WinCT-Plus

Instruction Manual

(for the AD8526)

Please see the separate document "Manual(for the OP-08)" if the optional OP-08 Ethernet Interface for A&D's Balance is used.

Ver.2.01

Mar. 21, 2008

Contents

1. Introduction

This manual describes the operation to acquire data from a balance via an AD8526 Ethernet converter by using data acquisition software "WinCT-Plus".

Features of WinCT-Plus

-Enables data acquisition from multiple weighing instruments through Ethernet(LAN) with a single computer.

-Weighing instruments up to 100 units can be connected. However, connection may be restricted depending on the computer's performance or the frequency of data acquisition.

-Weighing instruments can be controlled by sending commands from the computer.

-The software can collect data by pressing the [PRINT] key on the weighing instrument.

-Recorded data can be opened easily in an Excel file. (Not applicable with Windows Vista) (Microsoft Excel should be installed in advance.)

-Please see the separate document "Manual(for the OP-08)" if the optional OP-08 Ethernet Interface for A&D's Balance is used.

1) Necessary systems

 ①Computer OS   Microsoft Windows 2000 onwards

       CPU   CPU equivalent to Pentium class or above recommended

       RAM   At least 32MB memory recommended

       Hard Disk Space of at least 50MB required

       CRT   Resolution of at least of 800×600 recommended

       CD-ROM drive

       LAN port

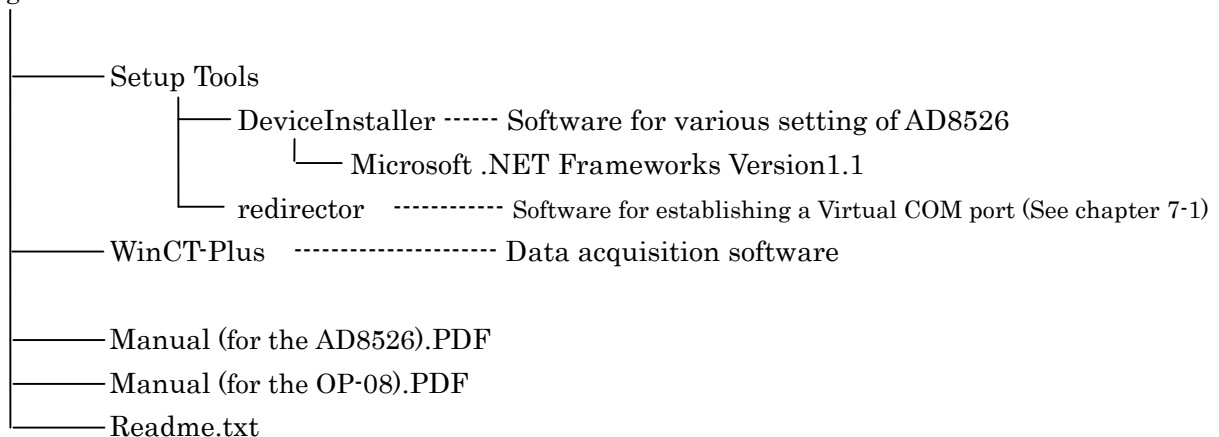 ②AD8526

 ③Serial cable

 ④A&D make weighing instrument

 ⑤Ethernet hub*

 ⑥LAN cable（straight cable*）

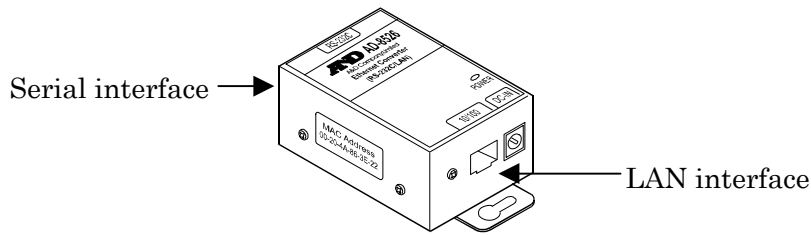 Note: If Ethernet hub is not used, cross cables should be used for LAN cabling.

2) Folder structure of WinCT-Plus

English

```
├──── Setup Tools
│          ├──── DeviceInstaller ······ Software for various setting of AD8526
│          │          └──── Microsoft .NET Frameworks Version1.1
│          └──── redirector ··········· Software for establishing a Virtual COM port (See chapter 7-1)
├──── WinCT-Plus ·················· Data acquisition software
│
├──── Manual (for the AD8526).PDF
├──── Manual (for the OP-08).PDF
└──── Readme.txt
```

2. Specifications

AD8526 specifications

Serial interface → [device] → LAN interface

(1) LAN interface

| LAN interface	10Base-T / 100Base-TX （Auto recognition）
Shape of connector	RJ45
Protocol[*1]	TCP/IP, UDP, ARP, ICMP, SNMP, TFTP Telnet, DHCP[*2], BOOTP, AutoIP

*1 Data acquisition software "RsMulti" uses the TCP/IP protocol.

*2 Please see chapter "7-2 Using a DHCP" .

Factory setting

IP address	172.16.100.2
Subnet mask	255.255.0.0
Default gateway	0. 0. 0. 0
Port number	10001

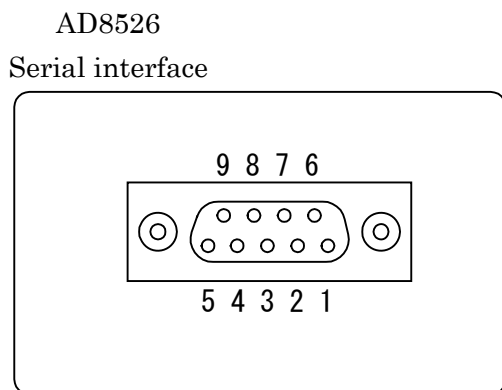| Pin number	Signal name
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX-
7	-
8	-

AD8526
LAN interface
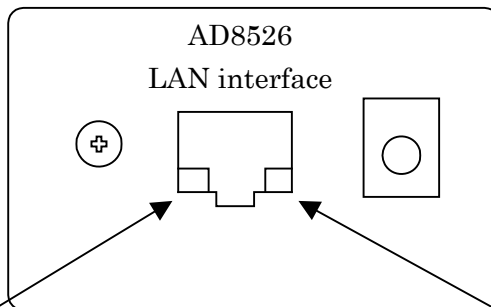
LED(Left)	Function
Off	Not connecting
Orange light (blinking)	During half-duplex transmission
Green light (blinking)	During full-duplex transmission

LED(Right)	Function
Off	Not connecting
Orange light	Connecting through 10Base-T
Green light	Connecting through 100Base-TX

(2) Serial interface (RS-232C)

Transmission form	Asynchronous, bi-directional
Connector	D-sub 9 pin male
Baud rate	600,1200,2400*,4800,9600,19200 bps
Parity	Even* , Odd (Data bits 7bits) None (Data bits 8bits)
Flow control	None

*Factory settings

AD8526

Serial interface

```
      9 8 7 6
  ┌──────────────┐
  │  ○ ○ ○ ○     │
○ │ ○ ○ ○ ○ ○    │ ○
  └──────────────┘
      5 4 3 2 1
```

Pin number	Signal name	Direction
1	-	-
2	RXD	Input
3	TXD	Output
4	-	-
5	SG	-
6	-	-
7	Apporx.5V	Output
8	-	-
9	-	-

- :None Connection

3.Installing Each Software

If it is already installed, proceed to "4.Network Setting".

For windows 2000, XP or Vista , login the computer with the user account as not "Restricted user" but "Administrator". Quit all applications and insert the "WinCT-Plus" CD-ROM into the CD-ROM drive of the computer.

(1) Installing "DeviceInstaller" software for setting the AD8526

"DeviceInstaller" is software to set IP address, etc. of AD8526.

For use of "DeviceInstaller", "Microsoft .Net Framework Ver1.1" is required.

If the "Microsoft .Net Framework" is already installed, when you open "Add or Remove Programs" in the "Control Panel," it will appear in the "Currently Installed Programs" list.

Step 1 Installing "Microsoft .Net Framework"

If it is already installed, Step 1 can be skipped.

Proceed to Step 2.

Execute "dotnetfx.exe" in

"\English\Setup Tools\DeviceInstaller\Microsoft .Net Framework Version1.1"

from the CD-ROM. Follow the instructions on the display to install.

Step 2 Installing "DeviceInstaller"

Execute "Setup.exe" in "\English\Setup Tools\DeviceInstaller" from the CD-ROM.

Follow the instructions on the display to install.

(2) Installing data acquisition software "RsMulti"

"RsMulti" is software to collect data from a balance with an AD8526.

Execute "Setup.exe" in "\English\WinCT-Plus\Disk1" from the CD-ROM.

Follow the instructions to install.

4. Network Setting

To implement a LAN connection, it is required to set the IP address, subnet mask, etc. for both the computer and the AD8526. Please consult with the network administrator before assigning IP addresses, etc.

AD8526 Factory setting

IP address	172.16.100.2
Subnet mask	255.255.0.0

Attention

-Do not connect the AD8526 to a backbone network.

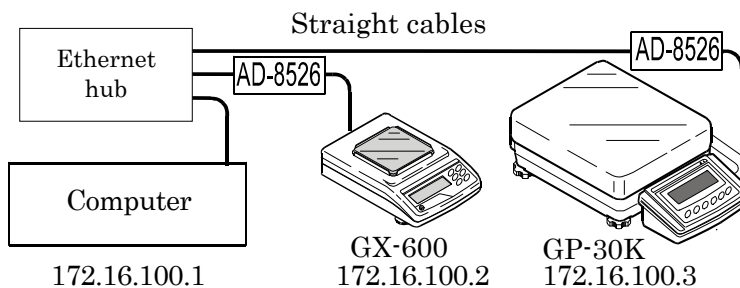If any failure in network should occur due to the AD8526, A&D Co., Ltd. will not assume any responsibility.

-Before connecting to an existing network, consult with the network administrator.

Setting example

Example 1) Connecting two balances via Ethernet hub

For LAN cabling, straight cables should be used.

	IP address	Subnet mask
Computer	172.16.100.1	
GX-600	172.16.100.2	255.255.0.0
GP-30K	172.16.100.3	

Straight cables

Ethernet hub   AD-8526   AD-8526

Computer

GX-600   GP-30K

172.16.100.1   172.16.100.2   172.16.100.3

Example 2) Connecting a computer directly to a single balance

For LAN cabling, cross cables should be used.

	IP address	Subnet mask
Computer	172.16.100.1	255.255.0.0
GX-600	172.16.100.2	

Cross cable

Computer   AD-8526

GX-600

172.16.100.1   172.16.100.2
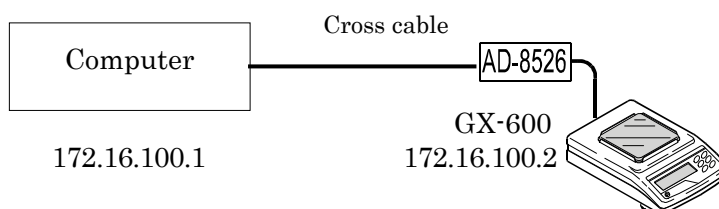
4-1. Setting a computer

Set the IP address and the subnet mask. Open the Property window of TCP/IP, select "Use the following IP address", and enter the IP address and the subnet mask. Please consult with the network administrator for the set values.

*Opening the Property window of TCP/IP

For Windows98

Select Control Panel, Network, TCP/IP, and Property to set up.

For Windows2000

Select Control Panel, Dial-up and Network Connection, Local Area Connection, Internet Protocol (TCP/IP), and Property to set up.

For WindowsXP

Select Control Panel, Network Connection, Local Area Connection, Internet Protocol (TCP/IP), and Property to set up.

The TCP/IP Properties window on the computer (e.g.WindowsXP)
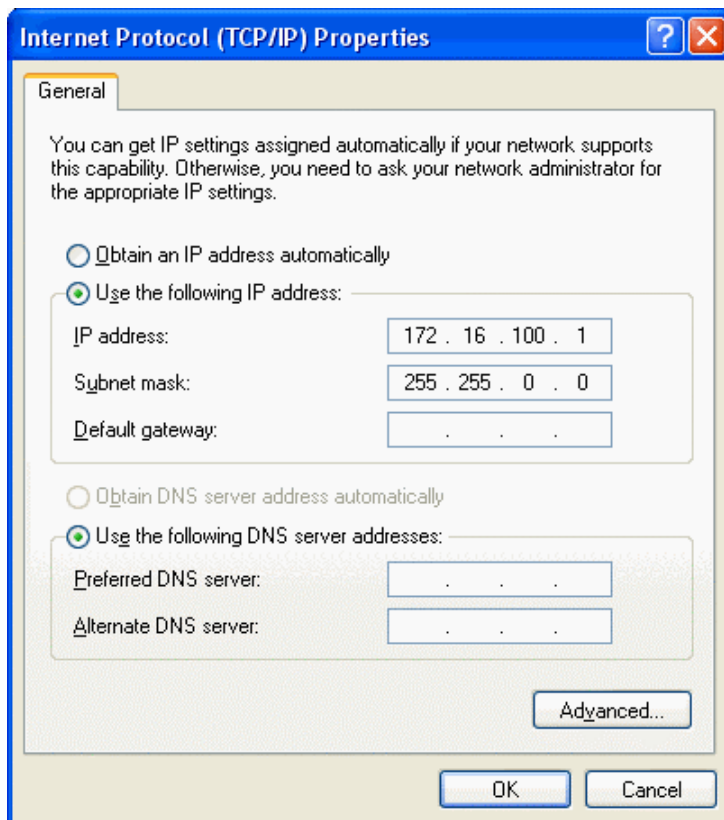
4-2. Setting a weighing instrument and AD8526

(1) Setting a weighing instrument

Set the function table of the serial interface of the weighing instrument as follows:

This setting is the same as the factory setting.

Setting item	Setting value
bPS Baud rate	2400 bps
btPr Data bit , parity bit	7 bit EVEN

*The serial communication setting of the AD-8526 can be changed to correspond with the setting of a weighing instrument. Please see "7-3. Changing the serial communication setting".

(2) Setting an AD8526

Use "DeviceInstaller" software for setting.

Step 1 Connect the AC adapter to the AD8526.

Step 2 Connect the computer and the weighing instrument with the AD8526 to the same network.
If multiple instruments are connected, connect one by one.
Factory setting is set at the same IP address (172.16.100.2).

Step 3 Start from the Start menu on the computer.
Click "Start", "Program", "Lantronix", "DeviceInstaller" to start.

