

***lenovo***

# *Lenovo IdeaPad A10*

*Hardware  
Maintenance  
Manual*



**Note:**

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 61.

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## About this manual

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This manual contains service and reference information for the following Lenovo product:

### **Lenovo IdeaPad A10**

Use this manual to troubleshoot problems.

The manual is divided into the following sections:

- The common sections provide general information, guidelines, and safety information required for servicing computers.
- The product-specific section includes service, reference, and product-specific parts information.

#### **Important:**

This manual is intended only for trained servicers who are familiar with Lenovo products. Use this manual to troubleshoot problems effectively. Before servicing a Lenovo product, make sure to read all the information under “Safety information” on page 1 and “Important service information” on page 16.

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## **Safety information**

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This chapter presents the following safety information that you need to get familiar with before you service a Lenovo computer:

- “General safety” on page 2
- “Electrical safety” on page 3
- “Safety inspection guide” on page 5
- “Handling devices that are sensitive to electrostatic discharge” on page 6
- “Grounding requirements” on page 6
- “Safety notices: multilingual translations” on page 7
- “Laser compliance statement” on page 14

## General safety

Follow these rules below to ensure general safety:

- Observe a good housekeeping in the area where the machines are put during and after the maintenance.
- When lifting any heavy object:
  1. Make sure that you can stand safely without slipping.
  2. Distribute the weight of the object equally between your feet.
  3. Use a slow lifting force. Never move suddenly or twist when you attempt to lift it.
  4. Lift it by standing or pushing up with your leg muscles; this action could avoid the strain from the muscles in your back. Do not attempt to lift any object that weighs more than 16 kg (35 lb) or that you think is too heavy for you.
- Do not perform any action that causes hazards to the customer, or that makes the machine unsafe.
- Before you start the machine, make sure that other service representatives and the customer are not in a hazardous position.
- Please remove covers and other parts in a safe place, away from all personnel, while you are servicing the machine.
- Keep your toolcase away from walk areas so that other people will not trip it over.
- Do not wear loose clothing that can be trapped in the moving parts of the machine. Make sure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten it with the nonconductive clip, about 8 centimeters (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing.

**Attention:** Metal objects are good electrical conductors.
- Wear safety glasses when you are hammering, drilling, soldering, cutting wire, attaching springs, using solvents, or working in any other conditions that may be hazardous to your eyes.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the machine to the customer.
- Fan louvers on the machine help to prevent the overheating of internal components. Do not obstruct fan louvers or cover them with labels or stickers.

## Electrical safety

Observe the following rules when working on electrical equipments.

**Important:**

Use only approved tools and test equipments. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.

Many customers have rubber floor mats near their machines that contain small conductive fibers to decrease electrostatic discharges. Do not use such kind of mat to protect yourself from electrical shock.

- Find the room emergency power-off (EPO) switch, disconnecting switch, or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near the equipment that has hazardous voltages.
- Disconnect all power before:
  - Performing a mechanical inspection
  - Working near power supplies
  - Removing or installing main units
- Before you start to work on the machine, unplug the power cord. If you cannot unplug it, ask the customer to power-off the wall box that supplies power to the machine, and to lock the wall box in the off position.
- If you need to work on a machine that has exposed electrical circuits, observe the following precautions:
  - Ensure that another person, familiar with the power-off controls, is near you.

**Attention:** Another person must be there to switch off the power, if necessary.
  - Use only one hand when working with powered-on electrical equipment; keep the other hand in your pocket or behind your back.

**Attention:** An electrical shock can occur only when there is a complete circuit. By observing the above rule, you may prevent a current from passing through your body.
  - When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
  - Stand on suitable rubber mats (obtained locally, if necessary) to insulate you from grounds such as metal floor strips and machine frames.

Observe the special safety precautions when you work with very high voltages; instructions for these precautions are in the safety sections of maintenance information. Be extremely careful when you measure the high voltages.

- Regularly inspect and maintain your electrical hand tools for safe operational condition.
- Do not use worn or broken tools and testers.
- Never assume that power has been disconnected from a circuit. First, check it to make sure that it has been powered off.

- Always look carefully for possible hazards in your work area. Examples of these hazards are moist floors, nongrounded power extension cables, power surges, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive; such touching can cause personal injury and machine damage.
- Do not service the following parts with the power on when they are removed from their normal operating places in a machine:
  - Power supply units
  - Pumps
  - Blowers and fans
  - Motor generatorsand similar units. (This practice ensures correct grounding of the units.)
- If an electrical accident occurs:
  - Use caution: do not become a victim yourself.
  - Switch off the power.
  - Send the victim to get medical aid.



## Safety inspection guide

The purpose of this inspection guide is to assist you in identifying potential unsafe conditions. As each machine was designed and built, required safety items were installed to protect users and service personnel from injury. This guide addresses only those items. You should use good judgment to identify potential safety hazards due to attachment of non-Lenovo features or options not covered by this inspection guide.

If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

Consider these conditions and the safety hazards they present:

- Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock)
- Explosive hazards, such as a damaged CRT face or a bulging capacitor
- Mechanical hazards, such as loose or missing hardware

To determine whether there are any potential unsafe conditions, use the following checklist at the beginning of every service task. Begin the checks with the power off, and the power cord disconnected.

Checklist:

1. Check exterior covers for damage (loose, broken, or sharp edges).
2. Turn off the computer. Disconnect the power cord.
3. Check the power cord for:
  - a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
  - b. The power cord should be the type specified in the parts list.
  - c. Insulation must not be frayed or worn.
4. Check for cracked or bulging batteries.
5. Remove the cover.
6. Check for any obvious non-Lenovo alterations. Use good judgment as to the safety of any non-Lenovo alterations.
7. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
8. Check for worn, frayed, or pinched cables.
9. Check that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

## Handling devices that are sensitive to electrostatic discharge

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

### Notes:

1. Use product-specific ESD procedures when they exceed the requirements noted here.
2. Make sure that the ESD protective devices you use have been certified (ISO 9000) as fully effective.

When handling ESD-sensitive parts:

- Keep the parts in protective packages until they are inserted into the product.
- Avoid contact with other people.
- Wear a grounded wrist strap against your skin to eliminate static on your body.
- Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

### Notes:

The use of a grounding system to guard against ESD damage is desirable but not necessary.

- Attach the ESD ground clip to any frame ground, ground braid, or green-wire ground.
- When working on a double-insulated or battery-operated system, use an ESD common ground or reference point. You can use coax or connector-outside shells on these systems.
- Use the round ground prong of the ac plug on ac-operated computers.

## Grounding requirements

Electrical grounding of the computer is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.

## Safety notices: multilingual translations

The safety notices in this section are provided in English, French, German, Hebrew, Italian, Japanese, and Spanish.

### Safety notice 1

Before the computer is powered on after FRU replacement, make sure all screws, springs, and other small parts are in place and are not left loose inside the computer. Verify this by shaking the computer and listening for rattling sounds. Metallic parts or metal flakes can cause electrical shorts.

Avant de remettre l'ordinateur sous tension après remplacement d'une unité en clientèle, vérifiez que tous les ressorts, vis et autres pièces sont bien en place et bien fixées. Pour ce faire, secouez l'unité et assurez-vous qu'aucun bruit suspect ne se produit. Des pièces métalliques ou des copeaux de métal pourraient causer un court-circuit.

Bevor nach einem FRU-Austausch der Computer wieder angeschlossen wird, muß sichergestellt werden, daß keine Schrauben, Federn oder andere Kleinteile fehlen oder im Gehäuse vergessen wurden. Der Computer muß geschüttelt und auf Klappergeräusche geprüft werden. Metallteile oder-splitter können Kurzschlüsse erzeugen.

לפני הפעלת המחשב לאחר החלפת FRU יש לוודא שכל הברגים, הקפיצים, וחלקים קטנים אחרים נמצאים במקומם ואינם חופשיים לזוז בתוך המחשב. כדי לוודא זאת, יש ללטלט את המחשב ולהקשיב לגילוי קולות שקשוק. חלקי או שבבי מתכת עלולים לגרום לקצרים חשמליים.

Prima di accendere l'elaboratore dopo che é stata effettuata la sostituzione di una FRU, accertarsi che tutte le viti, le molle e tutte le altre parti di piccole dimensioni siano nella corretta posizione e non siano sparse all'interno dell'elaboratore. Verificare ciò scuotendo l'elaboratore e prestando attenzione ad eventuali rumori; eventuali parti o pezzetti metallici possono provocare cortocircuiti pericolosi.

FRUの交換後、コンピュータの電源を入れる前に、ねじ、バネ、その他の小さな部品がすべて正しい位置にあり、またコンピュータの内部で緩んでいないことを確認してください。これを確認するには、コンピュータを振って、カチャカチャと音がしないか確かめませう。金属部品や金属破片はショートの原因になることがあります。

Antes de encender el sistema despues de sustituir una FRU, compruebe que todos los tornillos, muelles y demás piezas pequeñas se encuentran en su sitio y no se encuentran sueltas dentro del sistema. Compruébelo agitando el sistema y escuchando los posibles ruidos que provocarían. Las piezas metálicas pueden causar cortocircuitos eléctricos.

## Safety notice 2

### DANGER

Some standby batteries contain a small amount of nickel and cadmium. Do not disassemble a standby battery, recharge it, throw it into fire or water, or short-circuit it. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery.

Certaines batteries de secours contiennent du nickel et du cadmium. Ne les démontez pas, ne les rechargez pas, ne les exposez ni au feu ni à l'eau. Ne les mettez pas en court-circuit. Pour les mettre au rebut, conformez-vous à la réglementation en vigueur. Lorsque vous remplacez la pile de sauvegarde ou celle de l'horloge temps réel, veillez à n'utiliser que les modèles cités dans la liste de pièces détachées adéquate. Une batterie ou une pile inappropriée risque de prendre feu ou d'exploser.

Die Bereitschaftsbatterie, die sich unter dem Diskettenlaufwerk befindet, kann geringe Mengen Nickel und Cadmium enthalten. Sie darf nicht zerlegt, wiederaufgeladen, kurzgeschlossen, oder Feuer oder Wasser ausgesetzt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Bereitschafts- oder Systematterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

סוללות המתנה מסוימות מכילות כמות קטנה של ניקל וקדמיום. אין למרק סוללת המתנה, לטעון אותה מחדש, להשליך אותה לאש או למים או לקצר אותה. יש לטפל את הסוללה כדורש על ידי התקנות והחוקים המקומיים. יש להשתמש רק בסוללה המופיעה ברשימת החלקים המתאימה. שימוש בסוללה לא מתאימה עלול לגרום להצתה או התפוצצות של הסוללה.

Alcune batterie di riserva contengono una piccola quantità di nichel e cadmio. Non smontarle, ricaricarle, gettarle nel fuoco o nell'acqua né cortocircuitarle. Smaltirle secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). Quando si sostituisce la batteria dell'RTC (real time clock) o la batteria di supporto, utilizzare soltanto i tipi inseriti nell'appropriato Catalogo parti. L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

予備バッテリーの中には少量のニッケルとカドミウムが含まれているものがあります。したがって、予備バッテリーの分解、再充電、火または水の中への投棄、またはショートさせることは決して行わないでください。バッテリーを廃棄する場合は地方自治体の条例に従ってください。適切なパーツ・リストにあるバッテリーだけを使用してください。誤ったバッテリーを使用すると、バッテリーが発火したり、爆発したりすることがあります。

Algunas baterías de reserva contienen una pequeña cantidad de níquel y cadmio. No las desmonte, ni recargue, ni las eche al fuego o al agua ni las cortocircuite. Deséchelas tal como dispone la normativa local. Utilice sólo baterías que se encuentren en la lista de piezas. La utilización de una batería no apropiada puede provocar la ignición o explosión de la misma.

