Apple/GV 56K Modem

Specifications and information

About This Manual

Your computer comes with an Apple/GV 56K Modem installed. You can use the modem to connect to the Internet and send and receive faxes. You can also use your modem as a speakerphone. This manual provides technical information about the modem and communications regulations notices.

IMPORTANT The actual speed the modem uses to communicate can vary with line conditions. Because Federal Communications Commission (FCC) rules restrict the power output of modems used by service providers, transmission speeds are limited to 53 Kbps (53,000 bits per second) in the United States. You can obtain speeds of 53 Kbps only on downloads from an Internet service provider (ISP) that uses K56flex™ modems.

Your computer also has software installed that lets you use the modem. For information about the software, click the Information & Documentation button in the Launcher window, then click the button for the document you want to read.

Note: You may need to install software to read the documents. See the Read Me files in the Information & Documentation panel for more information.

What Modems Do

A modem allows your computer to communicate over telephone lines by converting information from the digital format used by the computer to the analog format used by most telephone systems. It dials the telephone number, establishes a connection with another modem, and controls the flow of data so that communication takes place with optimal speed and accuracy.

To exchange data over a telephone line, your modem and the remote modem must establish a connection and agree on how data will be transmitted in these ways:

■ *Connection speed* Initially, your modem tries to connect at its fastest speed. If the remote modem cannot connect at this speed, your modem tries to use the next highest speed. The two modems continue this *fallback* process until they find the highest speed supported by both.

   Note: There are several circumstances that may prevent your modem from communicating at its optimum speed. For example, the telephone number you use to connect to your ISP may not support the fastest speed of your modem.

■ *Error control* Error control ensures data accuracy. Your modem and the remote modem must agree on an error control method. Your modem will try to use one of the methods it supports. If the remote modem doesn't support any of these methods, error control isn't used.

   Note: Modems can still communicate reliably without error control.

■ *Data compression* Compression increases the speed of data transmission by up to four times the noncompressed speed. Your modem will try to use one of the data compression methods it supports. If the remote modem doesn't support any of these methods, data compression isn't used.

   Note: Modems can still communicate reliably without data compression.

Your modem is set up to make the best possible connection with other modems automatically. You do *not* need to do anything.

Tips and Troubleshooting

If you have problems using your modem to connect to the Internet, connect to another modem, or send and receive a fax, try the following suggestions:

- Make sure the telephone cord is connected properly.

  If it appears to be connected properly, unplug the telephone cord and reconnect it to ensure a good connection.

  You may also want to replace the telephone cord.

- Make sure the telephone line you are using is working.

  To do so, connect a telephone to the line. You should hear a dial tone when you lift the receiver.

  You should also listen for noise on the line. If the telephone line quality is poor, your modem may have trouble maintaining a connection or sending and receiving faxes. If you have a problem with the line quality, try connecting again. If the problem persists, you may need to contact your telephone service provider.

Note: In some cases, a professional telephone installer may be able to help you make sure you have your modem connected properly.

The communications software installed on your computer is already set up to let you use your modem. To learn more about using the software, click the Information & Documentation button in the Launcher window, then click the button for the document you want to read.

IMPORTANT The Apple/GV 56K Modem will not work with party lines, cannot be connected to a coin-operated telephone, and may not work with a private branch exchange (PBX).

Technical Information

Hardware Specifications

Operating voltage and current	+5 volts (V) at 435 milliamperes (mA) +12V at 30 mA

Operating and storage environment

Operating temperature	0° C to 55° C (32° F to 131° F)
Operating humidity	10% to 95% noncondensing
Operating altitude	0 to 3084 m (0 to 10,000 feet)
Storage temperature	–40° C to +70° C (–40° F to +158° F)

Data Communications Standards

56,000 bps	K56flex
33,600, 28,800, 26,400, 24,000, 21,600, 19,200, 16,800 bps	ITU V.34/V.FC
14,400, 12,000, 9600, 7200, 4800 bps	ITU V.32 bis
9600, 4800 bps	ITU V.32
2400 bps	ITU V.22 bis
1200 bps	Bell 212A
1200 bps	ITU V.22
1200/75 bps	ITU V.23
300 bps	ITU V.21
300 bps	Bell 103
Data Terminal Equipment (DTE)	Up to 230.4 Kbps

