

RF Solution for LED Display Screen

Introduction

RF is a kind of wireless telecommunication technology, now standard IEEE802.11B is much popular. Communication speed between server and terminal can reach to 12Mbps. Based on wireless channel, RF will transmitting data quickly. At present, RF technology has been widely used in many fields including business, industry, transportation, logistical management, medical insurance, finance and teaching and etc. Xixun Company has successfully launched solutions of single mode and multi-mode based on RF technology.

System structure as shown in image 21-1 in below:

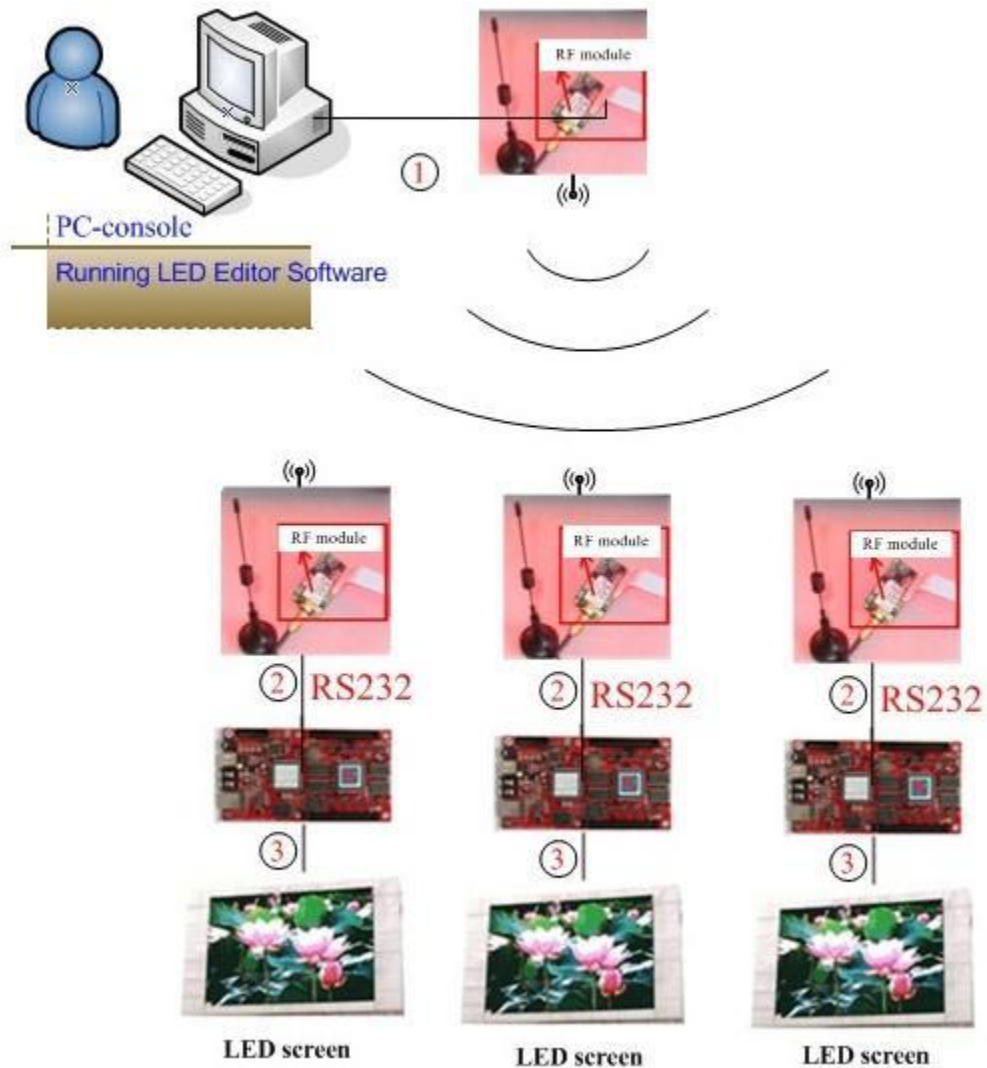


Figure 21-1

- A. Connecting PC with RF sending modules by ES 232.
- B. Connecting control card with RF receiving modules by RS232.

