

How to Control RWC2010x Equipment via LAN

The RWC2010x equipment is connected via Ethernet socket using UDP for remote control, utilizing port 5001. It can be connected using two methods: STATIC and DYNAMIC.

RWC2010x can be controlled using command strings and is accessible for control by any user program without API.

1.Setup for STATIC IP

- 1) Connect LAN port of PC and RWC2010x Ethernet port using RJ45 cable. If the PC and RWC2010x are connected directly, a cross cable must be used.
- 2) Turn RWC2010x power ON, press [MENU] key and touch [SETUP] menu to jump on the system configuration screen and configure IP address. In order to connect RWC2010x in static mode, select IP_TYPE as STATIC.

SETUP		196 AMP RMT ALC CAP	ETH EXT FCN	SETUP		196 AMP RMT ALC CAP ETH EXT FCN
RF+AMP	RF+AMP IP_TYPE		STATIC		IP_TYPE	STATIC
		192 168.000	.196		IP_ADDR	192.168.000.196
MOD	FR 1	2 5.	.000 kHz	MOD	FREQ_STEP	5.000 kHz
	PC DAB ⁺ Drn	n <i>ETI</i>	0.5 dB		POWER_STEP	0.5 dB
POWER	RE	MUI	INT	POWER	REF_CLK	INT
-120.0 dBm	RC AM ⁴ Audio	5 SETUP 6 NORM	MAL	-120.0 dBm	ROTARY_DIR	NORMAL
FREQ	sc FM		OFF	FREQ	SCREENSAVER	OFF
100.000 M	BC ORDS	RE	SET	100.000 M	BOOT_BY	RESET
	RMT_DELIMITER	LF	+CR		RMT_DELIMITER	LF+CR
		тс	OGGLE			TOGGLE
SYSTEM	FILE			SYSTEM	FILE	

3) Put the same IP address with RWC2010x's IP address except the last slot. For reliability, it is recommended to disable all other networks (e.g. WiFi, Virtual Machine) than Ethernet in Network Adapter Settings of a remote PC.

General	
You can get IP settings assig supports this capability. Oth administrator for the approp	ned automatically if your network erwise, you need to ask your network rriate IP settings.
🔘 Obtain an IP address a	utomatically
Obtain an IP address a Obtain the following IP address a	utomatically dress:
 Obtain an IP address a Use the following IP ad IP address: 	utomatically Idress: 192 . 168 . 0 . 2
 Obtain an IP address a Use the following IP ad IP address: Subnet mask: 	utomatically dress: 192 . 168 . 0 . 2 255 . 255 . 255 . 0

- 4) Run software and set up the same IP address with RWC2010x.
- 5)



2. Setup for DYNAMIC IP

- 1) DYNAMIC means that IP address is obtained from the DHCP server automatically, and this configuration is recommended using RJ45 connection to a network hub.
- Turn RWC2010x power ON, press [MENU] key and touch [SETUP] menu to jump on the system configuration screen and configure IP address. In order to connect RWC2010x in static mode, select IP_TYPE as DYNAMIC.

SETUP		196 AMP RMT ALC CAP ETH EXT FC	J)
RF+AMP	IP_TYPE	DYNAMIC	Ì
	IP_ADDR	192.168.000.196	
MOD	FREQ_STEP	5.000 kHz	
	POWER_STEP	0.5 dB	
POWER	REF_CLK	INT	
-55.0 dBm	ROTARY_DIR	NORMAL	
FREQ	SCREENSAVER	OFF	
87.700 M	BOOT_BY	RESET	
	RMT_DELIMITER	LF+CR	l
		TOGGLE	
SYSTEM	FILE		

3) DYNAMIC means that IP address may be obtained from the DHCP server automatically, and this configuration is recommended using RJ45 connection to a network hub.

Seneral	Alternate Configuration				
You ca suppor admini	n get IP settings assigned ts this capability. Otherwi strator for the appropriat	l automatical ise, you need e IP settings.	ly if to	your i ask yo	ietwork ur networ
0	btain an IP address autor	natically			
OU	se the following IP addres	55:			
O U IP a	se the following IP addres	55:	4	14	
- 🕲 U IP a Sub	se the following IP addre: ddress: net mask:	55:	*	*	1

4) Open software and set up the same IP address with RWC2010x.

SETUP		196 AMP RMT ALC CAP ETH EXT FCN
RF+AMP	IP_TYPE	DYNAMIC
	IP_ADDR	192.168.000.196
MOD	FREQ_STEP	5.000 kHz
	POWER_STEP	0.5 dB
POWER	REF_CLK	INT
-55.0 dBm	ROTARY_DIR	NORMAL
FREQ	SCREENSAVER	OFF
87.700 M	BOOT_BY	RESET
	RMT_DELIMITER	LF+CR
		TOGGLE
SYSTEM	FILE	
	IP 192.168.0. <mark>196</mark>	CONNECT

3. Creating an UDP socket in user program

If users want to control RWC2010x using their program, they need to create a UDP socket and set the port to 5001.

The following is an example in C#

```
[Creating a UDP socket]
byte[] rx_buff = new byte[256];
IPAddress LocalAddress = IPAddress.Any;
IPAddress DestAddress = IPAddress.Parse("192.168.0.196");
IPEndPoint RemoteIpEndPoint = new IPEndPoint(DestAddress, 5001);
Socket rwcSock = new Socket(LocalAddress.AddressFamily, SocketType.Dgram,
ProtocolType.Udp);
rwcSock.Connect(RemoteIpEndPoint);
// [EX1] send a command *IDN?
byte[] tx_buff= Encoding.ASCII.GetBytes("*IDN?\n");
rwcSock.Send(tx_buff);
rwcSock.Receive(rx buff);
string resp = Encoding.ASCII.GetString(rx_buff);
// resp = "RWC2010C Digital Radio Tester, Ver=1.023, SN=RWC20100000009\r\n"
//[EX2] send a command CONF:SETUP:TESTERMODE ETI
tx buff= Encoding.ASCII.GetBytes("CONF:SETUP:TESTER MODE ETI\n");
rwcSock.Send(tx buff);
rwcSock.Receive(rx buff);
string resp = Encoding.ASCII.GetString(rx_buff);
// resp = "ACK \r n"
```