Shanghai ONBON Software Technology Co.,LTD

BX-3GPRS

User Manual



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Version history:

Version No	Date	Author	Description
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BX-3GPRS User Manual

1. Summary

Since January 2011 to today ,after six months serious testing and batch trial,BX-3GPRS finally released on November 28, 2011.BX-3GPRS combined with LEDshowGG media information cluster release software have formed superior integrated solution,with best performance ,excellent quality and favorable price,they will remote and lead the GPRS wireless technology in LED display industry .

The main comparision between BX-2GPRS and BX-3GPRS is as below:

	BX-2GPRS	BX-3GPRS		
Dand	900M/1800M	850M/900M/1800M/1900M		
Danu	Only include partial GSM band,so	Support all of GSM band, suit for		
	not validity in all contries.	global users		
Online speed	3 minutes 15 seconds			
Mfetion	No support for Mfetion Only SMS configuration, inconvenient,high cost	Support fetion(just validity for CMCC card) Directly fetion configuration, convenient save cost		
Access point(APN)	No Support	Support APN,safe network applicaiton		
Power	5V	4.5V – 6.5V Wide voltage,lower requires to system power		
Temperature range	-30 – 70℃	-30 – 70 ℃		



2. Application background

With widely use of LED display ,LED display cluster system came into widespread emerge.which increased demands of cluster system.At this satge,most of the cluster systems use wireless control solution based on GPRS/CDMA network,the GPRS/CDMA network have been widely used due to its large coverage and simple networking.Internet GPRS/CDMA server connect to the GPRS network through internet,but LED controller connect to the GPRS network through Internet GPRS/CDMA,so the server can control the LED display screen by GPRS network.





3. Usage

More usage details for BX-3GPRS

3.1 preparations

Item	Name	quantity	other
1	LEDSHOW TW 2011/2012	1	
2	BX-3GPRS SMS configuration tool	1	
3	Computor	1	network computer
4	BX-3GPRS moudle	1	
5	GPRS antenna	1	
6	LED controller	1	Any 3/4/5 controller
7	RS232 directly connect	1	

3.2 Hardware connection

As shown below, GPRS directly connect with the LED controller by RS232, GPRS Antenna connect to the port of GPRS module.

Note: GPRS module and LED controller work in the voltage of 5V.



3.3 Procedure

GPRS configuration composite by server and GPRS module configuration, step as below: Note:in the following instruction, we default all the PC software is working in the GPRS server

Step 1:

Confirm the server mode.



The server mode include static IP and domain name system. In static IP mode, we suggest customer buy a static IP from telecom operators, or the IP will change unstability which need configurate to the GPRS again.

Domain name system is simple ,in this mode ,GPRS module only need configuration for one time ,but the customer need to buy domain name from DNS supplier.

Customer can choose different mode as requires.

Step 2:

Judge whether the server need port mapping,open "BX-3GPRS SMS configuration tool"--judge whether the server need port mapping,as shown below:

BX-3GPRS SES configuration tool
-Network configuration
Server address mode Static IP Port 6000
Static IP 192.168.0.112 Obtain IP Domain address
Judge whether the server port mapping Test server port
-SMS command format
Service network(APN)) Other
DTU number BX-GP000001
SMS command type DTU configuration parameter 💌
SMS command format
Language Close

If the local IP is identical with WAN IP, users do not need port mapping in router(step 2).or carry out step 3.

Prompt	
(į)	The local IP network segment with the WAN IP is identical, users do not need port mapping.
	(确定



Step 3:

If the local IP is diffrent with WAN IP, users need port mapping in route.

(1) The local IP network segment with the WAN IP is different, you need to do port mapping in rout	
•	er.
(())()()()()()()()()()()()()()()()()()	

Note: there will be big difference according to different model and brand of the router, but the basic setting is generally the same, we will take TP-LINK (Chinese router) as an example:

As shown below,input the IP in the router(generally if the local IP is 192.168.1.*,the router IP will be 192.168.1.1)input the user name and password to enter the configuration page. Click the forwarding rules-> virtual server,fill "server port"and "IP address" in the virtual server configuration page,and select the protocol type as ALL,then save it. Note:the server port number must exceed 1024.

