

## DLite Quick Start



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## Before you begin

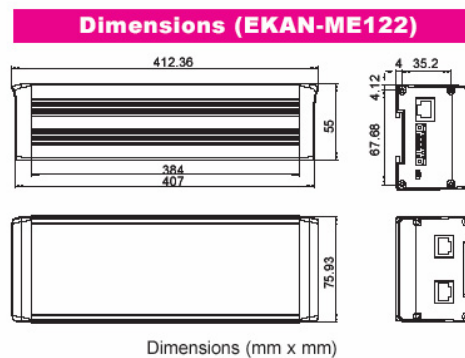
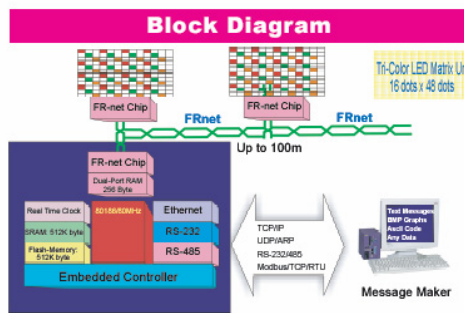
Please check your computer equipped with RS-232 and Ethernet interface connector, and your computer is running Windows 98 or later version.



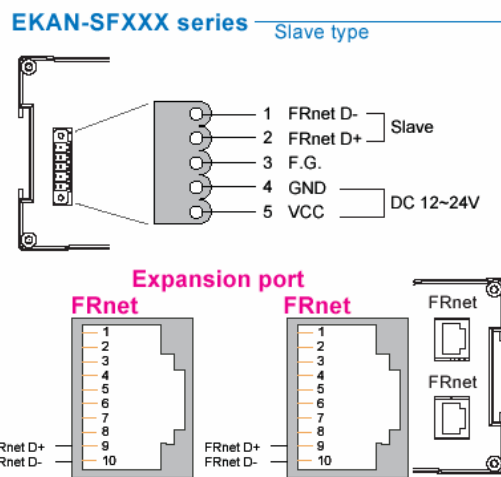
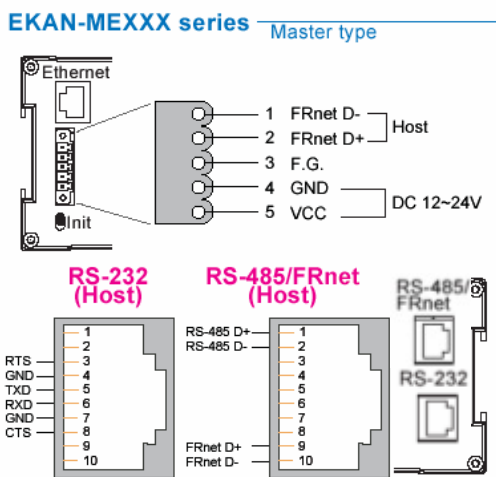
### If your computer don't have RS-232 connector

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.

# Web-Enabled LED Display



## Pin Assignment



## **Check DLite Items**

DLite package including following items:

- EKAN LED display master module
- RJ45 to Null Modem cable
- DLite software driver CD-ROM
- Quick Start guide

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

## Chapter 1 DLite hardware setup

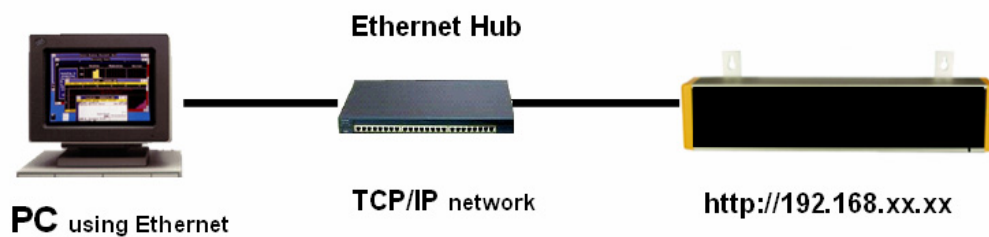
### 1-1 Hardware installation

After you open the EKAN LED display package, please follow the steps to install and test hardware device.



#### The default IP address of DLite

Default IP address of EKAN is 192.168.xx.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** (need 10 seconds to reset) to reset factory setting of EKAN display.



**Step 1:** Connect the Ethernet with the RJ-45 connector network cable with Null modem cable

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

**Step 3:** Power on the EKAN LED display

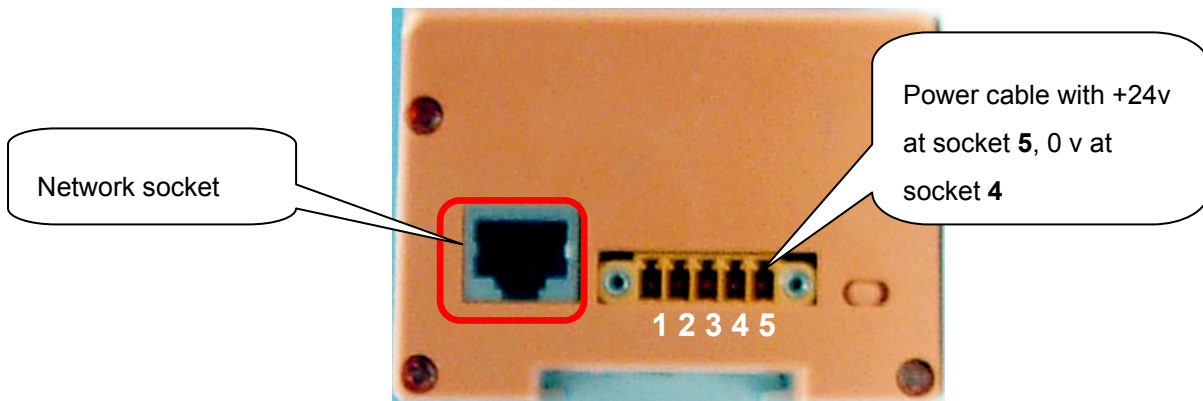


Fig 1-1

After power on the EKAN LED, The EKAN LED display screen will show the welcome message, IP address, and the date/time information of LED display.

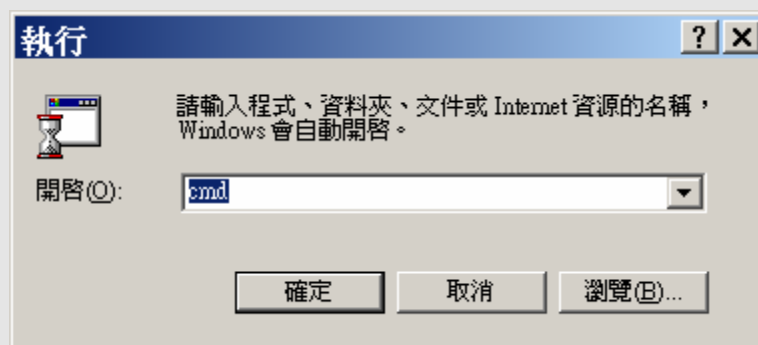
**Step 4:** The default welcome message will be shown on EKAN.



