

INSTRUCTIONS MANUAL  
FEDERAL COMMUNICATIONS COMMISSION  
INTERFERENCE STATEMENT

FCC ID: MQ4 CA 2000

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

CAUTION:

To assure continued FCC compliance:

- (1) Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

FCC Label Compliance Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

# User's Guide for CA2000 Installation

Version 1.0

1999/10/04

## Chapter 1 Introduction

As Internet is getting popular, broadband revolution speed up the access speed. More people are willing to surf on Internet. But IP address is a limited resource. Using CA2000, users on local area network can access Internet simultaneously by sharing only single IP address.

## Chapter 2 Requirements & Environment

### Hardware requirements

- 1.** An well-connected Ethernet local area network
- 2.** A well-installed Cable Modem or ADSL Modem
- 3.** One CA2000 including power adapter
- 4.** One UTP Ethernet cross-over cable (shipped with package) connects from CA2000 Global port to Cable/ADSL Modem's RJ-45 connector.
- 5.** One CAT3 or 5 UTP Ethernet straight cable connects from CA2000 Local port to a free port on Ethernet Switch or HUB.
- 6.** An RS-232 male to female straight cable connects from CA2000 Console port to one of PC COM ports.

### Software requirements

Microsoft Windows 95/98/NT installed

Terminal emulation program such as Windows Hyperterminal.

## **Information from ISP**

If your ISP assign you IP address dynamically, then you have to prepare nothing.  
If your ISP assign you one IP address or a set of IP addresses, please list these IP addresses:

### *For example:*

Your IP address:    **202.178.230.113**  
Neighbor IP address:   **202.178.231.1**  
DNS server:           **202.178.225.1**  
Secondary DNS server: **202.178.244.207**

## **Chapter 3   Start Installtion**

Make sure you have all devices and cables well-connected as previous chapter described.   And CA2000 is powered on.

### **Configure your PC first**

- 1.** Please click **Start\Setting(S)\ControlPanel(C)**
- 2.** Double click on Network icon.
- 3.** Select the binding of TCPIP and your Ethernet adapter, and click on the Property button.
- 4.** Check the item of :”Obtain IP address automatically”
- 5.** Remove any IP address in DNS and Gateway setting.
- 6.** Restart your PC.

If your ISP assign you IP address dynamically, now you are already able to access Internet. Otherwise, go on the installation procedures.

### **Configure CA2000**

Please

- 1.** connect a RS-2322 cable from one COM port on your PC to CA2000 Console port.
- 2.** Run Terminal Program and set the COM port in 38400 kbps, No parity, 8 bit data, 1 stop bit, and No flow control.
- 3.** Turn on CA2000.   You will see following messages through Terminal program.

**Internet SOAR - Internet sharing device for small office**

**System BIOS Version : 1.10 (1999/10/10)**

**(C)Copyrights 1999, all rights reserved.**

WAN NIC Test ..... O      MAC Address: 00 40 05 44 60 26

LAN NIC Test .....O      MAC Address: 00 40 05 27 63 42

Internet SOAR is ready

System starts up

Welcome to SOAR 1.60

Administrator password :

4. Press ENTER key to enter Configure mode.      You will see the command prompt  
**SOAR>**

5.type SET command to confugre CA2000.

**Press <ENTER> if you agree with the default value,  
or <ESC> to escape.**

IP address for local [192.168.0.1] :

IP netmask for local [255.255.255.0] :

Distribute config for PCs on LAN?(Yes/No) [Yes] :

Distribute IP address pool start at [192.168.0.2] :

DHCP IP address pool numbers [32] :

Obtain config automatically?(Yes/No) [Yes] :N

IP address for 10M wan : [0.0.0.0]: **202.178.230.113**

IP mask for 10M wan : [255.255.255.0]

Device name (0 to 12 characters) <DEFAULT Untitled> : **CA2000**

Default gateway Router [0.0.0.0] : **202.178.231.1**

Primary DNS server [0.0.0.0] : **202.178.225.1**

Secondary DNS server [0.0.0.0] : **202.178.244.207**

New config will be:

IP address for 10/100M LAN : [192.168.0.1]

IP mask for 10/100M LAN : [255.255.255.0]

Distribute config for PCs on LAN : [Yes]

Distribute IP address pool start at : [192.168.0.2]

DHCP IP address pool numbers : [32]

Obtain config automatically : [No]

IP address for 10M wan : [202.178.230.113]

IP mask for 10M wan : [255.255.255.0]

Device name : [CA2000]

Default gateway's : [202.178.231.1]

Primary DNS server : [202.178.225.1]  
Secondary DNS server : [202.178.244.207]  
Save this configuration, and reboot device ?  
(Yes/No) : <DEFAULT: No> Y

Save configuration and reboot ...

Now you have completed the installation. You can try to run Internet applications for fast Internet access.

## Chapter 4 Command Set

### 1. *HELP* or ?

List all commands with short descriptions.

*Example:*

SOAR>?

