DOORKING SYSTEMS

ACCESS CONTROL SOLUTIONS ™

1830 SERIES NETWORK WORKSHOP LAN APPLICATIONS

REV 04.11

LOCAL AREA NETWORK (LAN) CONNECTION

☑ **Ethernet Connection**: An Ethernet Cable, or wireless connection must be provided between the 1830 Adaptor and the Router

☑ **Gateway (Router) IP address**: The Router has an IP address that affects all devices connected within this network. The first 3 segments of this number must be shared for all devices connected within this network. Default: 192.168.001.001

☑ **IP Address for 1830 Adaptor**: The 1830 Adaptor must have a unique IP address within the network. Default: 192.168.001.030

☑ **Programming PC**: This must also be connected within the local network

TCP/IP NETWORK CONNECTION OPTIONS

Network and Ethernet connectivity for our 1833, 1834, 1835 1837 and 1838 systems:

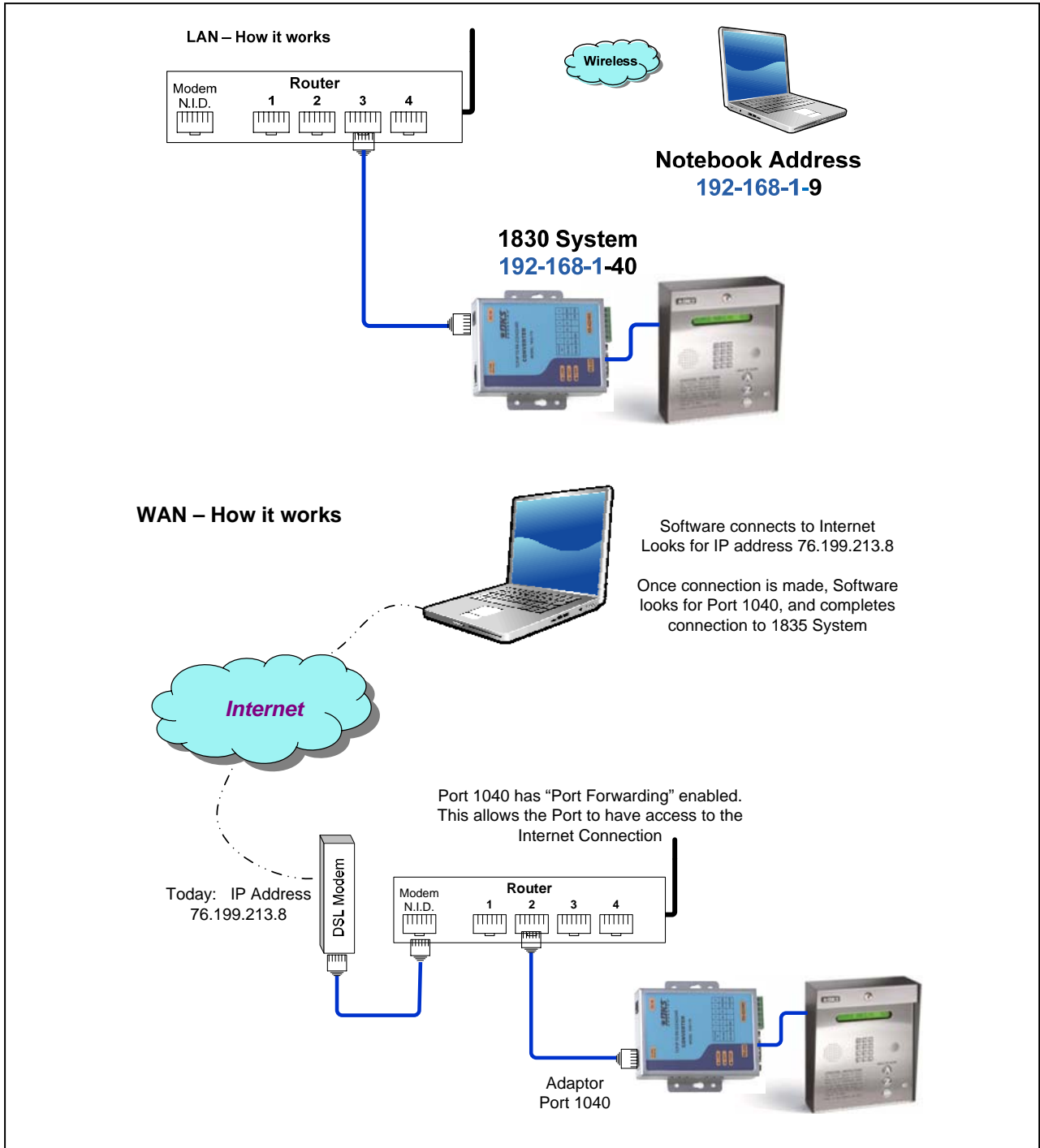**1830-175 TCP/IP Adaptor for Ethernet connections:**
The 6.3 Software expands the connectivity options for all 1830 series systems. Connectivity options now include:

- **Local Area Network (LAN):** Communicate between PC and Entry System utilizing Ethernet Connection

- **Wide Area Network (WAN):** Communicate between PC and Entry System utilizing Internet Connection at PC and at Entry System.

- **Improved Communication Speeds:** Data Transfer entire database in around 1 ½ minutes.
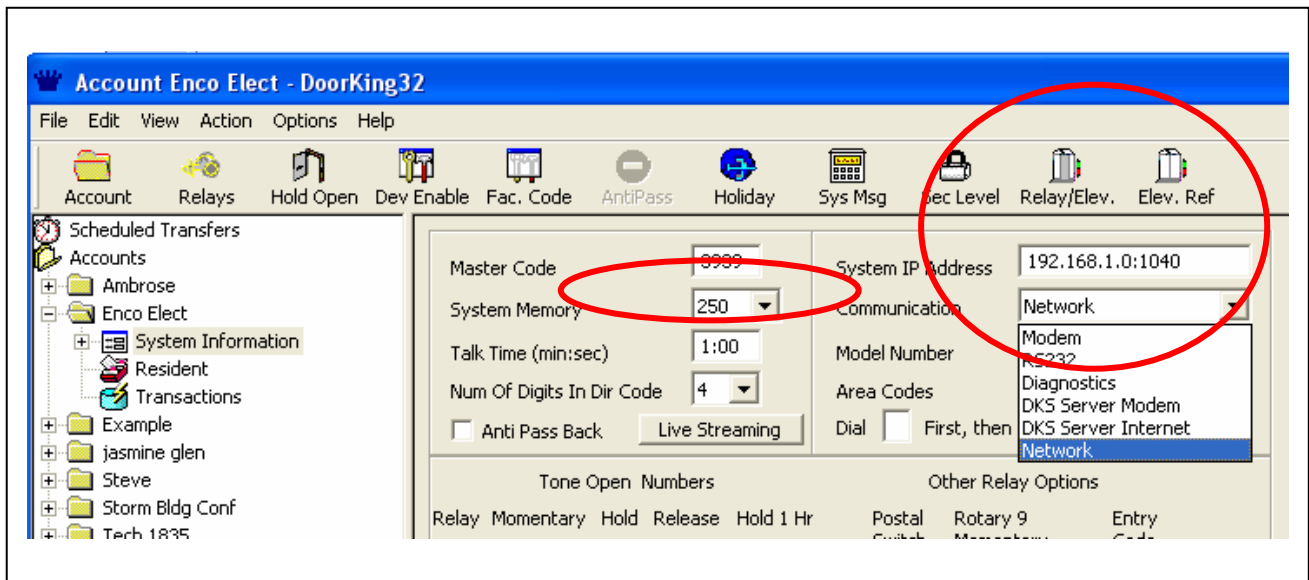
TCP/IP NETWORK CONNECTION OPTIONS