**How to avoid IP conflict**

Before you turn on the power of DLite, 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” usually 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

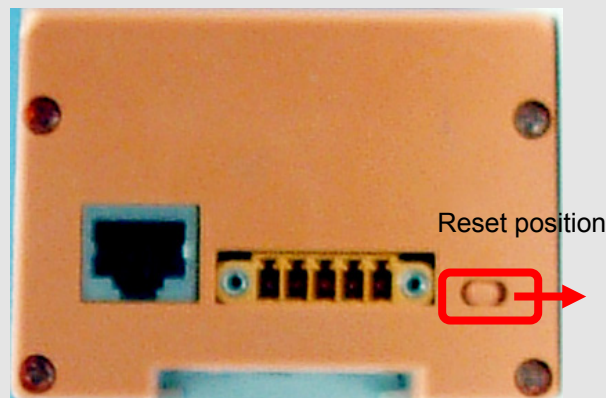
Pinging 192.168.100.99 with 32 bytes of data:

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



### How to soft reset EKAN firmware

You can use the init switch to reset EKAN display into factory preset mode. The **init switch** is located at same side of network socket. You can switch to network socket side for **10 seconds**, than the EKAN 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 EKAN firmware Configuration Program

EKAN LED display uses ICPDAS MiniOS7 as operating system, you can use MiniOS7 utility or 7188xw program to configure the DLite or update system image in the flash memory via RS-232 cable. You also could 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.

After MiniOS7 installation finished, you could see "7188E" entry item on the windows menu.

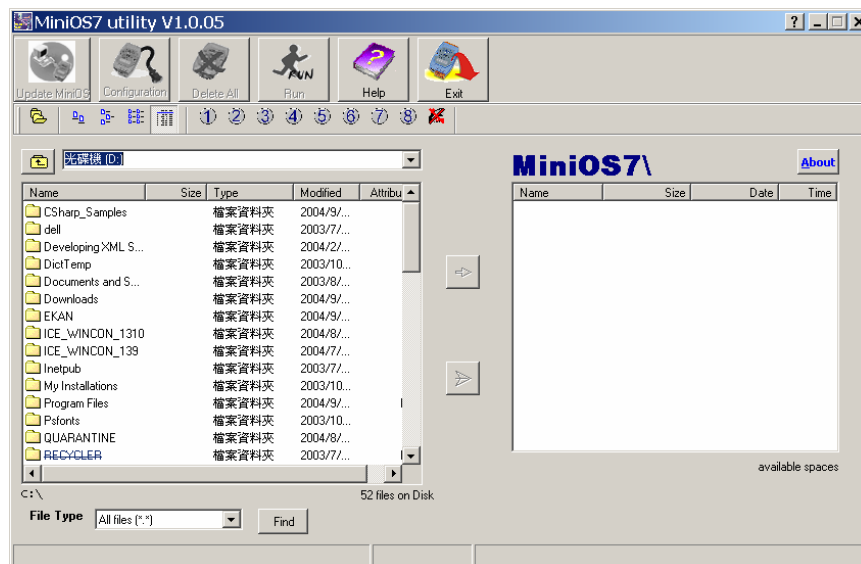


Fig 1-4: ICPDAS MiniOS7 configuration program

Detail about how to use those program and steps, please refer to Appendix section for further information.

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



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## Chapter 2 DLite software Installation

### 2-1 DLite package details and System requirement

DLite package including following components:

**DLite message editor:** Provides an easy use interface for user to post and manage the message in the EKAN. You can double click the *DLiteSetup.exe* icon to install message editor.

**DLite script editor:** Flexible and powerful tool to edit DLite script. User could create complex message and animation by DLite script editor. DLite script editor located at "*ScriptEditor*" folder of installation CD-ROM.

**DLite Web messenger:** DLite Web messenger is a web server natively supported by EKAN firmware. User could use standard Internet browser to send message.

**DLite SDK:** Provides ActiveX OCX for user to create customerized LED application. User also could use this SDK to send real-time message into LED display. DLite script editor located at "*SDK*" folder of installation CD-ROM.

The system requirement suggested by DLite program is shown as follow:

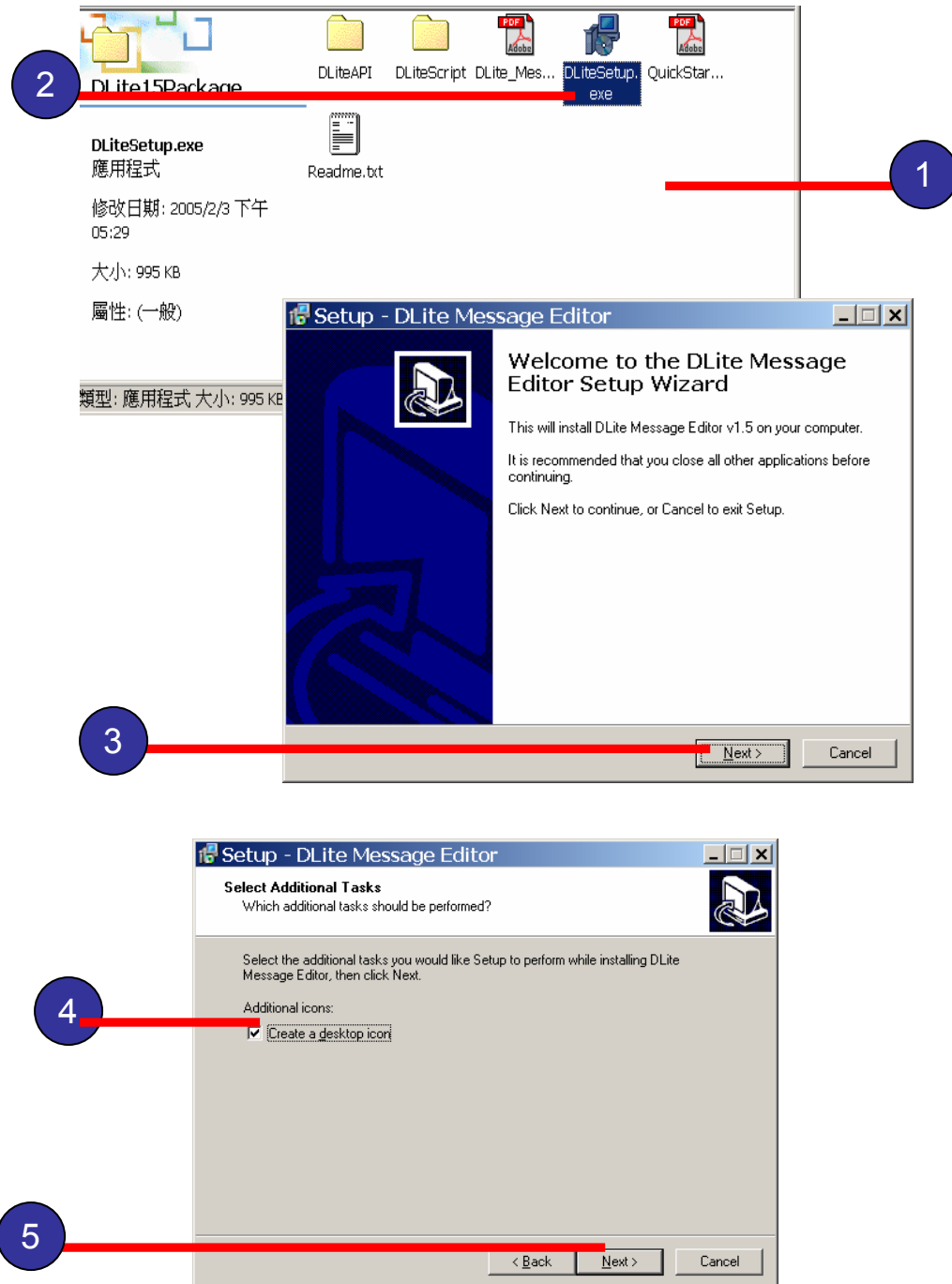
<p><b>Operation system version:</b> Windows 2000 or higher</p> <p><b>CPU:</b> Pentium II 350 MHz or higher</p> <p><b>RAM:</b> 128MB or higher</p> <p><b>Display:</b> Standard display</p> <p><b>Disk space needed:</b> 5 MB or Higher</p>
---

## 2-2 DLite message editor Installation

Please browse the CD-ROM DLite directory to install DLite message editor.

