User Manual and Test Guide

Eport-E20

Operation Guide

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201	17-11-	17 First Draft

1. SERIAL SERVER CONNECTION

1. 1 EPORT-E20 Connection

Eport-E20 connects to PC by Ethernet cable or via router. After the Link light on , then open IOTService. IOTService will show IP address of E20. When Eport-E20 use Auto-IP function, the device IP is 169.254.173.207 .If the product is connected to router, the IP address is assigned by the router or can be set statically.



2. SERIAL SETTINGS

2.1. SecureCRT Serial Tool SecureCRT

Download adddress :

http://gb.hi-flying.com/download_detail_dc/downloadsId=22.html

Decompress file and find executable program,



, then open.

Click quick start button 🔯 to create connection.





2.2. Configure Serial Parameter

Protocol :	Serial							
Port: Ac	tual	connectio	on port	(search	by	"My	PC" ->"	Device
					4 - 14	「第二」(CC	JMI 和 LPI)	5
Manager"	->" F	Port(COM a	nd LPT)".	As figure		学通信	端口 (COM1))
Baud Rate	: 1152	200						
Data Bits :	8							
Parity Che	ck Bit :	: None						
Stop Bit : 7	1							
Flow Cont	rol: N	None (<mark>Plea</mark>	se tick off	"√" befo	ore RT	S/CTS)		
	快速	東连接				×	ו	
	甘	h议(P): Se	erial 🔻	· * 1 *				
	ġļ Sa	帯口(Q): CC	DM1 ▼	》和经 D <u>T</u> R/DSR				
	北		.5200 👻	RTS/CTS				
	金	%/増12(型): 8 5(偶応哈(Δ): No	▼ 	XON/XOFF				
	日. 【注	511410.33(5)· 11	• •					
		т <u>и</u> се. [
		自动时显示快速		📝 保存会词	£₩			
				📝 在新标额	签中打开 <mark>(</mark>	2		
						取消		

Notes: Eport-E20 the default serial data is as above and user can modify device working parameter by IOTService.



系统		┌连接─────	
月户名:	admin	连接名称:	netp 💌
· · · · · · · · · · · · · · · · · · ·	admin	协议:	TCP-SERVER -
E机名:	Eport-E10	服务器端地址:	0.0.0.0
HCP:	Enable 💌	服务器端口号:	
P地址:	10.10.100.10	本地端口号:	8899
子网掩码:	255.255.255.0	TCP保活间隔:	60
联:	10.10.100.254	TCP接收超时:	0
)NS:	10.10.100.254		uart
30			uan
UART编号:	UART 1 🔻	缓冲区大小: _ 	512
波特率:	115200 💌	新建连接	删除连接
数据位:	8 💌	·	
停止位:	1 💌	确认	取消
校验位:	NONE	导出设置	虚拟通道
流控:	Disable 🔻	导入设置	高级设置
·····································		设置默认参数	清除默认参数

3. EPORT-E20 NETWORK CREATION

3.1. TCP/IP Princple and Test Purpose

Principle: Network use physical data link to bulid connection among each isolated station or host to combine data link. As a result, it achieves resource share and communication. It is the most important communication protocol in the process of network communication. Eport-E20 adopts TCP/IP protocol which contain TCP and UDP etc. IP address and port number are two important parameter during generating connection. First, server should make sure IP address and port number. Then client binds the same IP address and port with server to generate connection successfully.

Test purpose:

1. PC connects to Eport-E20 by serial cable. Open SecureCRT to verify if serial port can send and receive data normally.

2. Eport-E20 can connect to PC through the network when it works under STA mode. And it can also connect to PC in AP mode. After open tcpudpdbg tool, PC is recognized as client connected with serial side. Above two software can be used to verify data flow between Eport-E20 and PC.

In following test, "TCP Server Test" -Eport-E20 as server and PC as client." TCP Client Local Test" -Eport-E20 as client and PC as server.

