CRUISER
Cable Modem
User's Manual

xrosstech

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Preface

This user' s manual describes how to install and use the CRUISER (XCM-2000) cable modem.

We recommend you to carefully read through the manual before installing or using the CRUISER (XCM-2000) cable modem.

The CRUISER (XCM-2000) cable modem is so delicately designed that users do not need to open the housing and touch the inside. Therefore, for upgrade or repair, you should contact the dealer who you purchased the modem or call at one of our service centers to get help from a technician.

Please, give a call to the dealer for further questions on the manual or while installing and using the CRUISER (XCM-2000) cable modem.

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1.3 Product Specifications

Cable Modem Main Body

	DOWNSTREAM	UPSTREAM
Center Frequency	91~857MHz	5~42MHz
Modulation type	64/256QAM	QPSK/16QAM
Data Rate	Max 30Mbps/64QAM Max 40Mbps/256QAM	Max 5.12Mbps/QPSK Max 10.24Mbps/16QAM
Channel bandwidth	6MHz	200K, 400K, 800K, 1.6M, 3.2MHz
FEC	RS(122,128)/Trellis	Reed Solomon
Symbol rate	5.056941Msym/sec 64QAM 5.360537Msym/sec 256QAM	160K, 320K, 640K, 1280K, 2560Ksym/sec
Bit per symbol	64QAM:6Bits 256QAM:8Bits	QPSK:2Bits 16QAM:4Bits
Level Range per channel	-15~+15dBmV	+8~+55dBmV/16QAM +8~+58dBmV/QPSK
Security	DES Decryption	DES Encryption
Carrier to noise ratio	$\rangle$23.5dB@BER$\langle 10^{-8}$/64QAM $\rangle$30dB@BER$\langle 10^{-8}$/256QAM	
Dimensions	160(MM) X160(MM) X 45(MM)	

Power Adaptor

Type	AC/DC Adapter(MAX 20W) DC 3.3V/2A DC 5.6V/1A, 30V/6mA
Voltage	AC110V~220V(Free Voltage)
Input frequency	45~65Hz
Dimensions	119(MM) X61(MM) X345(MM)
Safety specification	UL/FCC Specification Approval

2. Installation of CRUISER (XCM-2000) Cable Modem

2.1 Preparations

The following preparations are required to access high-speed data services using the CRUISER (XCM-2000) cable modem.

- One set of the CRUISER (XCM-2000) cable modem package

- CATV network service lines (coaxial cables)

- PC or network equipment mounting a LAN card inside (hub, switch, router, etc.)

2.2 Contents

The CRUISER (XCM-2000) cable modem package includes the followings

On unpacking the modem package, you should check that there are all

components and accessories present in the pack.

· CRUISER (XCM-2000) cable modem
    main body

· CRUISER (XCM-2000) cable modem
    dedicated adapter
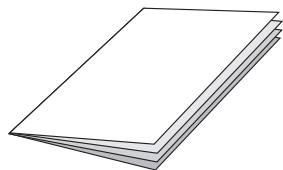
· CRUISER (XCM-2000) Cable Modem
    User's Manual

· RJ-45 UTP Cable

2.3 Connection of Cable Modem (Household Version)

The CRUISER (XCM-2000) cable modem should be connected to
the CATV network service line and user's devices as described below.

• Connect the coaxial cable from a 'CATV' service provider to the terminal
  'CABLE' on the back panel of the modem.

• Connect either end of the RJ-45 UTP cable included in the CRUISER
  cable modem package to the terminal 'ETHERNET' on the back panel of
  the cable modem and the other end to the RJ-45 port of the Ethernet card in your PC.

   At the moment, there is no need of splitter, set-top box and TV if you are subscribed to
   the cable data service but not to the CATV service.

Home Environment

Set-Top Box

TV

Cable
Modem

Coax

Coax

10Mbps Ethernet

PC

Splitter
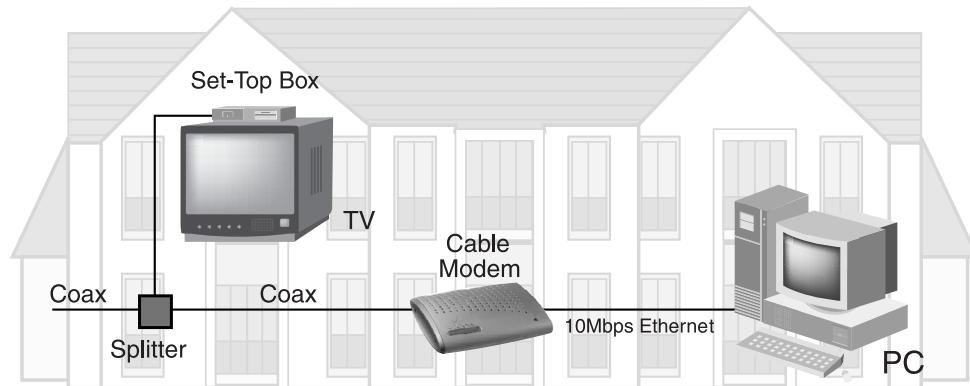
2.4 Connection of Cable Modem (Office Version)

The CRUISER (XCM-2000) cable modem should be connected to the CATV cable and user's devices as described below.

- Connect the coaxial cable provided by a 'CATV' service provider to the terminal 'CABLE' on the back panel of the modem.

- Connect either end of the RJ-45 Ethernet cable to the terminal 'ETHERNET' on the back panel of the cable modem and the other end to the trunk terminal of your network device.

