

lenovo

B6000 / B8000

***Hardware
Maintenance
Manual***



Note:

Before using this information and the products it supports, be sure to read the general information under “Notices” on page 67.

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About this manual

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

- **Lenovo B6000**
- **Lenovo B8000**

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.

Notes:

The information provided in this manual is applicable to all types or models of the products listed above, unless otherwise specified.

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.

Safety information

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.
- Place removed covers and other parts in a safe place, keeping them 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 for disconnecting the 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:
 - 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 according to the 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 הברזים, 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 ממתכת 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す。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 מסיימות מכילות כמות קטנה של ניקל וקדמיום. אין לפרק סוללת המתנה, לטעון אותה מחדש, להשליך אותה לאש או למים או לקצר אותה. יש לשלול 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 התמוצות 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, לטלול את המחבר המקוטב שלה, לפרק אותה או לחמם אותה לשמפרטורה העולה על 100 מעלות צלזיוס. אין לשרוף את הסוללה ואין לחשוף את תוכן התא לזמיום. יש לטלול 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 הנביש הנוזלי (LCD) נשבר והנוזל מתוך המסך בא במגע עם עיניכם או ידיכם, שטפו את האזורים הנגועים מיד במים במשך 15 דקות לפחות. פנו 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 medica 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 לרזותת 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 שילוק FRU כלשהו, יש לכבות את המחשב, לנתק את כל כבלי החשמל ממשקני החשמל, להוציא את מאיזן הסוללה, וזו 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 eljárásoktól, beállításoktól és vezérlésektől 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!

Aprendo 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. Vyhnite sa priamemu pohľadu a nehľadte priamo s optickými nástrojmi do lúča a vyhnite 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.

Important service information

This chapter presents the following important service information:

- “Strategy for replacing FRUs” on page 16
 - “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/>.

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 a 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.

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.

General checkout

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:

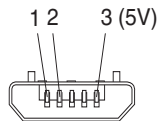
- “Checking the IdeaTab AC Charger” on page 21
- “Checking the internal battery status” on page 21

Checking the IdeaTab AC Charger

When you use the IdeaTab AC Charger to charge the tablet but no power is charged, see the instructions in this topic to check the IdeaTab AC Charger.

To check the IdeaTab AC Charger, do the following:

1. Disconnect the micro-USB cable from the tablet.
2. Measure the output voltage across the connector marked B of the micro-USB cable. Refer to the following figure:



Pin	Voltage (V dc)
1	Ground
2	0
3	+5

Note: The output voltage across pin 3 of the micro-B connector might be different from the one you are servicing.

3. If the voltage is not correct, replace the micro-USB cable.
4. If the voltage is acceptable, replace the system board.

Checking the internal battery status

To check the battery status of the tablet, do either of the following:

- **Approximate information about the battery status**

Get the approximate status of the battery at any time by checking the battery status icon on the system bar in the upper-right corner of the screen. The shorter the green bar is, the less the battery power remains.

- **Accurate information about the battery status**

To get the accurate information about the battery status of the tablet, do the following:

1. Open the Android Settings screen.
To open the Android Settings screen, do either of the following:
 - From the main Home screen, touch the Android Settings icon on Lenovo Launch Zone. The Android Settings screen is displayed.
 - Pull down the right side of the action bar and then touch the Settings icon. The Android Settings screen is displayed.
2. Touch Battery in the Device section on the Android Settings screen.
3. The accurate percentage of the remaining battery power, as well as applications that are consuming battery power, are shown on the Battery screen.

Related service information

This chapter presents the following information:

- “Security” on page 23
- “Power management” on page 23

Security

Security settings include: SCREEN SECURITY, SIM CARD LOCK (3G version only), PASSWORDS, DEVICE ADMINISTRATION and CREDENTIAL STORAGE.

Power management

Note: Power management modes are not supported for APM operating system.

To reduce power consumption, the computer has three power management modes: screen blank, sleep (standby), and hibernation.

