

ModView 1.0 Quick Start

EKAN ME-100M



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REGISTRATION CODE: _____

IP Address: _____

COM port setting: _____

Before you begin

Please check your computer equipped with RS-232 and Ethernet interface connector, and your computer is running Windows 98 or later version.



If your computer don't have RS-232 connector

Some of the new computer don't equipped with RS-232 communication port. If your computer has USB port, you can try to find a USB to RS-232 cable from nearby computer shop.

CD-ROM content:

There are three folder in the CD-ROM:

- **Document:** include message editor document and Script document
- **Bin:** Include binary firmware for EKAN ME-100M
- **Sample:** Include MODBUS master connection sample for EKAN ME-100M. And an ocx sample for message upload/download.
- **Message editor:** ModView message editor could help you automatically generate script for message display control. You also could use this program to upload/download message.

Following document could also be found at CD-ROM **document** folder:

ModView message editor manual: How to use the message editor to edit/upload/download message. And use MODBUS master (client) to connect EKAN ME-100M.

ModView script manual: ModView have its own script syntax. This document will teach you to create complex message and script out let by using MODVIEW script.

Check EKAN ME-100M Items

EKAN package including following items:

- EKAN LED display master module
- RJ45 to RS-232 connector cable
- ModView message editor software driver CD-ROM
- Quick Start guide

Please contact local ICPDAS dealer, for more selective option for EKAN LED display.



Different between **master module and **slave** module**

EKAN mater module can use “**Daisy Chain**” to link EKAN slave module. Mater module equipped with 7186 embedded controller board and FR-net control chip made by ICPDAS, and can control up to 31 slave modules. Slave module only equipped with FR-net chips and LED display module.

Chapter 1 EKAN ME-100M hardware setup

1-1 Hardware installation

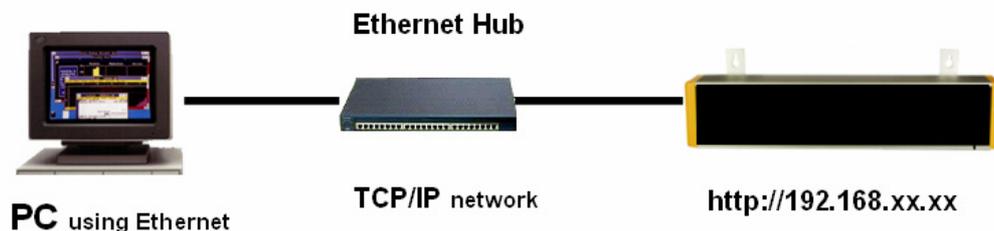
EKAN ME-100M using Ethernet for system configuration. And user could use MODBUS TCP protocol to trigger message stored at EKAN ME-100M. You could use `http:// EKAN IP ADDRESS` to enter configuration page.

The default IP address of EKAN-100M is 192.168.0.XX. If you are not sure about the IP address setting, you could use the init switch to let EKAN back to init mode. EKAN will be reset after current message play finished.



The default IP address of EKAN ME-100M

Default IP address of EKAN ME-100M is 192.168.0.xx before you connect LED display's to your network, please make sure there is no other device using the same IP in the network right now. You could use **init switch** (When finished current message display, then EKAN will enter init mode) to reset factory setting of EKAN ME-100M. **MAKE SURE YOU SWITCH BACK TO RUN MODE** after you sees the init message.



Step 1: Make your EKAN ME-100M's IP address won't conflict with other device in the network, Connect the Ethernet with the RJ-45 connector network cable.

Step 2: Please connect the power (+24 at right end, shows in figure) cable to LED device to LED device

Step 3: Power on the LED device

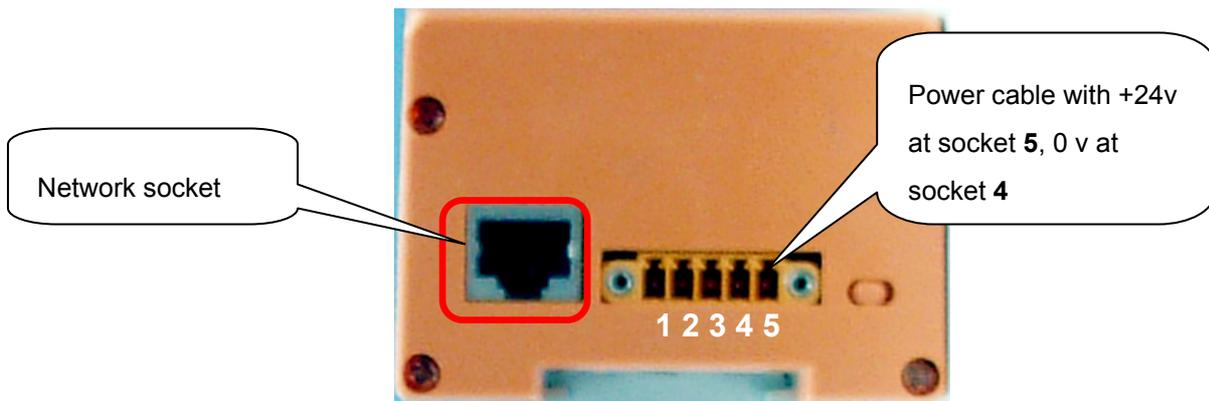


Fig 1-1

After power on the LED, The LED display screen will show the welcome message of EKAN ME-100M and the IP address, and the date/time information inside the LED operating system.

Step 4: Check welcome message will be shown on EKAN ME-100M

How to avoid IP conflict

Before you turn on the power of EKAN ME-100M, if you are not sure about is there have another network device using the same IP address? You could enter the windows command mode and using command “ping 192.168.0.xx” (xx is your LED ip address) to detect is other network device using the same IP address now?

1. From [Start] Menu, Select [Run] then input “cmd”



2. Input the command “ping 192.168.0.xx” (xx is your LED IP address)
3. Check is any device in the network. “Request time out” means no device using that IP address now.

```
C:\WINNT\system32\cmd.exe
Microsoft Windows 2000 [版本 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

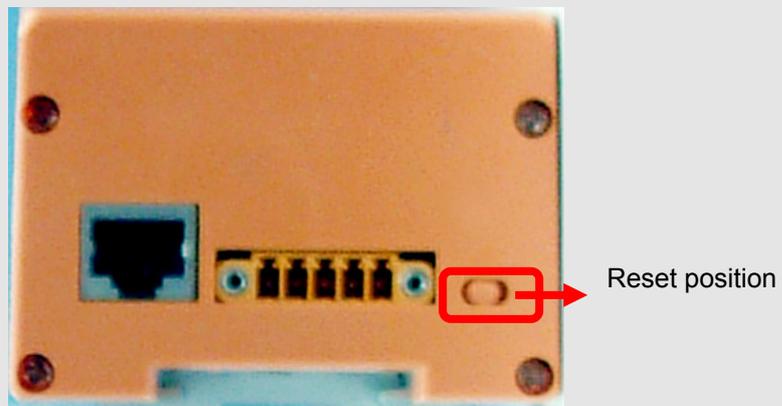
C:\Documents and Settings\Neng-Yu Tu>ping 192.168.100.99

Pinging 192.168.100.99 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.
```

