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# Nova Pluto Control System

## Network set-up solution

2013-05-07 V3.0

This section introduces several common network set-up solutions, so that users can configure their network according to their specific environment. In order to ensure regular running of the system, the operator is recommended to obtain some network knowledge before use.

### 1 Requirements

PlutoManager can send play programs through local area network (LAN) or wide area network (WAN), and monitor the play state of asynchronous system. In the chapter 2, the establishment and configuration of LAN and WAN shall be described in details.

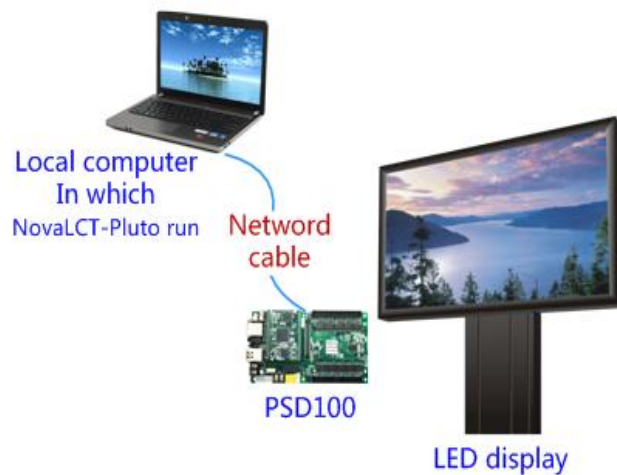
NovaLCT-pluto can configure the display screen through the LAN mode.



Fig. 1-1 Network architecture in which display screen is configured

The Pluto system default IP is "192.168.0.220", before the network connection, set the network parameters of each asynchronism card on the software NovaLCT-pluto, and the specific settings are as follows:

- 1) In general, it is allowed to directly connect the asynchronism card to computer (computer IP shall be set to: 192.168.0.X, note: X cannot be 220), and respectively set the network parameters for each asynchronism card.



- 2) If the local LAN is in 192.168.0.X network segment, and 192.168.0.220 is not occupied, the asynchronous card (Note: to avoid conflict of IP, for one time, only one asynchronous card can be connected) can be connected to local LAN to conduct network parameter setting.

**Operation steps of setting system IP:**

- 1) Run Nova LCT-Pluto on the local computer, click on the [set] → [software configuration] to enter the interface as shown below. The connected IP is the IP corresponding to the current computer network card; the connection port setting range is 1024~49150, and it is not allowed to be same as other software port.

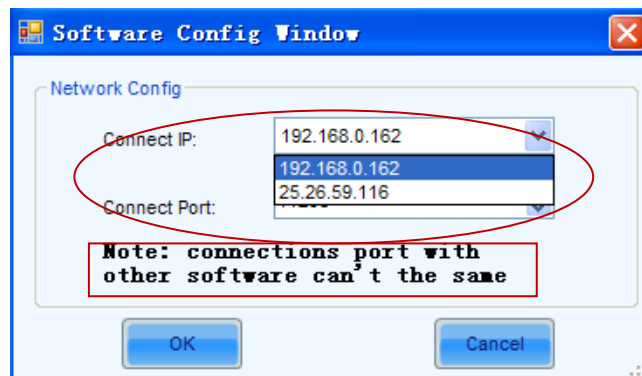


Fig. 1-2 LCT software configuration

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2) View asynchronous control system IP

Search Pluto system when it is used for the first time. LCT will search all the Pluto systems within the scope of LAN. Searching results is shown as below:

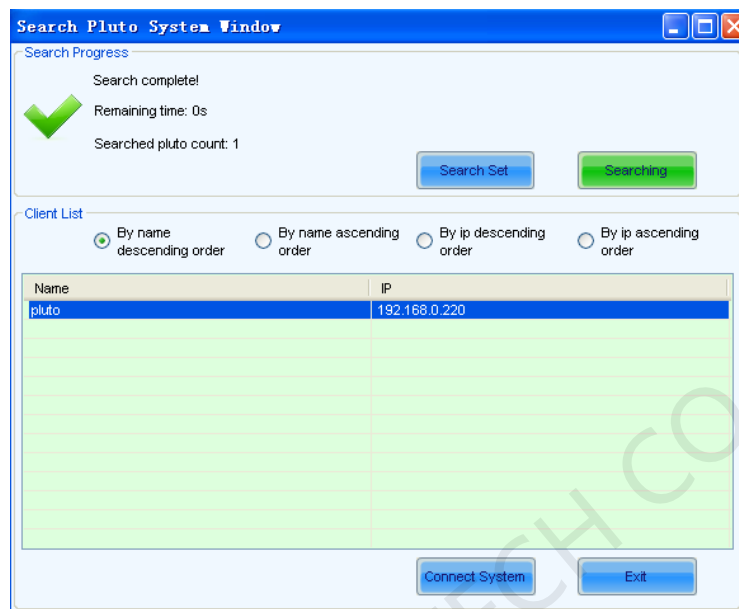


Fig. 1-3 Search Pluto system

- 3) Select the client, then click "Connect System" to return to the main interface;
- 4) Click on **【set】** → **【terminal configuration】** → **【network configuration】**, to enter the interface as follows :

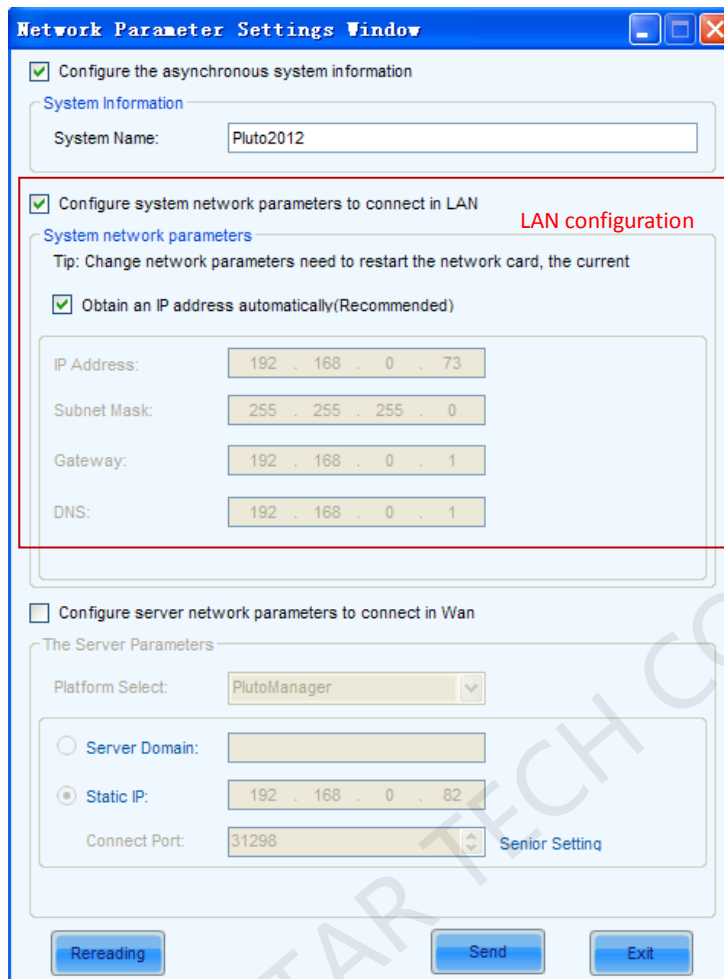


Fig. 1-4 Network parameter settings

- 5) Tick [configuring asynchronous system information], so that the user can modify the system name, and an easily recognizable system name will bring convenience to your later operation;
- 6) LAN parameter configuration

Tick the option [configuring system parameters connected on the LAN], to start setting up network parameters. The system IP can be set by two ways.

**Method No. 1: (recommended) : obtain IP address automatically.**

Advantages: only one time of setting for the first use is required, and later, there is no need to set up, and during the use, IP conflict inside LAN shall not occur to ensure the normal work of system.

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**Operation:** tick the option [automatically obtaining IP address], and then click [send].

**Method No. 2: manually set the IP.**

After the manual setting of LAN parameters as shown in the following image (Note: IP shall not conflict with other devices in LAN), click [send], to send the network parameters to the asynchronous system.

