

User's Manual

(for IBM ThinkPad R50 and T40 Series)

The attachment is the part of the user's manual of the specific host device IBM ThinkPad T40 Series that indicates the regulatory notices related to the FCC Part 15 and IC RSS-210/102. The manual for R50 Series is omitted here since the contents are almost the same.

The submittal document hereafter consists of two separate packages that are delivered associated with the host PC device.

PN (Part Number) 92P2253, concerning intentional radiator, Subpart C or E
13N6158, concerning unintentional radiator, Subpart B



ThinkPad[®] T40 Series Regulatory Notice

Note: [PN92P2253](#) concerning intentional radiator, Subpart C or E

First Edition (August 2004)

The following paragraph does not apply to the United Kingdom or any country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT ANY WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE LIMITED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimers or express or implied warranties in certain transactions; therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements or changes in the products or the programs described in this publication at any time.

It is possible that this publication may contain reference to, or information about, IBM products (machines and programs), programming, or services that are not announced in your country. Such references or information must not be construed to mean that IBM intends to announce such IBM products, programming, or services in your country.

Requests for technical information about IBM products should be made to your IBM authorized dealer or your IBM marketing representative.

© Copyright International Business Machines Corporation 2004. All rights reserved.

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Read first — regulatory information. 1	Telecommunication notices 17
USA — Federal Communications Commission (FCC). 3	Industry Canada requirements 19
Canada — Industry Canada (IC). 11	Trademarks 21

Read first — regulatory information

Regulatory notice for ThinkPad T40 Series

This notice is a supplementary document of the *ThinkPad® T40 Series Service and Troubleshooting Guide*. Please read this document before you use the ThinkPad T40 Series computer.

The ThinkPad T40 Series computer complies with the radio frequency and safety standards of any country or region in which it has been approved for wireless use. You must install and use your ThinkPad computer in strict accordance with the instructions as described hereafter.

Avis de réglementation pour les ThinkPad T40 Series

Le présent avis est un document qui vient compléter le *Guide de maintenance et d'identification des incidents* ThinkPad T40 Series. Veuillez lire ce document avant d'utiliser l'ordinateur ThinkPad T40 Series.

L'ordinateur ThinkPad T40 Series est conforme aux normes de sécurité et de radiofréquence du pays ou de la région où son utilisation sans fil est agréée. Vous devez installer et utiliser votre ordinateur ThinkPad en respectant scrupuleusement les instructions décrites ci-après.

USA — Federal Communications Commission (FCC)

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 installable wireless modules

- Mini-PCI Cards
 - FCC ID: ANO20020201CLK, Model: WM3B2100 (Intel® PRO/Wireless LAN 2100 3B Mini PCI Adapter)
 - FCC ID: ANO20040501CX2, Model: WM3B2200BG (Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM)
 - FCC ID: ANO20040601CX2, Model: WM3B2915ABG (Intel Pro/Wireless 2915ABG mini-PCI Adapter)
 - FCC ID: ANO20030500CMR, Model: T60H786-U (IBM® 11b/g Wireless LAN Mini PCI Adapter)
 - FCC ID: ANO20040600BTL, Model: AR5BMB-44 (IBM 11a/b/g Wireless LAN Mini PCI Adapter II)
 - FCC ID: ANO20030400LEG, Model: PH12127-E (IBM 11a/b/g Wireless LAN Mini PCI Adapter)
 - FCC ID: ANOU58H004, Model: U58H004 (Cisco Aironet Wireless 802.11b)
- Communication Daughter Card (CDC)
 - FCC ID: ANO20020100MTN, Model: BMDC200 (IBM Integrated *Bluetooth* III with 56K Modem)

For information concerning the wireless cards announced after the publication of this notice, visit the Web site at www.ibm.com/pc/qtechinfo/MIGR-532863.html