Group 3 Fax Communication Standards*

14,400, 12,000 bps	ITU V.17
9600, 7200 bps	ITU V.29
4800 bps	ITU V.27 ter
2400	ITU V.21

* EIA-578 Class 1, command interface for fax data transmission and reception

Miscellaneous Specifications

AT command set	Extended Hayes AT command set
Error control	ITU V.42 (LAP-M) MNP Classes 2–4
Data compression	ITU V.42 bis MNP Class 5
Data transmission and format	Full- or half-duplex operation Synchronous or asynchronous modes
Dialing capability	Tone or pulse dialing Automatic dialing
Call setup and handling	Voice/fax call discrimination Automatic answering Caller ID
Speakerphone	Full-duplex operation Answering machine support

Modem and Fax Safety

IMPORTANT If you're planning to install telephone wiring or telephone jacks, follow these precautions:

■ Never install telephone wiring during a lightning storm.

■ Never install telephone jacks in wet locations unless the jacks are specifically designed for wet locations.

■ Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

■ Use caution when installing or modifying telephone lines.

■ Avoid using a telephone, other than a cordless type, during an electrical storm. There may be a remote risk of shock from lightning.

■ Never use a telephone to report a gas leak while in the vicinity of the leak.

Communications regulation information

This section provides information from the communications regulating agencies in the United States (FCC) and Canada (Industry Canada). This information is applicable to North American customers only.

FCC declaration of conformity

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. See instructions if interference to radio or television reception is suspected.

Radio and television interference

The equipment described in this manual generates, uses, and can radiate radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple's instructions—it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether your computer system is causing interference by turning it off. If the interference stops, it was probably caused by the computer or one of the peripheral devices.

If your computer system does cause interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit from the television or radio. (That is, make certain the computer and the television or radio are on circuits controlled by different circuit breakers or fuses.)

If necessary, consult an Apple-authorized service provider or Apple. See the service and support information that came with your Apple product. Or, consult an experienced radio/television technician for additional suggestions.

IMPORTANT Changes or modifications to this product not authorized by Apple Computer, Inc., could void the FCC Certification and negate your authority to operate the product.

This product was tested for FCC compliance under conditions that included the use of Apple peripheral devices and Apple shielded cables and connectors between system components. It is important that you use Apple peripheral devices and shielded cables and connectors between system components to reduce the possibility of causing interference to radios, television sets, and other electronic devices. You can obtain Apple peripheral devices and the proper shielded cables and connectors through an Apple-authorized dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.

Responsible party: Robert Steinfeld, Apple Computer, Inc., 1 Infinite Loop, Cupertino, CA 95014-2084, 408-974-2618.

Industry Canada statement

This Class B device meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la Class B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

VCCI Class 2 statement

情報処理装置等電波障害自主規制について

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づく第二種情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをしてください。

Notify your telephone company

Some telephone companies require that you notify the local business office when you hook up a modem to their lines.

Information you need in the United States

The Apple/GV 56K Modem complies with Part 68 of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN). If requested, provide this information to your telephone company.

- Ringer equivalence number (REN): 0.9

  The REN is useful to determine the quantity of devices you may connect to your telephone lines and still have all those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

- Telephone jack type: RJ-11

An FCC-compliant telephone cord and modular plug are provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack that complies with Part 68 rules. See the installation instructions for details.

Telephone line problems

If your telephone doesn't work, there may be a problem with your telephone line. Disconnect the modem to see if the problem goes away. If it doesn't, report the problem either to your local telephone company or to your company's telecommunications people.

If disconnecting the modem eliminates the problem, the modem itself may need service. See the service and support information that came with your Apple product for instructions on how to contact Apple or an Apple-authorized service provider for assistance.

If you do not disconnect your modem when it is adversely affecting the telephone line, the telephone company has the right to disconnect your service temporarily until you correct the problem. The telephone company will notify you as soon as possible. Also, you will be informed of your right to file a complaint with the FCC.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of your equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications to maintain uninterrupted service.

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Telephone Consumer Protection Act of 1991

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it was sent and an identification of the business or other identity, or other individual sending the message and the telephone number of the sending machine of such business, entity, or individual.