**Step 1:** Find the DLiteSetup.exe from your CD-ROM

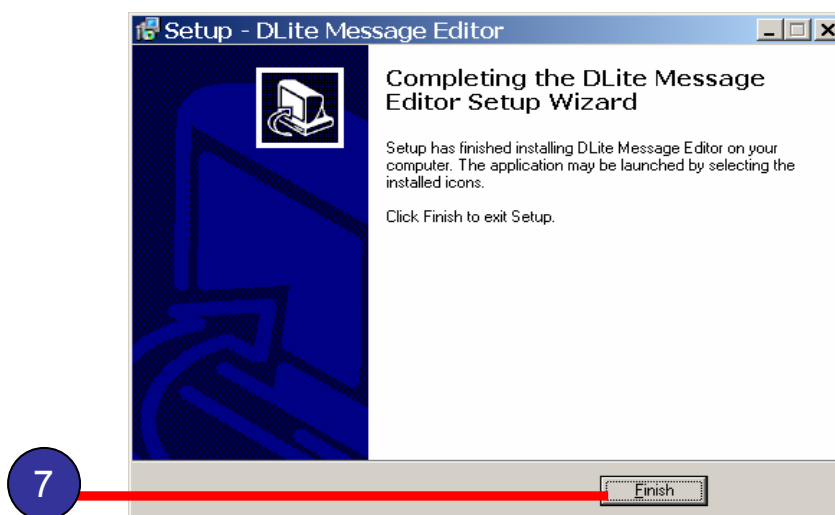
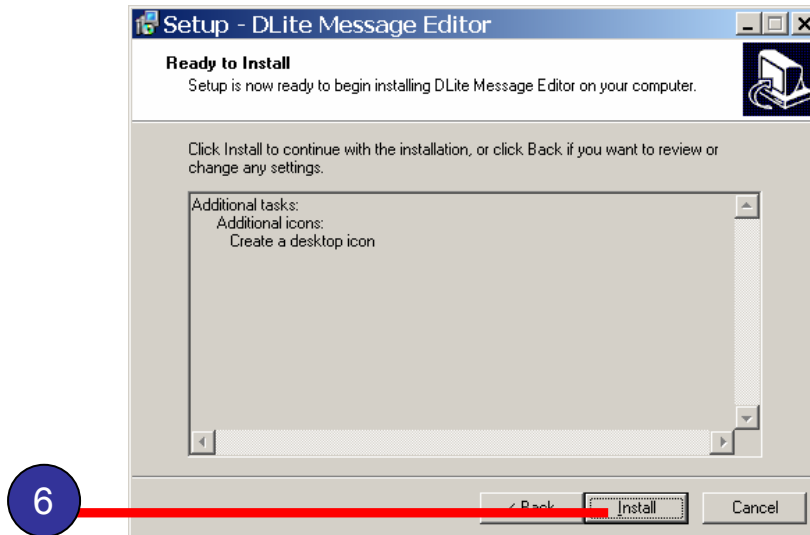
**Step 2:** Double click the DLite, start installation process.



**Step 3:** Press **[Next]** to start installation process.

**Step 4:** Please select create desktop icon, if you want start the program directly from desktop.

**Step 5:** Click **[Next]** to continue installation progress.



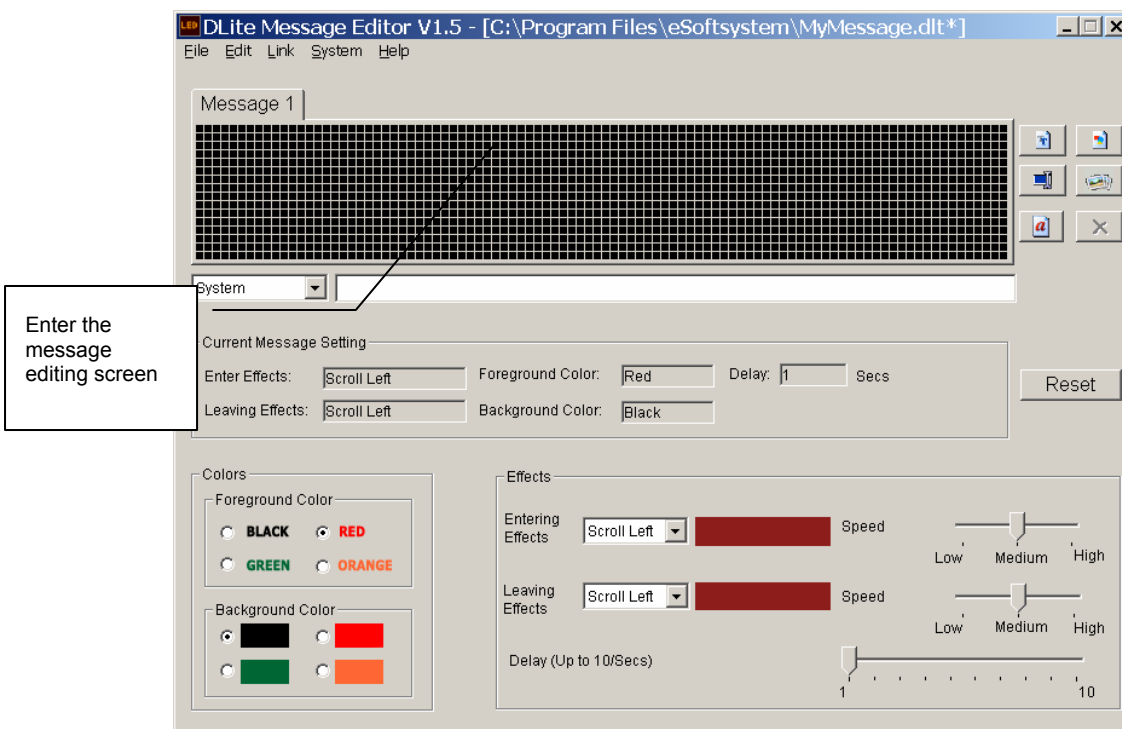
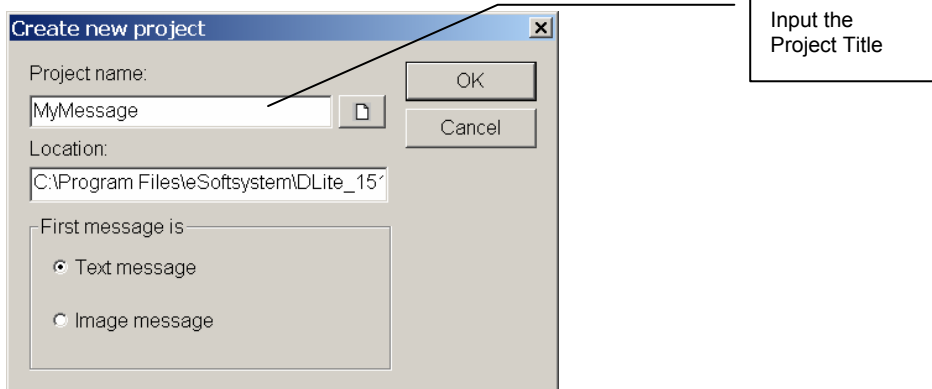
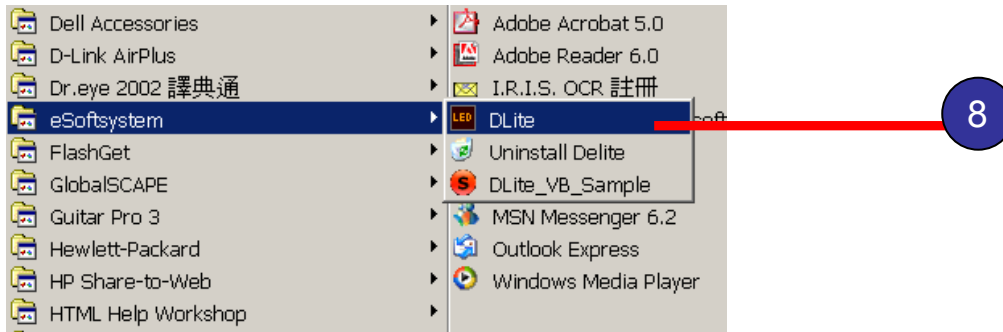
**Step 6:** Click **[Install]** to start installation.