1830-175 TCP Network Adaptor: Converts RS-232 to TCP/IP. This allows you to connect the 1830 series unit to a Router. When the Router has access to an Internet Connection, programming may be performed via the internet for the entire communication path from the PC to the 1830 unit.

LAN – How it works

Modem
N.I.D.

Router
1 2 3 4

Wireless

Notebook Address
192-168-1-9

1830 System
192-168-1-40

WAN – How it works

Software connects to Internet
Looks for IP address 76.199.213.8

Once connection is made, Software
looks for Port 1040, and completes
connection to 1835 System

Internet

Port 1040 has "Port Forwarding" enabled.
This allows the Port to have access to the
Internet Connection

Today: IP Address
76.199.213.8

DSL Modem

Modem
N.I.D.

Router
1 2 3 4

Adaptor
Port 1040

1830 SERIES – LAN APPLICATIONS

1830 Series Local Area Network: This training guide will focus on the TCP/IP Network interface, and Ethernet connection to a Local Area Network.

LAN: In a Local Area Network (LAN) application, a Router or Gateway is used to interconnect various devices. Requirements for connection to a LAN

☑ **Ethernet Connection**: An Ethernet Cable, or wireless connection must be provided between the 1830 Adaptor and the Router

☑ **Gateway (Router) IP address**: The Router has an IP address that affects all devices connected within this network. The first 3 segments of this number must be shared for all devices connected within this network. Default: 192.168.001.001

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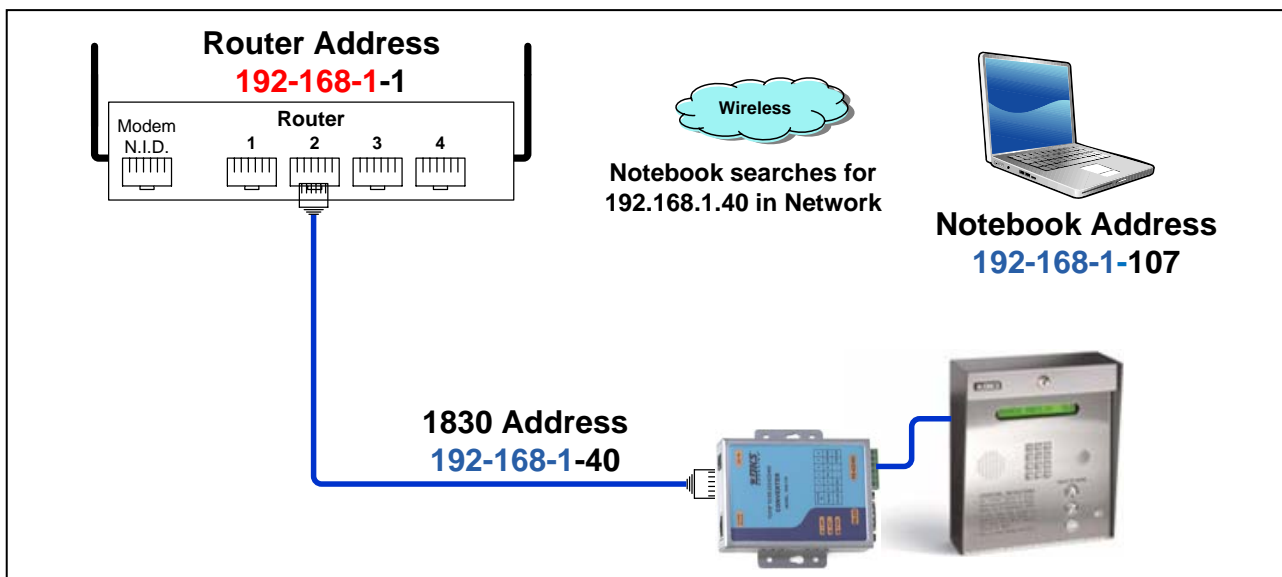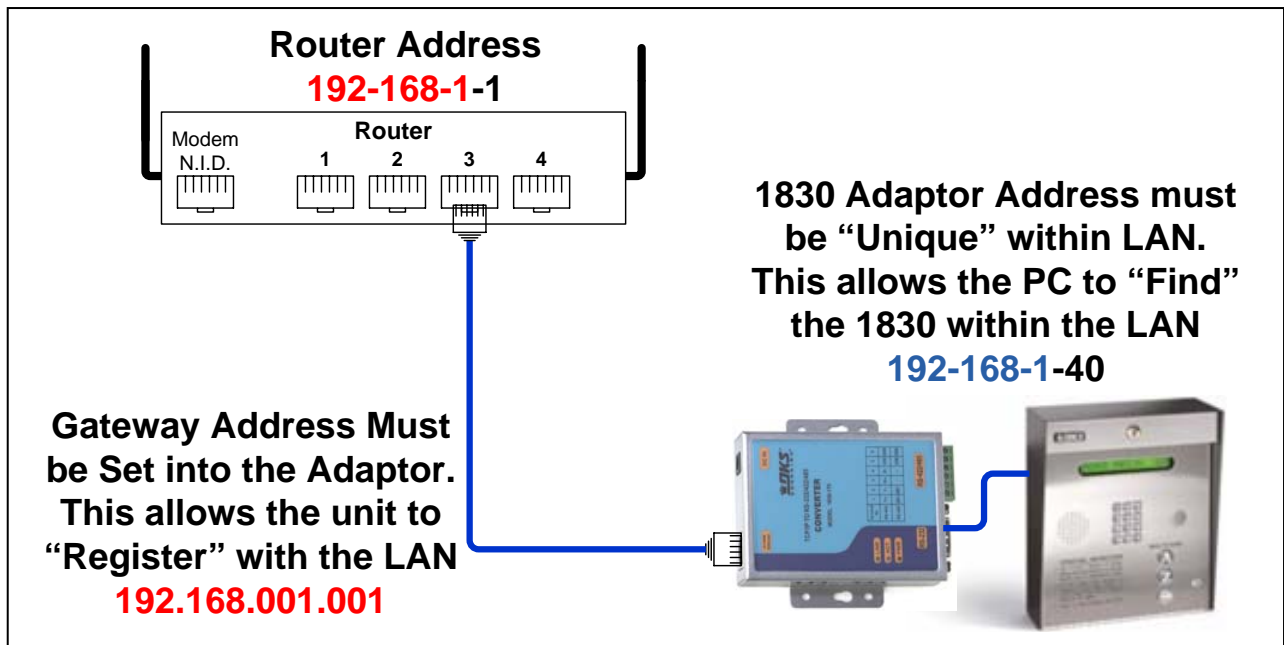☑ **Programming PC**: This must also be connected within the local network
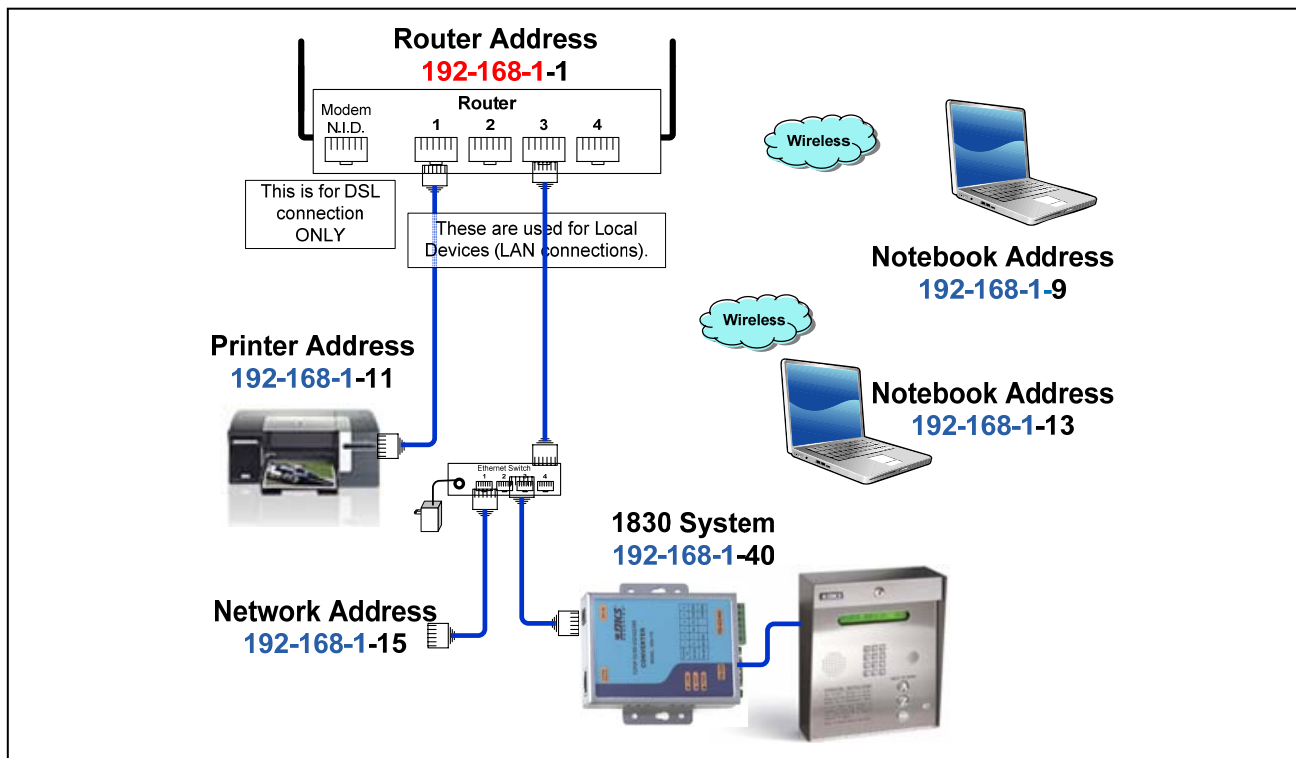
☑ Each device within the LAN must match the first 3 segments of the Router address, and have a unique 4th segment..