Step 4 Click "Search" to perform automatic detection of the AD8526 connected to the network.
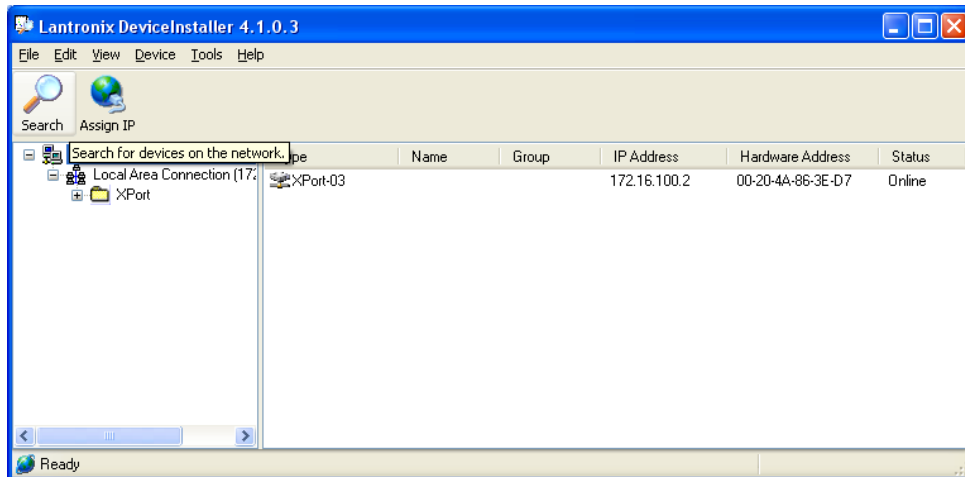
Step 5 Click on the (+) mark to expand the parameters and select the IP address that you would like to change as shown in the diagram below. The factory default number is 172.16.100.2.
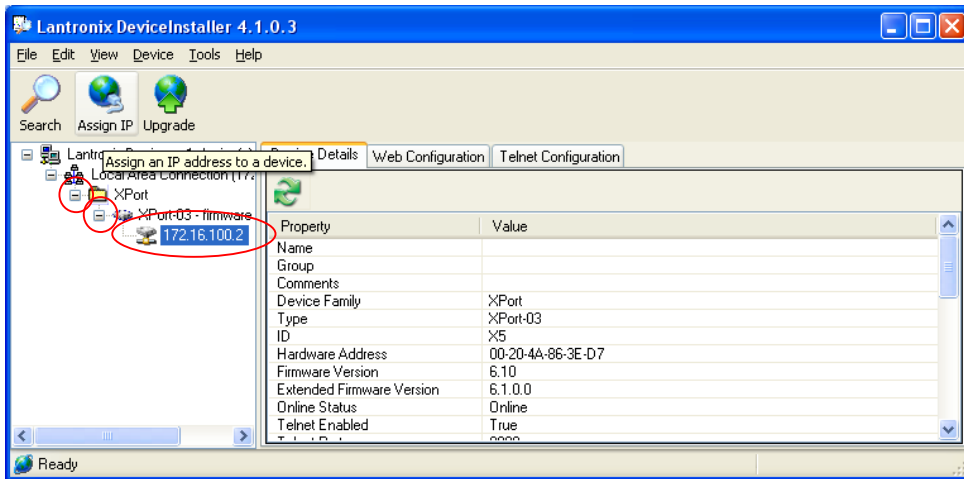
Step 6 Confirm that the IP address is selected. Click the Assign IP button. If the following setting is made without selecting the IP address, the internal setting may be changed and a communication error may occur.
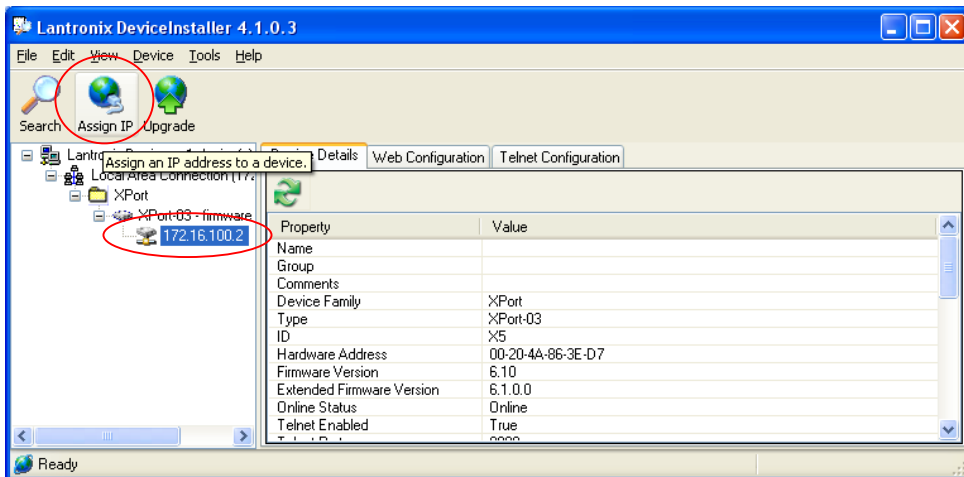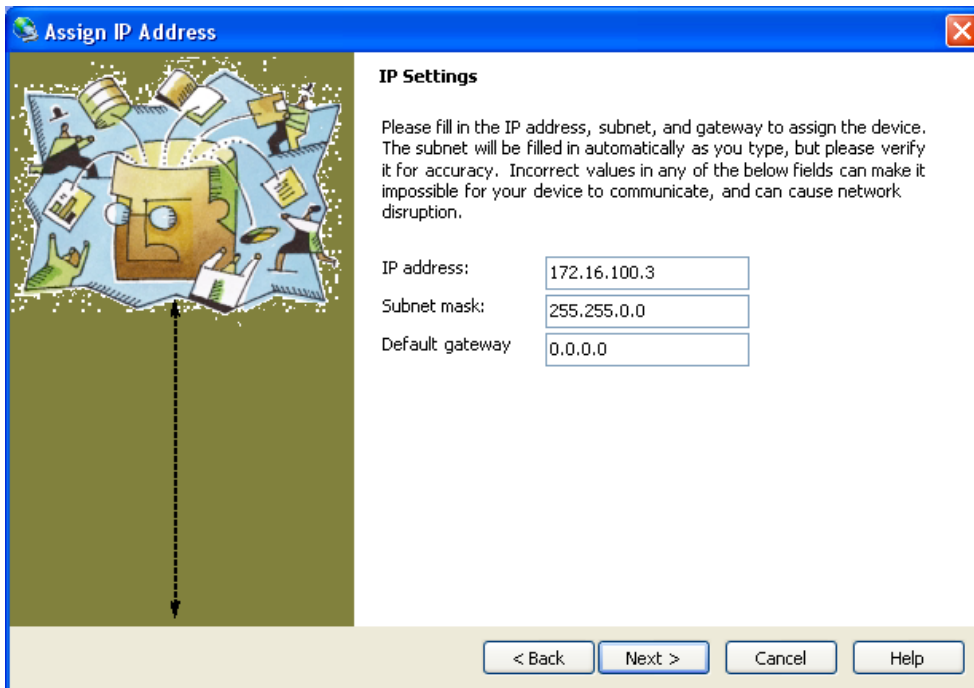
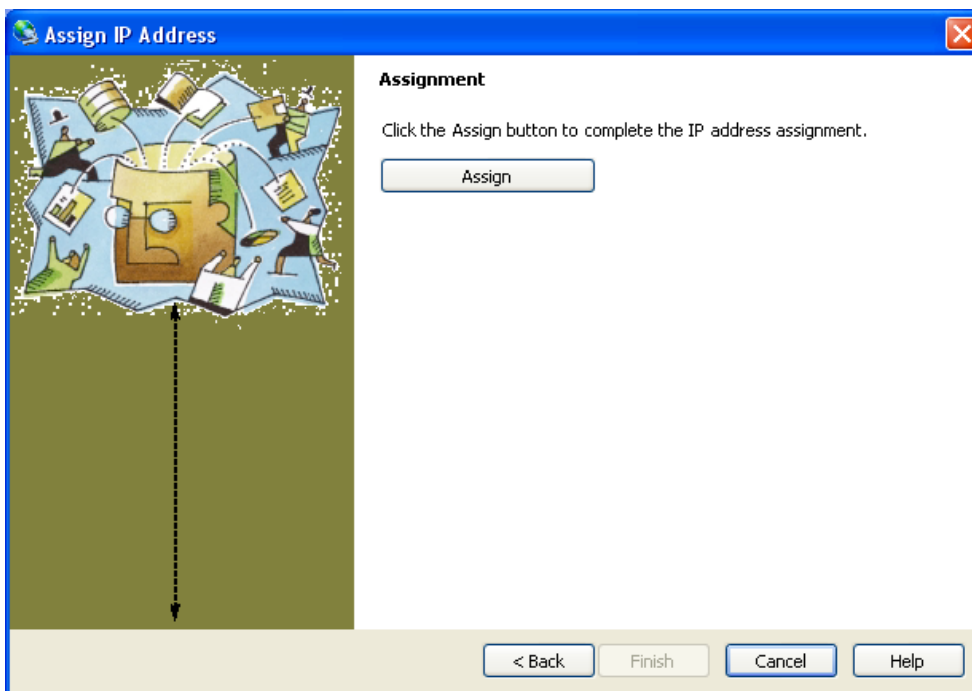Step 7 Check the "Assign a specific IP address" option and click "Next".
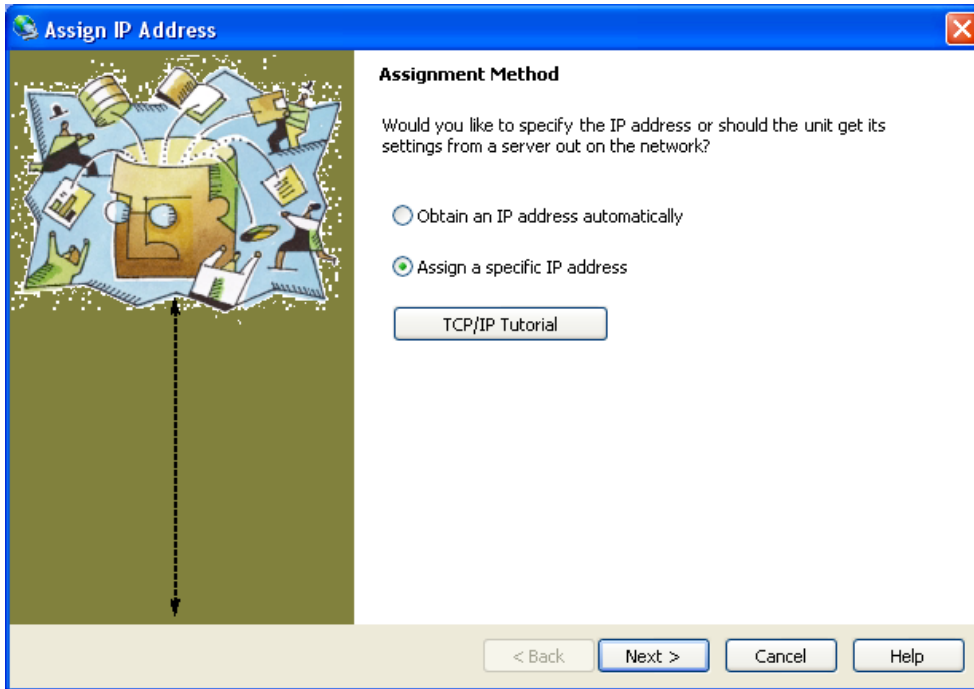
Step 8 Enter the IP address, subnet mask, default gateway and click "Next".
It may take a while to proceed to the next screen.

Step 9 Click the "Assign" button.

It may take a while to complete the setting.

Step 10 Click "Finish".
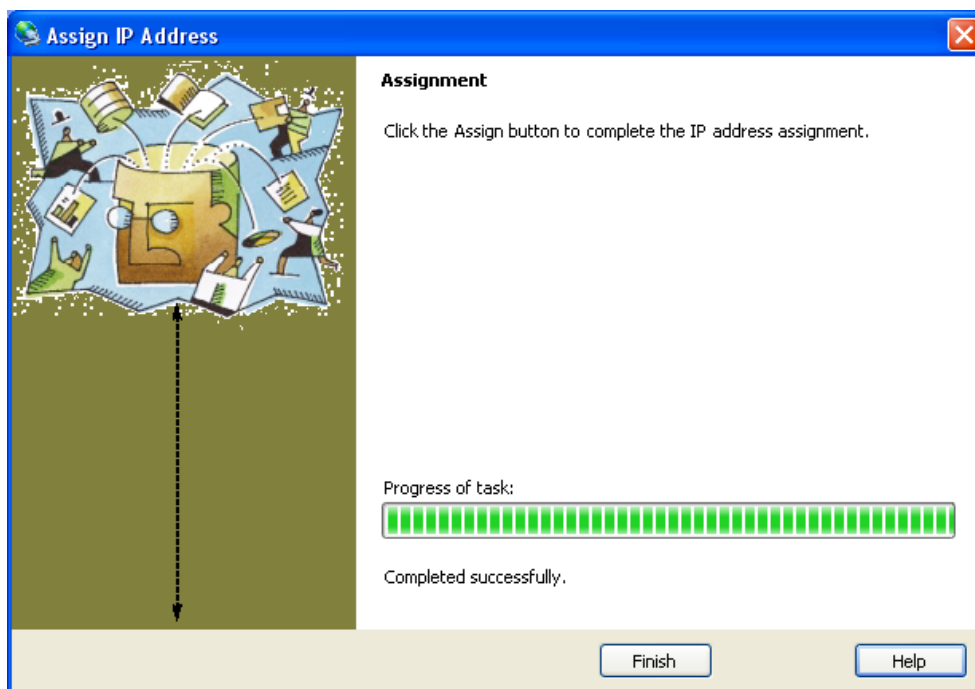
Step 11 Quit after verifying that the IP address has been changed.
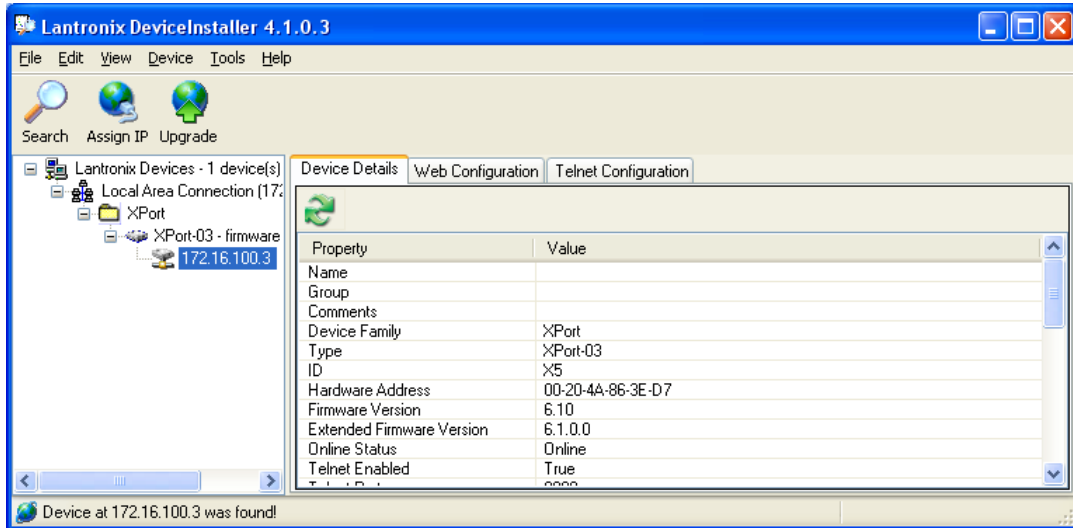
Step 12 Write down the set IP address on the IP address label and attach.