**Step 7:** Click **[Finish]** to finish the software installation.

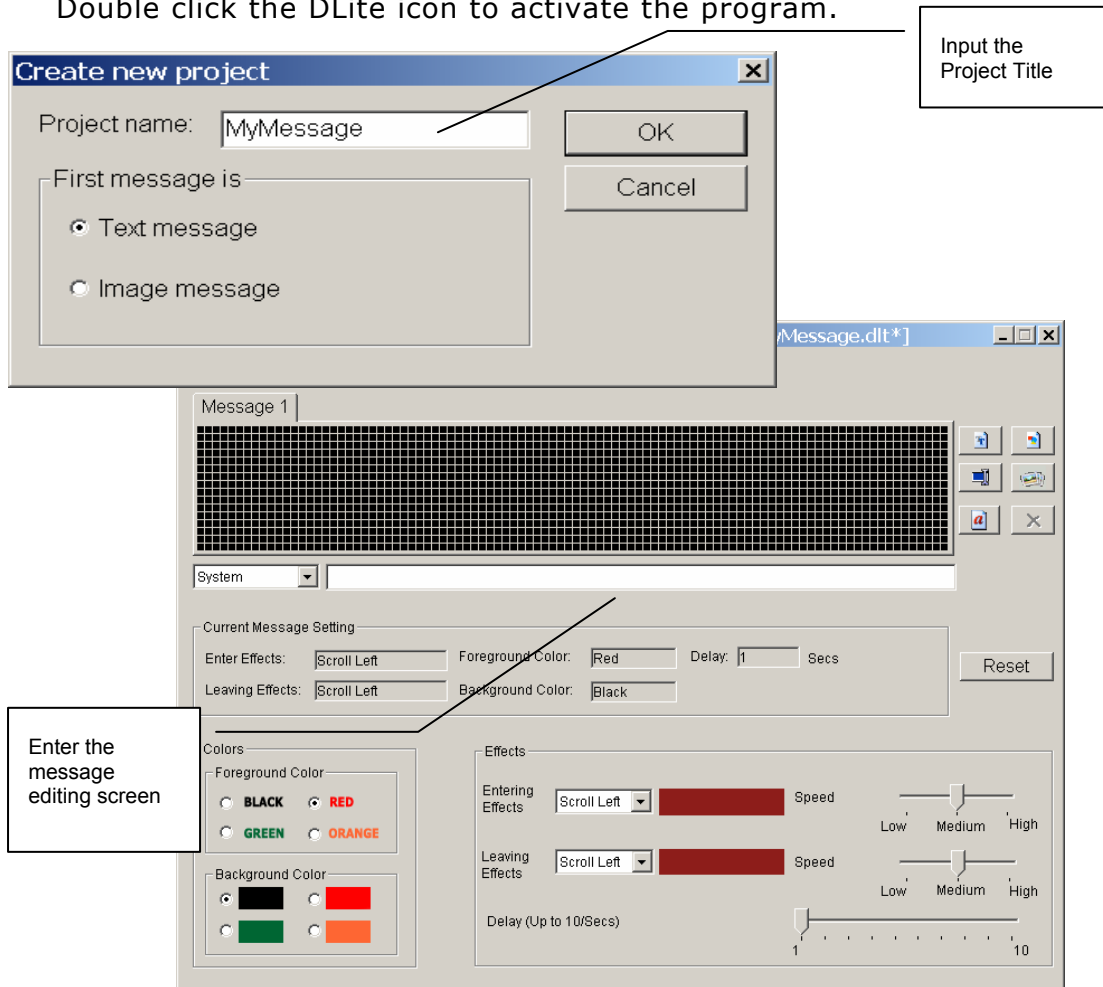
The DLite message software will be installed under \Program Files\eSoftsystem\DLite.exe. After installation process complete, you could see the icon on the desktop and the Start Menu.

Icon will show on the installation directory and desktop.

**Step 8:** Click the DLite icon to on the [Start] menu [Program/eSoftsystem/DLite] to activate the program.



Double click the DLite icon to activate the program.