STOP **Soft reset EKAN ME-100M firmware**

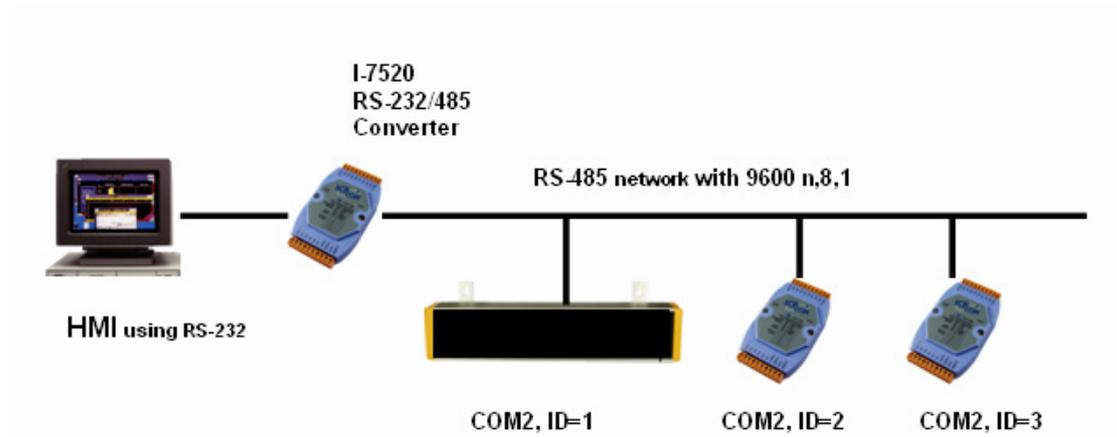
You can use the init switch to reset EKAN ME-100M display into factory preset mode. The **init switch** is located at same side of network socket. You can switch to network socket side and wait for message finish display, than the EKAN ME-100M will clear all message and configuration data, and then into factory preset mode. Please remember **switch the init button back after soft reset**.



1-2 Connect with device

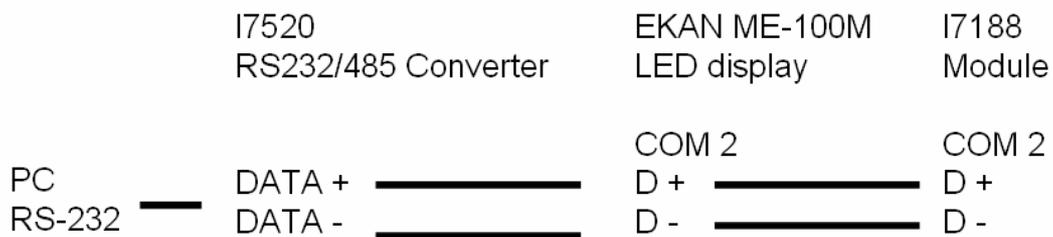
Connecting with HMI/SCADA

Most HMI device equipped with RS-232/485 serial connector. You could use the cable comes with EKAN-ME100M to connect HMI. Please refer to the pin assignment comes with cable for more details.



There are few things that you should be checked, Including:

- **RS-485 network wiring:**



- **Connection parameter setting:** Default is 9600, N, 8, 1. you could adjust the serial port speed to fit your hardware network configuration.
- **MODBUS ID setting:** Default ID=1, You could modify this address

if needed.

- **RTU Time out setting:** Default time **50 ms**, for some fast HMI/OPC/SCADA, you must changed to shorter time setting, like **10 ms**. Setting value are required to change manually due to hardware environment difference.

You could check these connections setting on the web configuration page as following. **http://Your ModView IP address** to modify the connection setting.

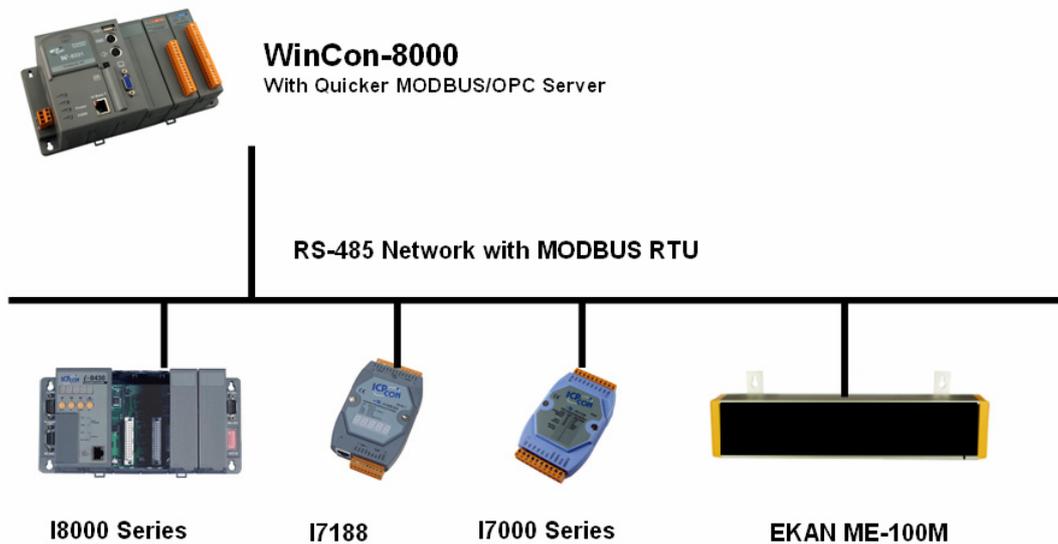
System Setting				
No	Description	Current Value	Setting Value	Examples (Def.)
1	IP Address	192.168.100.97	<input type="text" value="192.168.100.97"/>	192.168.100.97
2	Netmask	255.255.255.0	<input type="text" value="255.255.255.0"/>	255.255.255.0
3	Gateway	192.168.100.2	<input type="text" value="192.168.100.2"/>	192.168.100.2
4	HTTP port	80	<input type="text" value="80"/>	80
5	Date	2005/08/01	<input type="text"/>	2005/08/01
6	Time	13:29:34	<input type="text"/>	13:29:34
7	LED Modules	2	<input type="text" value="2"/>	2
8	Default Mode	Basic	<input type="text" value="Basic"/>	Basic
9	Memo	SYSTEM DEFAULT	<input type="text" value="SYSTEM DEFAULT"/>	SYSTEM DEFAULT
10	Device ID	1	<input type="text" value="1"/>	1
11	Com Port	2	<input type="text" value="2"/>	2
12	Baud Rate	9600	<input type="text" value="9600"/>	9600
13	Parity	NONE	<input type="text" value="NONE"/>	NONE
14	Data bits	8	<input type="text" value="8"/>	8
15	Stop Bits	1	<input type="text" value="1"/>	1
16	RTU Timeout(ms)	50	<input type="text" value="50"/>	50

If your HMI only have RS-232, you could buy a RS-232/485 converter module I7520 from ICPDAS dealer. About how to use HMI connect EKAN ME-100M, please refer to message editor document, **connection with InduSoft chapter** for further information.