3.2. Auto-IP Networking

Device can directly connect to PC by Ethernet cable and module will use its default IP for PC directly visit or data transfer communication(approximately 15 seconds until PC use 169.254.XXX.XXX). For example, below module IP: 169.254.173.207(normally fixed IP, if conflict it will change to another IP automatically)





Step 1: Ethernet cable connects RJ45 ports between device and PC. Open IOTService and it will achieve device information automatically. Figure is as below:

I.O.T Service										
Management (M) Setting (C) Help (H)										
Begin 💥 Stop 🧔 C	Disconnected									
SN DevType MAC Address H(ostName IP	Position	VirPath	State	SW Ver					
1 E20 F0FE6BA04AFA Eport	t-E10 169.254.173.207	Local		Online	1.10f					

Step 2 : According to IP address above, it can be configured parameter by website. Username and password are both admin as default. As below figure:





← → C O 0 109.254.173.207/inde	California 🍈 Taturoversitati 🧧	The diam To we we A process American To	Real and a construction of the second s
12 在用 (1) 双目古地 🕔 尽铁智敏女·开发有平			Not-2- Maketin Cocket Statut - xm Co HERD, **
			English v
STATUS	Status System running status overview		
SYSTEM SETTINGS	System State		Helper
SERIAL PORT SETTINGS	Product Name E20	MAC F0FE6BA04AFA	Idle RAM space remaining, unit byte
COMMUNICATION SETTINGS	DHCP	IÞ	
CUSTOM SETTINGS	Enable	169.254.173.207	
OTHERS	Subnet Mask 255.255.0.0	Gateway 0.0.0.0	
	DNS 10.10.100.254	Firmware Version 1.1or	
	System Time NTP Disabled	Total Running Time 0-Day 0:18:21	
	Remaining RAM	Max Block Size	

Step 3 : Eport-E20 can connect PC to simulate serial signal from lower MCU by RS232.

Step 4 : Open serial configure tool, SecureCRT is recommended(Others is ok but not convenient). Following test is under SecureCRT and serial parameter can refer to Chapter 2.1 and 2.2. The default state is transparent mode when open SecureCRT. If enter into command mode, it needs input three" +" sequently. Afterwards, secreen appear "EPORT>" . It can use CLI command to set the state of Eport-E20 after entering into command mode. Specific operation method can refer to Eport-E20 user manual.

Serial-COM1 - S	ecur	eCRT										x
立体のには最近の	古王		体験の	脚太(5)	工具(1)	あままし (山)						
		(V) 2200(0)	197385(1)	B444(3)	(L)	(11)044.64						
-20-1-20-1-30-1-40-1-30-1-40-1-30-1-30-1-30-1-3		未半1(m) 工具栏(T)		1 265 1	🕑 🖆	8 -						_
Serial-COM1		工具性(1)	B)	<u> </u>								×
		大百会日(の)	D)									^
		火豆園口(C)										
		按钮栏(II)										
-		主题(E)	•	-								
			40									
			(V)									
		水半滾切釜()	H)									
	~	垂直滚动杀()	V)									
		总在最上(A)										
l	_	全屏幕(F) 4	Alt+Enter									
												Ξ
												-
											Default	•
												^
												Ŧ
就绪						Serial	: COM1	1, 1	18行, 57歹	VT100	大写数字	:



映射按钮			
动作 功能(F)	发送字符串	标签()
发送字符串 ▼	+++	* +++ *	
发送字符串命令			
\r - 发送一个回车 (CR)	┢-暫停—秒	\e - 发送一个ESC	
\n - 发送一个新行 (LF)	\t-发送一个TAB	┡-发送一个退格	ł
清除(C)		确定	取消
🕞 Serial-COM1 - SecureCRT			
文件(F) 编辑(E) 查看(V)	选项(O) 传輸(T) 脚本(S) 工具(L	.) 帮助(H)	
🍇 🖏 🕞 🍕 🗶 🗈 🙈	🗚 😼 😼 🦪 🖀 💥 🕴 🎯		
L Serial-COM1			
			×
EPORT>			E
EPORT>	WS		E Defat V
EPORT	 WS WS WT+Z WS 		E Defal V

3.3. Auto-IP TCP Server Test

Step 1 : Open TCP&UDP test tool and generate TCP connection as following process.

- Product has already created a TCP Server(port 8899) for use.
- TCP&UDP test tool can be downloaded from official website: <u>http://gb.hi-flying.com/download_detail_dc/downloadsId=54.html</u>
- DestIP : IP address of product, this address can be found by IOTService tool.
- Port : TCP Server port number,8899 default which can be modified by IOTService