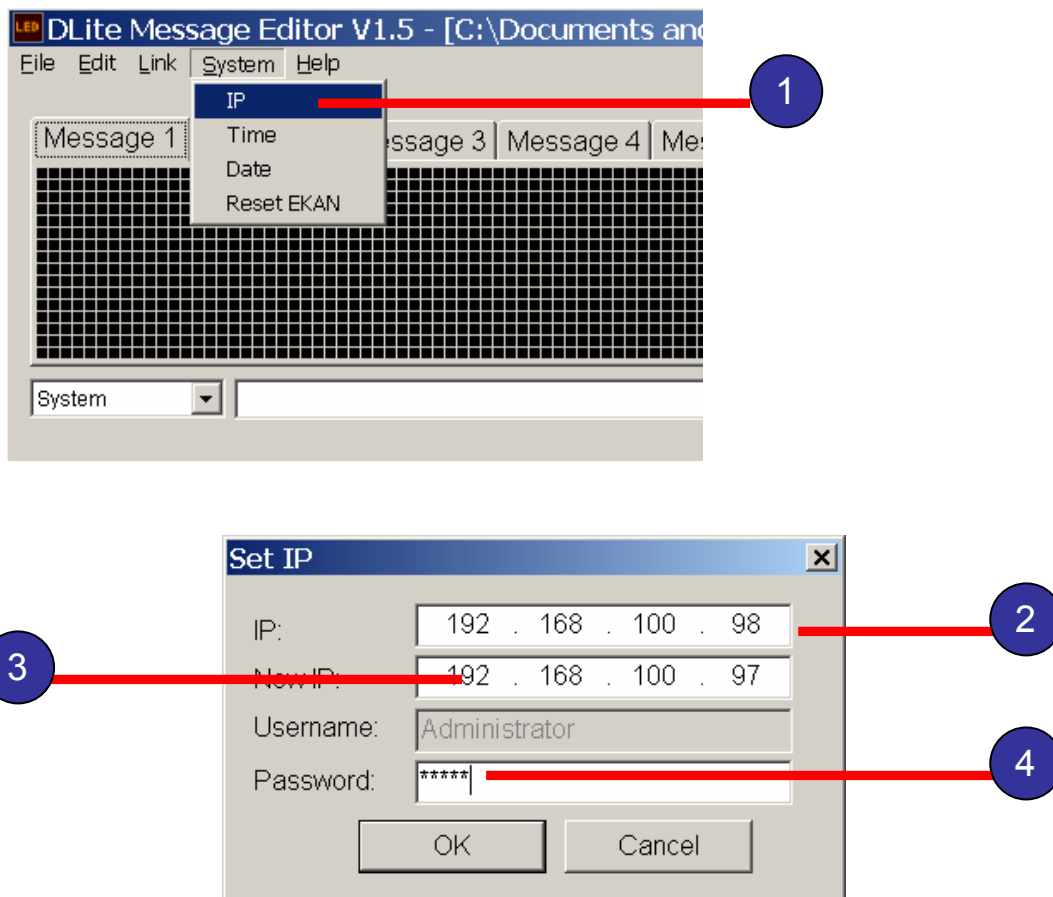


DLite user interface

## 2-3 TCP/IP Setting

You could use the DLite to modify original IP setting, please select the **[System]** from the file menu, then select **[IP]** command to setup IP address and other system setting.

If have IP conflict problem with other network device within your network, you could use DLite program to modify the IP setting, Please select the **[System]** then the **[IP]** to modify the IP address setting.



**Step 1:** Select the **[System]** then the **[IP]**

**Step 2:** Enter **old** IP address

**Step 3:** new LED module IP address

---

**Step 4:** Input the default password 'admin' Press [OK] to connect the dialog box



**About Date and Time setting for LED device**

You can also set Time/Date function using DLite message editor or ICPDAS utility, like 7188xw or MiniOS7 utility. Or you can use <http://your LED IP> then enters the **option** page to set up LED (Looks like <http://192.168.0.100/cgi-bin/options> ).

## Chapter 3 Web message editor

### 3-1 What is web message editor?

Web browser is most common type of user interface that access internet or intranet resource nowadays. DLite also provides Web interface to access message and management function. You can post newest message or update system configuration via TCP/IP network with the Web browser like Internet Explorer.

### 3-2 Edit and update message using web browser

Before you using the Web Interface, you should make sure the network you use should be properly configured. If you access the LED via local lan environment, here is the simple check list:

- The IP address of DLite LED
- Mask setting
- Your computer's IP setting
- Your computer's mask setting

You can use ping command to make sure that DLite LED's IP address.

DLite LED Web Messenger							
Messages List							
No	Entering Effects	Message Text (max. 30 chars/slot)	Delay (Sec)	Leaving Effects	Fore Ground Color	Back Ground Color	Speed
1	SCROLL LEFT	My First Message	1	SCROLL LEFT	Green	Black	Normal
2	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
3	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
4	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
5	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
6	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
7	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
8	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
9	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
10	SCROLL LEFT		1	SCROLL LEFT	Green	Black	Normal
RESET		UPDATE MESSAGES					



1. Please input " http://192.168.0.xx " (xx is your ip address) on your browser
2. Wait for the web page download
3. Input message. **You could input 30 characters per message, up to 10 messages. If you are using Traditional Chinese as input language, you could only input 15 characters per message, up to 5 message via web interface.**

- Input the message**
- Select scroll-in effects**
- Delay of the message**
- Select scroll-out effects**
- The color of the message text**
- The speed for display**

After you change the setting, you could simply click the **[UPLOAD]** button to upload the message setting you just made.

You will see the message on the LED display after you successfully upload.



**You can modify the HTML page if needed**

DLite using standard HTML file for the message input, you can edit the HTML file by standard HTML editing tools. If you familiar with http protocol, you can direct send http command to CGI program to bypass the html page to update the message.

### 3-3 Priority message (Instant message)

Priority message can be treated as some kinds of emergency message or alert message. After you upload the priority message, It will interrupt current display immediately, then loop the message if needed.

You could input the priority message at bottom of each message process page.

Instant Message							
Repeat	Entering Effects	Message Text (max. 30 chars)	Delay (Sec)	Leaving Effects	Fore Ground Color	Back Ground Color	Speed
1	BLINK		1	BLINK	Red	Black	Normal
RESET		INSTANT MESSAGE					

Priority message have 2 different states, first one will only play priority message once, and second one will loop play priority message until upload new messages.



#### Let LED return message play list

You can send a “**blank**” message on the instant message field, and then the LED will clean the message on the LED display and back to message play list.

### 3-4 System Management function

Bottom of DLite Web Messenger has a option link, to the system configuration page, you can change the following setting:

DLite LED Options				
System Setting				
No	Description	Current Value	Setting Value	Examples (Def.)
1	IP Address	192.168.0.94	<input type="text" value="192.168.0.94"/>	192.168.0.94
2	Netmask	255.255.255.0	<input type="text" value="255.255.255.0"/>	255.255.255.0
3	Gateway	192.168.0.1	<input type="text" value="192.168.0.1"/>	192.168.0.1
4	HTTP port	80	<input type="text" value="80"/>	80
5	Anonymous Login	Yes	<input type="text" value="Yes"/>	Yes
6	Password	admin	<input type="text" value="admin"/>	admin
7	Date	2005/1/29	<input type="text"/>	2000/01/01
8	Time	9:19	<input type="text"/>	00:00:00
9	LED Modules	2	<input type="text" value="2"/>	2
10	Default Mode	Basic	<input type="text" value="Basic"/>	Basic
11	Memo	SYSTEM DEFAULT	<input type="text" value="SYSTEM DEFAULT"/>	SYSTEM DEFAULT
		<input type="button" value="RESET SETTINGS"/>	<input type="button" value="UPDATE SETTINGS"/>	

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

Web port:	80	Set the LED master module port for web configuration interface.  Default port is 80 for HTTP protocol, you may change if needed.
Anonymous Login:	Yes	Is allowing anonymous user to login into system.
Password Setting:	admin	Set the password of API/Web login interface.
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 DLite 1.x
Memo:		User could write the memo for system setting.
RESET SETTINGS:		The Web page will reset the web page data to initial web page value.
UPDATE		Update the setting to EKAN system.

SETTINGS:		
-----------	--	--

And You can see following system information on the page:

System Information	
DLite Firmware Version	v1.5.57
Support Fonts	8x16, 5x7 ASCII



**You can direct connect CGI page if needed**

The option page located [http://192.168.0.100 \(Your IP Address\) /cgi-bin/options](http://192.168.0.100 (Your IP Address) /cgi-bin/options) you can direct connect this address to modify your pages. If you familiar with http protocol, you can send required parameter to set the system setting.

