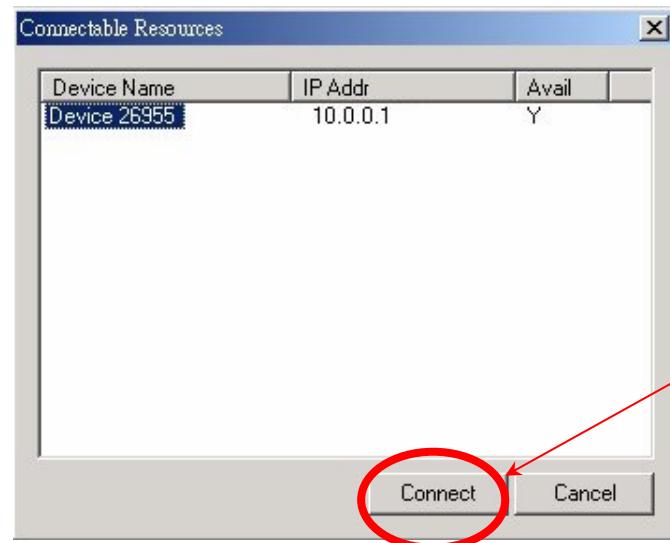
Double Click the uScope icon in configuration computer:



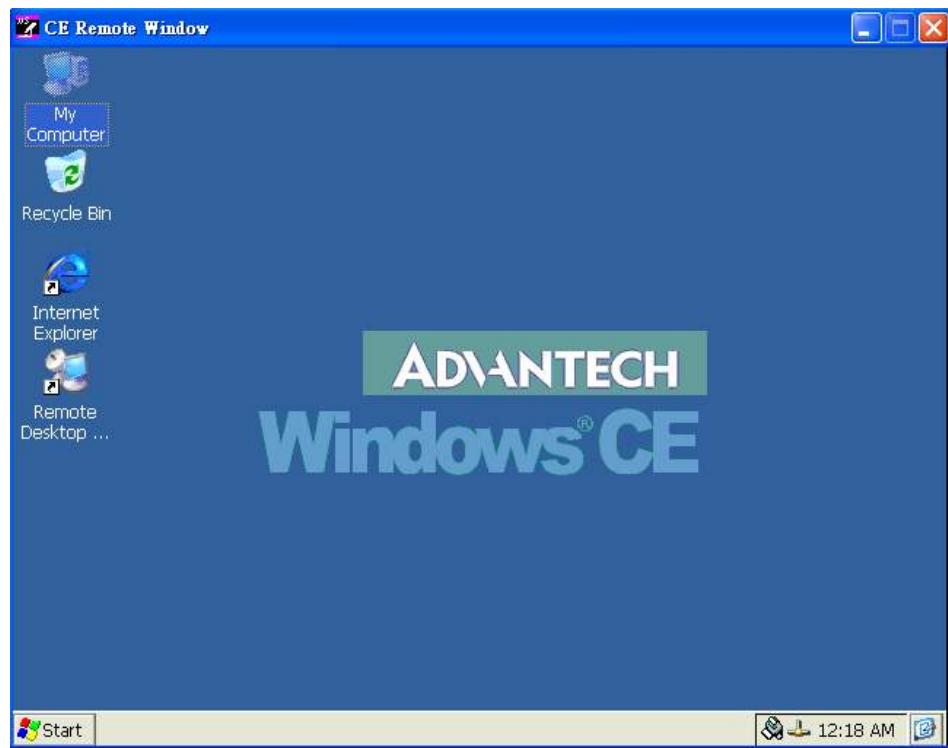
Click the "Show List" bottom :



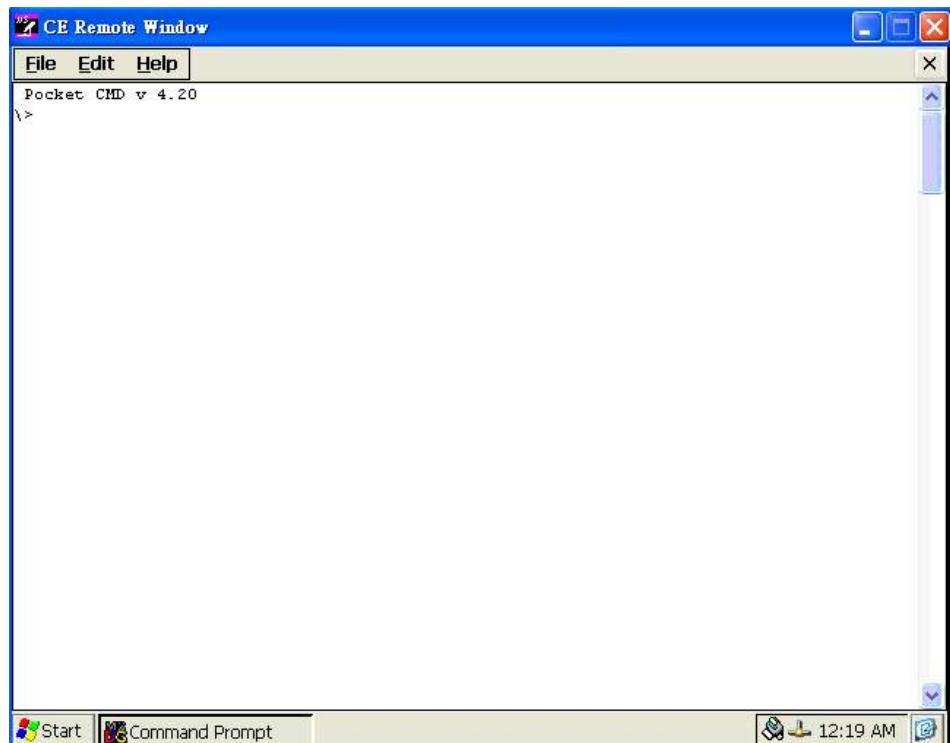
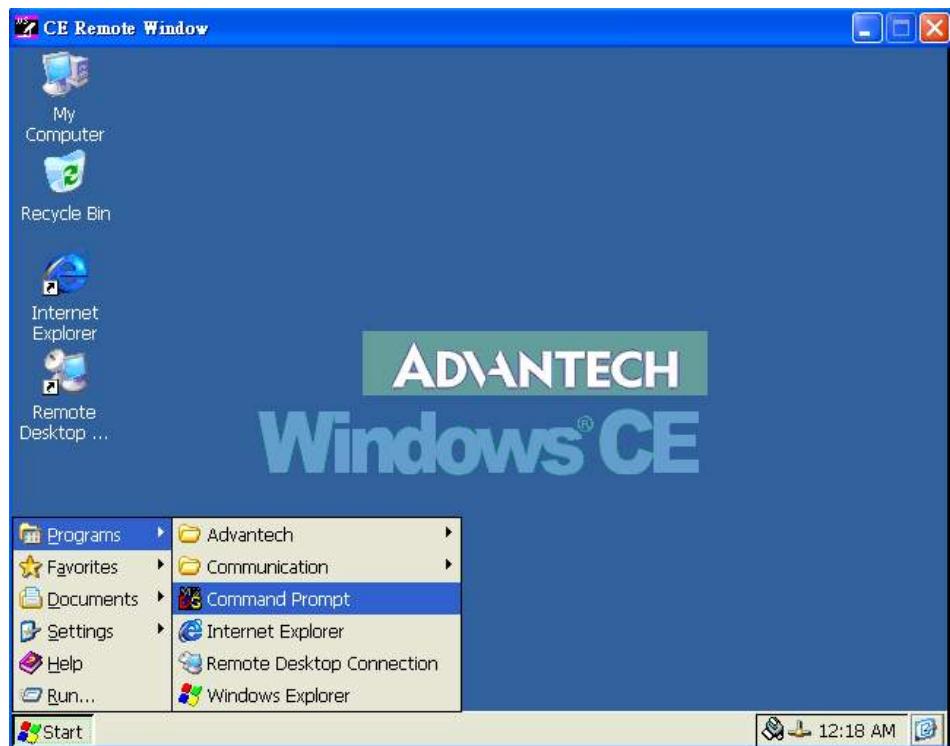
Choose the connected device in the list :



After clicking “Connect” bottom, the configuration computer will connect with ADAM-6501. The remote display screen will be as following :



Please go to the “Command Prompt” for network IP setting :



User can use "ipchange" command for IP change setting in command prompt mode. Please type "ipchange /?" for command reference.

The screenshot shows a Windows-style command prompt window titled "CE Remote Window". The title bar includes "File Edit Help" and a close button. The menu bar has "File Edit Help". The main area displays the following text:

```
Pocket CMD v 4.20
\> ipchange /?
***** IP Changing Utility *****
Advantech Automation Corp. 2003
Usage: ipchange param1 param2 param3
param1: 1 or 0 (Enable/Disable DHCP)
param2: xxx.xxx.xxx.xxx (IP Address)
param3: xxx.xxx.xxx.xxx (Subnet Mask)
    255.255.255.0 will be used if
    param3 is omitted.
example:
    ipchange 0 192.168.0.12 255.255.255.0
*****
```

A red circle highlights the usage information. A red arrow points from the text "Param1 : 1 – Enable DHCP" to the "param1" line in the usage text. Another red arrow points from the text "0 – Disable DHCP" to the "param1" line in the example section. Red text annotations below the usage text explain the parameters:

- Param1 : 1 – Enable DHCP**
- 0 – Disable DHCP**
- Param2 : IP Address**
- Param3 : Subnet Mask**
- (Param2 & Param3 is only available in Param1=0)**

If the DHCP is choose, the "ipchange 1" will be used as set up command. If this ADAM-6501 will be set as the specific IP address, the setting command and procedure should be as following :

The screenshot shows a Windows-style command prompt window titled "CE Remote Window". The title bar includes "File Edit Help" and a close button. The menu bar has "File Edit Help". The main area displays the following text:

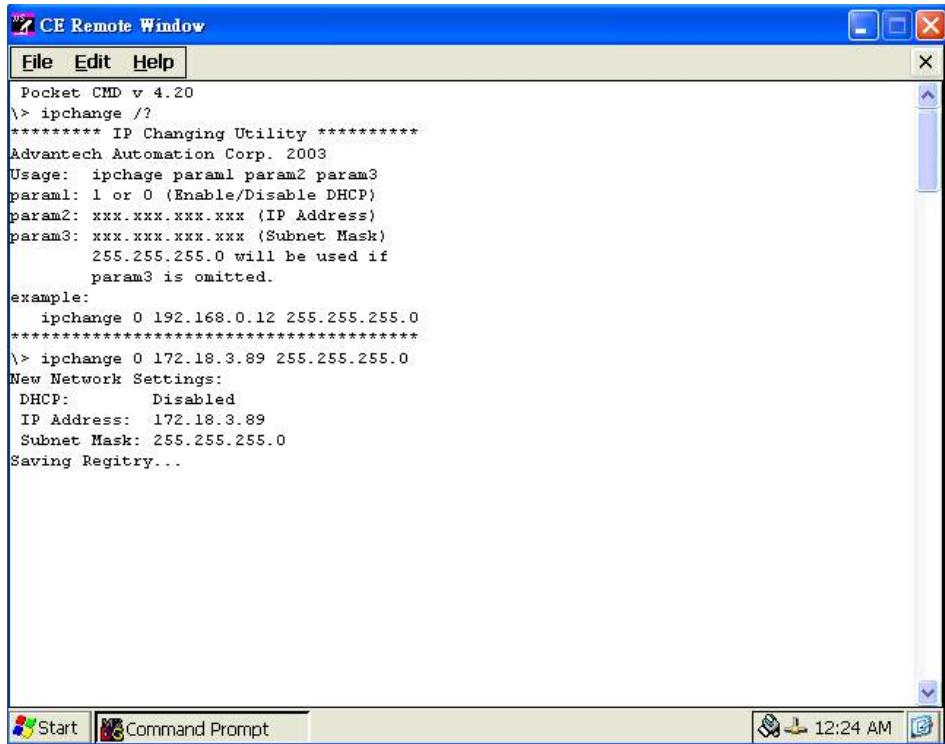
```
Pocket CMD v 4.20
\> ipchange /?
***** IP Changing Utility *****
Advantech Automation Corp. 2003
Usage: ipchange param1 param2 param3
param1: 1 or 0 (Enable/Disable DHCP)
param2: xxx.xxx.xxx.xxx (IP Address)
param3: xxx.xxx.xxx.xxx (Subnet Mask)
    255.255.255.0 will be used if
    param3 is omitted.
example:
    ipchange 0 192.168.0.12 255.255.255.0
*****
```

Red arrows point from the text "Disable DHCP" to the "0" in the command line, from "IP Address" to the "172.18.3.89", and from "Subnet Mask" to the "255.255.255.0".

Red text annotations below the command line identify the components:

- Disable DHCP**
- IP Address**
- Subnet Mask**

Press “Enter”, the remote display screen will show the following message.



```
Pocket CMD v 4.20
\> ipchange /?
***** IP Changing Utility *****
Advantech Automation Corp. 2003
Usage: ipchage param1 param2 param3
param1: 1 or 0 (Enable/Disable DHCP)
param2: xxx.xxx.xxx.xxx (IP Address)
param3: xxx.xxx.xxx.xxx (Subnet Mask)
255.255.255.0 will be used if
param3 is omitted.
example:
ipchange 0 192.168.0.12 255.255.255.0
*****
\> ipchange 0 172.18.3.89 255.255.255.0
New Network Settings:
DHCP: Disabled
IP Address: 172.18.3.89
Subnet Mask: 255.255.255.0
Saving Registry...
```

Wait for the “Saving Registry Done” to make sure the IP change setting work is successfully done.

Re-power on the ADAM-6501 module to re-boot the WinCE for new IP address implement.

Note : The uScope Remote Display tool is only used for the configuration work. It wasn't design to run a long time to be used as the remote monitoring tool.

## **Chapter 4 : Advanced Application**

- ◆ Insert CompactFlash™ Card
- ◆ ActiveSync Connection
- ◆ Remote Access Service Configuration
- ◆ Autorun Configuration
- ◆ Application Development Procedure
- ◆ Save Your Setting

## **4.1 Insert CompactFlash™ Card**

The procedure for installing a CompactFlash™ card into the ADAM-6501 is as follows, and please follows these steps carefully.

**Step 1:** Remove the power connector to power off the ADAM-6501

**Step 2 :** Remove the CF slot cover.

**Step 3:** Plug a CompactFlash™ card with user's OS and application program into a CompactFlash™ card slot on board.

**Step 4:** Plug in the CD slot cover for protecting the CF card.

**Step 5:** Connector the power connector to re-power on the ADAM-6501

**Note : How to update the WinCE.NET 4.2 Image for ADAM-6501?**

**Please follow the above steps to plug in the CF card with image (the image file is put in the path:\Image of ADAM-6501 CD. please copy the image file from CD to CF card and please be noticed the format of the CF card must be FAT16) then wait for 5 minutes for rebooting the ADAM-6501 with new image.**

## **4.2 ActiveSync connection between computer and ADAM-6501**

- Using a null-modem cable connect ADAM-6501 COM1 with one of COM port on your computer
- Install Microsoft ActiveSync software on your computer and make the serial port you want connect with ADAM-6501 available for ActiveSync (see ActiveSync help for details).

Note: ADAM-6501 will use 115200 as it default BaudRate to do the ActiveSync connection. If ActiveSync program running on your computer never accept a connection at this BaudRate before, probably you'll get timeout. Since it need scan from low BaudRate to the high BaudRate , if that takes too long, ADAM-6501 will stop trying connect to your computer. So, you'd better use another CE device which has a display to connect to you Desktop through ActiveSync at 19200 BaudRate first. Thus ActiveSync on your desktop PC will remember this Baud Rate, and next time when ADAM-6501 try to connect to it at this Baud Rate, it'll be connected easily.

### **ActiveSync Connection**

The tool is used for the application program on-line programming/debug requirement. User has to install the Microsoft ActiveSync program in configuration computer first. For the detail operating procedure of ActiveSync, please follow the steps by steps operating guide.

#### **Step 1 : Setup the ActiveSync in configuration computer**

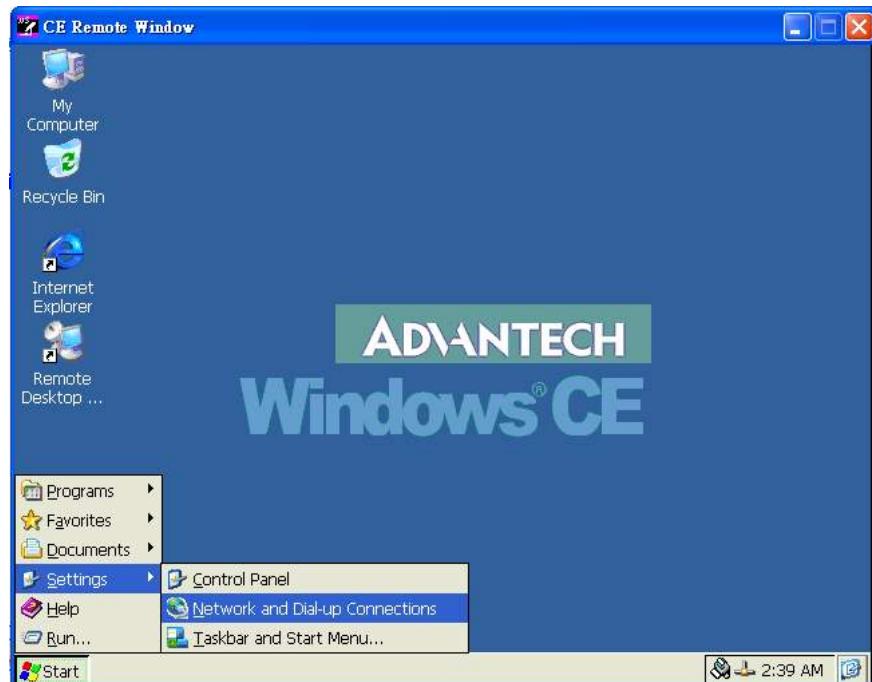
1. Insert ADAM-6501 CD into the CD-ROM in the configuration computer.
2. Install ADAM-6501 Software Development Kit for eVC++ from below path: \Windows CE .NET V4.2\SDKADAM6501\_SDK.msi
3. Install Microsoft ActiveSync 3.6 from below path: \Windows CE.NET V4.2\Utility\Microsoft ActiveSync 3.6.exe

4. Please connect the ActiveSync cable (Null Modem cable, Advantech part no. : 1703093000) to COM1 of ADAM-6501 and the COM port of configuration computer for ActiveSync communication.

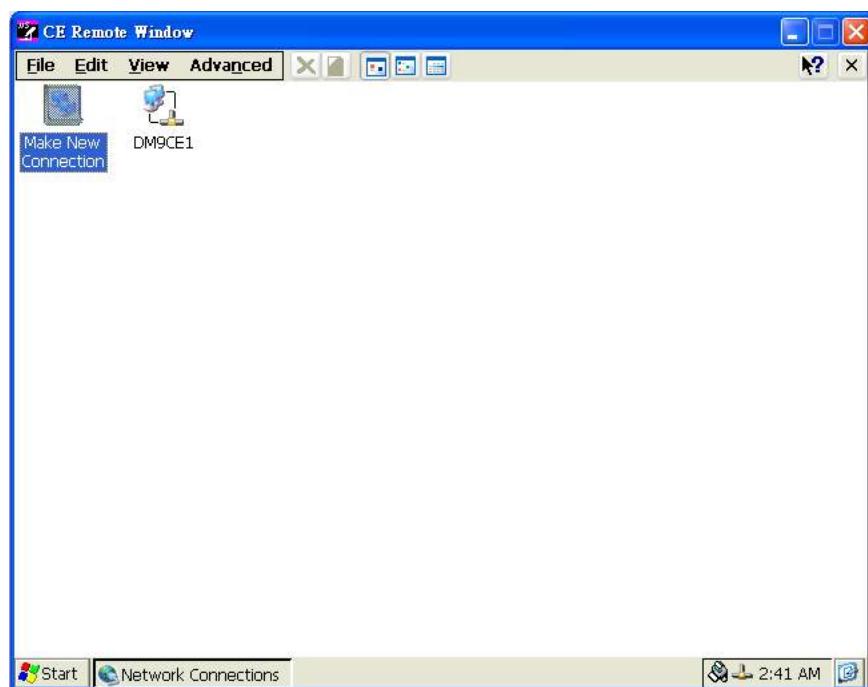
**Step 2 : Please connect the ADAM-6501 via uScope through Ethernet first.**

**Step 3 : Configure the COM1 of ADAM-6501**

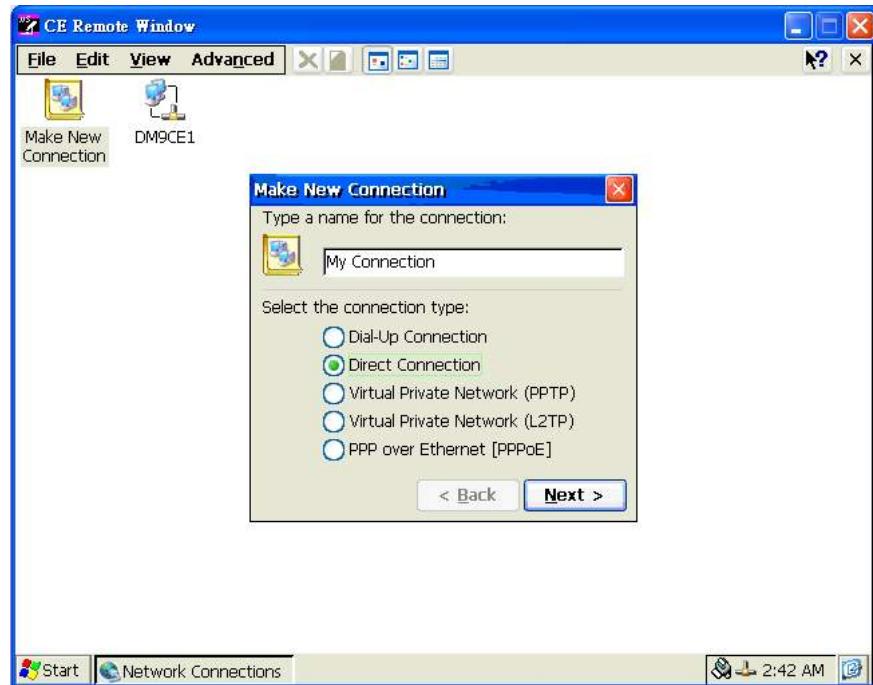
Press Start of task bar of window system and select “Setting” → “Network and Dial-up connections”.