**Safety notice 3**

**⚠ DANGER**

The battery pack contains small amounts of nickel. Do not disassemble it, throw it into fire or water, or short-circuit it. Dispose of the battery pack as required by local ordinances or regulations. Use only the battery in the appropriate parts listing when replacing the battery pack. Use of an incorrect battery can result in ignition or explosion of the battery.

La batterie contient du nickel. Ne la démontez pas, ne l'exposez ni au feu ni à l'eau. Ne la mettez pas en court-circuit. Pour la mettre au rebut, conformez-vous à la réglementation en vigueur. Lorsque vous remplacez la batterie, veillez à n'utiliser que les modèles cités dans la liste de pièces détachées adéquate. En effet, une batterie inappropriée risque de prendre feu ou d'exploser.

Akkus enthalten geringe Mengen von Nickel. Sie dürfen nicht zerlegt, wiederaufgeladen, kurzgeschlossen, oder Feuer oder Wasser ausgesetzt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Batterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

מארו הסוללה מכיל כמות קטנה של ניקל וקדמיום. אין לפרק את מארו הסוללה, להשליך אותו לאש או למים או לקצר אותו. יש לשלק את מארו הסוללה הסוללה כנדרש על ידי התקנות והחוקים המקומיים. יש להשתמש רק בסוללה המופיעה ברשימת החלקים המתאימה בזמן החלפת מארו הסוללה. שימוש בסוללה לא מתאימה עלול לגרום לנזקה או התפוצצות של הסוללה.

La batteria contiene piccole quantità di nichel. Non smontarla, gettarla nel fuoco o nell'acqua né cortocircuitarla. Smaltirla secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). Quando si sostituisce la batteria, utilizzare soltanto i tipi inseriti nell'appropriato Catalogo parti. L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

バッテリー・パックには少量のニッケルが含まれています。バッテリー・パックを分解したり、火または水の中に投げ込んだり、ショートさせないでください。バッテリー・パックの廃棄にあたっては、地方自治体の条例または規則に従ってください。バッテリー・パックを交換するときは、適切なパーツ・リストにあるバッテリーだけを使用してください。誤ったバッテリーを使用すると、バッテリーが発火したり、爆発したりすることがあります。

Las baterías contienen pequeñas cantidades de níquel. No las desmonte, ni recargue, ni las eche al fuego o al agua ni las cortocircuite. Deséchelas tal como dispone la normativa local. Utilice sólo baterías que se encuentren en la lista de piezas al sustituir la batería. La utilización de una batería no apropiada puede provocar la ignición o explosión de la misma.

#### Safety notice 4

##### **⚠ DANGER**

The lithium battery can cause a fire, an explosion, or a severe burn. Do not recharge it, remove its polarized connector, disassemble it, heat it above 100°C (212°F), incinerate it, or expose its cell contents to water. Dispose of the battery as required by local ordinances or regulations. Use only the battery in the appropriate parts listing. Use of an incorrect battery can result in ignition or explosion of the battery.

La pile de sauvegarde contient du lithium. Elle présente des risques d'incendie, d'explosion ou de brûlures graves. Ne la rechargez pas, ne retirez pas son connecteur polarisé et ne la démontez pas. Ne l'exposez pas à une température supérieure à 100°C, ne la faites pas brûler et n'en exposez pas le contenu à l'eau. Mettez la pile au rebut conformément à la réglementation en vigueur. Une pile inappropriée risque de prendre feu ou d'exploser.

Die Systematterie ist eine Lithiumatterie. Sie kann sich entzünden, explodieren oder schwere Verbrennungen hervorrufen. Batterien dieses Typs dürfen nicht aufgeladen, zerlegt, über 100 C erhitzt oder verbrannt werden. Auch darf ihr Inhalt nicht mit Wasser in Verbindung gebracht oder der zur richtigen Polung angebrachte Verbindungsstecker entfernt werden. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Beim Ersetzen der Batterie nur Batterien des Typs verwenden, der in der Ersatzteilliste aufgeführt ist. Der Einsatz falscher Batterien kann zu Entzündung oder Explosion führen.

סוללת הליתיום עלולה לגרום לשריפה, להתפוצצות או לכוויות קשות. אין לטעון אותה מחדש, לטלוק את המחבר המקוטב שלה, לפרק אותה או לחמם אותה לטמפרטורה העולה על 100 מעלות צלזיוס. אין לשרוף את הסוללה ואין לחשוף את תוכן התא למים. יש לטלוק את הסוללה כנדרש בתקנות ובחוקים המקומיים. יש להשתמש רק בסוללה המופיעה ברשימת החלקים המתאימים. שימוש בסוללה אחרת עלול לגרום לסכנת שריפה או התפוצצות.

La batteria di supporto e una batteria al litio e puo incendiarsi, esplodere o procurare gravi ustioni. Evitare di ricaricarla, smontarne il connettore polarizzato, smontarla, riscaldarla ad una temperatura superiore ai 100 gradi centigradi, incendarla o gettarla in acqua. Smaltirla secondo la normativa in vigore (DPR 915/82, successive disposizioni e disposizioni locali). L'impiego di una batteria non adatta potrebbe determinare l'incendio o l'esplosione della batteria stessa.

リチウム・バッテリーは、火災、爆発、または重症のやけどを引き起こすことがあります。バックアップ・バッテリーの充電、その極性コネクタの取り外し、バッテリー本体の分解、100°C (212°F) 以上への加熱、焼却、電池の中身を水に浸すことはしないでください。バッテリーを廃棄する場合は地方自治体の条例に従ってください。適切なパーツ・リストにあるバッテリーだけを使用してください。誤ったバッテリーを使用すると、バッテリーが発火したり、爆発したりすることがあります。

La batería de respaldo es una batería de litio y puede provocar incendios, explosiones o quemaduras graves. No la recargue, ni quite el conector polarizado, ni la desmonte, ni caliente por encima de los 100°C (212°F), ni la incinere ni exponga el contenido de sus celdas al agua. Deséchela tal como dispone la normativa local.

**Safety notice 5**

If the LCD breaks and the fluid from inside the LCD gets into your eyes or on your hands, immediately wash the affected areas with water at least for 15 minutes. Seek medical care if any symptoms caused by the fluid are present after washing.

Si le panneau d'affichage à cristaux liquides se brise et que vous recevez dans les yeux ou sur les mains une partie du fluide, rincez-les abondamment pendant au moins quinze minutes. Consultez un médecin si des symptômes persistent après le lavage.

Die Leuchtstoffröhre im LCD-Bildschirm enthält Quecksilber. Bei der Entsorgung die örtlichen Bestimmungen für Sondermüll beachten. Der LCD-Bildschirm besteht aus Glas und kann zerbrechen, wenn er unsachgemäß behandelt wird oder der Computer auf den Boden fällt. Wenn der Bildschirm beschädigt ist und die darin befindliche Flüssigkeit in Kontakt mit Haut und Augen gerät, sollten die betroffenen Stellen mindestens 15 Minuten mit Wasser abgespült und bei Beschwerden anschließend ein Arzt aufgesucht werden.

אם מסך הניבש הנוזלי (LCD) נשבר והנוזל מתוך המסך בא במגע עם עיניים או ידיים, שטפו את האזורים הנוגעים מיד במים במשך 15 דקות לפחות. מנו לקבלת עזרה רפואית אם תסמינים הנובעים מהמגע עם הנוזל נמשכים לאחר השטיפה.

Nel caso che caso l'LCD si dovesse rompere ed il liquido in esso contenuto entrasse in contatto con gli occhi o le mani, lavare immediatamente le parti interessate con acqua corrente per almeno 15 minuti; poi consultare un medico se i sintomi dovessero permanere.

LCD が破損し、LCD 中の液体が目に入ったり、手に触れたりした場合は、液体が触れた部分を少なくとも 15 分間洗い流してください。洗い流した後に、液体によって何らかの症状が現れた場合は、医師の治療を受けてください。

Si la LCD se rompe y el fluido de su interior entra en contacto con sus ojos o sus manos, lave inmediatamente las áreas afectadas con agua durante 15 minutos como mínimo. Obtenga atención médica si se presenta algún

**Safety notice 6**

**⚠ DANGER**

To avoid shock, do not remove the plastic cover that protects the lower part of the inverter card.

Afin d'éviter tout risque de choc électrique, ne retirez pas le cache en plastique protégeant la partie inférieure de la carte d'alimentation.

Aus Sicherheitsgründen die Kunststoffabdeckung, die den unteren Teil der Spannungswandlerplatine umgibt, nicht entfernen.

כדי למנוע התחשמלות, אין להסיר את מכסה הפלסטיק המגן על חלקו התחתון של הכרטיס ההפוך.

Per evitare scosse elettriche, non rimuovere la copertura in plastica che avvolge la parte inferiore della scheda invertitore.

感電を防ぐため、インバーター・カードの下部を保護しているプラスチック・カバーを外さないでください。

Para evitar descargas, no quite la cubierta de plástico que rodea la parte baja de la tarjeta invertida.

**Safety notice 7**

**⚠ DANGER**

Though the main batteries have low voltage, a shorted or grounded battery can produce enough current to burn personnel or combustible materials.

Bien que le voltage des batteries principales soit peu élevé, le court-circuit ou la mise à la masse d'une batterie peut produire suffisamment de courant pour brûler des matériaux combustibles ou causer des brûlures corporelles graves.

Obwohl Hauptbatterien eine niedrige Spannung haben, können sie doch bei Kurzschluß oder Erdung genug Strom abgeben, um brennbare Materialien zu entzünden oder Verletzungen bei Personen hervorzurufen.

אף שהסוללות הראשיות הן בעלות מתח נמוך, סוללה מקוצרת או מוארקת עלולה להפיק זרם מספיק לגרימת כוויות או להצתת חומרים דליקים.

Sebbene le batterie di alimentazione siano a basso voltaggio, una batteria in corto circuito o a massa può fornire corrente sufficiente da bruciare materiali combustibili o provocare ustioni ai tecnici di manutenzione.

メイン・バッテリーの電圧は低くても、ショートしたり、接地したバッテリーが、作業者にやけどを負わせたり、可燃物を燃やすだけの電流を発生させる場合があります。

Aunque las baterías principales tienen un voltaje bajo, una batería cortocircuitada o con contacto a tierra puede producir la corriente suficiente como para quemar material combustible o provocar quemaduras en el personal.



**Safety notice 8**

**⚠ DANGER**

Before removing any FRU, turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any interconnecting cables.

Avant de retirer une unité remplaçable en clientèle, mettez le système hors tension, débranchez tous les cordons d'alimentation des socles de prise de courant, retirez la batterie et déconnectez tous les cordons d'interface.

