

Acer ISDN 128 Surf USB

User manual

CE Approval

All CE approved ISDN devices may be connected to the Euro-ISDN in all countries of the EU.

The ISDN USB TA has been approved by the German TÜV according to the new European procedure and may therefore be connected to the Euro-ISDN in all EU countries. This ISDN TA therefore complies with:

- ◆ CTR-3 (ISDN Basic Rate Access)
- ◆ Electromagnetic Compatibility Standards
- ◆ Safety Standards

CE/EMC Restriction of Liability

The product described in this handbook was designed, produced and approved according to the EMC-regulations and is certified to be within EMC limitations.

If the product is used in an uncertified PC, the manufacturer undertakes no warranty in respect to the EMC limits. The described product in this handbook was constructed, produced and certified so that the measured values are within EMC limitations. In practice and under special circumstances, it may be possible, that the product may be outside of the given limits if it is used in a PC that is not produced under EMC certification. It is also possible in certain cases and under special circumstances, which the given EMC peak values will become out of tolerance. In these cases, the user himself is responsible for compliance with the EMC limits.

The manufacturer refuses all liability claims and may not be liable in any cases, which may occur in the practical use of the product outside of the EMC limitation.

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1.1 An Overview of the ISDN USB TA

1.1.1 What is ISDN?

ISDN is an abbreviation for *Integrated Services Digital Network*. ISDN transfers information digitally and integrates all telecommunication services (such as telephone, teletext, videotex, etc.) into a single network. Using ISDN, you can transfer text, voice, data files, images, and even video.

Before the use of ISDN, telecommunications operated using analog devices, which limited the quality of telecommunication transfers. With ISDN technology, the telephone lines can transmit data digitally with much greater speed and clarity of transmission than with analog transmissions. The ISDN is capable of transmitting all kinds of information at greatly accelerated rates. A typical modem transmission has a rate of 33.6Kbps (*kilobits per second* or thousand bits per second). ISDN digital technology allows transfer rates of up to 128Kbps.

Because ISDN transmits data digitally, the data is virtually error free, *and* the transmission is much clearer, with fewer interruptions and slowdowns in facsimile transmissions. With ISDN devices implemented throughout the world, a truly digital network will emerge, allowing everyone fast and easy access to the global information highway.



1.1.2 What is USB?

USB is an abbreviation for *Universal Serial Bus*. It is a new peripheral bus employing a single connector type for all low-speed and medium-speed devices, such as keyboard, mouse, monitor, floppy drive, printer, scanner, digital camera, modem and ISDN TA. It brings plug-and-play of computer peripherals outside the box, eliminating the need to install cards into dedicated computer slots and reconfigure the system. PCs equipped with USB allow computer peripherals to be automatically configured as soon as they are hot attached, without the need to reboot. USB also allows multiple devices, up to 127, to run simultaneously on a computer; some peripherals, such as monitors and keyboards, can act as additional plug-in hubs to make it easy for users to manage peripherals on the desktop. USB does offer unprecedented peripheral expandability and ease of use for PC users.

With better throughput of 12Mbps (*megabits per second* or million bits per second), USB is expected to rapidly become the preferred means of connecting ISDN TAs, though it will not replace the traditional PC ports (COM and LPT) overnight.

1.1.3 The ISDN USB TA

The ISDN USB TA is ideally suited to give your PC access to the world of the Integrated Services Digital Network. It is easy to install, and easy to configure because it is fully plug-and-play compatible. The Windows 98 or 2000 operating system will automatically install and configure the ISDN USB TA.

With the ISDN USB TA, you can have an ISDN telephone, answering machine, file transfer, videotex, G3/G4 Fax functions, and Internet access. This will bring you more versatility and efficiency in the ISDN era.



FIGURE 1-1: THE ISDN SYSTEM

1.2 ISDN Phone Software (Optional)

The ISDN USB TA transmits voice signals with a much greater quality, clarity, and speed than analog voice transmissions. Included in some product package is the ISDN Phone software program, which takes full advantage of the ISDN TA's digital transmission capabilities. This program makes it easy for you to make and receive voice communications. With the Phone program and the ISDN TA, you will be able to use the two B channels simultaneously, allowing you to send voice and data over the ISDN TA at the same time. You can use your ISDN TA to make a voice communication over one B channel while sending data or connecting to the Internet using the other B channel.