★ 参加 (金田) ★ 査技: 密码	図 C × ② 評书 三盗九龙杯 - 王玥… ② 評书吧-Windows Medi ② TL-R4149新一代网吧 × ① ☆ ② 上一个 下一个 上一个 下一个 〕 上一个 下一个 》 送项 ▼
TP-LINK	新路由,新效益
 + 网络参数 → + DHCT服务器 - 转发规则 • 虚拟服务器 • 特殊应用程序 • DMZ主机 • UTAT设置 + 安全设置 • 路由功能 • 连接数限制 • QoS + IT与MAC绑定 • 动态DNS • 交换机功能 + 系统工具 	虚拟服务器 虚拟服务器定义了广域网服务端口和局域网网络服务器之间的映射关系,所有对该广域网服务端口的访问将会被重定位给通过IP地址指定的局域网网络服务器。 服务端口号: 7999 (XI ~ XI or XX) 服务端口号: 192.168.1.222 协议: ALL ▼ 状态: 生效 ▼ 常用服务端口号: 请选择 ▼ 保存 返回 帮助

Step 4:

Add display screen.

Open" LEDSHOW TW" in the GPRS server, select "setting"-> "sett screen parameters", add screen in the "set screen parameters", select "communication mode "as "GPRS communication", other parameters setting is the similar with different screen, as shown



BX3GUM001

below:				
By Parameters Setting				X
Screen list ————————————————————————————————————	Screen parameters Sca	n Configuration Parame	eters Read-back GPR 💶	Main Performance BX-4M Maximum pixels: Single-color 96K dots(98304) Two colors 64K dots(65536)
	ID Serial ports	Controller BX-4M Baudrate S7600	Communication Mode GPRS Communice - Storage Volume 2MBytes	2.Display Mode: Single-color 1536*64, 768*128 512*192, 384*256 Two-colors 2048*32, 1024*64 768*96, 512*128 3 Communication interface:
	Width 768 Data Polarity Negative Scan frequency	Height 128 OE Polarity Low Row order	Screen Color Single color Pixels I (R+G)	100M Network/IR5232/R5485 USB/R5232/R5485 4. Timer support 5. Support full-screen test
	Default	Normal	Normal	Quickly scan configuration Outdoor P10 (2.8) Set Scan Here only for popular configuration of three LED units for quickly scan!
 X	Show advanced con	figuration functions Write parame	eters Close	Save Paras as File

Fill ihe GPRS numer in the "GPRS settings ",it is any number with 11 characters or Numbers.

Note: this number is exclusive for each GPRS module.

As shown below, after setting the parameters, close this dialog box, and don't select" write

BX3GUM001



parameters"					
🗛 Parameters Setting					\mathbf{X}
Screen list	Scan Configuration	Parameters Read-back	GPR5 Settings Packet inter	val	Main Performance BX-4M 1. Maximum pixels: Single-color 96K dots(98304) Two-colors 64K dots(65536) 2. Display Mode: Single-color 1536*64, 768*128 512*192, 384*256 Two-colors 2048*32, 1024*64 768*96, 512*128 3. Communication interface: 100M Network/RS232/RS485 USB/RS232/RS485 4. Timer support 5. Support full-screen test Quickly scan configuration Quickly scan configuration Here only for popular configuration of three LED units for quickly scan!
	Show advanced	configuration functions			pave Paras as File
. ×		Write p	arameters	Close	Import Paras from File

Step 5:

Start GPRS server

Select setting menu -> GPRS server configuration, fill in the local server IP. (if this computer has multiple network cards installed, or install a virtual machine like VMWare, you need to manually fill in the actual IP address of the corresponding network card). Then fill in the port number.

Note: if carry out step 3, the port number here must be accordance with the number of port mapping.or this port can fill in any number between 1024-6000. Finally .start the server close the dialog box.

🙀 GPRS server c	onfiguration		X
Server IP 192.168.0.104	Local IP	Port 8000	4
Start the server	Stop the ser	ver	Close



Step 6:

Test GPRS server.

Open the "BX-3GPRS SMS configuration tool", select "server address mode." If you select "Static IP" mode, need to fill all the WAN IP of server in the "static IP" (Note: If this tool runs on the GPRS server, click on "Get IP" or can be entered manually). If you select "Domain Name" mode, fill the domain name of server in the "domain name address" Fill in port number, this port number must match the port number in step 5.