☑ Many systems will automatically obtain an IP address from the Router. The 1830 Adaptor must be connected to a PC for programming

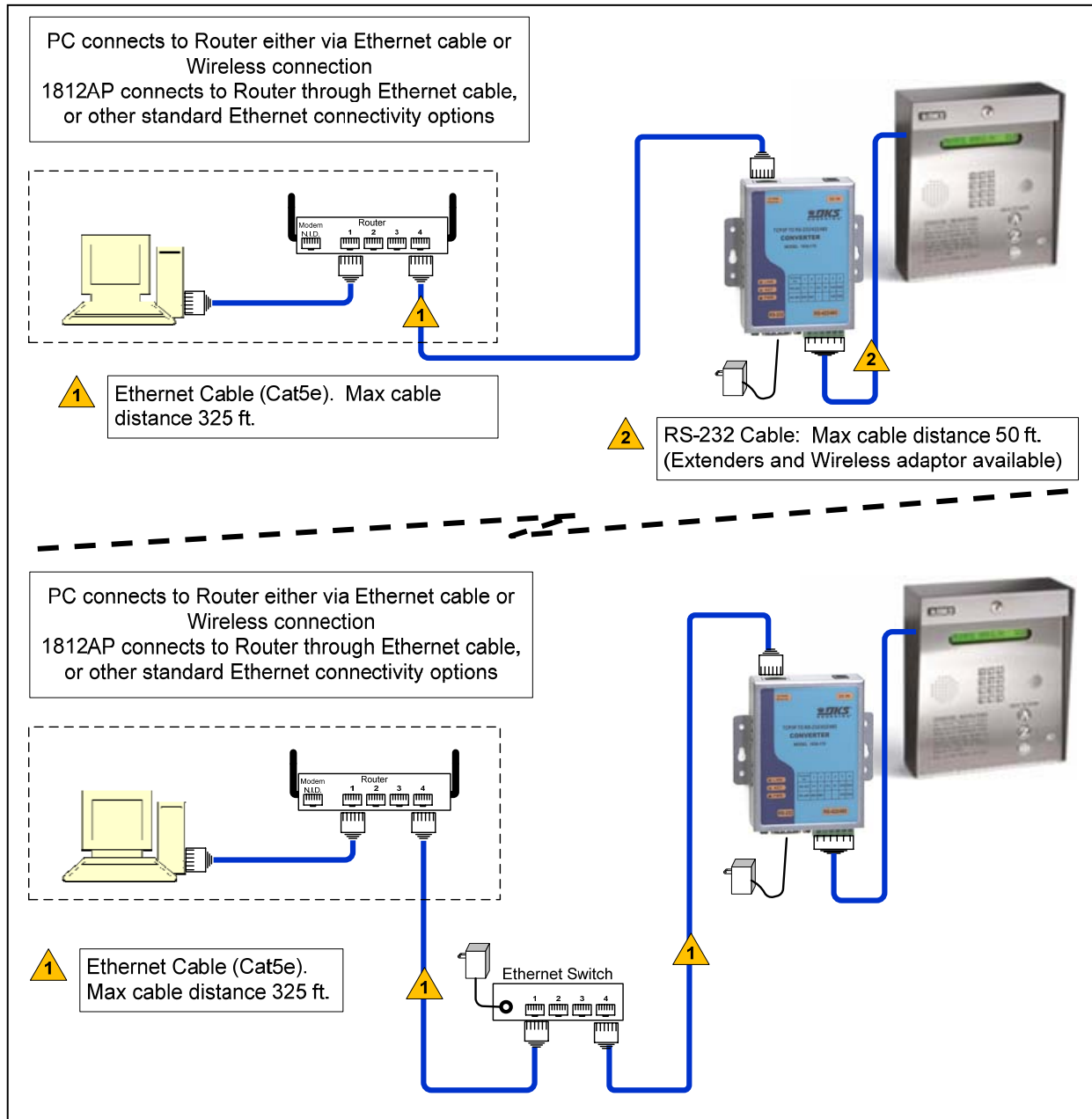# 1830 NETWORK ADAPTOR – NETWORK CONNECTIONS