The ISDN Phone has the following additional features:



A Software Dialer	It allows you to dial the telephone number using either the mouse or your keypad.
Speed Dialing	It allows you to dial a number with a single mouse click. You can store up to 16 numbers with the Speed Dialing function
DTMF tone sending	It allows you to send DTMF (Dual Tone Multi Frequency) signals after a connection has been made. A DTMF number is often used to access the extension number of a PBX.
Hot Key Dialing	The Hot Key feature allows you use a hot key combination to automatically dial a number that has been copied to the clipboard. If you have a database with phone numbers stored in it, you can use the Windows shortcut keys [Ctrl] + [C] to copy the number, and then use the assigned ISDN Phone hot key to dial the number for you.
Automatic Redial	Automatic Redial frees you from having to manually redial if the line is busy. You can set the Automatic Redial function to redial after a designated period of time.
Least Cost Routing or Call-by-Call	You can place a call through a different provider than the one who installed your telephone line. These providers often offer lower call costs for international calls and calls to mobile numbers.
Phone Book	The Phone Book allows you to store phone numbers and other important information about your contacts. You can even insert a photograph image to help you with identification.

Caller Information Display	When there is incoming call, the caller's information and photograph stored in the phone book will be displayed.
Call Logs	Call Logs help you keep track of incoming and outgoing communication data such as caller identification, duration of the call, call charge, and the date and time the call was made.
Supplementary Services	Call hold/retrieve, suspend/resume, MSN, call waiting, CLIP, CLIR, Advice of Charge (AOC), 3PTY, call forwarding, etc.



For more information about the ISDN Phone program, please consult the ISDN Phone User's Manual.

1.3 Package Contents

The product package comes with the following accessories:

1. The ISDN USB TA
2. The installation diskettes or CD of the ISDN TA
3. The installation diskettes or CD of the bundled application software programs
4. One RJ-45 cable
5. One USB cable
6. Headset for telephony function (optional)



1.4 ISDN USB TA Features

The ISDN USB TA supports many standard and enhanced features, including the following:

- ◆ Fully plug-and-play compatible
- ◆ Hot attach and detach without rebooting the PC
- ◆ Bus-powered, no extra power adapter
- ◆ Provides telephony functions with a headset (optional)
- ◆ Supports both 16-bit and 32-bit CAPI drivers
- ◆ Supports TAPI and NDIS WAN miniport drivers
- ◆ Supports Multilink PPP (MP) for 128Kbps (two B channels) internet access and data transfer
- ◆ Supports X.75, T.70NL, ISO8208, T.90, and HDLC transparent protocols on the B channel for T-Online, AOL, CompuServe, BTX, BBS, Eurofile transfer, and G4 Fax.
- ◆ Has support for a bit-transparent driver on the B channel for answering machine, G3 Fax and soft-modem functions
- ◆ Supports both V.110 and V.120 rate adaptation
- ◆ Supports COM port simulation for modem-based application programs



If you want to send and receive the Group 3 (G3) fax at 14.4Kbps, you should have a Pentium processor.

2.1 Before Installing

Make sure that you have all you need to install the ISDN USB TA. You should have the following:

1. A PC that has USB connector and its USB controller is working properly as shown below.

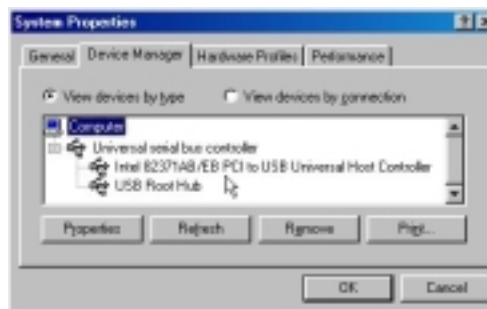


FIGURE 2-1: CHECKING USB CONTROLLER IN THE PC

2. Microsoft Windows 98 or 2000.




For some PCs without USB connector, you may have to connect an adapter to your motherboard so that you can plug in your USB peripherals.



As a quick rule of thumb, if your PC was made during or before 1996, it probably doesn't support USB. If it was made during 1997, it probably supports USB. If it was made during or after 1998, it almost certainly supports USB.

3. At least 10MB of free disk space for the driver and software.
4. An ISDN basic rate S0 interface released by PTT (Post, Telephone and Telegraph administration).