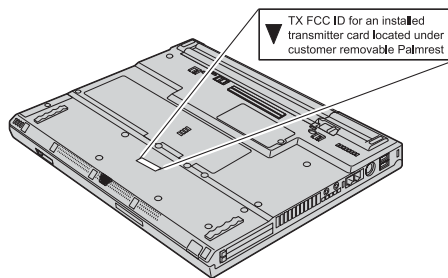
Wireless LAN Mini-PCI Cards marketed in the USA and Canada, except models WM3B2100 and PH12127-E, do not support nor function in the extended channels (12ch, 13ch). If you use the model WM3B2100 or PH12127-E with your ThinkPad computer, you must not select the Extended Channel Mode to avoid the unlikely possibility of unauthorized operation when the device is operated in the USA and Canada.

i) FCC ID of wireless modules

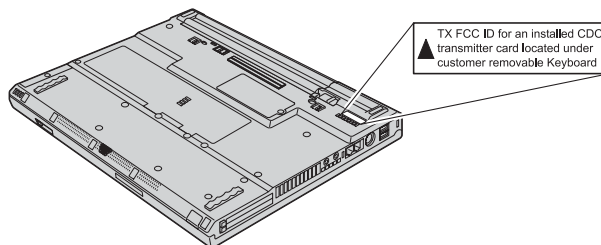
There is no FCC ID for Mini-PCI Cards shown on the enclosure of your ThinkPad computer. Instead you will find an indicator pointing to the location of the FCC ID on the bottom side of your ThinkPad computer as shown in the figure i-1). Also the location of the FCC ID's indicator for CDC is shown in the figure i-2). The FCC IDs are affixed on each approved module installed in the Mini-PCI Card slot or the CDC slot.

i-1) Mini-PCI Cards:

- FCC ID: ANO20020201CLK, Model: WM3B2100
- FCC ID: ANO20040501CX2, Model: WM3B2200BG
- FCC ID: ANO20040601CX2, Model: WM3B2915ABG
- FCC ID: ANO20030500CMR, Model: T60H786-U
- FCC ID: ANO20040600BTL, Model: AR5BMB-44
- FCC ID: ANO20030400LEG, Model: PH12127-E
- FCC ID: ANOU58H004, Model: U58H004



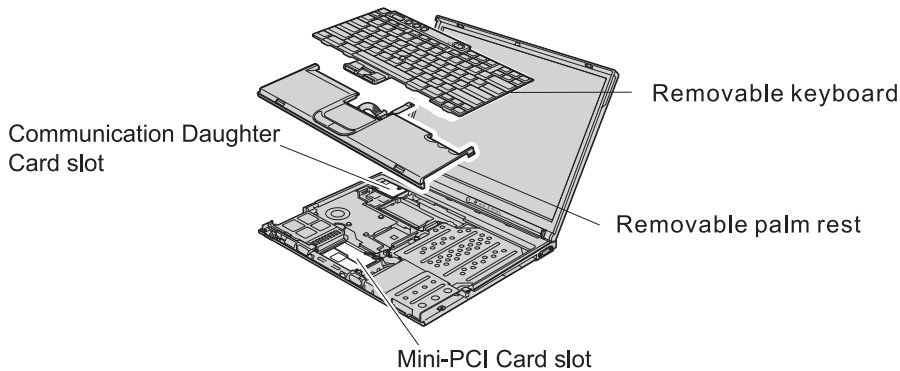
i-2) CDC (FCC ID: ANO20020100MTN, Model: BMDC200)



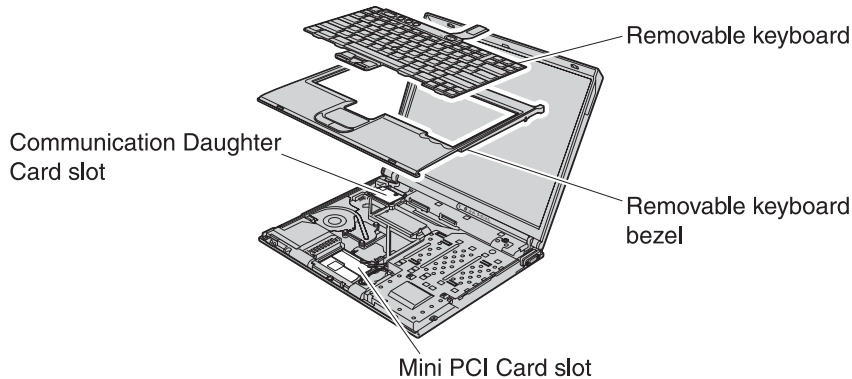
ii) Installation of approved wireless modules

If no integrated wireless LAN Mini-PCI Card or RF CDC module is preinstalled in your ThinkPad computer, you can install one, provided by IBM as an option. Plug the wireless card option into the Mini-PCI Card slot or CDC slot located under the keyboard of your ThinkPad computer as shown on the next page.