Activating/Deactivating the Display

With the display deactivated, press the Power button on the IdeaTab to activate the display. The IdeaTab's display will then illuminate, indicating that it has been activated.

If you do not need to use your IdeaTab temporarily, you can press the Power button to deactivate the display. Your IdeaTab will then enter standby mode to save power.

Lenovo B6000 / B8000

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

- “Specifications” on page 24
- “FRU replacement notices” on page 26
- “Removing and replacing an FRU” on page 27
- “Locations” on page 59
- “Parts list” on page 61

Specifications

The following table lists the specifications of Lenovo B6000 and B8000.

Notes:

The listed technical data is applicable to both products, and to all types or models thereof, unless otherwise specified.

Table 1. Specifications

Feature	Description
Size & Weight	
Size	<ul style="list-style-type: none"> • Lenovo B6000: 213mm x 144mm x (3.0 - 7.3)mm • Lenovo B8000: 261mm x 180mm x (3.0 - 8.1)mm
Weight	<ul style="list-style-type: none"> • Lenovo B6000-F: 401g ± 2g • Lenovo B6000-H: 404g ± 2g • Lenovo B8000-F: 605g ± 2g • Lenovo B8000-H: 610g ± 2g
System	
Platform	<ul style="list-style-type: none"> • Lenovo B6000-F & B8000-F: MTK MT8125, quad-core, 1.2GHz • Lenovo B6000-H & B8000-H: MTK MT8389, quad-core, 1.2GHz
Memory	<ul style="list-style-type: none"> • 1GB
Storage Capacity	<ul style="list-style-type: none"> • 16GB / 32GB
LCD	<ul style="list-style-type: none"> • Lenovo B6000: 8", 1,280 x 800 dpi • Lenovo B8000: 10", 1,280 x 800 dpi
Integrated Camera	<ul style="list-style-type: none"> • Main camera: 5M pixel, auto focus, rear side • Sub camera, 1.6M pixel, high definition, front side

Battery	<ul style="list-style-type: none"> • Lenovo B6000: Li-ion type, 6000mAh
	<ul style="list-style-type: none"> • Lenovo B8000: Li-ion type, 9000mAh
Operating System	
	<ul style="list-style-type: none"> • Android 4.2
Ports	
	<ul style="list-style-type: none"> • SIM card slot x1 (for Lenovo B6000-H and B8000-H only) • Audio jack x1: 3.5mm (Combo type with audio and microphone function) • Micro USB connector x1 (for both power charge and data transfer) • Micro SD card slot x1
Communication	
	<ul style="list-style-type: none"> • WiFi: 802.11 b/g/n • Wireless WAN: HSPA+ 42M (for Lenovo B6000-H and B8000-H only) • 3G Band: WCDMA - 900/2100 (for Lenovo B6000-H and B8000-H only) • GSM Band: GSM/EDGE - 900/1800/1900 (for Lenovo B6000-H and B8000-H only) • GPS • AGPS (for Lenovo B6000-H and B8000-H only) • Bluetooth 4.0
Others	
	<ul style="list-style-type: none"> • Stereophonic speakers • Vibrator • Ambient light sensor • Hall sensor • Gravity sensor • E-compass

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 Lenovo computers, 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.

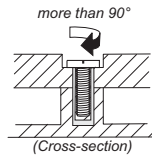
Do the following when you service this machine:

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

Tighten screws as follows:

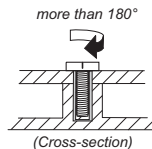
- **Plastic to plastic**

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 26.
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, while referring to figures provided in the procedure.
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 59.
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, 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.

Notes:

The two products covered by this manual, namely Lenovo B6000 and Lenovo B8000, are identical in structure and internal parts.

The illustrations used in this section come from Lenovo B6000-H.

1010 Rear cover

1. Peel off the label in the recess of the rear cover.

Figure 1-1. Peeling off the label on the rear cover



2. Remove three screws **1** in the recess as shown in the figure below.

Figure 1-2. Screws on the rear cover



3. Separate the top right corner of the rear cover from the main body of the tablet using a suction tool as shown in the figure below, and then move the suction tool to the left along the upper edge to unlock the entire upper edge from the main body.