2.2 The Front Panel LEDs

LED	Meaning
USB	When this LED is lit, it indicates that the USB port is connected to the PC and working properly.
ISDN	When lit it indicates that the ISDN S0 bus is activated. It will flash when there is message transfer in the D channel.
B1	When lit it indicates that the ISDN "B1" channel is being accessed. It will flash when there is data transfer in the B1.
B2	When lit it indicates that the ISDN "B2" channel is being accessed. It will flash when there is data transfer in the B2.
PC	When this LED is lit, it indicates that there is at least one application program using the ISDN USB TA.
	<i>(Optional)</i> When lit it indicates that a voice call is being established and the headset can be used for conversation.

2.3 Installing the ISDN USB TA

Please refer to the following instructions and figures for installation procedures:

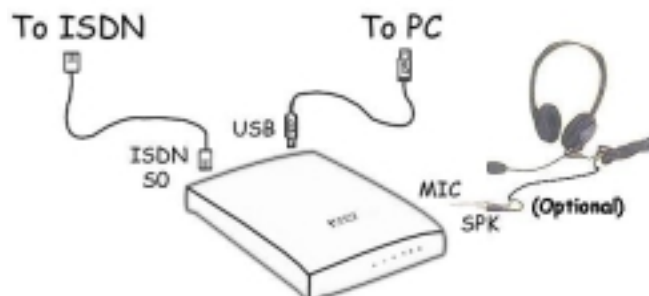


FIGURE 2-2: CONNECTING THE ISDN USB TA

1. If there is a switch on the back of the ISDN USB TA, turn it off.
2. Connect your ISDN line to the RJ-45 jack labeled “ISDN S₀” on the back of the ISDN TA.
3. If the ISDN TA has optional “MIC/SPK” jacks, you can connect a headset.
4. Connect the USB cable to the jack labeled “USB” on the back of the ISDN TA. Connect the other end to the PC or to a self-powered USB hub device, e.g., monitor.



You should not connect the ISDN USB TA to a bus-powered USB hub device, such as keyboard, because there could be not enough power for the ISDN TA.



5. If there is a switch, turn on the ISDN USB TA.
6. All the LEDs will be lit and, then, extinguished one by one. Please refer to *Chapter 3 Troubleshooting* if any LED is not lit or extinguished normally.
7. After that, Windows will detect it and pop-up the following screen after “Building driver information database”.



FIGURE 2-3: WINDOWS DETECTS THE ISDN USB TA

8. Press “Next >”, then select “Search for the best driver for your device” and press “Next >” again.
9. Insert the Driver Installation Diskette or CD into the appropriate drive (A:, B:, or D:, etc.) and specify the path of the driver.
10. Press “Next >” twice. Windows will start copying the CAPI driver files to Windows sub-directories.

11. While Windows is installing the NDIS WAN miniport driver, you might see the following screen.



FIGURE 2-4: SKIPPING THE ISDN CONFIGURATIONS

12. You can press "Next >" and "Finish" to skip the 4-page insignificant configurations.
13. After Windows finishes installing all the drivers, you will be prompted to restart the computer.



FIGURE 2-5: RESTARTING THE COMPUTER

14. Press "Yes" to restart your computer.



15. After PC restarts, you can check the “Device Manager” to see if the ISDN USB TA has been properly installed.

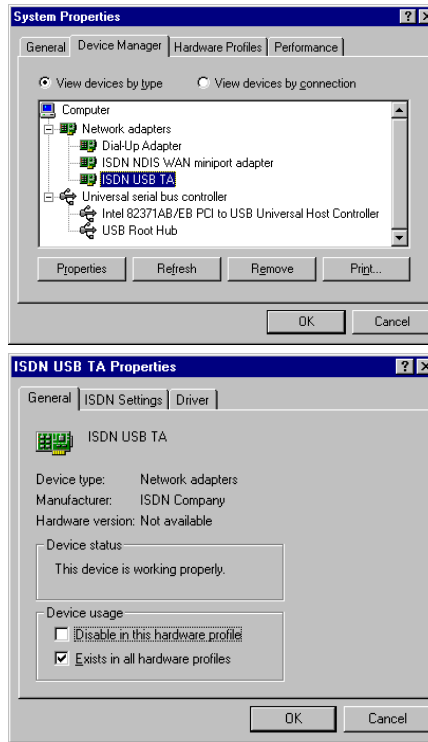


FIGURE 2-6: ISDN USB TA SUCCESSFULLY INSTALLED

16. In addition, we strongly recommend you to install the ISDN Utility and run the Diagnostic Program to make sure the ISDN USB TA, its drivers and the ISDN line are all properly installed and connected. You can refer to the following sections for details.