5. Using Data Acquisition Software RsMulti

5-1. Features of RsMulti
This software enables data acquisition from A&D's electronic balances or platform scales equipped with RS232C, or weighing instruments available for a LAN, by connecting to a computer.

-Enables data acquisition from multiple weighing instruments with a single computer.
-LAN connection and RS232C port connection can be used simultaneously.
 (e.g. It is possible to connect three weighing instruments through LAN and two others through RS232C simultaneously.)
-Weighing instruments can be controlled by sending commands from the computer.
-The software can collect data by pressing the [PRINT] key on the weighing instrument.
-Recorded data can be opened easily in an Excel file. (Not applicable with Windows Vista)
 (Microsoft Excel should be installed in advance.)
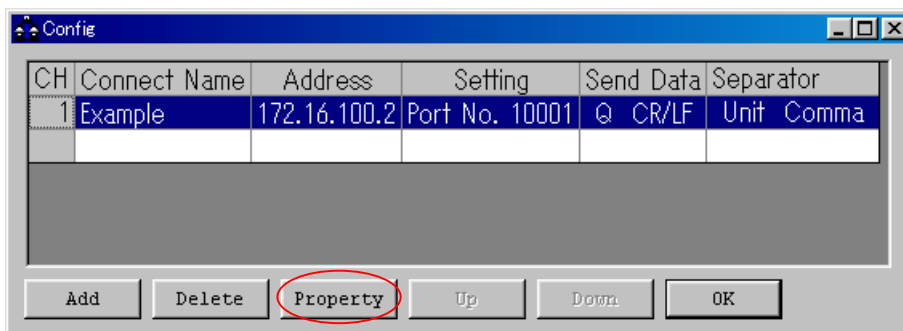
5-2. Setting RsMulti

Start from the Start menu on the computer.

Click Start, Program, A&D WinCT-Plus, RsMulti to start.

To open the Config window, select Open from the Config menu in the RsMulti window.
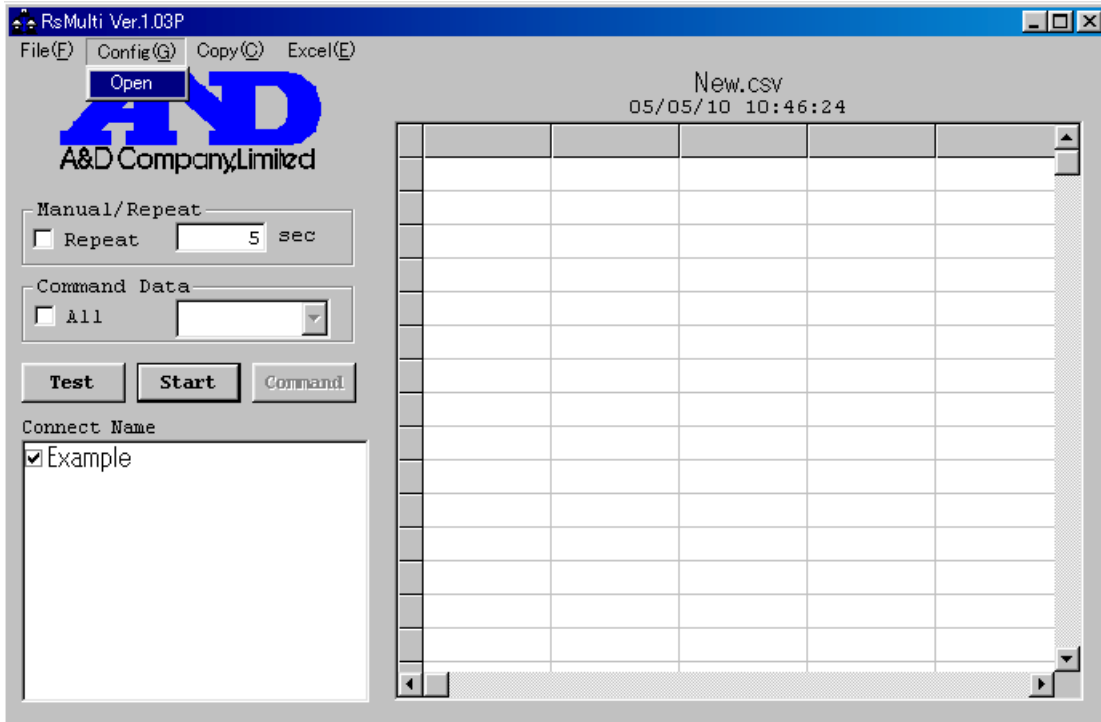
The connection settings can be added and changed in the Config window.

To make a new addition, click "Add". To change, click "Property".

For details, refer to the explanations about the Config and Property windows.

In the default setting, "Example" is registered at CH1 and the IP address and the Port number are set at the same as the default of AD8526.

Select "Example" and click the "Property" button.

The Property window opens.
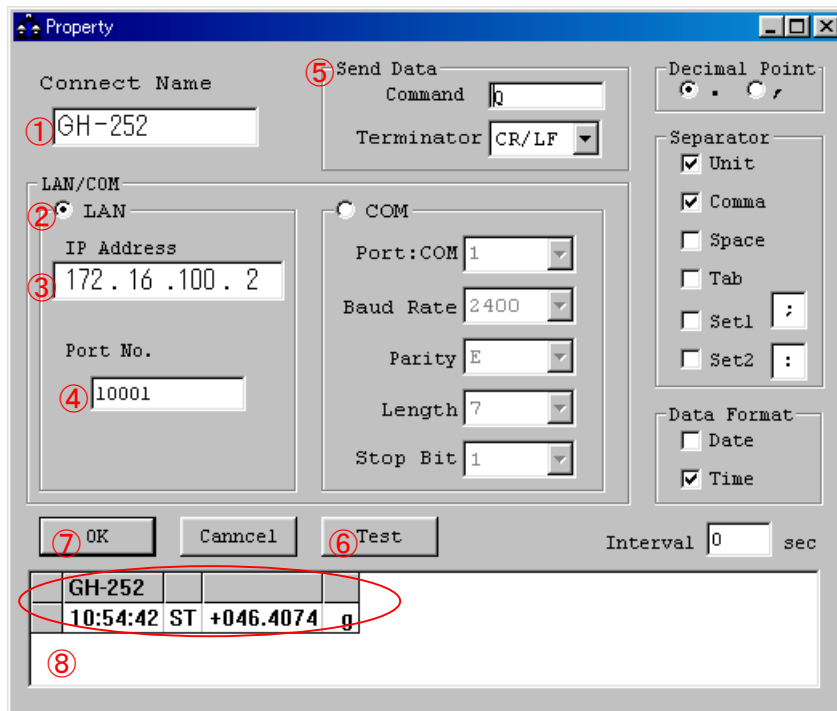
Follow the steps below to set up:

①Provide a name for the connection, e.g. GH-252 (the name of the weighing instrument).

②Check the LAN option to select LAN connection.

③Enter the IP address of the AD8526

④Enter the port number of the AD8526. In the default setting, it is set at 10001.

⑤Fill in the "Send Data Command" and "Terminator" boxes to send to the weighing instrument.

　-For collecting data by sending a send data command to the weighing instrument.

　　Enter the "Send Data Command" box.

　-For collecting data by pressing the [PRINT] key on the weighing instrument.

　　(When the weighing instrument is used in Key mode, Auto print mode and Stream mode.)

　　Blank out the "Command" box and enter the "Terminator" box only.

⑥Click the "Test" button to check that the communication is made.

　　If the "Command" box is filled in the step 5 above, a reply to the command will be displayed.

　　If it is blank, send data by pressing the [PRINT] key on the weighing instrument to check the display.

　　If the data is displayed as shown in ⑧ above, the communication is normally made.

　　If no data is displayed, check the settings again.

⑦Click the OK button to complete the setting.

As shown below, GH-252 is registered in the Config window.
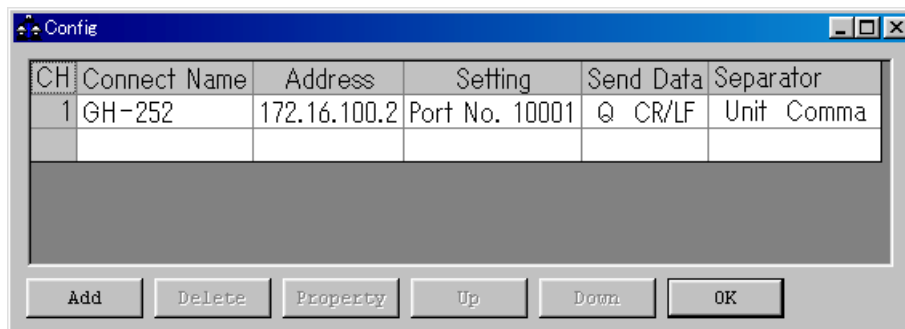
For connection of multiple instruments, click the "Add" button to add the connections and set in the same way for all the instruments.
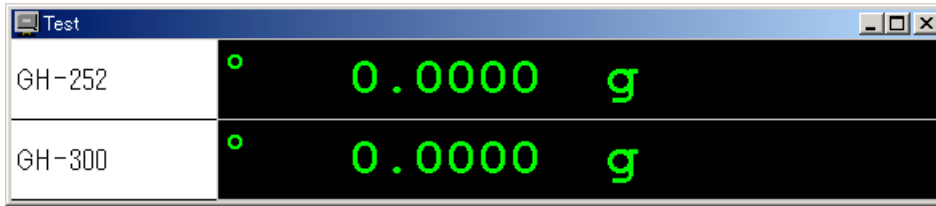
Now, setup is completed. Press the OK button to save the setting.

5-3. Data acquisition with RsMulti

Step 1   Preparations for communication

From the Connect Name list in the RsMulti window, select the name of the instrument to be connected and then click the "Test" button to check the connection.
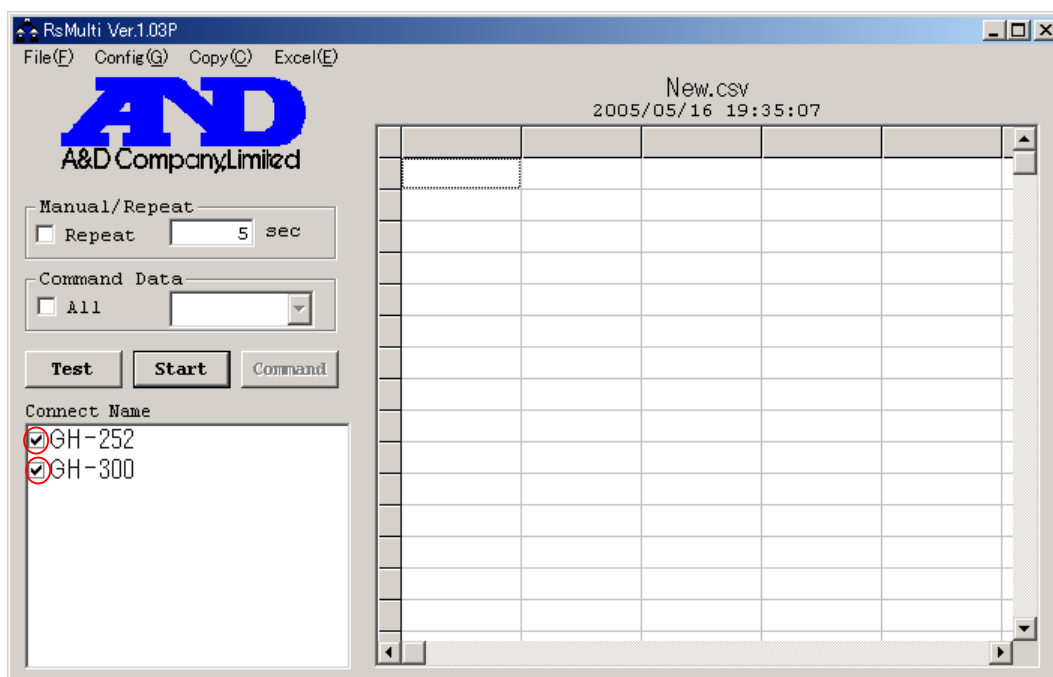
-Sending a send data command to the weighing instrument for data acquisition.
  Click the "Test" button to send the command set in the <Property> window.
  If a response to the command is displayed, communication is normally made.

-Sending data from the weighing instrument by pressing the [PRINT] key on the weighing
  instrument.
  (When used in Key mode, Auto print mode and Stream mode.)
  Press the [PRINT] key on the weighing instrument to send data.
  If data is displayed, communication is normally made.

Step 2 Starting communication
        Click the "Start" button to communicate.

Step 3 Data acquisition
        When pressing the [PRINT] key on the weighing instrument, the data of the
        instrument will be sent to the computer and displayed in each cell.
        To send a command to the weighing instrument, click the "Command" button.
        The set command will be sent to the weighing instrument.
        (If "Repeat" is selected in the "Manual/Repeat" option, the command will be
         automatically sent in every setup time.)

        *Note: As a standard, the total data should not exceed 10,000.

Step 4   Quitting communication
Click the "Stop" button.