C. Connecting control card with LED screen by HUB and flat cables.

1.1 Hardware and Software

Hardware:

RF modules including sending and receiving ones

Control card (Xixun company' s M-series control cards)

HUB (connecting LED screen with control card)

LED screen

PC that can control LED screen (need to install LED Editor Software)

Software:

LedEditor.exe

RF modules configuration software (factory default)

Interface screenshot of LED Editor Software as shown in image 21-2 in below:

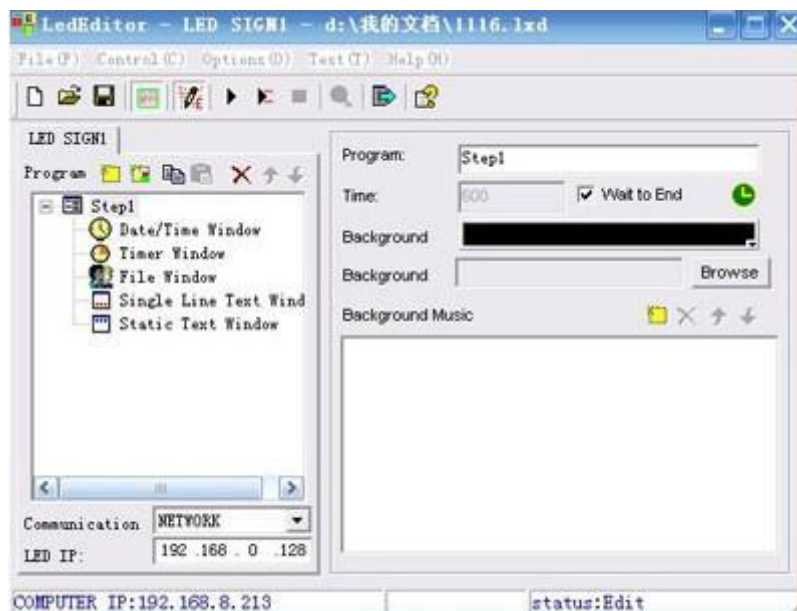


Figure 21-2

1.2 Setup control card

Connecting RF receiving module with control card (factory default configuration has completed, connecting it with control card directly), as shown in image 21-3 in below:

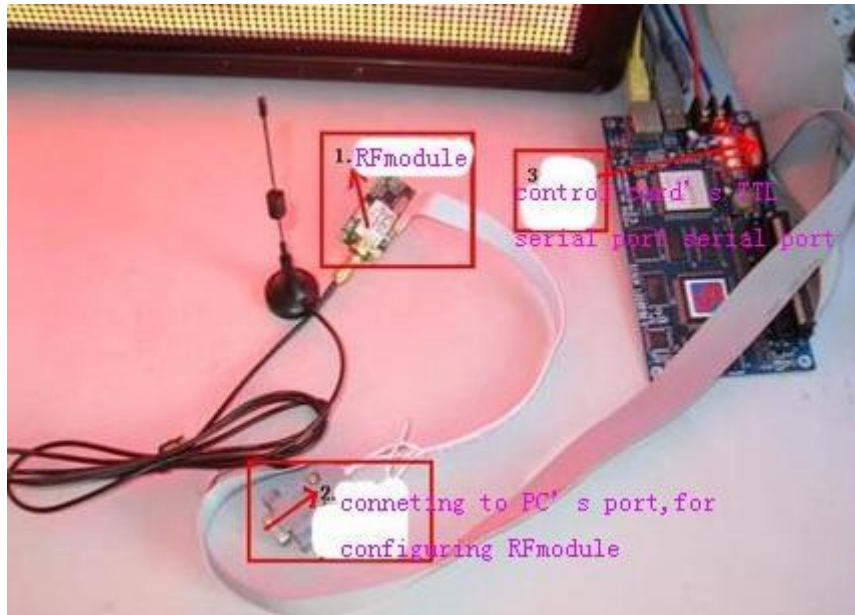


Figure 21-3

Factory default, do not need configure anymore, if want to change wireless RF module configuration, please refer to notes: methods of changing wireless RF module configuration.

1.3 RF Introduction

We need to avoid data collision among different RF modules as they communicate on the mode of semi duplex communication.