2.4 ISDN Utility Installation

The ISDN Utility includes helpful programs for the ISDN USB TA, such as diagnostic program, uninstallation program, and on-line manual. To install the ISDN Utility, please follow the instructions listed below.

1. Insert the Utility Installation Diskette or CD into drive A: (B:, or D:, etc.).
2. For diskette, press “Start” on the task bar and then click “Run”. Type “A:\setup” in the Run Dialog Box and press “OK”.
3. The InstallShield Wizard will load the ISDN utility installation program.

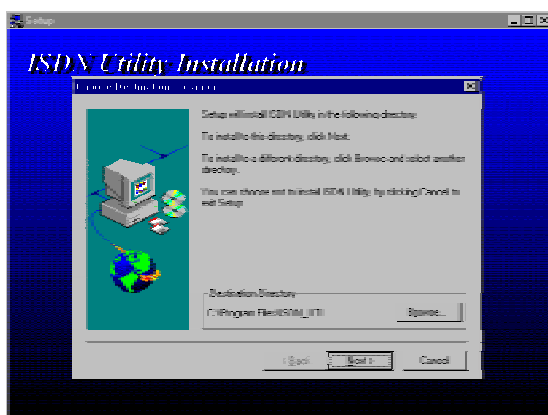


FIGURE 2-7: THE ISDN UTILITY INSTALLATION WIZARD

4. Press “Next>” to begin installing the ISDN Utility. Follow the instructions on the screen to complete the installation.



2.5 The Diagnostic Program

After you have installed your ISDN USB TA, you are highly recommended to use the diagnostic program to make sure the ISDN TA, its drivers and the ISDN line are all properly installed and connected. To run the diagnostic program please follow these instructions:

1. Open the “Programs” folder on the “Start” menu and click on the “ISDN Utility” program folder.
2. Click on the “Diagnostic Program” item to start the program.
3. In the “Own ISDN Number” box, type in the subscriber number of your own ISDN line.
4. Press “Loopback Test” to begin the diagnostic procedure. It will make a call from the B1 channel that returns through the B2 channel. The D and B channels will be tested for line integrity.
5. Please refer to *Chapter 3 Troubleshooting* if you see any error or warning message.



FIGURE 2-8: THE LOOPBACK TEST

2.6 Using BOD/DBA (Optional)

With BOD (Bandwidth On Demand) enabled, the second B channel can be automatically added or dropped according to the traffic load. In the above example, the second B channel will be added when the average data traffic load is more than 48Kbps for 60 seconds; and, it will be dropped when the average traffic load is less than 32Kbps for 60 seconds.

While you are using both two B channels for internet access, with “Call Bumping” or “DBA (Dynamic Bandwidth Allocation) enabled, the second B channel will be automatically dropped when there is an incoming voice or fax call. It will also be automatically dropped when you attempt to make an outgoing voice or fax call.

To run the BOD/DBA function please follow these instructions:

1. Open the “Programs” folder on the “Start” menu and click on the “ISDN Utility” program folder.
2. Click on the “Configuration” item to start the program.
3. Select the BOD and DBA and input the value as the screen.

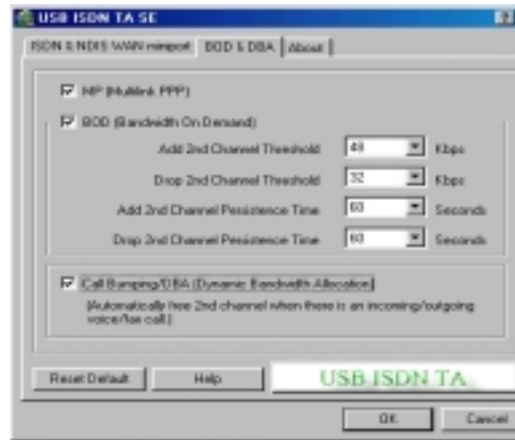


FIGURE 2-9: USING BOD/DBA FUNCTION

2.7 Using Multilink PPP



To have multilink PPP connections, the answering Internet Service Provider (ISP), online service or corporate LAN must provide multilink capabilities.

To configure multilink support, please follow these steps.

1. Double click on the “My Computer” icon on your Windows Desktop, then double click on the “Dial-Up Networking” (DUN) folder.
2. The DUN folder displays an icon labeled “Make New Connection”, plus icons for each of the connections that you

have already created. If you have not yet created a connection, double click on “Make New Connection” to define a connection to the dial up service you wish to use.