Figure 1-3 Separating the rear cover using a suction tool



4. Hold the main body of the tablet with one hand and pull out the right edge of the rear cover from the main body using another hand.
5. Attach the suction tool to the center right area of the rear cover to separate this area from the main body and then move the suction tool to other two positions as shown in the figure below to unlock the entire central area of the rear cover.

Figure 1-4 Unlocking the central area of the rear cover



6. Unlock the left edge of the rear cover in the same way as described in step 4 above.

Notes:

- In order to ensure accurate relative positioning between the SIM card and Micro SD card recesses on the rear cover and the internal card slots, the recess area of the rear cover may be glued to the internal main body surface. This might place some difficulty for the disassembly task.
 - The rear cover is also locked up to the tablet along the bottom edge (the edge between the two speakers of the tablet).
 - When it is not possible to use any tool in removing the rear cover, reasonable force has to be applied to unlock the rear cover from the tablet.
7. Open the rear cover to get access to the inside position where the card slot area of the rear cover is glued to the internal surface and use a thin flat blade to disable the adhesion at this position.
 8. Pull off the rear cover from the main body by applying reasonable force.

Step	Screw (quantity)	Color	Torque
1	M1.4 × 1.3, wide head (3)	Black	N/A

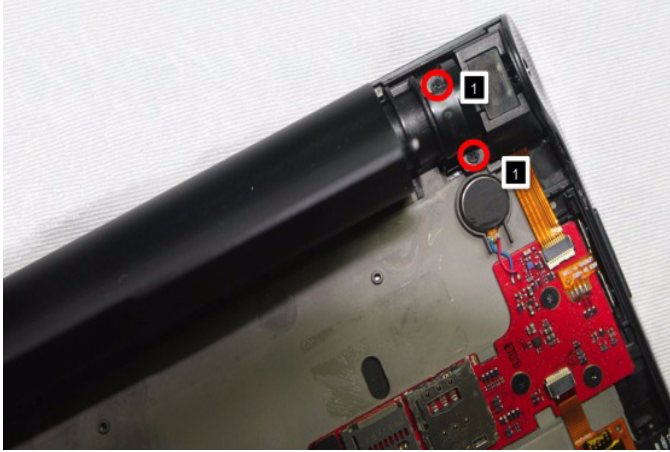
1020 Right speaker box

For access, remove this FRU:

- “1010 Rear cover” on page 28

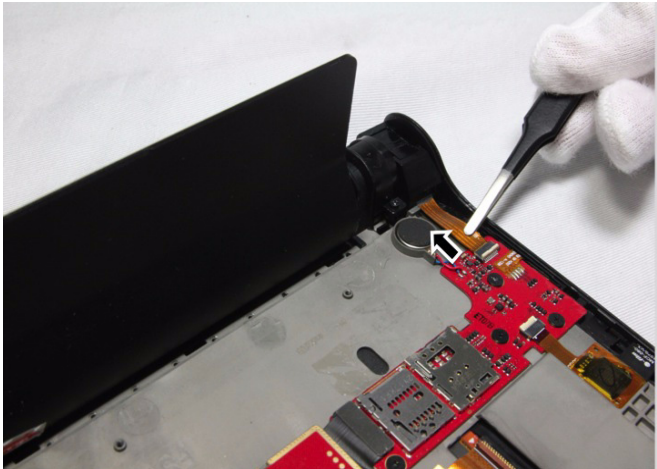
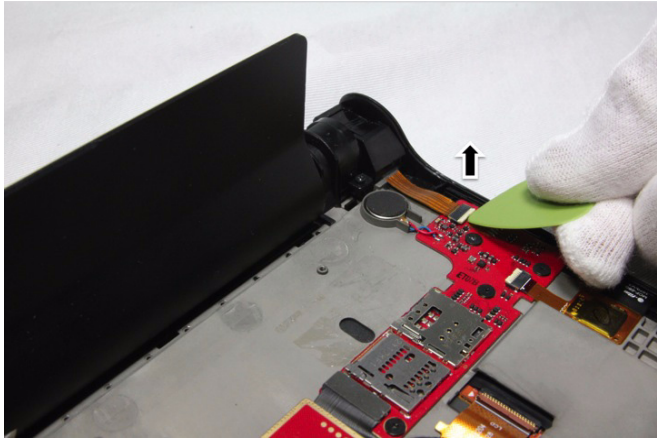
1. Remove two screws **1** on the holder for fixing the right speaker box as shown below.