Step 5   Pasting data into an Excel file   (Not applicable with Windows Vista)
Click Open from the Excel menu to start Excel application automatically and then paste the data recorded in the cells into an Excel worksheet. (Excel application should be pre-installed.)
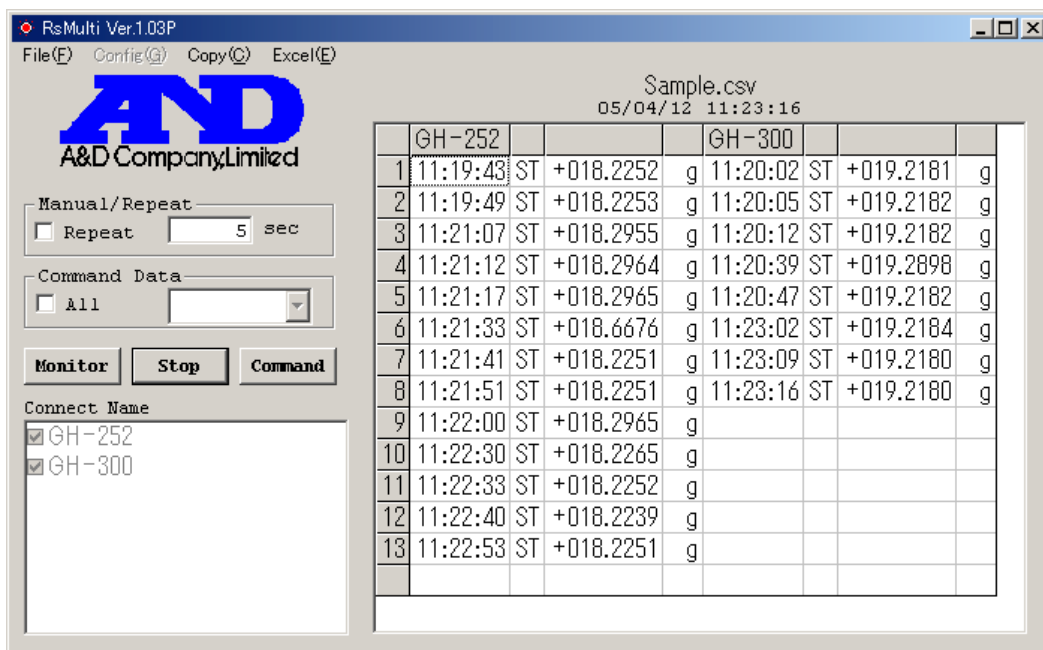
5-4. Explanations about each function of the RsMulti
　(1) The RsMulti window
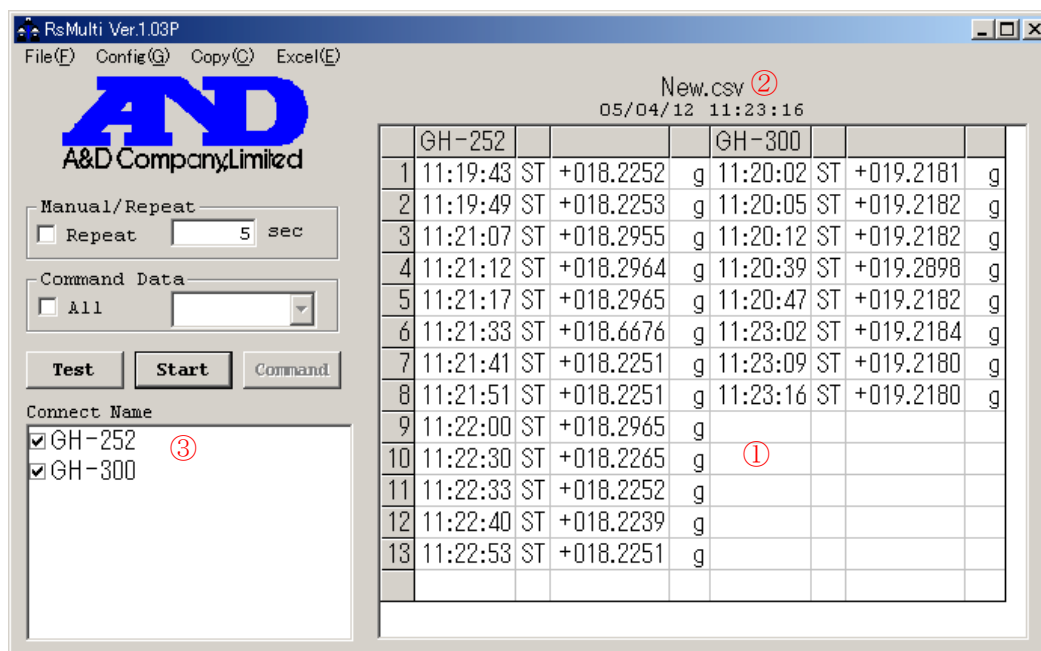
Table ①

　　Records received data.
　　To change the title, double-click the title of the table (New.csv ②).

Connection Name ③

　　List of setup connection names. Connects to a selected instrument.

Test / Monitor button

　　　The connection can be checked in the "Test" display.
　　-Sending a send data command to the weighing instrument for data acquisition.
　　　Press the [Test] button to send the command set in the <Property> window.
　　　If a response to the command is displayed, communication is normally made.

　　-Sending data from the weighing instrument by pressing the [PRINT] key on the weighing instrument.
　　　(When used in the Key mode, Auto print mode and Stream mode.)
　　　Blank out the command box and press the [Test] button in the <Property> window.
　　　Press the [PRINT] key on the weighing instrument to send data.
　　　If data is displayed, communication is normally made.

Start / Stop button

　　In the Start display, communication can be started by clicking this button.
　　In the Stop display, communication can be stopped by clicking this button.

Command button

　　To send a setup command, click this button.

Manual / Repeat

Manual or automatic command transmission can be selected.

-When "Repeat" is selected, a command will be sent automatically in every setup time.
The time can be set to the second.

-When "Repeat" is not selected, a command is to be sent manually (by clicking the Command button).

Table

Records received data.

To change the title, double-click the title of the table (New.csv).

Connect Name

List of setup connection names. Connects to a selected instrument.

Test / Monitor button

The connection can be checked in the "Test" display.

-If there is a send data command function on the weighing instrument:
When the "Test" button is clicked, the command set in the <Property> window will be sent.
If a reply to the command is displayed, the communication is normally made.

-If there is no send data command function on the weighing instrument:
Blank out the "Command" box in the <Property> window and click the "Test" button.
Press the [PRINT] key, etc. on the weighing instrument to transmit data.
If the data is displayed, the communication is normally made.
Once started, it changes to the Monitor display to display received data.

Start / Stop button

In the Start display, communication can be started by clicking this button.
In the Stop display, communication can be stopped by clicking this button.

Command button

To send a setup command, click this button.

Manual / Repeat

Manual and automatic command transmissions can be selected.

-When "Repeat" is selected, a command will be sent automatically in every setup time.
The time can be set to the second.

-When "Repeat" is not selected, a command has to be sent manually (by clicking the "Command" button).

Command Data

     This function sends the same command to all the connected instruments.

    -When "All" is selected, the setup command will be sent to all the connected instruments.

     The terminator set for each connection in the <Property> window will be sent.
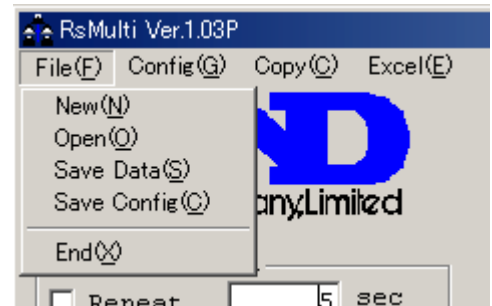
    -When none is selected, the command set for each connection in the <Property> window
     will be sent.

    (Open the <Property> window from the <Config> window. The details will be described later.)

Menu

[File]

[New]	Clears collected data.
[Open]	Opens saved file.
[Save Data]	Saves collected data.
[Save Config]	Saves communication settings.
[End]	Quits the program.

[Config]

[Open]	Opens the Config window. Displays the list of connection settings.

[Copy]

[All area]	Copies the whole table into the clipboard.
[Select area]	Copies a selected area into the clipboard.
	The copied data can be pasted into the other application form.

[Excel]

[Open]	Starts Excel automatically and pastes the recorded data into a worksheet.

(2) Config window

      To open, click "Open" from the Config menu in the RsMulti window.

      Displays the list of the connection settings.
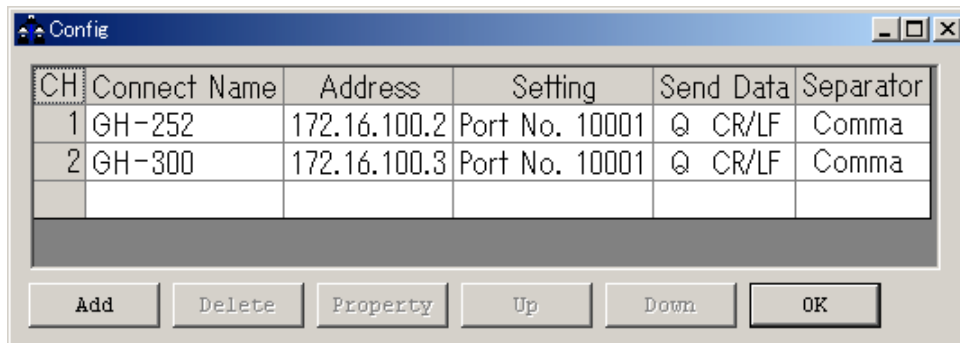
Table

      Displays the list of set connection list.

      To make settings, double-click the connection name.

Add button

      Adds settings for a newly connected instrument.

Delete button

      Deletes selected connection settings.

Property button

      Displays the <Property> window of the selected connection settings. The connection settings
can be changed. When a connection name of the table is clicked and highlighted, by clicking
the "Property" button, the <Property> window is displayed.

      For details, refer to the explanation about the <Property> window.

UP button

      Shifts the selection of connection setting upward.

DOWN button

      Shifts the selection of connection setting downward.

OK button

      Closes the Config window.

(3) Property window

　　 When Connection Name is selected (highlighted), click the "Property" button to display
　　 the Config window.

　　 It can be opened from the RsMulti window by right-clicking the connection name in the
　　 "Connect Name" box and clicking "Property".

　　 * mark represents the default setting.
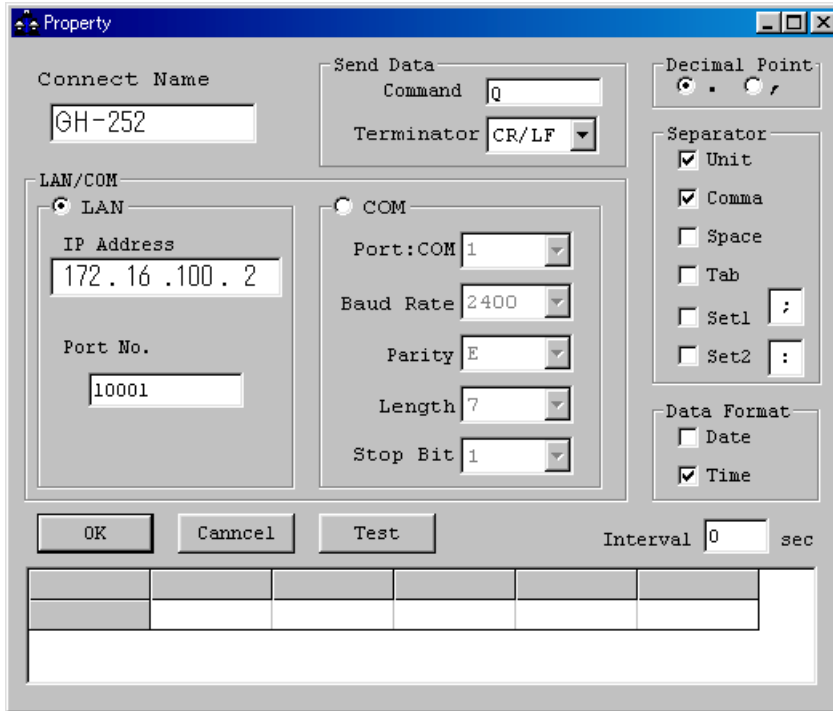
Connect Name

　　 A name can be provided for the setting. In the default setting, a channel number is
　　 registered. (e.g. "CH2")

　　 e.g. The name "CH2" can be changed to "GH-252", etc.

Send Data

　　 Command: Sets a command to send. (*Q)

　　 Terminator: Sets the terminator. (*CR/LF, CR)

LAN / COM option button

　　 -LAN

　　　　 For LAN connection, select this option.

　　　　 Enter the IP address and port number of the AD8526.

　　　　 IP Address: IP address

　　　　 Port Number: Port number (*10001)

　　　　 Provide 1000 or higher for the normal port number.

-COM

    For COM connection, select this option button.

    Setup the RS232C communication settings.

    Port:Com: Com port (*1 to 32)

    Baud Rate: Baud rate (600, 1200, *2400, 4800, 9600, 14400, 19200, 28800)

    Parity: Parity (*E: even number, O: odd number, N: None)

    Length: Data length (*7, 8)

    Stop Bit: Stop bit (*1, 1.5, 2)

Decimal Point

Sets the decimal point- *dot (.), comma (,)

Separator

Sets the pause to be inserted at the end of data entered in the table.

The data will be separated using the selected character.

When "Unit" is selected, data will be separated when a character is received after a number.

You can set a character in the Set1 or Set2.

*Unit, *Comma, Space, Tab, Set1, Set2

Data Format

Sets data to store other than received data.

Data, *Time

Interval

Collects data received only in every setup time into the computer.

This button is used when data processing speed of the computer is slow, or the data is entered periodically.

The time can be set to the second. The default setting is 0 sec.

When it is set at 0 sec, all the data will be sent to the application.

Test button

Sends the set command. If the data from the weighing instrument is displayed, the communication is normally made.

The example of the pause by Separator will be displayed.

OK button

Saves the changed settings.

Cancel

Quits without changing the settings.

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 -"WinCT-Plus" can only be installed and used on the hard disks or other storage device of the
   computer to be connected to the weighing instrument.
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7. Supplementary

7-1. Using as a virtual COM port

With attached software "ComPort Redirector", the AD8526 connected to a LAN can be used as a COM port (virtual COM port).

With the virtual COM port, serial communication software can be used directly.

Step 1. Installing "ComPort Redirector"

Execute "red32bit.exe" from \English\Setup Tools\redirector, CD-ROM.

Follow the instructions to install.

Step 2. Setting "ComPort Redirector"

(1) Start from the Start menu on the computer.

Click "Start", "Program", "Lantronix Redirector", "Configration" to start.
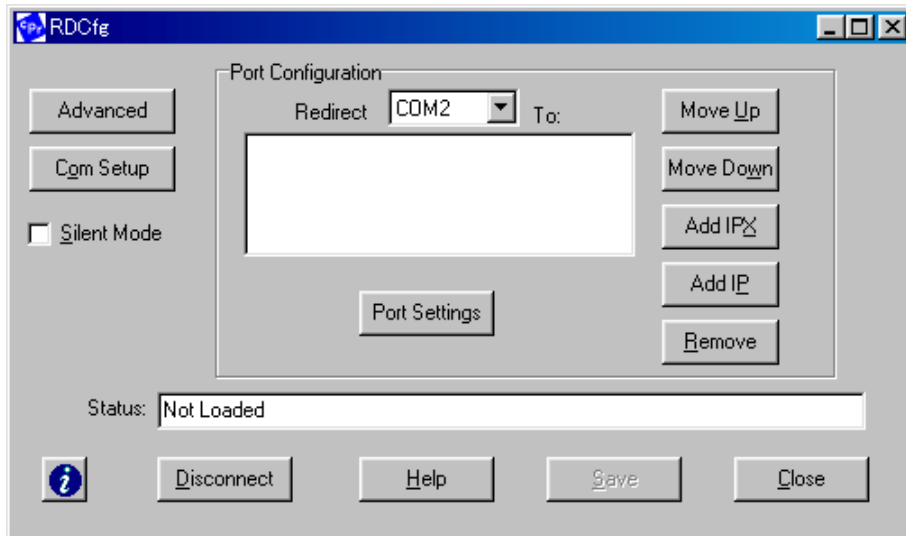
(2) Click the [Com Setup] button.