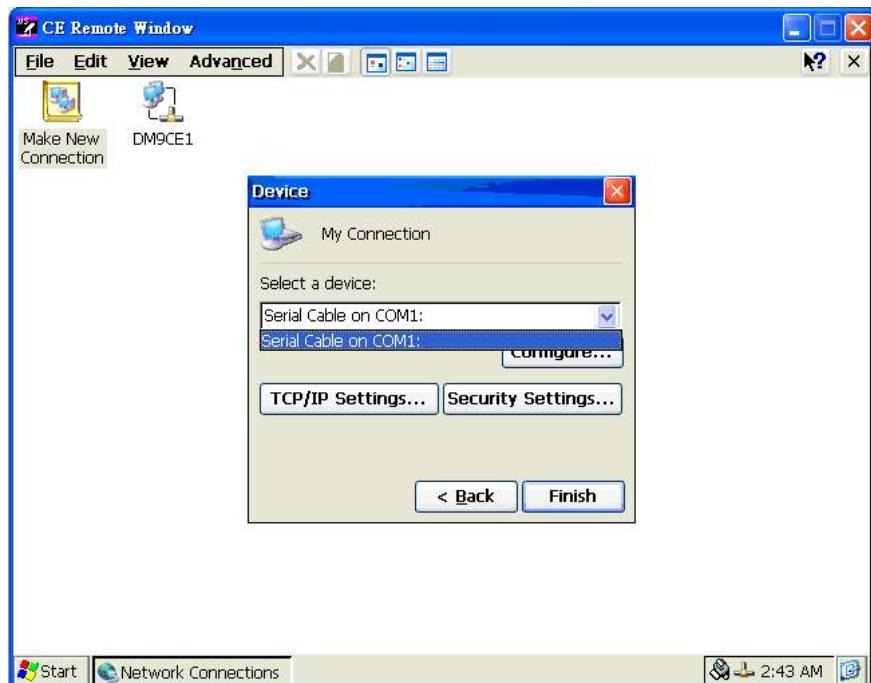
A. Click the icon “**Make New Connection**” to make a new connection.



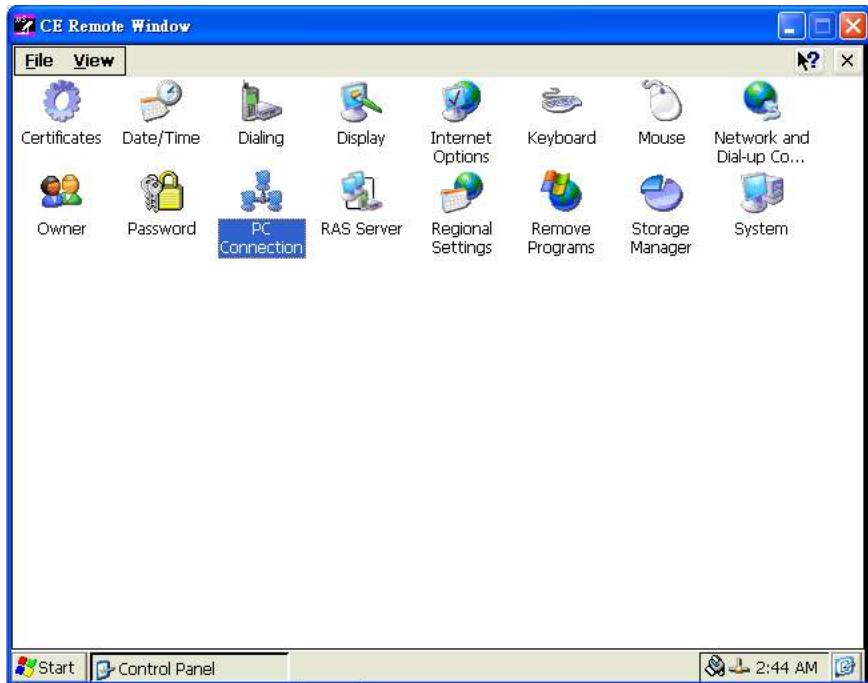
Select the connection type: **Direct Connection**, then press **Next** button.



- B. Choose the COM port of ADAM-6501. In ADAM-6501, there is only COM1 supporting RS-232 for selection.

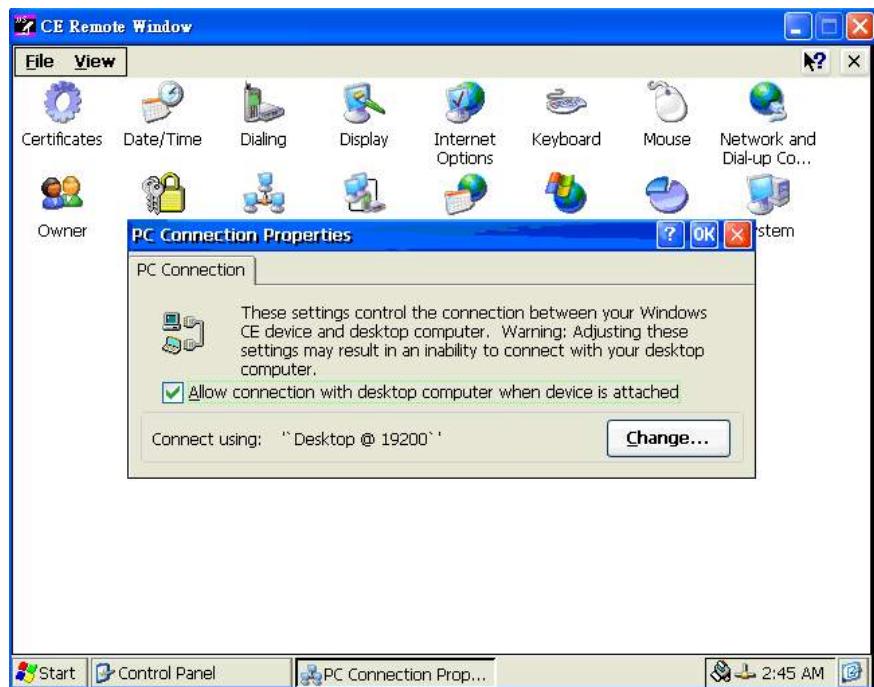


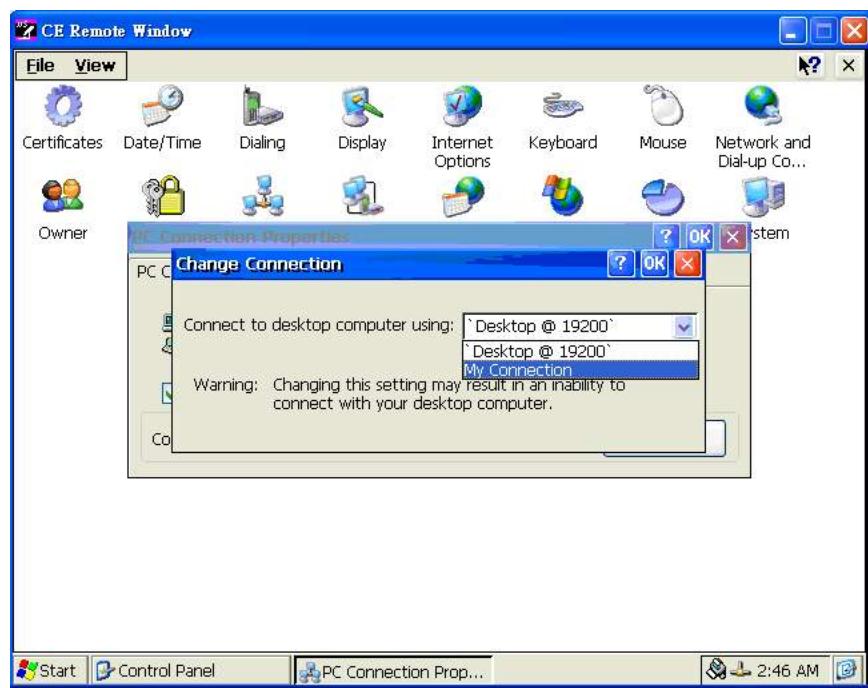
C. Press **Start** → **Setting** → **Control Panel**, and then click “**PC Communication**” icon.



D. Click **Change** button to choose your network communication.

In this example, change the network communication to “**My Connection**”.



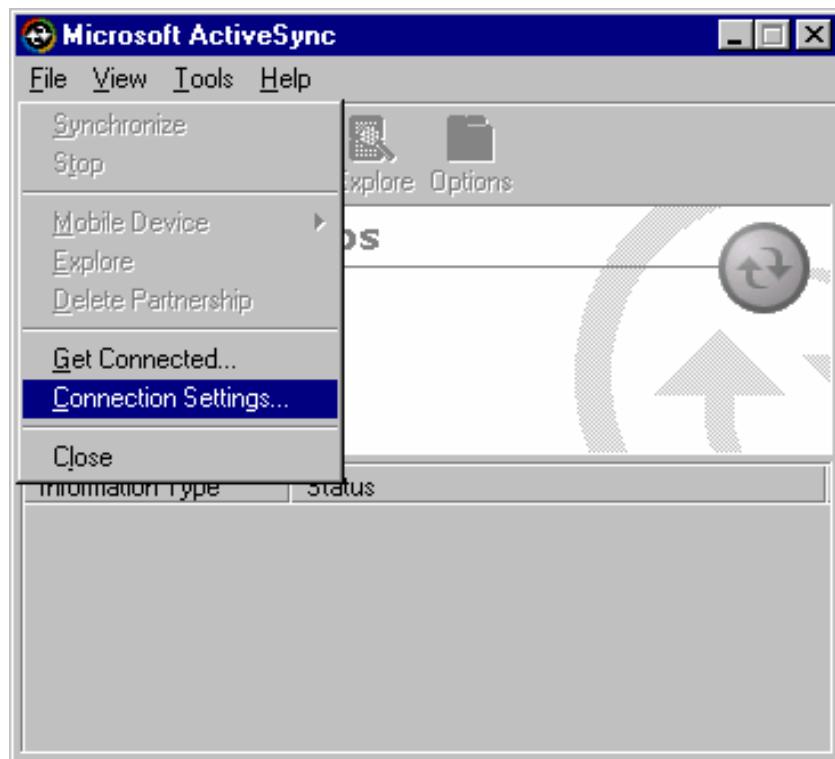


**Step 4 : Setting the communication environment of the host**

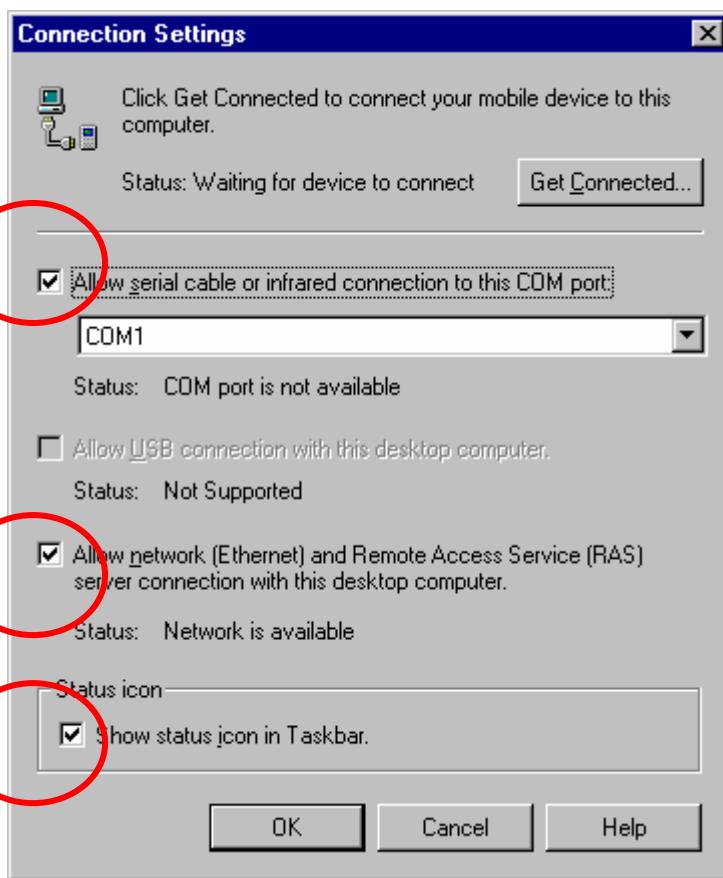
- A. Double click the icon **ActiveSync**.



- B. Select **File**→**Connection Settings**



C. Configure the connection settings as below.

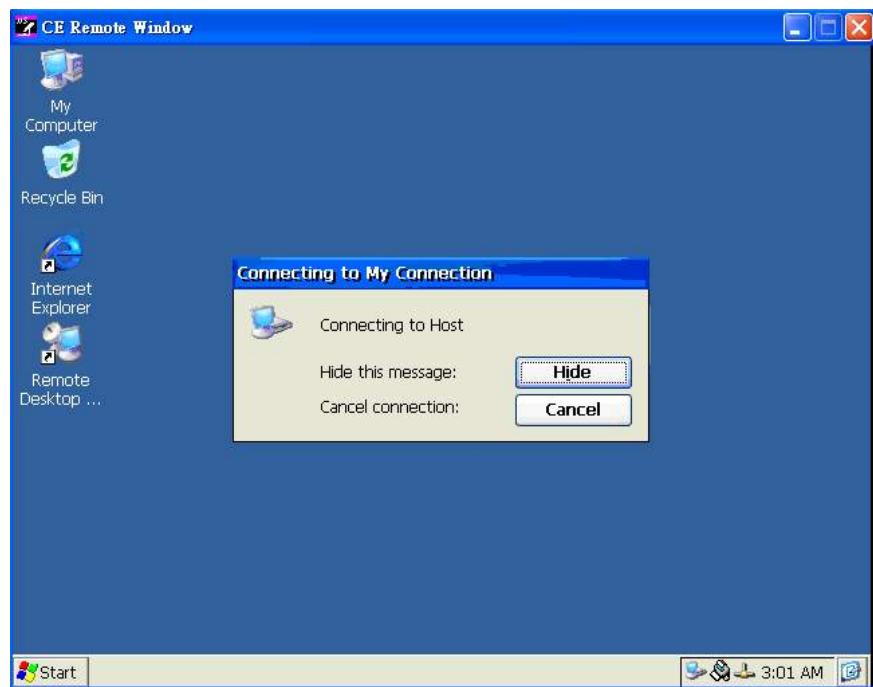
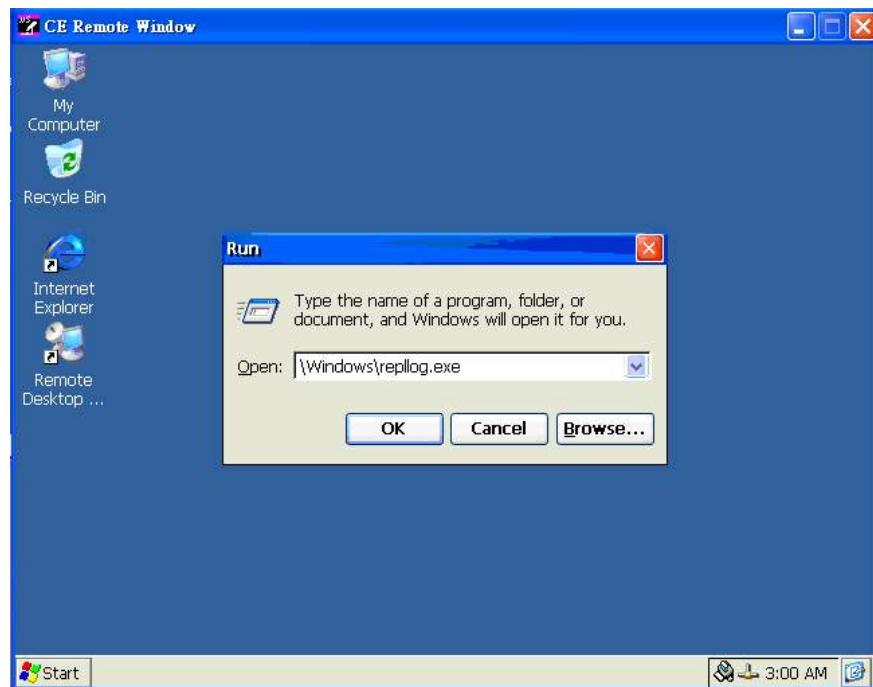


D. After you configure the connection setting, it will show the below dialog window when you press **Get Connected**

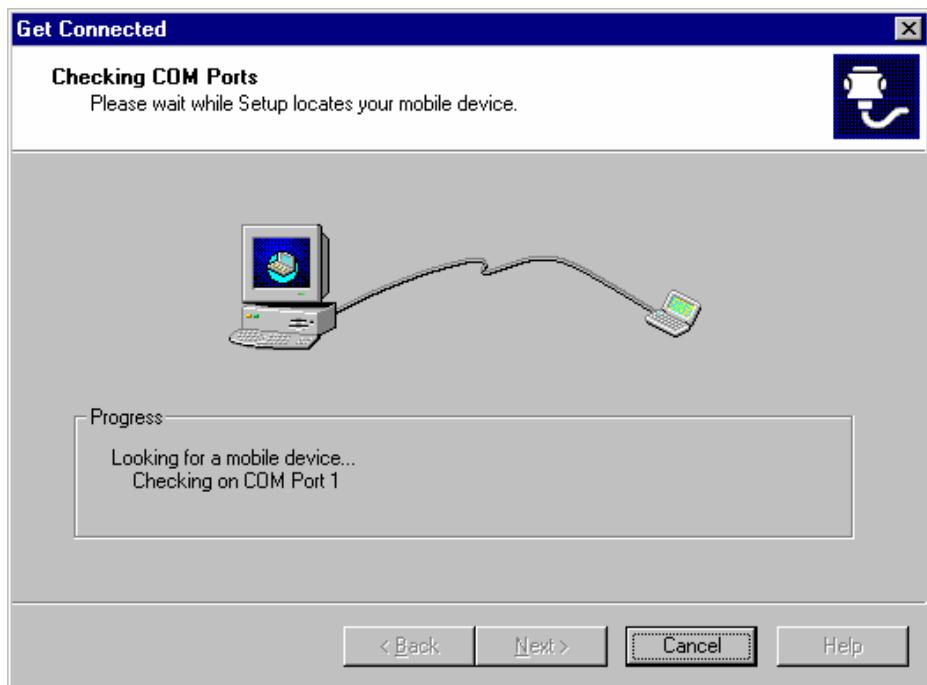


**NOTE: Don't click **Next** button at this time.**

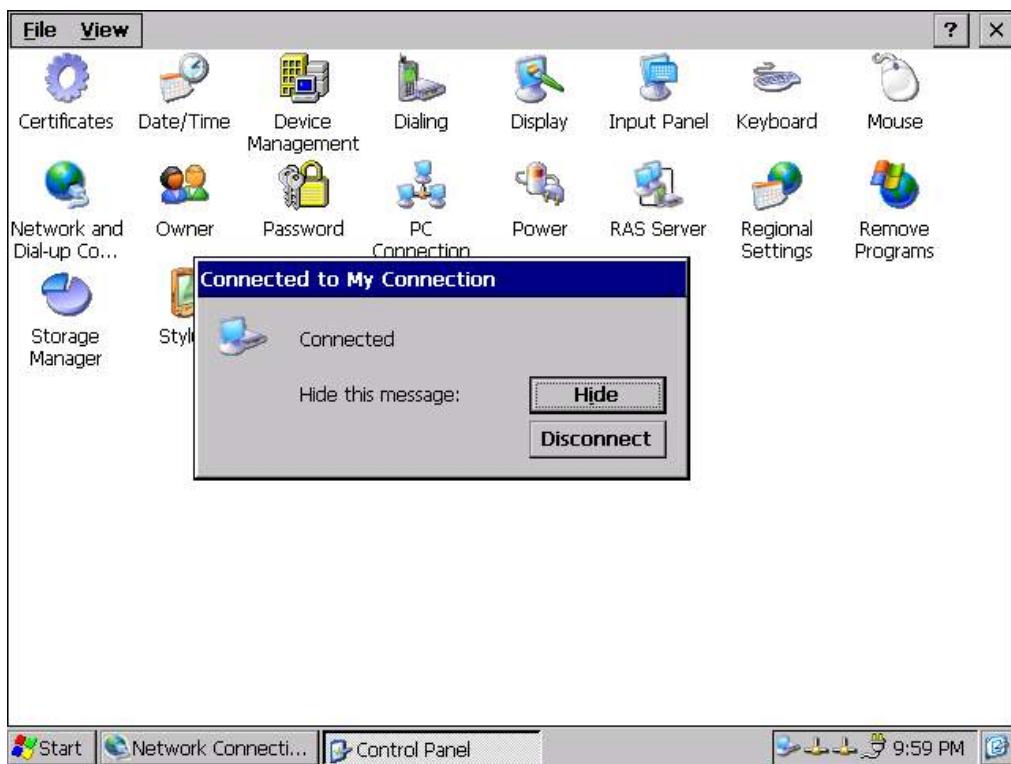
- E. Press **Start** → **Run** of ADAM-6501; enter the **\windows\repilog.exe** in the command line of and press **OK** button.



