ThinkPad® X40 Series
Service and Troubleshooting Guide
ThinkPad® X40 Series
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Before using this information and the product it supports, be sure to read the general information under
"Important safety information" on page v, Appendix A, "Wireless related information," on page 43,

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Σημαντικές οδηγίες σχετικά με την ασφάλεια

Οι πληροφορίες αυτές μπορούν να σας βοηθήσουν να χρησιμοποιείτε τον προσωπικό σας υπολογιστή IBM® με ασφάλεια. Ακολουθήστε και φυλάξτε όλες τις πληροφορίες που παρέχονται μαζί με τον υπολογιστή IBM. Οι πληροφορίες που περιέχονται σε αυτό το έγγραφο δεν τροποποιούν τους όρους της σύμβασης αγοράς που συνάψατε ούτε τη Δήλωση Περιορισμένης Εγγύησης της IBM.

Η ασφάλεια των πελατών είναι σημαντική για την IBM. Τα προϊόντα μας είναι σχεδιασμένα να είναι ασφαλή και αποτελεσματικά. Ωστόσο, οι προσωπικοί υπολογιστές είναι ηλεκτρονικά συσκευές. Τα καλώδια ρεύματος, οι μετασχηματιστές και άλλα εξαρτήματά τους μπορούν να δημιουργήσουν κινδύνους που θα μπορούσαν να έχουν ως αποτέλεσμα την πρόκληση τραυματισμών ή ζημιών, ειδικά σε περίπτωση κακής χρήσης τους. Για να μείωσετε αυτούς τους κινδύνους, ακολουθήστε τις οδηγίες που παρέχονται με το προϊόν σας, σώστε σημασία σε όλες τις προειδοποιήσεις στο προϊόν και στις οδηγίες λειτουργίας και διαβάστε προσεκτικά όλες τις πληροφορίες που περιέχονται σε αυτό το έγγραφο. Ακολουθώντας προσεκτικά τις πληροφορίες που περιέχονται σε αυτό το έγγραφο και παρέχονται με το προϊόν σας, μπορείτε να συμβάλετε στην προστασία σας από κινδύνους και να δημιουργήσετε ένα ασφαλέστερο υπολογιστικό περιβάλλον εργασίας.

Σημείωση: Οι πληροφορίες αυτές περιέχουν αναφορές σε μετασχηματιστές και μπαταρίες. Πέραν των φορητών προσωπικών υπολογιστών, η IBM παρέχει ορισμένα προϊόντα (όπως π.χ. ηχεία και οθόνες) με εξωτερικούς μετασχηματιστές. Αν έχετε ένα τέτοιο προϊόν, οι πληροφορίες αυτές ισχύουν για το προϊόν σας. Επιπρόσθετα, ο υπολογιστής σας μπορεί να περιέχει μια εσωτερική μπαταρία σε μέγεθος νομίσματος, η οποία τροφοδοτεί με ηλεκτρικό ρεύμα το ρολόι του συστήματός σας ακόμα και όταν η μηχανή είναι αποσυνδεδεμένη. Επομένως οι πληροφορίες σχετικά με την ασφάλεια των μπαταριών ισχύουν για όλους τους υπολογιστές.

Συνθήκες που πρέπει να αντιμετωπίζονται άμεσα

Τα προϊόντα μπορεί να υποστούν ζημιές λόγω κακής χρήσης ή αμέλειας. Σε ορισμένες περιπτώσεις, οι ζημιές μπορεί να είναι τόσο σοβαρές ώστε το προϊόν να μην πρέπει να χρησιμοποιηθεί ξανά έως ότου επιθεωρηθεί και, αν είναι αναγκαίο, επισκευαστεί από εξοικονομημένο τεχνικό.

Όπως και με κάθε ηλεκτρονική συσκευή, πρέπει να προσέχετε το προϊόν όταν είναι αναμμένο. Σε πολύ σπάνιες περιπτώσεις, μπορεί να αισθανθείτε μια ομήρι ή να παρατηρήσετε καπνό ή σπίθες προερχομένες από τη μηχανή σας. Η μηχανή μπορεί να ακούσετε ήχους που υποδηλώνουν κάποιο πρόβλημα. Οι συνθήκες αυτές μπορεί
απλώς να σημαίνουν ότι έχει υποστεί βλάβη κάποιο εσωτερικό εξάρτημα, με ασφαλή και ελεγχόμενο τρόπο. Μπορεί όμως και να υποδηλώνουν πιθανό πρόβλημα ασφάλειας. Ωστόσο, μη ρισκάρετε και μην προσπαθήσετε να διαγνώσετε το πρόβλημα μόνος σας.

Ελέγχετε συχνά τον υπολογιστή σας και τα εξαρτήματά του, ώστε να εντοπίζετε τυχόν ζημίες, φθορά ή ενδείξεις κινδύνου. Αν υπάρχει οποιαδήποτε αβεβαιότητα σχετικά με την κατάσταση ενός εξαρτήματος, μη χρησιμοποιήσετε το προϊόν. Επικοινωνήστε με το Κέντρο Υποστήριξης της IBM ή τον κατασκευαστή του προϊόντος για οδηγίες σχετικά με τον έλεγχο του προϊόντος και, αν είναι απαραίτητο, την επισκευή του. Οι τηλεφωνικοί αριθμοί για το Κέντρο Υποστήριξης της IBM που εξυπηρετεί τη χώρα σας βρίσκονται στην ενότητα Telephone numbers αυτού του εγχειριδίου.

Στην απίθανη περίπτωση που παρατηρήσετε οποιαδήποτε από τις συνθήκες που αναφέρονται παρακάτω, ή αν έχετε οποιεσδήποτε ανησυχίες σχετικά με την ασφάλεια του προϊόντος, πάψτε να το χρησιμοποιείτε και αποσυνδέστε το από την πρίζα και από τις τηλεπικοινωνιακές γραμμές έως ότου διαλέξετε με το Κέντρο Υποστήριξης της IBM για περαιτέρω καθοδήγηση.

- Καλώδια ρεύματος, φις, μετασχηματιστές, επεκτάσεις καλωδίων, συσκευές προστασίας από υπερτάσεις ή τροφοδοτικά που έχουν κοπεί, ραγίσει, σπάσει ή υποστεί ζημίες.
- Ενδείξεις υπερθέρμανσης, καπνού, σπίθας ή φωτιάς.
- Ζημίες σε μια μπαταρία (όπως ρωγμές ή παραμόρφωση), αποφόρτιση μπαταρίας ή υποστεί ζημίες στον υπολογιστή και το καλώδιο ρεύματος ή το μετασχηματιστή.
- Έκθεση του υπολογιστή, του καλωδίου ρεύματος ή του μετασχηματιστή σε νερό.
- Πτώση του προϊόντος ή άλλες ζημίες στο προϊόν.
- Μη κανονική λειτουργία του προϊόντος όταν ακολουθείτε τις οδηγίες λειτουργίας.

Σημείωση: Αν παρατηρήσετε τέτοιες συνθήκες σε μη-IBM (π.χ. μια επέκταση καλωδίου), πάψτε να χρησιμοποιείτε αυτό το προϊόν έως ότου αποκοινωνήσετε με τον κατασκευαστή του προϊόντος για περαιτέρω οδηγίες, ή έως ότου προκληθεί τον κατάλληλο προϊόν αντικατάστασης.

Γενικές οδηγίες ασφάλειας

Τηρείτε πάντα τις ακόλουθες προφυλάξεις για να μειώσετε τον κίνδυνο τραυματισμού και πρόκλησης ζημιών.
Συντήρηση

Μην επιχειρήσετε να κάνετε συντήρηση ενός προϊόντος μόνος σας, εκτός αν σας ζητηθεί συγκεκριμένα από το Κέντρο Υποστήριξης της IBM. Χρησιμοποιείτε μόνο εξουσιοδοτημένο από την IBM παροχέα υπηρεσιών, εγκεκριμένο για την επίσκεψη του συγκεκριμένου προϊόντος.

Σημείωση: Ορισμένα εξαρτήματα μπορούν να αναβαθμιστούν ή να αντικατασταθούν από τον πελάτη. Τα εξαρτήματα αυτά ονομάζονται Αντικαθιστώμενες Από τον Πελάτη Μονάδες (Customer Replaceable Units - CRU). Η IBM προσδιορίζει ρητώς ποια εξαρτήματα είναι CRU και παρέχει τεκμηρίωση και οδηγίες όταν ενδείκνυται η εγκατάσταση τους από τον πελάτη. Πρέπει να ακολουθείτε τις οδηγίες όταν αντικαθίστατε CRU. Πρέπει να βεβαιωθείτε πάντα ότι έχετε σβήσει και αποσυνδέσει το προϊόν από την πηγή ρεύματος πριν επιχειρήσετε να πραγματοποιήσετε την αντικατάσταση. Για οποιεσδήποτε ερωτήσεις ή διευκρινίσεις, επικοινωνήστε με το Κέντρο Υποστήριξης της IBM.

Καλώδια ρεύματος και μετασχηματιστές

Χρησιμοποιείτε μόνο τα καλώδια ρεύματος και τους μετασχηματιστές που παρέχονται από την κατασκευαστή του προϊόντος. Τα καλώδια ρεύματος και οι μετασχηματιστές προορίζονται αποκλειστικά για χρήση με αυτό το προϊόν. Δεν πρέπει να χρησιμοποιούνται σε άλλο προϊόν. Συνεχίζετε να χρησιμοποιείτε τα καλώδια και τους μετασχηματιστές γύρω από το μετασχηματιστή όσο αντικαθίστατε. Αν το κάνετε, αυξάνετε τον κίνδυνο βλάβης. Σημαντικές οδηγίες σχετικά με την ασφάλεια v
μπαταρίες

Επεκτάσεις και αυξήσεις

Όταν βεβαιωθείτε ότι το φορτίο κυκλώματος υπερβαίνει, υπερφορτώνετε να παρακάμψετε μόνον ορισμένα με άκρες και από αμιγισμένες ενέργειες. Αν χρησιμοποιηθούν πολύπριζες, το φορτίο δεν πρέπει να υπερβαίνει τις προδιαγραφές του πολύπριζου. Για αυξήσεις ερωτήσεις σχετικά με τα ηλεητικά φορτία και τις προδιαγραφές, συμβουλευτείτε έναν ηλεκτρολόγο.

Επεκτάσεις καλώδιων και σχετικές συσκευές

Εξασφαλίστε ότι οι επεκτάσεις καλώδιων, οι συσκευές προστασίας από υπερτάσεις, οι μονάδες αδιάλειπτης παροχής ρεύματος και τα πολύπριζα που χρησιμοποιείτε καλύπτουν τις ηλεκτρικές προδιαγραφές του προϊόντος. Ποτέ μην υπεφορτώνετε αυτές τις συσκευές. Αν χρησιμοποιηθούν πολύπριζες, το φορτίο δεν πρέπει να υπερβαίνει τις προδιαγραφές του πολύπριζου. Για αυξήσεις ερωτήσεις σχετικά με τα ηλεκτρικά φορτία και τις προδιαγραφές, συμβουλευτείτε έναν ηλεκτρολόγο.

Φις και πρίζες

Αν κάποια πρίζα που σκοπεύετε να χρησιμοποιήσετε με τον υπολογιστή έχει ενδείξεις ζημιών ή διάβρωσης, μην τη χρησιμοποιήσετε έως ότου αντικατασταθεί από ηλεκτρολόγο.

Μη λυγίζετε ή τροποποιείτε το φις. Αν το φις έχει υποστεί ζημίες, επικοινωνήστε με τον κατασκευαστή για να το αντικαταστήσετε.

Ορισμένα προϊόντα έχουν φις τριών ακροδεκτών. Το φις αυτό μπορεί να συνδέεται μόνο σε γειωμένη ηλεκτρική πρίζα. Αυτό γίνεται για λόγους ασφαλείας. Μην παρακάμψετε αυτή την προφυλάξεις επιχειρώντας να συνδέσετε την πρίζα σε μη γειωμένη πρίζα. Αν δεν μπορείτε να συνδέσετε το φις στην πρίζα, επικοινωνήστε με έναν ηλεκτρολόγο για να προμηθευτείτε έναν εγκεκριμένο προσαρμογέα ή για να αντικαταστήσετε την πρίζα με άλλη, κατάλληλη πρίζα. Ποτέ μην υπεφορτώνετε μια πρίζα. Το συνολικό φορτίο του συστήματος δεν πρέπει να υπερβαίνει το 80% του φορτίου που προβλέπεται από τις προδιαγραφές του κυκλώματος διακλάδωσης. Για αυξήσεις ερωτήσεις σχετικά με τα ηλεκτρικά φορτία και τις προδιαγραφές του κυκλώματος διακλάδωσης, συμβουλευτείτε έναν ηλεκτρολόγο.

Βεβαιωθείτε ότι η πρίζα ρεύματος που χρησιμοποιείτε είναι σωστά καλωδιωμένη, εύκολα προσβάσιμη και βρίσκεται κοντά στον εξοπλισμό. Μην τεντώνετε τα καλώδια ρεύματος με τρόπο που μπορεί να προκαλέσει φθορά στα καλώδια.

Συνδέετε και αποσυνδέετε τον εξοπλισμό από την πρίζα με προσοχή.

Μπαταρίες

Σημαντική σημείωση σχετικά με τις μπαταρίες ιόντων λιθίου:

Όταν μια μπαταρία ιόντων λιθίου υπερθερμαίνεται ή βραχυκυκλώνεται, μπορεί να αυξηθεί η θερμοκρασία ή η πίεση στο εσωτερικό των στοιχείων της μπαταρίας. Τα
στοιχεία είναι σχεδιασμένα να εκλύουν πίεση και υλικά μέσω ανοιγμάτων στο
περίβλημα των στοιχείων. Ο σχεδιασμός αυτός αποτελεί σημαντικό
χαρακτηριστικό ασφάλειας.

Πελάτες της IBM έχουν αναφέρει ότι οι μπαταρίες ιόντων λιθίου στους φορητούς
υπολογιστές τους έχουν υπερθερμανθεί και "εκλύουν" υλικά. Μερικοί πελάτες
ανέφεραν ότι ακούσαν ήχους αμέσως πριν συμβεί αυτό. Σε τέτοια περιστατικά
μπορεί να εκλυθούν καπνοί, σπίθες ή ακόμα και φλόγες από τη μπαταρία. Η
μπαταρία μπορεί να θερμανθεί υπερβολικά και η θερμότητα αυτή μπορεί να
αλλοιώσει το σχήμα της κάτω επιφάνειας του φορητού υπολογιστή. Σε ακραίες
περιπτώσεις, η θερμότητα μπορεί να δημιουργήσει τρόπους στην κάτω επιφάνεια του
υπολογιστή. Τέτοιου είδους περιστατικά δεν έχουν αναφερθεί μόνο για προίόντα ή
φορητούς προσωπικούς υπολογιστές της IBM.

Συνιστάται στους χρήστες να ακολουθούν τις παρακάτω οδηγίες και να
επισκέπτονται τακτικά την ιστοσελίδα Safe and Effective Computing της IBM στη
Οι φορητοί προσωπικοί υπολογιστές συνήθως περιλαμβάνουν μια επαναφόρτιση
μπαταρία.

Οι φορητοί και επιτραπέζιοι προσωπικοί υπολογιστές μπορεί επίσης να
περιλαμβάνουν μια εσωτερική μπαταρία σε σχήμα νομίσματος που τροφοδοτεί το
ρολόι του συστήματος όταν η μηχανή είναι αποσυναρμολογημένη από την πρίζα. Οι
ακόλουθες πληροφορίες αφορούν όλες αυτές τις μπαταρίες:

• Χρησιμοποιείτε μόνο μπαταρίες και συσκευές επαναφόρτισης που είναι
eγκεκριμένες από την IBM για χρήση με το συγκεκριμένο προϊόν.