Connection with WinCon-8000 (OPC)

WinCon-8000 is a Windows CE based PAC (Programmable Automation Controller). You could use its MODBUS/OPC server (Quicker) to control EKAN ME-100M. You could use free ICPDAS OPC server, or and 3rd party MODBUS/OPC server to control ModView.

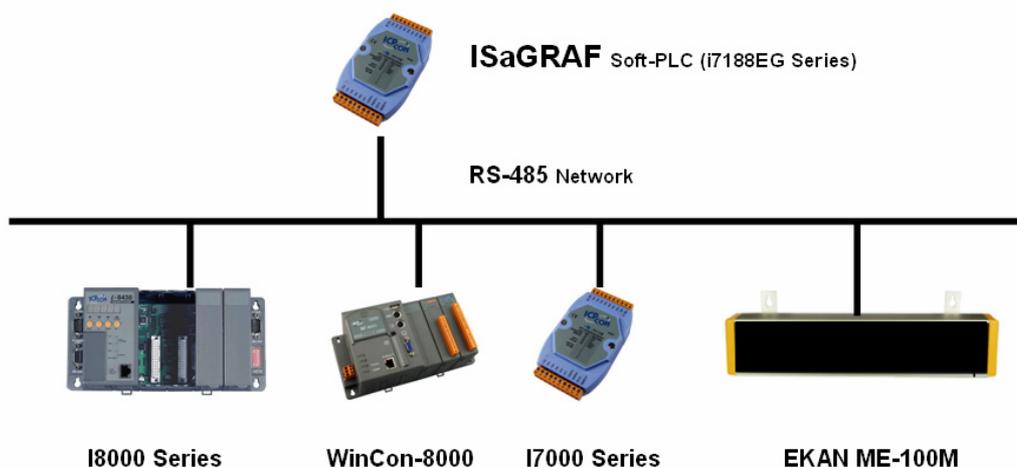
WinCon-8000 comes with Ethernet/RS-232/RS-485 communication port. You could choose the communication port fits your environment.



About how to use MODBUS OPC server connect EKAN ME-100M, please refer to application message editor document, connection with OPC chapter for further information.

Connection with ISaGRAF (I7188EG)

ISaGRAF is a SoftPLC developing environment, it provides popular industry programming language, including LD, FBD, SI and integrated developing environment for traditional PLC based user. I7188EG (or EGD) comes with RS-232/485 and Ethernet communication port. I7188EG could be MODBUS master to control MODBUS slave device like I7188EG /w ISaGRAF.



About how to use I7188EG connect EKAN ME-100M, please refer to message editor document, connection with ISaGRAF chapter for further information.

Chapter 3 EKAN ME-100M software

3-1 ModView message software installation

Your computer is required to fit the minimum requirement in order to install ModView message software.

