

USR-K2 Setting Protocol V1.0

Content

1. Introduce	3
2. command.....	4
2.1. command List.....	4
2.2. About Checksum.....	4
2.3. search.....	4
2.4. Reset.....	4
2.5. Read parameter.....	4
2.6. Base parameter.....	5
2.7. Setting Port.....	6
3. return.....	7
3.1. Search return.....	7
3.2. Reset return.....	7
3.3. Read return.....	8
3.4. Other return.....	8
4. Software getting.....	9
5. USB- K2 serial protocol.....	10
5.1. Function instruction.....	10
5.2. Setting Base parament.....	11
5.3. Setting Port Parament.....	12
5.4. read.....	13

1. Introduce

Network configuration is done by UDP broadcast packets. Here must not connect CFG to GND, if connected, net config will fail.

Note: destination IP address and port as follows:

UDP broadcast destination IP 255.255.255.255, UDP local port 1500, UDP remote port 1500.

2. command

2.1. command List

Name	Head	length	command	MAC address	Name password	parameter	(sum)
search	FF	01	01	-	-	-	02
Reset	FF	xx	02	[MAC]	[username] [password]	-	xx
Read parameter	FF	xx	03	[MAC]	[username] [password]	-	xx
Setting Base	FF	xx	05	[MAC]	[username] [password]	Base	xx
Setting port	FF	xx	06	[MAC]	[username] [password]	port	xx
extend	-	-	-	-	-	-	-

2.2. About Checksum

Last byte is checksum, it calculated from length byte(length byte included), until the checksum byte(not include checksum itself), the result byte is checksum, checksum reserves only 1 byte.

2.3. search

Ff 01 01 02
sum 02 = 01 + 01

2.4. Reset

FF 13 02 00 71 77 7c 42 2f 61 64 6d 69 6e 00 61 64 6d 69 6e 00 fc
Sum fc = 13 + 02 + ... + 6E + 00

2.5. Read parameter

ff 13 03 00 71 77 7c 42 2f 61 64 6d 69 6e 00 61 64 6d 69 6e 00 fd
Sumfd = 13 + 03 + 00 + ... + 6E + 00

2.6. Base parameter

67BYTE

Name	length	example	instruction
ucSequenceNum	1	00	unused
ucCRC	1	00	unused
ucVersion	1	00	unused
ucFlags	1	80	IP address type: The eighth is 0: DHCP; 1: Statics IP
usLocationURLPort	2	00 00	unused
usHTTPServerPort	2	50 00	HTTP port
ucUserFlag	1	00	unused
ulStaticIP	4	07 00 A8 C0	Statics IP
ulGatewayIP	4	C9 00 A8 C0	Gateway
ulSubnetMask	4	00 FF FF FF	Subnet mask
ucModName	6	55 53 52 2D 4B 32	Module name
unused	10	00 00 00	unused
username	6	61 64 6D 69 6E 00	Username
password	6	61 64 6D 69 6E 00	Password
ucNetSendTime	1	00	unused
uild	2	01 00	Device ID
uclidType	1	00	INDEX
ucUserMAC	6	00 00 00 00 00 00	unused
ucReserved	8	00 00 00 00 00 00 00 00	Unused

example:

FF 56 05 00 71 77 7c 42 2f 61 64 6d 69 6e 00 61 64 6d 69 6e 00 95 63 03 00 00 00 50 00 00
 07 00 a8 c0 c9 00 a8 c0 00 ff ff 55 6c 6c 2d 66 32 00 00 00 00 00 00 00 00 00 00 61 64 6d 69
 6e 00 61 64 6d 69 6e 00 03

Sum 03 = 56 + 05 + 00+ ... + 2E

3. return

3.1. Search return

legth	Name	E.g.	Instruction
0	TAG_STATUS	FF	Unused
1	Packet_length	24	Unused
2	CMD_DISCOVER_TARGET	01	Unused
3	Board_type	00	Unused
4	Board_ID	00	Unused
5~8	Client_IP_address	C0 A8 00 07	Device IP (High bit in front)
9~14	MAC_address	AC CF 23 20 FE 3D	Device MAC (High bit in front)
15~18	Firemware_version	01 00 00	
19~34	Application_title	55 53 52 2D 4B 32 00 00 00 00 00 00 00 00 00 00	Device name
35	checksum	F0	checksum

E.g. :

Ff 24 01 00 00 c0 a8 00 07 00 71 77 7c 42 2f 01 0c 00 00 55 53 52 2d 4b 32 00 00 00 00 00 00
00 00 00 00 f2