ThinkPad T40 Series 14-inch model



ThinkPad T40 Series 15-inch model



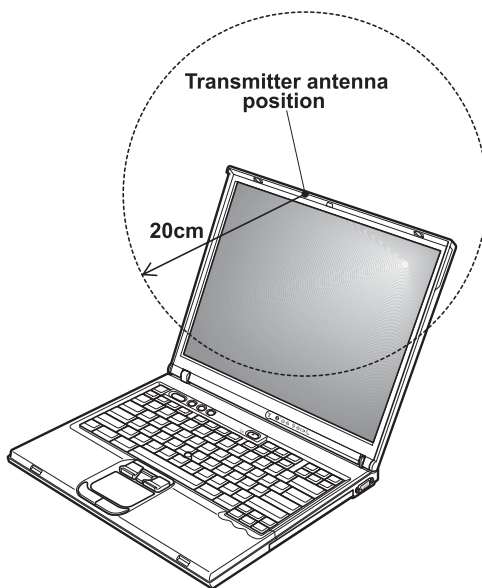
Attention: The ThinkPad T40 Series computer contains an authentication mechanism. If you install an unauthorized wireless LAN Mini-PCI Card or RF CDC module that is not approved for use in the ThinkPad T40 Series computer, the computer will not start, but only displays an error message and emits beeps.

iii) The FCC RF safety requirement

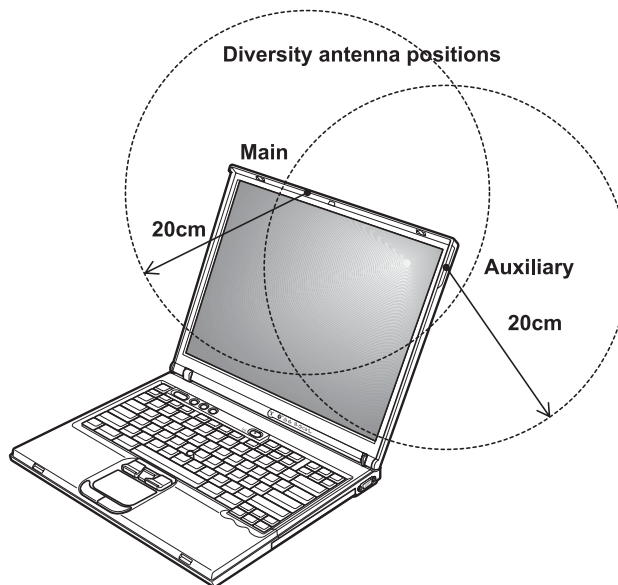
The radiated output power of the Wireless LAN Mini-PCI Cards or RF CDC module authorized to use for the ThinkPad T40 Series computer is far below the FCC radio frequency exposure limits. Nevertheless, the ThinkPad T40 Series computer shall be used in such a manner that the potential for human contact during normal operation is minimized as follows:

Caution: To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm (8 inches) must be maintained between the antenna for the integrated Wireless LAN Mini-PCI Card built in to the screen section and all persons. You are not allowed to disable “standby mode” for the power management function, if you cannot maintain the sufficient antenna separation (at least 20 cm) in any case the LCD is left opened or closed.