---

Command	Description
help	Show this message
passwd	Change administrator's password
show	Display current configuration
set	Config this device in batch
release	Free the obtained configuration
renew	Request network configuration again
quit	Exit this terminal program
reboot	Restart device

---

SOAR>

### 2. *PASSWD*

Change administrator password.

*Example:*

SOAR>passwd

Please type old password :

type new password (1 to 4 characters) : \*\*\*\*  
re-type new password (1 to 4 characters) : \*\*\*\*

Password has been changed.

### **3.SHOW**

Display current configuration.

**Example:**

```
SOAR>show
IP address for 10/100M LAN : [192.168.0.1]
IP mask for 10/100M LAN : [255.255.255.0]
Distribute config for PCs on LAN : [Yes] .....*(1)
Distribute IP address pool start at : [192.168.0.2]
DHCP IP address pool numbers : [32]
Obtain config automatically : [Yes] .. Config claimed .....*(2)
IP address for 10M WAN : [202.178.231.104]
IP mask for 10M WAN : [255.255.255.0]
Device name : [Untitled]
Default gateway's : [202.178.231.1]
Primary DNS server : [202.178.225.1]
Secondary DNS server : [202.178.244.207]
```

\*<sup>(1)</sup>: If the “distribute configuration” function is enabled, the followed two parameters will be shown. Otherwise, they are invisible.

If you can see “Config claimed” appended, CA2000 is ready for Internet access.

If you see “Config claiming” appended, the Global port configuration is still under request.

\*<sup>(2)</sup>: If the “obtain configuration“ function is enabled, the followed two parameters will be shown as claimed.

### **4.SET**

Configure CA2000 about Local port, Global port, DHCP setting, etc.

**Example:**

```
SOAR> set
```

**Press <ENTER> if you agree with the default value,  
or <ESC> to escape.**

IP address for local [192.168.0.1] :  
IP netmask for local [255.255.255.0] :  
Distribute config for PCs on LAN?(Yes/No) [Yes] :  
Distribute IP address pool start at [192.168.0.2] :  
DHCP IP address pool numbers [32] :  
Obtain config automatically?(Yes/No) [Yes] :  
Device name (0 to 12 characters) <DEFAULT Untitled> : **CA2000**  
Default gateway Router [0.0.0.0] : **202.178.231.1**  
Primary DNS server [0.0.0.0] : **202.178.225.1**  
Secondary DNS server [0.0.0.0] : **202.178.244.207**

New config will be:

IP address for 10/100M LAN : [192.168.0.1]  
IP mask for 10/100M LAN : [255.255.255.0]  
Distribute config for PCs on LAN : [Yes]  
Distribute IP address pool start at : [192.168.0.2]  
DHCP IP address pool numbers : [32]  
Obtain config automatically : [Yes]  
Device name : [CA2000]  
Default gateway's : [202.178.231.1]  
Primary DNS server : [202.178.225.1]  
Secondary DNS server : [202.178.244.207]  
Save this configuration,and reboot device ?  
(Yes/No) : <DEFAULT: No> Y  
Save configuration and reboot ...

## ***5.RELEASE***

If the “obtain configuration“ function is enabled, this command will clear those claimed configuration parameters.

### ***Example:***

SOAR> release

Free the obtained configuration !!

## ***6.RENEW***

If the “obtain configuration“ function is enabled, this command will claim configuration parameters again. Those parameters are Global port IP address, lease time, default gateway, primary DNS IP address, secondary DNS IP address, and lease time.

### ***Example:***

```
SOAR>renew
```

```
Request network configuration again !!
```

## ***7.QUIT***

Escape from this configure mode . User has to input Management password to back to configure mode.

### ***Example:***

```
SOAR>quit
```

```
Welcome to SOAR terminal program
```

```
Administrator password :
```

## ***8.REBOOT***

Restart whole system.

### ***Example:***

```
SOAR>reboot
```



## Chapter 5 Firmware Upload

### Hardware Requirements:

1. A PC with at least one available COM port.
2. A pin-to-pin RS-232 cable( DTE-DCE ): one end is DB-9 male connector, the other end is whatever depends on your COM port.

### Software Requirements:

1. **FWUPLOAD.EXE** A DOS program for firmware upload. You can run it directly from Windows NT/95 also.
2. **FIRMWARE.BIN** The firmware image file. This file name MUST be exactly the same one. And it MUST be put together with FWUPLOAD.EXE. in the same subdirectory. For better disk access speed, we suggest you copy these two files in your hard disk before upload.

### Upload procedures

1. Connect CA2000 and your PC COM port with the RS-232 cable.
2. Run the FWUPLOAD.EXE with COM port specified. You can type "FWUPLOAD -?" first to view the usage.
3. Turn on the CA2000. FWUPLOAD.EXE can automatically detect CA2000 and complete the upload. You will see messages appear in following sequence:  
**CA2000 - Firmware upgrade program ver 1.0.**

Copyright 1999.

FWUPLOAD -? for usage help.

press <ESC> to abort this program.

Waiting for CA2000 turned on . . .

CA2000 has been detected.

Ready for upload.

Uploading . . .

32768 bytes transmitted

OK: Firmware upload succeeded.