Figure 2-1 Screws on the holder of the speaker box



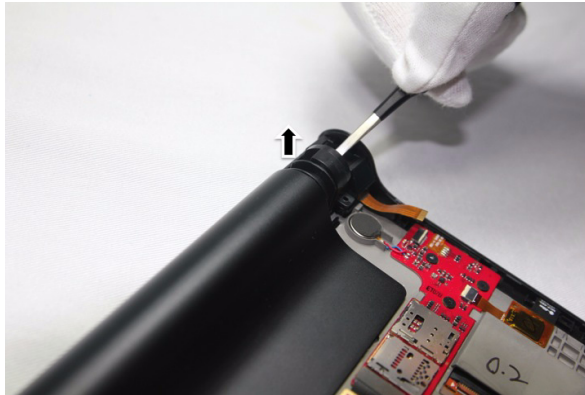
2. Unlock the speaker FPC connector using a guitar pick and then pull out the speaker FPC from the connector.

Figure 2-2 Disconnecting the speaker FPC



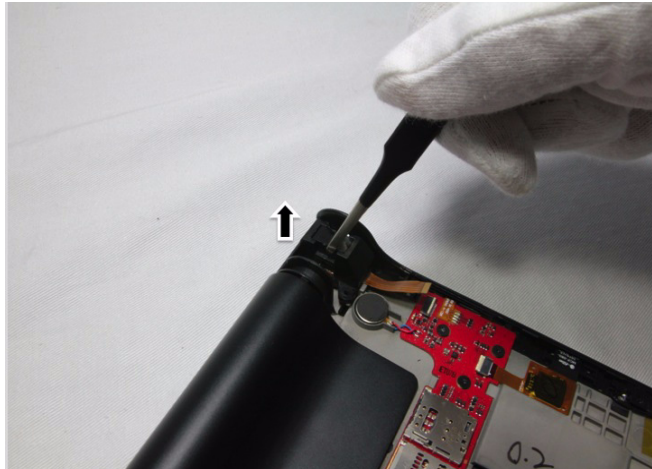
3. Pry off the holder next to the speaker box as shown below.

Figure 2-3 Prying off the holder



4. Remove the speaker box from its socket as shown below.

Figure 2-4 Removing the speaker box



Step	Screw (quantity)	Color	Torque
1	Phillips flat-head, M1.4 × 3.8 (2)	Black	N/A

1030 Hinge frame and pivot

For access, remove the following FRUs:

- “1010 Rear cover” on page 28
- “1020 Right speaker box” on page 32

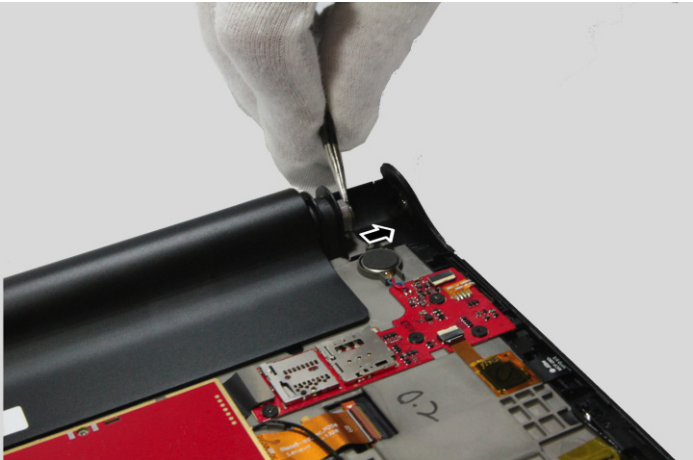
1. Disconnect the main FPC from its connector on the main PCBA using a guitar pick.