Check the number to use as a virtual COM port and click the OK button.
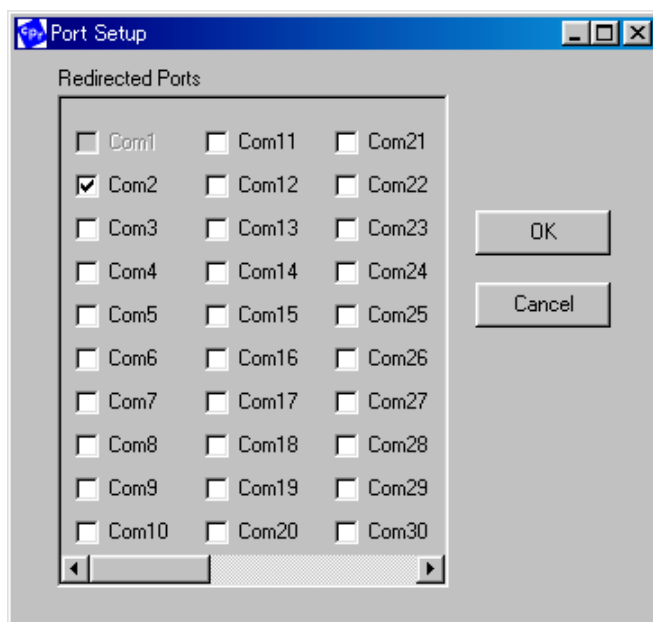
(3) Click the [Add IP] button.

Enter the IP address and Port number of the AD8526 and click the OK button.

In the default setting of AD8526, IP address is set at 172.16.100.2 and Port number at 10001.
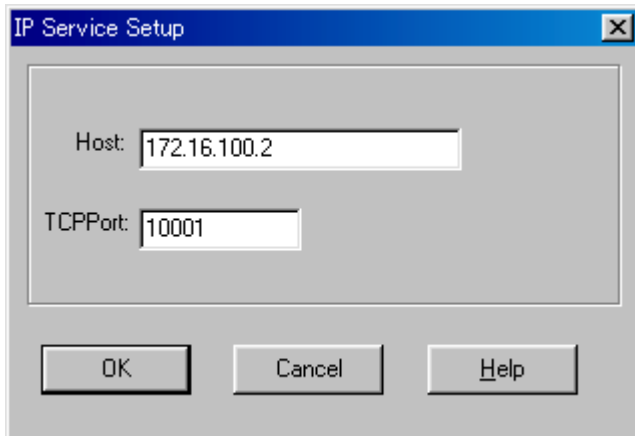
(4) Click the [Port Settings] button.
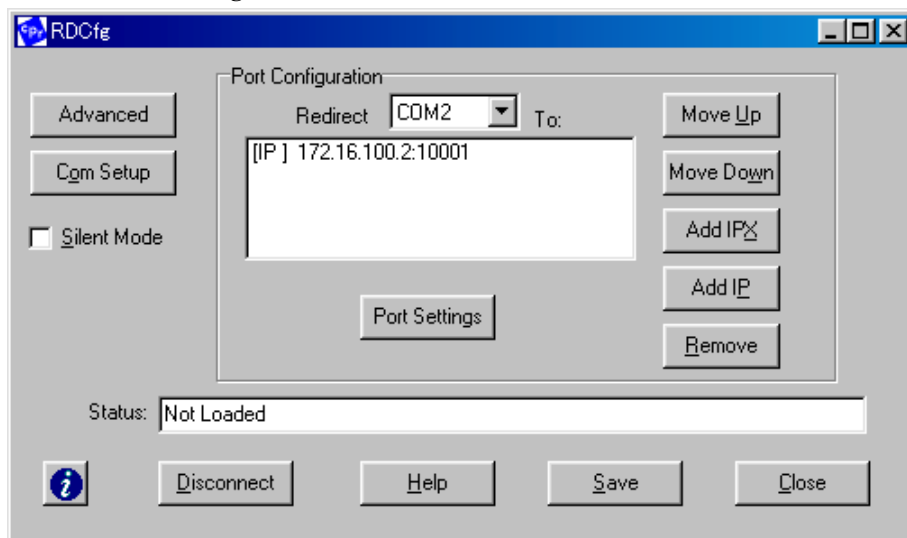
(5) Check in the [Raw Mode] box and click the OK button.
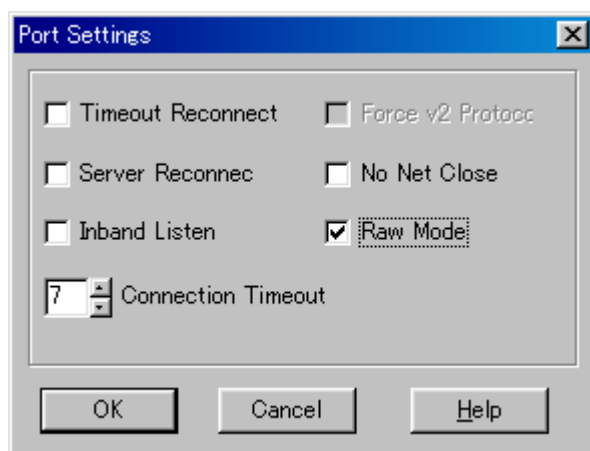
(6) Click the [Save] button to save and then click the [Close] button to finish.
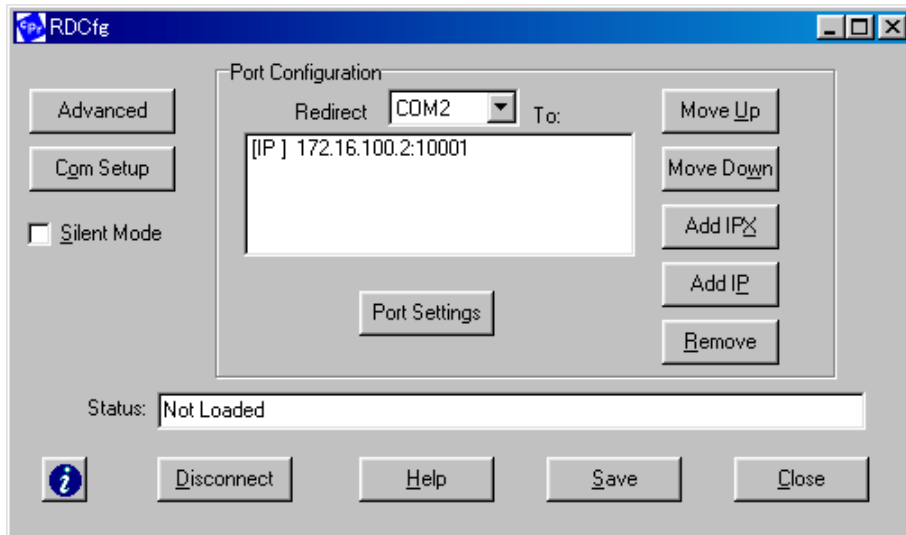
(7) Now, communication with the AD8526 can be enabled by opening the virtual COM port with serial communication software.

In this setting example, the AD8526 assigned IP address 172.16.100.2 can be used as COM2.

7-2. Using a DHCP

If a DHCP server is available for the network to which the AD8526 is connected, follow the procedures described below to change the setting.

*Attention!: When a DHCP is used, IP address to be set will be changed on each connection. If data acquisition software "RsMulti" is to be used, it is desirable to set individual IP addresses and not to use a DHCP.

Step 1. Start "DeviceInstaller" from the Start menu on the computer.
Click "Start", "Program", "Lantronix", "DeviceInstaller" to start.

Step 2. Click the "Search" button to perform automatic detection of the AD8526 connected to the network.
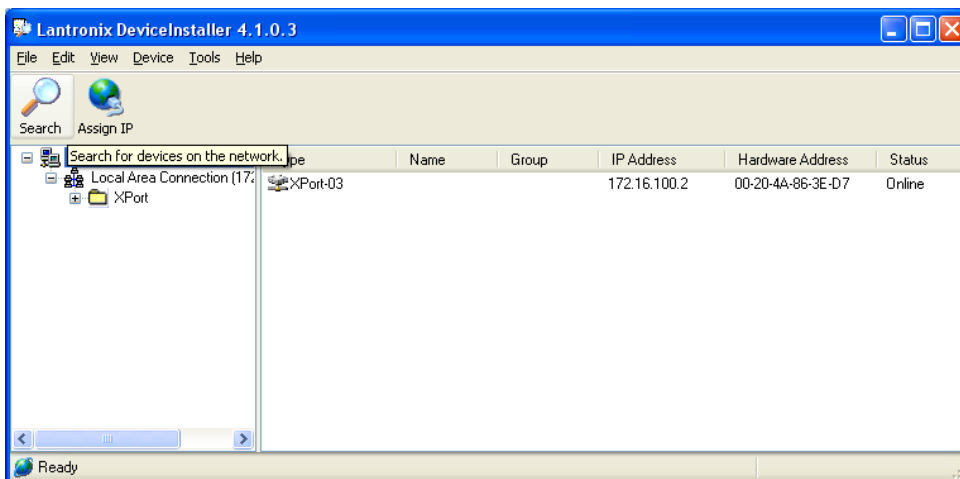
Step 3. Select the instrument to change the setting, click the "Assign IP" button.
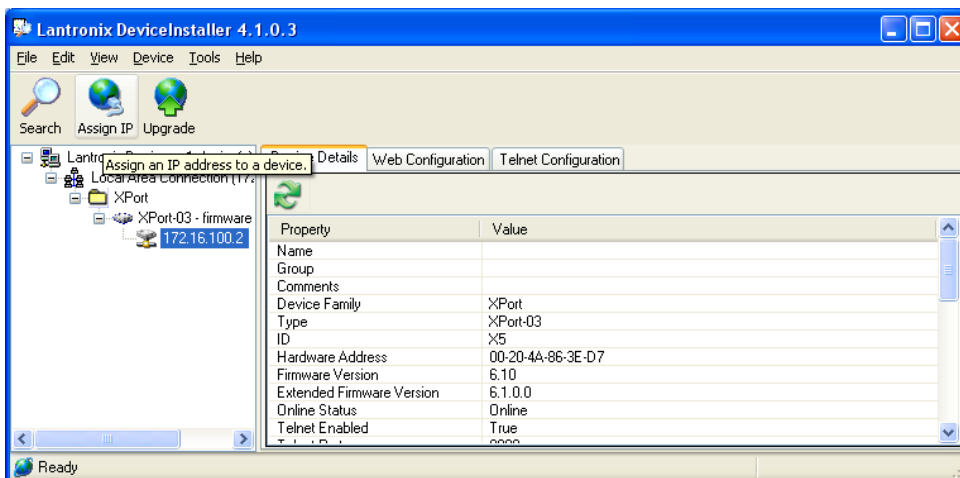
Step 4. Check the "Obtain an IP address automatically" "Assign IP" buttons.
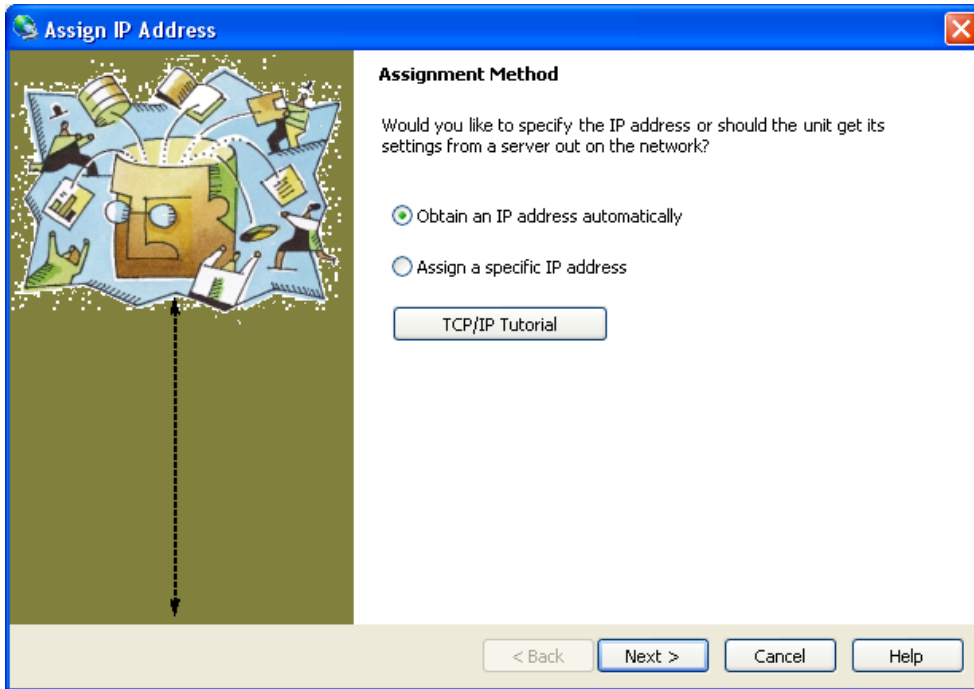
Step 5. Check the DHCP box and then click the Next button.