FCC ID: ANO20020201CLK, Model: WM3B2100

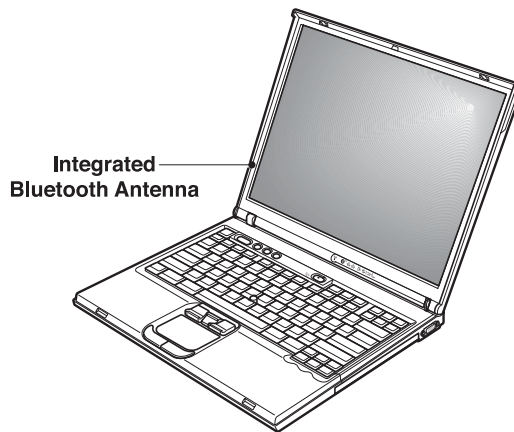


FCC ID: ANO20040501CX2, Model: WM3B2200BG
FCC ID: ANO20040601CX2, Model: WM3B2915ABG
FCC ID: ANO20030500CMR, Model: T60H786-U
FCC ID: ANO20040600BTL, Model: AR5BMB-44
FCC ID: ANO20030400LEG, Model: PH12127-E
FCC ID: ANOU58H004, Model: U58H004

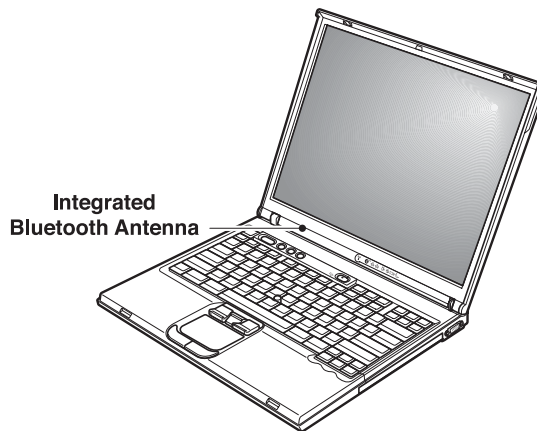


Note: The transmission diversity function is implemented for the six cards listed above (models WM3B2200BG, WM3B2915ABG, T60H786-U, AR5BMB-44, PH12127-E, U58H004). The function does not emit radio frequencies simultaneously from both antennas. One of the antennas is selected automatically or manually (by users) to have good quality of radiocommunication.

ThinkPad T40 Series 14-inch model



ThinkPad T40 Series 15-inch model



Note: The antenna of the model BMDC200 is located on the left side of the computer lid in the ThinkPad T40 Series 14-inch model, or on the bottom of the computer lid in the ThinkPad T40 Series 15-inch model. Transmitted energy from the *Bluetooth* device is very low compared to other RF devices. Therefore a 20 cm separation from the *Bluetooth* antenna is not required.

Use of wireless options

Your ThinkPad computer is approved for use of one of the granted Wireless LAN Mini-PCI Cards together with the granted *Bluetooth* module in the CDC slot and *Bluetooth* PC Card II option in the PC Card slot simultaneously. Please make sure of the following conditions on use of these wireless features.

1. Visit the IBM site at www.ibm.com/pc/qtechinfo/MIGR-53286.html and confirm the updated list of RF option devices that have been approved to cooperate with the integrated wireless feature.
2. When you use any other RF option device that is not listed on the IBM site, all other wireless features including the integrated transmitter in your ThinkPad computer are required to be turned off.
3. Users must follow the RF Safety instructions on wireless option devices that are included in the RF option device's user's manual.

iv) Radio Frequency interference requirements

An improper installation or unauthorized use may cause harmful interference to radio communications. Also, unauthorized changes or modifications could void the user's authority to operate the equipment. Refer to the "Appendix C. Notices, Electronic emission notices" of the *ThinkPad T40 Series Service and Troubleshooting Guide* for more detail.

When you use the models PH12127-E (IBM 11a/b/g Wireless LAN Mini PCI Adapter), AR5BMB-44 (IBM 11a/b/g Wireless LAN Mini PCI Adapter II) or WM3B2915ABG (Intel Pro/Wireless 2915ABG mini-PCI Adapter):

- This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.
- High power radar are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and/or damage this device.