• Ακολουθείτε τις οδηγίες που παρέχονται μαζί με το προϊόν σας όταν φορτίζετε και
χρησιμοποιείτε τη μπαταρία.

• Μην επικείμενατε να ανοίξετε ή να επισκευάσετε τη μπαταρία. Επικοινωνήστε με
το Κέντρο Υποστήριξης της IBM για βοήθεια.

• Μη συνθλίπετε, τρυπήστε ή κάψετε τη μπαταρία και μη βραχυκυκλώσετε τους
ακροδέκτες της.

• Μην εκθέσετε τη μπαταρία σε υγρά.

• Διατηρείτε τις περιοχές γύρω από το χώρο τοποθέτησης της μπαταρίας, τις
ηλεκτρικές υποδοχές και τις θήκες συσκευών καθαρές και χωρίς υπολείμματα
ουσιών, ειδικά μεταλλικών.

• Αν η μπαταρία σας έχει υποστεί βλάβη, ή παρατηρήσετε διαρροή από τη
μπαταρία ή παρουσιάζει έξοχα ήλικο ή άκρα της μπαταρίας, πάγιετε να τη
χρησιμοποιείτε, αντικαταστήστε τη με εγκεκριμένη μπαταρία και φροντίστε για
τη σωσία απόρρητη της παλιάς μπαταρίας.

• Η επαναφόρτιση μπαταρία του φορητού προσωπικού υπολογιστή σας θα έχει
καλύτερη απόδοση και μεγαλύτερη διάρκεια ζωής αν ακολουθείτε περιοδικά την
εξής διαδικασία: Αράβηστε τον υπολογιστή να λειτουργεί με την μπαταρία έως
ότου ακούστε ο προειδοποιητικός ήχος που δηλώνει ότι η μπαταρία έχει
Θερμότητα και εξαερισμός προϊόντος

Οι υπολογιστές παράγουν θερμότητα όταν είναι αναμμένοι και κατά τη φόρτιση των μπαταριών. Οι φορτηγοί προσωπικοί υπολογιστών παράγουν σημαντική θερμότητα λόγω του μικρού τους μεγέθους. Τηρείτε πάντα τις ακόλουθες προφυλάξεις:

- Μην αφήνετε τη βάση του υπολογιστή σε επαφή με το μηχανικό μέρος του σώματος σας για μεγάλο χρονικό διάστημα όταν είναι σε λειτουργία ο υπολογιστής ή φορτίζεται η μπαταρία. Ο υπολογιστής παράγει κάποια θερμότητα κατά τη διάρκεια της κανονικής λειτουργίας του. Η παρατεταμένη επαφή με το σώμα μπορεί να προκαλέσει δυσφορία ή ακόμα και εγκαύματα.

- Μη χρησιμοποιείτε τον υπολογιστή ή φορτίζετε την μπαταρία κοντά σε εύφλεκτα υλικά ή σε εκρηκτικό περιβάλλον.

- Οι σχημές εξαερισμού, οι ανεμιστήρες ή/και οι ψύκτες του προϊόντος παρέχονται για σκοπούς ασφάλειας, ανέσεις και εξισορροπίας λειτουργίας. Τα εξαεριτήματα αυτά μπορεί να μπλοκαριστούν κατά πάσα πιθανότητα από την θερμοκρασία και τη σκόνη στο κάτω τμήμα του υπολογιστή. Προσφύγηστε επάνω σε καναπέ, χαλί ή την ενεργή επιφάνεια και όχι στο στρώμα της σιδέρεως ή στο καθρέφτη.

Ασφάλεια των μονάδων CD και DVD

Οι μονάδες CD και DVD περιεχομένων δίσκων με μεγάλη ταχύτητα. Αν κάποιο CD ή DVD έχει ρωγμές ή άλλη φυσική ζημία, μπορεί να σπάσει ή να διαλυθεί κατά τη χρήση της μονάδας CD. Μνημόνιστε από τον τραυματισμό στο τέτοιου είδους και να μειώσετε την κίνδυνο βλάβης της μηχανής σας, κάντε τα ακόλουθα:

- Συνιστάται να αποφύγετε τη μπαταρία στο 40% της χρησιμοποιούμενης της. Δεν πρέπει να αφήνετε τη μπαταρία πλήρως αποφόρτισθεί για μεγάλο χρονικό διάστημα (αυτό ονομάζεται “βαθιά αποφόρτιση”).
- Οι μπαταρίες μπορεί να βρεθούν σε κατάσταση βαθιάς αποφόρτισης αν παραμείνουν χρησιμοποιούμενες για μεγάλο χρονικό διάστημα. Αυτό μπορεί να μειώσει τη διάρκεια ζωής της μπαταρίας και να αυξήσει τον κίνδυνο βραχυκυκλώματος. Φορτίζετε τακτικά τις μπαταρίες, συμπεριλαμβανομένων οποιωνδήποτε ερευνητικών μπαταριών, για να αποφύγετε πιθανά προβλήματα. Συνιστάται να επαναφορτίζετε την μπαταρία στο 40% της χρησιμοποιούμενης της.
- Αν η μπαταρία σας δεν φορτίζεται, λειτουργεί για μικρό χρονικό διάστημα ή ανάβει η κόκκινη φωτεινή ένδειξη που δηλώνει ότι υπάρχει πρόβλημα με τη μπαταρία (αυτή η λειτουργία μπορεί να μην υπάρχει στο μοντέλο σας), θα πρέπει να πάνετε να τη χρησιμοποιείτε και να προμηθεύετε καινούργια μπαταρία της IBM. Παρότι μπορεί να παρατηρήσετε μείωση της απόδοσης όταν χρησιμοποιείτε τον υπολογιστή χωρίς μπαταρία, μπορείτε να συνεχίσετε τον χρήσιμο χρόνο και χρήσιμος για την εργασία. Αν η απόδοση δεν βελτιωθεί με την καινούργια μπαταρία, επικοινωνήστε με το Κέντρο Υποστήριξης της IBM για βοήθεια.
• Αποθηκεύετε πάντα τους δίσκους CD/DVD στην αρχική τους συσκευασία.
• Αποθηκεύετε πάντα τους δίσκους CD/DVD μακριά από τις ακτίνες του ήλιου και μακριά από πηγές θερμότητας.
• Αφαιρείτε τους δίσκους CD/DVD από τον υπολογιστή όταν δεν χρησιμοποιούνται.
• Μη λυγίζετε τους δίσκους CD/DVD και μην τους βάζετε βίαια μέσα στον υπολογιστή ή στη θήκη τους.
• Ελέγξτε τους δίσκους CD/DVD πριν από κάθε χρήση για να βεβαιωθείτε ότι δεν έχουν ρωγμές. Μη χρησιμοποιείτε δίσκους που έχουν ρωγμές ή άλλες ζημίες.

Πρόσθετες πληροφορίες ασφάλειας

⚠️ ΚΙΝΔΥΝΟΣ

Το ηλεκτρικό ρεύμα στα καλώδια ρεύματος, τηλεφώνου και επικοινωνίας είναι επικίνδυνο. Για να αποφύγετε τον κίνδυνο ηλεκτροπληξίας, όταν εγκαθιστάτε, μετακινείτε ή ανοίγετε τα καλώδια του προϊόντος ή των προσαρτημένων συσκευών, συνδέετε και αποσυνδέετε τα καλώδια όπως περιγράφεται παρακάτω. Αν παρέχεται τριαγωγικό καλώδιο ρεύματος με αυτό το προϊόν, πρέπει να συνδέθει σε σωστά γειωμένη πρίζα.
Σύνδεση:

Κλείστε όλους τους διακόπτες.

Συνδέστε πρώτα όλα τα καλώδια στις συσκευές.

Συνδέστε τα καλώδια σήματος στις υποδοχές.

Συνδέστε το καλώδιο ρεύματος στην πρίζα.

Ανάμετρε τις συσκευές.

Αποσύνδεση:

Κλείστε όλους τους διακόπτες.

Αποσυνδέστε πρώτα το καλώδιο ρεύματος από την πρίζα.

Αποσυνδέστε τα καλώδια σήματος από τις υποδοχές.

Αποσυνδέστε το καλώδιο ρεύματος από την πρίζα.
**ΚΙΝΔΥΝΟΣ**

Μειώστε τον κίνδυνο πυρκαγιάς και ηλεκτροπληξίας τηρώντας πάντα τις βασικές προφυλάξεις, όπως:

- Μη χρησιμοποιείτε τον υπολογιστή μέσα ή κοντά σε νερό.
- Κατά τη διάρκεια καταιγίδας:
  - Μη χρησιμοποιείτε τον υπολογιστή σας με καλωδιακή τηλεφωνική σύνδεση.
  - Μη συνδέετε ή αποσυνδέετε το καλώδιο από την τηλεφωνική υποδοχή στον τοίχο.

**ΚΙΝΔΥΝΟΣ: Αποθήκευση του πακέτου επαναφορτίσιμων μπαταριών**

Το πακέτο μπαταριών πρέπει να αποθηκεύεται σε θερμοκρασία δωματίου, φορτισμένο σε ποσοστό περίπου 30 - 50 % της χωρητικότητάς του. Συνιστούμε το πακέτο μπαταριών να φορτίζεται μία φορά ετησίως, ώστε να αποφεύγεται η υπερβολική αποφόρτισή του.

**ΚΙΝΔΥΝΟΣ**

Αν το πακέτο επαναφορτίσιμων μπαταριών δεν αντικατασταθεί με το σωστό τρόπο, υπάρχει κίνδυνος έκρηξης. Το πακέτο μπαταριών περιέχει μικρή ποσότητα επιβλαβών ουσιών. Για να αποφύγετε τυχόν τραυματισμού:

- Αντικαταστήστε τη μπαταρία μόνο με μπαταρία του προτεινόμενου από την IBM τύπου.
- Κρατήστε το πακέτο μπαταριών μακριά από φωτιά.
- Μην το εκθέσετε σε νερό ή βροχή.
- Μην επιχειρήσετε να το αποσυναρμολογήσετε.
- Μην το βραχυκυκλώσετε.
- Κρατήστε το μακριά από παιδιά.

Μην πετάτε το πακέτο μπαταριών σε απορρίμματα που καταλήγουν σε χωματερές ή χώρους υγειονομικής υφής απορριμμάτων. Η απόρριψη της μπαταρίας πρέπει να γίνεται σύμφωνα με τις τοπικές διατάξεις ή κανονισμούς και τις προδιαγραφές ασφάλειας της εταιρείας σας.
ΚΙΝΔΥΝΟΣ

Αν η εφεδρική μπαταρία δεν αντικατασταθεί με το σωστό τρόπο, υπάρχει κίνδυνος έκρηξης.

Η μπαταρία λιθίου περιέχει λίθιο και μπορεί να εκραγεί αν ο χειρισμός ή η απόρριψή της δεν γίνει με το σωστό τρόπο.

Αντικαταστήστε τη μόνο με μπαταρία του ίδιου τύπου.

Για να αποφύγετε τυχόν τραυματισμό ή θάνατο, μην:
(1) την πετάξετε ή τη βυθίσετε σε νερό,
(2) την εκθέσετε σε θερμοκρασίες μεγαλύτερες των 100°C (212°F), ή (3) επιχειρήσετε να την επισκευάσετε ή να την αποσυναρμολογήσετε. Η απόρριψή της πρέπει να γίνεται σύμφωνα με τις τοπικές διατάξεις ή κανονισμούς και τις προδιαγραφές ασφάλειας της εταιρείας σας.

ΠΡΟΣΟΧΗ:

Όταν έχετε προσθέσει ή αναβαθμίσει μια κάρτα CDC ή Mini PCI ή μια κάρτα μνήμης, μη χρησιμοποιήσετε τον υπολογιστή πριν κλείσετε το κάλυμμα. Ποτέ μη χρησιμοποιείτε τον υπολογιστή όταν το κάλυμμα είναι ανοιχτό.

ΠΡΟΣΟΧΗ:

Η λάμπα φθορισμού που περιέχεται στην οθόνη υγρών κρυστάλλων (LCD) περιέχει υδράργυρο. Μην την πετάτε σε απορρίμματα που καταλήγουν σε χημικές ή χόρους υγειονομικής ταρτής απορριμμάτων. Η απόρριψή της πρέπει να γίνεται σύμφωνα με τις τοπικές διατάξεις ή κανονισμούς.

Η οθόνη υγρών κρυστάλλων είναι κατασκευασμένη από γυαλί και υπάρχει κίνδυνος να σπάσει αν ο υπολογιστής χτυπηθεί ή πέσει κάτω. Αν η οθόνη υγρών κρυστάλλων σπάσει και το υγρό που περιέχεται σε αυτήν έρθει σε επαφή με τα μάτια ή τα χέρια σας, πρέπει αμέσως να το πλύνετε με νερό για τουλάχιστον 15 λεπτά. Αν παρατηρήσετε οποιαδήποτε συμπτώματα μετά την πλύση, ζητήστε ιατρική φροντίδα.
ΚΙΝΔΥΝΟΣ: Πληροφορίες σχετικά με την ασφάλεια του modem

Για να ελαττώσετε τον κίνδυνο πυρκαγιάς, ηλεκτροπληξίας ή τραυματισμού κατά τη χρήση τηλεφωνικού εξοπλισμού, τηρείτε πάντα τις βασικές προφυλάξεις, όπως:

- Ποτέ μην εγκαθιστάτε τηλεφωνικά καλώδια κατά τη διάρκεια καταιγίδας.
- Ποτέ μην εγκαθιστάτε υποδοχές τηλεφωνικών γραμμών σε υγρά σημεία, εκτός αν η υποδοχή είναι ειδικά σχεδιασμένη για υγρές συνθήκες.
- Ποτέ μην αγγίζετε μη μονωμένα τηλεφωνικά καλώδια ή ακροδέκτες, εκτός αν η τηλεφωνική γραμμή έχει αποσυνδεθεί από το δίκτυο.
- Η εγκατάσταση ή τροποποίηση τηλεφωνικών γραμμών απαιτεί προσοχή.
- Αποφεύγετε τη χρήση τηλεφώνων (εκτός αν είναι ασύρματου τύπου) κατά τη διάρκεια καταιγίδας. Ενδέχεται να υπάρξει μικρός κίνδυνος ηλεκτροπληξίας από κεραυνό.
- Σε περίπτωση διαρροής αερίου, μη χρησιμοποιήσετε τηλέφωνο στο χώρο της διαρροής για να την αναφέρετε.
- Χρησιμοποιείτε μόνο καλώδιο τηλεφώνου Αρ. 26 AWG ή μεγαλύτερο (παχύτερο).

Δήλωση σχετικά με τις προδιαγραφές των συσκευών laser

Η οπτική μονάδα αποθήκευσης, π.χ. μονάδα CD-ROM, CD-RW, DVD-ROM ή SuperDisk, που μπορεί να είναι εγκατεστημένη στον υπολογιστή IBM ThinkPad είναι προϊόν laser. Η παρακάτω ετικέτα σήµανσης προϊόντος laser Κατηγορίας 1 βρίσκεται στην επιφάνεια της μονάδας.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
APPAREIL A LASER DE CLASSE 1
KLASS 1 LASER APPARAT

Η μονάδα είναι πιστοποιημένη από τον κατασκευαστή ως προϊόν που καλύπτει τις απαιτήσεις του Κώδικα Ομοσπονδιακών Κανονισμών 21 του Υπουργείου Υγείας και Ανθρωπίνων Υπηρεσιών των ΗΠΑ (DHHS 21 CFR) και συγκεκριμένα του Υποκεφαλικού J για προϊόντα laser Κατηγορίας 1.