Figure 3-1 Disconnecting the main FPC



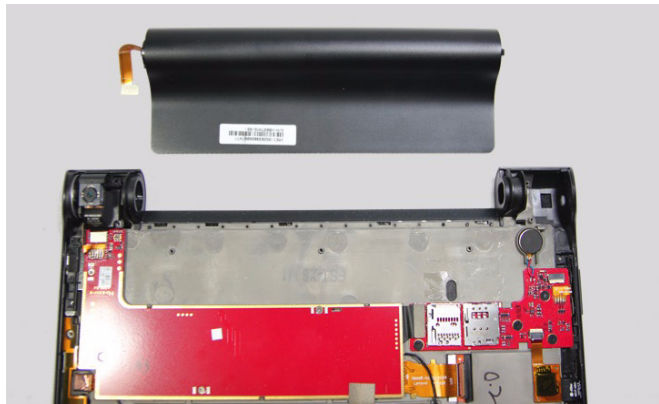
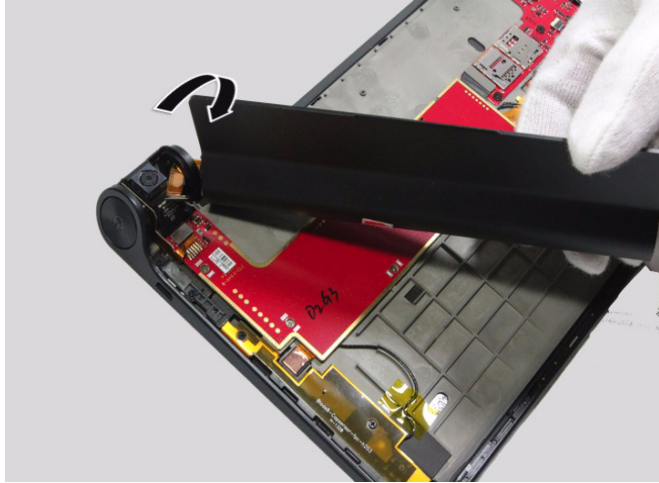
2. Slowly pull out the hinge pivot using a pair of tweezers until about half the pivot length moves out.

Figure 3-2 Pulling out the hinge pivot



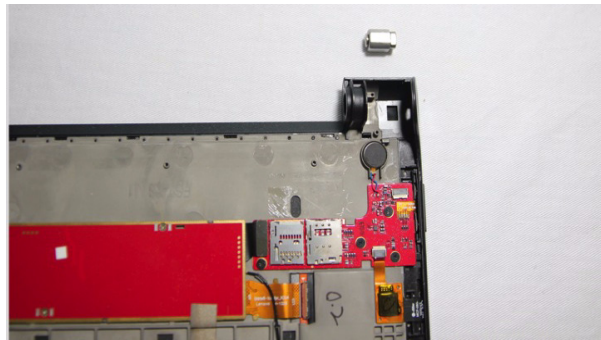
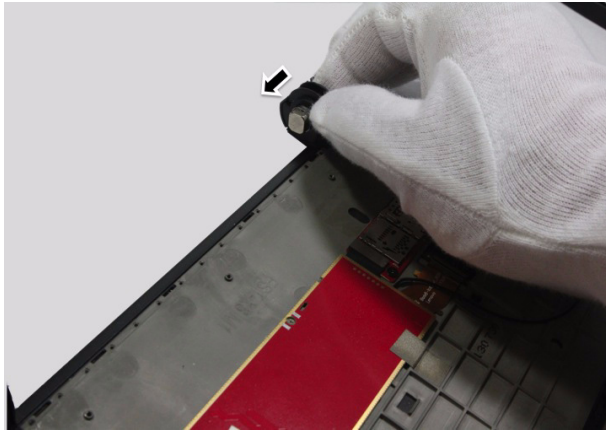
3. Detach the hinge frame at the right end and then turn the hinge frame clockwise around its left end so as to enable the main FPC to come out through the supporting frame at the left end. The hinge frame is removed from the main body of the tablet.