Business Environment

Coax
10Mbps Ethernet
Hub, Switch or Router
Cable Modem
10/100 Mbps Ethernet
PC / Workstation   PC / Workstation   PC / Workstation
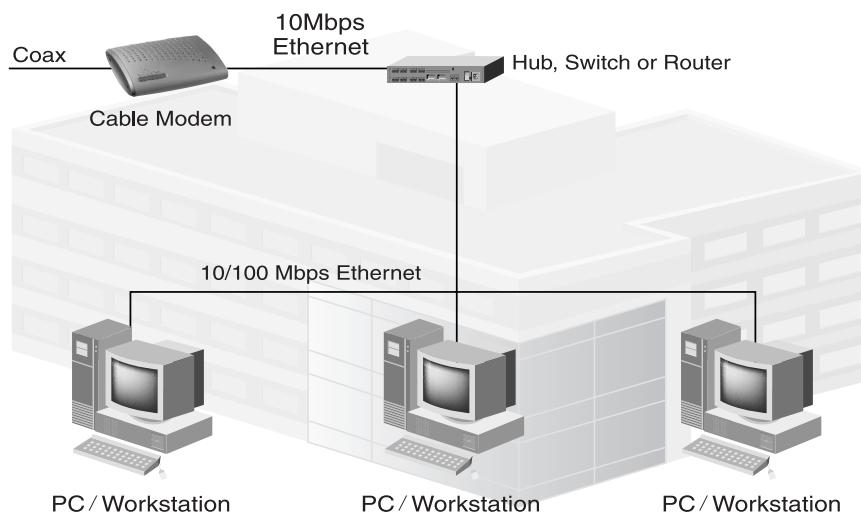
3. Use of CRUISER (XCM-2000) Cable Modem

3.1 Verification of Functions

The LEDs functions on the front panel of the CRUISER (XCM-2000) cable modem are as described below.

- **POWER(LED)**

  This LED indicates that the power of the cable modem is on.

- **TEST(LED)**

  This LED goes on to indicate that the circuit of the modem is being checked when the power is initially applied to the modem or the modem is reset.

- **LAN(LED)**

  This LED flashes to indicate that the cable modem and your PC normally transmit/receive data while the modem normally operates.

- **U/S(LED)**

  This LED flashes to indicate that the cable modem normally transmits data.

- **D/S(LED)**

  This LED flashes to indicate that the cable modem normally receives data.

- **SYNC(LED)**

  This LED indicates that the cable modem and head-end equipment(CMTS) are synchronized for data transmission/reception as the modem is initialized. It should be always on while the modem normally operates.

● **RDY(LED)**

This LED indicates that the cable modem completed all preparatory procedures and is now ready to service. It should be always on while the modem normally operates.

LED Status Summary

POWER LED	Always "On" while the power is applied
TEST LED	" On" in the initialization stage and " Off" during normal operation
SYNC LED RDY LED	Always "On" during normal operation
LAN LED U/S LED D/S LED	Flashing according to traffic during normal operation

The parts on the back panel of the CRUISER (XCM-2000) cable modem function as described below.
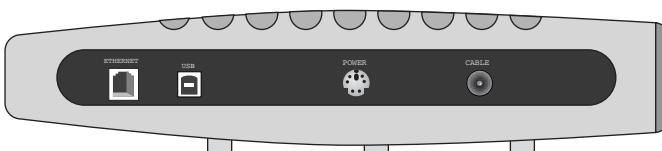
● **POWER(Socket)**

This socket is a terminal to supply power to the cable modem connecting the CRUISER (XCM-2000) cable modem dedicated power adapter to the modem.

¢″Caution: You must use the dedicated power a dapter included in the CRUISER (XCM-2000) cable modem package, otherwise the cable modem may be seriously damaged.

● **ETHERNET(Port)**

This port is used in connecting your PC or network equipment (hub, switch, router, etc.).
You may use the RJ-45 UTP cable included in the CRUISER(XCM-2000)Cable modem package to connect the port.

● **CABLE(Socket)**

This socket is a terminal to connect the coaxial cable for cable modem which is fed from outside. You are required to connect this terminal to the 75 Ω coaxial cable provided by cable data service provider.

3.2 Trouble shooting

Please contact the dealer or call at the service center for usage or post-sale service of the CRUISER (XCM-2000) cable modem. We advise you to check the followings before giving us a call.
• On unpacking the CRUISER(XCM-2000)cable modem package,You can request the dealer to exchange the damaged or lost contents. (damaged adapter, damaged XCM-2000, defective contents, etc.)

• You must check the followings first if LEDs do not turn on at all or do not normally operate in spite of a correct connection of the adapter.

  -There may be a problem with the power connector or power adapter. Therefore, you need to make sure that the power plug is correctly connected to the power connector.

    Note : Regarding power supply of XCM-2000, you do not need to worry about whether to set it to 110V or 220V nor to perform any user defined special operations.

• You can check the followings for bad connection.

  –There may be a problem with the cable if 'RDY' and/or 'SYNC' of the LEDs do not turn on. You must check if the coaxial cable is correctly connected and, if so, you should wait for minutes after pushing the 'RESET' key. Nevertheless, if those LEDs 'RDY' and 'SYNC' do not turn on, you must have it checked by the service provider.

  –If you are not able to access Internet despite that 'RDY' and 'SYNC' are on, you can check the Ethernet port. Then, you must verify that your PC and LAN card or the HUB port in use is on and check the Ethernet cable over again. If you are still not able to access Internet, you can check if the LAN card or HUB is correctly set up. Also, you may be able to get help from the service provider on chronic troubles.

If the CRUISER (XCM-2000) cable modem does not properly work in spite of your actions according to the instructions above, you can disconnect the power adapter for about 5 ~ 10 seconds and then connect it to the modem again.

Since there are no further complicated items with the CRUISER (XCM-2000) cable modem that users have to understand themselves besides connection of the power adapter or cables, you would better get help (post-sale services) from the dealer for chronic troubles.