Σε άλλες χώρες, η μονάδα είναι πιστοποιημένη ως προϊόν που καλύπτει τις απαιτήσεις τον προτύπο IEC825 και EN60825 για προϊόντα laser Κατηγορίας 1.
ΚΙΝΔΥΝΟΣ

Μην αποστείλετε την ασφαλή καλώδιο κατηγορίας 3A. Αποσπάστε την ασφαλή καλώδιο κατηγορίας 1 πριν αποστείλετε το φορητό υπολογιστή σας.

ΚΙΝΔΥΝΟΣ

Επικινδυνή η καλώδια κατηγορίας 3A που προέρχονται από την ασφαλή καλώδιο κατηγορίας 1. Επικινδυνή η καλώδια κατηγορίας 1 που προέρχονται από την ασφαλή καλώδιο κατηγορίας 3A.

ΠΟΛΛΑ ΠΡΟΪΟΝΤΑ ΚΑΙ ΠΡΟΑΙΡΕΤΙΚΑ ΤΜΗΜΑΤΑ ΑΠΟ ΕΧΕΙ ΤΗΝ ΚΑΛΩΔΙΑ ΚΑΙ ΠΡΟΕΙΔΟΠΟΙΗΣΗ: Ο χειρισμός των καλώδιων αυτών των προϊόντων ή των προαιρετικών τομέων που προέρχονται από το προϊόν, θα σας εκθέτει σε κινδύνο υγείας και καλλιτεχνικών αναπλήρωσης και επικίνδυνη θέση.

ΠΛΗΟΝΟΣ ΤΑ ΧΩΡΙΑ ΑΓΚΑΛΙΟΝΑ ΑΠΟ ΕΘΝΙΚΟ ΧΕΙΡΙΣΜΟ ΤΩΝ ΚΑΛΩΔΙΩΝ ΜΗΝ ΠΡΟΕΙΔΟΠΟΙΗΣΗ: Ο χειρισμός των προϊόντων αυτών ή των προαιρετικών τομέων που προέρχονται από το προϊόν θα σας εκθέτει σε χημικές ουσίες κατηγορίας 1 και κατηγορίας 2. Αποφεύγετε την απευθείας έκθεση στην διάρκεια της χρήσης των προϊόντων αυτών ή των προαιρετικών τομέων που προέρχονται από το προϊόν.
Important notice for users

Important Regulatory Notice for Users

The ThinkPad® X40 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 are requested to install and use your ThinkPad computer in strict accordance with the local RF regulations. Before you use the ThinkPad X40 Series computer, please find and read ThinkPad X40 Series Regulatory Notice, the notice that supplements this Service and Troubleshooting Guide. The notice is included in the package with this publication.

Information about hard disk capacity

Instead of providing a recovery CD or a Windows® CD with your computer, IBM® provides simpler methods of accomplishing the tasks typically associated with these CDs. The files and programs for these alternative methods are on your hard disk, which eliminates having to locate misplaced CDs and problems associated with using an incorrect CD version.

The complete backup of all the files and programs that IBM preinstalled on your computer resides in a hidden section, or partition, of the hard disk. Although hidden, the backups in the partition consume hard disk space. Therefore, when checking the capacity of your hard disk according to Windows, you might note that the total capacity of the disk appears to be smaller than anticipated. This discrepancy is explained by the contents of the hidden partition. (See "Recovering pre-installed software" on page 30.)

For more information about recovering your hard disk to the original preinstalled contents refer to your on-system help source, Access IBM. Press the blue Access IBM button or click the Access IBM icon on your desktop, and then browse the Learn section for various topics that cover backing up and recovering.
Finding information with Access IBM

The blue Access IBM button can help you in many situations when your computer is working normally, and even when it is not. At your desktop, press the Access IBM button to open Access IBM. Access IBM is your on-board computer help center that brings you informative illustrations and easy-to-follow instructions for getting started and staying productive. You can also use the Access IBM button to interrupt the startup sequence of your computer and start the IBM Rescue and Recovery. If Windows does not start correctly, press the Access IBM button during the startup sequence of your computer and start the IBM Rescue and Recovery. Use this area to run diagnostics, restore your backups (assuming you have made backups using IBM Rescue and Recovery), restore to factory contents (i.e., what was there when you received your computer), start a utility that enables you to change your startup sequence, and get essential system information, and start the IBM BIOS Setup Utility where you can check and change BIOS settings.

Press the Access IBM button to open the application that brings all of IBM’s resources to you. Below you will see the Welcome page of Access IBM that
explains what each part of Access IBM holds to help you.

Some of the topics in your help system contain brief video clips that show you how to perform certain tasks, such as replacing your battery, inserting a PC Card, or upgrading your memory. Use the controls shown to play, pause, and rewind the video clip.
Chapter 1. Overview of your new ThinkPad computer

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Your ThinkPad at a glance

Front view

- Computer display
- Access IBM button
- System-status indicators
- TrackPoint
- Security keyhole
- Modem connector
- Ethernet connector
- USB connector
- Infrared port
- SD Card slot
- Stereo headphone jack
- PC Card slot
- Microphone jack

Rear view

- USB connector
- USB power connector
- Monitor connector
- Power jack
Features

Processor
- Intel® Pentium® M processor

Memory
- PC2700 double data rate (DDR) synchronous dynamic random access memory (DRAM)

Storage device
- 1.8-inch hard disk drive

Display
The color display uses TFT technology:
- Size: 12.1 inch
- Resolution:
  - LCD: 1024-by-768
  - External monitor: Up to 2048-by-1536
- Brightness control

Keyboard
- 87-key, 88-key, or 92-key (including Fn key, and Forward and Backward keys)
- Forward and Backward keys
- TrackPoint®
- Fn key function
- Access IBM button
- Volume control buttons
- ThinkLight™

External interface
- External-monitor connector
- PC Card slot (Type I or Type II PC Card)
- Secure Digital card slot
- Stereo headphone jack
- Microphone jack
- Universal Serial Bus (USB) connector
- Powered USB connector (Universal Serial Bus (USB) connector with power connector)
- Infrared port
- RJ11 telephone connector
- RJ45 Ethernet connector
- Docking connector
- Integrated wireless LAN feature (on some models)
- Integrated Bluetooth feature (on some models)
Specifications

Size
- Width: 268 mm (10.55 in.)
- Depth: 211 mm (8.31 in.)
- Height: 21 mm – 27 mm (0.83 in. – 1.06 in.)

Environment
- Maximum altitude without pressurization: 3048 m (10,000 ft)
- Temperature
  - At altitudes up to 2438 m (8000 ft)
    - Operating with no diskette: 5° to 35°C (41° to 95°F)
    - Operating with a diskette: 10° to 35°C (50° to 95°F)
    - Not operating: 5° to 43°C (41° to 110°F)
  - At altitudes above 2438 m (8000 ft)
    - Maximum operating temperature, 31.3°C (88°F)

Note: When you charge the battery pack, its temperature must be at least 10°C (50°F).
- Relative humidity:
  - Operating with no diskette in the drive: 8% to 90%
  - Operating with a diskette in the drive: 8% to 80%

Heat output
- 56 W (191 Btu/hr) maximum

Power source (ac adapter)
- Sine-wave input at 50 to 60 Hz
- Input rating of the ac adapter: 100-240 V ac, 50 to 60 Hz

Battery pack
- ThinkPad X40 Series 4 Cell Lithium-ion (Li-Ion) battery pack
  - Nominal voltage: 14.4 V dc
  - Capacity: 1.9 AH
- ThinkPad X40 Series 8 Cell Li-Ion battery pack
  - Nominal voltage: 14.4 V dc
  - Capacity: 4.3 AH
Caring for your ThinkPad computer

Though your computer is designed to function reliably in normal work environments, you need to use common sense in handling it. By following these important tips, you will get the most use and enjoyment out of your computer.

Important tips:

Be careful about where and how you work

- Do not leave the base of your computer in contact with your lap or any part of your body for an extended period when the computer is functioning or when the battery is charging. Your computer dissipates some heat during normal operation. This heat is a function of the level of system activity and battery charge level. Extended contact with your body, even through clothing, could cause discomfort or, eventually, a skin burn.
- Place liquids away from your computer to avoid spills, and keep your computer away from water (to avoid the danger of electrical shock).
- Store packing materials safely out of the reach of children to prevent the risk of suffocation from plastic bags.
- Keep your computer away from magnets, activated cellular phones, electrical appliances, or speakers (within 13 cm/5 in).
- Avoid subjecting your computer to extreme temperatures (below 5°C/41°F or above 35°C/95°F).

Be gentle with your computer

- Avoid placing any objects (including paper) between the display and the keyboard or under the keyboard.
- Do not drop, bump, scratch, twist, hit, vibrate, push or place heavy objects on your computer, display, or external devices.
- Your computer display is designed to be opened and used at an angle slightly greater than 90 degrees. Do not open the display beyond 180 degrees, as this might damage the computer hinge.

Carry your computer properly

- Before moving your computer, be sure to remove any media, turn off attached devices, and disconnect cords and cables.
- Be sure your computer is in standby or hibernation mode, or turned off, before moving it. This will prevent damage to the hard disk drive and data loss.
- When picking up your open computer, hold it by the bottom. Do not pick up or hold your computer by the display.
Caring for your ThinkPad computer

- Use a quality carrying case that provides adequate cushion and protection. Do not pack your computer in a tightly packed suitcase or bag.

Handle storage media and drives properly
- Avoid inserting diskettes at an angle and attaching multiple or loose diskette labels, as these can lodge in the drive.
- If your computer comes with an optical drive such as a DVD, or CD-RW/DVD drive, do not touch the surface of a disc or the lens on the tray.
- Wait until you hear the CD or DVD click into the center pivot of the optical drive such as a DVD, or CD-RW/DVD drive before closing the tray.
- When installing your hard disk, diskette, DVD, or CD-RW/DVD drive, follow the instructions shipped with your hardware, and apply pressure only where needed on the device. See Access IBM, your on-board help system, for information on replacing your hard disk drive (open Access IBM by pressing the Access IBM button).

Take care in setting passwords
- Remember your passwords. If you forget a supervisor or hard disk password, IBM will not reset it, and you might have to replace your system board or hard disk drive.

Other important tips
- Your computer modem might use only an analog telephone network, or public-switched telephone network (PSTN). Do not connect the modem to a PBX (private branch exchange) or any other digital telephone extension line because this could damage your modem. Analog phone lines are often used in homes, while digital phone lines are often used in hotels or office buildings. If you are not sure which kind of phone line you are using, contact your telephone company.
- Your computer might have both an Ethernet connector and a modem connector. If so, be sure to connect your communication cable to the correct one, so your connector is not damaged. See Access IBM, your on-board help system, for information on the location of these connectors (press the Access IBM button to open Access IBM).
- Register your ThinkPad products with IBM (refer to the Web page: www.ibm.com/pc/register). This can help authorities return your computer to you if it is lost or stolen. Registering your computer also enables IBM to notify you about possible technical information and upgrades.
- Only an authorized IBM ThinkPad repair technician should disassemble and repair your computer.
- Do not modify or tape the latches to keep the display open or closed.
Caring for your ThinkPad computer

• Take care not to turn your computer over while the ac adapter is plugged in. This could break the adapter plug.
• Turn off your computer if you are replacing a device in a device bay, or else verify that the device is warm-or hot-swappable.
• If you exchange drives in your computer, reinstall the plastic bezel faces (if supplied).
• Store your external and removable hard disk, diskette, CD, DVD, and CD-RW/DVD drives in the appropriate containers or packaging when they are not being used.

Cleaning the cover of your computer

Occasionally clean your computer as follows:
1. Prepare a mixture of a gentle kitchen-use detergent (one that does not contain abrasive powder or strong chemicals such as acid or alkaline). Use 5 parts water to 1 part detergent.
2. Absorb the diluted detergent into a sponge.
3. Squeeze excess liquid from the sponge.
4. Wipe the cover with the sponge, using a circular motion and taking care not to let any excess liquid drip.
5. Wipe the surface to remove the detergent.
6. Rinse the sponge with clean running water.
7. Wipe the cover with the clean sponge.
8. Wipe the surface again with a dry, soft lint-free cloth.
9. Wait for the surface to dry completely and remove any fibers from the cloth.

Cleaning your computer keyboard

1. Absorb some isopropyl rubbing alcohol on a soft, dust-free cloth.
2. Wipe each keytop surface with the cloth. Wipe the keys one by one; if you wipe several keys at a time, the cloth may hook onto an adjacent key and possibly damage it. Make sure that no liquid drips onto or between the keys.
3. Allow to dry.
4. To remove any crumbs and dust from beneath the keys, you can use a camera blower with a brush or cool air from a hair dryer.

Note: Avoid spraying cleaner directly on the display or the keyboard.

Cleaning your computer display
Caring for your ThinkPad computer

1. Gently wipe the display with a dry, soft lint-free cloth. If you see a scratchlike mark on your display, it might be a stain transferred from the keyboard or the TrackPoint pointing stick when the cover was pressed from the outside.
2. Wipe or dust the stain gently with a soft, dry cloth.
3. If the stain remains, moisten a soft, lint-free cloth with water or a 50-50 mixture of isopropyl alcohol and water that does not contain impurities.
4. Wring out as much of the liquid as you can.
5. Wipe the display again; do not let any liquid drip into the computer.
6. Be sure to dry the display before closing it.
# Chapter 2. Solving computer problems

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Diagnosing problems

If you have a problem with your computer, you can test it by using PC-Doctor for Windows. To run PC-Doctor for Windows, do as follows:

1. Click Start.
2. Move the pointer to All Programs (in Windows other than Windows XP, Programs) and then to PC-Doctor ® for Windows.
3. Click PC-Doctor.
4. Choose one of the tests, from either Device Categories or Test Scripts.

Attention
Running any tests may take up to several minutes or longer. Make sure you have time to run the entire test; do not interrupt the test while it is running.

The System Test of the Test Scripts runs some tests of critical hardware components, but it does not run all of the diagnostic tests in PC-Doctor for Windows. If PC-Doctor for Windows reports that all of the tests in the System Test have been run and that it has found no problems, consider running more of the tests in PC-Doctor for Windows.

If you are preparing to contact IBM for support, be sure to print the test log so that you can rapidly provide information to the help technician.

Troubleshooting

If you do not find your problem here, refer to your on-board help system, Access IBM. To open Access IBM, press the Access IBM button. The following section only describes problems that might prevent you from accessing the help system.

Error messages

Notes:
1. In the charts, x can be any character.
2. The version of PC-Doctor referred to here is PC-Doctor for Windows.