Example 1: Under single mode condition, one PC controls one control card connecting with RF. Then sending RF will communicates with receiving RF, at this moment, make sure that there isn' t other control cards working with the same RF module.

Example 2: Under multi-mode condition, one PC controls multiple control cards connecting with RF. With configuration ID list, LED editor will communicate with one by one through ID list so as to avoid data collision.

1.4 One PC controls one control card connecting with RF module

Configuration steps of Led Editor Software as follows: click "Options" on menu bar→Software Setup→Communication parameters then select "stand-alone mode. As shown in image 21-4 in below:

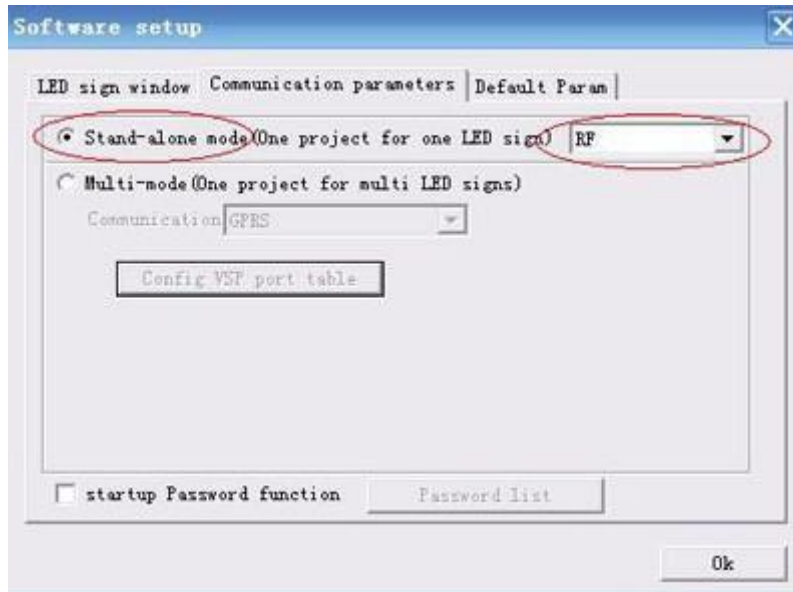


Figure 21-4

Then connect receiving RF module with controller by serial port cable. Choose communication type: COM, as shown in image 21-5 in below:

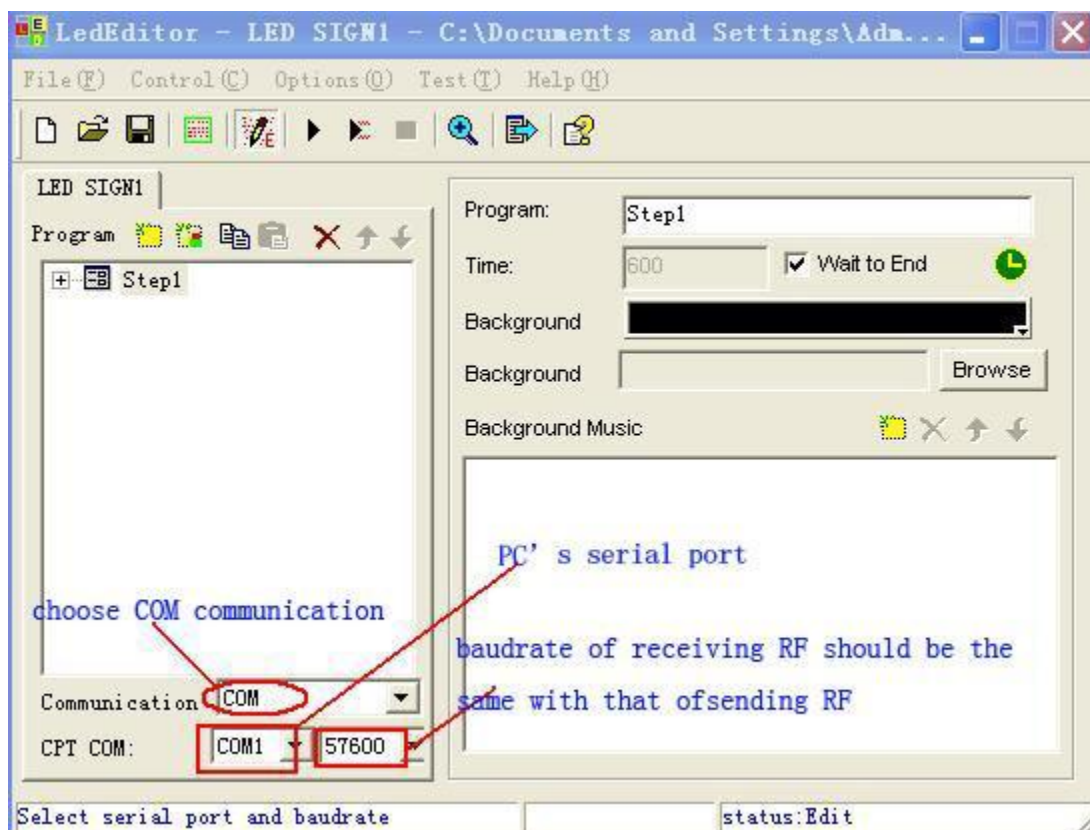


Figure 21-5

1.5 One PC controls multiple control cards connecting with RF modules

Step1: Configuration steps of Led Editor as follows: click “Options” on menu→Software Setup→Communication parameters then select “stand-alone mode” and click on OK. Then back to Hardware Setup, choose baud rate and setup ID config, as shown in image 21-6 in below:

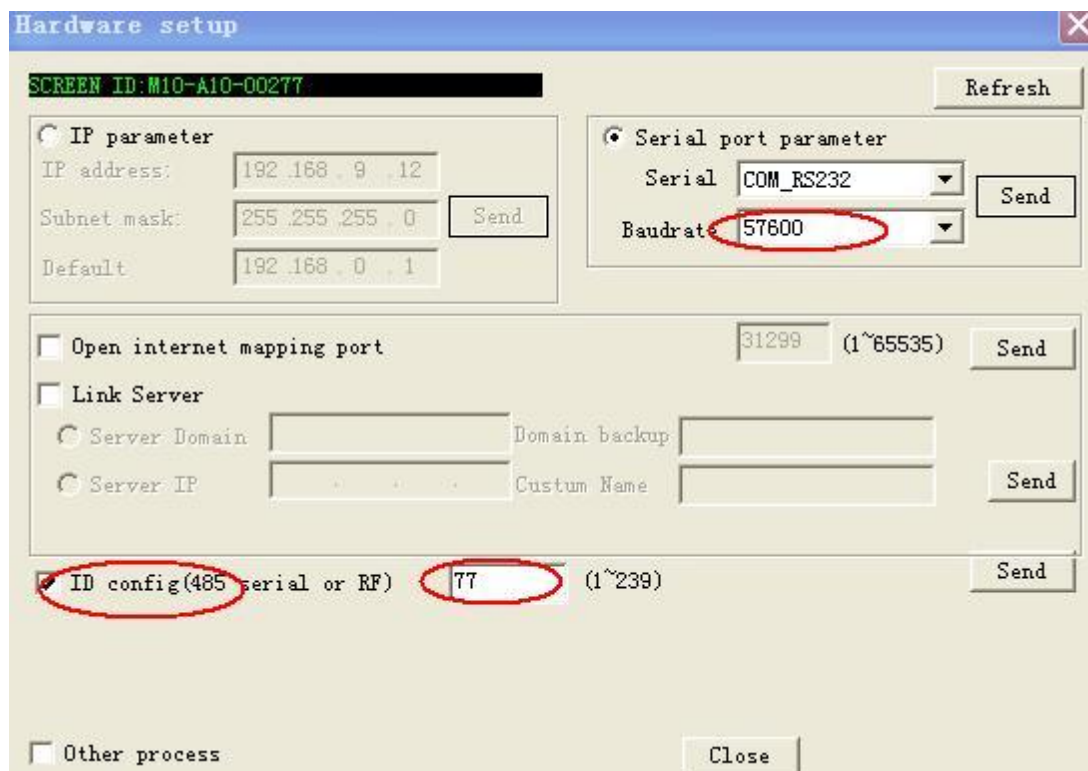


Image 21-6

Step2: after setup ID config, please click on Send button. Then click on “Options” on menu bar→Software setup→Communication parameters→Multi-mode, as shown in image 21-7 in below:

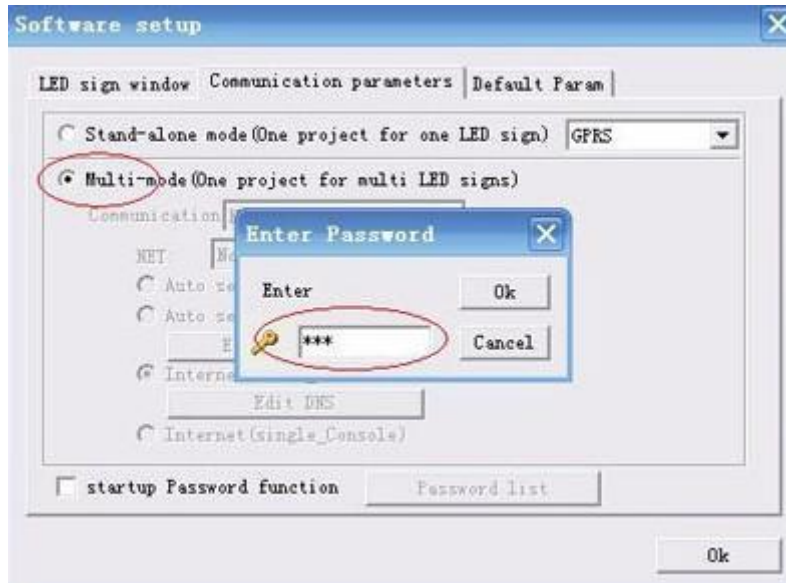


Figure 21-7

Communication: COM (485/RF) then setup relative values and ID list, as shown in image 21-8 in below:

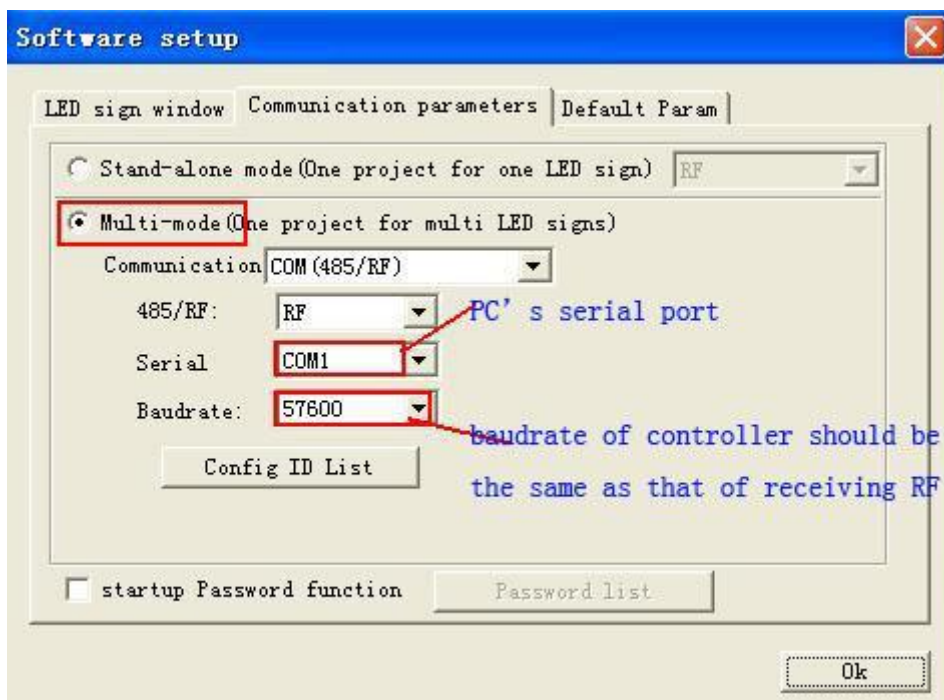


Figure 21-8

Click on “Config ID list” button and setup ID list as shown in image 21-9 in below:



Figure 21-9

Screenshot of sending program by RF under multi-mode condition, as shown in image 21-10 in below:

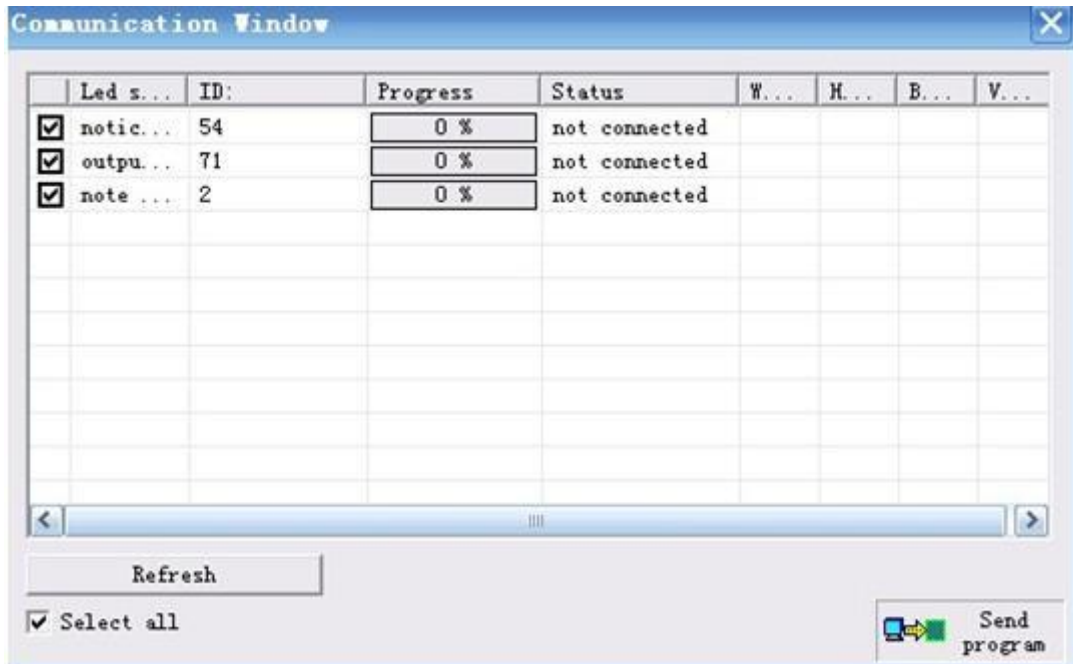


Figure 21-10

Notes: Configuration introduction of RF modules

1. There are some differences between RF modules configuration for different factories, for details please refer to factory configuration documentation of wireless RF modules.

2. Serial port baud rates of receiving RF and sending RF modules must keep consistent with each other. Following these steps, users can configure control card' s serial port baud rate: click "Options" on menu→Hardware Setup, as shown in image 21-11 in below:

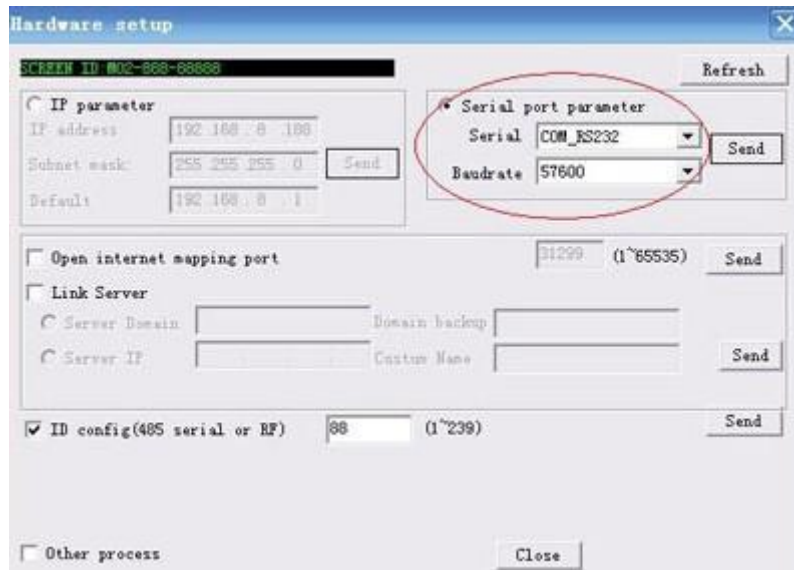


Figure 21-11