Operation system version: Windows 2000 or higher

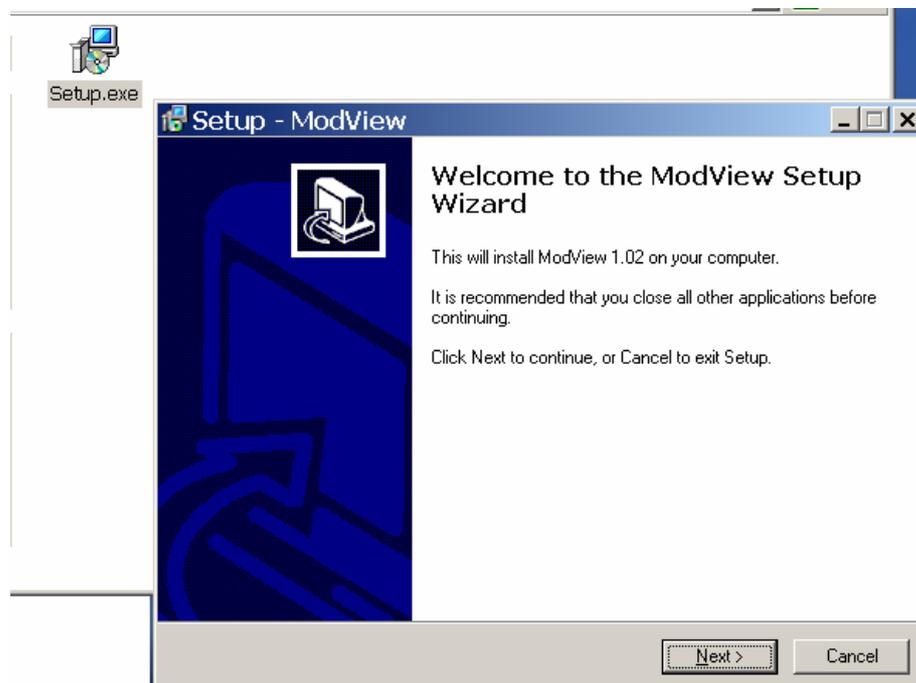
CPU: Pentium II 350 MHz or higher

RAM: 128MB or higher

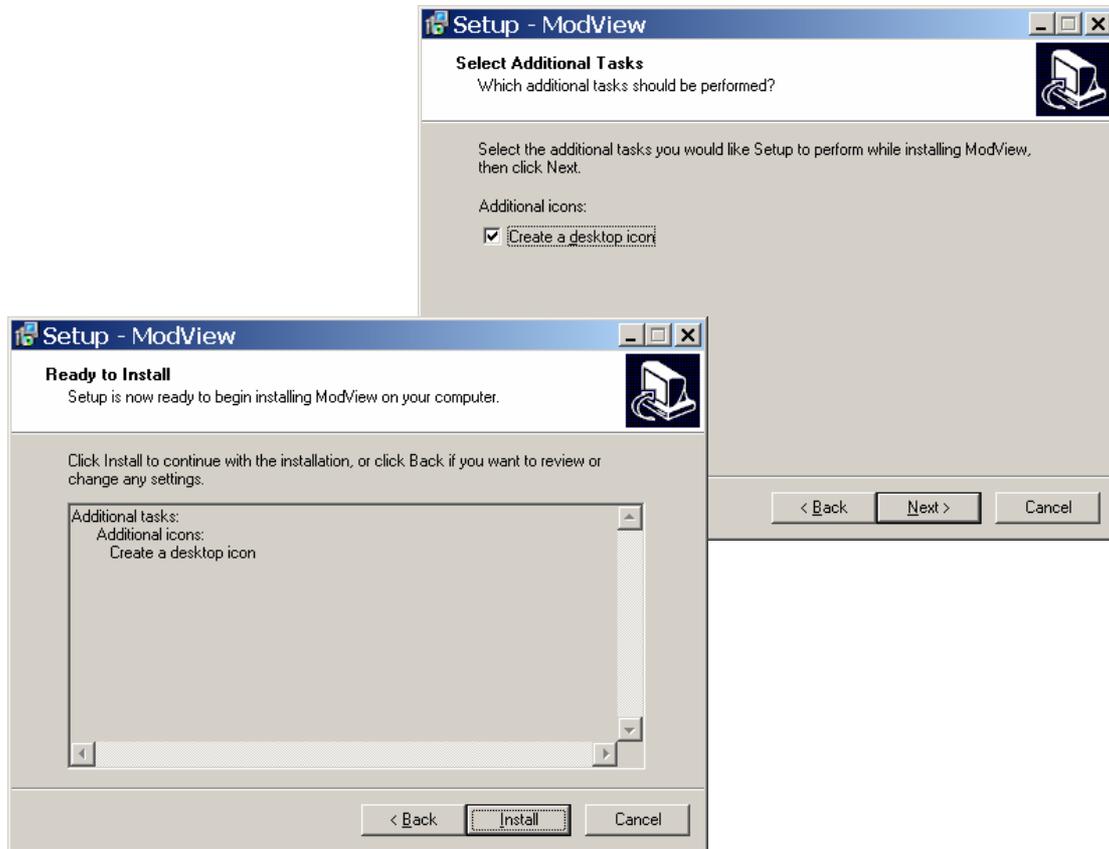
Display: Standard display

Disk space needed: 5 MB or Higher

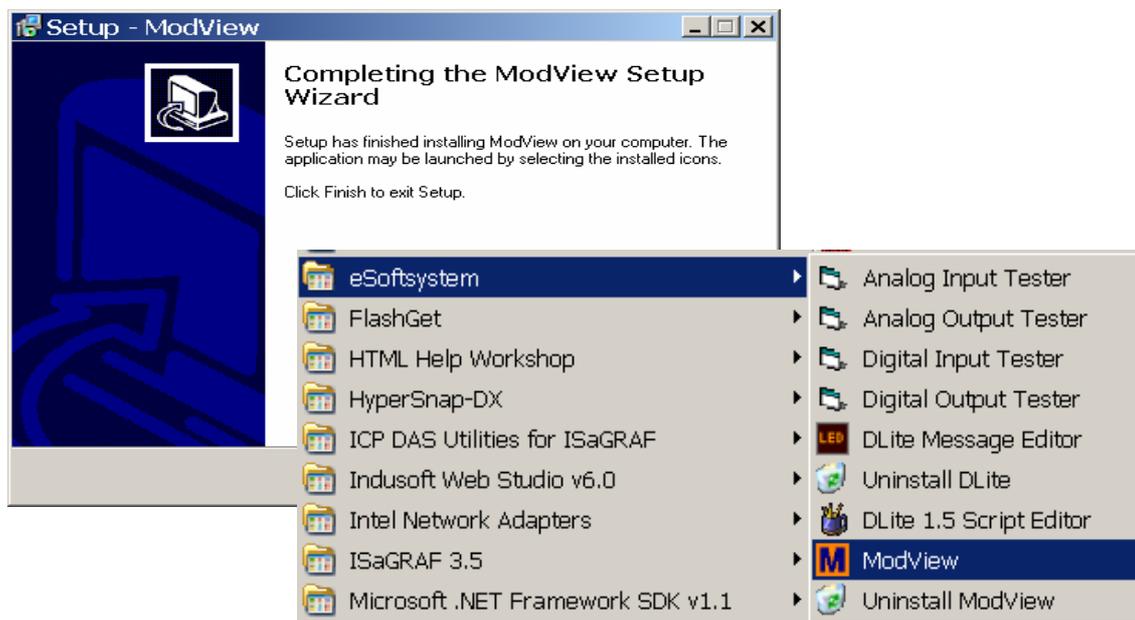
Click on Setup icon in your CD, press [**Next**] to continue:



After please select create desktop icon if needed, Press **[Next]** and the **[Install]** to Install ModView program.



After install, You could use **[Start/Program/eSoftsystem/ModView]** to start ModView program:

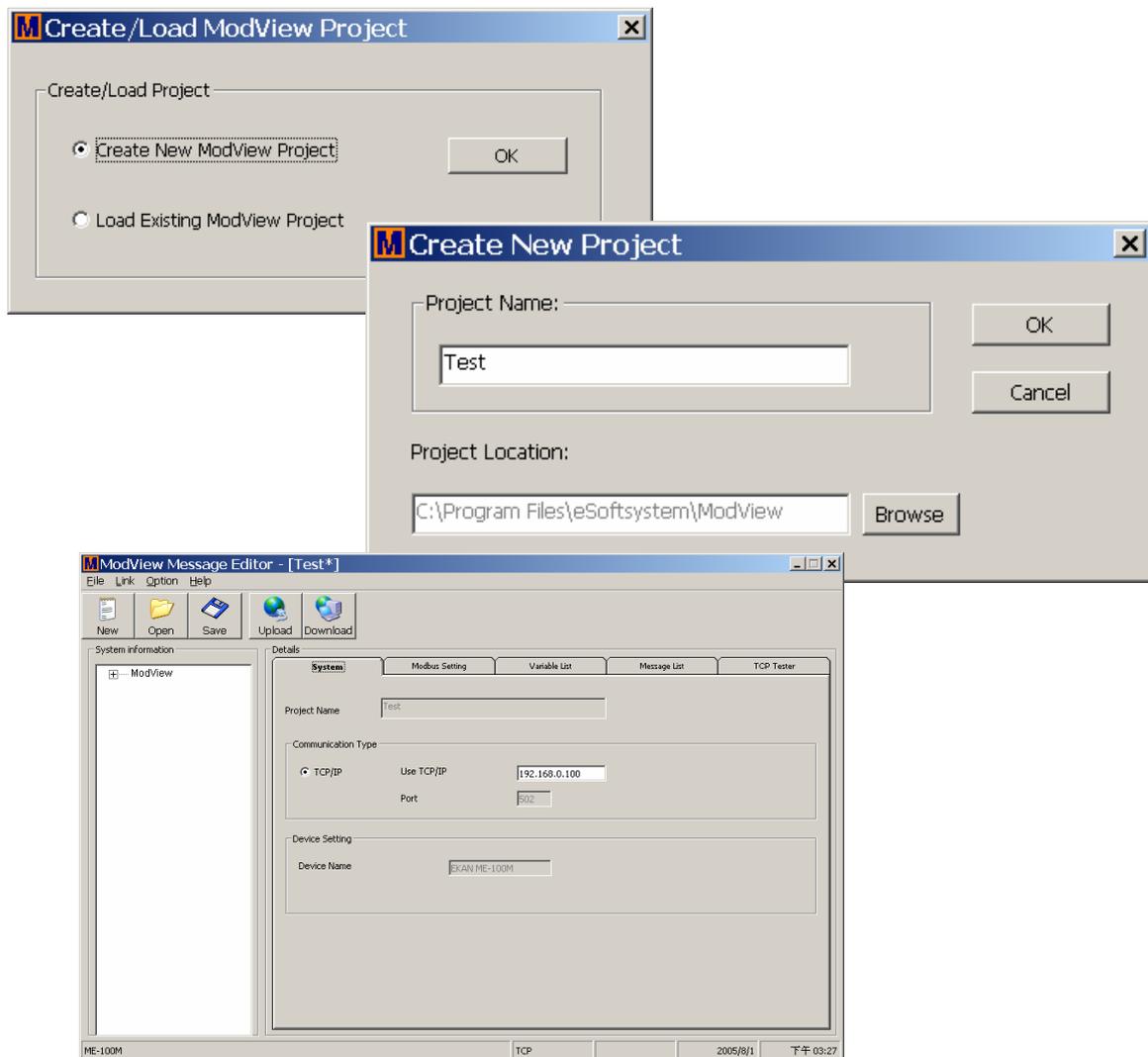


3-2 Start ModView message editor

After you successfully install ModView message editor, you could use **[Start/Program/eSoftsystem/ModView]** to start ModView program.

After you click on the message editor, please select to create a new project and give project name.

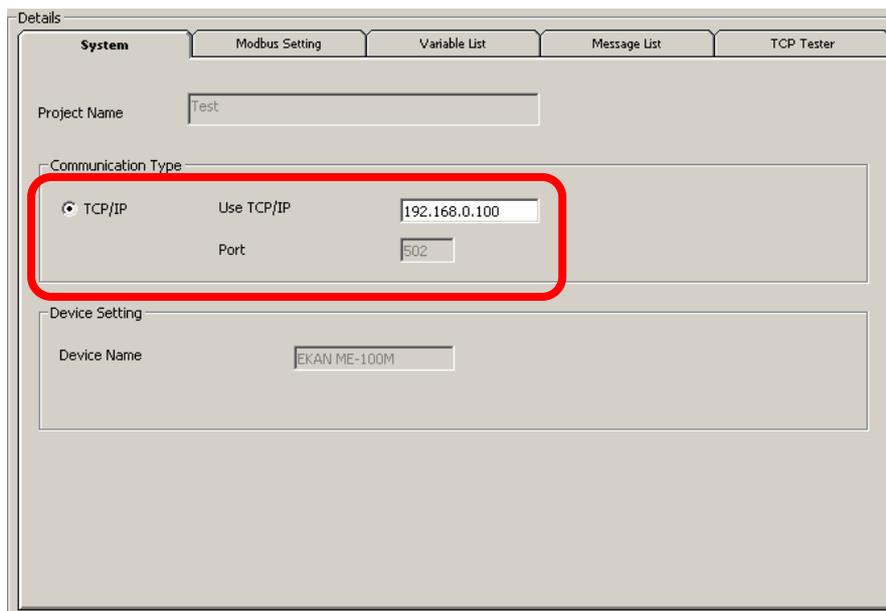
1. Select to create a new project
2. Give the project name test
3. Change the project location if needed
4. Enter the ModView main manual



After create project, Press [**Save**] button, The project file will be store at root directory of the installation folder. With the file name XXXX.mvp. XXXX is file name. And the upload message files will be generated at same time.



Input the ModView IP address in the Use TCP/IP text box, when the project files upload, **ModView Tester** will be use this IP setting for system configuration, **Make sure the IP Address is CORRECT here:**



3-3 MODBUS address setting

ModView could have 40 regular groups and 20 emergency message groups, each group could be triggered individually and have own message scripts. Each message group could have one line or multi lines of message script.

All message using 60 continuous addresses, default start from 00300. First 20 messages is Emergency messages (00300-00319), other 40 messages is regular messages (00320-00359).

- Float Register: 40100-40126
- Boolean Coil: 00100-00132
- Emergency message: 00300-00319
- Regular message: 00320-00359

In some systems, will use 00301-00320 and 00321-00360 as input address.

The screenshot shows a software window titled "Details" with a tabbed interface. The "Modbus Setting" tab is active. It contains four sections for configuring start addresses:

- Emergency Message Start Address (20 Continuous 0xxxx Coil Address):** Current Address: 300, New Address: []
- Regular Message Start Address (40 Continuous 0xxxx Coil Address):** Current Address: 320, New Address: []
- Float Variable Start Address (64 Continuous 4xxxx Register Address):** Current Address: 100, New Address: []
- Boolean Variable Start Address (32 Continuous 0xxxx Boolean Address):** Message Modbus Start Address: [], Current Address: 100, New Address: []

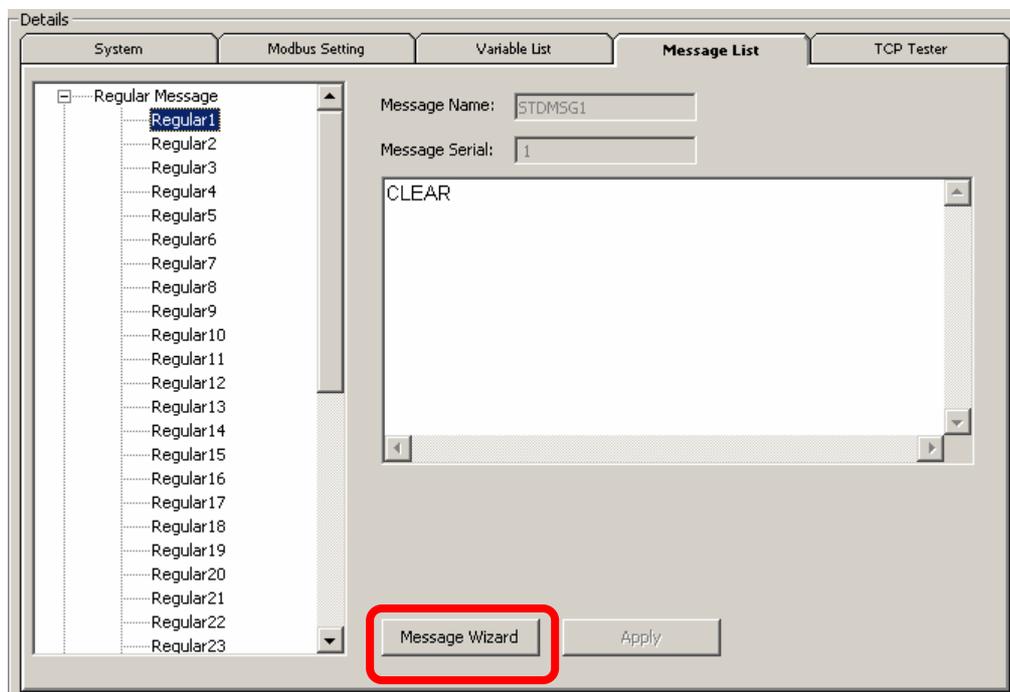
At the bottom of the window are two buttons: "Restore Default" and "Apply".