Figure 3-3 Removing the hinge frame with the main FPC at the left end



4. Remove the hinge pivot by pushing it on the right side.

Figure 3-4 Removing the hinge pivot



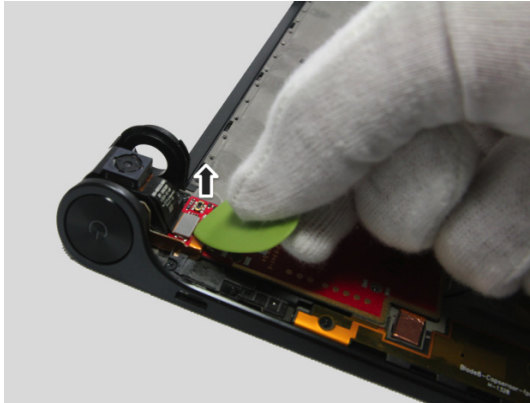
1040 Main camera

For access, remove this FRU:

- “1010 Rear cover” on page 28

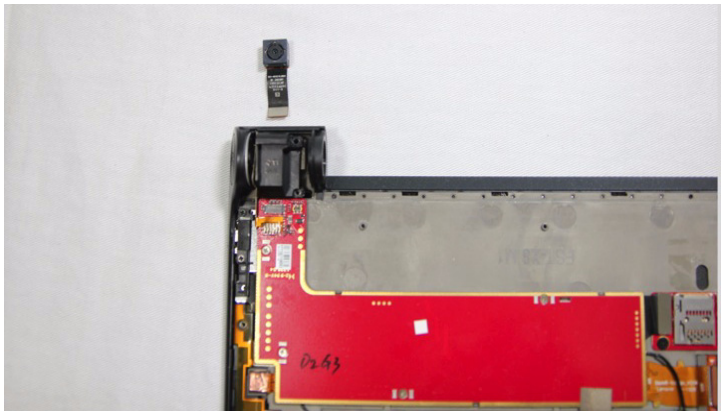
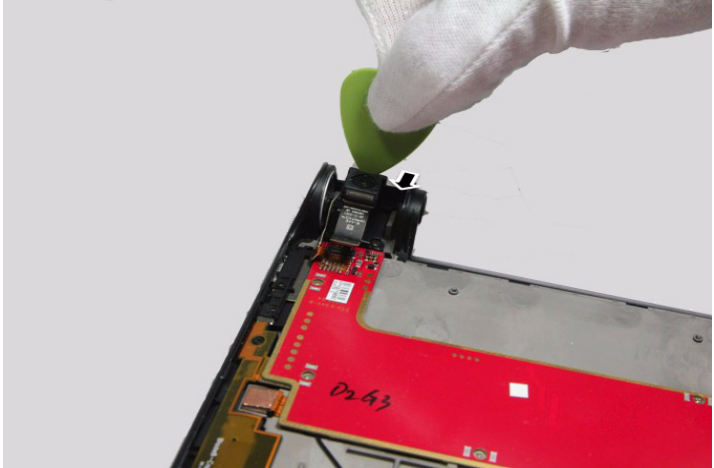
1. Disconnect the FPC of the main camera from its connector on the main PCBA using a guitar pick.