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<td>0175: Bad CRC1, stop POST task</td>
<td>The EEPROM checksum is not correct (block #6). Have the computer serviced.</td>
</tr>
<tr>
<td>0176: System Security - The System has been tampered with.</td>
<td>This message is displayed if you remove the Security Chip and reinstall it, or install a new one. To clear the error, enter the IBM BIOS Setup Utility, press F9 to set values to default, then press F10 to save changes. If this does not solve the problem, have the computer serviced.</td>
</tr>
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## Solving computer problems

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<tbody>
<tr>
<td>0177: Bad SVP data, stop POST task. Checksum of the supervisor password in the EEPROM is not correct.</td>
<td>Checksum of the supervisor password in the EEPROM is not correct. The system board should be replaced. Have the computer serviced.</td>
</tr>
<tr>
<td>0182: Bad CRC2. Enter BIOS Setup and load Setup defaults.</td>
<td>Checksum of the CRC2 setting in the EEPROM is not correct. Press F1 to go to IBM BIOS Setup Utility. Press F9 and then Enter to load the default setting. Press F10 and then Enter to restart the system.</td>
</tr>
<tr>
<td>0185: Bad startup sequence settings. Enter BIOS Setup and load Setup defaults.</td>
<td>Checksum of the startup sequence setting in the EEPROM is not correct. Press F1 to go to IBM BIOS Setup Utility. Press F9 and then Enter to load the default setting. Press F10 and then Enter to restart the system.</td>
</tr>
<tr>
<td>0187: EAIA data access error</td>
<td>The access to EEPROM is failed. Have the computer serviced.</td>
</tr>
<tr>
<td>0188: Invalid RFID serialization information area</td>
<td>The EEPROM checksum is not correct (block # 0 and 1, or block # 6). The system board should be replaced, and the box serial number needs to be reinstalled. Have the computer serviced.</td>
</tr>
<tr>
<td>0189: Invalid RFID configuration information area</td>
<td>The EEPROM checksum is not correct (block # 4 and 5). The system board should be replaced, and the UUID needs to be reinstalled. Have the computer serviced.</td>
</tr>
<tr>
<td>0190: Critical low-battery error</td>
<td>The computer turned off because the battery is low. Connect the ac adapter to the computer and charge the battery, or replace the battery with a fully charged one.</td>
</tr>
<tr>
<td>0191: System Security - Invalid remote change requested.</td>
<td>The system configuration change has failed. Confirm the operation and try again. To clear the error, enter the IBM BIOS Setup Utility, press F9 to set values to default then press F10 to save changes.</td>
</tr>
<tr>
<td>0192: System Security - IBM Embedded Security hardware tamper detected.</td>
<td>The Security Chip has been replaced with a different one. Have the computer serviced.</td>
</tr>
<tr>
<td>0199: System Security - IBM Security password retry count exceeded.</td>
<td>This message is displayed if you enter a wrong supervisor password more than three times. Confirm the supervisor password and try again. To clear the error, enter the IBM BIOS Setup Utility.</td>
</tr>
<tr>
<td>01C8: More than one modem devices are found. Remove one of them. Press &lt;Esc&gt; to continue.</td>
<td>Remove either a Modem Mini-PCI Card or a Modem Daughter Card. Otherwise, press Esc to ignore the warning message. If it does not solve this problem, have the computer serviced.</td>
</tr>
<tr>
<td>01C9: More than one Ethernet devices are found. Remove one of them. Press &lt;Esc&gt; to continue.</td>
<td>Your ThinkPad computer has a built-in Ethernet feature, and you cannot add another such feature by installing an Ethernet device. If this error message is displayed, remove the Ethernet device that you installed. Otherwise press Esc to ignore the warning message. If this does not solve the problem, have the computer serviced.</td>
</tr>
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## Solving computer problems

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<td>0200: Hard disk error</td>
<td>The hard disk is not working. Make sure that the hard disk drive is attached firmly. Run the IBM BIOS Setup Utility; then make sure the hard disk drive is not disabled in the Startup menu.</td>
</tr>
<tr>
<td>021x: Keyboard error</td>
<td>Make sure that there are no objects placed on the keyboard, or if you have one, the external keyboard. Turn off the computer, and turn off all attached devices. Turn on the computer first; then turn on the attached devices. If you still see the same error code, do the following: If an external keyboard is connected, do the following: • Turn off the computer and disconnect the external keyboard; then turn on the computer. Make sure that the built-in keyboard operates correctly. If it does, have the external keyboard serviced. • Make sure that the external keyboard is connected to the correct connector. Test the computer by using PC-Doctor. • If the computer stops during the test, have the computer serviced.</td>
</tr>
<tr>
<td>0230: Shadow RAM error</td>
<td>The shadow RAM failed. Test your computer’s memory with PC-Doctor. If you added a memory module just before turning the computer on, reinstall it. Then test the memory with PC-Doctor.</td>
</tr>
<tr>
<td>0231: System RAM error</td>
<td>The system RAM failed. Test your computer’s memory with PC-Doctor. If you added a memory module just before turning the computer on, reinstall it. Then test the memory with PC-Doctor.</td>
</tr>
<tr>
<td>0232: Extended RAM error</td>
<td>The extended RAM failed. Test your computer’s memory with PC-Doctor. If you have increased memory just before turning the computer on, reinstall it. Then test the memory with PC-Doctor.</td>
</tr>
<tr>
<td>0250: System battery error</td>
<td>The backup battery, which is used to preserve the configuration information, such as the date and time, while the computer is turned off, is depleted. Replace the battery and run IBM BIOS Setup Utility to verify the configuration. If you still have a problem, have the computer serviced.</td>
</tr>
<tr>
<td>0251: System CMOS checksum bad</td>
<td>The system CMOS might have been corrupted by an application program. The computer uses the default settings. Run IBM BIOS Setup Utility to reconfigure the settings. If you still see the same error code, have the computer serviced.</td>
</tr>
<tr>
<td>0260: System timer error</td>
<td>Have the computer serviced.</td>
</tr>
<tr>
<td>0270: Real time clock error</td>
<td>Have the computer serviced.</td>
</tr>
<tr>
<td>0271: Date and time error</td>
<td>Neither the date nor the time is set in the computer. Set the date and time, using the IBM BIOS Setup Utility.</td>
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## Solving computer problems

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<td><strong>0280:</strong> Previous boot incomplete</td>
<td>Your computer was previously unable to complete the boot process. Turn the computer off; then turn it on to start the IBM BIOS Setup Utility. Verify the configuration and then restart the computer either by choosing the <strong>Exit Saving Changes</strong> option under the <strong>Restart</strong> item or by pressing F10. If you still see the same error code, have the computer serviced.</td>
</tr>
<tr>
<td><strong>02D0:</strong> System cache error</td>
<td>The cache is disabled. Have the computer serviced.</td>
</tr>
<tr>
<td><strong>02F4:</strong> EISA CMOS not writable</td>
<td>Have the computer serviced.</td>
</tr>
<tr>
<td><strong>02F5:</strong> DMA test failed</td>
<td>Have the computer serviced.</td>
</tr>
<tr>
<td><strong>02F6:</strong> Software NMI failed</td>
<td>Have the computer serviced.</td>
</tr>
<tr>
<td><strong>02F7:</strong> Fail-safe timer NMI failed</td>
<td>Have the computer serviced.</td>
</tr>
<tr>
<td><strong>1802:</strong> Unauthorized network card is plugged in - Power off and remove the miniPCI network card.</td>
<td>The Mini-PCI network card is not supported on this computer. Remove it.</td>
</tr>
<tr>
<td><strong>1803:</strong> Unauthorized daughter card is plugged in - Power off and remove the daughter card.</td>
<td>The daughter card is not supported on this computer. Remove it.</td>
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## Solving computer problems

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| 1810: Hard disk partition layout error       | A problem in recognizing the layout of the partition on the hard disk has halted computer startup. Either the IBM Predesktop Area has been deleted, or the hard disk contains corrupt data. To try to restart your computer, complete one of the following:  
  • If the IBM Predesktop Area has been deleted  
    1. Press F1 to open the IBM BIOS Setup Utility.  
    3. Set this item to Disabled.  
    4. Save and exit.  
  • If the above fails  
    1. Press Enter.  
    2. Double-click RECOVER TO FACTORY CONTENTS and follow on-screen instructions.  
  Note: This will permanently erase the entire contents of the hard disk, and then restore software preinstalled by IBM.  
  Press F1 to open BIOS Setup, or Enter to start the IBM Predesktop Area.  
  If the computer still does not start, call the IBM Support Center. Telephone numbers are on page "Telephone numbers" on page 39. |
| The power-on password prompt                 | A power-on password or a supervisor password is set. Type the password and press Enter to use the computer. If the power-on password is not accepted, a supervisor password might have been set. Type the supervisor password and press Enter. If you still see the same error message, have the computer serviced. |
| The hard disk password prompt                | A hard disk password is set. Type the password and press Enter to use the computer.  
  If you still see the same error message, have the computer serviced. |
| Hibernation error                            | The system configuration changed between the time your computer entered hibernation mode and the time it left this mode, and your computer cannot resume normal operation.  
  • Restore the system configuration to what it was before your computer entered hibernation mode.  
  • If the memory size has been changed, re-create the hibernation file. |
| Operating system not found.                  | Verify the following:  
  • The hard disk drive is correctly installed.  
  • A startable diskette is in the diskette drive  
  If you still see the same error message, check the boot sequence, using the IBM BIOS Setup Utility. |
| Fan error                                    | The cooling fan has failed. Have the computer serviced. |
### Solving computer problems

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| EMM386 Not Installed — Unable to Set Page Frame Base Address.| Edit C:\CONFIG.SYS and change a line from  
device=C:\WINDOWS\EMM386.EXE RAM  
to  
device=C:\WINDOWS\EMM386.EXE NOEMS  
and save this file. |
| CardBus Configuration Error — Device Disabled                | Go to the IBM BIOS Setup Utility. Press F9 and then Enter to load the  
default setting.  
Press F10 and then Enter to restart the system. |
| Thermal sensing error                                        | The thermal sensor is not functioning correctly. Have the computer serviced. |
| Authentication of system services failed.                   | The IBM Predesktop Area in the HDD is broken. If you need to use the IBM  
Predesktop Area, get a Recovery CD, then recover the IBM Predesktop Area  
using it. |

### Errors without messages

**Problem:**

When I turn on the machine, nothing appears on the screen and the  
machine does not beep while starting up.

**Note:** If you are not sure whether you heard any beeps, turn off the  
computer; then turn it on again, and listen again. If you are using an external monitor, refer to “Computer screen problems” on page 23.

**Solution:**

If a power-on password is set, press any key to display the power-on  
password prompt, and then type the correct password and press Enter.  

If the power-on password prompt does not appear, the brightness level might be set to minimum brightness. Adjust the brightness level by pressing the Fn+Home.

If the screen still remains blank, make sure that:

- The battery is installed correctly.
- The ac adapter is connected to the computer and the power cord is plugged into a working electrical outlet.
- The computer power is on. (Turn on the power switch again for confirmation.)

If these items are properly set, and the screen remains blank, have the computer serviced.
Solving computer problems

Problem: When I turn on the machine, nothing appears on the screen, but I hear two or more beeps.

Solution: Make sure that the memory card is installed correctly. If it is, but the screen is still blank, and you hear five beeps, have the computer serviced.

If you hear 4 cycles of 4 beeps each, the Security Chip has a problem. Have the computer serviced.

Problem: When I turn on the machine, only a white pointer appears on a blank screen.

Solution: Reinstall your operating system, and turn on the computer. If you still see only the pointer on the screen, have the computer serviced.

Problem: My screen goes blank while the computer is on.

Solution: Your screen saver or power management may be enabled. Move the TrackPoint or press a key to exit the screen saver, or press the power switch to resume from standby or hibernation.

Problem: The DOS full-screen looks smaller.

Solution: If you use a DOS application that supports only 640×480 resolution (VGA mode), the screen image might look slightly distorted or appear smaller than the display size. This is to maintain compatibility with other DOS applications. To expand the screen image to the same size as the actual screen, start the ThinkPad Configuration Program and click LCD; then select the Screen expansion function. (The image might still look slightly distorted.)

Note: If your computer has a screen expansion function, you can use the Fn+F8 keys to expand the screen image.

A password problem

Problem: I forgot my password.

Solution: If you forgot your power-on password, you must take your computer to an IBM authorized servicer or marketing representative to have the password canceled.
If you forgot your hard disk password, IBM will not reset your password or recover data from the hard disk. You must take your computer to an IBM authorized servicer or an IBM marketing representative to have the hard disk drive replaced. Proof of purchase is required, and a fee will be charged for parts and service.

If you forgot your supervisor password, IBM will not reset your password. You must take your computer to an IBM authorized servicer or IBM marketing representative to have the system board replaced. Proof of purchase is required, and a fee will be charged for parts and service.

A power switch problem

**Problem:**
The system does not respond, and you cannot turn off the computer.

**Solution:**
Turn off the computer by pressing and holding the power switch for 4 seconds or more. If the computer is still not reset, remove the ac adapter and the battery.

Keyboard problems

**Problem:**
All or some of the keys on the keyboard do not work.

**Solution:**
If the problem occurred immediately after the computer returned from standby mode under Windows NT, enter the power-on password if one has been set.

If an external PS/2 keyboard is connected, the numeric keypad on your computer does not work. Use the numeric keypad on the external keyboard.

If an external numeric keypad or a mouse is connected:
1. Turn off the computer.
2. Remove the external numeric keypad or the mouse.
3. Turn on the computer and try using the keyboard again.

If the keyboard problem is resolved, carefully reconnect the external numeric keypad, external keyboard, or mouse, making sure that you have seated the connectors properly.

If keys on the keyboard still do not work, have the computer serviced.

**Problem:**
A number appears when you type a letter.
Solving computer problems

Solution
The numeric lock function is on. To disable it, press and hold Shift; then press NumLk.

Problem:
All or some of the keys on the external numeric keypad do not work.

Solution:
Make sure that the external numeric keypad is correctly connected to the computer.

Problem:
All or some keys on the external PS/2 keyboard do not work.

Solution:
If you are using the X4 UltraBase™ Dock, connect the keyboard connector to the keyboard/mouse connector on the X4 UltraBase Dock. If you use a mouse and an external keyboard simultaneously, you need the keyboard/mouse connector. Make sure that keyboard/mouse connector is correctly connected to the mouse connector of the X4 UltraBase Dock, and that the keyboard cable is correctly connected to the keyboard connector of the keyboard/mouse connector.

If the connection is correct, disconnect the cable and make sure that the built-in keyboard operates properly. If the built-in keyboard works, there is a problem with the external keyboard. Try using a different external keyboard.

TrackPoint problems

Problem:
The pointer drifts when the computer is turned on or after it resumes normal operation.

Solution:
The pointer might drift when you are not using the TrackPoint during normal operation. This is a normal characteristic of the TrackPoint and is not a defect. The pointer drifts for several seconds under the following conditions:
• When the computer is turned on.
• When the computer resumes normal operation.
• When the TrackPoint is pressed for a long time.
• When the temperature changes.

Problem:
The mouse or the pointing device does not work.

Solution:
Make sure that the TrackPoint is set to Automatic in the ThinkPad Configuration Program. Then detach the mouse or the pointing device,
and try using the TrackPoint. If the TrackPoint works, the error might be due to the mouse or the pointing device.

Make sure that the cable for the mouse or the pointing device is securely connected to the X4 UltraBase Dock.

If your mouse is incompatible with the IBM PS/2 mouse, disable the TrackPoint, using the ThinkPad Configuration Program.

Note: For more information, see the manual supplied with the mouse.

Problem
The mouse buttons do not work.

Solution
Change the mouse driver to **Standard PS/2® Port Mouse**, and then reinstall **IBM PS/2 TrackPoint**. Drivers are provided in the C:\IBMTOOLS\DRIVERS directory on your hard disk drive. If your hard disk drive does not contain device drivers, refer to the ThinkPad Web site. To access this Web site, press the Access IBM button. The Access IBM panel opens. On it, click **Get Help & Support**, and then click **Download & update**. Select **Newest device drivers**.

Problem
The scrolling or magnifying glass function does not work.

Solution
Check the mouse driver in the Device Manager window, and make sure that the IBM PS/2 TrackPoint driver is installed.

**Standby and hibernation problems**

Problem:
The computer enters standby mode unexpectedly.

Solution:
If the processor overheats, the computer automatically enters standby mode to allow the computer to cool and to protect the processor and other internal components. Also, check the settings for standby mode, using Battery MaxiMiser.

Problem:
The computer enters standby mode immediately after Power-on self-test (POST) (the standby indicator light turns on).