3-4 Message with variable

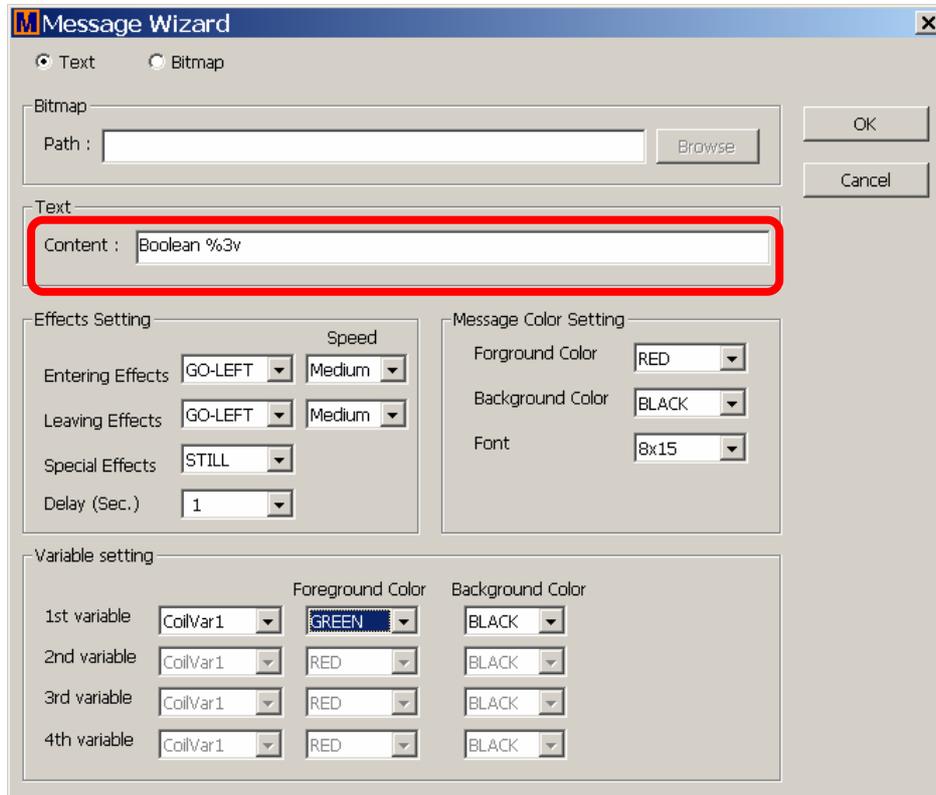
The most important function is the message could have variable inside. For example, a PLC's temperature information could send to ModView to display via MODBUS protocol. Following is a message with Boolean variable inside at MODBSU address 00100.

When you insert variable, **you MUST use %Xv (ex: %7v)** as variable symbol to insert variable (in Beta version). The X is the character space for variable.

1. Switch to **[Message List]** page
2. Select the regular message you want edit.
3. Press **[Message Wizard]** button



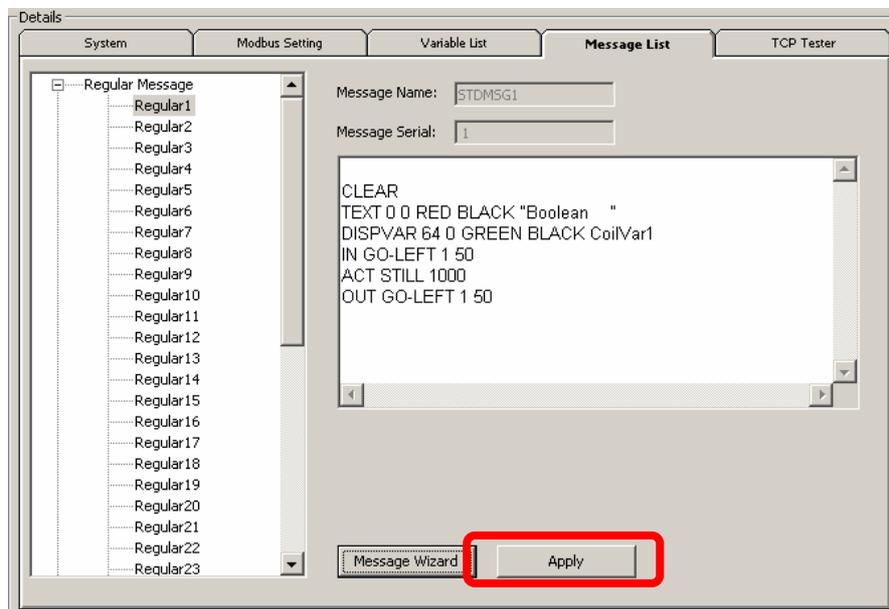
4. Select [**Text**] as message format
5. Input the message text "**Boolean %3v**" in the content field



6. Select variable name on the 1st variable field, here we use "**CoilVar1**" for the Boolean variable we used in previous section. And select GREEN color for the variable text.
7. Select [**Effect Setting**] and select [**GO-LEFT**] and [**GO-LEFT**] as entering and leaving effects
8. Select proper message color in the message color setting
9. Set the message font to "**8x15**"
10. Press [**OK**] button

The script editor will generate these scripts in the text box:

```
CLEAR
TEXT 0 0 RED BLACK "Boolean  "
DISPVAR 64 0 RED BLACK CoilVar1
IN GO-LEFT 1 50
ACT STILL 1000
OUT GO-LEFT 1 50
```

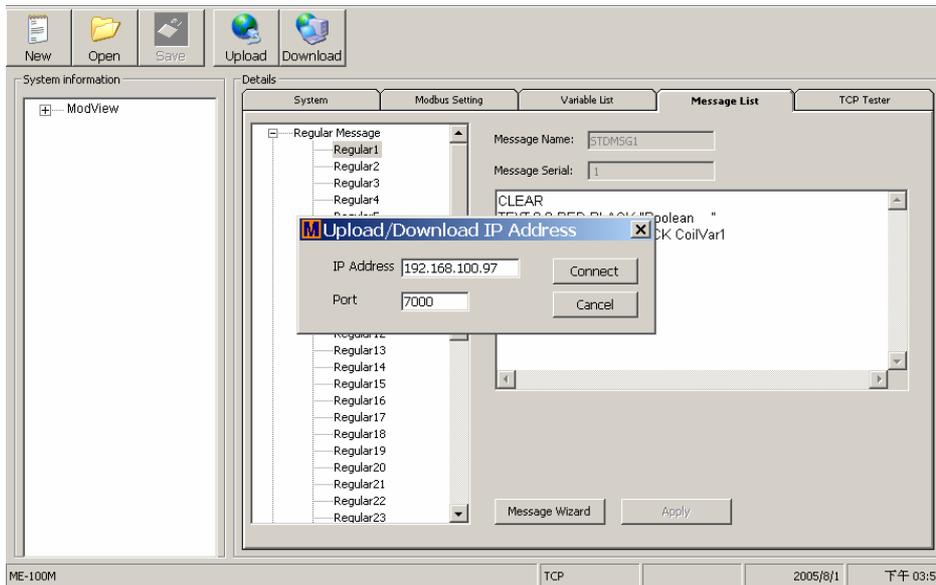


11. MUST Press **[Apply]** button to save this message.

After you save the message, you could save all projects files by click **[Save]** button at control bar.