- F. Now, press the **Next** button in the “**Get Connected**” dialog in the host. It will build the connection between ADAM-6501 and host.



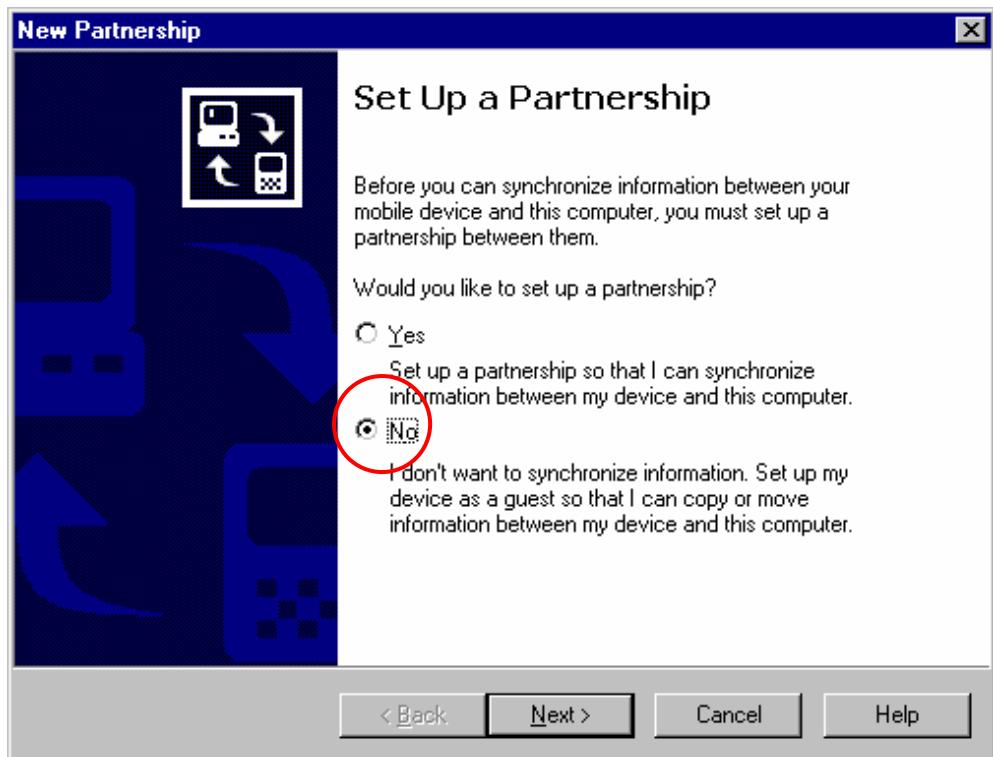
- G. If the connection between ADAM-6501 and the host, you will see below message in ADAM-6501.



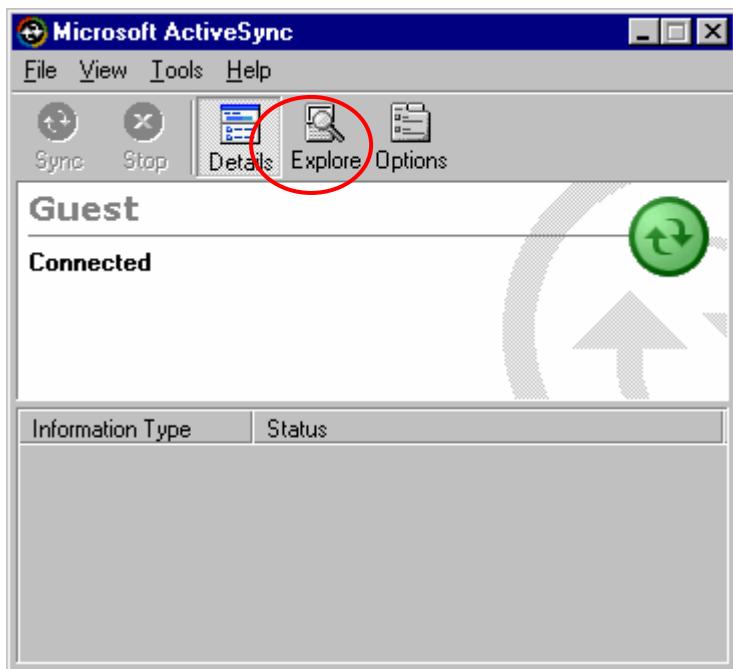
H. If the connection between ADAM-6501 and the host, you will see below message in the host.

Select **No**, then press **Next** button.

I.



After the New partnership setting, it will show the below dialog window in the host.

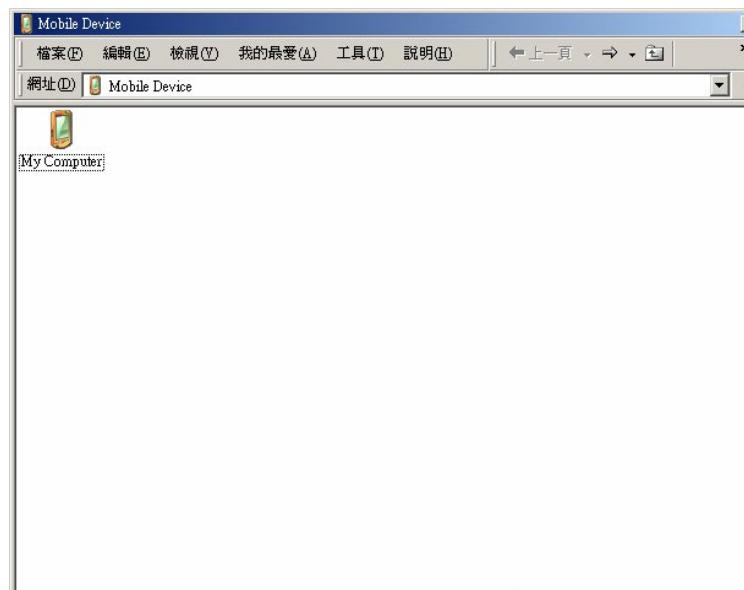


- J. Press **Explore** button in Microsoft ActiveSync window, it will pop up the **Mobile Device** window to display **the file resources and information of ADAM-6501** as below:

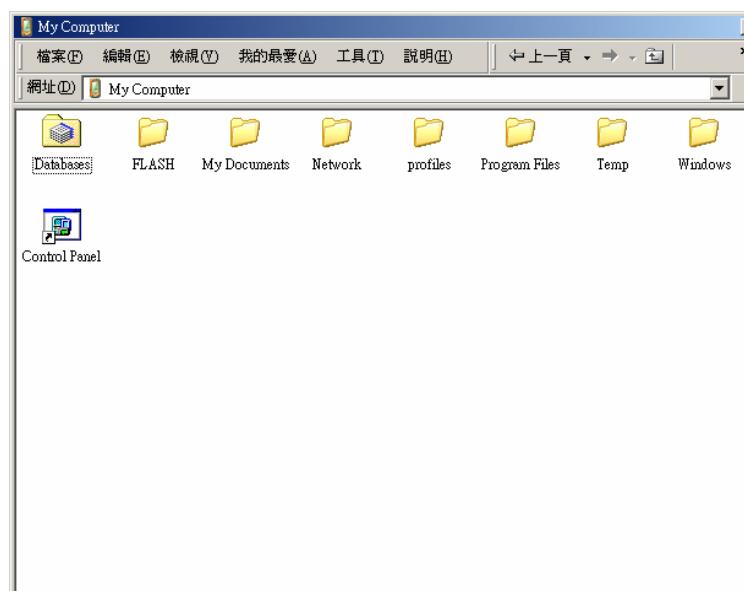
For example, if you click the icon "My Documents", you will see the content of storage in ADAM-6501.



**Step 8 : User can begin to transfer the file from configuration computer to connected ADAM-6501.**



Double click "My Computer" in "Mobile Device" for file translation.



## 4.3 Remote Access Server Configuration

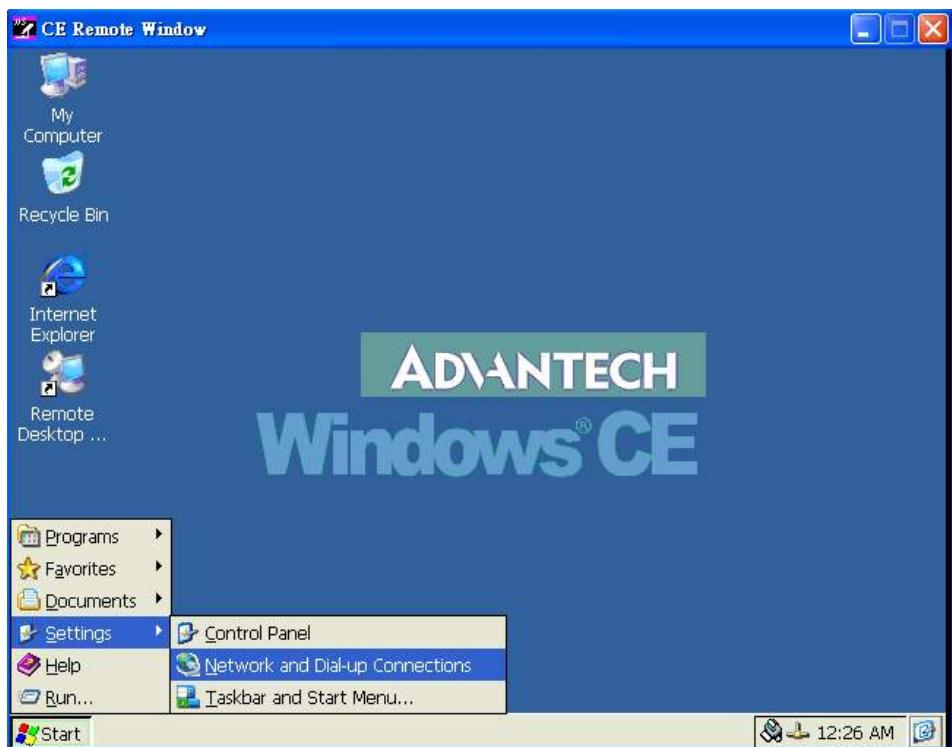
### Introduction

ADAM-6501 provides “Remote Access Services” which offers the possibilities for remote network and user to have TCP/IP access local mail servers, access to database, web servers or other Intranet services.

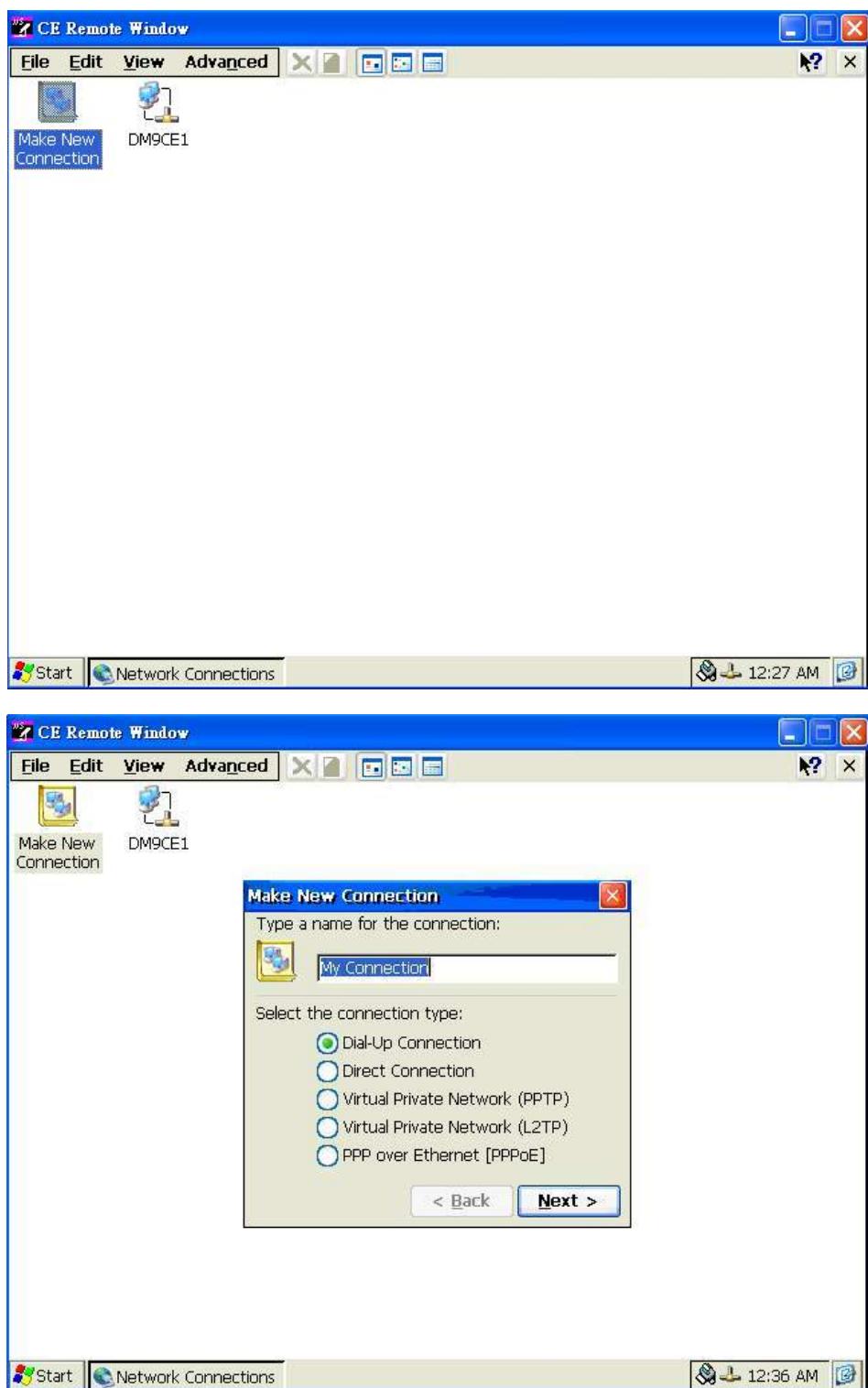
The following description introduces how to set the dial-up and dial-in configuration.

### Dial-up configuration

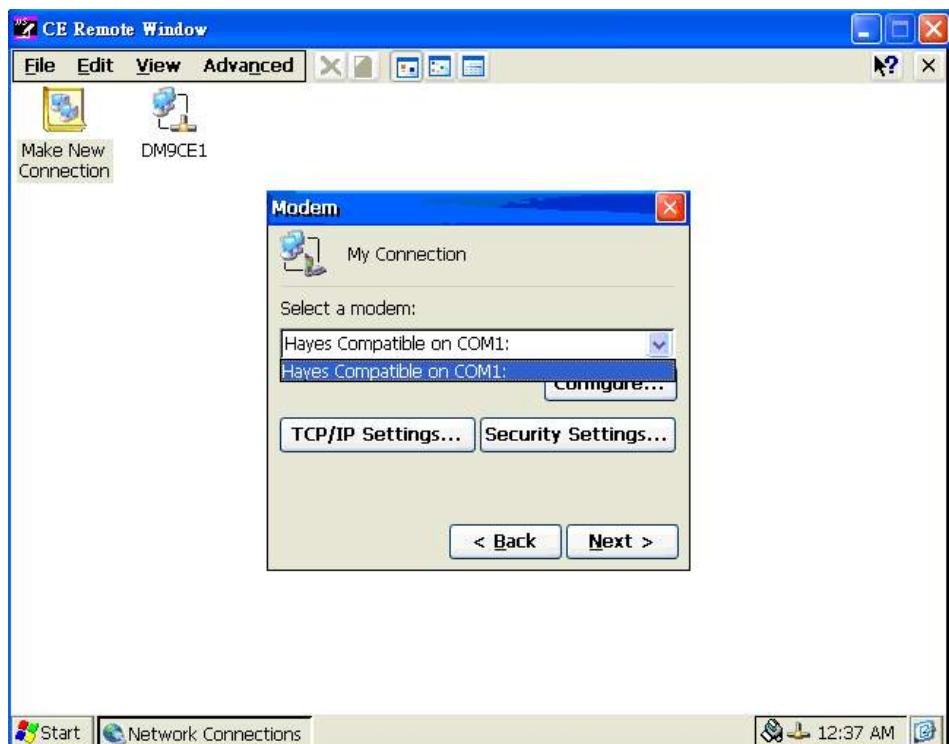
**Step 1 : Press start of task bar of window system and select “Setting” → “Networking and Dial-up connections”.**



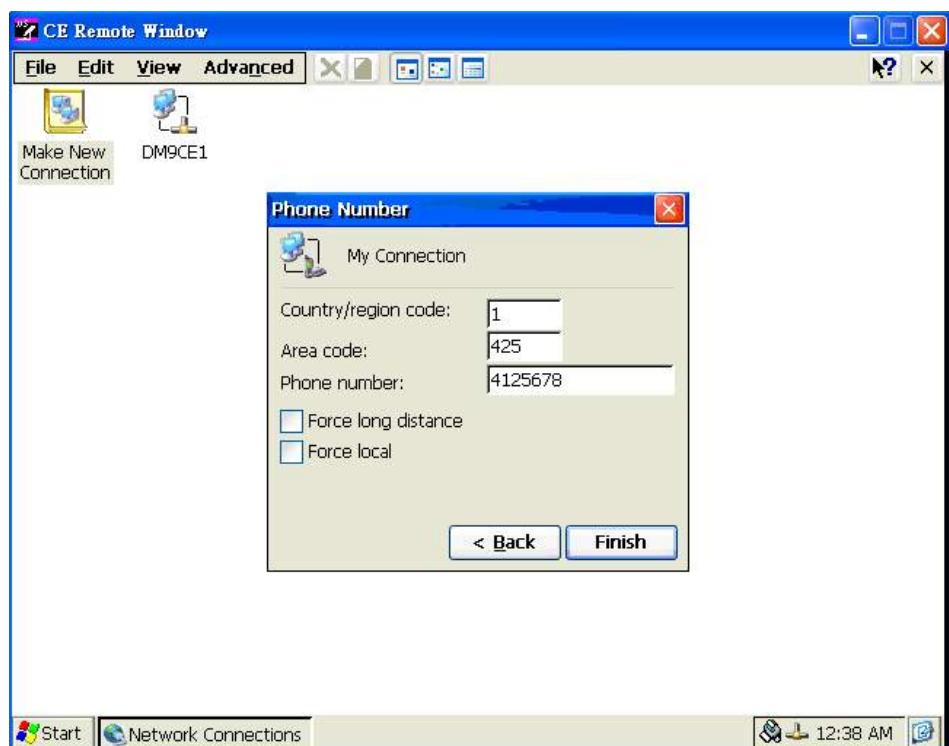
**Step 2 : Double click “Make New Connection”, then a dialog window will pop out. Select Dial-Up Connection and press **Next >**.**