Figure 4-1 Disconnecting the main camera FPC



2. Detach the main camera from its seat using a thin flat blade or guitar pick from both the rear side and bottom.

Figure 4-2 Detaching the main camera



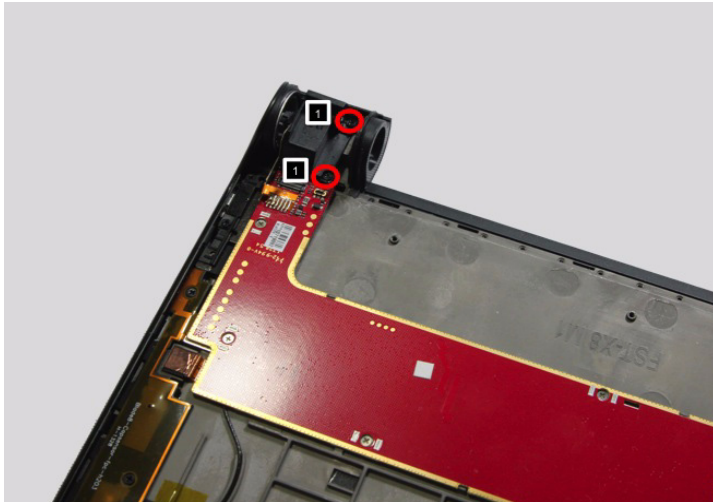
1050 Left speaker box

For access, remove the following FRUs:

- “1010 Rear cover” on page 28
- “1020 Right speaker box” on page 32
- “1030 Hinge frame and pivot” on page 36
- “1040 Main camera” on page 39

1. Remove two screws **1** for fixing the left speaker box to the main body.

Figure 5-1. Screws fixing the left speaker box



2. Detach the left speaker box from its installation position.
3. Remove the left speaker box after the main PCBA is removed from the main body.

Notes:

- The left speaker box, as well as the power switch, are connected to the main PCBA via FPCs and cannot be removed at this stage of the service procedure.
- Disconnect the left speaker box after removing the main PCBA from the front module of the tablet. Please refer to the operation task “1080 Main PCBA” on page 46.

Step	Screw (quantity)	Color	Torque
1	Phillips flat-head, M1.4 × 3.8 (2)	Black	N/A

1060 Main antenna

Notes:

The main antenna is connected to the main PCBA via a FPC, but depending on the product model, the main antenna may not be additionally connected to the main PCBA via any RF cable. Please check this condition of the main antenna for different product models as follows:

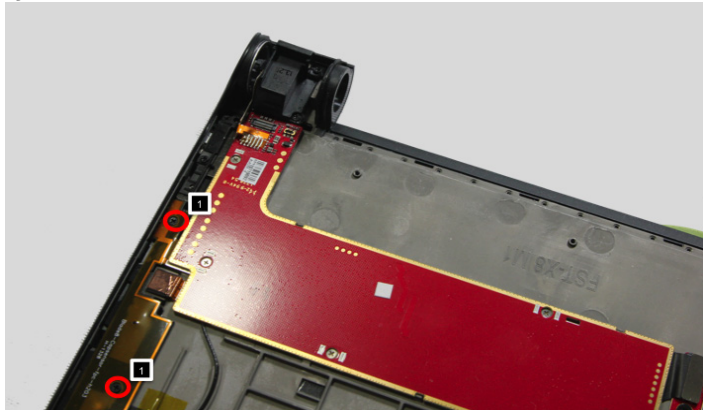
- B6000-H and B8000-H: connected via a RF cable
- B6000-F and B8000-F: without RF cable

For access, remove this FRU:

- “1010 Rear cover” on page 28

1. Remove two screws **1** for fixing the main antenna to the main body of the tablet.

Figure 6-1 Screws on the main antenna



2. Disconnect the RF cable (for B6000-H and B8000-H only) and antenna FPC from their connectors on the main PCBA after removing the main PCBA from the main body.

Notes:

- The connectors for connecting the RF cable and antenna FPC are located on the back side of the main PCBA. Therefore, the RF cable and antenna FPC cannot be disconnected from the main PCBA at this stage while the main PCBA is still seated on the main body.
- Please refer to the operation task “1080 Main PCBA” on page 46 for the description of corresponding steps for disconnecting the RF cable and antenna FPC.