Die Stromzufuhr muß abgeschaltet, alle Stromkabel aus der Steckdose gezogen, der Akku entfernt und alle Verbindungskabel abgenommen sein, bevor eine FRU entfernt wird.

לפני סילוק FRU כלשהו, יש לכבות את המחשב,  
לנתק את כל כבלי החשמל משקעי החשמל, להוציא  
את מארז הסוללה, ואז לנתק כבלי חיבור אחרים  
אם יש כאלה.

Prima di rimuovere qualsiasi FRU, spegnere il sistema, scollegare dalle prese elettriche tutti i cavi di alimentazione, rimuovere la batteria e poi scollegare i cavi di interconnessione.

FRUを取り外す前に、ThinkPadの電源を切って、すべての電源コードをコンセントから外してください。次に、バッテリー・パックを外し、相互接続ケーブルを外してください。

Antes de quitar una FRU, apague el sistema, desenchufe todos los cables de las tomas de corriente eléctrica, quite la batería y, a continuación, desconecte cualquier cable de conexión entre dispositivos.

## **Laser compliance statement**

Some models of Lenovo computer are equipped from the factory with an optical storage device such as a CD-ROM drive or a DVD-ROM drive. Such devices are also sold separately as options. If one of these drives is installed, it is certified in the U.S. to conform to the requirements of the Department of Health and Human Services 21 Code of Federal Regulations (DHHS 21 CFR) Subchapter J for Class 1 laser products. Elsewhere, the drive is certified to conform to the requirements of the International Electrotechnical Commission (IEC) 825 and CENELEC EN 60 825 for Class 1 laser products.

If a CD-ROM drive, a DVD-ROM drive, or another laser device is installed, note the following:

### **CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.

O uso de controles, ajustes ou desempenho de procedimentos diferentes daqueles aqui especificados pode resultar em perigosa exposição à radiação.

凡未在这里指明的任何控制用法、调整、行为，都会导致严重后果。

Pour éviter tout risque d'exposition au rayon laser, respectez les consignes de réglage et d'utilisation des commandes, ainsi que les procédures décrites.

Werden Steuer- und Einstellelemente anders als hier festgesetzt verwendet, kann gefährliche Laserstrahlung auftreten.

Az itt előírt eljárásokról, beállításokról és vezérlésekről eltérni a lézersugárzás veszélye miatt kockázatos!

L'utilizzo di controlli, regolazioni o l'esecuzione di procedure diverse da quelle specificate possono provocare l'esposizione a.

Использование элементов настройки и выполнение процедур иных, чем указано здесь, может привести к опасному радиационному облучению.

Použitie kontrol, úprav alebo iných vykonaní od iných výrobcov, ako je v tomto špecifikované, mohlo by mať za následok nebezpečenstvo vystavenia sa vyžiarovaniu.

本書で指定された内容以外のお客様による整備、調整、または手順を行った場合、レーザー光の放射の危険があります。

El uso de controles o ajustes o la ejecución de procedimientos distintos de los aquí especificados puede provocar la exposición a radiaciones peligrosas.

Opening the CD-ROM drive, the DVD-ROM drive, or any other optical storage device could result in exposure to hazardous laser radiation. There are no serviceable parts inside those drives. **Do not open.**

A CD-ROM drive, a DVD-ROM drive, or any other storage device installed may contain an embedded Class 3A or Class 3B laser diode. Note the following:

 **DANGER**

Emits visible and invisible laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

Radiação por raio laser ao abrir. Não olhe fixo no feixe de luz, não olhe diretamente por meio de instrumentos óticos e evite exposição direta com o feixe de luz.

开启时会有激光发射时，请勿直视激光光束，请勿直接查看视觉仪器，并且避免直接接触在激光光束之中。

Rayonnement laser si carter ouvert. Évitez de fixer le faisceau, de le regarder directement avec des instruments optiques, ou de vous exposer au rayon.

Laserstrahlung bei geöffnetem Gerät. Nicht direkt oder über optische Instrumente in den Laserstrahl sehen und den Strahlungsbereich meiden.

Kinyitáskor lézersugár! Ne nézzen bele se szabad szemmel, se optikai eszközökkel. Kerülje a sugárnyalábbal való érintkezést!

Aprenndo l'unità vengono emesse radiazioni laser. Non fissare il fascio, non guardarlo direttamente con strumenti ottici e evitare l'esposizione diretta al fascio.

Открывая, берегитесь лазерного излучения. Не смотрите на луч, не разглядывайте его с помощью оптических инструментов, а также избегайте прямого воздействия лазерного луча.

Keď je laserová jednotka otvorená. Vyhňte sa priamemu pohľadu a nehládte priamo s optickými nástrojmi do lúča a vyhňte sa priamemu vystaveniu lúčov.

開けるとレーザー光が放射されます。光線を見つめたり、光学機械を使って直接見たりしないでください。

Radiación láser al abrir. No mire fijamente ni examine con instrumental óptico el haz de luz. Evite la exposición directa al haz.

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## **Important service information**

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This chapter presents the following important service information:

- “Strategy for replacing FRUs” on page 16
  - “Strategy for replacing a hard disk drive” on page 17
  - “Important notice for replacing a system board” on page 17
- “Important information about replacing RoHS compliant FRUs” on page 18

**Important:**

BIOS and device driver fixes are customer-installable. The BIOS and device drivers are posted on the customer support site:  
<http://consumersupport.lenovo.com/>.

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## **Strategy for replacing FRUs**

**Before replacing parts:**

Make sure that all software fixes, drivers, and BIOS downloads are installed before replacing any FRUs listed in this manual.

After a system board is replaced, ensure that the latest BIOS is loaded to the system board before completing the service action.

To download software fixes, drivers, and BIOS, follow the steps below:

1. Go to <http://consumersupport.lenovo.com/>.
2. Enter the serial number or select a product or use Lenovo smart downloading.
3. Select the BIOS/Driver/Applications and download.
4. Follow the directions on the screen and install the necessary software.

Use the following strategy to prevent unnecessary expense for replacing and servicing FRUs:

- If you are instructed to replace an FRU, but the replacement does not solve the problem, reinstall the original FRU before you continue.
- Some computers have both a processor board and a system board. If you are instructed to replace either of them, and replacing one of them does not solve the problem, reinstall that board, and then replace the other one.
- If an adapter or a device consists of more than one FRU, any of the FRUs may be the cause of the error. Before replacing the adapter or device, remove the FRUs one by one to see if the symptoms change. Replace only the FRU that changed the symptoms.

**Attention:** The setup configuration on the computer you are servicing may have been customized. Running Automatic Configuration may alter the settings. Note the current configuration settings (using the View Configuration option); then, when service has been completed, verify that those settings remain in effect.

### Strategy for replacing a hard disk drive

Always try to run a low-level format before replacing a hard disk drive. This will cause all customer data on the hard disk to be lost. Make sure that the customer has a current backup of the data before performing this action.

**Attention:** The drive startup sequence in the computer you are servicing may have been changed. Be extremely careful during write operations such as copying, saving, or formatting. If you select an incorrect drive, data or programs can be overwritten.

### Important notice for replacing a system board

Some components mounted on a system board are very sensitive. Improper handling can cause damage to those components, and may cause a system malfunction.

**Attention:** When handling a system board:

- Do not drop the system board or apply any excessive force to it.
- Avoid rough handling of any kind.
- Avoid bending the system board and hard pushing to prevent cracking at each BGA (Ball Grid Array) chipset.

## Important information about replacing RoHS compliant FRUs

**RoHS, The Restriction of Hazardous Substances in Electrical and Electronic Equipment Directive (2002/95/EC) is a European Union legal requirement affecting the global electronics industry. RoHS requirements must be implemented on Lenovo products placed on the market after June 2006. Products on the market before June 2006 are not required to have RoHS compliant parts. If the original FRU parts are non-compliant, replacement parts can also be non-compliant. In all cases if the original FRU parts are RoHS compliant, the replacement part must also be RoHS compliant.**

**Note:** RoHS and non-RoHS FRU part numbers with the same fit and function are identified with unique FRU part numbers.

Lenovo plans to transit to RoHS compliance well before the implementation date and expects its suppliers to be ready to support Lenovo's requirements and schedule in the EU. Products sold in 2005 and 2006 will contain some RoHS compliant FRUs. The following statement pertains to these products and any product Lenovo produces containing RoHS compliant FRUs.

RoHS compliant FRUs have unique FRU part numbers. Before or after the RoHS implementation date, failed RoHS compliant parts must always be replaced with RoHS compliant ones, so only the FRUs identified as compliant in the system HMM or direct substitutions for those FRUs may be used.

Products marketed before June 2006		Products marketed after June 2006	
Current or original part	Replacement FRU	Current or original part	Replacement FRU
Non-RoHS	Can be Non-RoHS	Must be RoHS	Must be RoHS
Non-RoHS	Can be RoHS		
Non-RoHS	Can sub to RoHS		
RoHS	Must be RoHS		

**Note:** A direct substitution is a part with a different FRU part number that is automatically shipped by the distribution center at the time of the order.

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## General checkout

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This chapter presents the following information:

- “What to do first” on page 20
- “Power system checkout” on page 21

Before you go to the checkout, make sure to read the following important notes:

**Important notes:**

- **Only certified trained personnel can service the computer.**
- **Before replacing any FRU, read the entire page on removing and replacing FRUs.**
- **When you replace FRUs, use new nylon-coated screws.**
- **Be extremely careful during such write operations as copying, saving, or formatting.** Drives in the computer that you are servicing sequence might have been altered. If you select an incorrect drive, data or programs might be overwritten.
- **Replace an FRU only with another FRU of the correct model.** When you replace an FRU, make sure that the machine model and the FRU part number are correct by referring to the FRU parts list.
- **An FRU should not be replaced just because of a single, unreproducible failure.** Single failures can occur for a variety of reasons that have nothing to do with a hardware defect, such as cosmic radiation, electrostatic discharge, or software errors. Consider replacing an FRU only when a problem recurs. If you suspect that an FRU is defective, clear the error logs and run the test again. If the error does not recur, do not replace the FRU.
- **Be careful not to replace a nondefective FRU.**

## What to do first

When you do return an FRU, you must include the following information in the parts exchange form or parts return form that you attach to it:

1. Name and phone number of servicer
2. Date of service
3. Date on which the machine failed
4. Date of purchase
5. Procedure index and page number in which the failing FRU was detected
6. Failing FRU name and part number
7. Machine type, model number, and serial number
8. Customer's name and address

**Note for warranty:** During the warranty period, the customer may be responsible for repair costs if the computer damage was caused by misuse, accident, modification, unsuitable physical or operating environment, or improper maintenance by the customer.

The following is a list of some common items that are not covered under warranty and some symptoms that might indicate that the system was subjected to stress beyond normal use.