**Step 3 : Setup the device according to the specification of the modem and press **Next >**.**

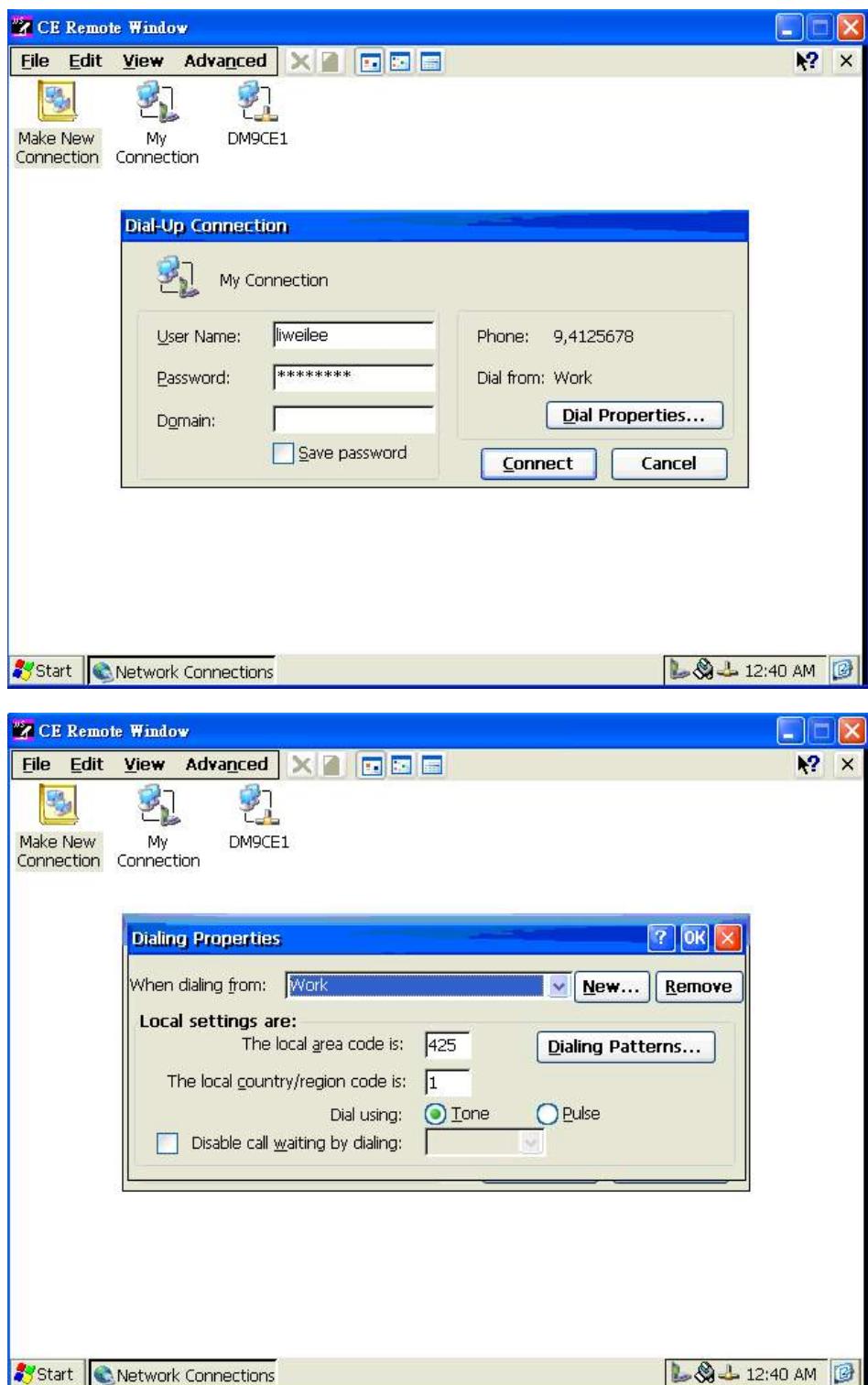


Enter the telephone number in the “Phone Number” window. Press **Finish** button to complete the dial-up configuration.



**Step 4 : Press start of task bar of window system and select “Setting” → “Networking and Dial-up connections”. Double click the new connection that you made previously (it is RAS Connection in this**

case), and it will pop out the “Dial-Up Connection” dialog window. Enter your user name / password, then press **Dial Properties**.

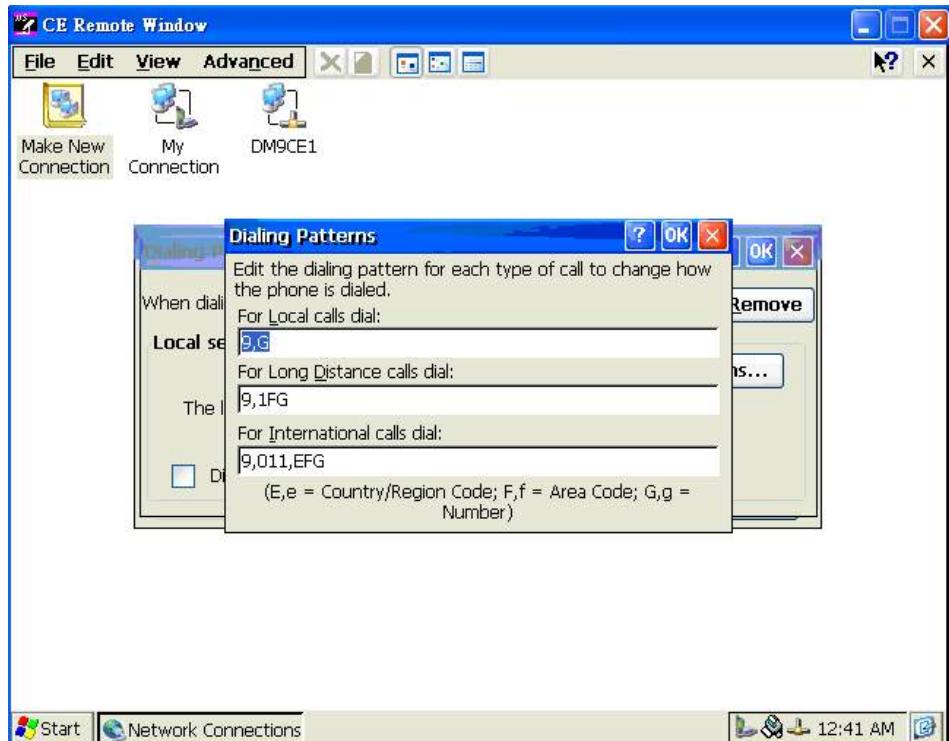


**Step 5 : Press **Dialing Patterns** button in the Dialing Properties window. Edit the dialing pattern for each type of call to change how the phone is dialed.**

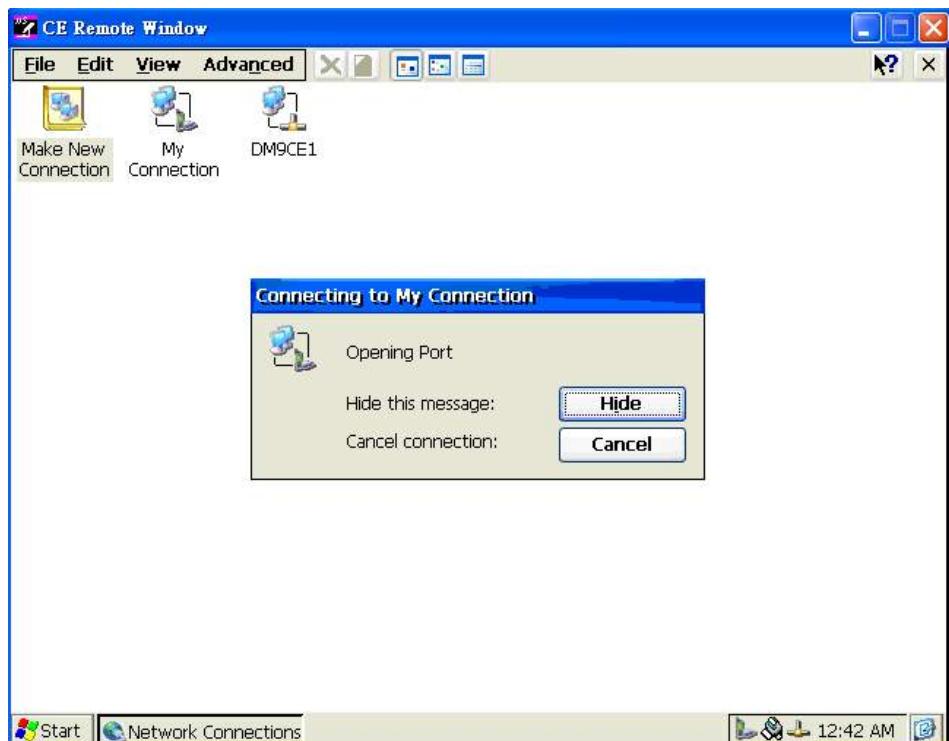
NOTE: Country/Region Code, please enter "E" or "e".

Area Code, please enter "F" or "f".

Number, please enter "G" or "g".

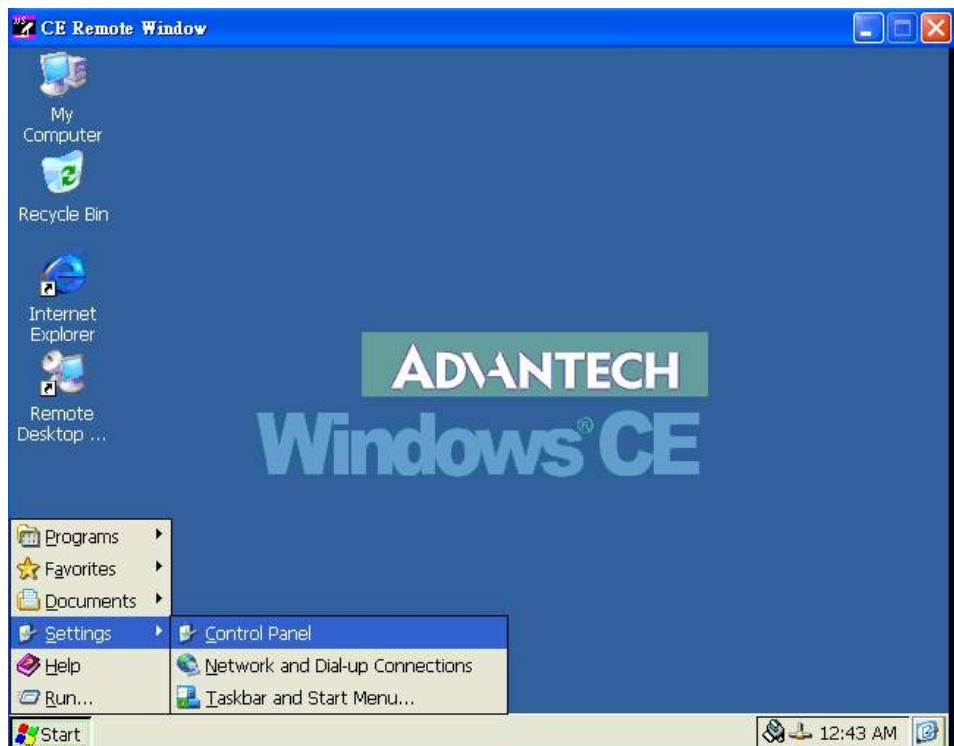


**Step 6 : Double click My Connection 2 and press **Connection** button to build a PPP connection.**

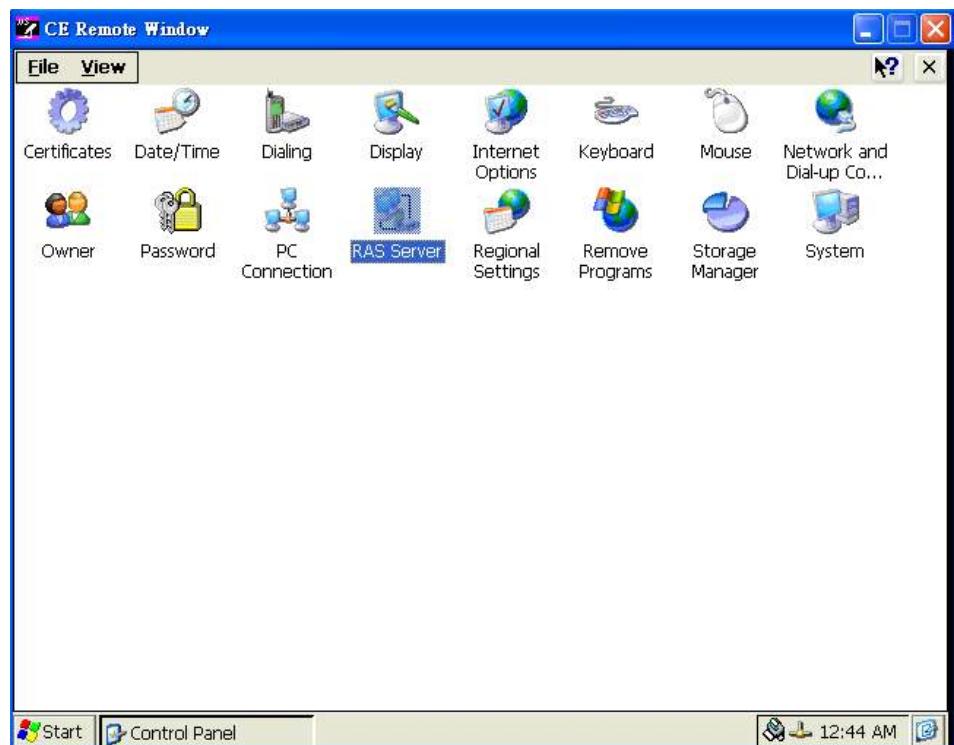


## Dial-in Configuration

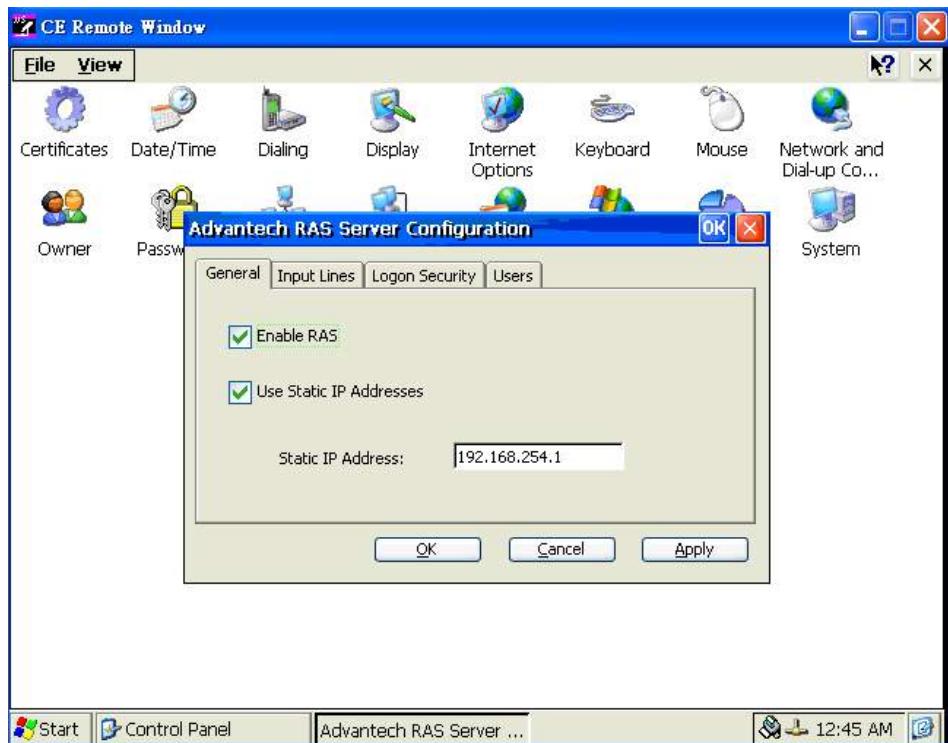
Step 1 : Press start of task bar of window system and select “Setting” → “Control Panel”.



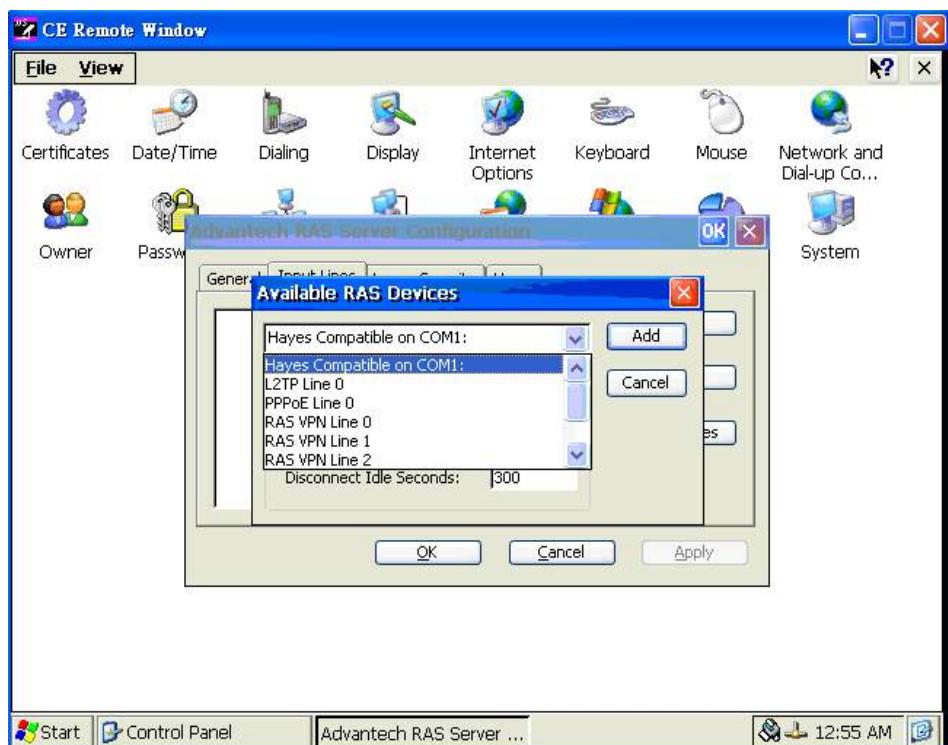
Step 2 : Double click the RAS Server icon from Control Panel.