Solution:
Make sure that:
- The battery is charged.
- The operating temperature is within the acceptable range. Refer to "Specifications" on page 4.

If these items are correct, have the computer serviced.
Solving computer problems

Problem:
The critical low-battery error message is displayed, and the computer immediately turns off.

Solution:
The battery power is getting low. Connect the ac adapter to the computer, or replace the battery with a fully charged one.

Problem:
When you take action to return from standby mode, the computer display remains blank.

Solution:
Check whether an external monitor was disconnected while the computer was in standby mode. Do not disconnect the external monitor while the computer is in standby mode or hibernation mode. If no external monitor is attached when the computer resumes, the computer display remains blank and output is not displayed. This restriction does not depend on the resolution value. Press Fn+F7 to bring up the computer display.

Note: If you use the Fn+F7 key combination to apply a presentation scheme, press Fn+F7 at least three times in three seconds, and the image is displayed on the computer screen.

Problem:
The computer does not return from standby mode, or the standby indicator stays on and the computer does not work.

Solution:
If the system does not return from standby mode, it may have entered standby or hibernation mode automatically because the battery is depleted. Check the standby indicator.
• If the standby indicator is on, your computer is in standby mode.
  Connect the ac adapter to the computer; then press Fn.
• If the standby indicator is off, your computer is in hibernation mode or power-off state. Connect the ac adapter to the computer; then press power button to resume operation.

If the system still does not return from standby mode, your system may stop responding and you cannot turn off the computer. In this case, you need to reset the computer. If you have not saved your data, it may be lost. To reset the computer, press and hold the power button for 4 seconds or more. If the system is still not reset, remove the ac adapter and the battery.

Problem:
Your computer does not enter standby or hibernation mode.
Solving computer problems

Solution:
Check whether any option has been selected that would disable your computer from entering standby or hibernation mode.

Problem:
The computer does not enter standby mode as set by the timer under Windows NT.

Solution:
For Windows NT:
If you have enabled the CD-ROM AutoRun feature, the computer does not enter standby mode through the timer. To enable the timer, edit the configuration information in the registry as follows:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Cdrom\Autorun: 0x1 > Autorun: 0

Note: Before you make any changes, back up the computer registry and configuration. If something goes wrong, you can restore the system registry and configuration files.

Problem:
The system does not wake up at the time set on the timer, if the computer is not connected to an ac power source,

-or-

The system does not enter hibernation mode from suspend mode if the computer is not connected to an ac power source.

Solution:
The timer-wake-with-battery-operation is disabled by default. If you enable this function, the computer could wake up and begin running while it is being carried; this could lead to damage to the hard disk drive.

With this risk in mind, you can enable the timer-wake-with-battery-operation.

1. Turn your computer off and then on again; then, while the message, “To interrupt normal startup, press the blue Access IBM button” is displayed at the lower left of the screen, press the Access IBM button. IBM Rescue and Recovery screen opens.

2. Click Access BIOS. The System Restart Required window is displayed.

3. Click Yes. The computer restarts, and the IBM BIOS Setup Utility menu appears.

4. With the cursor key, select Config; then press Enter. The Power submenu is displayed.

5. Select Timer Wake with Battery Operation by pressing Enter.

6. With the F5 or F6 key, select Enabled; then press Enter.
Solving computer problems

7. Press F10 and Enter to save this setting and exit this utility.

For information about the BIOS Setup Utility, see “IBM BIOS Setup Utility” in Access IBM, your on-board help system.

Problem:
The Fn+F12 key combination does not cause the computer to enter hibernation mode.

Solution:
The computer cannot enter hibernation mode:

- If you are using one of the IBM communication PC Cards. To enter hibernation mode, stop the communication program, and then remove the PC Card or disable the PC Card slot. Click the Safely Remove Hardware icon in the taskbar (for Windows XP) or the Unplug or Eject Hardware icon in the taskbar (for Windows 2000).
- If the hibernation utility is not installed in Windows NT. To install the hibernation utility, refer to “Installing device drivers” in the Access IBM, your on-board help system.
- If the hibernation mode is not enabled. To enable it, do as follows:

For Windows NT:

Note: You must format your hard disk with the FAT format system to use hibernation mode in Windows NT. If you format your hard disk with NTFS, the default format in Windows NT, you cannot use hibernation mode.

1. Start the ThinkPad Configuration Program.
2. Click Power Management.
3. Click Suspend/Resume Options.
4. Click Enable Hibernation.
5. Click OK.

For Windows XP or Windows 2000:

1. Start the ThinkPad Configuration Program.
2. Click Power Management.
3. Click the Hibernate tab.
4. Select the hibernate support checkbox.
5. Click OK.

Note: You can enter hibernation mode by pressing Fn+F12 only if the PM driver for Windows 2000 or Windows XP has been installed.

Problem:
Under Windows XP, the Fn+F3 key combination does not make the computer screen go blank.
Solving computer problems

Solution:
Windows XP enables multiple users to log on to the system at the same time. If you are the first user to have logged on to your computer, you can use the Fn+F3 key combination. Otherwise the combination will not work on your computer.

Computer screen problems

Problem:
The screen is blank.

Solution:
- Press Fn+F7 to bring up the image.

Note: If you use the Fn+F7 key combination to apply a presentation scheme, press Fn+F7 at least three times in three seconds, and the image is displayed on the computer screen.
- If you are using the AC adapter, or using the battery, and the battery status indicator is on (is green), press Fn+Home to make the screen brighter.
- If the standby status indicator is on (is green), press Fn to resume from the standby mode.
- If you still have the problem persists, do the Solution in the problem below.

Problem:
The screen is unreadable or distorted.

Solution:
Make sure that:
- The display device driver is installed correctly.
- The screen resolution and color quality are correctly set.
- The monitor type is correct.

To check these settings, do as follows:

For Windows XP and Windows 2000:
1. Right-click on the desktop, click Properties, then click the Settings tab.
2. Check whether the screen resolution and color quality are correctly set.
3. Click Advanced.
4. Click the Adapter tab.
5. Make sure "Intel(R) 82852/82855 GM/GME Graphics Controller" is shown in the adapter information window.
6. Click the Properties button. Check the "Device status" box and make sure the device is working properly. If not, click the Troubleshooter button.
7. Click the Monitor tab.
8. Make sure the information is correct.
Solving computer problems

9. Click the Properties button. Check the “Device status” box and make sure the device is working properly. If not, click the Troubleshooter button.

Problem:
The screen stays on even after you turn off your computer.

Solution:
Press and hold the power switch for 4 seconds or more to turn off your computer; then turn it on again.

Problem:
Missing, discolored, or bright dots appear on the screen every time you turn on your computer.

Solution:
This is an intrinsic characteristic of the TFT technology. Your computer’s display contains multiple thin-film transistors (TFTs). A small number of missing, discolored, or bright dots on the screen might exist all the time.

Battery problems

Problem:
The battery cannot be fully charged by the power-off method in the standard charge time for your computer.

Solution:
The battery might be over-discharged. Do the following:
1. Turn off the computer.
2. Make sure that the over-discharged battery is in the computer.
3. Connect the ac adapter to the computer and let it charge.

If the battery cannot be fully charged in 24 hours, use a new battery.

If the optional Quick Charger is available, use it to charge the over-discharged battery.

Problem:
Your computer shuts down before the battery status indicator shows empty, -or- Your computer operates after the battery status indicator shows empty.

Solution:
Discharge and recharge the battery.

Problem:
The operating time for a fully charged battery is short.

Solution:
Discharge and recharge the battery. If your battery’s operating time is still short, use a new battery.
Problem:
The computer does not operate with a fully charged battery.

Solution:
The surge protector in the battery might be active. Turn off the computer for one minute to reset the protector; then turn on the computer again.

Problem:
The battery does not charge.

Solution:
You cannot charge the battery when it is too hot. If the battery feels hot, remove it from the computer and allow it to cool to room temperature. After it cools, reinstall it and recharge the battery. If it still cannot be charged, have it serviced.

Hard disk drive problems

Problem:
The hard disk drive makes a rattling noise intermittently.

Solution:
The rattling noise might be heard when:
• The hard disk drive starts accessing the data or when it stops.
• You are carrying the hard disk drive.
• You are carrying your computer.

This is a normal characteristic of a hard disk drive and is not a defect.

Problem:
The hard disk drive does not work.

Solution:
In the startup menu in BIOS Setup Utility, make sure that the hard disk drive is in the “Boot priority order”. If it is in the device list of “Excluded from boot order”, the hard disk drive is disabled. Move it into the “Boot priority order”.

A startup problem

Problem:
The Microsoft® Windows® operating system will not start.

Solution:
Use the IBM Rescue and Recovery workspace to help solve or identify your problem. Starting the IBM Rescue and Recovery workspace is easy.

To open IBM Rescue and Recovery, do the following:
1. Turn off your PC, then turn it on again.
2. Watch the screen carefully while your PC starts. When “To interrupt normal startup, press the blue Access IBM button” message is displayed at the lower left of the screen, press the blue Access IBM
Solving computer problems

button. The IBM Rescue and Recovery workspace opens. A window such as this will appear:

3. After the Rescue and Recovery workspace opens, you can do the following:
   - **Rescue and Restore** your files, folders, or backups.
   - **Configure** your system settings and passwords.
   - **Communicate** by using the internet and link to the IBM support site.
   - **Troubleshoot** and diagnose problems using diagnostics.

In the top panel of the IBM Rescue and Recovery workspace, you can click the following to open other pages or exit the utility:

- **Events Log** enables you to view a log that contains information about events, or tasks, associated with Rescue and Recovery™ operations.
- **System Information** enables you to see key hardware and software information about your computer. This information might be valuable when trying to diagnose problems.
- **Warranty Status** enables you to see when your warranty expires, the terms of service for your computer, or a list of replacement parts.
- **Help** provides information about the various pages in the IBM Rescue and Recovery workspace.
- **Restart** closes the IBM Rescue and Recovery workspace, and resumes the startup sequence that was interrupted.
Other problems

Problem:
The computer locks or does not accept any input.

Solution:
Your computer might lock when it enters standby mode during a communication operation. Disable the standby timer when you are working on the network.

To turn off the computer, press and hold the power switch for 4 seconds or more.

Problem:
The computer does not start from a device you want, such as a diskette drive.

Solution:
Refer to the Startup menu of the IBM BIOS Setup Utility. Make sure that the startup sequence in the IBM BIOS Setup Utility is set so that the computer starts from the device you want.

Also make sure that the device from which the computer starts is enabled. In the startup menu in the IBM BIOS Setup Utility, make sure that the device is included in the “Boot priority order” list. If it is included in the “Excluded from boot order” list, it is disabled. Select the entry for it in the list and press the x key. This moves the entry to the “Boot priority order” list.

Problem:
The computer does not respond.

Solution:
IRQs for the PCI are all set as 11. The computer does not respond because it cannot share the IRQ with other devices. Refer to the ThinkPad Configuration Program.

Problem:
Windows NT does not start; however, the message saying that Windows NT is loading remains on the screen.

Solution:
The USB setting might have been changed to Enabled. If so, it might cause a conflict in allocating memory resources during startup. Disable the setting, using the BIOS Setup Utility.

1. Turn your computer off and then on again; then, while the message, “To interrupt normal startup, press the blue Access IBM button” is displayed at the lower left of the screen, press the F1 key to start IBM BIOS Setup Utility.

2. The IBM BIOS Setup Utility menu appears.
Solving computer problems

3. With the cursor key, select **Config**; then press Enter.
4. Select **USB** by pressing Enter.
5. With the F5 or F6 key, select **Disable**; then press Enter.
6. Press F10 and Enter to save this setting and exit this utility.

**Problem:**

The computer can not play a CD, or the sound quality is not good.

**Solution:**

Be sure that the disk meets the standards for your country. Usually, a disk that meets the local standards is marked with a CD logo on the label. If you use a disc that does not meet these standards, we cannot guarantee that it will play, or that, if it does play, the sound quality will be good.

**Problem:**

Playback of DVD is not smooth in Windows 2000.

**Solution:**

If you select the Maximum Battery mode for the Intel SpeedStep™ technology, this problem may occur. This mode is designed to achieve maximum battery life by switching the processor speed between the regular low speed and half of that speed, depending on how much the processor is used. If the use increases, Intel SpeedStep switches the processor speed to the lower speed. Operation in this mode can severely degrade the performance of the processor, and thus cause the playback of a DVD to be jerky.

To avoid or reduce this problem, you can choose any of three other modes of operation, as follows:

- **Maximum Performance:** Keeps the processor speed high at all times.
- **Automatic:** Switches the processor speed between high and low, depending on how much the processor is used. If the use increases, Intel SpeedStep switches the processor speed to high.
- **Battery Optimized Performance:** Keeps the processor speed low at all times.

To choose a mode, do the following:

1. Start the ThinkPad Configuration Program.
2. Click **Power Management**.
3. Click the **Intel SpeedStep technology** tab.
4. From the list, select the mode you want.
5. Click **OK**.
Problem:
If your operating system is Windows 2000 and you are using a USB 1.x device, then when your computer returns from standby or hibernation mode to normal operation, the “Unsafe Removal of Device” message may appear.

Solution:
You can safely close this message. It is displayed because of the USB 2.0 driver problem on Windows 2000. You can get detailed information in the More Information section of the Microsoft Knowledge Base 328580 and 323754. Visit the Microsoft Knowledge Base homepage at http://support.microsoft.com/, type the number of the knowledge base article you need in the search field, and click the Search button.

Starting IBM BIOS Setup Utility
Your computer provides a program, called IBM BIOS Setup Utility, that enables you to select various setup parameters.

- Config: Set the configuration of your computer.
- Date/Time: Set the date and time.
- Security: Set security features.
- Startup: Set the startup device.
- Restart: Restart the system.

Note: You can set many of these parameters more easily by using the ThinkPad Configuration Program.

To start IBM BIOS Setup Utility, do as follows:
1. To protect yourself against accidental loss of data, back up your data and computer registry. For details see “Data backup-and-restore tools” in Access IBM, your on-board help.
2. Remove any diskette from the diskette drive, and then turn off the computer.
3. Turn on the computer; then, while the “To interrupt normal startup, press the blue Access IBM button” message is displayed at the lower-left of the screen, press the Access IBM button. The IBM Rescue and Recovery workspace opens.
4. Click Access BIOS. The System Restart Required window is displayed.
5. Click Yes. The computer restarts, and IBM BIOS Setup Utility screen appears.

If you have set a supervisor password, the IBM BIOS Setup Utility menu appears after you enter the password. You can start the utility by pressing Enter instead of entering the supervisor password; however, you cannot
Solving computer problems

change the parameters that are protected by the supervisor password. For more information, refer to the on-board help.

6. Using the cursor keys, move to an item you want to change. When the item you want is highlighted, press Enter. A submenu is displayed.

7. Change the items you wish to change. To change the value of an item, use the F5 or F6 key. If the item has a submenu, you can display it by pressing Enter.

8. Press F3 or Esc to exit from the submenu. If you are in a nested submenu, press Esc repeatedly until you reach the IBM BIOS Setup Utility menu.

   Note: If you need to restore the settings to their original state as of the time of purchase, press F9 key to load the default settings. You can also select an option in the Restart submenu to load the default settings or discard the changes.

9. Select Restart; then press Enter. Move the cursor to the option you want for restarting your computer; then press Enter. Your computer restarts.

Recovering pre-installed software

Your computer hard disk has a hidden, protected area for backups. Contained within this area is a complete backup of the hard disk as it was shipped from the factory and a program called the IBM Rescue and Recovery.

If you performed a backup operation using the Rescue and Recovery program, you also have one or more backups stored that reflect the contents of the hard disk, as it existed at various points in time. These backups might be stored on your hard disk, or a network drive, or on removable media, depending on the options you selected during the backup operation.