Before checking problems with the computer, determine whether the damage is covered under the warranty by referring to the following list:

**The following are not covered under warranty:**

- LCD panel cracked from the application of excessive force or from being dropped
- Scratched (cosmetic) parts
- Distortion, deformation, or discoloration of the cosmetic parts
- Plastic parts, latches, pins, or connectors that have been cracked or broken by excessive force
- Damage caused by liquid spilled into the system
- Damage caused by the improper insertion of a PC Card or the installation of an incompatible card
- Improper disk insertion or use of an optical drive
- Diskette drive damage caused by pressure on the diskette drive cover, foreign material in the drive, or the insertion of a diskette with multiple labels
- Damaged or bent diskette eject button
- Fuses blown by attachment of a nonsupported device
- Forgotten computer password (making the computer unusable)
- Sticky keys caused by spilling a liquid onto the keyboard
- Use of an incorrect AC adapter on laptop products

**The following symptoms might indicate damage caused by nonwarranted activities:**

- Missing parts might be a symptom of unauthorized service or modification.
- If the spindle of a hard disk drive becomes noisy, it may have been subjected to excessive force, or dropped.



## Power system checkout

To verify a symptom, follow the steps below:

1. Turn off the computer.
2. Remove the battery pack.
3. Connect the AC adapter.
4. Make sure that power is supplied when you turn on the computer.
5. Turn off the computer.
6. Disconnect the AC adapter and install the charged battery pack.
7. Make sure that the battery pack supplies power when you turn on the computer.

If you suspect a power problem, see the appropriate one of the following power supply checkouts:

- “Checking the AC adapter” on page 21
- “Checking operational charging” on page 21
- “Checking the battery pack” on page 22

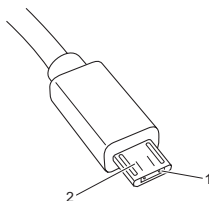
### Checking the AC adapter

You are here because the computer fails only when the AC adapter is used.

- If the power-on indicator does not turn on, check the power cord of the AC adapter for correct continuity and installation.
- If the computer does not charge during operation, go to “Checking operational charging”.

To check the AC adapter, follow the steps below:

1. Unplug the AC adapter cable from the computer.
2. Measure the output voltage at the plug of the AC adapter cable. See the following figure:



Pin	Voltage (V DC)
1	5
2	0

**Note:** Output voltage for the AC adapter pin No. 2 may differ from the one you are servicing.

3. If the voltage is not correct, replace the AC adapter.
4. If the voltage is acceptable, do the following:
  - Replace the system board.
  - If the problem persists, go to “Lenovo IdeaPad A10” on page 24.

**Note:** Noise from the AC adapter does not always indicate a defect.

### Checking operational charging

To check whether the battery charges properly during operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer.

Perform operational charging. If the battery status indicator or icon does not light on, remove the battery pack and let it return to room temperature. Reinstall the battery pack. If the charge indicator or icon is still off, replace the battery pack.

If the charge indicator still does not light on, replace the system board. Then reinstall the battery pack. If it is still not charged, go to the next section.

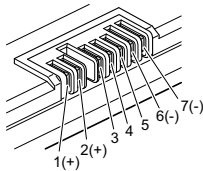
## Checking the battery pack

Battery charging does not start until the Power Meter shows that less than 95% of the total power remains; under this condition the battery pack can charge to 100% of its capacity. This protects the battery pack from being overcharged or from having a shortened life.

**Note:** If the battery pack becomes hot, it may not be able to be charged. Remove it from the computer and leave it at room temperature for a while. After it cools down, reinstall and recharge it.

To check the battery pack, follow the steps below:

1. Turn off the computer.
2. Remove the battery pack and measure the voltage between battery terminals 1 (+) and 7 (-). See the following figure:



Terminal	Voltage (V DC)
1	+0 to +14
7	Ground (-)

3. If the voltage is less than +11.0 V DC, the battery pack has been discharged.  
**Note:** Recharging will be continued for at least 3 hours, even though the indicator does not light on.  
If the voltage is still less than +11.0 V DC after recharging, replace the battery.
4. If the voltage is more than +11.0 V DC, measure the resistance between battery terminals 5 and 7. The resistance must be 4 to 30 K $\Omega$ .  
If the resistance is not correct, replace the battery pack. If the resistance is correct, replace the system board.

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## **Related service information**

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This chapter presents the following information:

- “Power management” on page 23

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## **Power management**

### **Shutting down the computer**

To shut down the computer, do one of the following:

- In the status drop-down list, select **Shut Down** → **OK**.
- Press and hold the Power button for five seconds or more and select **Shut Down**.

**Note:** If the system does not respond or you cannot shut it down, use the reset hole to reset your computer.

## Lenovo IdeaPad A10

This chapter presents the following product-specific service references and product-specific parts information:

- “Specifications” on page 24
- “Status indicators” on page 25
- “FRU tests” on page 31
- “FRU replacement notices” on page 28
- “Removing and replacing an FRU” on page 29
- “Locations” on page 46
- “Parts list” on page 49

### Specifications

The following table lists the specifications of the Lenovo IdeaPad A10:

*Table 1. Specifications*

Feature	Description
Processor	Rockchip RK3188 Cotex-A9 Quad Core 1.6GHz
Bus architecture	1066MHz DDR3 SDRAM (PC2-8500)
Graphic Chipset	Integrated Graphics
Display	10.1" HD
Standard memory	DDR3L (Max Memory 1GB or 2GB)
SSD	eMMC 16GB, 32GB
I/O ports	Combo headphone jack Combo build in Microphone jack USB 2.0 × 2, Micro USB × 1 TF card (Micro-SD)
Audio	Combo audio jack × 1 Speaker × 2 Built-in microphone
Video	HDMI port × 1
Bluetooth	only support BT&WIFI combo module
Keyboard	New Key Board
Touch pad	One piece touchpad
Integrated camera	0.3 mega pixels
Battery	2 cells/22.6Wh Polymer
AC adapter	5V Universal AC Adapter, 100-240V/50-60Hz, 10W with 5V DC output
Pre-installed operating system	Android

## Status indicators

The system status indicators below show the computer status:

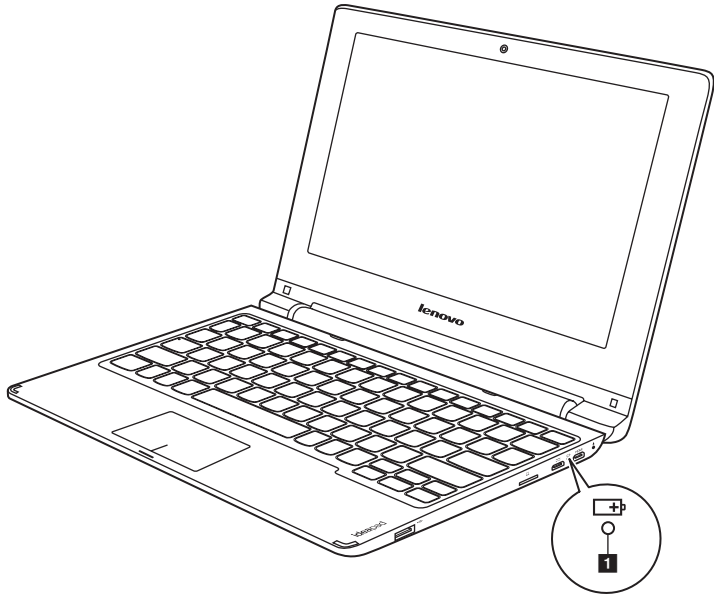



Table 2. Status indicators



















Indicator	Indicator status	Charge status	Meaning
Battery status indicator 	On (orange)	Charging	The battery's charge is less than 10%.
		Low battery	The battery needs to be charged.
	On (blue)	Charging	The battery's charge is more than 10%.
	Blinking every 2s (orange)	/	New unread messages to be handled.
	Blinking every 2s (blue)	/	New unread messages to be handled.
	Off	Unplugging of charging cable	The computer is off or the battery electricity is more than 10%.

## Hotkeys

The hotkeys are located in the function key row of the keyboard. By pressing the appropriate hotkey, you can change system settings instantly.

The following describes the function of each hotkey.

Table 3. Hotkeys

Hotkeys	Description
 :	Goes back to the previous screen.
 :	Opens the home screen (similar to the Home icon).
 :	Opens the Apps screen (similar to the App launcher icon).
 :	Opens the settings screen.
 :	Mutes/unmutes the sound.
 :	Decreases the volume level.
 :	Increases the volume level.
 :	Decreases the display brightness.
 :	Increases the display brightness.
 :	Enables/disables Airplane mode.
 :	Locks the screen.
 :	Enables/disables the touch pad.
 :	Forces to be the landscape mode.
 :	Opens the browser screen.
 :	Takes a snapshot of the current screen.
 :	Opens the search screen.
 :	Toggles the screen between different apps.
 :	Opens a shortcut menu.

## FRU replacement notices

This section presents notices related to removing and replacing parts. Read this section carefully before replacing any FRU.

### Screw notices

Loose screws can cause a reliability problem. In the Lenovo computer, this problem is addressed with special nylon-coated screws that have the following characteristics:

- They maintain tight connections.
- They do not easily come loose, even with shock or vibration.
- They are harder to tighten.
- Each one should be used only once.

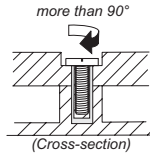
Do the following when you service this machine:

- Keep the screw kit in your tool bag.
- Always use new screws.
- Use a torque screwdriver if you have one.

Tighten screws as follows:

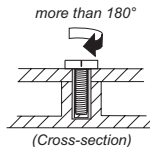
- **Plastic to plastic**

Turn an additional 90° after the screw head touches the surface of the plastic part:



- **Logic card to plastic**

Turn an additional 180° after the screw head touches the surface of the logic card:



- **Torque driver**

If you have a torque screwdriver, refer to the "Torque" column for each step.

- Make sure that you use the correct screws. If you have a torque screwdriver, tighten all screws firmly to the torque shown in the table. **Never use a screw that you removed. Use a new one. Make sure that all screws are tightened firmly.**
- Ensure torque screwdrivers are calibrated correctly following country specifications.



## Removing and replacing an FRU

This section presents exploded figures with the instructions to indicate how to remove and replace the FRU. Make sure to observe the following general rules:

1. Do not attempt to service any computer unless you have been trained and certified. An untrained person runs the risk of damaging parts.
2. Before replacing any FRU, review “FRU replacement notices” on page 28.
3. Begin by removing any FRUs that have to be removed before the failing FRU. Any of such FRUs are listed at the top of the page. Remove them in the order in which they are listed.
4. Follow the correct sequence in the steps to remove the FRU, as given in the figures by the numbers in square callouts.
5. When turning a screw to replace an FRU, turn it in the direction as given by the arrow in the figure.
6. When removing the FRU, move it in the direction as given by the arrow in the figure.
7. To put the new FRU in place, reverse the removal procedures and follow any of the notes that pertain to replacement. For information about connecting and arranging internal cables, see “Locations” on page 46.
8. When replacing an FRU, use the correct screw as shown in the procedures.

 **DANGER**

Before removing any FRU, turn off the computer, unplug all power cords from electrical outlets, remove the battery pack, and then disconnect any of the interconnecting cables.

**Attention:** After replacing an FRU, do not turn on the computer until you have made sure that all screws, springs, and other small parts are in place and none are loose inside the computer. Verify this by shaking the computer gently and listening for rattling sounds. Metallic parts or metal flakes can cause electrical short circuits.

**Attention:** The system board is sensitive to, and can be damaged by, electrostatic discharge. Before touching it, establish personal grounding by touching a ground point with one hand or using an electrostatic discharge (ESD) strap (P/N 6405959) to remove potential shock reasons.