LAN SET UP:

   ☑ **Registering with the LAN** – The Gateway Address must be programmed into the 1830 Network Adaptor. This allows the system to locate and register with the LAN.

   ☑ **1830 IP Address** – The 1830 adaptor must also have a unique IP address within the LAN. The default of 192.168.001.040 is typically available. However, if the Gateway Address utilizes a different number in the first 3 segments, for example: 192.168.2.1, this must be changed in the 1830 adaptor to 192.168.2.40.

Router Address
192-168-1-1

Modem N.I.D.

Router
1 2 3 4

1830 Adaptor Address must be "Unique" within LAN. This allows the PC to "Find" the 1830 within the LAN
192-168-1-40

Gateway Address Must be Set into the Adaptor. This allows the unit to "Register" with the LAN
192.168.001.001

Router Address
192-168-1-1

Modem N.I.D.

Router
1 2 3 4

Wireless

Notebook searches for 192.168.1.40 in Network

Notebook Address
192-168-1-107

1830 Address
192-168-1-40

LAN – CONNECTING TO ROUTER: The1830 Adaptor use a standard TCP\IP Ethernet protocol, making this system compatible with standard network connectivity options, including Ethernet Switches, Wireless Access Points and Wireless Routers.

☑ **Ethernet Cables:** A standard Cat5e Network Cable can be run up to 325ft. This point to point wiring is between a network device and the Router, Hub, or Ethernet Switch. To extend this distance, you can add an Ethernet Switch in the connection. This will allow you to run 325ft to the switch, and another 325ft to the 1830 Adaptor

PC connects to Router either via Ethernet cable or Wireless connection
1812AP connects to Router through Ethernet cable, or other standard Ethernet connectivity options

1 Ethernet Cable (Cat5e). Max cable distance 325 ft.

2 RS-232 Cable: Max cable distance 50 ft. (Extenders and Wireless adaptor available)

PC connects to Router either via Ethernet cable or Wireless connection
1812AP connects to Router through Ethernet cable, or other standard Ethernet connectivity options

1 Ethernet Cable (Cat5e). Max cable distance 325 ft.

Ethernet Switch

1830 NETWORK ADAPTOR – LAN CONNECTIONS (CONTINUED)

☑ **Wireless Access Points:** The 1830 Network Adaptor is also compatible with "Off the Shelf" Ethernet extending devices, such as Wireless Access Points. These can also be used in WAN Applications, as needed to fit your site requirements.

PC connects to Router either via Ethernet cable or Wireless connection
1812AP connects to Router through Ethernet cable, or other standard Ethernet connectivity options

Wireless Access Point

Wireless Access Point

Wireless Access Point

⚠ **1** Ethernet Cable (Cat5e).
Max cable distance 325 ft.

ROUTER (GATEWAY)

In many home or business computer systems, the Router may already be set up. This typically is providing connections to Printers, DSL Modems, Remote PC's, etc. Routers may also provide Wireless connectivity to some of these system devices. To add the 1812 into this Local Area Network, you will need to identify the Router Address. This may require working with the Network administrator, or the Homeowner.

NOTE: Be cautious about entering into the Router Software. You may inadvertently change some router settings that will affect the Local Network performance. We recommend checking the IP addresses using a PC on the network. If a Router is not in operation, the client will need to install the Router and set up through the clients Computer.

LAN SET UP: The following are steps that will need to be taken to add the 1830 Adaptor into an existing LAN (Network).

Note: In Router programming or when viewing IP addresses, leading Zero's may not be shown. For Example, 168.001 may display as 168.1, or Port 01030 may be displayed as 1030.

☑ **Router (Gateway) Address:** You will need the IP address of the Router (Default Gateway). This will allow you to program the 1830 Adaptor to join the Local Network. You can check the Router Address from a PC that is active in the Local Network:

1. On the PC, click on the START button, and then select RUN. This will open the 'Run' command window
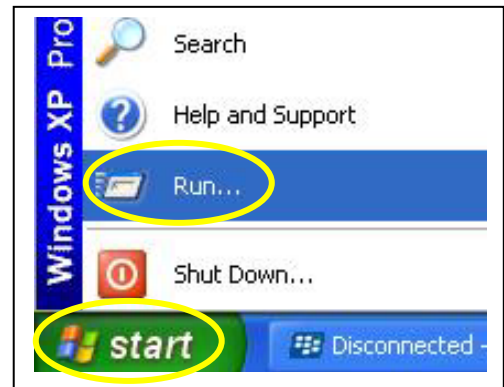
2. In the 'Open' field type 'cmd' and click 'OK'.

   You may also access the Command Prompt from the Program Files/Accessories/

   Look for: Command Prompt
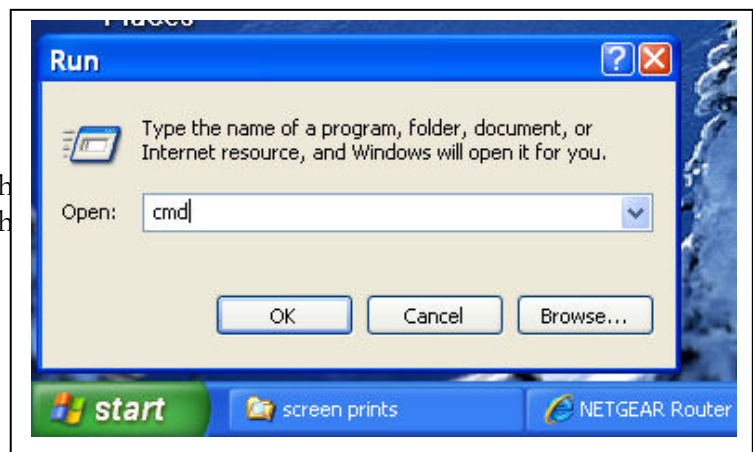
1830 NETWORK ADAPTOR – LAN CONNECTIONS (CONTINUED)