Operate(O) View(V) Windows(W) Help(H) Language
CreateConnection CreateConnection CreateGomection Type: TCP DestIP: 109 C54 173 207 Port: 8099 LocalFort @ Auto @ Specia 4001 LocalFort @ Auto @ Specia 4001 Create cancel Create cancel
Send Speed(B/S): 0 Receive Speed(B/S): 0



ystem		SOCKET	
Jser:	admin	SOCKET Name:	netp 💌
Password:	admin	Protocol:	TCP-SERVER -
lostName:	Eport-E10	Server Addr:	0.0.0.0
HCP:	Enable 💌	Server Port:	
P Address:	10.10.100.10	Local Port:	8899
lask:	255.255.255.0	Keep Alive:	60
Sate Way:	10.10.100.254	Time Out:	0
DNS:	10.10.100.254	Dout	unt
JART		Rout	uan
UART No:	UART 1 🔻	Buffer Size:	512
Baudrate:	115200 💌	New SOCKET	SOCKET Del
Data Bits:	8 🔻	·	
Stop Bits:	1 💌	Confirm	Cancel
Parity:	NONE	Export	VirPath
Flow Control:	Disable 🔻	Import	Detail
		F-Set Update	F-Set Clear

Step 2 : Click Connect to build TCP connection

After successful generation, left side turn to green arrow, yellow if fails.





Step 3 : Open serial tool according to following parameter(115200 baud rate as default)

💼 Serial-COM5 - Secu	Session Options - Serial-C	COM5			
File Edit View Opti	Category Connection Connection Connection Connection Enclation Connection Connection Enclation Modes Mapped Keys Advanced Cop File Printing Advanced Xmodem/Zmodem	Serial Op Port: Baud rate: Data bits: Parity: Stop bits: Serial brea	Ations COM5 115200 8 None 1 100		Flow Control
	- Terminal - Terminal - Emulation - Modes - Mapped Keys - Advanced - Appearance - Window - Log File - Printing - Advanced - Xmodem/Zmodem	P <u>o</u> rt: <u>B</u> aud rate: <u>D</u> ata bits: P <u>a</u> rity: <u>S</u> top bits: <u>S</u> erial brea <u>IMPORTANT</u> :	COM5 115200 8 None 1 Jk 100	×	milliseconds

Step 4 : Make sure if serial tool is CMD mode. Input "Exit" to exit CMD mode and enter into transparent mode(which is default)



Step 5 : Mutual data transmission between TCP and serial port.



Operate(<u>O</u>) View(<u>V</u>) Window	rs(<u>W</u>) H	lelp(<u>H</u>) Language	
🗄 🔄 CreateConnn 🔕 CreateServer	r 🎉 Sta	artServer 🐰 🐼 🔶 Co	onnect 🗝 🗟 DisconnAll 💥 DeleteConn 🎇 🔯 🧃
Properties	Ψ×	169.254.173.207	文件(F) 編辑(E) 查看(V) 选项(O) 传输(T) 脚本(S) 工具(L) 7:8899
Client Mode 169.254.173.207:8899 Server Mode		DestIP: 159.254.173.207 DestFort: 9899 LocalFort 4001 Type TCP Type TCP AtucConn Eve 0 s AtucSend Eve 0 ssend 72 Recv 13 Clear Send Speed(B/S)	Send A tuoSend Eve 100 Send A a a a a a a a a a a a a a a a a a a a

3.4. Networking by Router

After Eport-E20 has created network connection with router, any terminal can communicate with E20. As the figure shows, IP address will automatically change to the same IP segment 192.168.1.X with router.





Step 1 : If users want understand real-time IP address of E20, IOTService can be opened for searching or serial query.

1.O.T Service									
Management (M) Setting (C) Help (H)									
Begin 💥 Stop 🕐 Config 🔍 Status 🖤 VirPath									
SN DevType MAC Addres	s HostName	IP	Position	VirPath	State	SW Ver			
1 E20 F0FE6BA04A	FA Eport-E10	192.168.10.100	Local		Online	1.10f			



🕞 Serial-COM5 - Sec	ureCRT						_ 🗆 🗙
文件(E) 编辑(E) 叠	皆看(⊻) 选项(<u>O</u>)	传输(<u>T</u>) 脚本(<u>S</u>)	工具(L)	帮助(<u>H</u>)			
🖏 🖏 🕞 🖏 🗶	🗈 🛍 👫 😼 🎙	s 🕘 i 🕿 💥 i	🕜 📻	Ŧ			
Serial-COM5							×
===System State Product ID:E20 Software Version Config Protecter System time:NTP Up Time: 0-Day (Total Free Memon MAX Block Size:	=== d:OFF Disabled 0:0:42 ry: 28928 27100						
===NETWORK=== MAC:FOFE6BA04AFF IP Address:192.1 IP SubNetMask.2 GateWay:192.168	A 168.10.100 55.255.255.0 .10.1						
===UART Status== Config:115200,8 State:In CLI Recv Bytes:7 Send Bytes:0 Failed Bytes:0	== ,1,NONE,NONE Recv Frames:2 Send Frames:0 Failed Frames	; ; : 0					
===SOCK Status= SOCK Name:netp State:Server Cro Client IP: Recv Bytes:0 Send Bytes:0 Failed Bytes:0	== eated Recv Frames:(Send Frames:C Failed Frames)) ::0					E
EPORT>							-
🥥 +++ 💿 Show (0	0 0	0	0	0	0	Defai 🔻
							* *
就绪		Se	rial: COM5	32, 7	32行, 80列	VT100	大写数字。

Step 2 : Product acquires IP address from upper router. If user need to modify it to static IP address, it can be configured by IOTService(as below). Restart after configured.