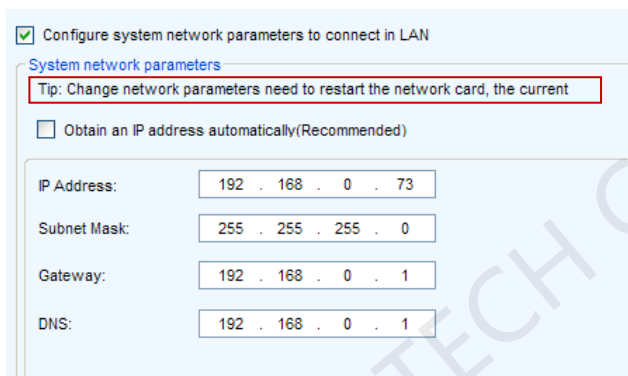


Fig. 1-5 LAN parameter configuration

7) WAN parameter configuration

The server, i.e. playback control computer (running PlutoManager): to ensure the normal communication between playback control computer and terminal, firstly send the server parameters to the terminal.

The operation of configuring WAN will be explained in details in the article [2.2 WAN solution.](#)

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Configure server network parameters to connect in Wan

The Server Parameters

Platform Select: PlutoManager

Server Domain:

Static IP: 192 . 168 . 0 . 82

Connect Port: 31298 [Senior Setting](#)

Fig. 1-6 WAN parameter configuration

## 2 Network set-up solution

### 2.1 LAN configuration solution

All LED displays and the control computer need to locate in the same LAN;

Requirements:

**Hardware:**

- Nova asynchronous control card: PSD100
- Switch

**Software:**

- NovaLCT-Pluto
- PlutoManager



Fig. 2-1 All LED displays and control computers locate in the same LAN

**Operation steps:**

- 1) Configure the display screens

Playback control computer and display screen are in the same LAN, it is allowed to directly run NovaLCT-Pluto on the playback control computer to configure all display screens.

- 2) Configure PlutoManager

Run Pluto Manager on the playback control computer and click **【configuration】**

→ **【server configuration】** on the main interface as shown below



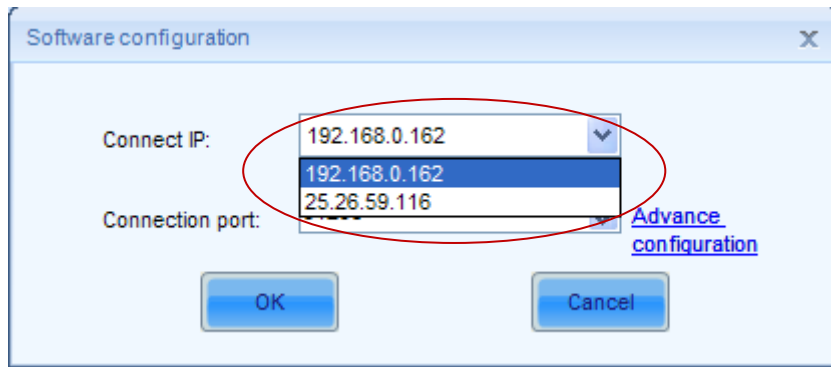



Fig. 2-2 Server setting

**Connect IP:** IP corresponding to the network card currently used by computer.

**Connection ports: connection** ports include the command port and file port, and generally, no longer enter the [advance configuration], for example: if the connection port is set to 31298, then the command port is 31298; while 1 is automatically added to the file port to change the file port to 31299, if click [advance configuration], it is possible to separately set the command port and file port.

	<p><b>Prompt :</b></p> <p>The setting range of connection port is 1024~49150, and it is allowed to set at will as long as there is not conflict with the other software.</p>
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### 3) Add terminals

In the main interface of PlutoManager, click on the [terminal management] → [search LAN terminal], to search all LAN terminals, specified IP terminals or partial LAN terminals, and add the searched terminals to the specified groups.

After adding, in the main interface of Pluto Manager and terminal management interface, the added terminals can be seen.