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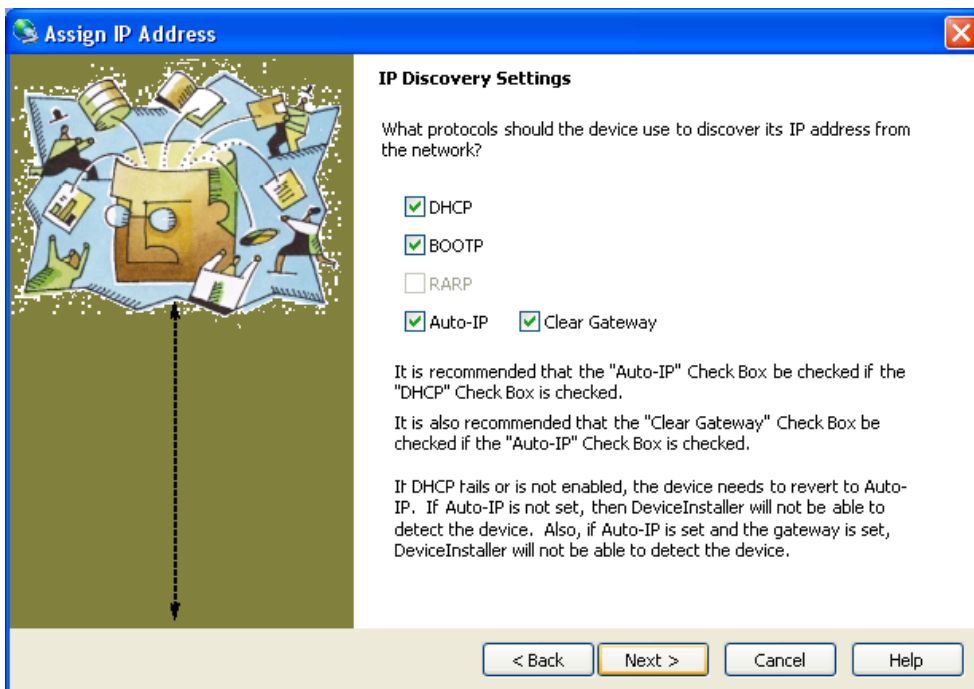
Step 6 Click the Assign button.
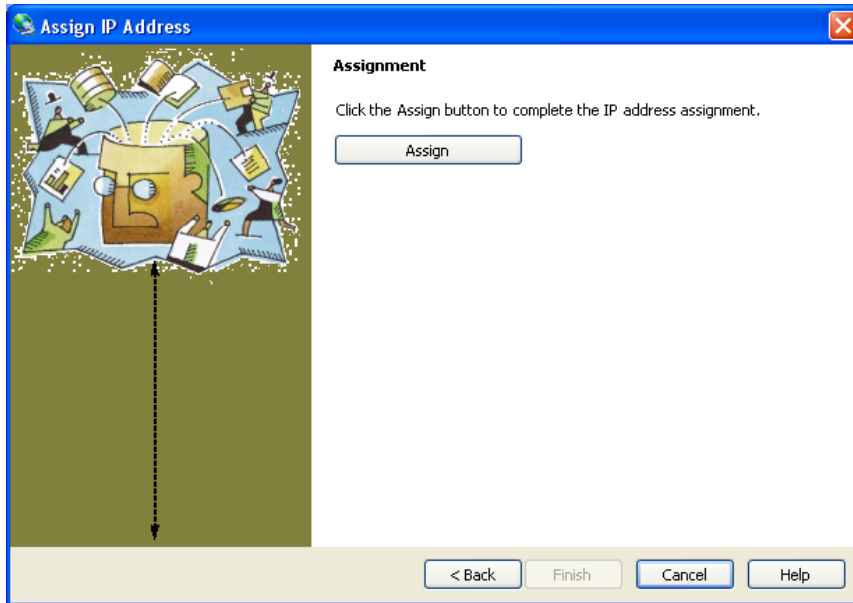
Step 7. Click the Finish button.
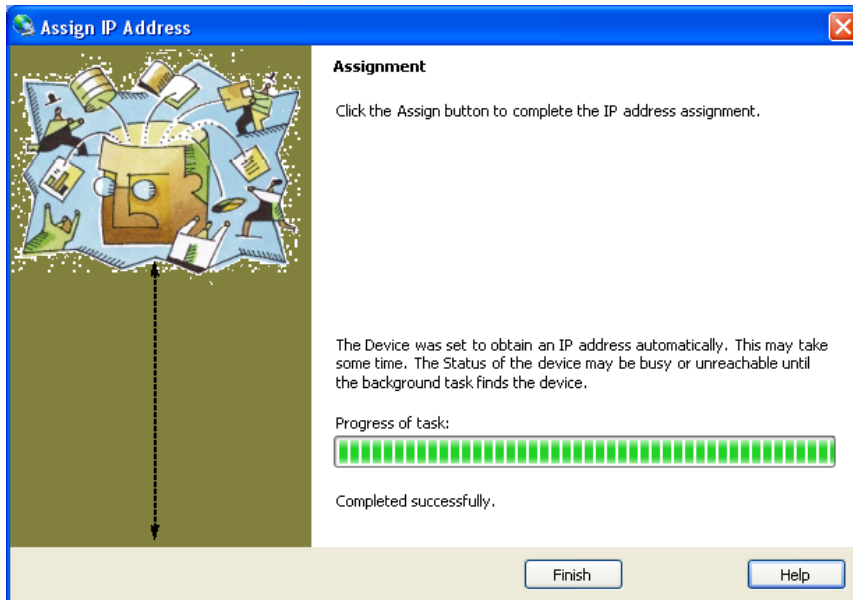
Step 8. Click the Search button to display the IP address assigned by the DHCP.
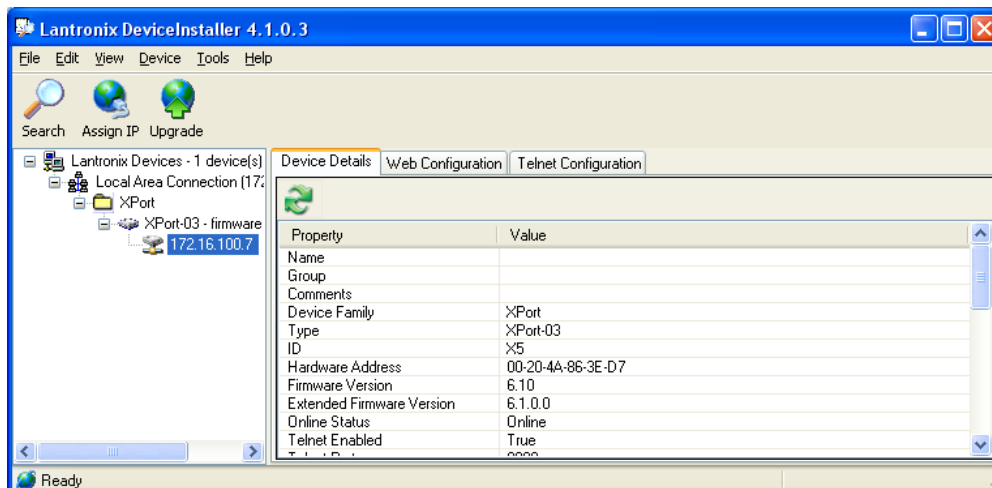
7-3. Changing the serial communication setting

The serial communication setting of the AD-8526 can be changed to correspond with the weighing instrument to be connected to it. The factory setting for the AD-8526 is as follows.

Baud rate	2400bps
Data bit	7bits
Parity bit	Even
Stop bit	1 bit

Step 1 Connect the AD-8526 to a computer on the same network.
        If multiple instruments are connected, connect one by one.

Step 2 Begin at the Start menu on the computer.
        Click "Start", "Program", "Lantronix", and "DeviceInstaller" to start.

Step 3 Click the "Search" button to automatically detect the AD-8526's connection to the network.
Step 4 Select the instrument of which serial communication settings need to be changed, and then click the Web Configuration tab.
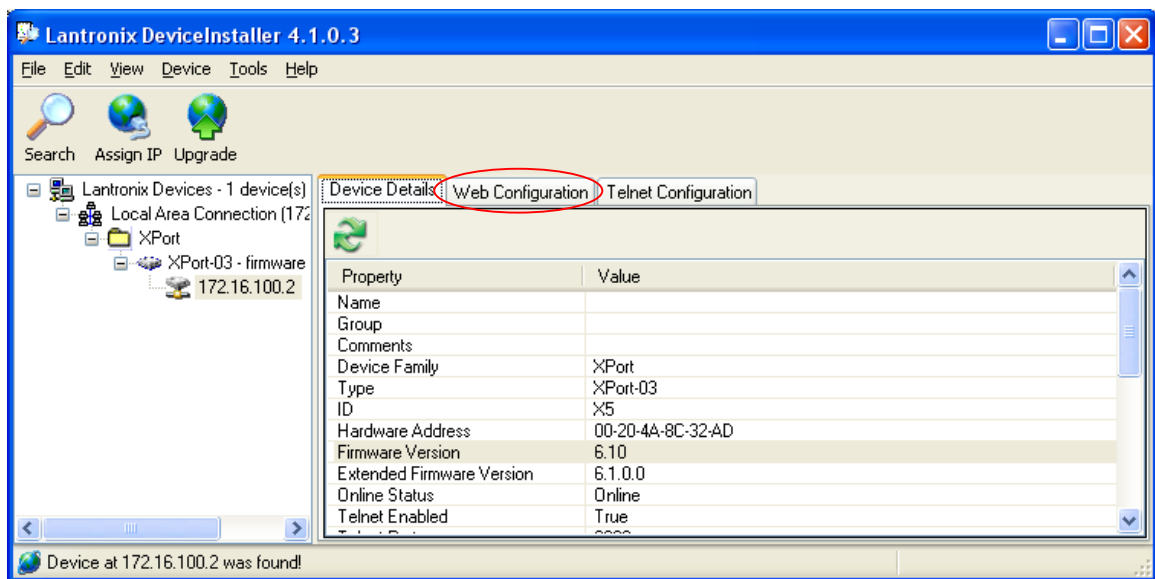
Step 5 Click the Go button. It may take some time to proceed to the next screen.
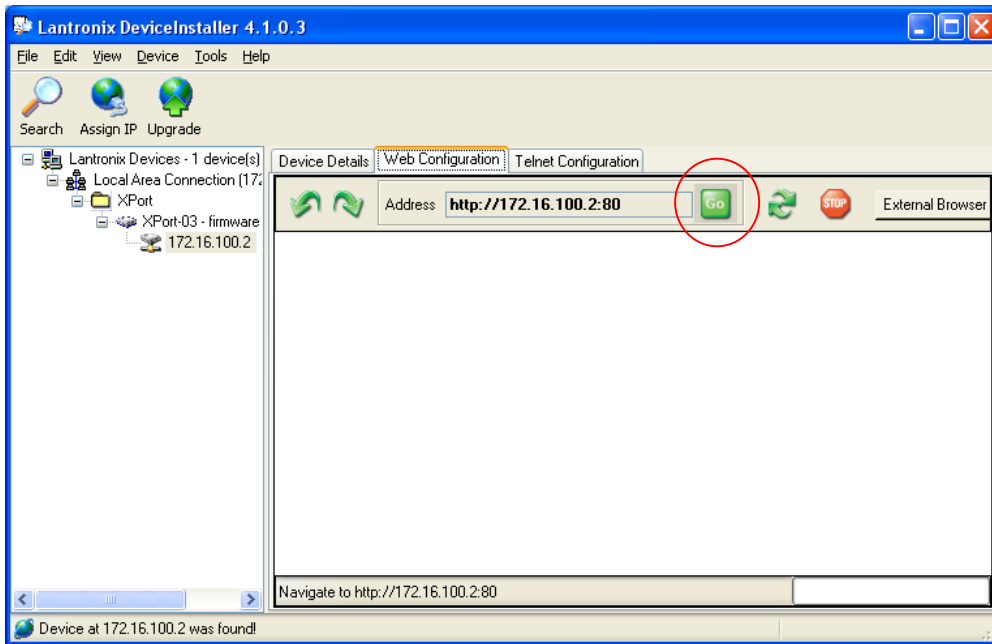
Step 6 A window requiring a password appears but nothing needs to be input here, just click the
OK button.

Step 7 When the screen as shown below appears, click "Serial Settings".
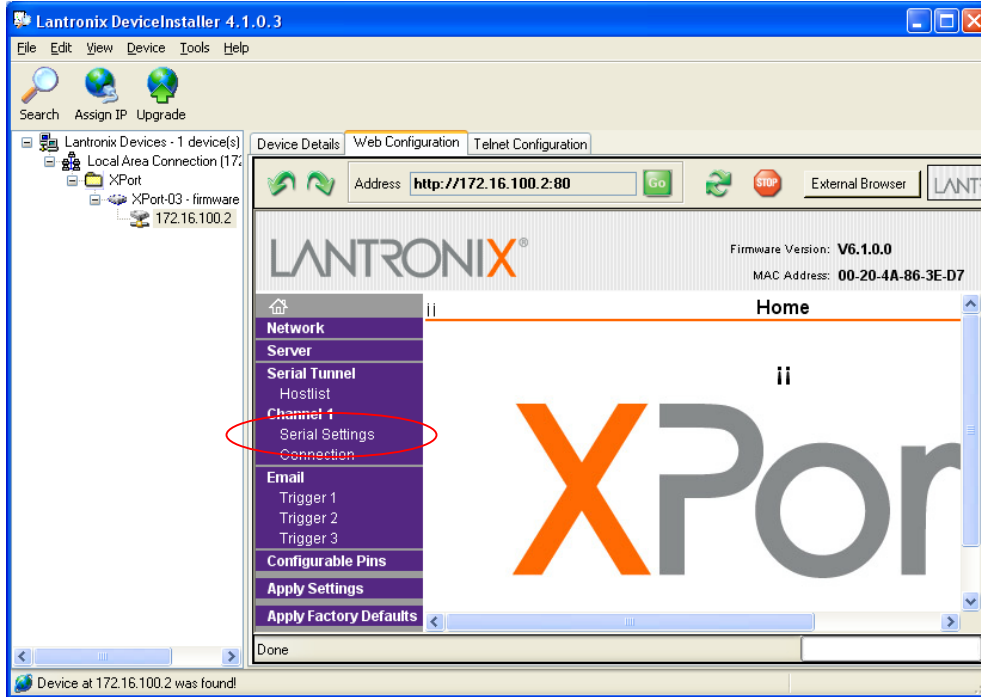
Step 8 The serial communication settings that are currently set will appear on the screen. Make
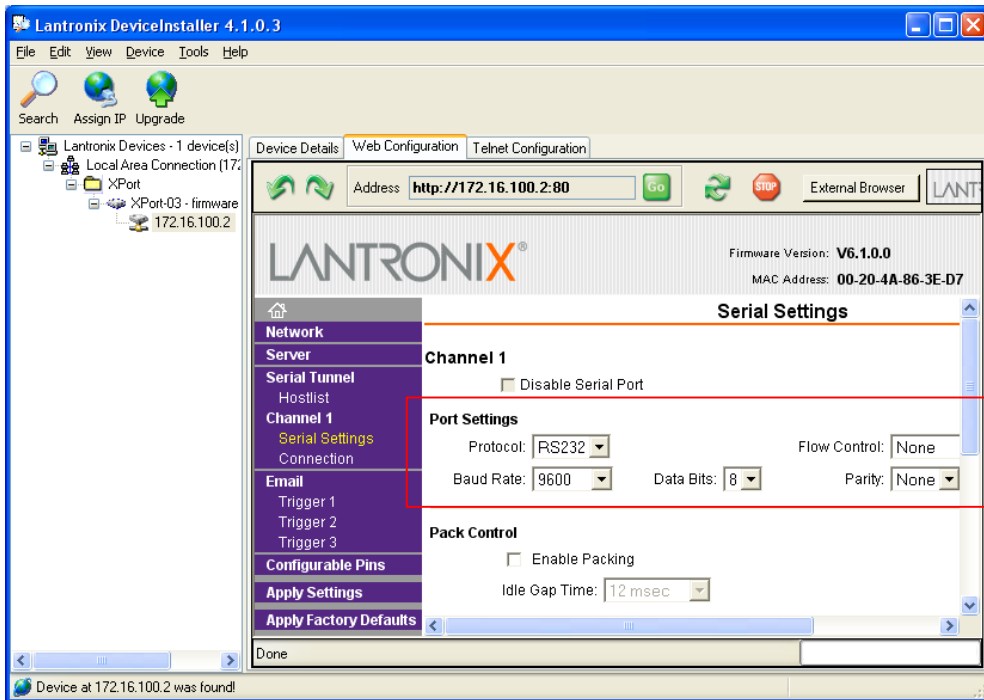changes to them as necessary.