Canada — Industry Canada (IC)

Certification number

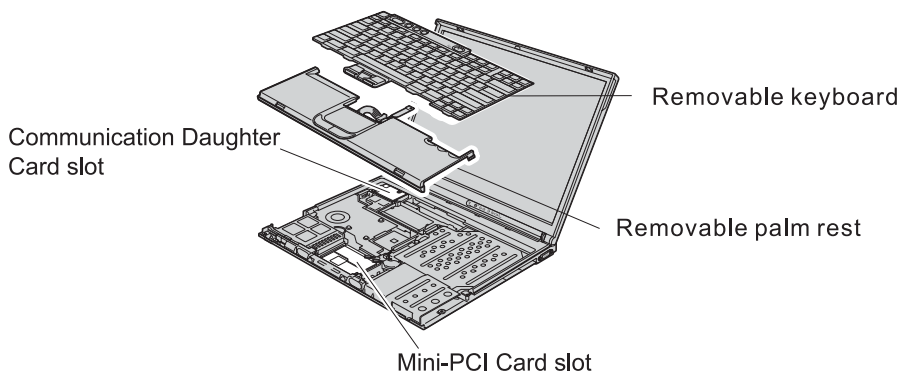
The certification number of Industry Canada for each approved Mini-PCI wireless card or RF Communication Daughter Card (CDC) is affixed on each module installed in the Mini-PCI Card slot or the CDC slot as shown below.

The applied wireless cards are:

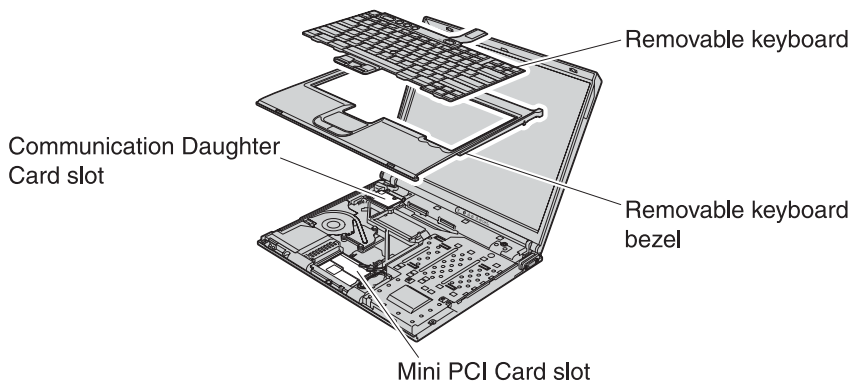
- IC: 349E-WM3B2100, Model: WM3B2100 (Intel PRO/Wireless LAN 2100 3B Mini PCI Adapter)
- IC: 349E-WM3B22BG, Model: WM3B2200BG (Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM)
- IC: 349E-WM3B29AG, Model: WM3B2915ABG (Intel Pro/Wireless 2915ABG mini-PCI Adapter)
- IC: 349E-T60H786U, Model: T60H786-U (IBM 11b/g Wireless LAN Mini PCI Adapter)
- IC: 349E-AR5BMB44, Model: AR5BMB-44 (IBM 11a/b/g Wireless LAN Mini PCI Adapter II)
- IC: 349E-PH12127E, Model: PH12127-E (IBM 11a/b/g Wireless LAN Mini PCI Adapter)
- IC: 349E-U58H004, Model: U58H004 (Cisco Aironet Wireless 802.11b)
- IC: 349E-BMDC200, Model: BMDC200 (IBM Integrated *Bluetooth* III with 56K Modem)

Wireless LAN Mini-PCI Cards marketed in the USA and Canada, except models WM3B2100 and PH12127-E, do not support nor function in the extended channels (12ch, 13ch). If you use the model WM3B2100 or PH12127-E with your ThinkPad computer, you must not select the Extended Channel Mode to avoid the unlikely possibility of unauthorized operation when the device is operated in the USA and Canada.

ThinkPad T40 Series 14-inch model



ThinkPad T40 Series 15-inch model



Attention: The ThinkPad T40 Series computer contains an authentication mechanism. You can install or remove each wireless feature by yourself. If you install an unauthorized wireless adapter that is not approved for use in the ThinkPad T40 Series computer, the computer will not start, but only displays an error message and emits beeps.

Low power license-exempt radiocommunication devices (RSS-210)

Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

When you use the models PH12127-E (IBM 11a/b/g Wireless LAN Mini PCI Adapter), AR5BMB-44 (IBM 11a/b/g Wireless LAN Mini PCI Adapter II) or WM3B2915ABG (Intel Pro/Wireless 2915ABG mini-PCI Adapter):

- The device for the band 5150–5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel Mobile Satellite systems.
- High power radars are allocated as primary users (meaning they have priority) of 5250–5350 MHz and 5650–5850 MHz and these radars could cause interference and/or damage to LELAN (Licence-Exempt Local Area Network) devices.