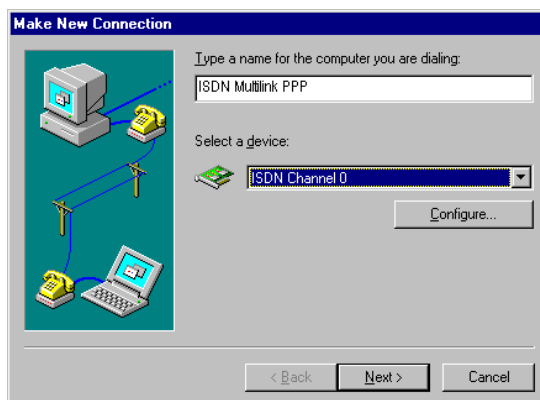


FIGURE 2-10: CREATING A MULTILINK PPP CONNECTION

3. When you have created your connection, or if the connection you wish to use for multilink access already exists in the folder, use the mouse to right click on the connection icon. Choose the “Properties” option. This displays a dialog box with several category tabs at the top.

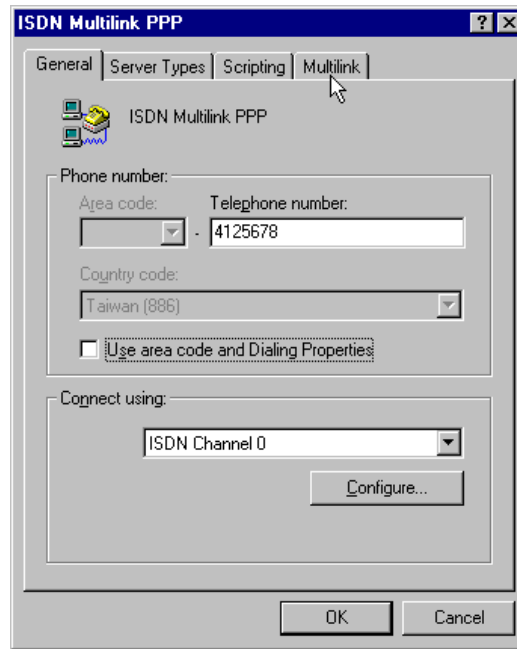


FIGURE 2-11: DIAL-UP NETWORKING CONNECTION PROPERTIES

4. Select the “Multilink” tab and click on the “Use additional devices” radio button.
5. Press “Add...” to specify the device to be bundled together to form the multilink connection.

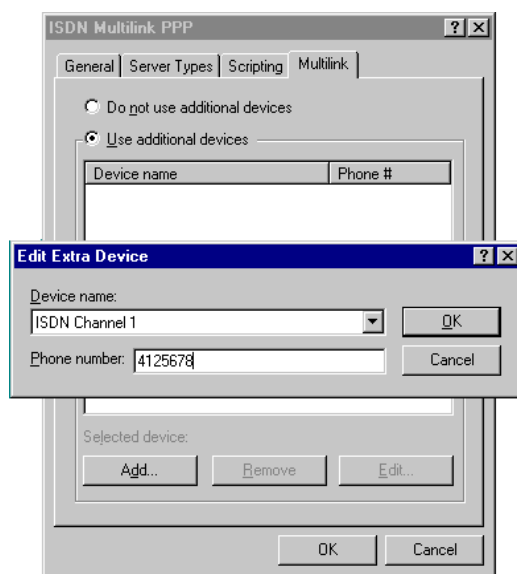


FIGURE 2-12: CONFIGURING MULTILINK DEVICES

6. Use the “Add...”, “Remove”, and “Edit” buttons to change the list of additional devices.
7. You may enter a different phone number for each device, and the phone numbers will be stored. If you subsequently change the phone number for the connection icon, the phone numbers associated with additional devices on this page will not change.

After your additional devices are configured, you are ready to dial the multilink connection. Once the connection is established, you can view the status information by double clicking on the “communicating computers” icon displayed in the taskbar.

**FIGURE 2-13: DIAL-UP NETWORKING CONNECTION STATUS**

The status information includes the number of bytes sent and received, the network protocols negotiated for use on the connection and a list box showing each of the additional devices. As you highlight a device in the list box, a “Suspend” or “Resume” button is displayed.