Step 9 Scroll down to the bottom of the screen and click the OK button.
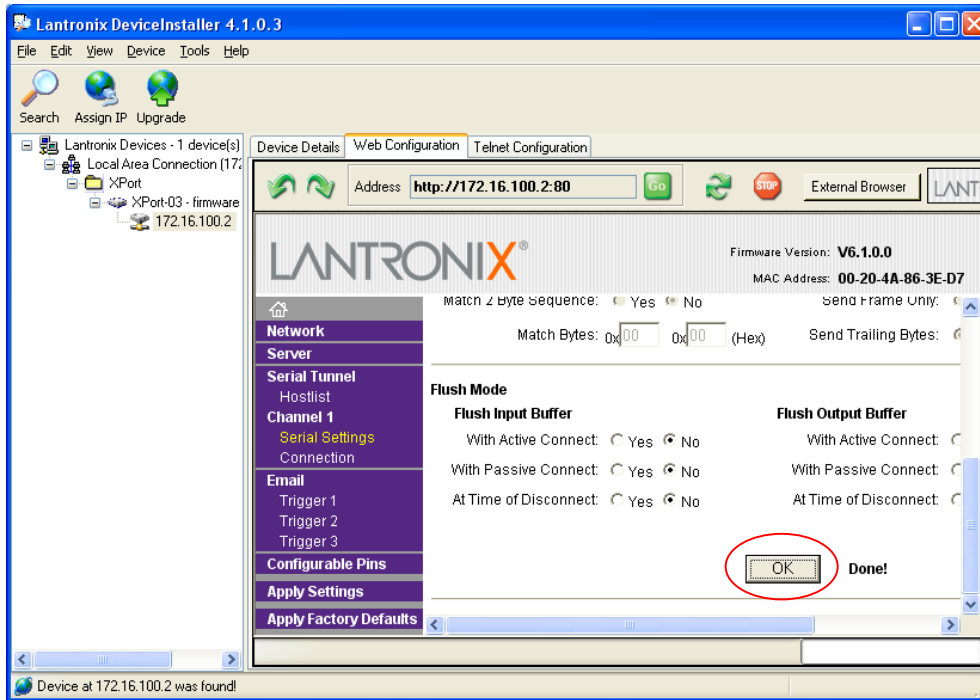
Step 10 Click "Apply Settings" to apply the settings change. Please wait for completion.
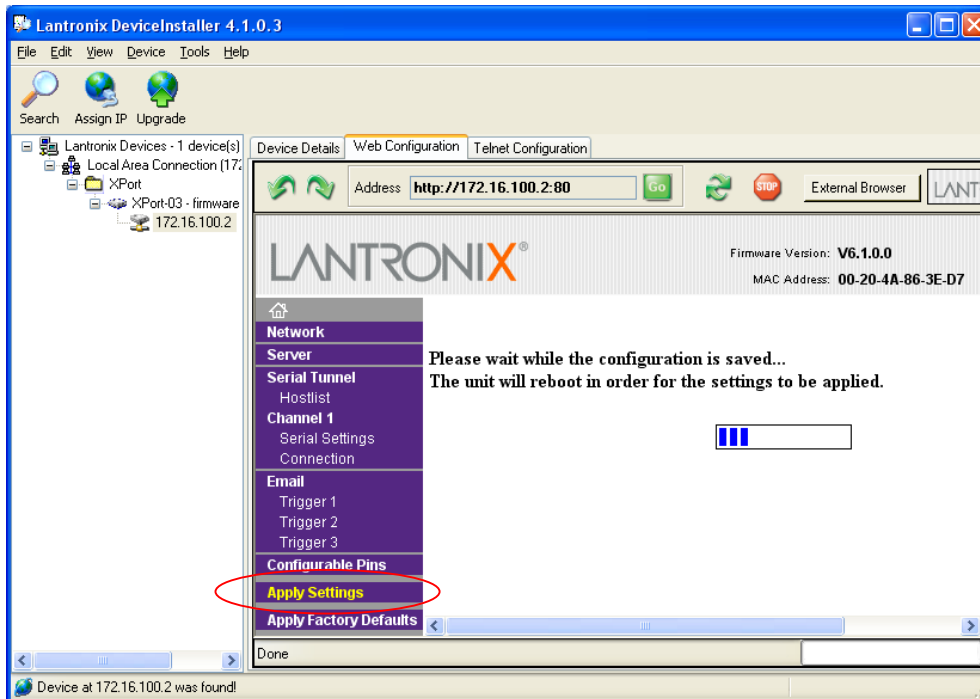
Step 11 The same screen as shown in Step 7 appears when the settings change is complete. Click
"Serial Settings" on the screen to check if the settings have been changed.

Step 12 Confirm that the settings change is complete and then quit the DeviceInstaller.

8. Verify these items if communication problems occur

In the event that the communication fails even though you conducted your set up following the instructions in this manual, please verify each setting in the order listed below.

Step 1　Connect the computer and the weighing instrument with the AD8526 to the same network. If multiple instruments are connected, connect one by one.

Step 2　Begin at the Start menu on the computer. Click "Start", "Program", "Lantronix", and "DeviceInstaller" to start.

Step 3　Click "Search" to perform automatic detection of the AD8526 connected to the network.

Step 4　Select the instrument of which communication settings need to be checked, and then click the Web Configuration tab.
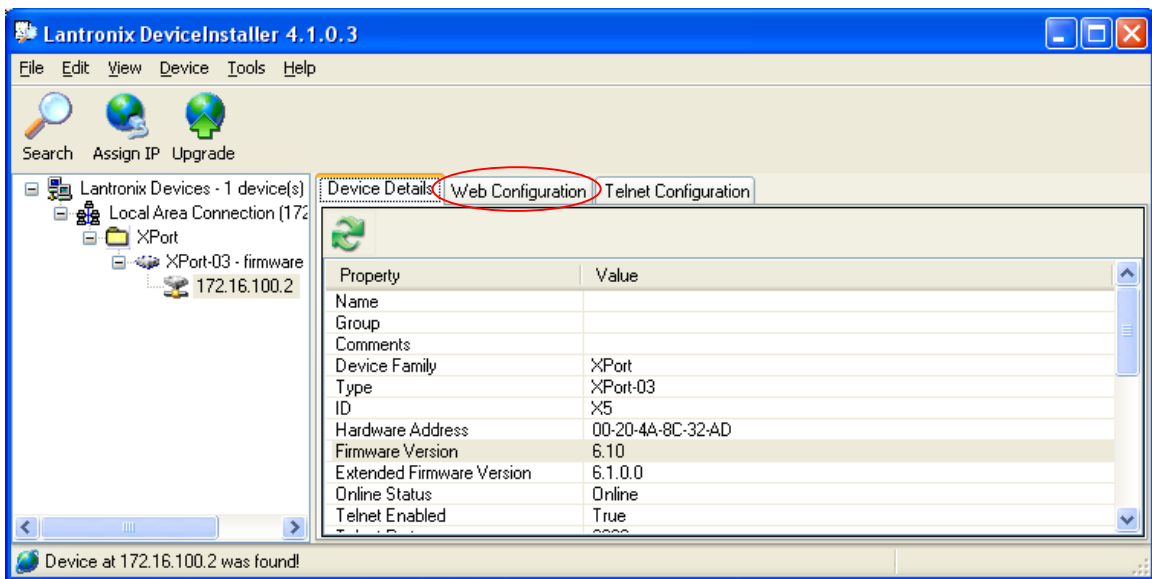
Step 5　Click the Go button. It may take some time to proceed to the next screen.
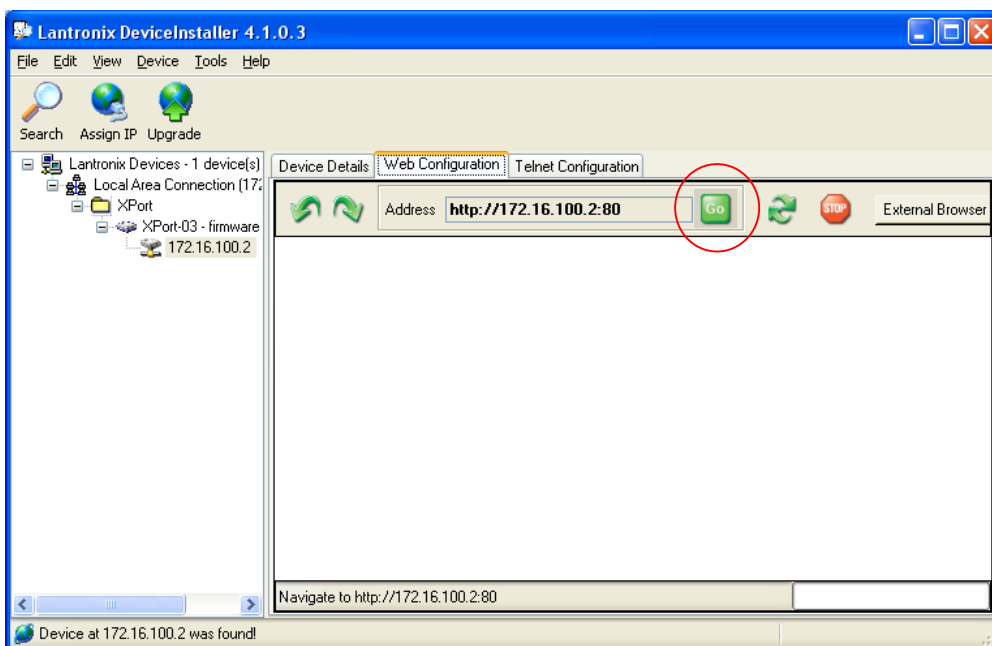
Step 6 A window requiring a password appears but nothing needs to be input here, just click the
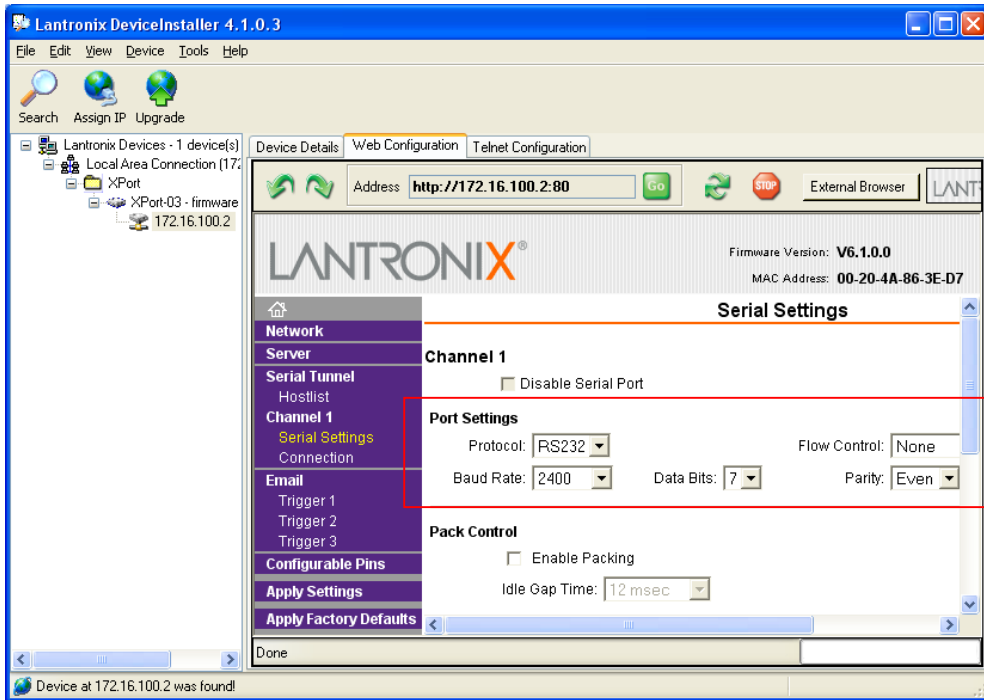OK button.