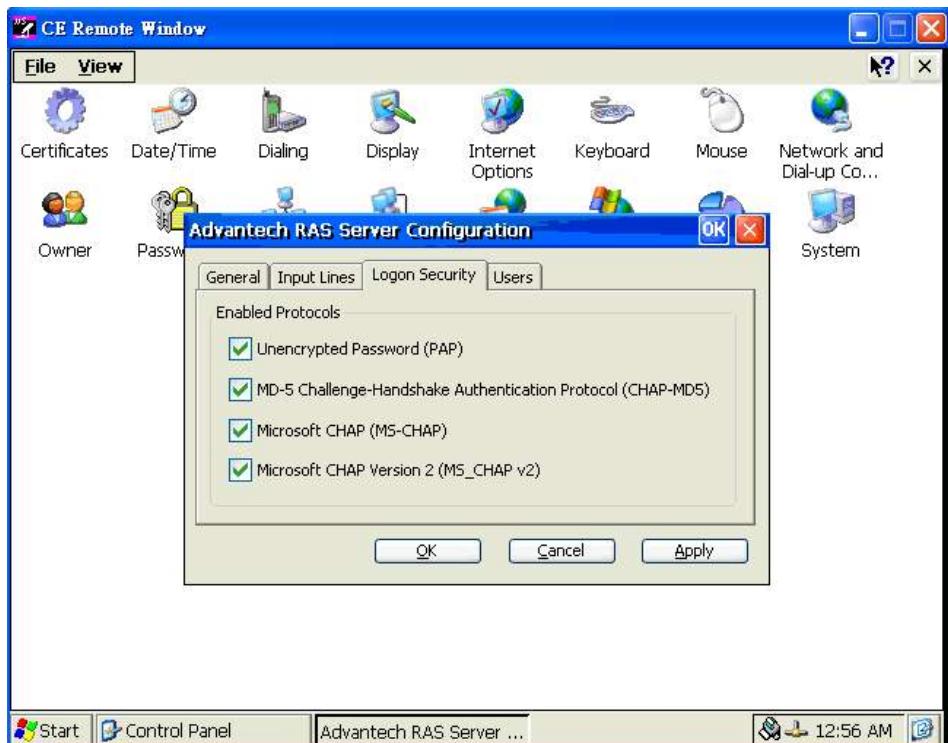
**Step 3 : Select the “General” tab under “Advantech RAS Server Configuration”. Select “Enable RAS”, “Use Static IP Address” and enter a specified IP in Static IP Address blank.**



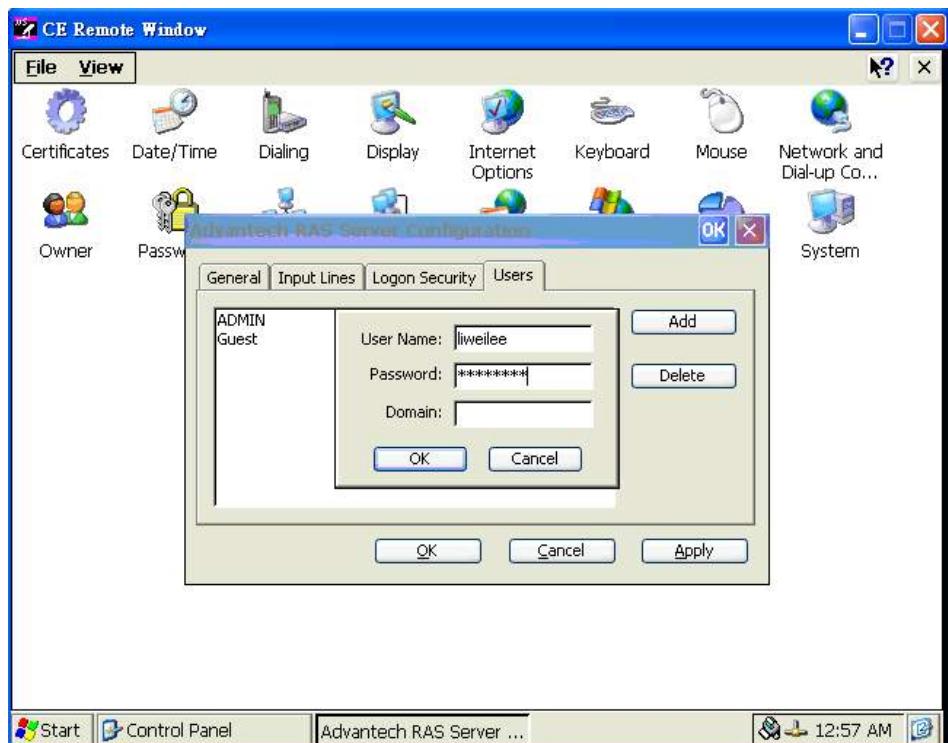
**Step 4 : Select the “Input Lines” tab under “Advantech RAS Server Configuration”. Click **Add** button to setup the input line according to the available RAS device.**



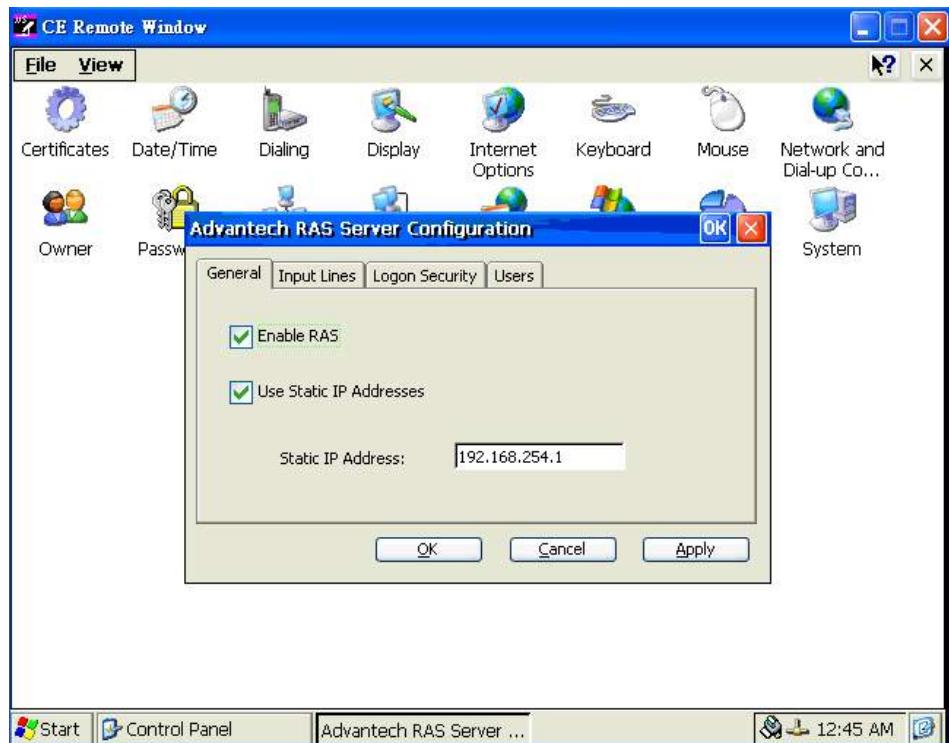
**Step 5 : select the “Logon Security” tab under “Advantech RAS Server Configuration”. Select security protocol if necessary.**



**Step 6 : Select the “Logon Security” tab under “Advantech RAS Server Configuration”. Add a new account for remote access services.**



**Step 7 : After all settings are completed, press **Apply** button and then it will pop up the RasConfig dialog window. Press **Yes** button to save registry setting to storage card.**



RAS configuration procedure is completed and you can access ADAM-6501 via remote device.

## 4.4 Autorun Configuration Note

### Introduction

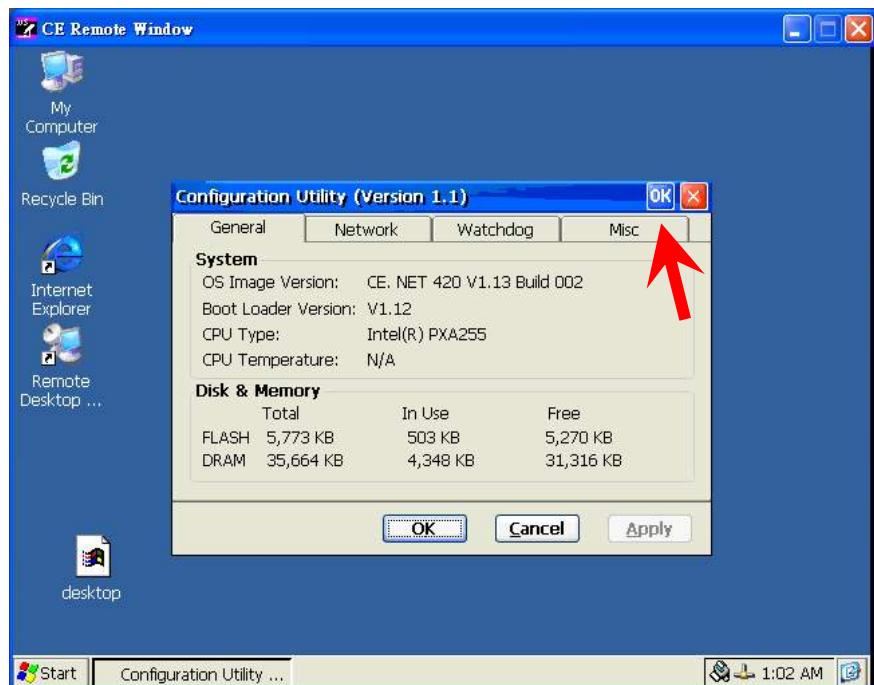
This document introduces how to execute applications automatically when you boot ADAM-6501 up.

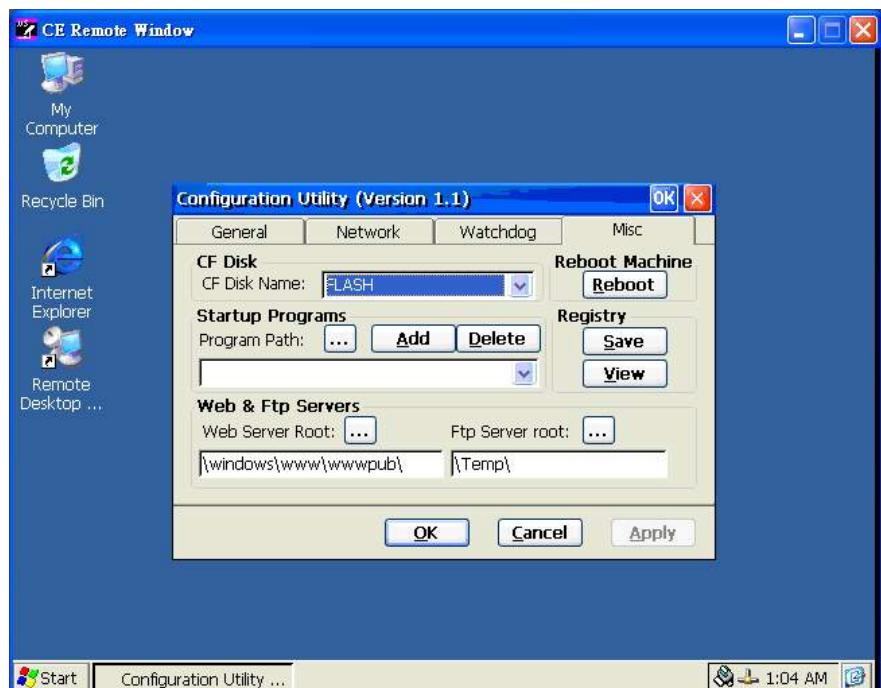
### Autorun Configuration Procedure

#### Step 1 : Execute the “ADAM Configuration Utility”

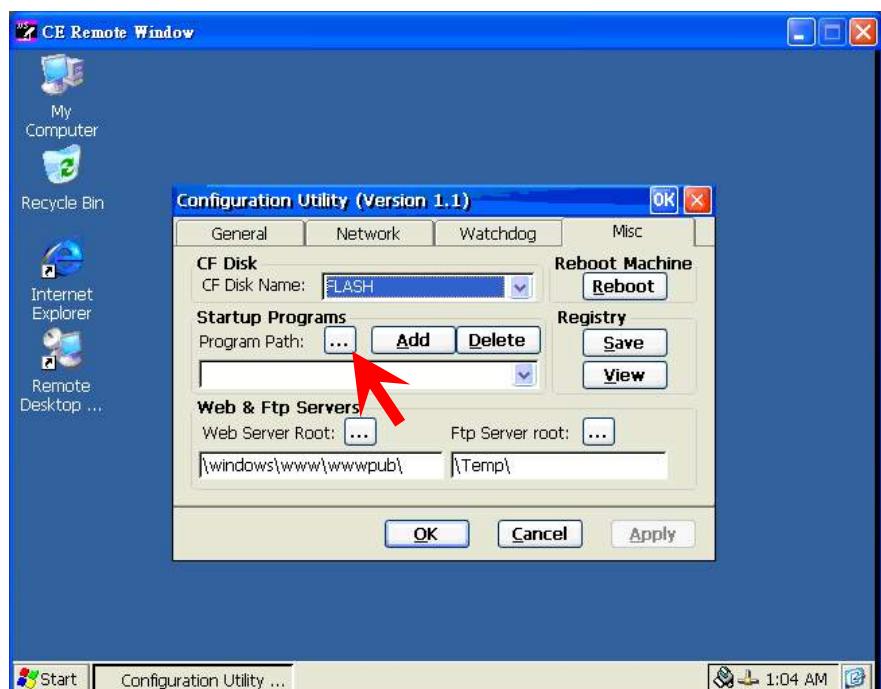


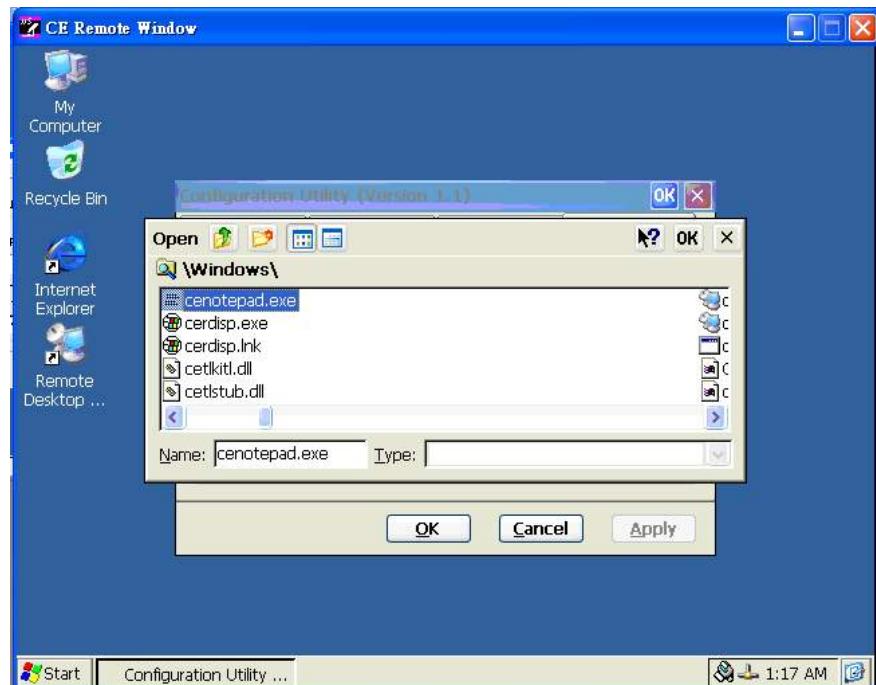
#### Step 2 : Go to the “Misc” page in ADAM Configuration Utility.





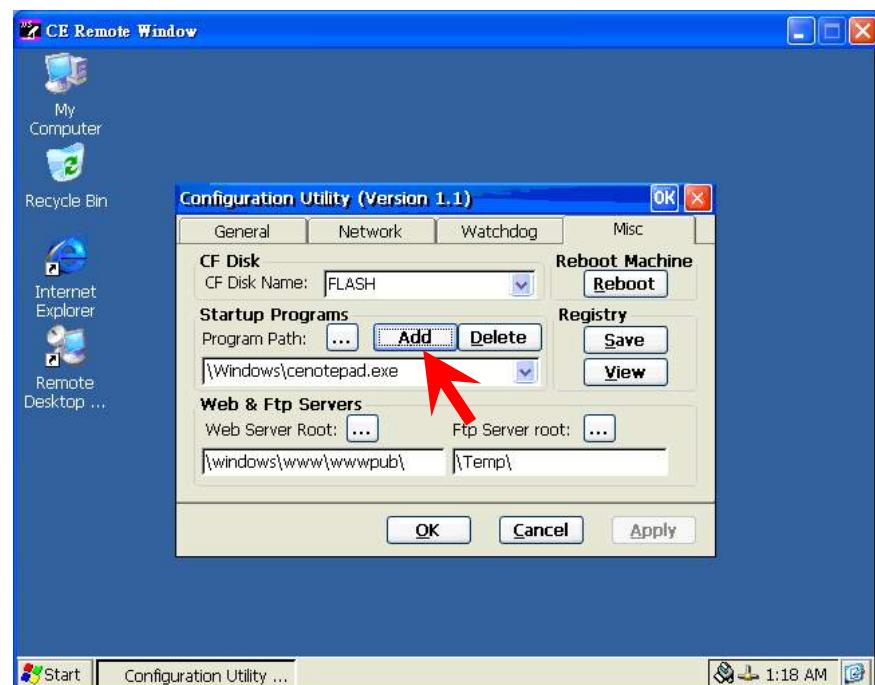
**Step 3 : Click on the “Program Path” bottom for selecting the program for Auto-Run setting..**

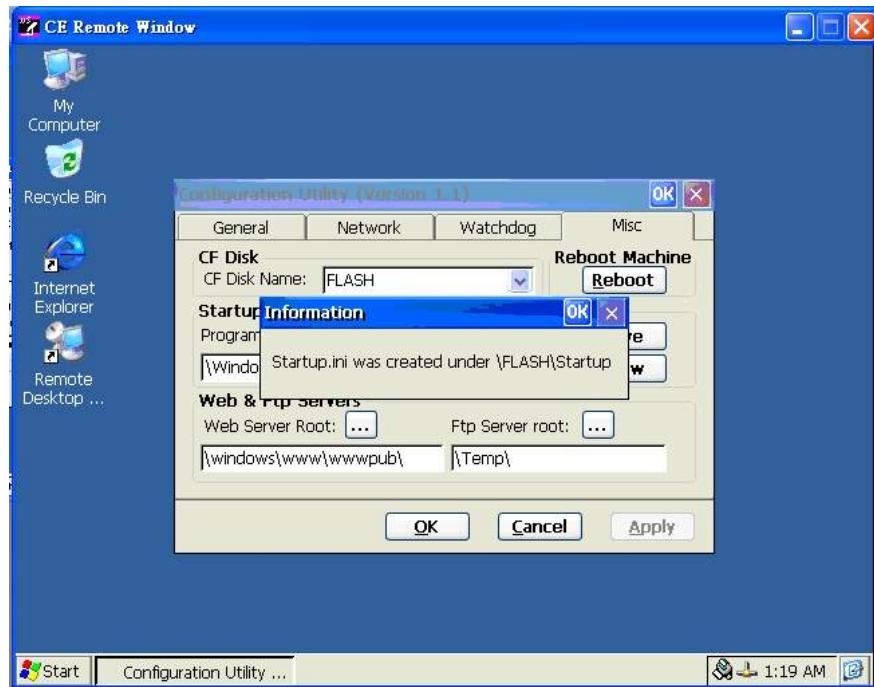




Please choose the program then press "OK".

**Step 4 : Click on the “Add” bottom to set the program for Auto-Run action.**





The ADAM Configuration Utility will add the selected program in Auto-Run requirement. Please press “OK” to finish the configuration.

## 4.5 Application Development Procedure

### Introduction

ADAM-6501 provides the Software Development Kit (SDK) and the built-in runtime library; you can use your existing windows-based programming skills to develop applications easily and rapidly through those tools. This document introduces how to develop custom application step by step.

### Application development Procedure

#### 2. Install Microsoft eMbedded Visual C++ V4.00 with Service Pack 2

The Microsoft eMbedded Visual C++ tool is a desktop development environment for creating applications and system components for Windows CE .NET-powered devices. This version features new capabilities such as C++ exception handling, Run Time Type Information (RTTI), and a plethora of new debugger functionalities. Before you begin to develop your application, you must install Microsoft eMbedded Visual C++ first.