If a “Suspend” button is displayed, the additional device is now in use and bundled into the multilink connection. Clicking on the “Suspend” button disconnects that device and removes the additional device from the bundled connections.

If the “Resume” button is displayed, then click on “Resume” to dial that connection and add that additional device to the bundle. You may suspend and resume individual additional device without dropping the connection.

You also can use the “ISDN status” function to run the Configuration, Diagnostic, and BOD/DBA functions as above introduce.

To run the ISDN STATUS function, please follow these instructions:

1. Open the “Programs” folder on the “Start” menu and click on the “ISDN STATUS” program folder.



FIGURE 2-14: ISDN STATUS

2. You can use ISDN STATUS to Run the configuration and the procedure you can refer above introduce

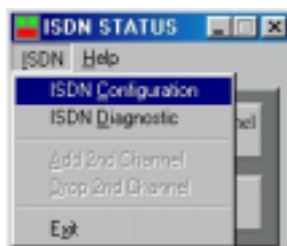


FIGURE 2-15: CONFIGURATION VIA ISDN STATUS



3. To run the Diagnostic program

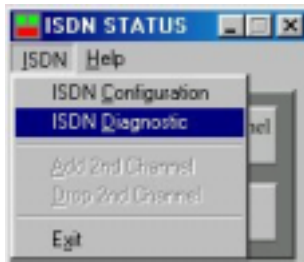


FIGURE 2-16: DIAGNOSTIC VIA ISDN STATUS

4. To run the BOD/DBA function

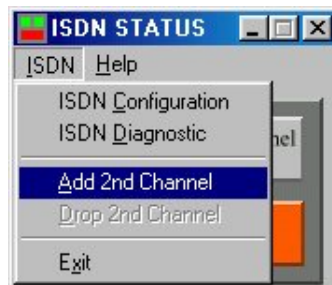


FIGURE 2-17: BOD/DBA VIA ISDN STATUS

2.8 Uninstalling the ISDN USB TA

The setup information for the ISDN TA is saved by Windows. If you decide to permanently remove the driver and utility of the

ISDN TA from your system, you must run the uninstallation program from the ISDN Utility program group as follows:

1. Open the “Programs” folder on the “Start” menu and click the “ISDN Utility” item.
2. Click the “Uninstall DRV & UTL” item. The uninstallation program will run.



FIGURE 2-18: THE UNINSTALLATION PROGRAM

3. Check the items that you want to completely remove from the Windows system and press “OK”.

Troubleshooting



If your ISDN USB TA does not work properly, run the Diagnostic Program to help you identify the problem.

Error Indication	Possible Cause	Remedy
"USB" LED is not lit or "Fail" on USB interface panel or The CAPI2032.DLL file cannot start.	1. The ISDN USB TA is not ready. ----- 2. The PC is not USB-ready.	1. Make sure the USB cable is securely connected to PC or self-powered USB hub device, and the optional switch on the back of the TA has been turned on. ----- 2. Examine your PC's hardware and software for USB capability.
The B1 LED is lit upon start-up.	The RAM is out of order	Consult your dealer.
The B2 LED is lit upon start-up.	The ISDN chip is out of order	Consult your dealer.
You are not allowed to run this program.	The CAPI2032.DLL is not from the ISDN package.	Uninstall and then reinstall the ISDN device.

Error Indication	Possible Cause	Remedy
A required .DLL file, CAPI2032.DLL, was not found.	The CAPI2032.DLL is missing.	Uninstall and then reinstall the ISDN device.
CAPI driver is not loaded.	The Registration key has been destroyed.	Uninstall and then reinstall the ISDN device.
Please input your own number	The subscriber number of your own ISDN line has not been entered.	Key in the subscriber number of your ISDN line in the <i>Own ISDN Number</i> box.
Cannot activate S0 interface ("ISDN" LED is always OFF)	The ISDN line is not connected.	Ensure that the ISDN S0 line is securely connected to the RJ-45 jack.
Cannot establish LAPD link	The ISDN line may be malfunctioning.	Ensure that the ISDN S0 line is in good condition.
Connecting fail (error code = xxxx)	1. <i>Own ISDN Number</i> is incorrect.	1. Ensure that your ISDN number is correct.
	2. Other devices on the same S0 line are occupying the B channel.	2. Be sure no other device is on the same S0 line and occupying the B channel.
	3. The ISDN protocol is wrong.	3. Check to see if the ISDN protocol configuration is correct.
Data transfer error	The ISDN line is not in good condition	Check the ISDN line