Step 7 When the screen as shown below appears, click "Serial Settings".
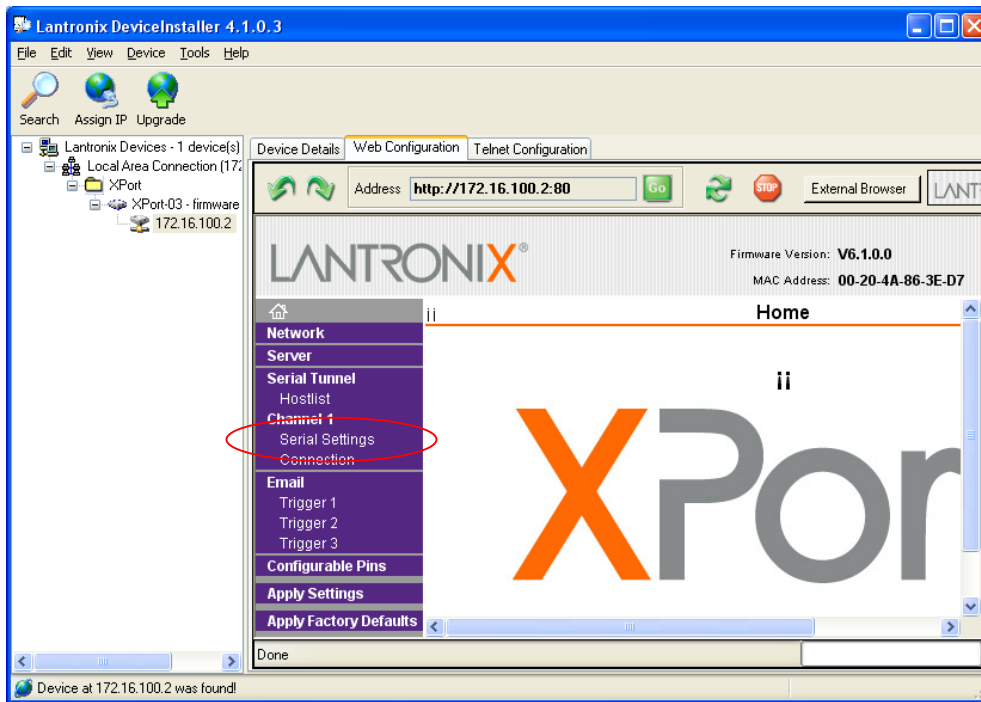
Step 8 The current settings for serial communication will be displayed. Confirm that the settings correspond with the balance's settings. If your settings are different, change the settings as specified in the table and then perform steps 9 and 10.
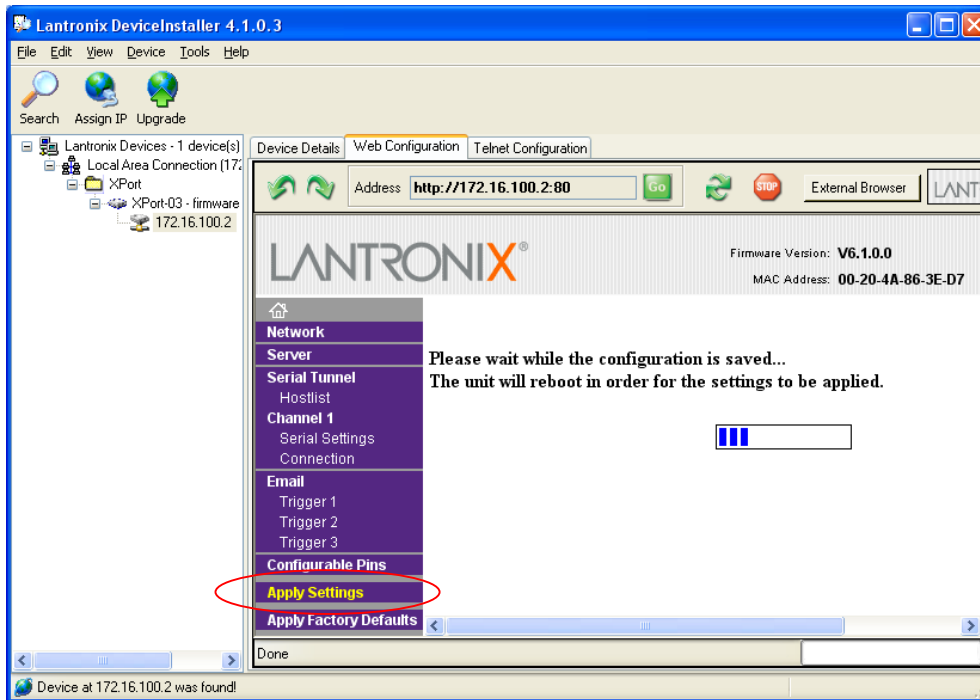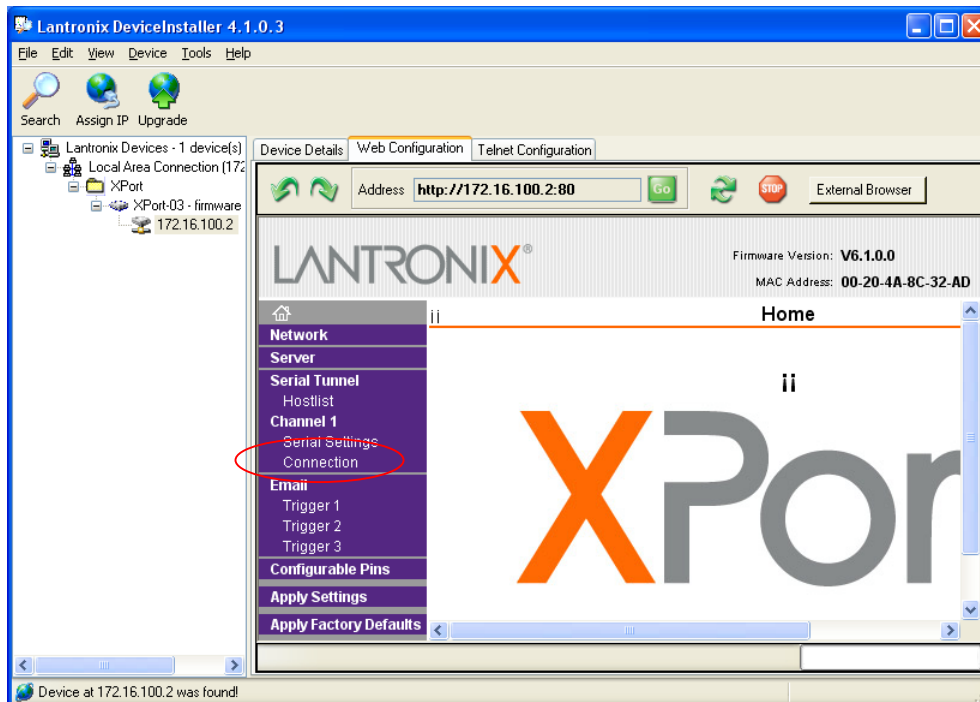If the settings are correct, proceed to Step 11.

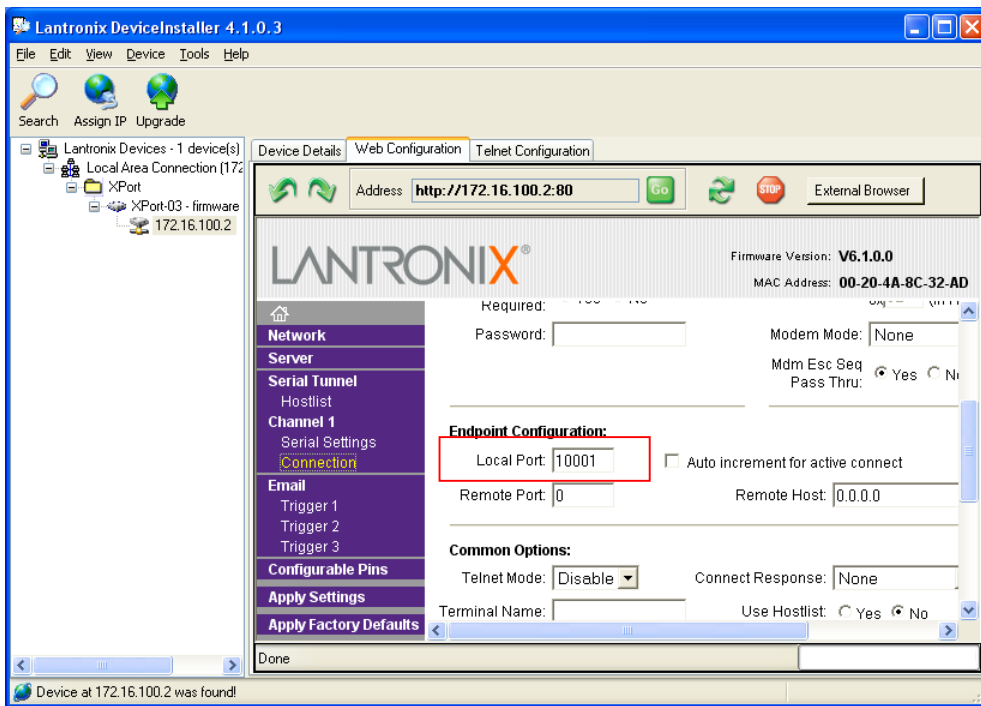Step 9 Scroll down to the bottom of the screen and click the OK button.
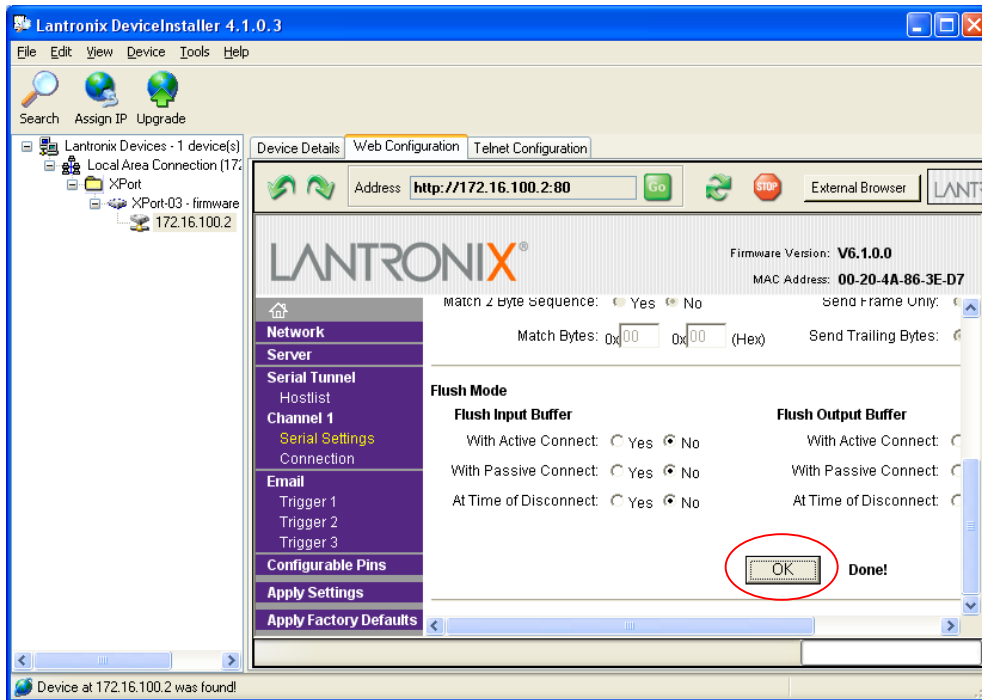
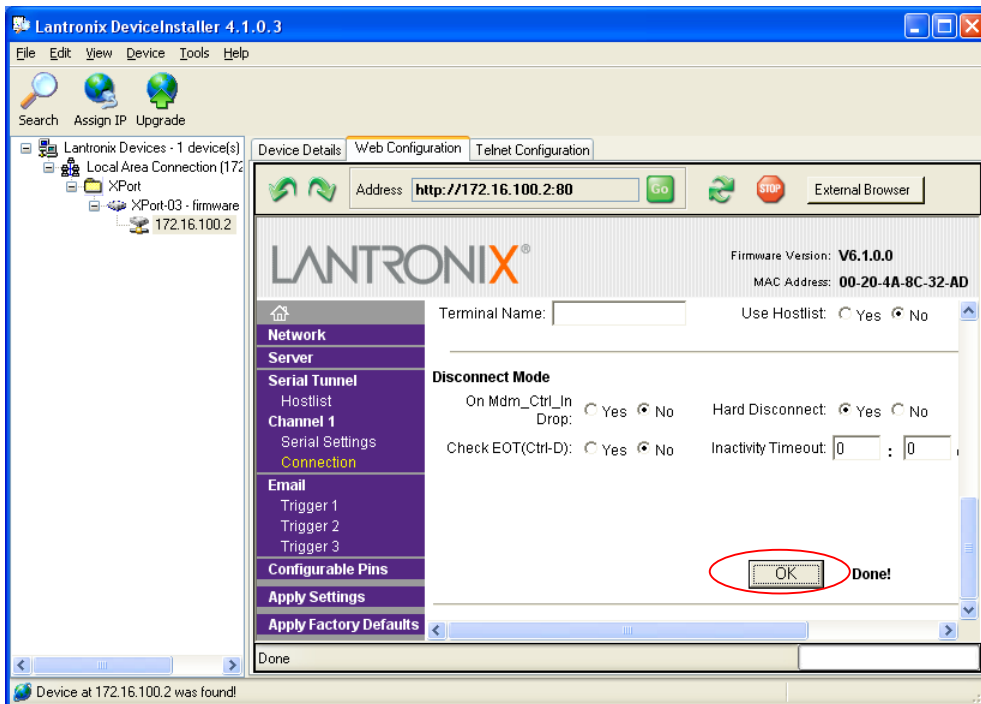Step 10 Click "Apply Settings" to apply the settings change. Please wait for completion.


Step 11 Click "Connection" on the screen below.

Step 12 The screen below will be displayed. Confirm that the "Local Port" is "10001." If the setting is different, change the setting to "10001" and then perform steps 13 and 14.

Step 13 Scroll down to the bottom of the screen and click the OK button.

Step 14 Click "Apply Settings" to apply the settings change. Please wait for completion.
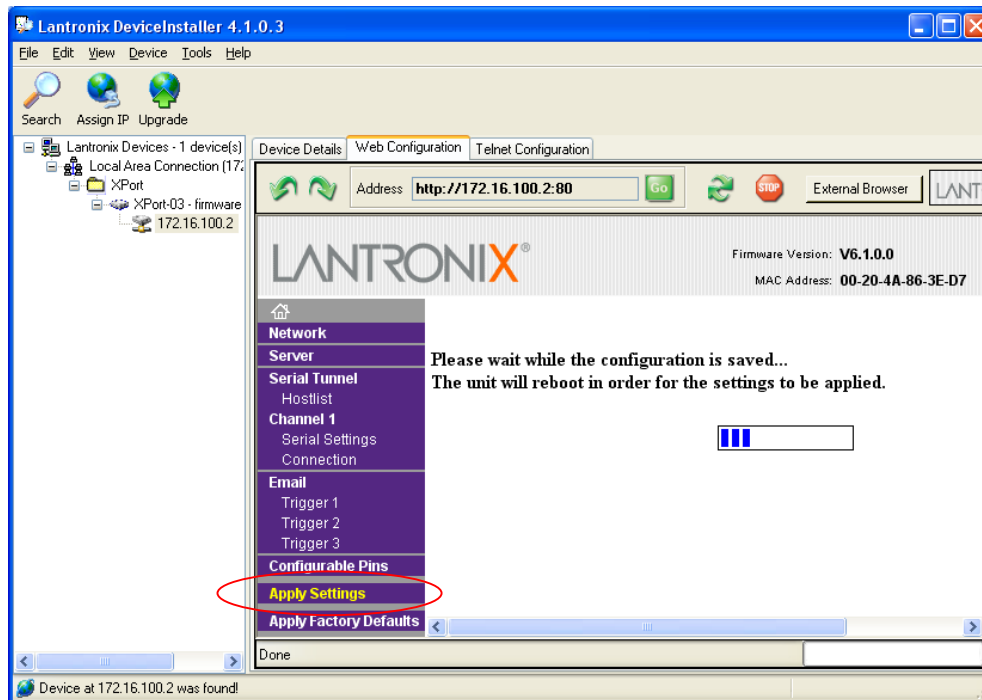
Step 15 Quit the DeviceInstaller.