☑ **Router (Gateway) Address:** You can also get to this Command Prompt through your Program Files menu:
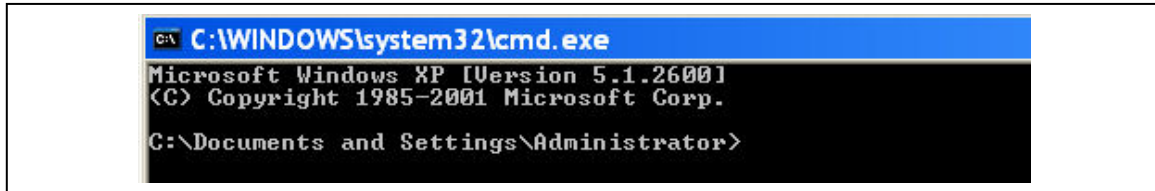
1. Go to the **Programs** menu, select **Accessories**

2. Select the **Command Prompt** option
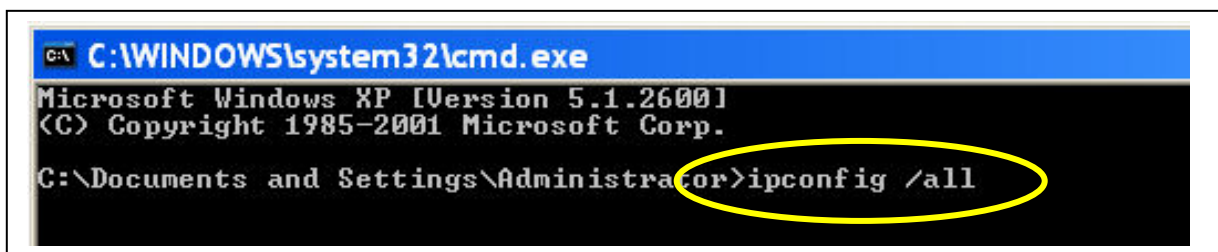
☑ **Router Address (continued):**

3. This will open the Windows/system command prompt.
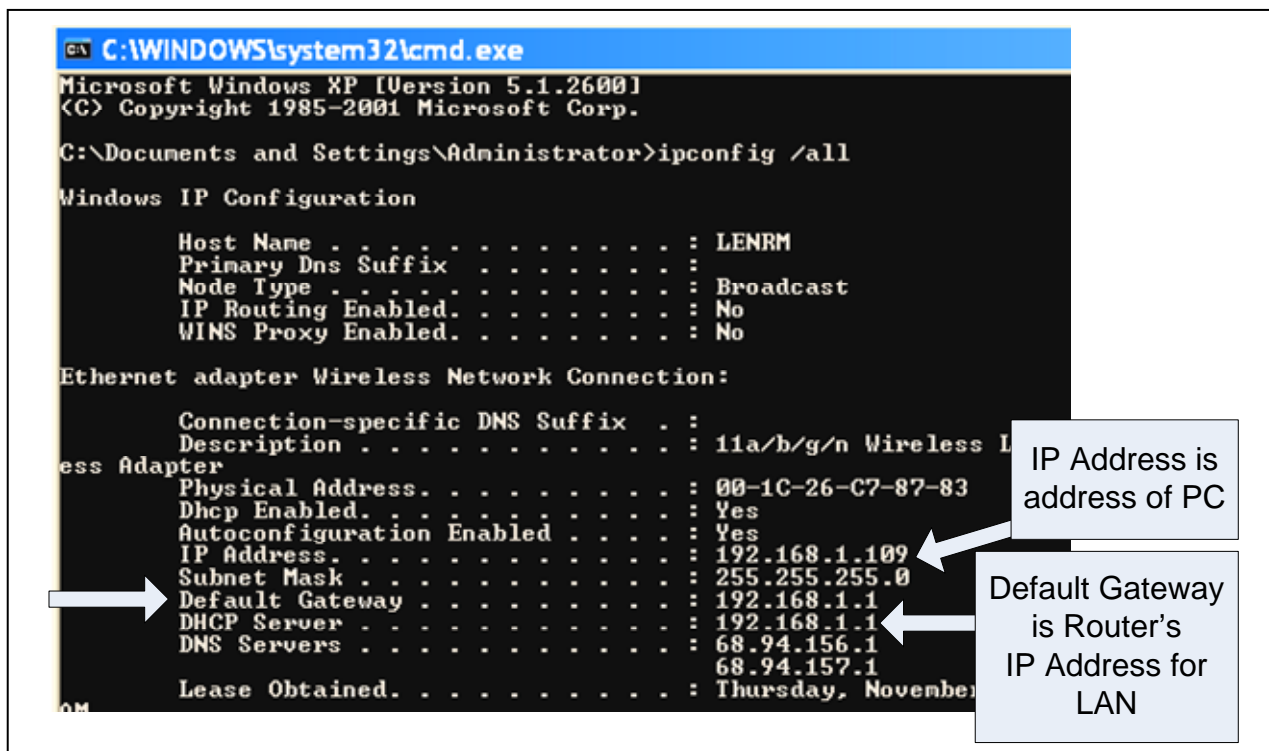
4. After the > prompt, type: ipconfig /all, and hit the 'enter' key (space before the /)

5. This will display the IP configuration of the LAN. Look for the 'Default Gateway'. This is the Router's IP address. The first 3 sets of numbers are important in programming the 1830 Adaptor. The Adaptor must match these numbers.

PROGRAMMING THE 1830 NETWORK ADAPTOR: These are set up parameters that need to be set in the 1830-170 Network Adaptor management software.

Note 1: If the Default Gateway (Router) Address is at the preset value of 192.168.1.1, then the 1830 Network Adaptor can be connected to LAN.