## Chapter 4 Using DLite Script

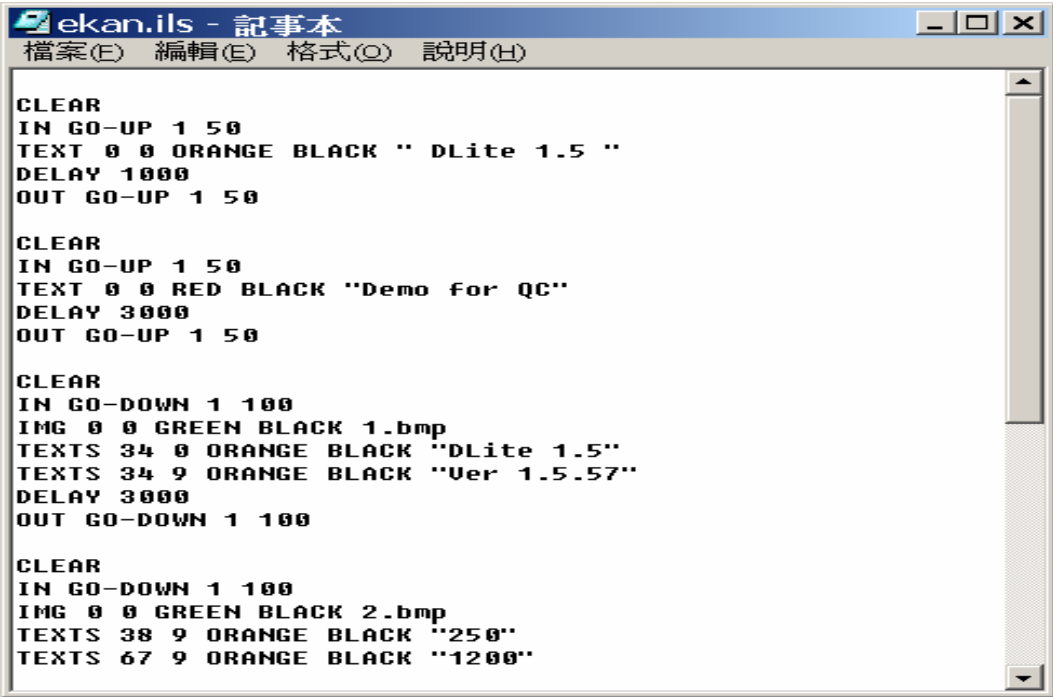
### 4-1 What is DLite script?

DLite script is a command set for display messages inside the DLite LED. It's a "plain text" based file that with specific file name "ekan.ils". If you want to add complex effects to your message, the best way is using DLite script to archive those effects. You can mix graphic and text message in the same display, making the animation effects. DLite script gives you specific ability to edit the message file.

### 4-2 How DLite script works?

The DLite firmware will parse the DLite script when LED power up, or after you upload the new DLite script file from message editor/script editor.

When parsing the script file, DLite firmware will also look up the BMP files that used by "ekan.ils" script file. If all process normally, the firmware will start the message display. The whole process usually takes less than 1 second; normally user won't feel this parsing process.



```
ekan.ils - 記事本
檔案(E) 編輯(E) 格式(O) 說明(H)

CLEAR
IN GO-UP 1 50
TEXT 0 0 ORANGE BLACK " DLite 1.5 "
DELAY 1000
OUT GO-UP 1 50

CLEAR
IN GO-UP 1 50
TEXT 0 0 RED BLACK "Demo for QC"
DELAY 3000
OUT GO-UP 1 50

CLEAR
IN GO-DOWN 1 100
IMG 0 0 GREEN BLACK 1.bmp
TEXTS 34 0 ORANGE BLACK "DLite 1.5"
TEXTS 34 9 ORANGE BLACK "Ver 1.5.57"
DELAY 3000
OUT GO-DOWN 1 100

CLEAR
IN GO-DOWN 1 100
IMG 0 0 GREEN BLACK 2.bmp
TEXTS 38 9 ORANGE BLACK "250"
TEXTS 67 9 ORANGE BLACK "1200"
```

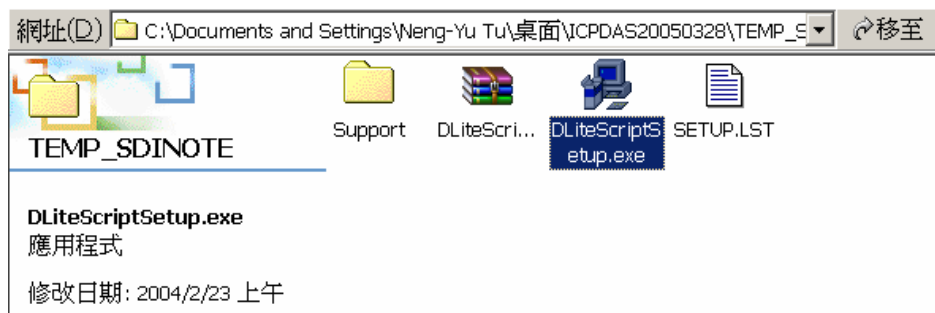
## 4-3 DLite script editor installation

DLite script editor is a text based editor; help you to generate script more quickly and more correctly. It has 3 main functions:

- Text based editing environment
- Script preview emulator
- Upload and download interface

Following is the script editor introduction for script editor.

DLite script editor was put in the CD-ROM's DLite script folder; you can double click the setup icon to start the set up process.

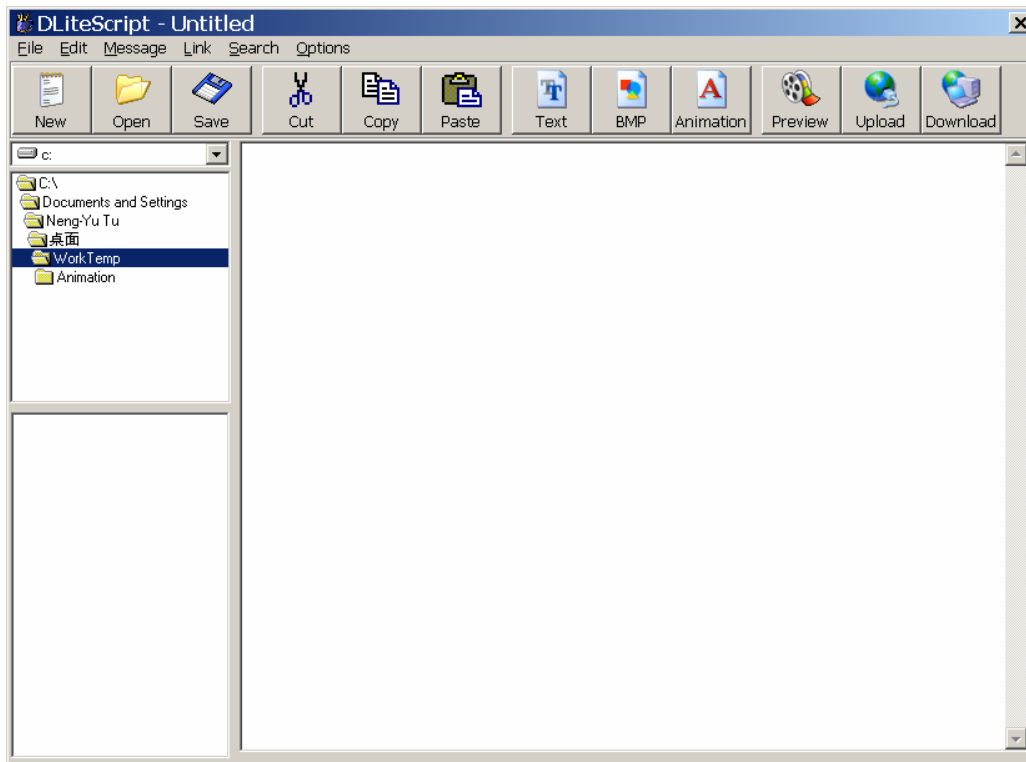


**Step 1:** Click to DLiteScriptSetup icon

**Step 2:** Click the icon to start the installation process.

After successful installation, you can start this program from the **[start]** menu, **[eSoftsystem]** then **[DLite script editor]** to start the program.