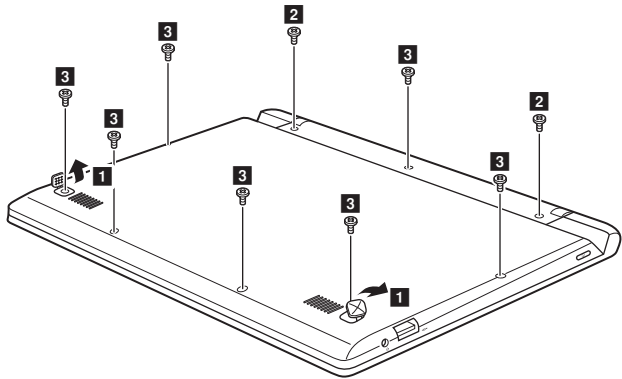
## 1010 Battery pack

**⚠ DANGER**

Only use the battery specified in the parts list for your computer. Any other battery could ignite or explode.  
The rubber foot pads near the battery must not be removed, otherwise the computer could ignite.

*Figure 1. Removal steps of battery pack*

Open two rubber foot pads with a screw driver in the direction shown by arrow **1**, then remove two screws **2**, seven screws **3**.



Step	Screw (quantity)	Color	Torque
<b>1</b>	M2 × 6 mm, flat-head, nylok-coated (2) M2 × 4 mm, flat-head, nylok-coated (7)	Black Black	1.5+/-0.15kgfcm 1.5+/-0.15kgfcm

Open the back cover along the device frame with a flat blade in the direction shown by arrows and then lift the back cover in the direction shown by arrow **4**.

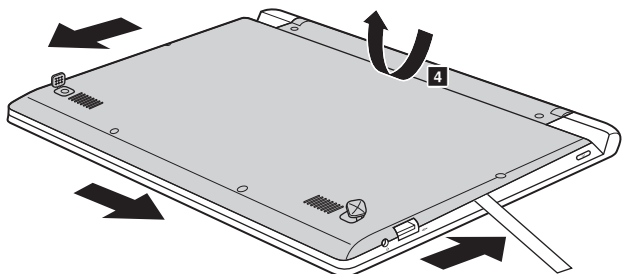
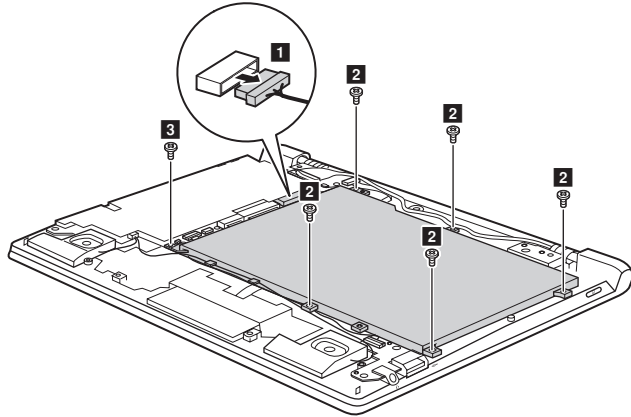


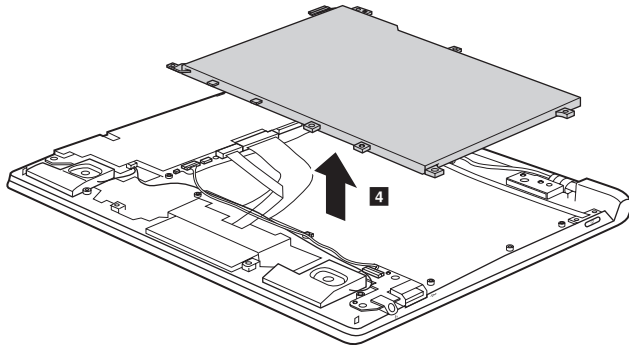
Figure 1. Removal steps of battery pack (continued)

Unplug the battery connector in the direction shown by arrow **1**, remove five screws **2** and screw **3**.



Step	Screw (quantity)	Color	Torque
<b>3</b>	M2 × 3.5 mm, flat-head, nylokcoated (6)	Black	1.35±0.15kgfcm

Remove the battery in the direction shown by arrow **4**.



## **1020 System board**

**Important notices for handling the system board:**

When handling the system board, bear the following in mind.

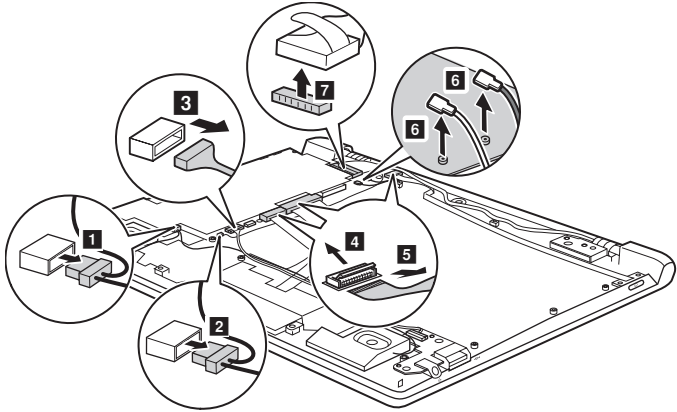
- Be careful not to drop the system board on a bench top that has a hard surface, such as metal, wood, or composite.
- Avoid rough handling of any kind.
- In the whole process, make sure not to drop or stack the system board.
- If you put a system board down, make sure to put it only on a padded surface such as an ESD mat or conductive corrugated material.

For access, remove these FRUs in order:

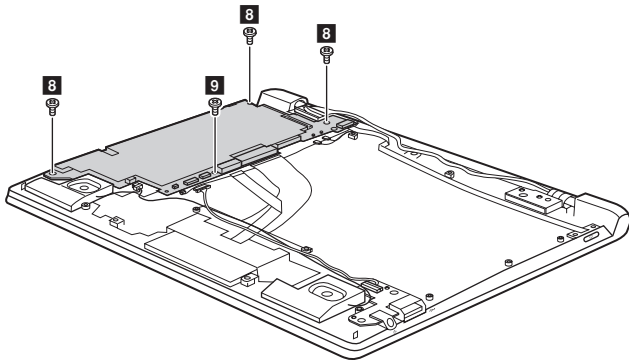
- “1010 Battery pack” on page 30

Figure 2. Removal steps of system board

Detach the power board connector in the direction shown by arrows **4 5**, keyboard connector in the direction shown by arrows **4 5**, touch pad connector in the direction shown by arrows **4 5**, unplug audio board connector in the direction shown by arrow **3**, microphone connector in the direction shown by arrow **2**, speakers connector in the direction shown by arrow **1**, detach LCD connector in the direction shown by arrow **7**, unplug antennas in the direction shown by arrows **6**.



Remove three screws **8**, screw **9**.

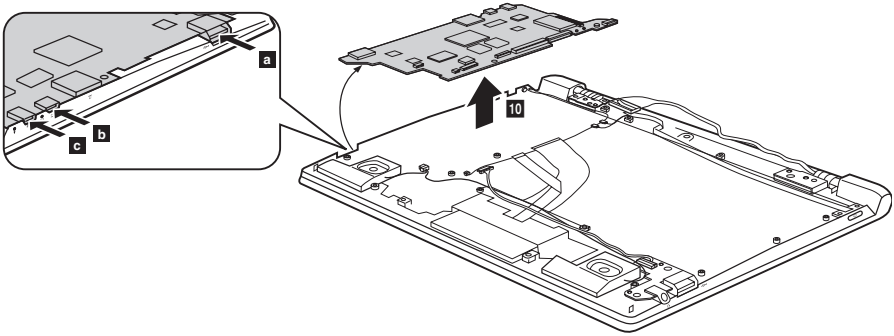


**When installing:** Make sure that all the connectors are attached firmly.

Step	Screw (quantity)	Color	Torque
<b>2</b>	M2 × 2 mm, flat-head, nylok-coated (1)	Black	1.35±0.15kgfcm
<b>2</b>	M2 × 3.5 mm, flat-head, nylok-coated (3)	Black	1.35±0.15kgfcm

*Figure 2. Removal steps of system board (continued)*

Remove the system board in the direction shown by arrow **10**.



**When installing:** When attaching the system board to the base cover, adjust the placement of the USB, Micro USB, Micro HDMI as shown in **a b c**, and make sure that they are attached to the holes on the base cover as shown. Improper placement of those jacks might cause a damage.

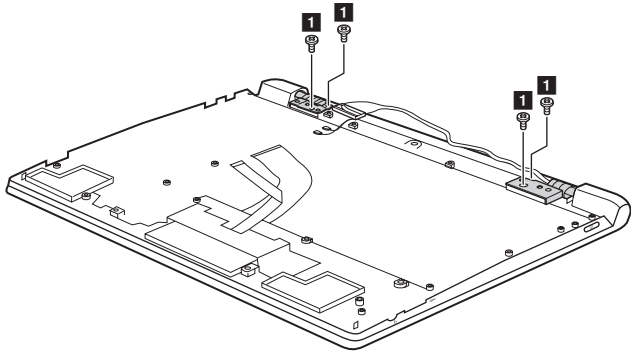
## 1030 LCD unit

For access, remove these FRUs in order:

- “1010 Battery pack” on page 30
- “1020 System board” on page 32

Figure 4. Removal steps of LCD unit

Remove four screws **1**.

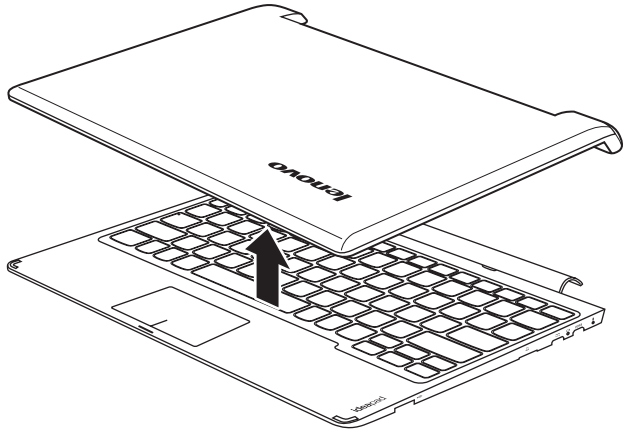


Step	Screw (quantity)	Color	Torque
<b>1</b>	M2.5 × 4 mm, flat-head, nylok-coated (4)	Black	1.85±0.15kgfcm

### When installing:

- Route the antenna cables along the cable guides. As you route the cables, make sure that they are not subjected to any tension. Tension could cause the cables to be damaged by the cable guides, or a wire to be broken.
- Make sure that the LCD connector is attached firmly and make sure that you do not pinch the antenna cables when you attach the LCD assembly. Route the LCD cable along the cable guides.

*Figure 3. Removal steps of LCD unit (continued)*  
Detach the LCD unit from the upper case.