Note 2: If the Default Gateway is not at the default value, then the 1830 Network Adaptor must be reprogrammed prior to connecting to the LAN.
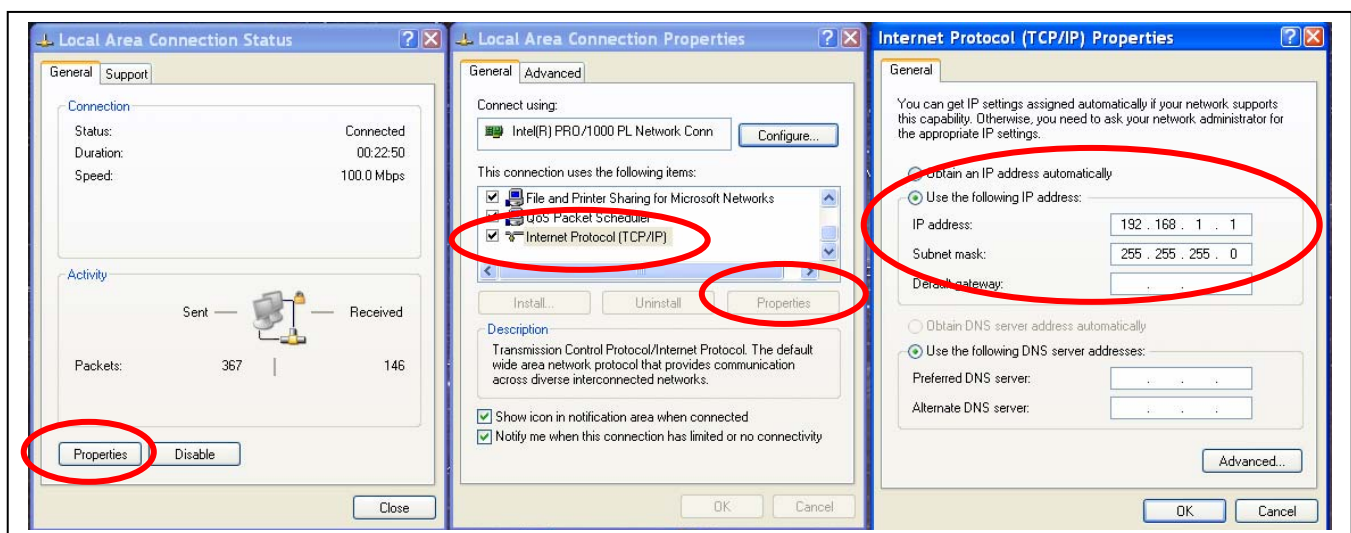
Note 3: The IP Address of the 1830 adaptor must be unique within the LAN. If another device has this address, or if there are more than one 1830 systems in the Network, each must be provided with a unique IP Address.

Note 4: In LAN applications, the Port Number is not a critical factor. It must match what has been programmed into the AccessPLUS Software.

Note 5: The 1830-170 Network Adaptor is pre-configured from DoorKing to function with the DoorKing Entry Systems. Do Not Change any other settings that those listed in the following instructions. Changing any of the other settings will affect the performance and compatibility of this adaptor to work with the DoorKing entry systems.

PROGRAMMING THE 1830 NETWORK ADAPTOR

1. Provide an Ethernet Connection to the 1830 Network Adaptor. Connection options:

    a. Connect the 1830 adaptor to the LAN Router (Router is at preset value of 192.168.1.1.

    b. If Router is not at preset IP address, connect the 1830 Network Adaptor directly to a PC. This requires setting the PC IP address to the default gateway value.

        i. Open Local Area Connection status, click on Properties
        ii. Scroll down to Internet Protocol (TCP/IP), then click on Properties
        iii. Select "Use the following IP address, then set IP address to 192.168.1.1
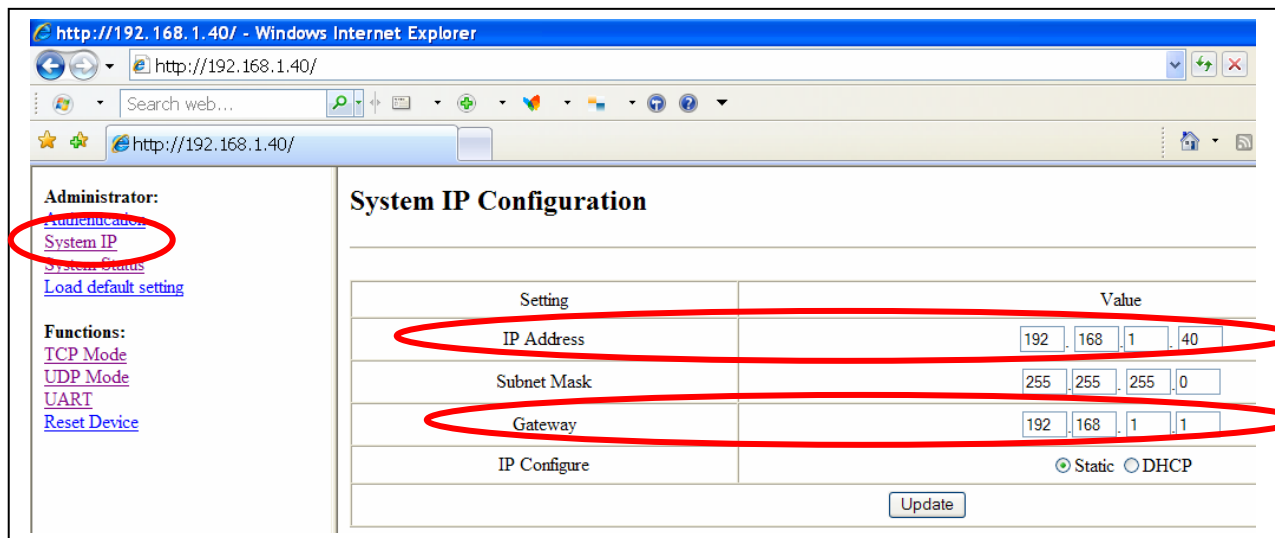
2. From a Web Browser (Internet Explorer), enter the IP address of the 1830 adaptor into the address line. **Default: 192.168.1.40, or IP address identified during IPConfig process.**

3. Enter ID and Password.

      a. Default ID: admin

      b. Default Password: system
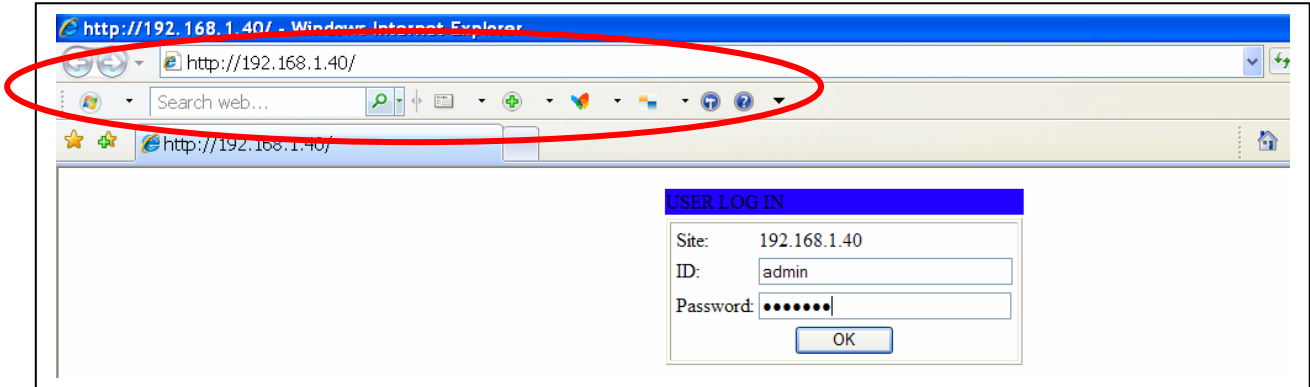
This will open the Software Manager for the Network Adaptor.

4. Select the System IP option from the menu on the left. This screen will allow you to change the IP address and Gateway as required for connection to your network.

      a. IP Address: First 3 segments must match Gateway address, 4th segment must be unique within the LAN

      b. Gateway: This is the IP Address identified during the Ipconfig process.