Information you need in Canada

The Industry Canada (IC) label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to a user's satisfaction.

Before installing this equipment, make sure that you are permitted to connect to the facilities of the local telecommunications company. Be sure you use an acceptable method of connection to install the equipment. In some cases, you may extend the company's internal wiring for single-line individual service by means of a certified telephone extension cord. Be aware, however, that compliance with these conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any equipment malfunctions or repairs or alterations that you make to this equipment may cause the telecommunications company to request that you disconnect the equipment.

In Canada, contact Apple at: 7495 Birchmount Road, Markham, Ontario, L3R 5G2, 800-263-3394.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

WARNING Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or electrician.

■ Load number: 0.3

The load number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to the telephone loop that is used by the device, to prevent overloading. The termination of a loop may consist of any combination of devices, subject only to the requirement that the sum of the load numbers of all devices does not exceed 100.

■ Telephone jack type: CA-11

Informations destinés aux utilisateurs canadiens

L'étiquette d'Industrie Canada identifie un matériel homologué. Cette étiquette certifie que le matériel est conforme à certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder au réseau de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. Dans certains cas, le cablage appartenant à l'entreprise utilisé pour un service individuel à ligne unique peut être prolongé au moyen d'un dispositif homologué de raccordement (cordon prolongateur téléphonique).

L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empechent pas la dégradation du service dans certaines situations. De fait, les entreprises de télécommunication ne permettent pas que l'on raccorde un matériel aux prises d'abonné, sauf dans les cas précis prévus par les tarifs particuliers de ces entreprises.

Les réparations de matériel homologué doivent être effectuées par un centre d'entretien canadien autorisé désigné par le fournisseur. La compagnie de télécommuncations peut demander à l'utilisateur de débrancher un appareil suite à des réparations ou des modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Veuillez contacter le fournisseur suivant pour des informations supplémentaires:

Apple Canada, Inc.
7495 Birchmount Road
Markham, Ontario,
Canada L3R 5G2
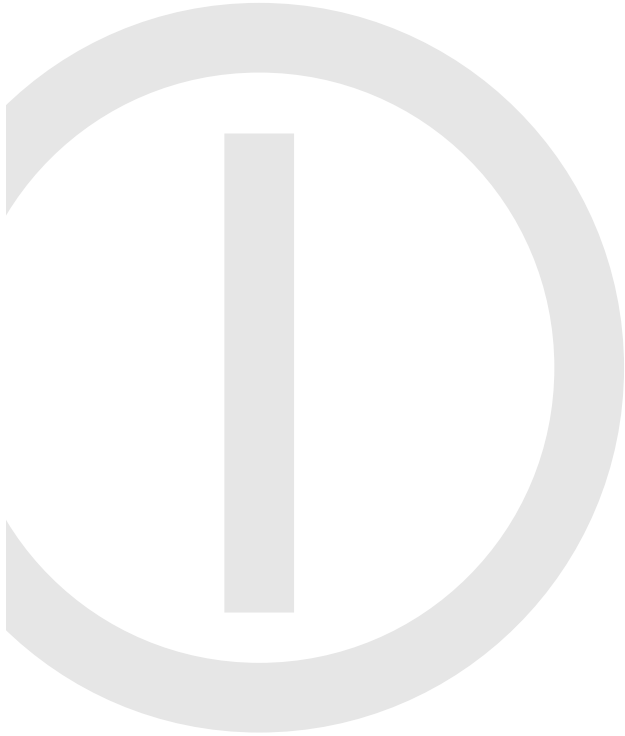Apple Canada Customer Assistance Line: 1(800)263 3394

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre du secteur, des lignes téléphoniques et les canalisations d'eau métalliques, s'il y en a, soient raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques ou à un électricien, selon le cas.

■ Numéro de charge : 0,3

L'indice de charge (IC) assigné à chaque dispositif terminal indique, pour éviter toute surcharge, le pourcentage de la charge totale qui sera raccordée à un circuit téléphonique bouclé utilisé par ce dispositif. La terminaison du circuit bouclé peut être constituée de n'importe quelle combinaison de dispositifs pourvu que la somme des indices de charge de l'ensemble des dispositifs ne dépasse pas 100.

■ Type de prise téléphonique : CA-11

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