You can use either the Rescue and Recovery program or the IBM Rescue and Recovery workspace to restore the contents of the hard disk to an earlier state using any of the stored backups. The IBM Rescue and Recovery workspace runs independently of the Windows operating system. Therefore, you can start it by pressing the blue Access IBM button when prompted during startup.

After the Rescue and Recovery workspace opens you can perform a recovery operation, even if you are unable to start Windows. For more information about using Rescue and Recovery features, see “Data backup-and-restore tools” or “Introducing Rescue and Recovery” in Access IBM.

To recover the hard disk to its original contents, do the following:

Notes:

1. If the optical drive is not attached to your ThinkPad computer during recovery, DVD software and CD-recording software will not be installed.
To ensure that they will be installed correctly, attach your ThinkPad computer to the X4 UltraBase Dock and install the optical drive in the Ultrabay Slim before performing a recovery operation.

2. The recovery process might take up to 2 hours.

**Attention:** All of the files on the primary hard disk partition (usually drive C) will be lost in the recovery process. However, before any data is overwritten, you will be given the opportunity to save one or more files to other media.

1. If possible, save all your files and shut down your operating system.
2. Turn off your computer for at least 5 seconds.
3. Turn on your computer. Watch the display carefully. While the message, "To interrupt normal startup, press the blue Access IBM button" is displayed at the lower left of the screen, press the Access IBM button. The IBM Rescue and Recovery workspace opens.
4. Click **Restore your system**.
5. Click **Restore my hard drive to the original factory state** and then click Next.
6. Follow the instructions on the screen.
7. When the recovery process finishes, press Enter key. Your computer will restart with the pre-installed operating system, drivers, and software.

---

**Upgrading the hard disk drive**

You can increase the storage capacity of your computer by replacing the hard disk drive with one of greater capacity. You can purchase a new hard disk drive from your IBM reseller or IBM marketing representative.

**Notes:**

1. Replace the hard disk drive only if you upgrade it or have it repaired. The connectors and bay of the hard disk drive were not designed for frequent changes, or drive swapping.
2. The IBM Rescue and Recovery workspace and the Product Recovery program are not contained in the optional hard disk drive.
Upgrading the hard disk drive

Attention

Handling a hard disk drive
- Do not drop the drive or subject it to physical shocks. Put the drive on a material, such as soft cloth, that absorbs the physical shock.
- Do not apply pressure to the cover of the drive.
- Do not touch the connector.

The drive is very sensitive. Incorrect handling can cause damage and permanent loss of data on the hard disk. Before removing the hard disk drive, make a backup copy of all the information on the hard disk, and then turn the computer off. Never remove the drive while the system is operating, in standby mode, or in hibernation mode.

To replace the hard disk drive, do the following.
1. **Turn off the computer**; then disconnect the ac adapter and all cables from the computer.
2. Close the computer display, and turn the computer over.
3. Remove the battery.
4. Remove the screw that secures the hard disk drive.

5. Open the computer display; then stand the computer on its side and remove the hard disk drive by pulling the cover away from the
Upgrading the hard disk drive

6. Detach the cover from the hard disk drive.

7. Attach the cover to a new hard disk drive.
8. Insert the hard disk drive and its cover into the hard disk drive bay; then firmly install them.

9. Close the computer display and turn the computer over so that its bottom side is up.
10. Reinstall the screw.
Upgrading the hard disk drive

11. Reinstall the battery.
12. Turn the computer over again. Connect the ac adapter and the cables to the computer.

Replacing the battery

1. **Turn off the computer, or enter hibernation mode.** Then disconnect the ac adapter and all cables from the computer.

   **Note:** If you are using a PC Card or Secure Digital Card, the computer might not be able to enter hibernation mode. If this happens, turn off the computer.

2. Close the computer display, and turn the computer over.
3. Slide the battery lock to the unlock position.

   ![Diagram of battery replacement](image)

4. Slide and hold the battery latch; then remove the battery.
Replacing the battery

5. Align the front of a fully charged spare battery with the front side of the battery space in the computer; then gently push the battery into the space.
Replacing the battery

6. Slide the battery lock to the lock position.

7. Turn the computer over again. Connect the ac adapter and the cables to the computer.
# Chapter 3. Getting help and service from IBM

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Getting help and service

If you need help, service, technical assistance, or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you. This section contains information about where to go for additional information about IBM and IBM products, what to do if you experience a problem with your computer, and whom to call for service should it be necessary.

Microsoft Service Packs are the latest software source for Windows product updates. They are available via Web download (connection charges may apply) or via CD-ROM. For more specific information and links, please go to www.microsoft.com. IBM offers Up and Running technical assistance with installation of, or questions related to, Service Packs for your IBM preloaded Microsoft Windows product. For information please contact the IBM Support Center at the phone number(s) listed on page 65.

Getting help on the Web

On the World Wide Web, the IBM Web site has up-to-date information about IBM Personal Computer products and support. The address for the IBM Personal Computing home page is www.ibm.com/pc

IBM provides an extensive Web site dedicated to mobile computing and to ThinkPad computers at www.ibm.com/pc/support. Research this Web site to learn how to solve problems, find new ways to use your computer, and learn about options that can make working with your ThinkPad computer even easier.

Calling IBM

If you have tried to correct the problem yourself and still need help, during the warranty period, you can get help and information by telephone through the IBM Support Center. The following services are available during the warranty period:

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- IBM hardware repair - If the problem is determined to be caused by IBM hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. IBM or your reseller, if authorized by IBM, will make selected Engineering Changes (ECs) available that apply to your hardware.
The following items are not covered:
• Replacement or use of non-IBM parts or nonwarranted IBM parts

Note: All warranted parts contain a 7-character identification in the format
IBM FRU XXXXXX
• Identification of software problem sources
• Configuration of BIOS as part of an installation or upgrade
• Changes, modifications, or upgrades to device drivers
• Installation and maintenance of network operating systems (NOS)
• Installation and maintenance of application programs

Refer to your IBM hardware warranty for a full explanation of IBM warranty
terms. Be sure to retain your proof of purchase to obtain warranty service.

If possible, be near your computer when you make your call in case the
technical assistance representative needs to help you resolve a computer
problem. Please ensure that you have downloaded the most current drivers
and system updates, run diagnostics, and recorded information before you
call. When calling for technical assistance, please have the following
information available:
• Machine Type and Model
• Serial numbers of your computer, monitor, and other components, or your
proof of purchase
• Description of the problem
• Exact wording of any error messages
• Hardware and software configuration information for your system

Telephone numbers

Note: Telephone numbers are subject to change without notice. For the latest
list of IBM Support Center telephone numbers and hours of operation,
visit the Support Web site at www.ibm.com/pc/support

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### Getting help and service

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### Getting help and service

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### Getting help and service

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<td>Hanoi (84)4-842-6316</td>
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### Getting help around the world

If you travel with your computer or relocate it to a country where your ThinkPad machine type is sold and serviced by IBM or by IBM resellers who are authorized to perform warranty service, International Warranty Service is available for your computer.

Service methods and procedures vary by country, and some services might not be available in all countries. International Warranty Service is delivered through the method of service (such as depot, carry-in, or on-site service) that is provided in the servicing country. Service centers in certain countries might not be able to service all models of a particular machine type. In some countries, fees and restrictions might apply at the time of service.

To determine whether your computer is eligible for International Warranty Service and to view a list of the countries where service is available, go to www.ibm.com/pc/support, and click **Warranty**. Eligible IBM computers are identified by their four-digit machine types. For more information about International Warranty Service, see Service Announcement 601-034 at www.ibm.com. Click **Support & downloads**, click **Announcement letters**, and click **Announcements search**. In the **Search by letter number only** field, type 601-034, and click **Search**.
Appendix A. Wireless related information

Wireless Interoperability

Wireless LAN Mini-PCI Adapter is designed to be interoperable with any wireless LAN product that is based on Direct Sequence Spread Spectrum (DSSS) radio technology and/or Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to:

- The IEEE 802.11a/b/g Standard on Wireless LANs, as defined and approved by the Institute of Electrical and Electronics Engineers.
- The Wireless Fidelity (WiFi) certification as defined by the WECA (Wireless Ethernet Compatibility Alliance).

Bluetooth Daughter Card is designed to be interoperable with any Bluetooth product that is compliant to Bluetooth Specification 1.1 as defined by the Bluetooth SIG. Following profiles are supported by Bluetooth Daughter Card:

- Generic Access
- Service Discovery
- Serial Port
- Dialup Networking
- Personal Area Network
- Generic Object Push
- Printer
- Human Interface Device (Keyboard/Mouse)

Usage environment and your Health

Wireless LAN Mini-PCI Adapter and Bluetooth Daughter Card emit radio frequency electromagnetic energy like other radio devices. However, the level of energy emitted is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones.

Because Wireless LAN Mini-PCI Adapter and Bluetooth Daughter Card operate within the guidelines found in radio frequency safety standards and recommendations, IBM believes the integrated wireless cards are safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.
In some situation or environment, the use of Wireless LAN Mini-PCI Adapter and Bluetooth Daughter Card may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

- Using the integrated wireless cards on board of airplanes, or in hospitals
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless devices in a specific organization (e.g. airport or hospital), you are encouraged to ask for authorization to use Wireless LAN Mini-PCI Adapter and Bluetooth Daughter Card prior to turning on your ThinkPad computer.

**Authorized Operation Within the United States and Canada**

The statement below regarding the extended channel mode is applicable when the system supports this function. To check the support of this function, please see the property of the installed wireless card by referring to the extended channel mode enablement instruction.

For systems with 802.11b wireless function supporting Extended Channel Mode,

This device may only be used with Access Points, which are authorized for use within the geography in which they are being used. The use of this device with an Access Point that is not Wi-Fi compliant and not authorized to be used in your geography could result in violation of government regulations. Consult the network administrator, the instruction manual, or the approval label for the Access Point to determine the authorization of your Access Point in your specific country or geographic region.

"Extended Channel Mode” should only be selected when the device is operated outside the USA and Canada to avoid the unlikely possibility of unauthorized operation. The use of this device outside the United States and Canada in "Extended Channel Mode” may use frequencies not authorized for use in the United States and Canada. When used with an authorized Wireless Access Point that is Wi-Fi compliant or in Ad Hoc mode, this device will operate in its authorized modes in all geographies.

Please reconfigure selected frequencies when you travel from one country to another.
Enabling Extended Channel Mode

The statement below regarding the extended channel mode is applicable when the system supports this function. To check the support of this function, please see the property of the installed wireless card by referring to the extended channel mode enablement instruction.

In countries other than the United States and Canada, extra IEEE 802.11b channels may be supported. If you have a problem to connect an Access Point, please contact your system administrator or check your Access Point to know which channel is used. And if the 802.11b channel is 12 or greater, you will need to enable "Extended Channel Mode" with next steps.
2. Right mouse click on My computer on Desktop and select Property.
3. Click on Hardware Tab and push Device Manager Button.
4. Click on Network Adapter, locate a wireless adapter device, right mouse click on the device and select Property.
5. Click on Advanced Tab.
6. Select "Extended Channel Mode" and set the value to "Enable".

Note: This will be applied for systems with 802.11b wireless function supporting Extended Channel Mode.
Appendix B. Warranty information

This appendix contains warranty information for your ThinkPad, warranty period, warranty service and support, and the IBM Statement of Limited Warranty.


Part 1 - General Terms

This Statement of Limited Warranty includes Part 1 - General Terms, Part 2 - Country-unique Terms, and Part 3 - Warranty Information. The terms of Part 2 replace or modify those of Part 1. The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you purchase for your use, and not for resale. The term “Machine” means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. The term “Machine” does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Nothing in this Statement of Limited Warranty affects any statutory rights of consumers that cannot be waived or limited by contract.

What this Warranty Covers
IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM’s Official Published Specifications (“Specifications”) which are available on request. The warranty period for the Machine starts on the original Date of Installation and is specified in Part 3 - Warranty Information. The date on your invoice or sales receipt is the Date of Installation unless IBM or your reseller informs you otherwise. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part. Unless IBM specifies otherwise, these warranties apply only in the country or region in which you purchased the Machine. THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD. SOME STATES OR JURISDICTIONS DO NOT
ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

What this Warranty Does not Cover
This warranty does not cover the following:

• any software programs, whether pre-loaded or shipped with the Machine, or installed subsequently;
• failure resulting from misuse (including but not limited to use of any Machine capacity or capability, other than that authorized by IBM in writing), accident, modification, unsuitable physical or operating environment, or improper maintenance by you;
• failure caused by a product for which IBM is not responsible; and
• any non-IBM products, including those that IBM may procure and provide with or integrate into an IBM Machine at your request.

The warranty is voided by removal or alteration of identification labels on the Machine or its parts.
IBM does not warrant uninterrupted or error-free operation of a Machine. Any technical or other support provided for a Machine under warranty, such as assistance via telephone with "how-to” questions and those regarding Machine set-up and installation, is provided WITHOUT WARRANTIES OF ANY KIND.

How to Obtain Warranty Service
If the Machine does not function as warranted during the warranty period, contact IBM or your reseller to obtain warranty service. If you do not register the Machine with IBM, you may be required to present proof of purchase as evidence of your entitlement to warranty service.

What IBM Will Do to Correct Problems
When you call for service, you must follow the problem determination and resolution procedures that IBM specifies. A technician will attempt to make an initial diagnosis of your problem and help you resolve it over the telephone. The type of warranty service applicable to your Machine is specified in Part 3 - Warranty Information.
You are responsible for downloading and installing designated Machine Code (microcode, basic input/output system code (called "BIOS"), utility programs, device drivers, and diagnostics delivered with an IBM Machine) and other software updates from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides.
If your problem can be resolved with a Customer Replaceable Unit ("CRU") (e.g., keyboard, mouse, speaker, memory, hard disk drive and other easily replaceable parts), IBM will ship these parts to you for replacement by you. If the Machine does not function as warranted during the warranty period and your problem cannot be resolved over the telephone, through your application of Machine Code or software updates, or with a CRU, IBM or
your reseller, if approved by IBM to provide warranty service, will either, at its discretion, 1) repair it to make it function as warranted, or 2) replace it with one that is at least functionally equivalent. If IBM is unable to do either, you may return the Machine to your place of purchase and your money will be refunded.

IBM or your reseller will also manage and install selected engineering changes that apply to the Machine.

**Exchange of a Machine or Part**

When the warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item.

**Your Additional Responsibilities**

Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service.

You also agree to:

1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;
2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided:
   a. follow the service request procedures that IBM or your reseller provides;
   b. backup or secure all programs, data, and funds contained in the Machine;
   c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit IBM to fulfill its obligations; and
   d. inform IBM or your reseller of changes in the Machine’s location.
4. (a) ensure all information about identified or identifiable individuals (Personal Data) is deleted from the Machine (to the extent technically possible), (b) allow IBM, your reseller or an IBM supplier to process on your behalf any remaining Personal Data as IBM or your reseller considers necessary to fulfill its obligations under this Statement of Limited Warranty (which may include shipping the Machine for such processing to other IBM service locations around the world), and (c) ensure that such processing complies with any laws applicable to such Personal Data.

**Limitation of Liability**

IBM is responsible for loss of, or damage to, your Machine only while it is 1) in IBM’s possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Appendix B. Warranty information  49
Neither IBM nor your reseller are responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM for any reason. You should remove all such information from the Machine prior to its return. Circumstances may arise where, because of a default on IBM’s part or other liability, you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), except for any liability that cannot be waived or limited by applicable laws, IBM is liable for no more than

1. damages for bodily injury (including death) and damage to real property and tangible personal property; and
2. the amount of any other actual direct damages, up to the charges (if recurring, 12 months’ charges apply) for the Machine that is subject of the claim. For purposes of this item, the term “Machine” includes Machine Code and Licensed Internal Code (“LIC”).