BX-3GPRS SES configuration tool
Network configuration
Server address mode Static IP Port 6000
Static IP 222.66.141.10 Obtain IP Domain address
Judge whether the server port mapping Test server port
SMS command format
Service network(APN) Other
DTU number BX-GP000001
SMS command type DTU running query 💌
SMS command format
Language
Are experimenting with IP =222.66.141.10, port =6000 of server connection

If the connection fails, the message shown below indicating that the server is not configured correctly, need to re-examine the setting from step 1 to step 5.

If the connection is successful, proceed to Step 7.

Note: If setting from step 1 to step 5 is correct, but the connection still fails, turn off the firewall and antivirus software, then try again.

Prompt	
(į)	With IP =222.66.141.10, port =6000 of server connection is failed!
	(補定)

Step 7:

Configurate GPRS module.



If you select "Static IP" mode, need to fill all the WAN IP of server in the "static IP" (Note: If this tool runs on the GPRS server, click on "Get IP" or can be entered manually). If you select "Domain Name" mode, fill the domain name of server in the "domain name address" Fill port number, this port number must match the port number in step 2.

Select "Service Operations Network (APN)". China Mobile phone cards choose CMNET, China Unicom mobile phone card selection Unicom. If you are using Mobile and Unicom's proprietary network, select "Other" and fill in other APN access point.

Fill in DTU number, this number is an arbitrary 11-bit characters or numbers. Note that this number must be exclusive for each GPRS

Select "SMS command type" as "DTU configuration parameters", click "Generate message", send the string of "SMS command format"to the DTU card through Fetion or phone . If the DTU configuration is successful, the message will be returned as the following format: "IP Ok # APN OK # ID OK #".

Note: If you use the phone to send messages, mobile phone must be in English edit mode, or may not receive a SMS reply.

BX-3GPRS SMS configuration tool					
-Network configuration					
Server address mode Static IP Port 6000					
Static IP 222.66.141.10 Obtain IP Domain address					
Judge whether the server port mapping Test server port					
SMS command format					
Service network(APN) Other					
DTU number BX-GP000001					
SMS command type DTU configuration parameter 💌					
SMS command format					
Language 🔻 Generation SMS Close					

Step 8:

In LEDSHOW TW, waiting for the DTU online. As shown below, if the screen icon is red, that indicate DTU is not on-line, if the screen icon turns blue, it indicate DTU is on-line, can write parameters to the controllers.

BX3GUM001









4. About BX-4AQ&G

BX-4AQ&G is the perfect cluster of BX-4AQ and BX-3GPRS. It is easy to operation and maintenance when setting up GPRS. And it is best cost -efficient!



4.1 Parameters comparison

	BX-3GPRS	BX-4AQ&G
Connect with the screen directly	No, it must be used with LED controllers	Yes, no need to connect LED controllers
Load area	It is decided by the LED controllers. Bigger loading area the controllers with, bigger controlling area it could.	Loading area is the same to BX-4AQ. And it is best used in medium and small area, but can not support large screen.
Price	More expensive	Cheaper
Set up and debug	troublesome	Simple
Dustproof	With shell, with better work on dustproof	Without shell, with worse work on dustproof
Bundled software	Ledshow TW / Ledshow GG	Ledshow TW / Ledshow GG
Configuration		The same to BX-3GPRS

So, from the above, for sealed medium and small screen, we suggest you use BX-4AQ&G, but for others, we still suggest you use BX-3GPRS.

4.2 Usage

The usage of BX-4AQ&G is thoroughly same with BX-3GPRS, so, please refer to BX-3GPRS.



5. FAQ

Problem	Reason	Solution
No response from the GPRS module after sending message	Error format of the SMS	Configuration message must be entered in the English input method, switch the phone in-put language to English mode ,re- edit, send
GPRS module can	serial line connection fault	
be online, but not on the communication	between GPRS module and LED controller	change the serial line
	Mobile Arrears	After Payments, need to restart the power
GPRS module is not online	If the server is static IP mode, and the customers don't buy IP address from telecom operators ,the IP address does not change from time to time	re-configuration on the GPRS through SMS
	power problem or the phone card is loose	Call this phone number, will prompt "this number can not be connected." At this time, please check if the phone card is loose, or power supply is normal



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