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## 2.2 Internet remote control solution

LED displays are more and more used in various fields, such as advertising, traffic etc. Since it has a large quantity and is widely distributed, updating LED display contents becomes a very heavy work. Internet remote control solution will solve this problem easily. What user needs to do is to operate in front of computer to update play contents of LED display even across regions.

The communication principle is, LED control card connects to PlutoManager control platform running in playback control computers actively by domain parameters, to establish communication links;

At present, the common ways to access the network include: network cable access to a WAN, 3G, Wifi. The following text shall introduce the configuration of WAN to users in details.

### Hardware:

- Nova asynchronous control card: PSD100
- ADSL router

### Software:

- NovaLCT-Pluto
- PlutoManager
- Dynamic domain or static IP

Internet remote control network structure is shown as below:

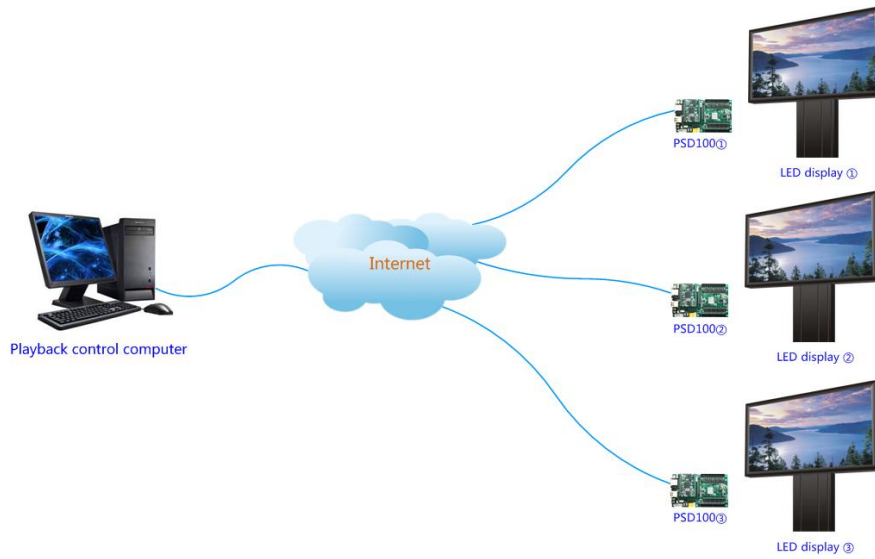


Fig. 2-3 Internet remote control network structure

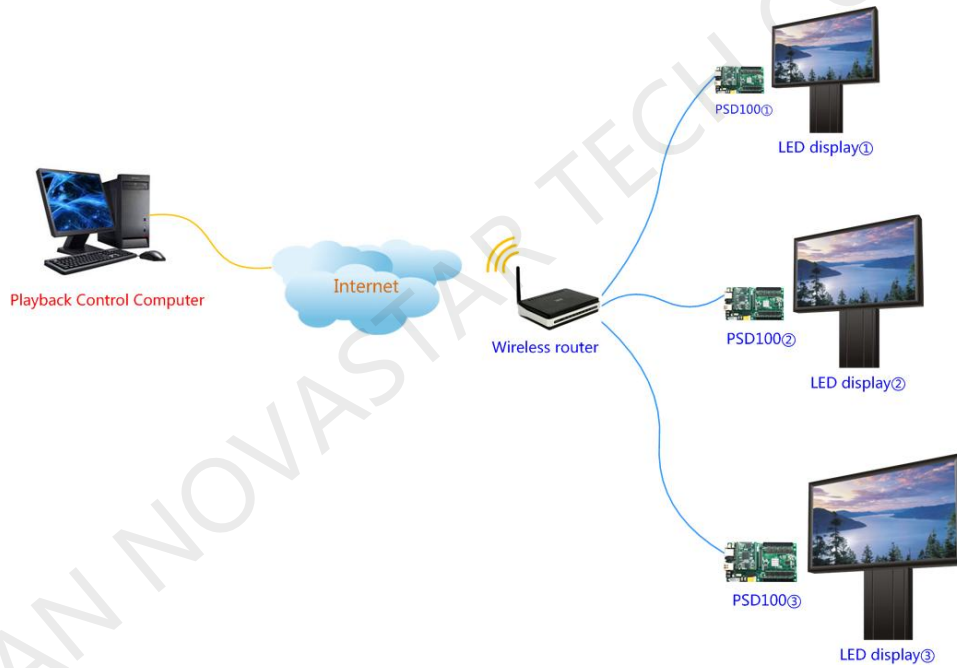


Fig. 2-4 Wifi network architecture of WAN

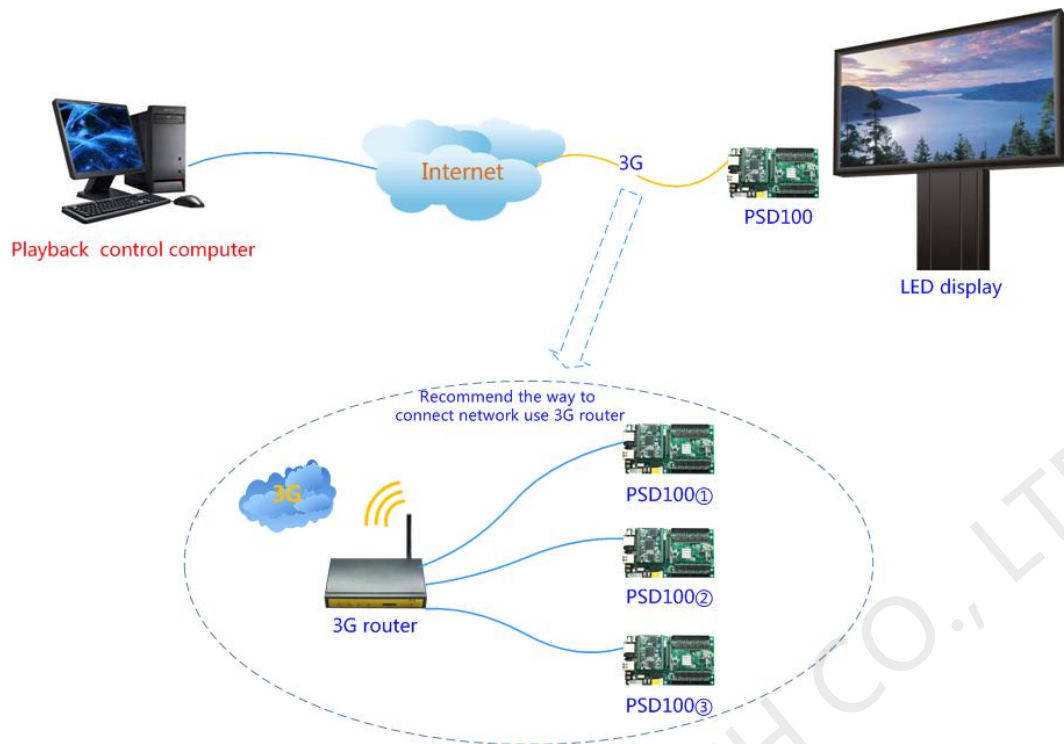


Fig. 2-5 3G network architecture of WAN solution

### Set-up steps:

The following text shall take the display screen ① as an example to explain the configuration operation steps, and the configuration steps of other display screens are similar.

Run NovaLCT-Pluto on the local computer, and use network cables to directly connect the local computer and asynchronism card or connect them into one LAN.

- 1) In the main interface of NovaLCT-Pluto, click on the [setting] → [terminal configuration] → [network configuration], to enter the network parameter setting window, and then tick [configure server parameters connected in the WAN].