This limit also applies to IBM’s suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING EVEN IF INFORMED OF THEIR POSSIBILITY: 1) THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES (OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, DATA; 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; OR 4) LOST PROFITS, BUSINESS REVENUE, GOODWILL OR ANTICIPATED SAVINGS. SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Governing Law
Both you and IBM consent to the application of the laws of the country in which you acquired the Machine to govern, interpret, and enforce all of your and IBM’s rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Statement of Limited Warranty, without regard to conflict of law principles.

THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR JURISDICTION TO JURISDICTION.
Jurisdiction
All of our rights, duties, and obligations are subject to the courts of the country in which you acquired the Machine.

Part 2 - Country-unique Terms

AMERICAS

ARGENTINA
Governance Law: The following is added after the first sentence:
Any litigation arising from this Statement of Limited Warranty will be settled exclusively by the Ordinary Commercial Court of the city of Buenos Aires.

BRAZIL
Governor Law: The following is added after the first sentence:
Any litigation arising from this Agreement will be settled exclusively by the court of Rio de Janeiro, RJ.

PERU
Limitation of Liability: The following is added at the end of this section:
In accordance with Article 1328 of the Peruvian Civil Code the limitations and exclusions specified in this section will not apply to damages caused by IBM’s willful misconduct (“dolo”) or gross negligence (“culpa inexcusable”).

NORTH AMERICA

How to Obtain Warranty Service: The following is added to this Section:
To obtain warranty service from IBM in Canada or the United States, call 1-800-IBM-SERV (426-7378).

CANADA
Limitation of Liability: The following replaces item 1 of this section:
1. damages for bodily injury (including death) or physical harm to real property and tangible personal property caused by IBM’s negligence; and
Governor Law: The following replaces “laws of the country in which you acquired the Machine” in the first sentence:
laws in the Province of Ontario.

UNITED STATES
Governor Law: The following replaces “laws of the country in which you acquired the Machine” in the first sentence:
laws of the State of New York.

ASIA PACIFIC

AUSTRALIA
What this Warranty Covers: The following paragraph is added to this Section:
The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other similar legislation and are only limited to the extent permitted by the applicable legislation.

**Limitation of Liability: The following is added to this Section:**
Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974 or other similar legislation, IBM’s liability is limited to the repair or replacement of the goods or the supply of equivalent goods. Where that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

**Governing Law: The following replaces "laws of the country in which you acquired the Machine" in the first sentence:**
laws of the State or Territory.

**CAMBODIA, LAOS, AND VIETNAM**

**Governing Law: The following replaces "laws of the country in which you acquired the Machine" in the first sentence:**
laws of the State of New York, United States of America.

**CAMBODIA, INDONESIA, LAOS, AND VIETNAM**

**Arbitration: The following is added under this heading:**
Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Singapore in accordance with the Arbitration Rules of Singapore International Arbitration Center (“SIAC Rules”) then in effect. The arbitration award shall be final and binding for the parties without appeal and shall be in writing and set forth the findings of fact and the conclusions of law.
The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator. The two arbitrators appointed by the parties shall appoint a third arbitrator who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the SIAC. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred. If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.
All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

**HONG KONG S.A.R. OF CHINA AND MACAU S.A.R. OF CHINA**

**Governing Law: The following replaces "laws of the country in which you**
acquired the Machine" *in the first sentence:*
laws of Hong Kong Special Administrative Region of China.

**INDIA**

**Limitation of Liability:** *The following replaces items 1 and 2 of this Section:*

1. liability for bodily injury (including death) or damage to real property and tangible personal property will be limited to that caused by IBM’s negligence; and
2. as to any other actual damage arising in any situation involving nonperformance by IBM pursuant to, or in any way related to the subject of this Statement of Limited Warranty, the charge paid by you for the individual Machine that is the subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

**Arbitration:** *The following is added under this heading*

Disputes arising out of or in connection with this Statement of Limited Warranty shall be finally settled by arbitration which shall be held in Bangalore, India in accordance with the laws of India then in effect. The arbitration award shall be final and binding for the parties without appeal and shall be in writing and set forth the findings of fact and the conclusions of law.

The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator. The two arbitrators appointed by the parties shall appoint a third arbitrator who shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the president of the Bar Council of India. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred.

If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The English language version of this Statement of Limited Warranty prevails over any other language version.

**JAPAN**

**Governing Law:** *The following sentence is added to this Section:*

Any doubts concerning this Agreement will be initially resolved between us in good faith and in accordance with the principle of mutual trust.

**MALASIA**

**Limitation of Liability:** The word "SPECIAL" in item 3 of the fifth paragraph is deleted.
NEW ZEALAND
What this Warranty Covers: The following paragraph is added to this Section:
The warranties specified in this section are in addition to any rights you may
have under the Consumer Guarantees Act 1993 or other legislation which
cannot be excluded or limited. The Consumer Guarantees Act 1993 will not
apply in respect of any goods which IBM provides, if you require the goods
for the purposes of a business as defined in that Act.
Limitation of Liability: The following is added to this Section:
Where Machines are not acquired for the purposes of a business as defined in
the Consumer Guarantees Act 1993, the limitations in this Section are subject
to the limitations in that Act.

PEOPLE’S REPUBLIC OF CHINA (PRC)
Governing Law: The following replaces “laws of the country in which you
acquired the Machine” in the first sentence:
laws of the State of New York, United States of America (except when local
law requires otherwise).

PHILIPPINES
Limitation of Liability: Item 3 in the fifth paragraph is replaced by the following:
SPECIAL (INCLUDING NOMINAL AND EXEMPLARY DAMAGES),
MORAL, INCIDENTAL, OR INDIRECT DAMAGES FOR ANY
ECONOMIC CONSEQUENTIAL DAMAGES; OR
Arbitration: The following is added: under this heading
Disputes arising out of or in connection with this Statement of Limited
Warranty shall be finally settled by arbitration which shall be held in Metro
Manila, Philippines in accordance with the laws of the Philippines then in
effect. The arbitration award shall be final and binding for the parties without
appeal and shall be in writing and set forth the findings of fact and the
conclusions of law.
The number of arbitrators shall be three, with each side to the dispute being
entitled to appoint one arbitrator. The two arbitrators appointed by the parties
shall appoint a third arbitrator who shall act as chairman of the proceedings.
Vacancies in the post of chairman shall be filled by the president of the
Philippine Dispute Resolution Center, Inc. Other vacancies shall be filled by
the respective nominating party. Proceedings shall continue from the stage
they were at when the vacancy occurred.
If one of the parties refuses or otherwise fails to appoint an arbitrator within
30 days of the date the other party appoints its, the first appointed arbitrator
shall be the sole arbitrator, provided that the arbitrator was validly and
properly appointed.
All proceedings shall be conducted, including all documents presented in
such proceedings, in the English language. The English language version of
this Statement of Limited Warranty prevails over any other language version.
SINGAPORE
Limitation of Liability: The words "SPECIAL" and "ECONOMIC" in item 3 in the fifth paragraph are deleted.

EUROPE, MIDDLE EAST, AFRICA (EMEA)

THE FOLLOWING TERMS APPLY TO ALL EMEA COUNTRIES:
The terms of this Statement of Limited Warranty apply to Machines purchased from IBM or an IBM reseller.

How to Obtain Warranty Service:
If you purchase a Machine in Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Portugal, Spain, San Marino, Sweden, Switzerland, United Kingdom or Vatican State, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM, provided the Machine has been announced and made available by IBM in the country in which you wish to obtain service. If you purchased a Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Federal Republic of Yugoslavia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, or Ukraine, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

If you purchase a Machine in a Middle Eastern or African country, you may obtain warranty service for that Machine from the IBM entity within the country of purchase, if that IBM entity provides warranty service in that country, or from an IBM reseller, approved by IBM to perform warranty service on that Machine in that country. Warranty service in Africa is available within 50 kilometers of an IBM approved service provider. You are responsible for transportation costs for Machines located outside 50 kilometers of an IBM approved service provider.

Add the following paragraph in Western Europe (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Monaco, Netherlands, Norway, Portugal, Spain, San Marino, Sweden, Switzerland, United Kingdom, Vatican State):
The warranty for Machines acquired in Western Europe shall be valid and applicable in all Western Europe countries provided the Machines have been announced and made available in such countries.

Governing Law:
The phrase "the laws of the country in which you acquired the Machine" is
replaced by:

1) "the laws of Austria" in Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, FYR Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and FR Yugoslavia; 2) "the laws of France" in Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Republic, Djibouti, Democratic Republic of Congo, Equatorial Guinea, French Guiana, French Polynesia, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Madagascar, Mali, Mauritania, Mauritius, Mayotte, Morocco, New Caledonia, Niger, Reunion, Senegal, Seychelles, Togo, Tunisia, Vanuatu, and Wallis & Futuna; 3) "the laws of Finland" in Estonia, Latvia, and Lithuania; 4) "the laws of England" in Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, the United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe; and 5) "the laws of South Africa" in South Africa, Namibia, Lesotho and Swaziland.

Jurisdiction: The following exceptions are added to this section:

1) In Austria the choice of jurisdiction for all disputes arising out of this Statement of Limited Warranty and relating thereto, including its existence, will be the competent court of law in Vienna, Austria (Inner-City); 2) in Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, the United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe all disputes arising out of this Statement of Limited Warranty or related to its execution, including summary proceedings, will be submitted to the exclusive jurisdiction of the English courts; 3) in Belgium and Luxembourg, all disputes arising out of this Statement of Limited Warranty or related to its interpretation or its execution, the law, and the courts of the capital city, of the country of your registered office and/or commercial site location only are competent; 4) in France, Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo Republic, Djibouti, Democratic Republic of Congo, Equatorial Guinea, French Guiana, French Polynesia, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Madagascar, Mali, Mauritania, Mauritius, Mayotte, Morocco, New Caledonia, Niger, Reunion, Senegal, Seychelles, Togo, Tunisia, Vanuatu, and Wallis & Futuna all disputes arising out of this Statement of Limited Warranty or related to its violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 5) in Russia, all disputes arising out of or in relation to the interpretation, the violation, the termination, the nullity of the execution of this Statement of Limited Warranty
shall be settled by Arbitration Court of Moscow; 6) in South Africa, Namibia, Lesotho and Swaziland, both of us agree to submit all disputes relating to this Statement of Limited Warranty to the jurisdiction of the High Court in Johannesburg; 7) in Turkey all disputes arising out of or in connection with this Statement of Limited Warranty shall be resolved by the Istanbul Central (Sultanahmet) Courts and Execution Directorates of Istanbul, the Republic of Turkey; 8) in each of the following specified countries, any legal claim arising out of this Statement of Limited Warranty will be brought before, and settled exclusively by, the competent court of a) Athens for Greece, b) Tel Aviv-Jaffa for Israel, c) Milan for Italy, d) Lisbon for Portugal, and e) Madrid for Spain; and 9) in the United Kingdom, both of us agree to submit all disputes relating to this Statement of Limited Warranty to the jurisdiction of the English courts.

Arbitration: The following is added under this heading:

In Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, FYR Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and FR Yugoslavia all disputes arising out of this Statement of Limited Warranty or related to its violation, termination or nullity will be finally settled under the Rules of Arbitration and Conciliation of the International Arbitral Center of the Federal Economic Chamber in Vienna (Vienna Rules) by three arbitrators appointed in accordance with these rules. The arbitration will be held in Vienna, Austria, and the official language of the proceedings will be English. The decision of the arbitrators will be final and binding upon both parties. Therefore, pursuant to paragraph 598 (2) of the Austrian Code of Civil Procedure, the parties expressly waive the application of paragraph 595 (1) figure 7 of the Code. IBM may, however, institute proceedings in a competent court in the country of installation.

In Estonia, Latvia and Lithuania all disputes arising in connection with this Statement of Limited Warranty will be finally settled in arbitration that will be held in Helsinki, Finland in accordance with the arbitration laws of Finland then in effect. Each party will appoint one arbitrator. The arbitrators will then jointly appoint the chairman. If arbitrators cannot agree on the chairman, then the Central Chamber of Commerce in Helsinki will appoint the chairman.

EUROPEAN UNION (EU)

THE FOLLOWING TERMS APPLY TO ALL EU COUNTRIES:
Consumers have legal rights under applicable national legislation governing the sale of consumer goods. Such rights are not affected by the warranties provided in this Statement of Limited Warranty.
How to Obtain Warranty Service: The following is added to this section:
To obtain warranty service from IBM in EU countries, see the telephone listing in Part 3 - Warranty Information.
You may contact IBM at the following address:
IBM Warranty & Service Quality Dept.
PO Box 30
Spango Valley
Greenock
Scotland PA16 0AH

**AUSTRALIA, DENMARK, FINLAND, GREECE, ITALY, NETHERLANDS,**
**NORWAY, PORTUGAL, SPAIN, SWEDEN AND SWITZERLAND**

**Limitation of Liability:** The following replaces the terms of this section in its entirety:

Except as otherwise provided by mandatory law:

1. IBM’s liability for any damages and losses that may arise as a consequence of the fulfillment of its obligations under or in connection with this Statement of Limited Warranty or due to any other cause related to this Statement of Limited Warranty is limited to the compensation of only those damages and losses proved and actually arising as an immediate and direct consequence of the non-fulfillment of such obligations (if IBM is at fault) or of such cause, for a maximum amount equal to the charges you paid for the Machine. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC"). The above limitation shall not apply to damages for bodily injuries (including death) and damages to real property and tangible personal property for which IBM is legally liable.

2. **UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING, EVEN IF INFORMED OF THEIR POSSIBILITY:** 1) **LOSS OF, OR DAMAGE TO, DATA;** 2) **INCIDENTAL OR INDIRECT DAMAGES, OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES;** 3) **LOST PROFITS, EVEN IF THEY ARISE AS AN IMMEDIATE CONSEQUENCE OF THE EVENT THAT GENERATED THE DAMAGES; OR 4) **LOSS OF BUSINESS, REVENUE, GOODWILL, OR ANTICIPATED SAVINGS.**

**FRANCE AND BELGIUM**

**Limitation of Liability:** The following replaces the terms of this section in its entirety:

Except as otherwise provided by mandatory law:

1. IBM’s liability for any damages and losses that may arise as a consequence of the fulfillment of its obligations under or in connection with this Statement of Limited Warranty is limited to the compensation of only those damages and losses proved and actually arising as an immediate and direct consequence of the non-fulfillment of such obligations (if IBM is at fault), for a maximum amount equal to the charges you paid for the Machine that has caused the damages. For purposes of this item, the term
"Machine" includes Machine Code and Licensed Internal Code ("LIC"). The above limitation shall not apply to damages for bodily injuries (including death) and damages to real property and tangible personal property for which IBM is legally liable.

2. **UNDER NO CIRCUMSTANCES IS IBM, ITS SUPPLIERS OR RESELLERS LIABLE FOR ANY OF THE FOLLOWING, EVEN IF INFORMED OF THEIR POSSIBILITY:** 1) LOSS OF, OR DAMAGE TO, DATA; 2) INCIDENTAL OR INDIRECT DAMAGES, OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES; 3) LOST PROFITS, EVEN IF THEY ARISE AS AN IMMEDIATE CONSEQUENCE OF THE EVENT THAT GENERATED THE DAMAGES; OR 4) LOSS OF BUSINESS, REVENUE, GOODWILL, OR ANTICIPATED SAVINGS.