12. Then, You could upload the message by click **[Upload]** button

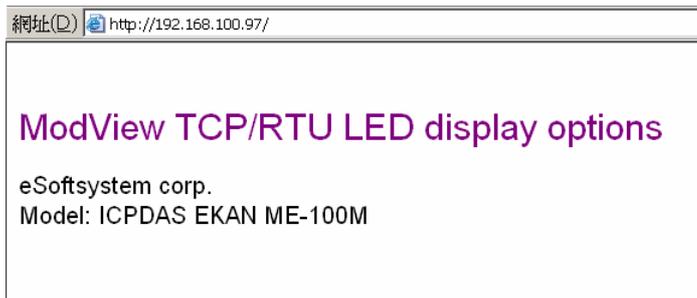


After message uploaded, you could see the “Boolean OFF” message on the EKAN ME-100M display.

For more information about ModView message editor, please refer to message editor manual for more details.

Chapter 4 System configuration using Web interface

MODVIEW use Web interface to change system configurations. You could type `http://YOUR_MODVIEW_IP_ADDRESS` to connect EKAN. For example:



System Setting				
No	Description	Current Value	Setting Value	Examples (Def.)
1	IP Address	192.168.100.97	<input type="text" value="192.168.100.97"/>	192.168.100.97
2	Netmask	255.255.255.0	<input type="text" value="255.255.255.0"/>	255.255.255.0
3	Gateway	192.168.100.2	<input type="text" value="192.168.100.2"/>	192.168.100.2
4	HTTP port	80	<input type="text" value="80"/>	80
5	Date	2005/08/01	<input type="text"/>	2005/08/01
6	Time	13:29:34	<input type="text"/>	13:29:34
7	LED Modules	2	<input type="text" value="2"/>	2
8	Default Mode	Basic	<input type="text" value="Basic"/>	Basic
9	Memo	SYSTEM DEFAULT	<input type="text" value="SYSTEM DEFAULT"/>	SYSTEM DEFAULT
10	Device ID	1	<input type="text" value="1"/>	1
11	Com Port	2	<input type="text" value="2"/>	2
12	Baud Rate	9600	<input type="text" value="9600"/>	9600
13	Parity	NONE	<input type="text" value="NONE"/>	NONE
14	Data bits	8	<input type="text" value="8"/>	8
15	Stop Bits	1	<input type="text" value="1"/>	1
16	RTU Timeout(ms)	50	<input type="text" value="50"/>	50

You could modify all system configurations here. Like system IP/MASK/GATEWAY and the HTTP port/Date/Time information.

Function name	Default value	Description
IP address:	192.168.0.100	Set the LED master module IP address
Mask:	255.255.255.0	Set the LED master module IP mask
Gateway:	192.168.0.1	Set the LED master module gateway address
HTTP port:	80	Set the LED master module port for web configuration interface. Default port is 80 for HTTP protocol, you may change if needed.
Date Setting:		Set Date, format is "2005/12/10".
Time Setting:		Set Time, format is "22:12:10"
LED module used:	2	Current LED panel number connected to the EKAN LED display. Default module is 2 LED panel, maximum number is 8 (8 LED panels).
Default Mode:		Not used in EKAN ME-100M 1.5
Memo:		User could write the memo for system setting.
Device ID	1	The device ID for MODBUS RTU
COM port	2	Use RS-485 on COM port2
Baud Rate	9600	Default use 9600, You could use 19200 or other setting
Parity	NONE	NONE, ODD, or EVEN
Data Bits	8	Default is 8 for MODBUS specification
Stop Bits	1	Default is 1 for MODBUS specification
RTU Timeout	50 ms	Default is 50 ms for OPC connection, Use 10 ms for some HMI connection.

Appendix A EKAN firmware update/maintain

EKAN LED display device is based on ICPDAS 7188 controller technology and MiniOS7 as operating system, **you can use MiniOS7 utility or 7188xw program to configure the EKAN ME-100M or update system image in the flash memory via RS-232 cable.** You can download the program from the ICPDAS website, the address is:

"<ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/minios7/utility/>".

Same directory path is under CD-ROM folder.

You also could find this utility under MiniOS7 category:

<http://www.icpdas.com/download/download-list.htm>

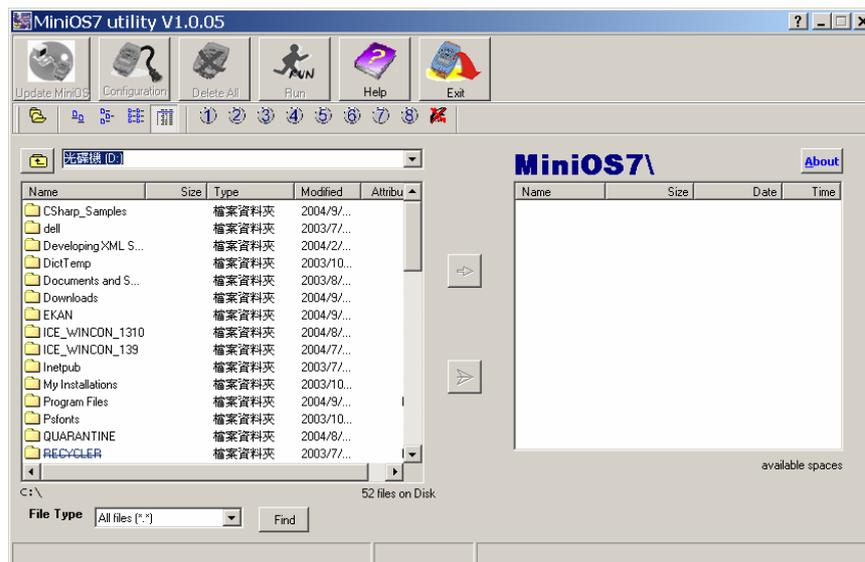


Fig 1-4: ICPDAS MiniOS7 configuration program

Detail about how to use those program and steps, please refer to **ICPDAS 17188 Web site** for further information.



Please be careful about firmware operation

Improper updating firmware may cause serious damage to your data on LED. Please contact your local dealer for firmwares update/maintain service.

A-1 7188xw program introduction

If you need to make further configuration, **you could using ICPDAS 7188xw DOS mode command to configure your system.** You can copy the program to your working directory, and simple click the icon to start the program.