Exposure of humans to RF fields (RSS-102)

ThinkPad T40 Series computers employ low gain integral antennas that do not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's Web site at www.hc-sc.gc.ca/rpb

Numéro d'homologation

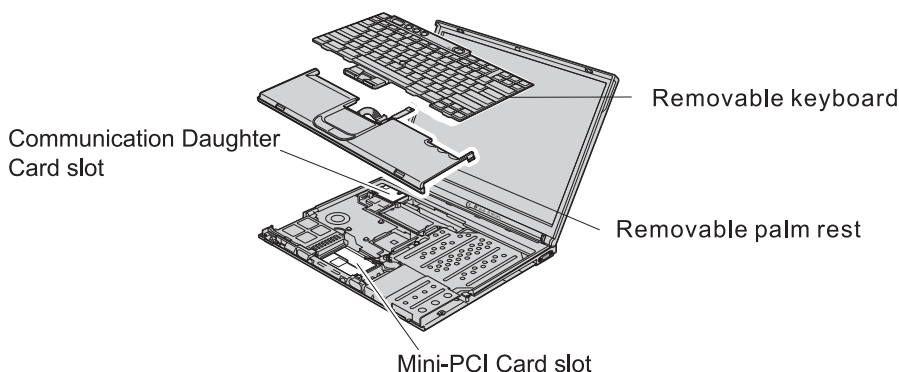
Le numéro d'homologation d'Industrie Canada pour chaque carte Mini-PCI sans fil homologuée ou carte RF CDC (Communication Daughter Card) est indiqué sur chaque module installé dans l'emplacement Mini-PCI Card ou CDC comme illustré ci-dessous.

Les cartes sans fil applicables sont les suivantes:

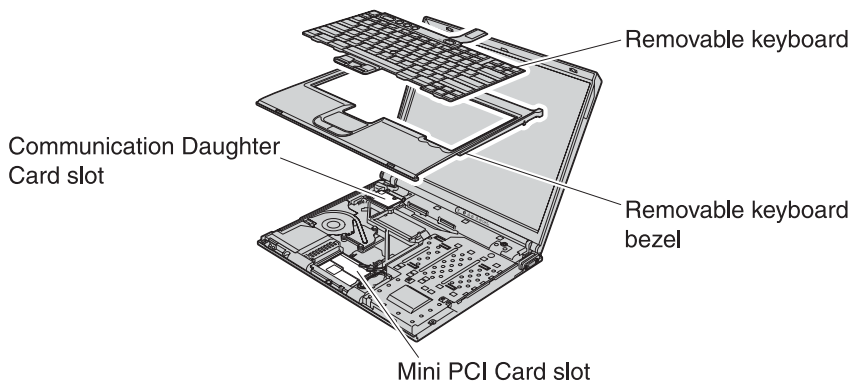
- IC: 349E-WM3B2100, Model: WM3B2100 (Intel PRO/Wireless LAN 2100 3B Mini PCI Adapter)
- IC: 349E-WM3B22BG, Model: WM3B2200BG (Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM)
- IC: 349E-WM3B29AG, Model: WM3B2915ABG (Intel Pro/Wireless 2915ABG mini-PCI Adapter)
- IC: 349E-T60H786U, Model: T60H786-U (IBM 11b/g Wireless LAN Mini PCI Adapter)
- IC: 349E-AR5BMB44, Model: AR5BMB-44 (IBM 11a/b/g Wireless LAN Mini PCI Adapter II)
- IC: 349E-PH12127E, Model: PH12127-E (IBM 11a/b/g Wireless LAN Mini PCI Adapter)
- IC: 349E-U58H004, Model: U58H004 (Cisco Aironet Wireless 802.11b)
- IC: 349E-BMDC200, Model: BMDC200 (IBM Integrated *Bluetooth* III with 56K Modem)

Les cartes de réseau local sans fil mini-PCI commercialisées aux Etats-Unis et au Canada, à l'exception des modèles WM3B2100 et PH12127-E, ne prennent pas en charge les canaux étendus (12ch, 13ch) et ne fonctionnent donc pas sur de tels canaux. Si vous utilisez le modèle WM3B2100 ou PH12127-E avec votre ordinateur ThinkPad dans ces pays, vous devez sélectionner le mode canal étendu pour éviter toute possibilité (bien que peu probable) d'utilisation non autorisée.