**THE FOLLOWING TERMS APPLY TO THE COUNTRY SPECIFIED:**

**AUSTRIA**

**What this Warranty Covers:** *The following replaces the first sentence of the first paragraph of this section:*

The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine’s conformity to its Specifications.

*The following paragraphs are added to this section:*

The warranty period for Machines is 12 months from the date of delivery. The limitation period for consumers in action for breach of warranty is the statutory period as a minimum. In case IBM or your reseller is unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

*The second paragraph does not apply.*

**What IBM Will Do to Correct Problems:** *The following is added to this section:*

During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM’s expense.

**Limitation of Liability:** *The following paragraph is added to this section:*

The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

*The following sentence is added to the end of item 2:*

IBM’s liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

**EGYPT**

**Limitation of Liability:** *The following replaces item 2 in this section:*

as to any other actual direct damages, IBM’s liability will be limited to the total amount you paid for the Machine that is the subject of the claim. For
purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code ("LIC").

Applicability of suppliers and resellers (unchanged).

FRANCE

Limitation of Liability: The following replaces the second sentence of the first paragraph of this section:
In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: (items 1 and 2 unchanged).

GERMANY

What this Warranty Covers: The following replaces the first sentence of the first paragraph of this section:
The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

The following paragraphs are added to this section:
The minimum warranty period for Machines is twelve months. In case IBM or your reseller is unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

The second paragraph does not apply.

What IBM Will Do to Correct Problems: The following is added to this section:
During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

Limitation of Liability: The following paragraph is added to this section:
The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

The following sentence is added to the end of item 2:
IBM’s liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

HUNGARY

Limitation of Liability: The following is added at the end of this section:
The limitation and exclusion specified herein shall not apply to liability for a breach of contract damaging life, physical well-being, or health that has been caused intentionally, by gross negligence, or by a criminal act.
The parties accept the limitations of liability as valid provisions and state that the Section 314.(2) of the Hungarian Civil Code applies as the acquisition price as well as other advantages arising out of the present Statement of Limited Warranty balance this limitation of liability.

IRELAND

What this Warranty Covers: The following is added to this section:
Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

**Limitation of Liability:** The following replaces the terms of section in its entirety:

For the purposes of this section, a “Default” means any act, statement, omission, or negligence on the part of IBM in connection with, or in relation to, the subject matter of this Statement of Limited Warranty in respect of which IBM is legally liable to you, whether in contract or tort. A number of Defaults which together result in, or contribute to, substantially the same loss or damage will be treated as one Default occurring on the date of occurrence of the last such Default.

Circumstances may arise where, because of a Default, you are entitled to recover damages from IBM.

This section sets out the extent of IBM’s liability and your sole remedy.

1. will accept unlimited liability for death or personal injury caused by the negligence of IBM.
2. Subject always to the **Items for Which IBM is Not Liable** below, IBM will accept unlimited liability for physical damage to your tangible property resulting from the negligence of IBM.
3. Except as provided in items 1 and 2 above, IBM’s entire liability for actual damages for any one Default will not in any event exceed the greater of 1) EUR 125,000, or 2) 125% of the amount you paid for the Machine directly relating to the Default.

**Items for Which IBM is Not Liable**

Save with respect to any liability referred to in item 1 above, under no circumstances is IBM, its suppliers or resellers liable for any of the following, even if IBM or they were informed of the possibility of such losses:

1. loss of, or damage to, data;
2. special, indirect, or consequential loss; or
3. loss of profits, business, revenue, goodwill, or anticipated savings.

**SLOVAKIA**

**Limitation of Liability:** The following is added to the end of the last paragraph:

The limitations apply to the extent they are not prohibited under §§373-386 of the Slovak Commercial Code.

**SOUTH AFRICA, NAMIBIA, BOTSWANA, LESOTHO AND SWAZILAND**

**Limitation of Liability:** The following is added to this section:

IBM’s entire liability to you for actual damages arising in all situations involving nonperformance by IBM in respect of the subject matter of this Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.
UNITED KINGDOM

Limitation of Liability: The following replaces the terms of this section is in its entirety:

For the purposes of this section, a "Default" means any act, statement, omission, or negligence on the part of IBM in connection with, or in relation to, the subject matter of this Statement of Limited Warranty in respect of which IBM is legally liable to you, whether in contract or tort. A number of Defaults which together result in, or contribute to, substantially the same loss or damage will be treated as one Default.

Circumstances may arise where, because of a Default, you are entitled to recover damages from IBM.

This section sets out the extent of IBM’s liability and your sole remedy.

1. IBM will accept unlimited liability for:
   a. death or personal injury caused by the negligence of IBM; and
   b. any breach of its obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982, or any statutory modification or re-enactment of either such Section.

2. IBM will accept unlimited liability, subject always to the Items for Which IBM is Not Liable below, for physical damage to your tangible property resulting from the negligence of IBM.

3. IBM’s entire liability for actual damages for any one Default will not in any event, except as provided in items 1 and 2 above, exceed the greater of 1) Pounds Sterling 75,000, or 2) 125% of the total purchase price payable or the charges for the Machine directly relating to the Default.

These limits also apply to IBM’s suppliers and resellers. They state the maximum for which IBM and such suppliers and resellers are collectively responsible.

Items for Which IBM is Not Liable

Save with respect to any liability referred to in item 1 above, under no circumstances is IBM or any of its suppliers or resellers liable for any of the following, even if IBM or they were informed of the possibility of such losses:

1. loss of, or damage to, data;
2. special, indirect, or consequential loss; or
3. loss of profits, business, revenue, goodwill, or anticipated savings.

Part 3 - Warranty Information

This Part 3 provides information regarding the warranty applicable to your Machine, including the warranty period and type of warranty service IBM provides.

Warranty Period

The warranty period may vary by country or region and is specified in the table below.
**Note:** “Region” means either Hong Kong or Macau Special Administrative Region of China.

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>Country or Region of Purchase</th>
<th>Warranty period</th>
<th>Types of Warranty Service</th>
</tr>
</thead>
</table>
| 2371         | US, Canada, Mexico, Brazil, and Australia | Parts and Labor - 3 years  
Battery pack - 1 year | 1 and 3  
1 |
|              | Japan                             | Parts and Labor - 1 year  
Battery pack - 1 year | 1 and 3  
1 |
|              | Others                            | Parts and Labor - 3 years  
Battery pack - 1 year | 1 and 4  
1 |
| 2372         | All                               | Parts and Labor - 3 years  
Battery pack - 1 year | 1 and 2  
1 |
| 2382         | US, Canada                        | Parts and Labor - 3 years  
Battery pack - 1 year | 1 and 3  
1 |
| 2386         | US, Canada                        | Parts and Labor - 1 year  
Battery pack - 1 year | 1 and 3  
1 |
| 2369         | US, Canada, Mexico, Brazil, Australia, and Japan | Parts and Labor - 4 years  
Battery pack - 1 year | 1 and 3  
1 |
|              | Others                            | Parts and Labor - 4 years  
Battery pack - 1 year | 1 and 4  
1 |
| 2370         | All                               | Parts and Labor - 4 years  
Battery pack - 1 year | 1 and 2  
1 |

A warranty period of 3 years on parts and 1 year on labor means that IBM provides warranty service without charge for:
1. parts and labor during the first year of the warranty period; and
2. parts only, on an exchange basis, in the second and third years of the warranty period. IBM will charge you for any labor provided in performance of the repair or replacement(s) in the second and third year of warranty period.

When more than one type of warranty service is listed, IBM will determine which type of warranty service is appropriate for the repair.
Types of Warranty Service
If required, IBM provides repair or exchange service depending on the type of warranty service specified for your Machine in the above table and as described below. Warranty service may be provided by your reseller if approved by IBM to perform warranty service. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations, additional charges may apply outside IBM’s normal service area, contact your local IBM representative or your reseller for country and location specific information.

1. Customer Replaceable Unit ("CRU") Service
   IBM will ship CRU parts to you for your replacement. If IBM instructs you to return the replaced CRU, you are responsible for returning it to IBM in accordance with IBM’s instructions. If you do not return the defective CRU, if IBM so instructs, within 30 days of your receipt of the replacement CRU, IBM may charge you for the replacement.

2. On-site Service
   IBM or your reseller will either repair or exchange the failing Machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the IBM Machine. The area must be clean, well lit and suitable for the purpose. For some Machines, certain repairs may require sending the Machine to an IBM service center.

3. Courier or Depot Service
   You will disconnect the failing Machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your Machine to a designated service center. A courier will pick up your Machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the Machine to your location. You are responsible for its installation and verification. This type of service is called ThinkPad EasyServ or EasyServ in some countries.

4. Customer Carry-In or Mail-In Service
   You will deliver or mail as IBM specifies (prepaid unless IBM specifies otherwise) the failing Machine suitably packaged to a location IBM designates. After IBM has repaired or exchanged the Machine, IBM will make it available for your collection or, for Mail-in Service, IBM will return it to you at IBM’s expense, unless IBM specifies otherwise. You are responsible for the subsequent installation and verification of the Machine.

The IBM Machine Warranty worldwide web site at http://www.ibm.com/servers/support/machine_warranties/ provides a worldwide overview of IBM’s Limited Warranty for Machines, a Glossary of IBM definitions, Frequently Asked Questions (FAQs) and Support by Product
(Machine) with links to Product Support pages. The IBM Statement of Limited Warranty is also available on this site in 29 languages. To obtain warranty service contact IBM or your IBM reseller.

Support Center telephone numbers

Phone numbers are subject to change without notice.

<table>
<thead>
<tr>
<th>Country or Region</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>+44 (0) 1475 555 055</td>
</tr>
<tr>
<td>Argentina</td>
<td>0800-666-0011</td>
</tr>
<tr>
<td>Australia</td>
<td>131-426</td>
</tr>
<tr>
<td>Austria</td>
<td>01-24592-5901</td>
</tr>
<tr>
<td>Bolivia</td>
<td>0800-0189</td>
</tr>
<tr>
<td>Belgium</td>
<td>Dutch: 02-210 9820</td>
</tr>
<tr>
<td></td>
<td>French: 02-210 9800</td>
</tr>
<tr>
<td>Brazil</td>
<td>55-11-3889-8986</td>
</tr>
<tr>
<td>Canada</td>
<td>English: 1-800-565-3344</td>
</tr>
<tr>
<td></td>
<td>French: 1-800-565-3344</td>
</tr>
<tr>
<td></td>
<td>In Toronto: 416-383-3344</td>
</tr>
<tr>
<td>Chile</td>
<td>800-224-488</td>
</tr>
<tr>
<td>China</td>
<td>800-810-1818</td>
</tr>
<tr>
<td>China (Hong Kong and S.A.R.)</td>
<td>Home PC: 852-2825-7799</td>
</tr>
<tr>
<td></td>
<td>Commercial PC: 852-8205-0333</td>
</tr>
<tr>
<td>Colombia</td>
<td>980-912-3021</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>284-3911</td>
</tr>
<tr>
<td>Cyprus</td>
<td>357-22-841100</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>420-2-7213-1316</td>
</tr>
<tr>
<td>Denmark</td>
<td>45 20 82 00</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>566-4755 or 566-5161 ext. 8201</td>
</tr>
<tr>
<td></td>
<td>Toll Free within the Dominican Republic: 1-200-1929</td>
</tr>
<tr>
<td>Ecuador</td>
<td>1-800-426911 (option #4)</td>
</tr>
<tr>
<td>El Salvador</td>
<td>94-11-2448-442</td>
</tr>
<tr>
<td>Estonia</td>
<td>386-61-1796-699</td>
</tr>
<tr>
<td>Finland</td>
<td>09-459 69 60</td>
</tr>
<tr>
<td>France</td>
<td>02 38 55 74 50</td>
</tr>
<tr>
<td>Germany</td>
<td>07032-1549 201</td>
</tr>
<tr>
<td>Country or Region</td>
<td>Telephone Number</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Greece</td>
<td>30-210-680-1700</td>
</tr>
<tr>
<td>Guatemala</td>
<td>335-8490</td>
</tr>
<tr>
<td>Honduras</td>
<td>Tegucigalpa &amp; San Pedro Sula: 232-4222 San Pedro Sula: 552-2234</td>
</tr>
<tr>
<td>Hungary</td>
<td>36-1-382-5720</td>
</tr>
<tr>
<td>India</td>
<td>1600-44-6666</td>
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<tr>
<td>Indonesia</td>
<td>800-140-3555</td>
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<tr>
<td>Ireland</td>
<td>01-815-9202</td>
</tr>
<tr>
<td>Italy</td>
<td>02-7031-6101</td>
</tr>
<tr>
<td>Japan</td>
<td>*0120-887-874</td>
</tr>
<tr>
<td>Korea</td>
<td>*Overseas calls: 81-46-266-4724</td>
</tr>
<tr>
<td>Latvia</td>
<td>82-2-3284-1500</td>
</tr>
<tr>
<td>Lithuania</td>
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<tr>
<td>Luxembourg</td>
<td>298-977-5063</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1800-88-8558</td>
</tr>
<tr>
<td>Malta</td>
<td>356-23-4175</td>
</tr>
<tr>
<td>Mexico</td>
<td>001-866-434-2080</td>
</tr>
<tr>
<td>Middle East</td>
<td>+44 (0) 1475 555 055</td>
</tr>
<tr>
<td>Netherlands</td>
<td>020-514 5770</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0800-446-149</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>255-6658</td>
</tr>
<tr>
<td>Norway</td>
<td>66 81 11 00</td>
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<tr>
<td>Panama</td>
<td>206-6047</td>
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<tr>
<td>Peru</td>
<td>0-800-50-866</td>
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<td>Philippines</td>
<td>1800-1888-1426</td>
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<tr>
<td>Poland</td>
<td>48-22-878-6999</td>
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<tr>
<td>Portugal</td>
<td>21-892-7147</td>
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<tr>
<td>Russia</td>
<td>095-940-2000</td>
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<tr>
<td>Singapore</td>
<td>1800-3172-888</td>
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<tr>
<td>Slovakia</td>
<td>421-2-4954-1217</td>
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<tr>
<td>Slovenia</td>
<td>386-1-4796-699</td>
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<tr>
<td>Spain</td>
<td>91-714-7983</td>
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<tr>
<td>Country or Region</td>
<td>Telephone Number</td>
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<td>-------------------</td>
<td>------------------</td>
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<tr>
<td>Sri Lanka</td>
<td>94-11-2448-442</td>
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<td>94-11-2421-066</td>
</tr>
<tr>
<td>Sweden</td>
<td>08-477 4420</td>
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<tr>
<td>Switzerland</td>
<td>058-333-0900</td>
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<tr>
<td>Taiwan</td>
<td>886-2-8723-9799</td>
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<tr>
<td>Thailand</td>
<td>1800-299-225</td>
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<tr>
<td>Turkey</td>
<td>00-800-446-32-041</td>
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<tr>
<td>United Kingdom</td>
<td>0-1475-555 055</td>
</tr>
<tr>
<td>United States</td>
<td>1-800-IBM-SERV</td>
</tr>
<tr>
<td></td>
<td>(1-800-426-7378)</td>
</tr>
<tr>
<td>Uruguay</td>
<td>000-411-005-6649</td>
</tr>
<tr>
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<td>0-800-100-2011</td>
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<tr>
<td>Vietnam</td>
<td>Ho Chi Minh: (84)-8-824-1474</td>
</tr>
<tr>
<td></td>
<td>Hanoi: (84)-4-842-6316</td>
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</table>

**Note:** * The numbers will be answered with a Japanese language voice prompt. For telephone support in English, please wait for the Japanese voice prompt to end, and an operator will answer. Please ask for "English support please," and your call will be transferred to an English speaking operator.

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• 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.

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Telephone 1-919-543-2193

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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.

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