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- 2) If the WAN where Control Computer A locates has a static and fixed IP, please tick the option [server static IP] to directly fill in the static IP address owned by you;

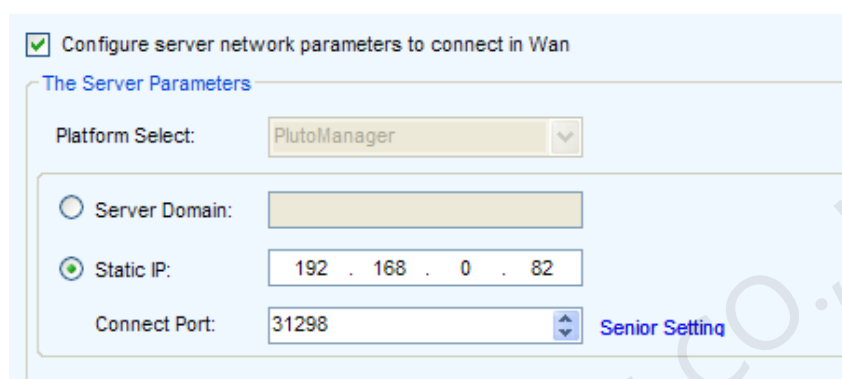


Fig. 2-6 Set server static IP

- 3) If there is not static fixed IP address, please firstly apply domain name ;
- a) Apply a domain ;
  - b) Check" Server Domain" , input the domain obtained in step a);

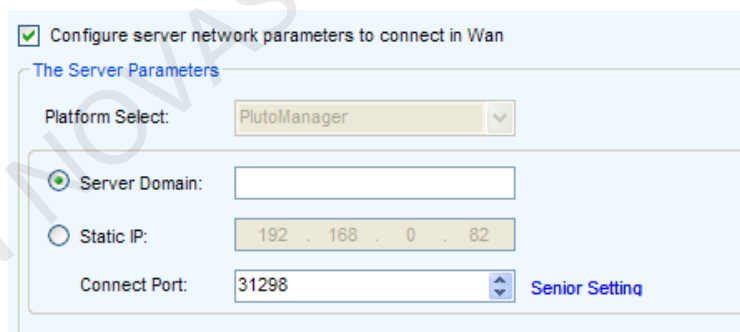



Fig. 2-7 Internet parameters settings

- 4) Set connection port ( command port + file port )

SetCmdPort (command port + file port). It is not necessary to enter "Senior Setting" usually. For exemple: Command portdefault is 31298. File port default is 31299 by adding 1 automatically. Command port and file port can be set respectivelyin

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“Senior Setting” .

	Port should be between 1024~49150, can be set as any value with no conflict to other software.
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- 5) After completion of network parameter settings, click “Send” to send the network parameters to the Asynchronous Card.
- 6) Configure Router (router connected by playback control computer) .
  - a) Login Router configuration page in playback control computer ;
  - b) Configure virtual server
  - c) Login domain
- 7) Run PlutoManager in Control Computer A. Click “Configuration” → “ Software Configuration” in main interface, as shown below:

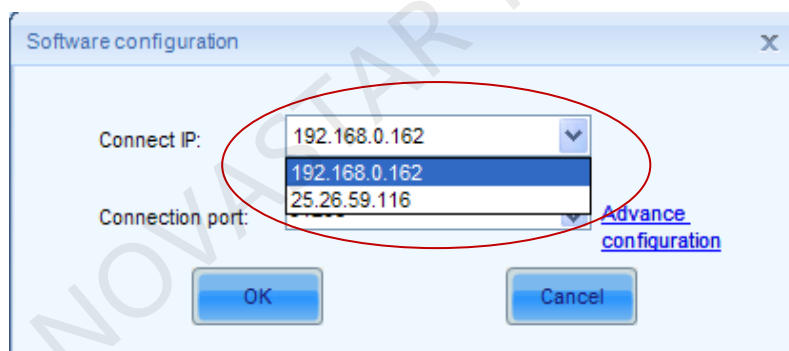



Fig. 2-8 Software settings

Connect IP: IP corresponding to the network card currently used by computer;

Connection ports: include the command port and file port, and the setting method is same as step 4).

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	Connecting port here, and Cmd port in Step 4), must be the same.
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- 8) After completion of the above setting, in the main interface of Pluto Manager and terminal management interface, the automatically connected terminal ① ( asynchronous system ① ) can be seen.

### 3 Document version statement

Version	Date	Update description
Nova Pluto Control System Network Set-up-V1.0	2012-12-11	Initial edition
Nova Pluto Control System Network Set-up-V2.0	2012-12-24	Increase theRequirements
Nova Pluto Control System Network Set-up-V3.0	2013-05-07	Rewrite