#### 3. Insert ADAM-6501 CD into the CD-ROM in the host PC.

#### 4. Install ADAM-6501 Software Development Kit for eMbedded Visual C++ from below path:

**\Windows CE.NET V4.2\SDK\ADAM6501\_SDK\_V1.00.msi**

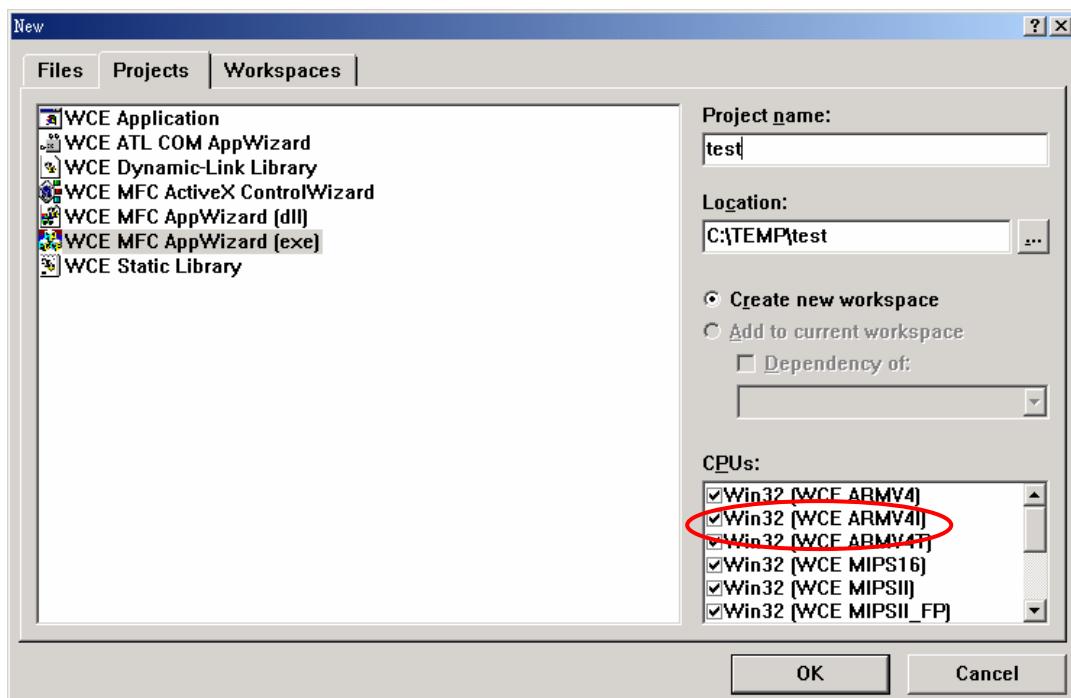
#### 5. Install Microsoft ActiveSync 3.6 from below path:

**\Windows CE.NET V4.2\Utility\Microsoft ActiveSync 3.6.exe**

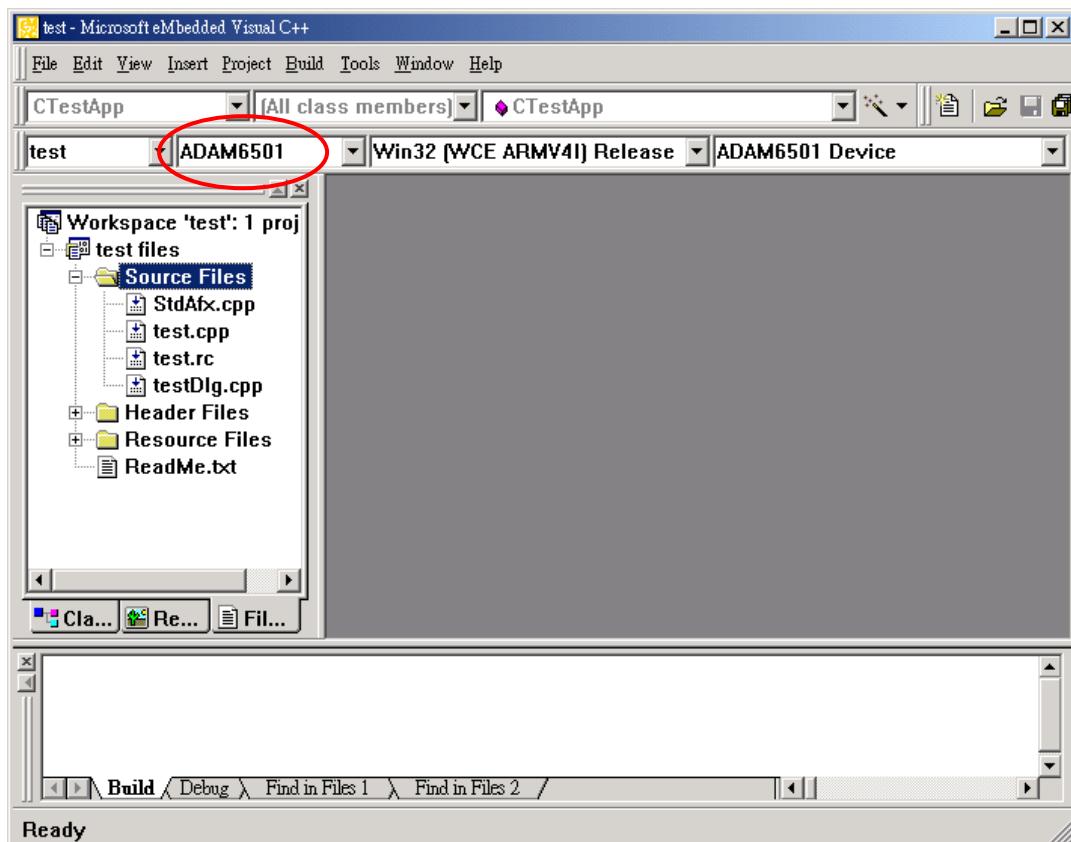
#### 6. Build the connection between the host and ADAM-6501 via ActiveSync. Further information about *ActiveSync*, please refer to “**ActiveSync Connection**”.

#### 7. Execute eMbedded Visual C++.

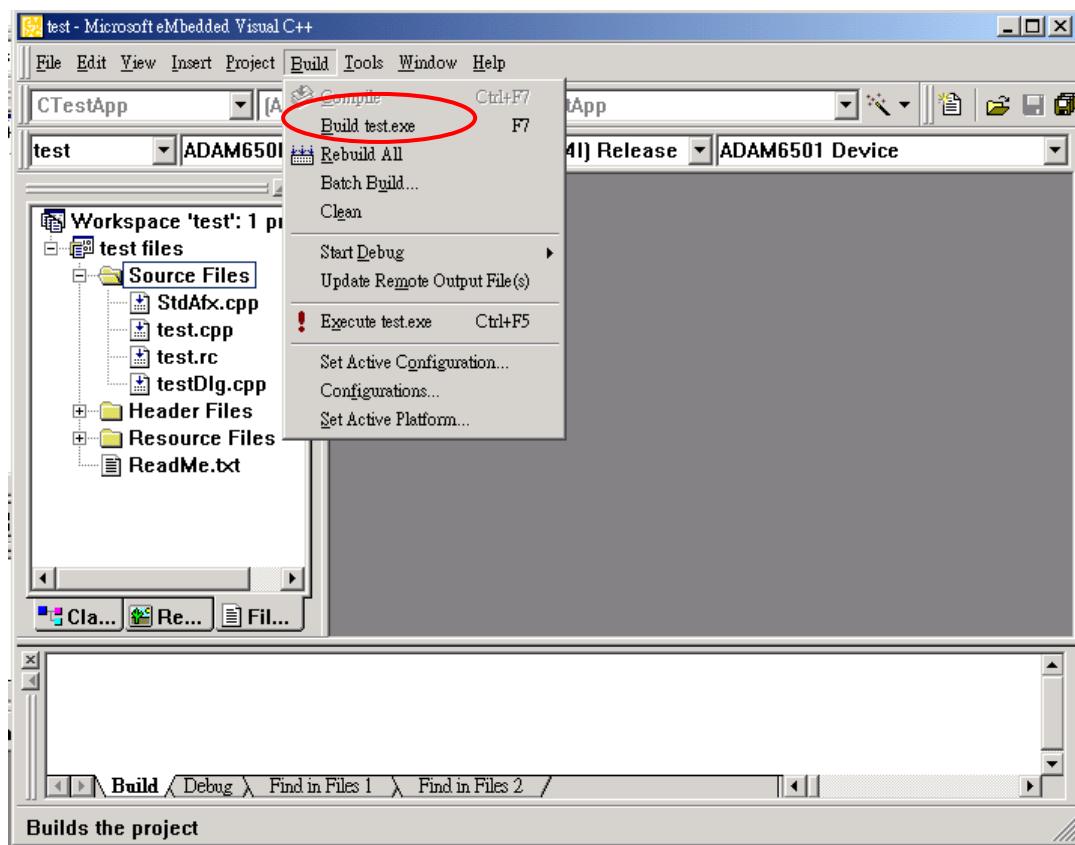
8. Select “File” → “New” to open a new project. Select your project type in the left blank of window and enter the *new project name / location* in the right side of window. Please note that CPU type must select **Win32 (WCE ARMV4I)**.



9. Select “**ADAM6501**” in the main window of eMbedded Visual C++.



10. After you complete above configuration procedure, you can start to develop your application. Press “Build” → “Build xxx.exe” to compile your program to .exe file and download it to ADAM-6501.



11. If you want to execute your program, press “Build” → “Execute xxx.exe” and then the program will be executed in ADAM-6501.

## 4.6 Save your settings

Once you made changes for ADAM6501, you may need run RegSave.exe to save Windows CE system Registry to CF card or on-board flash disk to keep your settings. See [Registry Saving](#) section for detail.

### Registry Saving

Running RegSave.exe to save system Registry to CF card or on-board Flash. you can specify command line parameter for RegSave.exe shown as below:

RegSave [-f] [-s] [-fs]

[-f] : Save Registry to Flash and CF card

[-s]: RegSave will not display any message despite whether the action is succeeded or not.

[-fs]: combination of [-f] and [-s]

If you running RegSave.exe without parameter, it will only save Registry to CF card and it will display message to notify you whether the Registry has been successfully saved.

## **4.7 ADAM-6501 Network Administration User Guide**

### **verview**

Advantech ADAM-6501 series is a built-in Windows ® CE solution offering a pre-configured image with optimized onboard device drivers. Micro Windows ® CE is a compact, high-efficient and hard real-time operating system that is designed for embedded systems without HDD limitation.

ADAM-6501 remote administration is a powerful function, which allow users connect to filed-site ADAM-6501 by standard browser and configure ADAM-6501's network and system settings remotely.

ADAM-6501 remote administration includes two major functions; network administration and system administration.

- Network administration—With ADAM-6501 well-configured, user can connect to local network or public network (Internet).

#### 4.7.1 Network administration

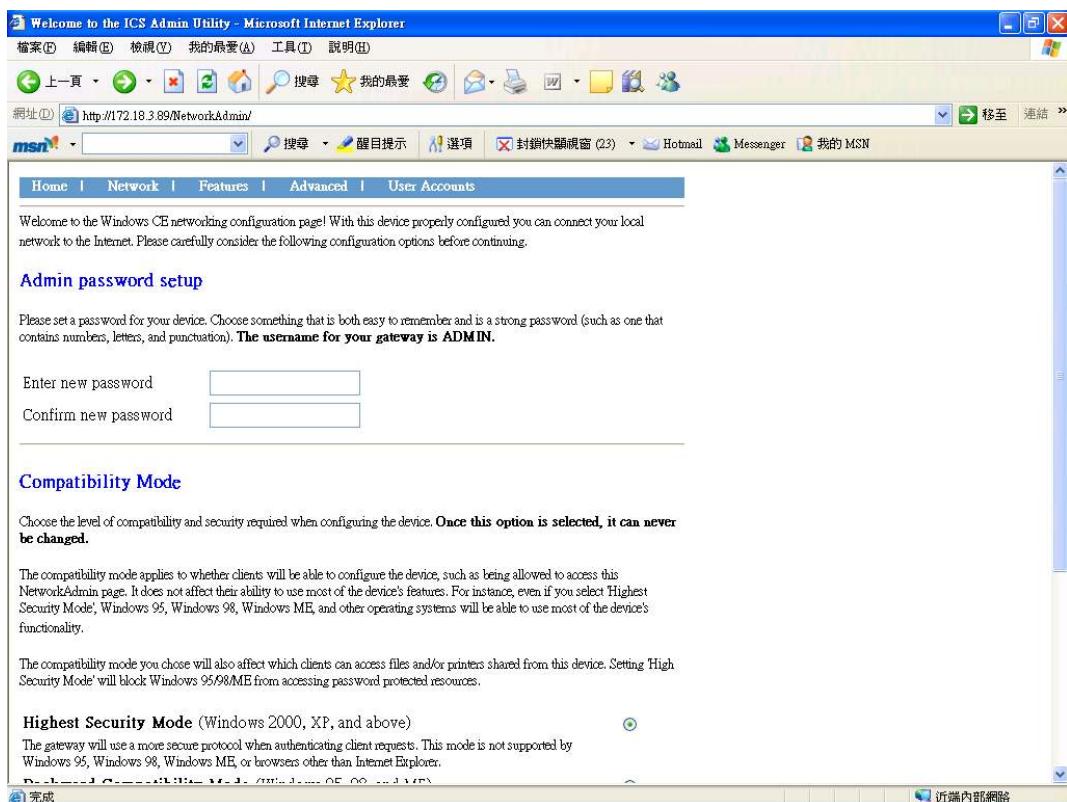
Following steps introduces how to connect the ADAM-6501 by standard browser, and configure the field-site ADAM-6501's network setting remotely.

**Step1:** Execute standard browser (for instance, Internet Explorer), and enter ADAM-6501 (which you would like to connect)'s IP address as below,

IP address/networkadmin

Instance: 172.18.3.89/networkadmin

**Step2:** System will ask you to enter password when you login ADAM-6501 first time.



NOTE: The default user name is ADMIN

**Step3:** Connect to the ADAM-6501 again, and the system will ask you to enter user name and password. After authorization, you will enter Windows CE networking setup page.



A screenshot of a Microsoft Internet Explorer window showing the "Welcome to the ICS Admin Utility - Microsoft Internet Explorer" page. The address bar shows "http://172.18.3.89/NetworkAdmin/". The menu bar includes "檔案(F)", "編輯(E)", "檢視(V)", "我的最愛(A)", "工具(T)", and "說明(H)". The toolbar includes icons for Back, Forward, Stop, Home, Search, Favorites, Mail, Print, and Help. The main content area has a blue header with "Home | Network | Features | Advanced | User Accounts". Below it, a message says "Welcome to the Windows CE networking setup page! With this device properly configured you can connect your local (private) network to the (public) Internet." There are four links: "Network Settings" (Change IP information about this device), "Advanced Setting" (Allows ports to be statically reserved and mapped), "User Accounts" (Add, modify, and delete user accounts on this device), and "Restart Network" (Restart for network changes to take effect). At the bottom, a copyright notice reads "Windows CE Version: (4.20) Build Version: (1088) SysVersion: (1088) ©2000-2002 Microsoft Corporation. All rights reserved." The status bar at the bottom shows "完成" and "網際網路".

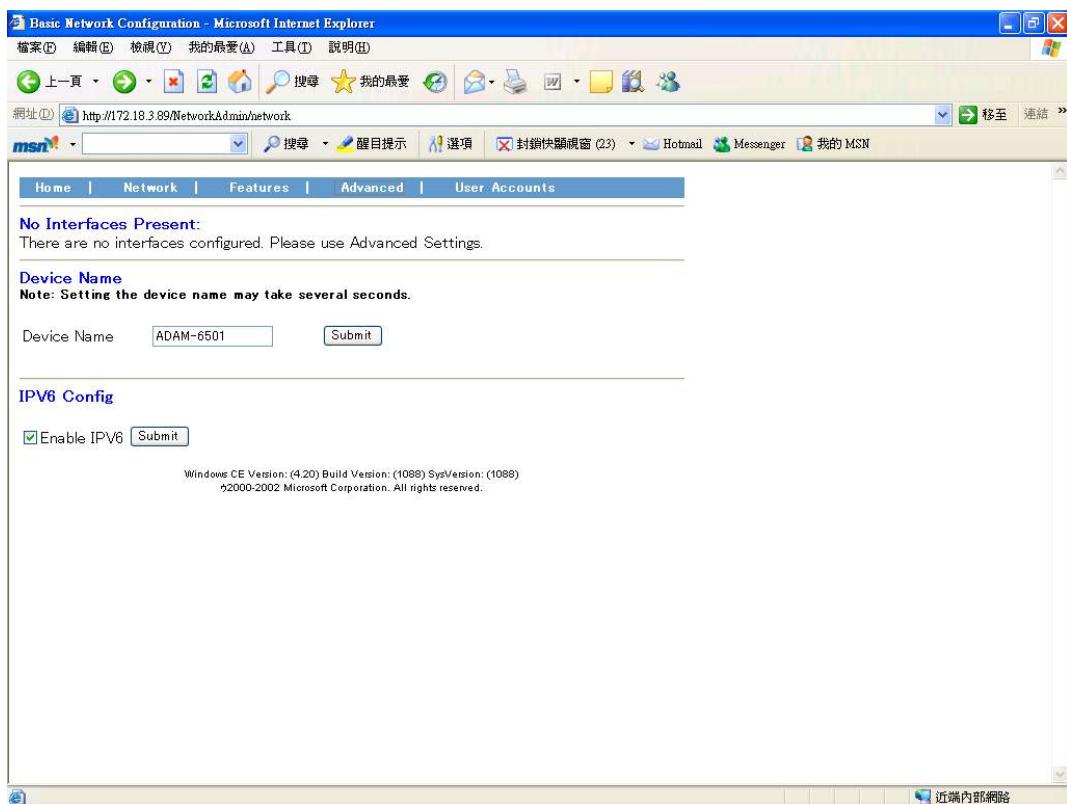
## Network settings

Change IP information about the ADAM-6501.

### 1. Change device name

Enter proper device name and press Submit button.

Please **MUST** change ADAM-6501's device name at your first usage.



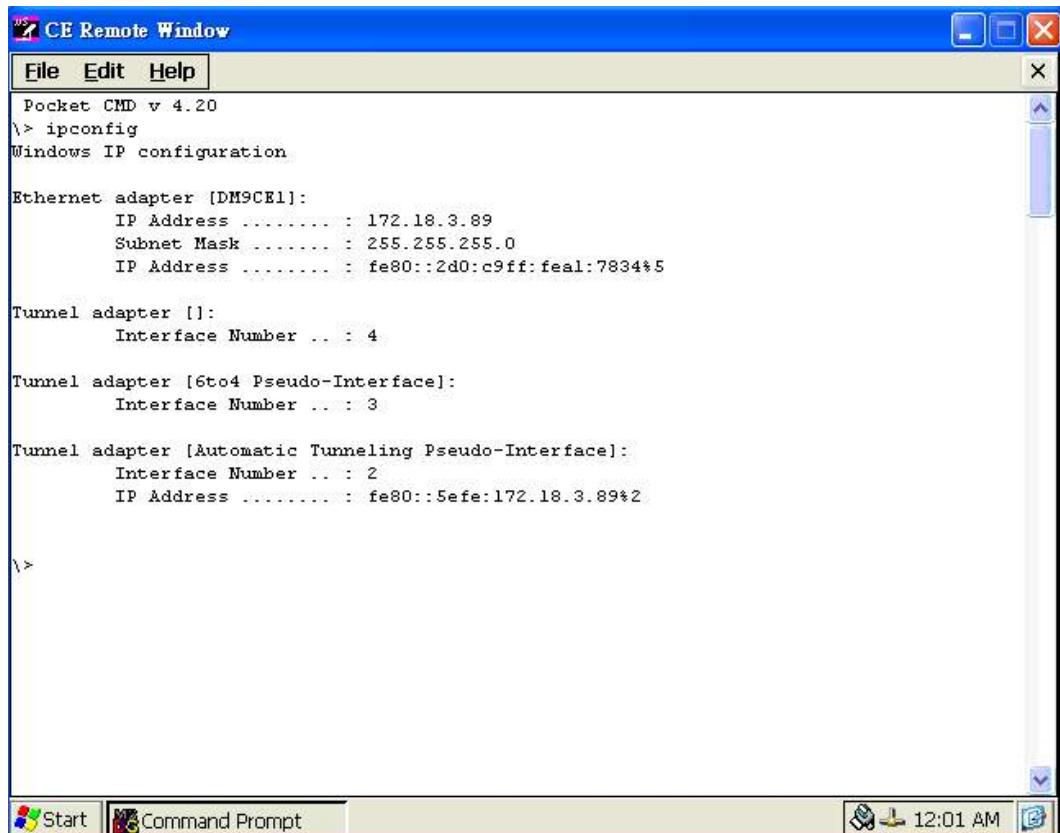
**NOTE:** When you change the device name, ADAM-6501 will register his device name to DNS (Domain Name Server) automatically. If you would like to search this ADAM-6501 next time, you can search it by his device name instead of IP address.

```
<C> Copyright 1985-2000 Microsoft Corp.  
  
C:\Documents and Settings\vincent.chang>ping uno-2059_1  
  
Pinging uno-2059_1 [172.18.3.89] with 32 bytes of data:  
  
Reply from 172.18.3.89: bytes=32 time<10ms TTL=128  
  
Ping statistics for 172.18.3.89:  
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
    Minimum = 0ms, Maximum = 0ms, Average = 0ms  
  
C:\Documents and Settings\vincent.chang>
```

## IPV6

If you want to enable "IPV6", please check "Enable IPV6" and press Submit button.

System will ask you to restart ADAM-6501, the ADAM-6501 will support IPV6 after restarting.