The DLite script editor's interface looks like following figure:



### **Have installation on Windows XP SP2?**

The DLite script editor may have security conflicts with some Windows XP SP2 configuration. If installation problem happened, please copy the installation folder to your desktop then re-start the installation process.

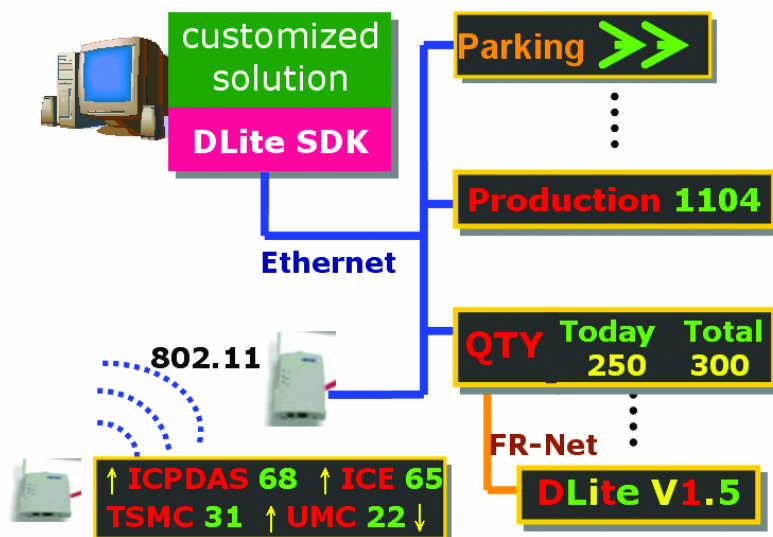


## Chapter 5 Introduction of DLite SDK

DLite SDK is a development kit for software developer to make customized message application. You could use the SDK:

- Upload/download script files and BMP
- Send real-time message
- Trigger specific BMP on the EKAN
- Send real-time drawing commands
- Reset EKAN
- Simulator for DLite script

Solution provider could easily create brand new LED display application by the DLite SDK. Besides Desktop PC version, DLite also provides SDK for Windows CE and other OS platform. Please check: <http://www.icpdas.com> for further information.



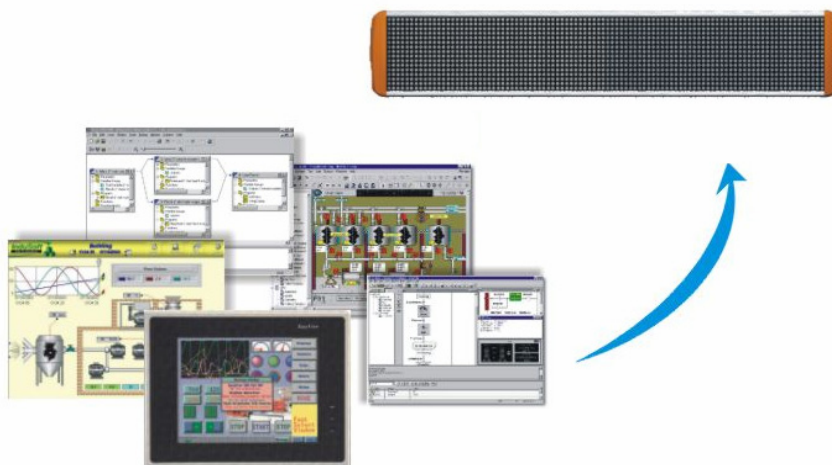
## 5-1 SDK document and binary location

In DLite 1.x, DLite SDK including 2 components: xDLite.ocx and LedSim.ocx. Both components are based on ActiveX technology and compatible with .NET framework. For details please refer to the DLiteAPI.pdf documents inside the **SDK folder** of DLite product CD-ROM.



### Software development kit for ICPDAS WinCon-8000

DLite 1.x also provides a Windows CE version xDLite.ocx for ICPDAS WinCon-8000 controller. WinCon-8000 could use the OCX to send real-time I/O data into EKAN LED display. For details please refer to SDK manual and the retail dealer for further information.



Custom application sends real-time data to EKAN

## 5-2 Integrated with PC based controller

WinCon-8000 is a PC based controller that use Windows CE as operation system. WinCon-8000 provides flexible IO expansion ability and easy use windows interface to automation industry. EKAN provides a Windows CE version of SDK for WinCon-8000, let WinCon-8000 could send real-time message and data into EKAN LED system.

WinCon-8000 could use the DLite SDK in following situation:

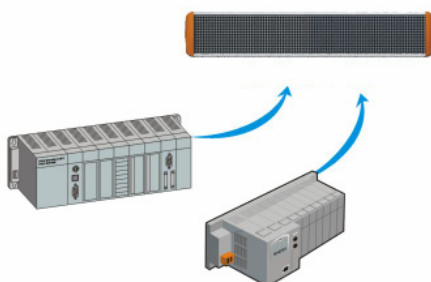
- Send real-time I/O data into EKAN LED display
- Send real-time emergency message
- Drawing bar chart or other graphic in the LED display
- Upload/Download DLite script file
- Reset EKAN

The DLite SDK has a Windows CE ActiveX ocx control for WinCon-8000. WinCon-8000 user could use development tools like embedded visual C++ to create their own solution. You could get newest sample from the ICPDAS website (<http://www.icpdas.com>).



### **SDK for Linux based system: LinCon-8000**

DLite also support other type of operating system and development tools. For more information about Linux C library and Java support, please contact ICPDAS local dealer or visit the ICPDAS web site for further information.



**WinCon-8000 or other embedded device could send data to EKAN via DLite SDK**

## 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>

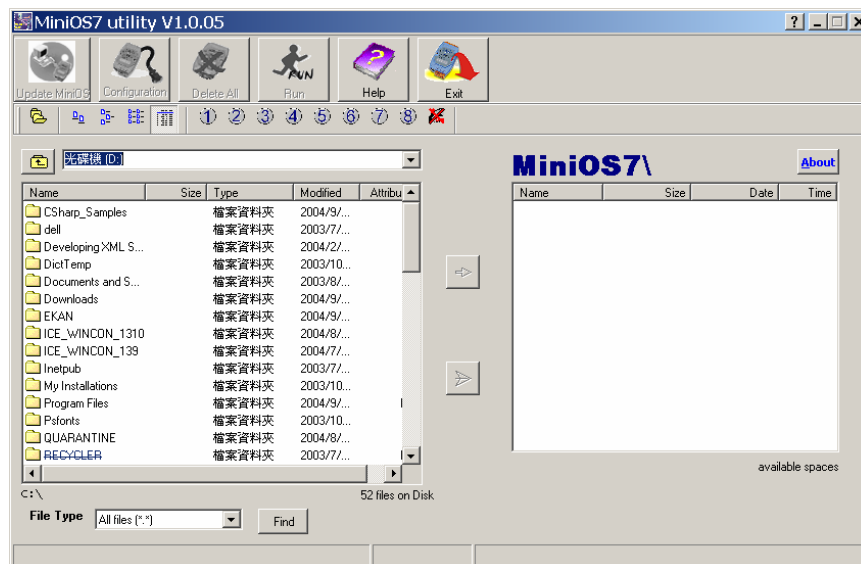


Fig 1-4: ICPDAS MiniOS7 configuration program

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:

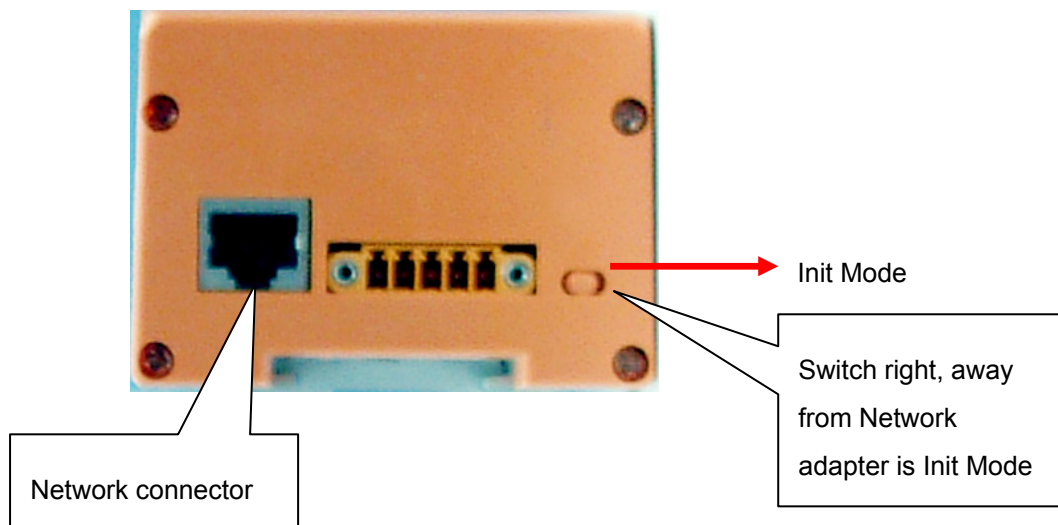
Command	Function	Example
Time	Set the system time	Time 00:00:00
Date	Set the system date	Date 2004/09/12
Time Init	Initial system clock after changing battery	Time init
disksize	Partitioning the flashsize into 2 disk, disksize 6 1 means first disk is 64kb*6, second one is 64kb*1	Disksize 5 2
Del	Delete 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 DLite firmware on EKAN

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.



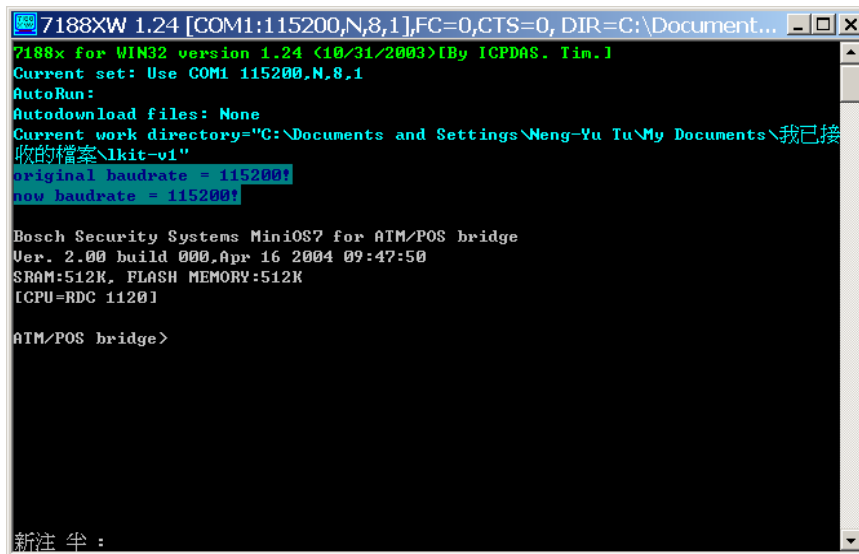
**Step 3:** Connect RS-232 cable to your PC COM port 1 and LED device RS-232 Port with Null modem connect cable.

**Step 4:** Start the 7188xw program from the directory that have following files.

1. **lkit.exe**
2. **asc5x7.fnt**
3. **asc8x15.fnt**
4. **b5-5401.fnt**
5. **b5-spc.fnt**
6. **autoexec.bat**
7. **index.htm**

8. **noauth.htm**
9. **nopage.htm**
10. **errcgi.htm**

**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\Neng-Yu Tu\My Documents\我已接收的檔案\lkit-v1"
original baudrate = 115200!
now baudrate = 115200!

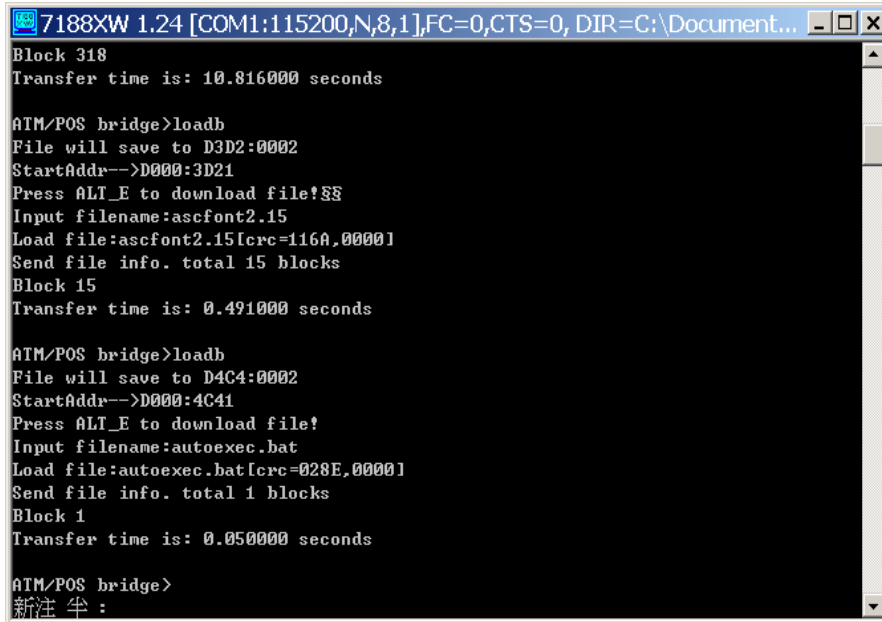
Bosch Security Systems MiniOS7 for ATM/POS bridge
Ver. 2.00 build 000, Apr 16 2004 09:47:50
SRAM:512K, FLASH MEMORY:512K
LCPU=RDC 1120]

ATM/POS bridge>
新注半:
```

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. **"likt.exe", "asc5x7.fnt", "asc8x15.fnt", "b5-5401.fnt", "b5-spc.fnt", "autoexec.bat", "index.htm", "noauth.htm", "nopage.htm", "errcgi.htm"** , total 10 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!SS
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>
新注半:
```

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.

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.

<b>Problem</b>	<b>Reason might cause this problem</b>	<b>Solution</b>
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 INIT switch to Run mode and reconnect power. To understand INIT 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**

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## **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.