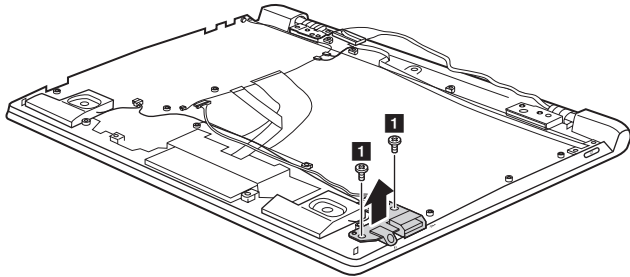
## 1040 Base cover, audio board, speakers and power board

For access, remove these FRUs in order:

- “1010 Battery pack” on page 30
- “1020 System board” on page 32
- “1030 LCD unit” on page 35

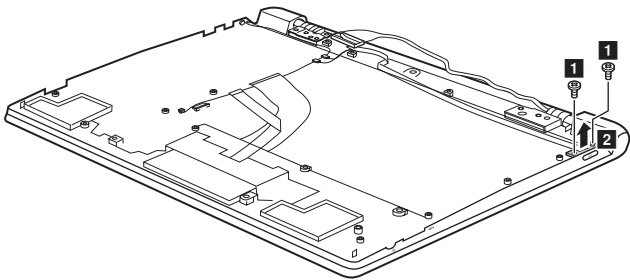
Figure 5. Removal steps of base cover, audio board, speakers and power board

Remove two screws **1**. Lift the power assembly in the direction shown by arrow.



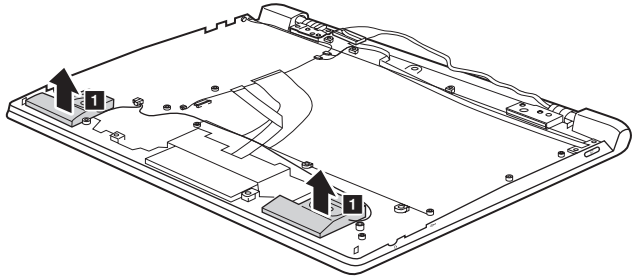
Step	Screw (quantity)	Color	Torque
<b>1</b>	M2 × 3.5 mm, flat-head, nylok-coated (2)	Black	1.35±0.15kgfcm

Remove screws **1**. Lift the power assembly in the direction shown by arrow **2**.

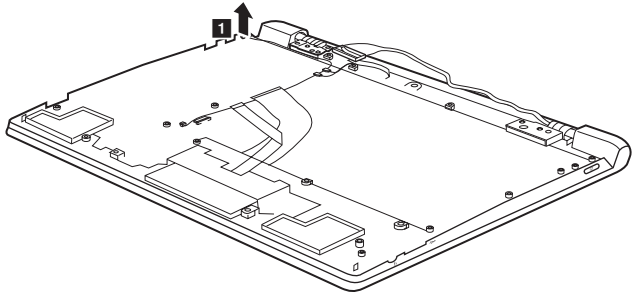


Step	Screw (quantity)	Color	Torque
<b>1</b>	M2 × 3 mm, flat-head, nylok-coated (2)	Black	1.35±0.15kgfcm

Figure 4. Removal steps of base cover, audio board, speakers and power board (continued)  
Remove the speakers in the direction shown by arrows **1**.



Remove the microphone in the direction shown by **1**.



**Note: Applying labels to the base cover**

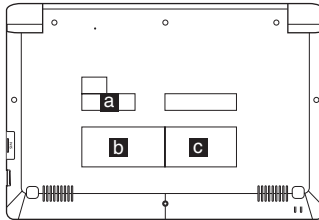
The new base cover FRU is shipped with a kit containing labels of several kinds. When you replace the base cover, you need to apply the following label:

The following labels need to be peeled off from the old base cover, and need to be put on the new base cover.

- a** Indonesia label
- b** Lenovo A10 rating label WW
- c** Lenovo A10 rating label CN

For some models, you also need to apply one or two FCC labels. Check the old base cover; if it has one or two FCC labels, find duplicates of them in the label kit and apply them to the new base cover.

For the location of each label, refer to the following figure:



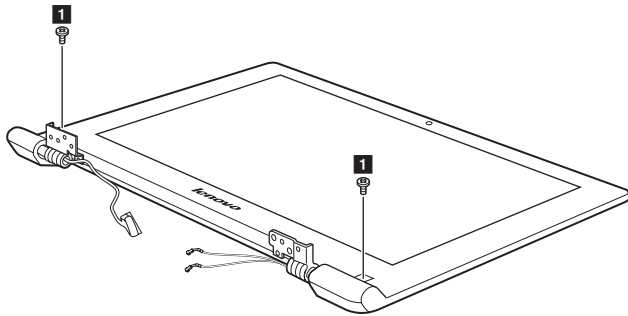
## 1050 LCD front bezel

For access, remove these FRUs in order:

- “1010 Battery pack” on page 30
- “1020 System board” on page 32
- “1030 LCD unit” on page 35
- “1040 Base cover, audio board, speakers and power board” on page 37

*Figure 5. Removal steps of LCD front bezel*

Remove screws **1**.



Step	Screw (quantity)	Color	Torque
<b>1</b>	M2 × 4 mm, flat-head, nylok-coated (2)	Black	1.5+/-0.15kgfcm

Unplug connector in the direction shown by arrow **2**.

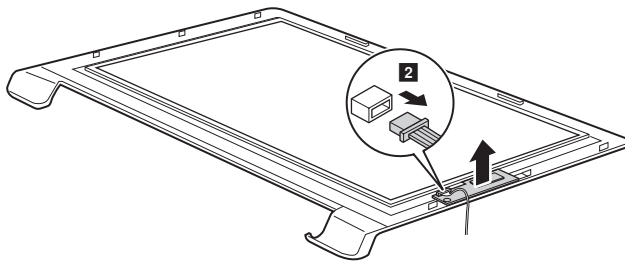
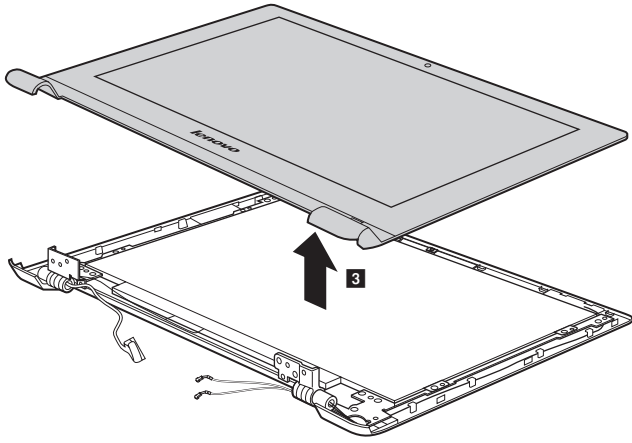


Figure 5. Removal steps of LCD front bezel (continued)

Remove the LCD front bezel in the direction shown by arrow **3**.



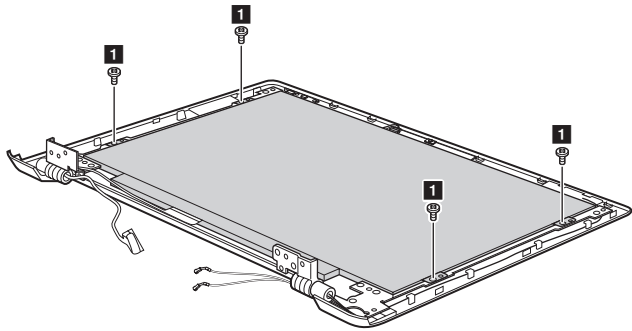
## 1060 LCD panel, LCD cable and hinges

For access, remove these FRUs in order:

- “1010 Battery pack” on page 30
- “1020 System board” on page 32
- “1030 LCD unit” on page 35
- “1040 Base cover, audio board, speakers and power board” on page 37
- “1050 LCD front bezel” on page 40

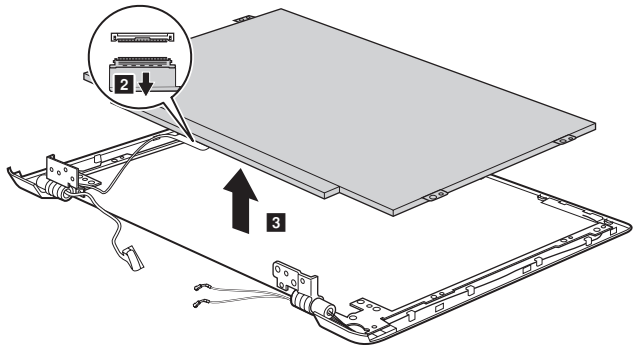
*Figure 6. Removal steps of LCD panel, LCD cable and hinges*

Remove four screws **1**.



Step	Screw (quantity)	Color	Torque
<b>1</b>	M2 × 3 mm, flat-head, nylok-coated (4)	Black	1.35±0.15kgfcm

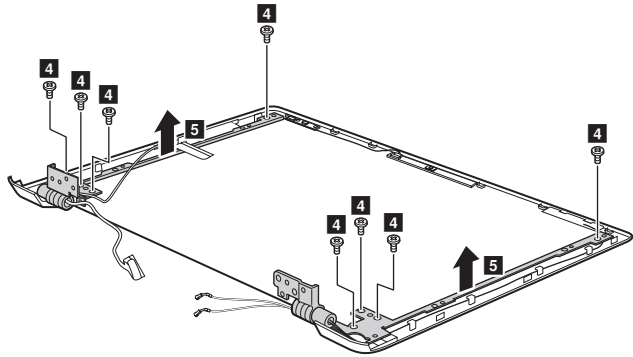
Disconnect the connector **2**, lift the LCD panel in the direction shown by arrow **3**.



**When installing:** Make sure that the connector is attached firmly.

Figure 6. Removal steps of LCD panel, LCD cable and hinges

Remove eight screws **4** and the hinges in the direction shown by arrows **5**.



Step	Screw (quantity)	Color	Torque
<b>3</b>	M2 × 3 mm, flat-head, nylokcoated (8)	Black	1.35±0.15kgfcm

Note: The LCD cables are attached to the LCD panel by a metal connector.

## 1070 Integrated camera

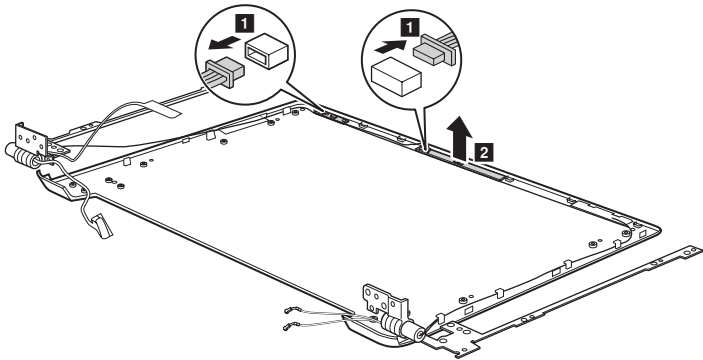
For access, remove these FRUs in order:

- “1010 Battery pack” on page 30
- “1020 System board” on page 32
- “1030 LCD unit” on page 35
- “1040 Base cover, audio board, speakers and power board” on page 37
- “1050 LCD front bezel” on page 40
- “1060 LCD panel, LCD cable and hinges” on page 42

*Figure 7. Removal steps of integrated camera*

**Note:** The integrated camera is stuck on the top center of the LCD cover.

Disconnect the connectors **1**, remove the integrated camera from the LCD cover in the direction shown by arrow **2**.