ThinkPad T40 Series 14-inch model



ThinkPad T40 Series 15-inch model



Attention: L'ordinateur ThinkPad T40 Series contient un mécanisme d'authentification. Vous pouvez installer ou désinstaller tout dispositif sans fil. Si vous installez une carte sans fil qui n'est pas homologuée pour l'ordinateur ThinkPad T40 Series, l'ordinateur ne démarrera pas; un message d'erreur sera affiché et des bips sonores seront émis.

Remarque relative aux appareils de communication radio de faible puissance sans licence (CNR-210)

Le fonctionnement de ce type d'appareil est soumis aux deux conditions suivantes:

1. Cet appareil ne doit pas perturber les communications radio, et
2. cet appareil doit supporter toute perturbation, y compris les perturbations qui pourraient provoquer son dysfonctionnement.

Lorsque vous utilisez les modèles PH12127-E (IBM 11a/b/g Wireless LAN Mini PCI Adapter), AR5BMB-44 (IBM 11a/b/g Wireless LAN Mini PCI Adapter II) ou WM3B2915ABG (Intel Pro/Wireless 2915ABG mini-PCI Adapter):

- Tout appareil destiné à la bande 5150-5250 MHz devra être exclusivement utilisé en intérieur afin de réduire les risques de perturbations électromagnétiques gênantes sur les systèmes de satellite mobile dans un même canal.
- Les radars à forte puissance sont désignés comme les utilisateurs principaux (c'est-à-dire qu'ils sont prioritaires) des bandes 5250-5350 MHz et 5650-5850 MHz. Ils peuvent provoquer des perturbations électromagnétiques sur les appareils de type LELAN (réseau de communication local sans licence) ou les endommager.

Exposition des êtres humains aux champs radioélectriques (RF) (CNR-102)

Le ThinkPad T40 Series utilise des antennes intégrales à faible gain qui n'émettent pas un champ électromagnétique supérieur aux normes imposées par le Ministère de la santé canadien pour la population. Consultez le Safety Code 6 sur le site Web du Ministère de la santé canadien à l'adresse "www.hc-sc.gc.ca/rpb".

Telecommunication notices

Federal Communications Commission (FCC) and Telephone Company Requirements (Part 68 of the FCC Rules)

1. 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 is sent, and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual.

In order to program this information into your computer, you should be sure to follow the installation instructions for your fax software package.
2. This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.
3. The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. The REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3).
4. If the built-in modem causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But, if advance notice isn't practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.
5. Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If they do, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.
6. If you experience trouble with this built-in modem, contact your IBM Authorized Seller, or the IBM Corporation, 500 Columbus Avenue, Thornwood, NY 10594, 1-800-772-2227, for repair/warranty information. The telephone company may ask you to disconnect this equipment from

the network until the problem has been corrected, or until you are sure the equipment is not malfunctioning.

7. No customer repairs are possible to the modem. If you experience trouble with this equipment, contact your Authorized Seller or the IBM Corporation for information.
8. The modem may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs. Contact your state public utility commission or corporation commission for information.
9. When ordering network interface (NI) service from the Local Exchange Carrier, specify service arrangement USOC RJ11C.
10. A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.
11. If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this Data/Fax Modem does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.
12. The software contained in this Data/Fax Modem to allow user access to the network must be upgraded to recognize newly established network area codes and exchange codes as they are placed into service.

Industry Canada requirements

Notice

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of communication. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above 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 repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

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.

Caution

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

The Ringer Equivalence Number (REN) for this terminal equipment is 0.0. The REN assigned to each terminal equipment provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five.