F2 = 00 - FF - 24 - 01 - 00 - 4B - ... - 31 - 00 - 00

3.2. Reset return

return: FF 01 02 4B password ok 4B = 'K'

FF 01 02 50 password wrong 45 = 'P'

3.3. Read return

return:

```
95 63 03 80 00 00 50 00 00 07 00 a8 c0 c9 00 a8 c0 00 ff ff ff 55 53 52 2d 4b 32 00 00 00 00 00  
00 00 00 00 00 61 64 6d 69 6e 00 61 64 6d 69 6e 00 00 00 00 00 00 71 77 7c 42 2f 00 00 00  
00 00 00 00 00 00 c2 01 00 08 01 01 01 00 00 00 00 8c 4e 2a 20 31 39 32 2e 31 36 38 2e 30  
2e 32 30 31 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 c9 00 a8 c0 00 01 00 00 00  
00 00 00 00 00 00 00 00
```

Wrong return: FF 01 03 45

3.4. Other return

Successfully executed: FF 01 CMD 'K' (the CMD is command byte in your command)

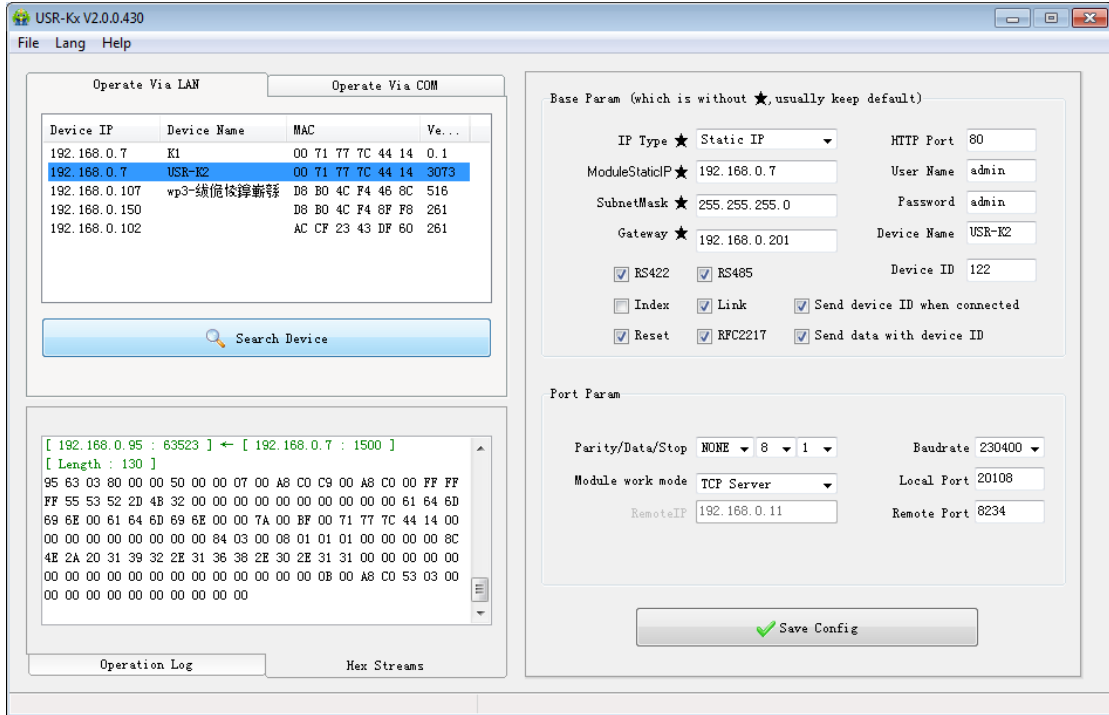
Checksum error: return 'E' + checksum(the correct checksum)

Username or pass error: FF 01 CMD 'P'

Other error will return: FF 01 CMD 'E'

4. Software getting

We can getting command from software .



5. USR- K2 serial protocol

5.1. Function instruction

Get access to serial config mode, first, connect Reload(CFG) to GND.