5. When you have completed any necessary changes to the system IP or Gateway address, click on the Update button. This will then ask you to Reset the system. These two steps will reprogram the 1830 Network Adaptor.

6. The system can now be connected to the LAN Router, or you can connect using a direct PC connection. Note: you will need to reprogram the IP address of the PC to match any changes you made to the Gateway Address.
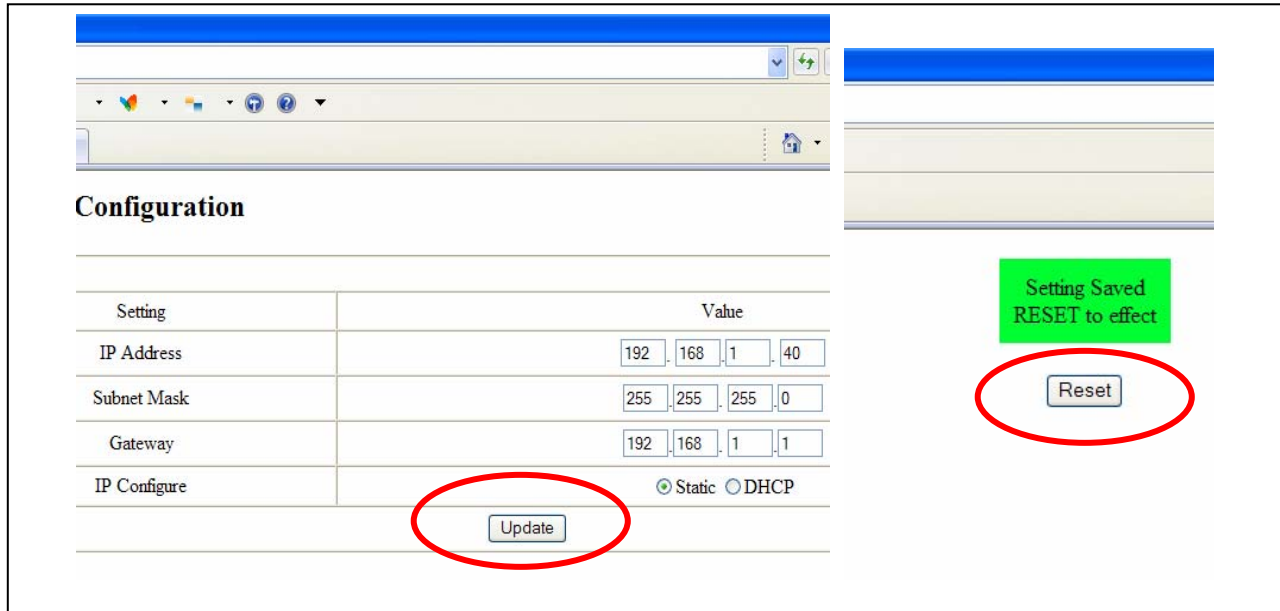
Remember to reset the TCP/IP Network Properties in your PC.

1830 NETWORK ADAPTOR – PROGRAMMING THE ADAPTOR

Additional Programming Steps: There are some additional programming functions that may need to be performed inside the 1830 Network Adaptor to match the hardware and Ethernet settings of the LAN or WAN system.

Serial Connection Speed: The 1833, 1835 1837 and 1838 control boards have been modified to provide faster connections speeds when using the RS-232 Port and the 1830-175 Network Adaptor.

1. Using Internet Explorer, connect to the 1830 Network Adaptor, then select the UART menu.

2. In the "Baud rate" setting, select the proper setting to match the configuration of the 1830 Series Entry System.

    a. Default is 9600

    b. New Revision boards can be set for 9600 or 19200.

        i. 1833, 1834, 1835 and 1837 boards are Rev M or Higher

        ii. 1838 control board are Rev L or Higher

    c. This Baud rate speed must be matched in the Network Adaptor, at the Entry System control board and in the DoorKing software.

Port Address: The Port Number is used when connecting from outside the LAN. In LAN applications, this is not a critical number. However, the programming in the 1830 Network Adaptor must match the Port Number identified in the DoorKing software.

For WAN applications, each system must have a unique Port Number. To set the Port Number:

1. Using Internet Explorer, connect to the 1830 Network Adaptor, and then select the TCP menu.

2. In the "Port Number" setting, change to Port Number as may be required.

    a. Default is 1040

    b. If there are multiple 1830 series systems connected to the same LAN, each must have a unique port number.

    c. The Port Number must be matched in the 1830 Network Adaptor and in the DoorKing Software.

☑ **Things to set up in the Remote Acct Mgr Software:**

    o **Master Code:** This needs to match what has been set at the 1812AP system.

    o **Network:** Select Network as preferred connection method

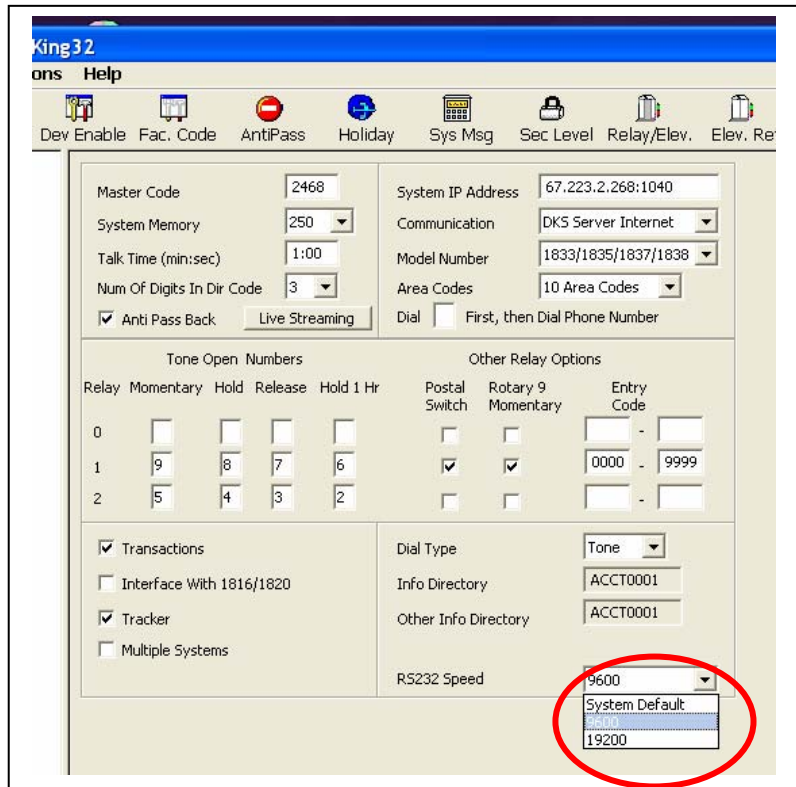   o **IP Address and Port:** This is the Address and Port # of 1830 Adaptor unit, Default: 192.168.001.040:1040
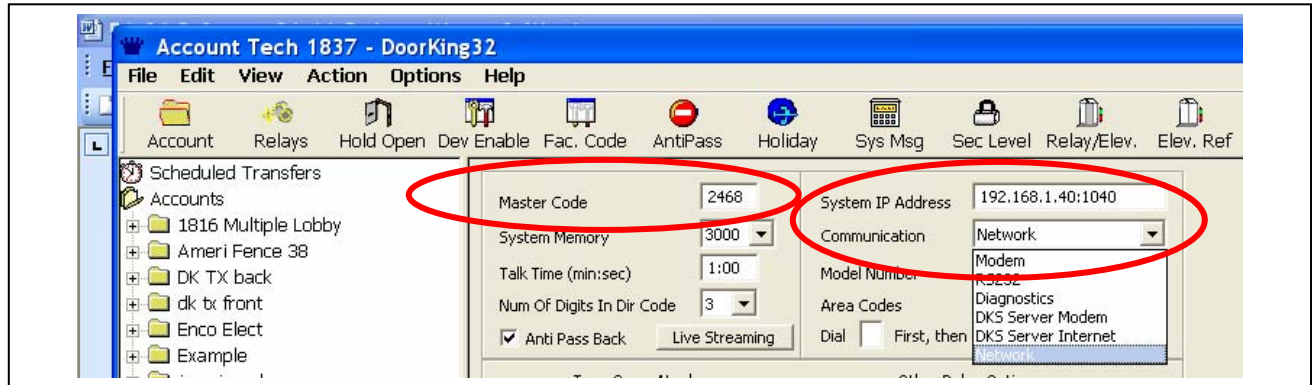
☑ **Connection Speed:**