The screenshot shows a window titled "CE Remote Window" with a menu bar containing "File", "Edit", and "Help". The main area displays the output of the "ipconfig" command. The output shows the Windows IP configuration for several network adapters:

```
Pocket CMD v 4.20
\> ipconfig
Windows IP configuration

Ethernet adapter [DM9CE1]:
  IP Address ..... : 172.18.3.89
  Subnet Mask ..... : 255.255.255.0
  IP Address ..... : fe80::2d0:c9ff:feal:7834%5

Tunnel adapter []:
  Interface Number .. : 4

Tunnel adapter [6to4 Pseudo-Interface]:
  Interface Number .. : 3

Tunnel adapter [Automatic Tunneling Pseudo-Interface]:
  Interface Number .. : 2
  IP Address ..... : fe80::5efe:172.18.3.89%2

\>
```

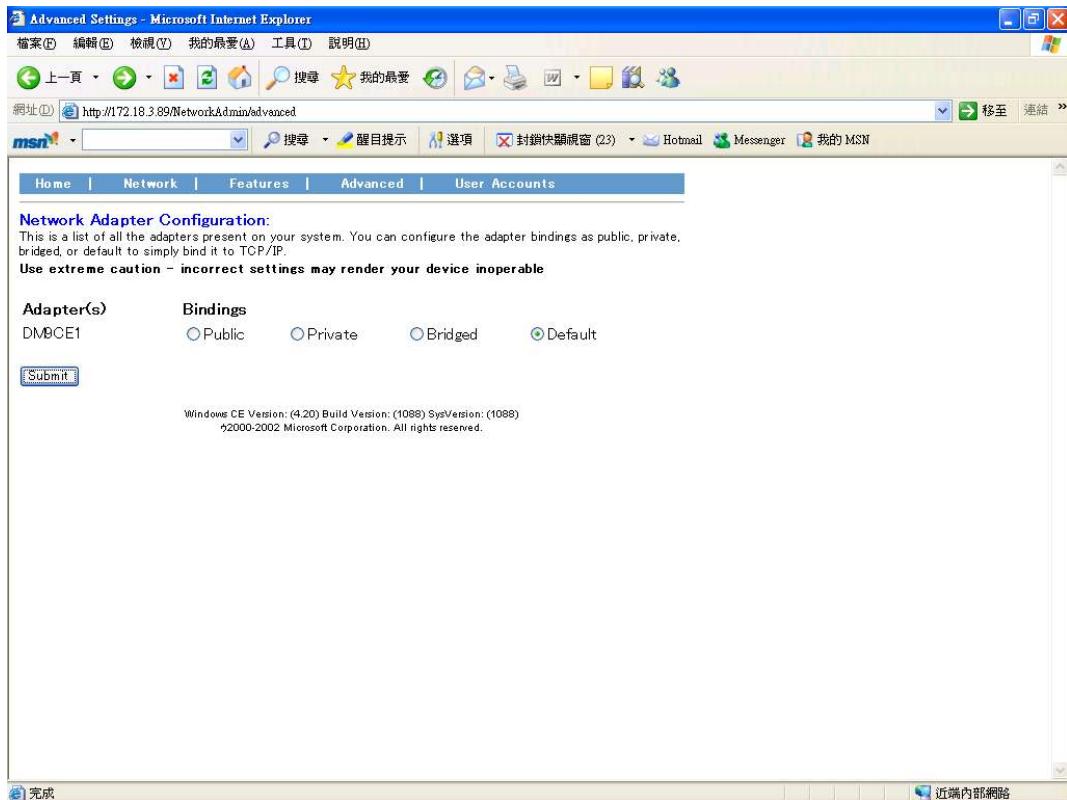
The taskbar at the bottom shows the "Start" button, the "Command Prompt" icon, and the system tray with icons for battery, signal strength, and time (12:01 AM).

## Advanced Setting

“Advanced setting” function allows ports to be statically reserved and mapped.

System will list all of the adapters present on the ADAM-6501. You can configure the adapter bindings as public, private, bridged, or default to simply bind it to TCP/IP.

Caution: Incorrect settings may render the ADAM-6501 inoperable.



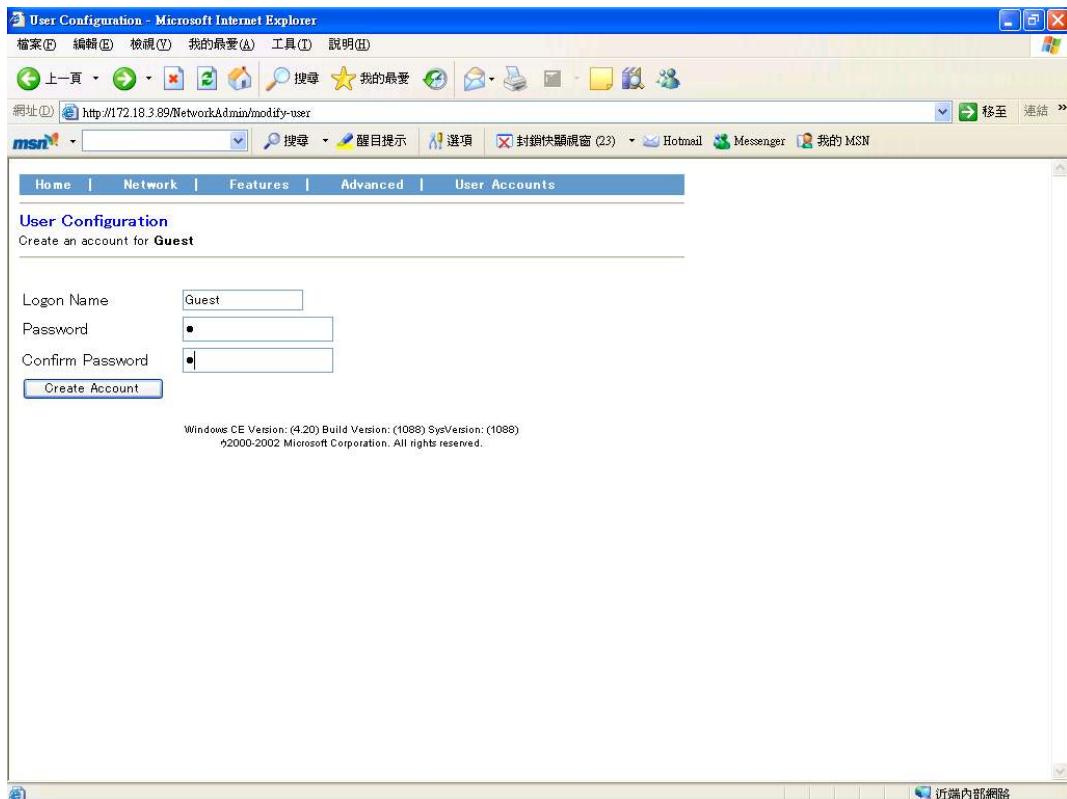
## User Accounts

“User Accounts” function allows you to add, modify and delete user accounts on this ADAM-6501.

### 1. Create a user account

<1-A> Enter a proper user name in the “Create a new user...” filed, and press Create button.

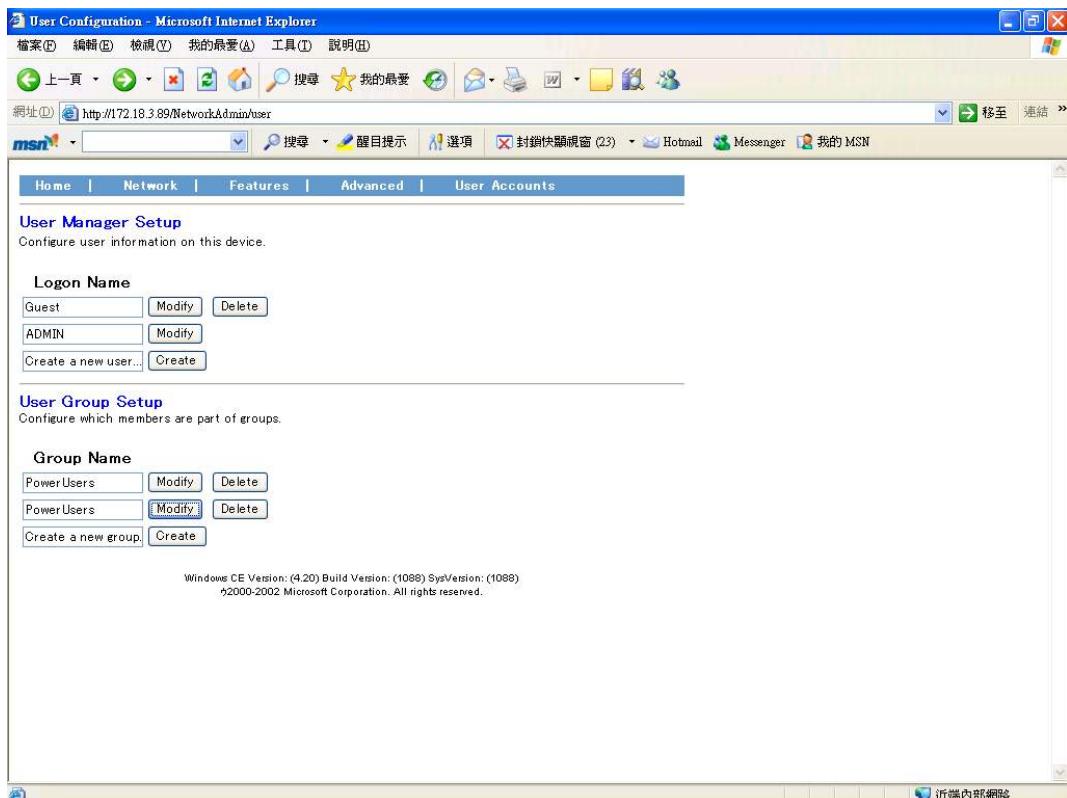
<1-B> Enter a password for this account, and press Create Account button.



<1-C> System will create a user account according to your information.

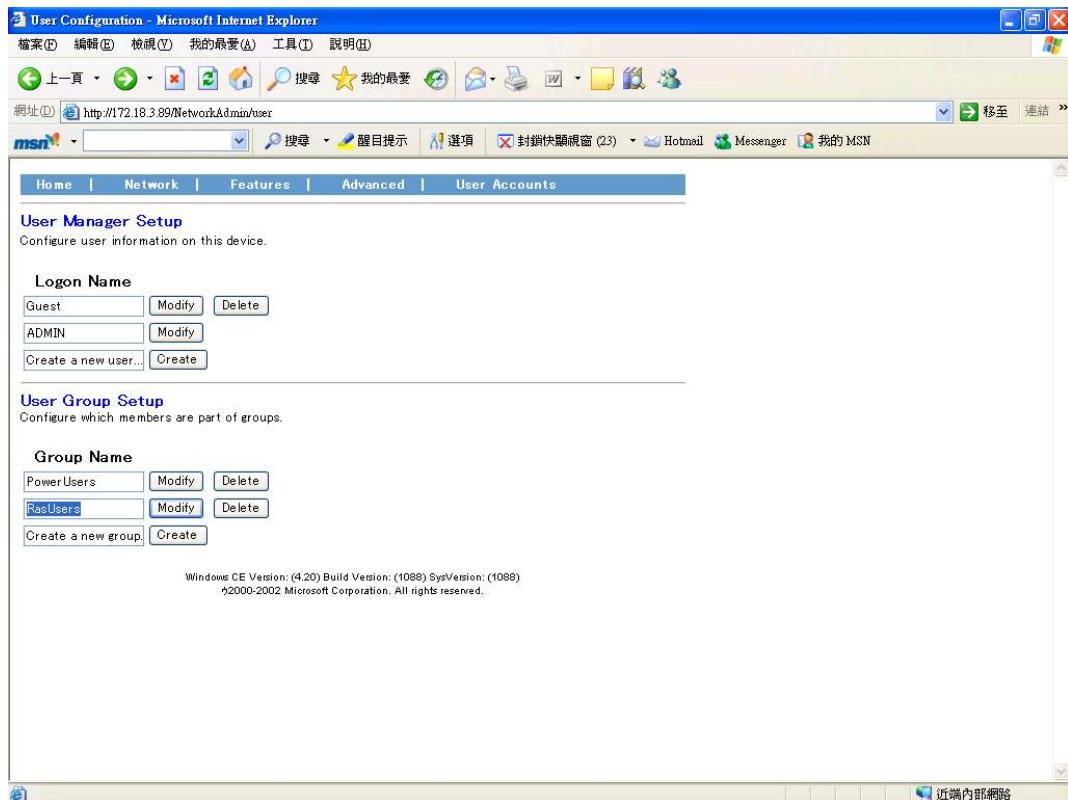
If you would like to change the password of this user account, please press Modify button behind the user name.

If you would like to delete the user account, please press Delete button behind the user name.

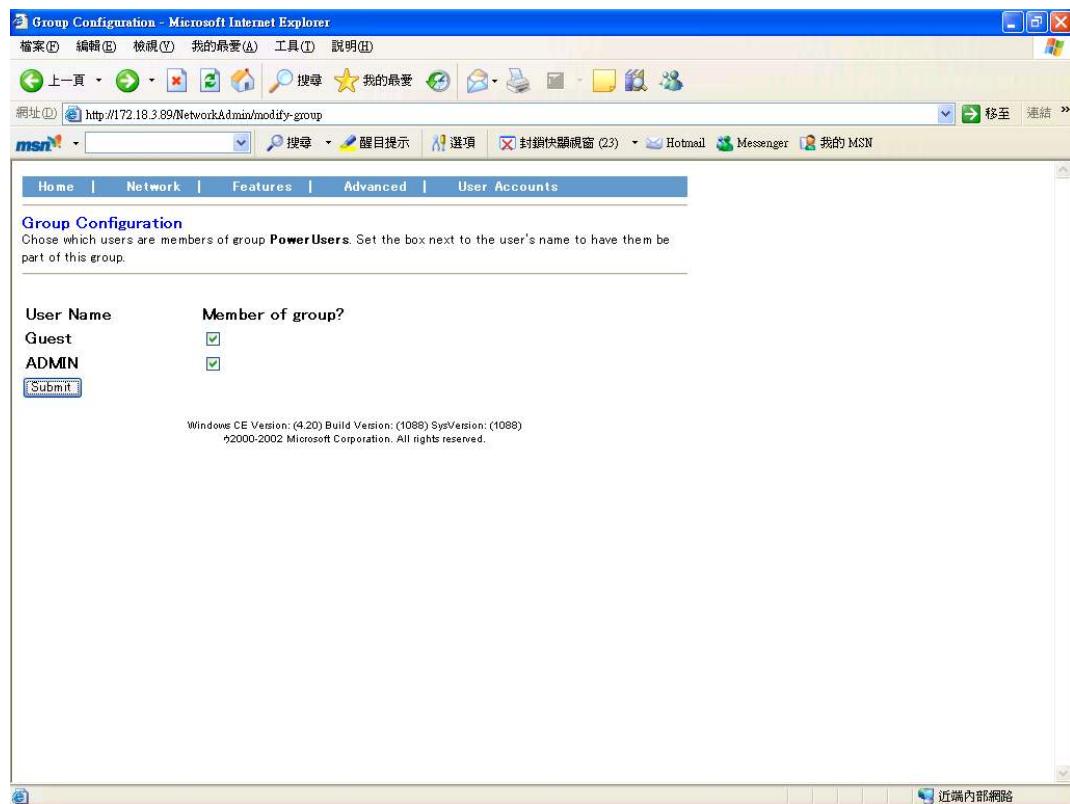


## 2. Create a group

<2-A> Enter a proper group name in the “Create a new group...” field, and press Create button.



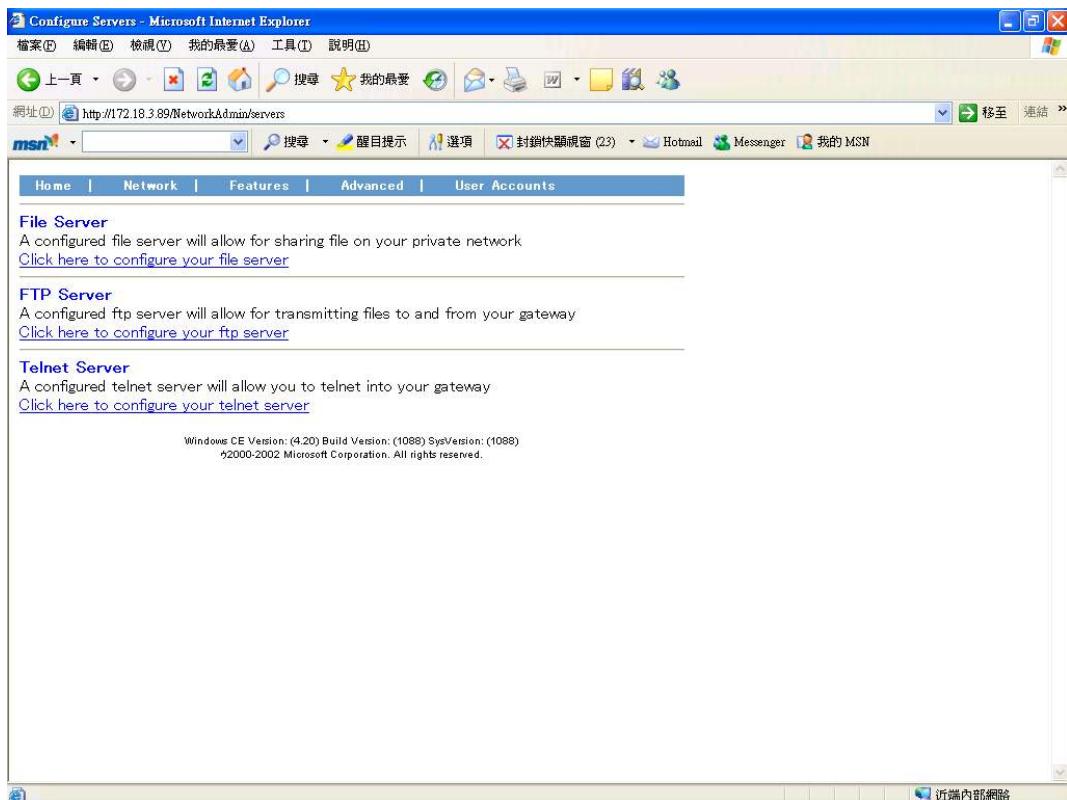
<2-B> If you want to chose which users are members of group, please press Modify button behind the group name.  
Set the box next the user's name to have them be part of this group.



<2-C> If you want to delete a group, please press Delete button behind the group name.

## Features

Allows configuration of advanced gateway features. You can configure the File server, FTP server and Telnet server accordingly.



## 4.7.2 File Server

<A-1> Choose the folder in ADAM-6501 you wish to share and then enter a share name then press "Submit".

The screenshot shows the 'File Server Configuration - Microsoft Internet Explorer' window. In the 'Shared Folders' section, the checkbox for '\FLASH' is checked, and the share name 'FL' is entered in the adjacent input field. A 'Submit' button is visible next to the share name field.

**Compatibility Notice**  
This device has been configured to run in highest security mode. It will not accept authenticated sessions from Windows 95/98/ME clients.

**Shared Folders**  
Please choose the folder you wish to share and then enter a share name.

<input type="checkbox"/> \Network	<input type="text"/>	<input type="button" value="Submit"/>
<input checked="" type="checkbox"/> \FLASH	<input type="text" value="FL"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Application Data	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Recycled	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \My Documents	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Program Files	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Temp	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> Windows	<input type="text"/>	<input type="button" value="Submit"/>

Windows CE Version: (4.20) Build Version: (1088) SysVersion: (1088)  
©2000-2002 Microsoft Corporation. All rights reserved.

The screenshot shows the 'File Server Configuration - Microsoft Internet Explorer' window. In the 'Share Permissions' section, the share name 'FL' is listed in the 'Share' field, and a 'Modify' button is shown next to it.

**Compatibility Notice**  
This device has been configured to run in highest security mode. It will not accept authenticated sessions from Windows 95/98/ME clients.

**Share Permissions**  
Please choose the share you wish to modify.

FL

**Disable ALL Passwords**  
If you disable passwords \*ALL\* shares (file and print) will be available to anyone on the network.