Here is part of MiniOS7 command list and command sample:

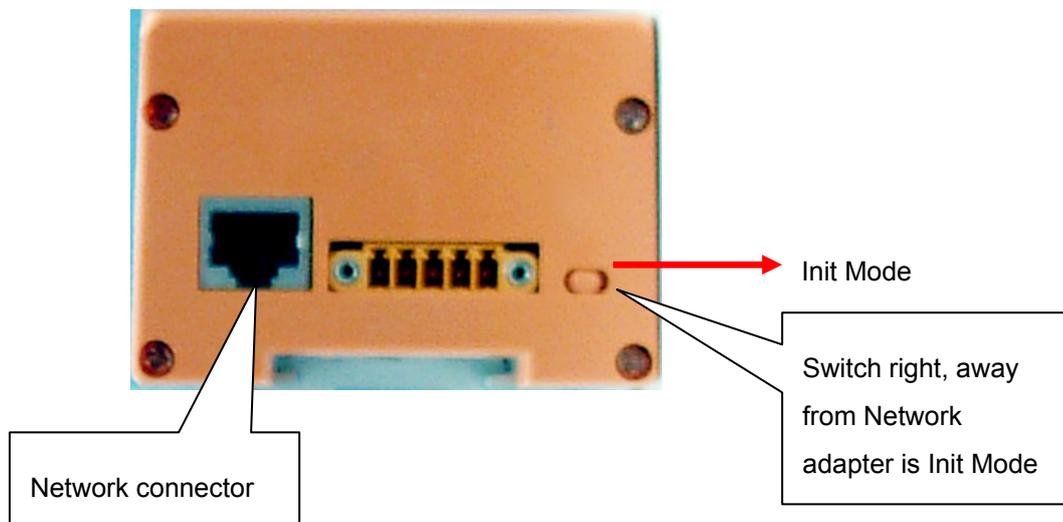
Command	Function	Example
Time	Set the system time	Time 00:00:00
Date	Set the system date	Date 2004/09/12
Time Init	Initial system clock after changing battery	Time init
disksize	Partitioning the flashsize into 2 disk, disksize 6 1 means first disk is 64kb*6, second one is 64kb*1	Disksize 5 2
Del	Delete file on disk A	Del .
Delb	Delete file on disk B	Delb .
Loadb	Load file to disk B	loadb
IP	Show current IP or set IP	IP IP 192.168.0.100
Mask	Show current IP mask or set IP mask	Mask Mask 255.255.255.0
Gateway	Show current IP gateway or set IP gateway	Gateway Gateway 192.168.0.1

A-2 Restore system firmware on EKAN ME-100M

Here is the complete step by step guide to restore EKAN ME-100M 1.5 system on LED device:

Step 1: Turn off the LED display power

Step 2: Setting the device into init mode.



Step 3: Connect RS-232 cable to your PC COM port 1 and LED device RS-232 Port with Null modem connect cable.

Step 4: Start the 7188xw program from the directory that have "modview.exe", "asc5x7.fnt", "asc8x15.fnt", "autoexec.bat", "index.htm" files.

Step 5: Power up the LED device, 7188xw program will communication with LED device.

```

7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=0, DIR=C:\Document...
7188x for WIN32 version 1.24 (10/31/2003) [By ICPDAS. Tim.]
Current set: Use COM1 115200,N,8,1
AutoRun:
Autodownload files: None
Current work directory="C:\Documents and Settings\Meng-Yu Tu\My Documents\我已接
收的檔案\lkit-v1"
original baudrate = 115200!
now baudrate = 115200!

Bosch Security Systems MiniOS7 for ATM/POS bridge
Ver. 2.00 build 000, Apr 16 2004 09:47:50
SRAM:512K, FLASH MEMORY:512K
[CPU=RDC 1120]

ATM/POS bridge>
    
```

7188 program communicates with LED device

Step 6: Using the "disksize 5 2" command to partition the flash disk on LED device. And "del ." and "delb ." to delete all files on disk A and Disk B.

Step 7: use "loadb" and Alt + E command to load the LED system file into LED. There are total 5 system files need to make LED work. They are "autoexec.bat", "asc5x7.fnt", "asc8x15.fnt", "index.htm", and "modview.exe" system files.

```

7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=0, DIR=C:\Document...
Block 318
Transfer time is: 10.816000 seconds

ATM/POS bridge>loadb
File will save to D3D2:0002
StartAddr-->D000:3D21
Press ALT_E to download file!
Input filename:ascfont2.15
Load file:ascfont2.15 [crc=116A,0000]
Send file info. total 15 blocks
Block 15
Transfer time is: 0.491000 seconds

ATM/POS bridge>loadb
File will save to D4C4:0002
StartAddr-->D000:4C41
Press ALT_E to download file!
Input filename:autoexec.bat
Load file:autoexec.bat [crc=028E,0000]
Send file info. total 1 blocks
Block 1
Transfer time is: 0.050000 seconds

ATM/POS bridge>
    
```

Using "loadb" to upload EKAN ME-100M 5 system files

You can use "**dir**" command to see those files being to loaded at diskb

Step 8: Turn off the EKAN LED display power, switch off the init mode, then turn the power on, restart EKAN ME-100M system.

If you are asked to input registration code on the EKAN LED screen, please contact your dealer for the registration number. And connect the RS-232 cable with 7188xw program to input the registration code.

There are message sample configurations files located under \Sample\ModView_Sample . You could upload these 5 message configuration files and 3 BMPs to EKAN ME-100M disk A:

For detailed system command list, you could check the CD-ROM comes with LED, or check ICPDAS website:

<ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/7188e/minios7/doc/eng/index.htm>

A-3 Trouble Shooting

There might be some problems happened during the set up process, this chart list some problem might happened, and the solution.

Problem	Reason might cause this problem	Solution
This LED display just black	Not correct connect cable	Check the power cable is connected correctly.
Part of the LED panel is full of noisy mixed color	Device in the configuration mode	Please switch to Run mode. To understand initial process, please read Appendix A or 7188 menu on the CD-ROM
LED panel blinking with noise	Improper connecting FR-net cable or power cable to the LED device	Check the power cable or the FR-net cable of the device
LED panel freeze the text	Lost FR-net connection, Or you use still effect and loop the effect	Check the FR-net cable or re-power up the system. Please using Web interface to input a empty Alert (emergency message) on the LED or Use EKAN ME-100M API to remote clear the message on the screen.
Last LED panel in the panel array is blinking with noise signal	The voltage or current is too low to power up LED device, or the cable fail inside the LED device	Check the power unit or the cable inside the LED device

Chart 1-1 Trouble shooting

About eSoftsystem Corp.

eSoftsystem Technology Corp. is the most innovative embedded solution provider. It has built up a team of world experts in embedded software and hardware systems to provide customer high-performance and high-quality embedded solution product and services.