Avis

Le présent matériel est conforme aux spécifications techniques d'Industrie Canada applicables au matériel terminal. Cette conformité est confirmée par le numéro d'enregistrement. Le sigle IC, placé devant le numéro d'enregistrement, signifie que l'enregistrement s'est effectué conformément à une déclaration de conformité et indique que les spécifications techniques d'Industrie Canada ont été respectées. Il n'implique pas qu'Industrie Canada a approuvé le matériel.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. Dans certains cas, les fils intérieurs de l'entreprise utilisés pour un service individuel à ligne unique peuvent être prolongés au moyen d'un dispositif homologué de raccordement (cordon prolongateur téléphonique interne). L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêchent pas la dégradation du service dans certaines situations. Actuellement, les entreprises de télécommunication ne permettent pas que l'on raccorde leur matériel à des jacks 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 télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont 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.

L'indice d'équivalence de la sonnerie (IES) du présent matériel est de 0.0. L'IES assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

Trademarks

The following terms are trademarks of the IBM Corporation in the United States or other countries or both:

IBM
IBM (logo)
ThinkPad

Intel is a trademark of Intel Corporation in the United States, other countries, or both. (For a complete list of Intel trademarks, see www.intel.com/sites/corporate/tradmarx.htm)

Other company, product, and service names may be trademarks or service marks of others.



Part Number: 92P2253

Printed in USA

(1P) P/N: 92P2253





ThinkPad[®] T40 Series

Service and Troubleshooting Guide

Note: [PN: 13N6158 concerning unintentional radiator, Subpart B](#)

References to the Web site addresses

Any references in this publication to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product, and use of those Web sites is at your own risk.

Electronic emission notices

Federal Communications Commission (FCC) Statement

ThinkPad T40, machine type 2373, 2374, 2375, 2376, 2378 and 2379

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 an IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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.

Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504
Telephone 1-919-543-2193



Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

Industry Canada Class B Emission Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

European Community Directive Conformance Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electro-magnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product satisfies the Class B limits of EN 55022.

Product notice requirements

The following notice applies to machines equipped with both a DVD and a TV-out function:

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation and is intended for home and other limited viewing use only, unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Environmental notices for Japan

If you are a company employee and need to dispose of a ThinkPad computer that is the property of the company, you must do so in accordance with the Law for Promotion of Effective Utilization of Resources. The computer is categorized as industrial waste. It should be properly disposed of by an industrial waste disposal contractor certified by a local government. In

accordance with the Law for Promotion of Effective Utilization of Resources, IBM Japan provides, through its PC Collecting and Recycling Services, for the collecting, reuse, and recycling of disused computers. For details, visit the IBM Web site at www.ibm.com/jp/pc/service/recycle/

Pursuant to the Law for Promotion of Effective Utilization of Resources, the collecting and recycling of home-used computers by the manufacturer was begun on October 1, 2003. For details, visit the IBM Web site at www.ibm.com/jp/pc/service/recycle/personal.html

Disposing of a ThinkPad computer component containing heavy metal

The printed circuit board of a ThinkPad computer contains heavy metal. (Soldering with lead is used on the printed circuit board.) To properly dispose of the disused printed circuit board, follow the instructions in Collecting and recycling a disused ThinkPad computer.

Disposing of a disused lithium battery

A button-shaped lithium battery is installed on the system board of your ThinkPad computer to back up the main battery.

If you want to replace it with a new one, contact your place of purchase or ask for a repair service provided by IBM. If you have replaced it by yourself and want to dispose of the disused lithium battery, insulate it with vinyl tape, contact your place of purchase, and follow the instructions. You can also see the instructions at www.ibm.com/jp/pc/recycle/battery

If you use a ThinkPad computer at home and need to dispose of a lithium battery, you must comply with local ordinances and regulations.

Handling a disused ThinkPad battery pack

Your ThinkPad computer has a lithium ion battery pack or a nickel metal hydride battery pack. If you are a company ThinkPad computer user and need to dispose of a battery pack, contact the proper person in IBM sales, service, or marketing, and follow that person's instructions. You can also see the instructions at www.ibm.com/jp/pc/recycle/battery

If you use a ThinkPad computer at home and need to dispose of a battery pack, you must comply with local ordinances and regulations.