Setting baud rate 9600, none parity, 8 data, 1 stop: 9600,n, 8, 1

55 Bd read parament, 55 Be Setting Base parament

55 Bf Setting port parament.

5.2. Setting Base paramant

67Byte

Name	Byte	E.g.	Instruction
包头	2	55 be	
ucSequenceNum	1	00	Unused
ucCRC	1	00	Unused
ucVersion	1	00	Unused
ucFlags	1	80	IP IP address type: The eighth is 0: DHCP; 1: Statics IP
usLocationURLPort	2	00 00	unused
usHTTPServerPort	2	50 00	HTTP port
ucUserFlag	1	00	unused
ulStaticIP	4	07 00 A8 C0	Statics IP
ulGatewayIP	4	01 00 A8 C0	Gateway
ulSubnetMask	4	00 FF FF FF	Subnet mask
ucModName	6	55 53 52 2D 4B 32	Module name
unused	10	00 00 00	unused
username	6	61 64 6D 69 6E 00	Username
password	6	61 64 6D 69 6E 00	Password
ucNetSendTime	1	00	unused
uild	2	01 00	Device ID
uclDType	1	84	INDEX
ucUserMAC	6	00 00 00 00 00 00	unused
ucReserved	8		Unused
sum	1	xx	

Sum xx= 00 + 00 +00+80 ... + 00

5.3. Setting Port Parament

65Byte

Name	Length	example	instruction
Head	2	55 bf	
ulBaudRate	4	00 C2 01 00	ulBaudRate
ucDataSize	1	08	databit(0X05/0x06/0x07/0x08)
ucParity	1	01	1: none, 2: odd, 3: even, 4: mark, 5: space
ucStopBits	1	01	Stop (0x01/0x02)
ucFlowControl	1	00	Unused
ulTelnetTimeout	4	00 00 00 00	Unused
usTelnetLocalPort	2	8C 4E	Local port
usTelnetRemotePort	2	2A 20	Remote port
uiTelnetURL	30	31 39 32 2E 31 36 38 2E 30 2E 31 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Ip address or domain name is sent with string format, such as "192.168.0.1", or "www.usr.cn".
ulTelnetIPAddr	4	00 00 00 00	Unused
ucFlags	1	00	Unused
ucWorkMode	1	03	Work mode 0: UDP, 1: TCP Client, 2: UDP Server, 3: TCP Server
uiPackLen	4	00 00 00 00	Unused
ucPackTime	1	00	Unused
ucTimeCount	1	91	Unused
TCP server type	1	00	Unused
ucReserved	4	00	Unused
sum	1		

Sum xx= 00 +c2 +01+00 ... + 00

5.4. read

Name	Length	example	instruction
head	2	55 bd	
ucSequenceNum	1	00	Unused
ucCRC	1	00	Unused
ucVersion	1	00	unused
ucFlags	1	80	IP IP address type: The eighth is 0: DHCP; 1: Statics IP
usLocationURLPort	2	00 00	unused
usHTTPServerPort	2	50 00	HTTP port
ucUserFlag	1	00	unused
ulStaticIP	4	07 00 A8 C0	Statics IP
ulGatewayIP	4	01 00 A8 C0	Gateway
ulSubnetMask	4	00 FF FF FF	Subnet mask
ucModName	6	55 53 52 2D 4B 32	Module name
unused	10	00 00 00	unused
username	6	61 64 6D 69 6E 00	Username
password	6	61 64 6D 69 6E 00	Password
ucNetSendTime	1	00	unused
uild	2	01 00	Device ID
ucldType	1	84	INDEX
ucUserMAC	6	00 00 00 00 00 00	unused
ucReserved	8		Unused
ulBaudRate	4	00 C2 01 00	ulBaudRate
ucDataSize	1	08	databit(0X05/0x06/0x07/0x08)
ucParity	1	01	1: none, 2: odd, 3: even, 4: mark, 5: space
ucStopBits	1	01	Stop (0x01/0x02)
ucFlowControl	1	00	Unused
ulTelnetTimeout	4	00 00 00 00	Unused
usTelnetLocalIP	2	8C 4E	Local port

ort			
usTelnetRemotePort	2	2A 20	Remote port
uiTelnetURL	30	31 39 32 2E 31 36 38 2E 30 2E 31 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Ip address or domain name is sent with string format, such as "192.168.0.1", or "www.usr.cn".
uiTelnetIPAddr	4	00 00 00 00	Unused
ucFlags	1	00	Unused
ucWorkMode	1	03	Work mode 0: UDP, 1: TCP Client, 2: UDP Server, 3: TCP Server
uiPackLen	4	00 00 00 00	Unused
ucPackTime	1	00	Unused
ucTimeCount	1	91	Unused
TCP server type	1	00	Unused
ucReserved	4	00	Unused
Current IP	4	07 00 A8 C0	
	1	01	