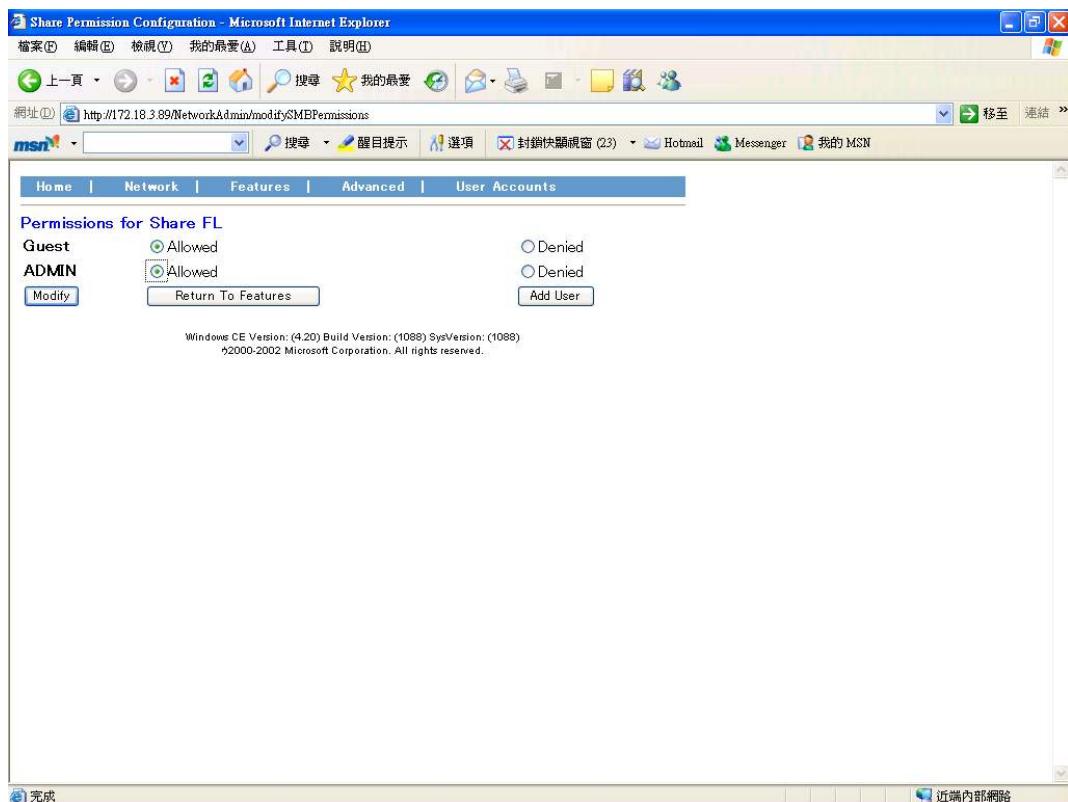
ADMIN Password:   
 PWD Enabled  PWD Disabled

**Shared Folders**  
Please choose the folder you wish to share and then enter a share name.

<input type="checkbox"/> \Network	<input type="text"/>	<input type="button" value="Submit"/>
<input checked="" type="checkbox"/> \FLASH	<input type="text" value="FL"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Application Data	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Recycled	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \My Documents	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Program Files	<input type="text"/>	<input type="button" value="Submit"/>
<input type="checkbox"/> \Temp	<input type="text"/>	<input type="button" value="Submit"/>

<A-2> Press Modify button, and then you can set the permissions for the share folder.

If you want to share this folder to anyone on the network, please select "PWD Disable" and press Submit button.



### **How to create a network disk??**

Windows CE provides the command to enable remote network disk as a local disk.

<Command>

Usage:

```
net use [<local name>|*] [<remote name>] [/user:<username>] [/d]
```

or

```
net view <computername> | /DOMAIN:<domainname>
```

<Description>

[/d] Disable network disk

<Instance>

**Step1:** Share the folder in the remote site to authorized user, and set the permissions (read/write).

<EX> Remote Windows PC: <Computer name> = NB940107

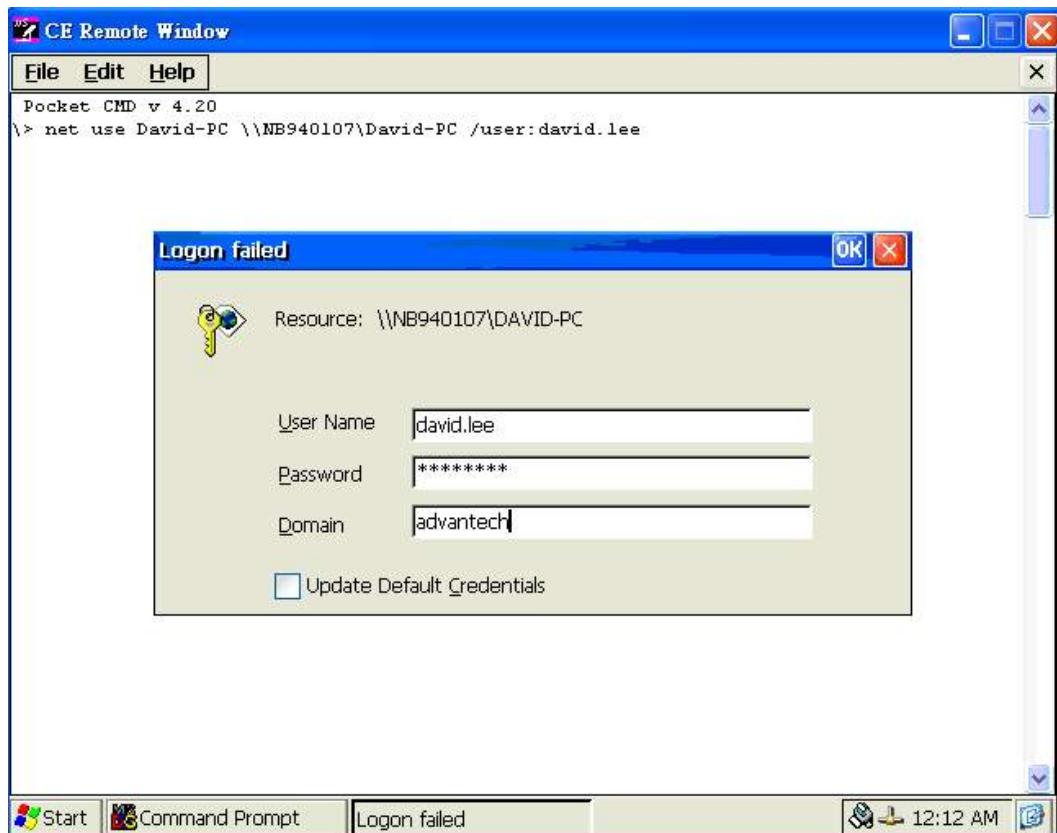
<Shared folder name> = David-PC

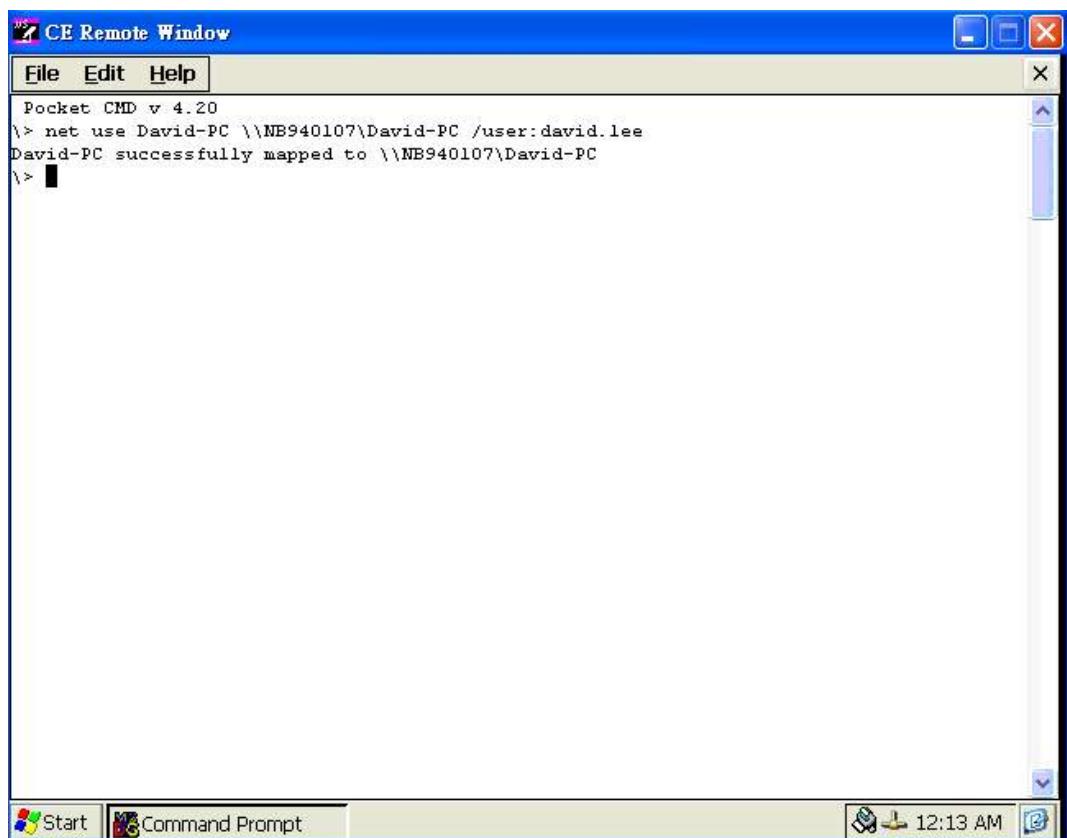
<Authorized user name> = david.lee

**Step2: Execute the blow command by local ADAM-6501's command prompt, and system will ask you to enter your user name, password and domain.**

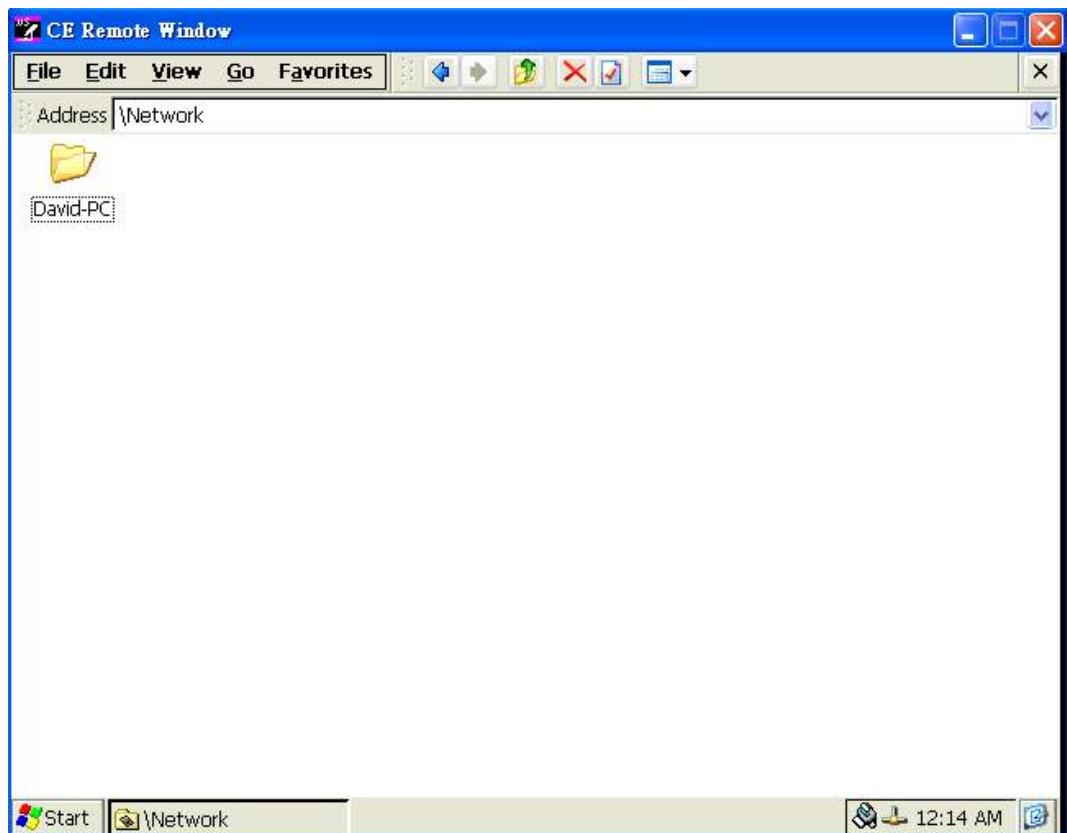
PS: if you would like to save your user name and password as "default user", please check "Update Default Credentials".

<EX> net use David-PC \\NB940107\David-PC /user:david.lee





**Step3: The remote network disk (Ex:\Pocheng-xp\DataCenter) will launch in the local ADAM-6501's "Network" folder (EX: \Network\DataCenter).**



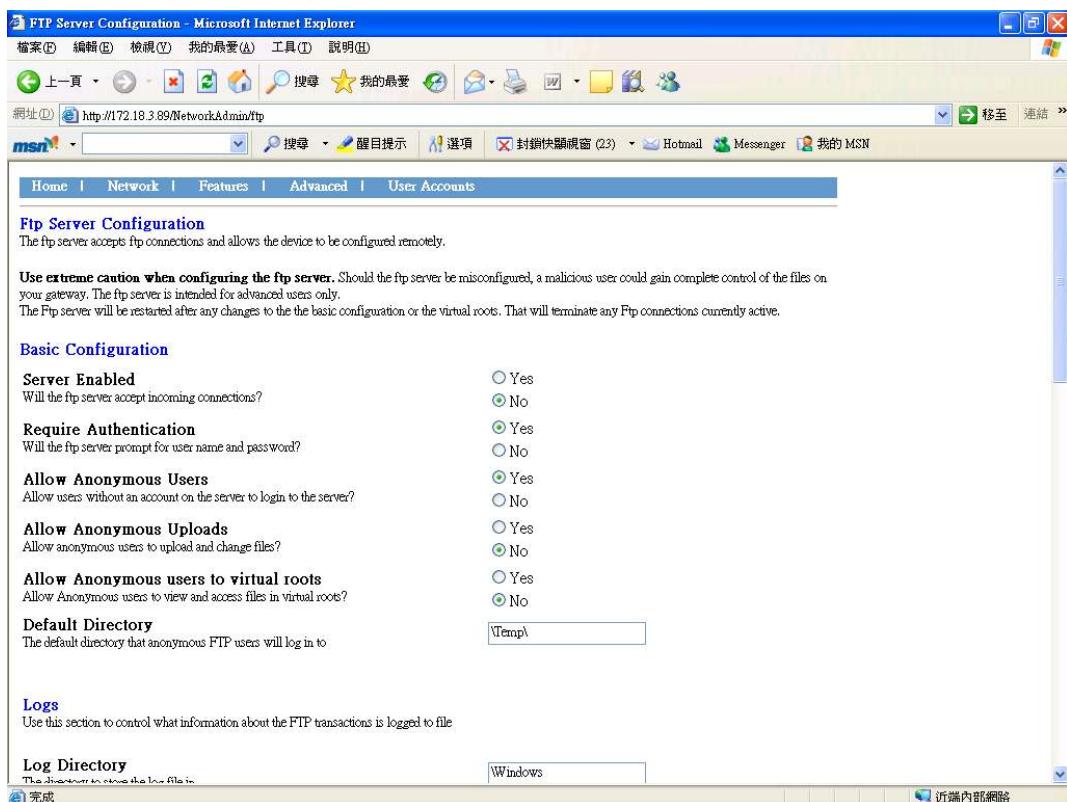
#### 4.7.3 FTP Server

The FTP server accepts ftp connections and allows the ADAM-6501 to be configured remotely.

##### Basic Configuration

You can set following items in Basic Configuration field..

- **Server enabled-** Will the FTP server accept incoming connections?
- **Require authentication-** Will the FTP server prompt for user name and password?
- **Allow anonymous users-** Allow users without an account on the server to login to the server?
- **Allow anonymous uploads-** Allow anonymous users to upload and change files?
- **Allow anonymous user to virtual roots-** Allow anonymous users to view and access files in virtual roots?
- **Default Directory-** The default directory that anonymous FTP users will log in to.



## Logs

Use Logs section to control what information about the FTP transactions is logged.

**FTP Server Configuration - Microsoft Internet Explorer**

檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(I) 說明(H)

上一頁(←) 後一頁(→) 停止(X) 刷新(B) 搜尋(?) 我的最愛(Star) 電子郵件(E-mail) 結連(L)

網址(D) http://172.18.3.89/NetworkAdmin/ftp 移至(Shift+Tab) 連結(Alt+Shift+L)

msn! 選項(Alt+O) 封鎖快顯視窗(23) Hotmail Messenger 我的MSN

**Default Directory**  
The default directory that anonymous FTP users will log in to:

**Logs**  
Use this section to control what information about the FTP transactions is logged to file.

**Log Directory**  
The directory to store the log file in:

**Log Size**  
The maximum size of the log file(in KiloBytes):

Errors  
 Visits  
 File Transfers  
 FTP Commands  
 Diagnostic Information  
 Details

**Log Zones**  
Check the information that you want written to the log.

**Submit**

**FTP Users**  
Use this section to control access to the FTP server for each user. To add new users go to the Add Users page.  
You can configure a separate home directory for each user by appending the user's name to home directory.  
Denying read permission to a user, denies complete access to the ftp server for that user.

UserName	Allow Read	Allow Write	Allow Virtual	Allow Hidden Files
	Allow Read	Allow Write	Allow Virtual	Allow Hidden Files

## FTP Users

Use FTP Users section to control access to the FTP server for each user. To add new user, please go to the "User Account" page.

You can configure a separate home directory for each user by appending the user's name to home directory.

Denying read permission to a user, denies complete access to the FTP server for that user.

**FTP Users**  
Use this section to control access to the FTP server for each user. To add new users go to the Add Users page.  
You can configure a separate home directory for each user by appending the user's name to home directory.  
Denying read permission to a user, denies complete access to the ftp server for that user.

UserName The login name of the user	Home Directory The path to user's home directory	Allow Read Allow the user to login and download files from the server	Allow Write Allow the user to upload and change files on the server	Allow Virtual Roots Allow the user to view the virtual roots	Allow Hidden Files Allow the user to view hidden and system files on the server
Guest	\FLASH\FTP\ROOT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	\	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(If the user name is in red, the values in that row are only recommended values. Please edit as appropriate and click on "Update Users" for the values to take effect)

**Virtual Roots**  
Use this section to add/delete virtual roots to the FTP server. Virtual roots allow you to map a physical directory to an directory with a different name.  
If the user has permissions to see virtual roots, these roots will appear as folders under the user's home directory.  
The virtual directory name cannot contain of the following characters: \>:<|? The directory path cannot contain any character from the previous list as well but may

## Virtual Roots

You can add/delete virtual roots to the FTP server. Virtual roots allow you map a physical directory to and directory with a different name.

The screenshot shows the 'Virtual Roots' configuration page of an FTP server. At the top, there is a navigation bar with links like '檔案(F)', '編輯(E)', '檢視(V)', '我的最愛(A)', '工具(T)', and '說明(H)'. Below the navigation bar is a toolbar with icons for back, forward, search, and other common functions. The main content area has a title 'Virtual Roots' and a sub-section titled 'Virtual Roots'. It contains a table with two rows:

User	Virtual Root	user root	user root	server
Guest	\FLASH\FTP\ROOT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	\	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

A note below the table states: '(If the user name is in red, the values in that row are only recommended values. Please edit as appropriate and click on "Update Users" for the values to take effect.)' There is a 'Submit' button at the bottom of this section.

Below this, there is another section titled 'Virtual Roots' with instructions: 'Use this section to add/delete virtual roots to the FTP server. Virtual roots allow you to map a physical directory to an directory with a different name.' It includes a note about permissions and character restrictions. To the right of this text is a 'Delete' link with the following description: 'Check the virtual directories you would like to delete'.

At the bottom of the page, there are two input fields: one for 'Virtual Directory Name' and one for 'Directory Path'. Below these fields is a 'Submit' button. The page footer displays the Windows CE Version: (4.20) Build Version: (1088) SysVersion: (1088) 2000-2002 Microsoft Corporation. All rights reserved.

#### 4.7.4 Telnet Server

The telnet server accepts telnet connections and allows the ADAM-6501 to be configured remotely.

#### Telnet Server Configuration

- Server Enabled- Will the telnet server accept incoming connections?
- Require Authentication- Will the telnet server prompt for user name and password?

#### Telnet Server Users

Choose which users can access the telnet server.

**Telnet Server Configuration**  
The telnet server accepts telnet connections and allows the device to be configured remotely.

**Use extreme caution when configuring the telnet server.** Should the telnet server be misconfigured, a malicious user could gain complete control of your home gateway. The telnet server is intended for advanced users only.

**Server Enabled**  
Will the telnet server accept incoming connections?  Yes  No

**Require Authentication**  
Will the telnet server prompt for user name and password?  Yes  No

**Telnet Server Users**  
Choose which users can access the telnet server.

User and Group Names	Enabled	Disabled	Default
Guest	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
ADMIN	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
PowerUsers (Group)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
RasUsers (Group)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Allow default items If checked, items set as default will be treated as enabled.

**Update**

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#### Restart Network

Restart for network change to take effect. To make the changes you have made take effect immediately, please press “Restart Networking” button, and then the home gateway networking services will be restart.