**When installing:** Stick the integrated camera to the top center of the LCD cover and adjust the placement of it to make sure the connector is attached firmly.



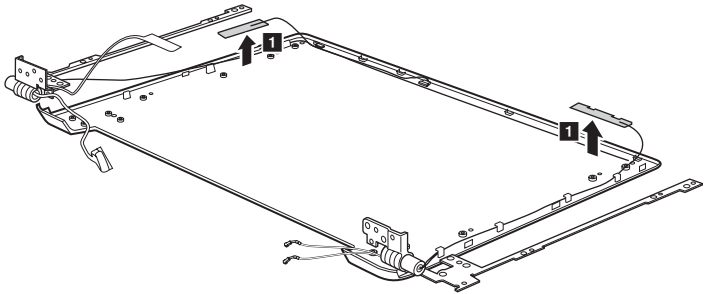
## 1080 Antenna assembly and LCD cover

For access, remove these FRUs in order:

- “1010 Battery pack” on page 30
- “1020 System board” on page 32
- “1030 LCD unit” on page 35
- “1040 Base cover, audio board, speakers and power board” on page 37
- “1050 LCD front bezel” on page 40
- “1060 LCD panel, LCD cable and hinges” on page 42
- “1070 Integrated camera” on page 44

Figure 8. Removal steps of antenna assembly and LCD cover

Peel off the adhesive tapes securing the antenna boards, release the cables from the cable guide, and then remove the antenna assembly in the direction shown by arrows **1**.

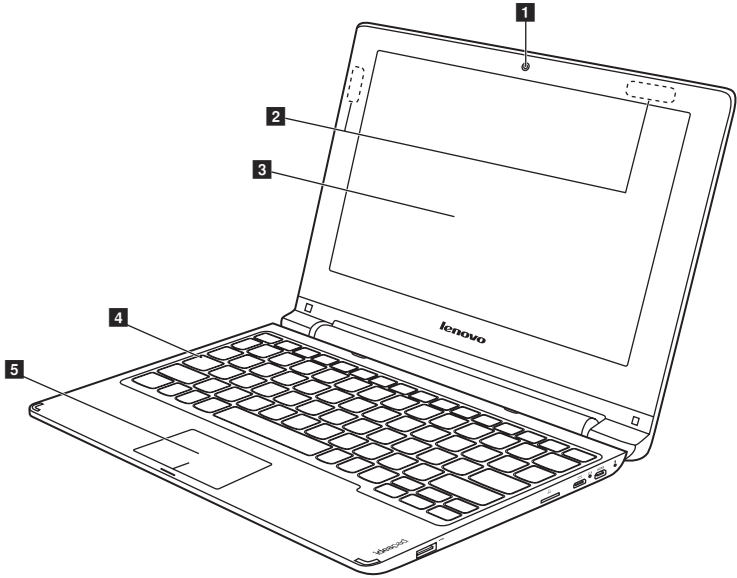


**When installing:** Route the antenna cables along the cable guides and secure the antenna boards with adhesive tapes. As you route the cables, make sure that they are not subjected to any tension. Tension could cause the cables to be damaged by the cable guides, or a wire to be broken.

## **Locations**

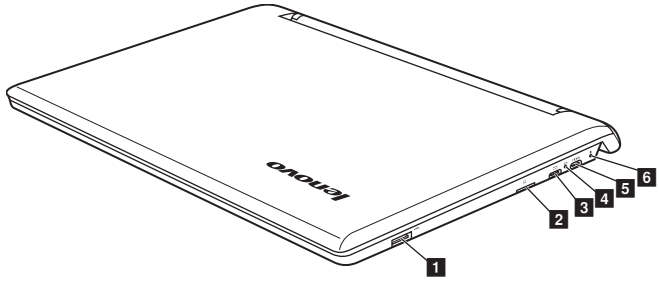
### **Front view**

- 1** Integrated camera (on select models)
- 2** Wireless LAN antennas
- 3** Multi-touch screen
- 4** Caps lock indicator
- 5** Touch pad



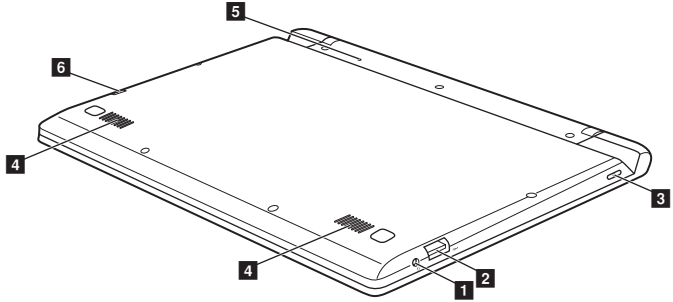
## Right-side view

- 1** USB port
- 2** Memory card slot
- 3** Micro USB port
- 4** System status indicators
- 5** Micro HDMI port
- 6** Built-in microphones



### **Bottom and Left-side view**

- 1** Combo audio jack
- 2** USB port
- 3** Power button
- 4** Speaker
- 5** Reset hole
- 6** SIM card slot (on select models)



## Parts list

This section presents the following service parts:

- “Overall” on page 50
- “LCD FRUs” on page 55
- “Keyboard” on page 57
- “Miscellaneous parts” on page 59
- “AC adapters” on page 60
- “Power cords” on page 61

**Notes:**

- Each FRU is available for all types or models, unless specific types or models are specified.

**Overall**

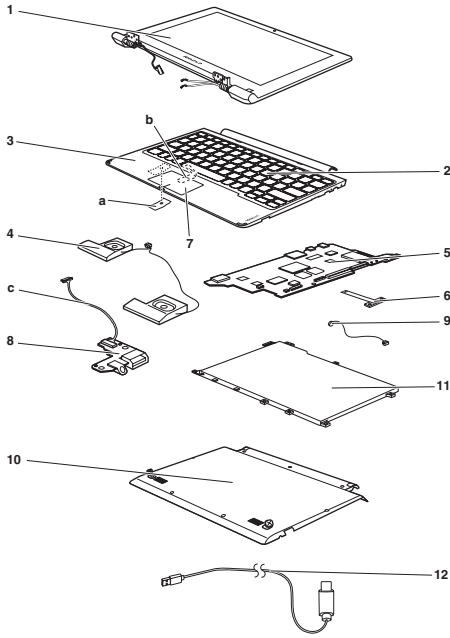


Table 4. Parts list—Overall

No.	FRU	FRU no.	CRU ID
1	LCD unit (see “LCD FRUs” on page 55.)		
2	Keyboard (see “Keyboard” on page 57.)		
3	A10 Upper Case BK NOHDMI W/KB-US	90204512	N
3	A10 Upper Case BK NOHDMI W/KB-UK	90204513	N
3	A10 Upper Case BK NOHDMI W/KB-Italian	90204514	N
3	A10 Upper Case BK NOHDMI W/KB-Spanish	90204515	N
3	A10 Upper Case BK NOHDMI W/KB-Turkish	90204516	N
3	A10 Upper Case BK NOHDMI W/KB-Thailand	90204517	N
3	A10 Upper Case BK NOHDMI W/KB-Portugue	90204518	N
3	A10 Upper Case BK NOHDMI W/KB-Lantin	90204519	N
3	A10 Upper Case BK NOHDMI W/KB-Canda	90204520	N
3	A10 Upper Case BK NOHDMI W/KB-Korean	90204521	N
3	A10 Upper Case BK NOHDMI W/KB-TradChine	90204522	N
3	A10 Upper Case BK NOHDMI W/KB-Russina	90204523	N
3	A10 Upper Case BK NOHDMI W/KB-French	90204524	N
3	A10 Upper Case BK NOHDMI W/KB-Greman	90204525	N
3	A10 Upper Case BK NOHDMI W/KB-Arabic	90204526	N
3	A10 Upper Case BK NOHDMI W/KB-Brazilian	90204527	N
3	A10 Upper Case BK NOHDMI W/KB-Dutch	90204528	N
3	A10 Upper Case BK NOHDMI W/KB-Greek	90204529	N
3	A10 Upper Case BK NOHDMI W/KB-Hebrew	90204530	N
3	A10 Upper Case BK NOHDMI W/KB-Hungarian	90204531	N
3	A10 Upper Case BK NOHDMI W/KB-Nordic	90204532	**
3	A10 Upper Case BK NOHDMI W/KB-Belgian	90204533	**
3	A10 Upper Case BK NOHDMI W/KB-Iceland	90204534	**
3	A10 Upper Case BK NOHDMI W/KB-Slovenian	90204535	**
3	A10 Upper Case BK NOHDMI W/KB-Swiss	90204536	**
3	A10 Upper Case BK NOHDMI W/KB-USInter	90204537	**
3	A10 Upper Case BK NOHDMI W/KB-Czh-Slk	90204538	**
3	A10 Upper Case BK NOHDMI W/KB-Bulgarian	90204539	**
3	A10 Upper Case BK NOHDMI W/KB-India	90204540	**
3	A10 Upper Case SV NOHDMI W/KB-US	90204541	**
3	A10 Upper Case SV NOHDMI W/KB-UK	90204542	**
3	A10 Upper Case SV NOHDMI W/KB-Italian	90204543	**
3	A10 Upper Case SV NOHDMI W/KB-Spanish	90204544	**
3	A10 Upper Case SV NOHDMI W/KB-Turkish	90204545	**
3	A10 Upper Case SV NOHDMI W/KB-Thailand	90204546	**
3	A10 Upper Case SV NOHDMI W/KB-Portugue	90204547	**
3	A10 Upper Case SV NOHDMI W/KB-Lantin	90204548	**
3	A10 Upper Case SV NOHDMI W/KB-Canda	90204549	**
3	A10 Upper Case SV NOHDMI W/KB-Korean	90204550	**
3	A10 Upper Case SV NOHDMI W/KB-TC	90204551	**
3	A10 Upper Case SV NOHDMI W/KB- Russina	90204552	**
3	A10 Upper Case SV NOHDMI W/KB-French	90204553	**
3	A10 Upper Case Black W/KB- US	90204316	**