System	
User:	admin
Password:	admin
HostName:	Eport-E10
DHCP:	Disable 💌
IP Address:	192.168.10.100
Mask:	255.255.255.0
Gate Way:	192.168.10.1
DNS:	192.168.10.1

Step 3 : Configure relative serial parameter with MCU.



System		SOCKET		
User:	admin	SOCKET Name:	netp 💌	
Password:	admin	Protocol:	TCP-SERVER -	
HostName:	Eport-E10	Server Addr:	0.0.0.0	
DHCP:	Enable 💌	Server Port:		
P Address:	10.10.100.10	Local Port:	8899	
Mask:	255.255.255.0	Keep Alive:	000	
Gate Way:	10.10.100.254	Time Out		
DNS:	10.10.100.254	Davit		
JART		Rout	uan	
UART No:	UART 1	Buffer Size:	512	
Baudrate:	115200 💌	New SOCKET	SOCKET Del	
Data Bits:	8 💌			
Stop Bits:	1	Confirm	Cancel	
Parity:	NONE	Export	VirPath	
Flow Control	Half-Duplex	Import	Detail	
Duffee Oieer		F-Set Update	F-Set Clear	

Step 4: Retain local connection and forbid extra network connection.







Step 5: Open TCP&UDP tool and create a server.(IP is PC local address, or default. Port is selected randomly as long as not occupied by extra network)



🞾 TCP&UDP-Debug			
Operate(<u>O</u>) View(<u>V</u>) Wir	ndows(<u>W</u>) Help(<u>H</u>)	Language	
🗄 🚰 CreateConnn 🔕 CreateS	erver 🔡 StartServer	r 🐰 🔕 😤 Connect 愛	🗟 DisconnAll 🛛 💥 DeleteC
Properties	Ŧ ×		
Client Mode			
Server Mode	Create Local E	e Server ocal I 192.168.10.100 IPort 9999 ve 30 (s) Disc Create Cancel	onnect All

Step 6: Default parameter of socket is netp(name), Tcp Server, 8899(port). User can create a new socket according to demand.

	-	×
	JUCKET	
admin	SOCKET Name:	netp 💌
admin	Protocol:	TCP-SERVER -
Eport-E10	Server Addr:	0.0.0.0
Enable	Server Port:	0
10.10.100.10	Local Port:	8899
255.255.255.0	Keep Alive:	60
10.10.100.254	Time Out:	0
10.10.100.254	Rout:	uart 💌
	Buffer Size:	512
115200 -	New SOCKET	SOCKET Del
8	Confirm	Cancel



Rew SOCKET	Sector of	×
Basic		Detail
SOCKET Name:	netp1	Security: Disable 💌
Protocol:	TCP-CLIENT	Security Key:
Server Addr:	192.168.10.101	
Server Port:	9999	Connect Mode: Always 👻
Local Port:	0	Stop Serial:
Keep Alive:	60	HeartBeat: Disable 💌
Time Out:	0	HeartBeat Serial:
Rout:	uart 💌	
Buffer Size:	512	Confirm Cancel

Step 7 : After successfully created socket, restart product and open SecureCRT to simulate data transmission between serial port and terminal.

실 CreateConnn 🔕 CreateServe	Serial-COM5 - SecureCR1		
Properties 🛛 🕈 🗙	192.168.10.100:	3923	文件(F) 编辑(E) 查看(V) 选项(O) 传
Client Mode Server Mode ↓ 32 Local(192.168.10.101):9999 ↓ 192.168.10.100:3923	DestIP: 192.168.10.100 DestPort: 3923 ✓ LocalPort 9999 Type TCP ✓ AtuoConn Eve 25 s ✓ AutoSend Eve 82 ms	Send AtuoSend Eve 100 ms Send Send Hex Send File Send Received Clear	調 録 品 級 私 画 西 船 場 場 る
	Count Send 17 Recv 15 Clear	Rec StopShow Clear Save Option ShowHe Save(In Time)	 ↔ +++ @ a @ Show @ send to socket 就绪