With an updated Control Board, the system is now capable of faster connection speeds, for faster Data Transfer.

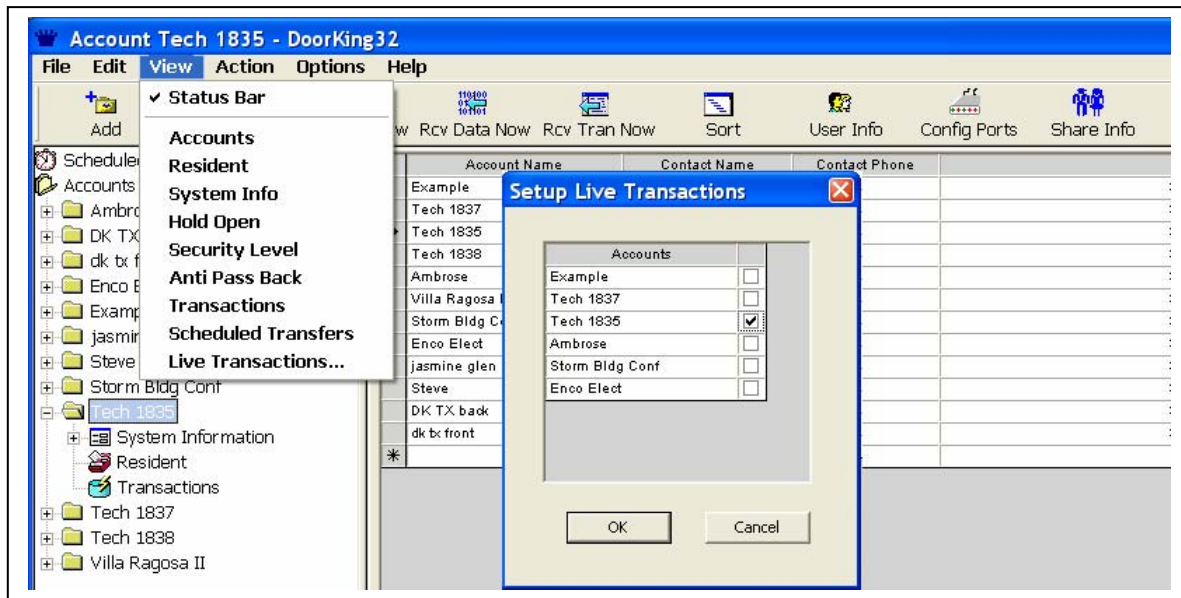System can connect at either 9600 Baud or 19200 Baud.

With 6.3 Software, this can be ser per unit, or set globally.

Testing the Connection through the DKS Software: From a PC connected to the LAN, try connecting with the 1830 series controller.

☑ **Select an account, and then click on the "View" menu.**

☑ **Select "Live Transactions" and click on the account you wish to test. Click "OK"**

☑ **This will open a Live Transaction Window. The first transaction should show: "Connection". If you see a "Failed To Connect" message, the system is not registered and active within the LAN.**
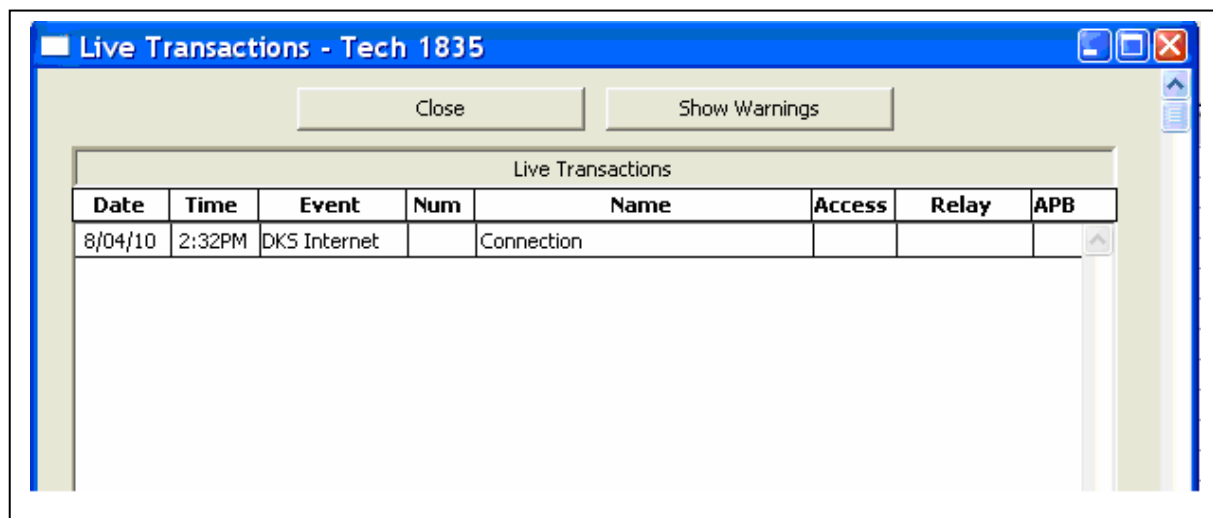
LED Indicators to help troubleshoot the connections: The 1830-175 adaptor includes several LED's to help indicate connection status:.

☑ **LINK LED: LAN link**

   ✓ Green = LAN connection

   ✓ Yellow = No LAN connection

☑ **ACT LED: Activity**

   ✓ Blinks Green = data transferring process

☑ **Power LED:**

   ✓ Red = Power to Adaptor