**Table 4. Parts list—Overall (continued)**

No.	FRU	FRU no.	CRU ID
3	A10 Upper Case Black W/KB- UK	90204317	**
3	A10 Upper Case Black W/KB- Italian	90204318	**
3	A10 Upper Case SV NOHDMI W/KB-Greman	90204554	**
3	A10 Upper Case SV NOHDMI W/KB-Arabic	90204555	**
3	A10 Upper Case SV NOHDMI W/KB-Brazilian	90204556	**
3	A10 Upper Case SV NOHDMI W/KB-Dutch	90204557	**
3	A10 Upper Case SV NOHDMI W/KB-Greek	90204558	**
3	A10 Upper Case SV NOHDMI W/KB-Hebrew	90204559	**
3	A10 Upper Case SV NOHDMI W/KB-Hungarian	90204560	*
3	A10 Upper Case SV NOHDMI W/KB-Nordic	90204561	*
3	A10 Upper Case SV NOHDMI W/KB-Belgian	90204562	*
3	A10 Upper Case SV NOHDMI W/KB-Iceland	90204563	*
3	A10 Upper Case SV NOHDMI W/KB-Slovenian	90204564	*
3	A10 Upper Case SV NOHDMI W/KB-Swiss	90204565	*
3	A10 Upper Case SV NOHDMI W/KB-USInter	90204566	*
3	A10 Upper Case SV NOHDMI W/KB-Czh-Slk	90204567	*
3	A10 Upper Case SV NOHDMI W/KB-Bulgarian	90204568	*
3	A10 Upper Case SV NOHDMI W/KB-India	90204569	**
3	A10 Upper Case Black W/KB- Spanish	90204319	**
3	A10 Upper Case Black W/KB- Turkish	90204320	**
3	A10 Upper Case Black W/KB- Thailand	90204321	**
3	A10 Upper Case Black W/KB-Portugue	90204322	**
3	A10 Upper Case Black W/KB- Lantin	90204323	**
3	A10 Upper Case Black W/KB- Canda	90204324	**
3	A10 Upper Case Black W/KB- Korean	90204325	**
3	A10 Upper Case Black W/KB-TradChine	90204326	**
3	A10 Upper Case Black W/KB- Russina	90204327	**
3	A10 Upper Case Black W/KB-French	90204328	**
3	A10 Upper Case Black W/KB-Greman	90204329	**
3	A10 Upper Case Black W/KB-Arabic	90204330	**
3	A10 Upper Case Black W/KB-Brazilian	90204331	**
3	A10 Upper Case Black W/KB-Dutch	90204332	**
3	A10 Upper Case Black W/KB-Greek	90204333	**
3	A10 Upper Case Black W/KB-Hebrew	90204334	**
3	A10 Upper Case Black W/KB-Hungarian	90204335	**
3	A10 Upper Case Black W/KB-Nordic	90204336	**
3	A10 Upper Case Black W/KB-Belgian	90204337	**
3	A10 Upper Case Black W/KB-Iceland	90204338	**
3	A10 Upper Case Black W/KB-Slovenian	90204339	**
3	A10 Upper Case Black W/KB-Swiss	90204340	**
3	A10 Upper Case Black W/KB-USInter	90204341	**
3	A10 Upper Case Black W/KB-Czh-Slk	90204342	**
3	A10 Upper Case Black W/KB-Bulgarian	90204343	**
3	A10 Upper Case Black W/KB-India	90204344	**
3	A10 Upper Case Sliver W/KB- US	90204345	**



Table 4. Parts list—Overall (continued)

No.	FRU	FRU no.	CRU ID
3	A10 Upper Case Sliver W/KB- UK	90204346	**
3	A10 Upper Case Sliver W/KB- Italian	90204347	**
3	A10 Upper Case Sliver W/KB- Spanish	90204348	*
3	A10 Upper Case Sliver W/KB- Turkish	90204349	*
3	A10 Upper Case Sliver W/KB- Thailand	90204350	*
3	A10 Upper Case Sliver W/KB-Portugue	90204351	*
3	A10 Upper Case Sliver W/KB- Lantin	90204352	*
3	A10 Upper Case Sliver W/KB- Canda	90204353	*
3	A10 Upper Case Sliver W/KB- Korean	90204354	*
3	A10 Upper Case Sliver W/KB-TradChine	90204355	*
3	A10 Upper Case Sliver W/KB- Russina	90204356	*
3	A10 Upper Case Sliver W/KB-French	90204357	*
3	A10 Upper Case Sliver W/KB-Greman	90204358	*
3	A10 Upper Case Sliver W/KB-Arabic	90204359	*
3	A10 Upper Case Sliver W/KB-Brazilian	90204360	*
3	A10 Upper Case Sliver W/KB-Dutch	90204361	*
3	A10 Upper Case Sliver W/KB-Greek	90204362	*
3	A10 Upper Case Sliver W/KB-Hebrew	90204363	*
3	A10 Upper Case Sliver W/KB-Hungarian	90204364	*
3	A10 Upper Case Sliver W/KB-Nordic	90204365	*
3	A10 Upper Case Sliver W/KB-Belgian	90204366	*
3	A10 Upper Case Sliver W/KB-Iceland	90204367	*
3	A10 Upper Case Sliver W/KB-Slovenian	90204368	*
3	A10 Upper Case Sliver W/KB-Swiss	90204369	*
3	A10 Upper Case Sliver W/KB-USInter	90204370	*
3	A10 Upper Case Sliver W/KB-Czh-Slk	90204371	*
3	A10 Upper Case Sliver W/KB-Bulgarian	90204372	*
3	A10 Upper Case Sliver W/KB-India	90204373	*
4	A10 Speaker	90204379	*
5	A10 MB PK3188 1GRAM 16G W/HDMI	90004914	*
5	A10 MB PK3188 1GRAM 32G W/HDMI	90004915	*
5	A10 MB PK3188 2GRAM 16G W/HDMI	90004916	*
5	A10 MB PK3188 2GRAM 32G W/HDMI	90004917	*
5	A10 MB PK3188 1GRAM 16G HDMI	90004918	*
5	A10 MB PK3188 1GRAM 32G HDMI	90004919	*
5	A10 MB PK3188 2GRAM 16G HDMI	90004920	*
5	A10 MB PK3188 2GRAM 32G HDMI	90004921	*
6	A10 Power Board	90004922	*
7	A10 TP Module Black	90204314	*
7	A10 TP Module Brown	90204315	*
8	A10 USB&Audio Board	90004923	*
9	A10 Micphone	90204378	*
10	A10 Lower Case Black	90204374	*
10	A10 Lower Case Brown	90204375	*
10	A10 Lower Case Black WO/HDMI	90204570	*

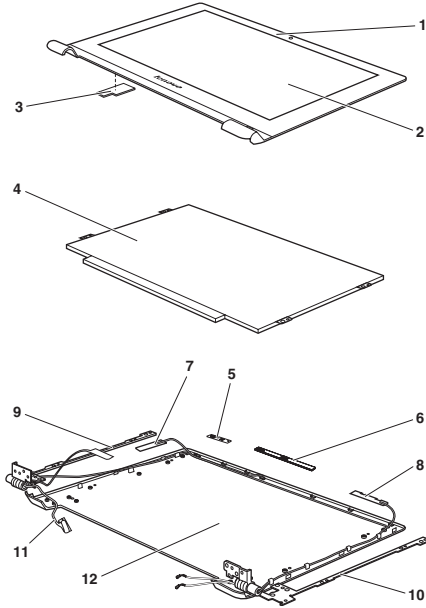
*Table 4. Parts list—Overall (continued)*

<b>No.</b>	<b>FRU</b>	<b>FRU no.</b>	<b>CRU ID</b>
10	A10 Lower Case Brown WO/HDMI	90204571	**
11	Battery Flex10 SP/A L13M2P21 3.65V22.6Wh2cellbty	121500207	**
11	Battery Flex10 LG L13L2P21 3.7V22.6Wh 2cellbty	121500208	*
12	A10 USB to Micro USB cable	90204496	*

## LCD FRUs

In Lenovo IdeaPad A10, there are following types of LCDs.

- "10.1 -in. HD TFT"



## **10.1-in. HD TFT**

*Table 5. Parts list—10.1-in. HD TFT*

<b>No.</b>	<b>FRU</b>	<b>FRU no.</b>	<b>CRU ID</b>
1	A10 LCD Module WO/3G Black	90400230	N
1	A10 LCD Module WO/3G Brown	90400231	N
4	Panel IVO M101NWN8 R0 HD AG F LED1 NB LCD	18201245	N
4	Panel AUO B101XTN01.1 1A HD AG F LED1 NB LCD	18201246	N

## Keyboard

Table 6. Parts list—Keyboard

Language		P/N	CRU ID	
A10	Sunrex (black)	Indian	25214009	**
		Bulgarian	25214008	
		Czechoslovakian	25214007	
		International English	25214006	
		Swiss	25214005	
		Slovenian	25214004	
		Icelandic	25214003	
		Belgian	25214002	
		Four Nordic countries	25214001	
		Hungarian	25214000	
		Hebrew	25213999	
		Greek	25213998	
		Dutch	25213997	
		Brazilian	25213995	
		Arabic	25213994	
		German	25213993	
		French	25213992	
		Russian	25213991	
		Traditional Chinese	25213990	
		Korean	25213989	
		Canadian English&French	25213988	
		Latin	25213987	
		Portuguese	25213986	
		Thai	25213985	
		Turkish	25213984	
		Spanish	25213983	
	Italian	25213982		
	U.K. English	25213981		
	English	25213980		
	Sunrex (white)	Indian	25214038	
		Bulgarian	25214037	
		Czechoslovakian	25214036	
		International English	25214035	
		Swiss	25214034	
Slovenian		25214033		
Icelandic		25214032		
Belgian		25214031		
Four Nordic countries		25214030		
Hungarian		25214029		
Hebrew		25214028		
Greek		25214027		
Dutch		25214026		
Brazilian		25214025		
Arabic	25214024			
German	25214023			

Table 6. Parts list—Keyboard (continued)

Language		P/N	CRU ID		
A10 (continued)	Sunrex (white) (continued)	French	25214022	**	
		Russian	25214021		
		Traditional Chinese	25214020		
		Korean	25214019		
		Canadian English&French	25214018		
		Latin	25214017		
		Portuguese	25214016		
		Thai	25214015		
		Turkish	25214014		
		Spanish	25214013		
		Italian	25214012		
		U.K. English	25214011		
		English	25214010		
		Chicony (black)	Indian		25214068
			Bulgarian		25214067
	Czechoslovakian		25214066		
	International English		25214065		
	Swiss		25214064		
	Slovenian		25214063		
	Icelandic		25214062		
	Belgian		25214061		
	Four Nordic countries		25214060		
	Hungarian		25214059		
	Hebrew		25214058		
	Greek		25214057		
	Dutch		25214056		
	Brazilian		25214054		
	Arabic		25214053		
	German		25214052		
	French		25214051		
	Russian		25214050		
	Traditional Chinese		25214049		
	Korean		25214048		
	Canadian English&French		25214047		
	Latin		25214046		
	Portuguese		25214045		
	Thai		25214044		
	Turkish		25214043		
	Spanish		25214042		
	Italian		25214041		
	U.K. English	25214040			
	English	25214039			

## Miscellaneous parts

Table 7. Parts list—Miscellaneous parts

FRU	P/N	CRU ID
System miscellaneous parts: <ul style="list-style-type: none"> <li>• (a) A10 TV-Smart Foil</li> </ul>	90204380	N
Cable miscellaneous parts: <ul style="list-style-type: none"> <li>• (b) A10 Touch PAD Cable</li> <li>• (c) A10 USB Board Cable</li> </ul> <p><b>Note:</b> Italicized letters in parentheses are references to the exploded view in “Overall” on page 71.</p>	90204376 90204377	N

## **AC adapters**

*Table 8. Parts list—3-pin AC adapters*

<b>FRU</b>	<b>P/N</b>	<b>CRU ID</b>
PI AD897D23 5.2V2A 10W adapter	36200538	N
PI AD897923 5.2V2A 10W adapter	36200539	N
PI AD897F23 5.2V2A 10W adapter	36200540	N
PI AD897223 5.2V2A 10W adapter	36200541	N
PI AD897723 5.2V2A 10W adapter	36200542	N
PI AD897123 5.2V2A 10W adapter	36200543	N
PI AD897023 5.2V2A 10W adapter	36200544	N



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