Step	Screw (quantity)	Color	Torque
1	Phillips flat-head, M1.4 × 1.5 (2)	Black	N/A

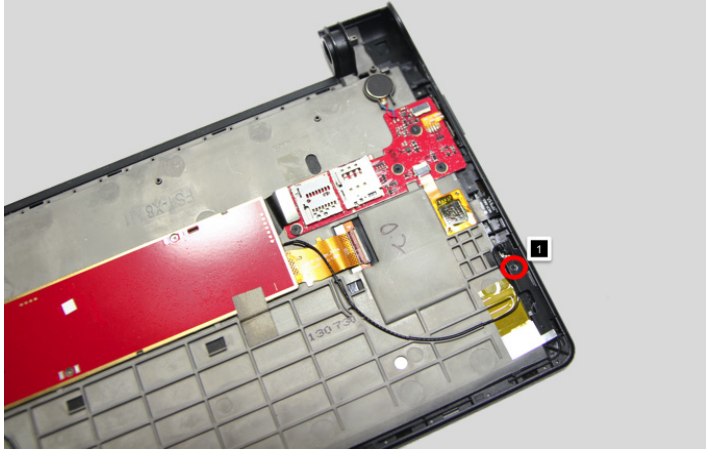
1070 WiFi antenna

For access, remove this FRU:

- “1010 Rear cover” on page 28

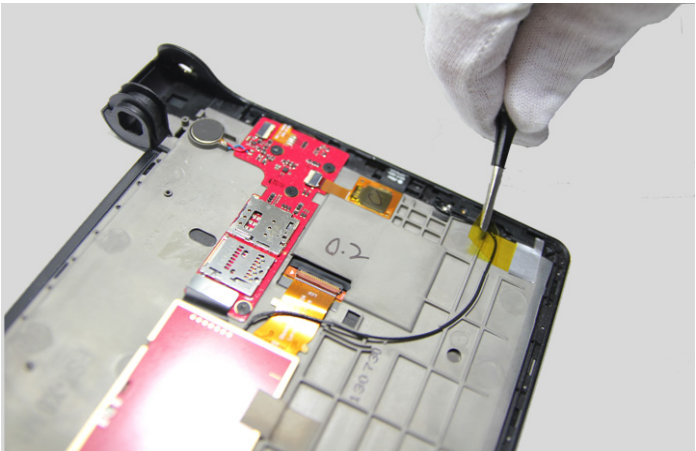
1. Remove the screw **1** for fixing the WiFi antenna to the main body.

Figure 7-1 Screw on the WiFi antenna



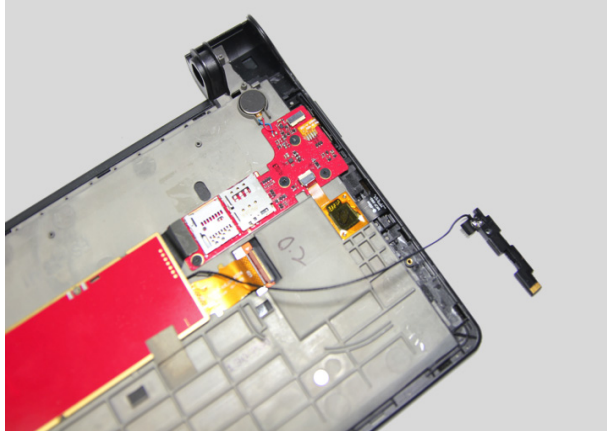
2. Remove the adhesive tapes for fixing the RF cable and WiFi antenna frame.

Figure 7-2 Removing the adhesive tape



3. Detach the WiFi antenna frame from its seating position using a thin flat blade.

Figure 7-3 WiFi antenna frame detached



4. Disconnect the RF cable from its connector on the main PCBA after removing the main PCBA from the main body of the tablet.

Notes:

- The connector for connecting the WiFi antenna RF cable is located on the back side of the main PCBA. Therefore, the RF cable cannot be disconnected from the main PCBA at this stage while the main PCBA is still seated on the main body.
- Please refer to the operation task “1080 Main PCBA” on page 46 for the step of disconnecting the RF cable.

Step	Screw (quantity)	Color	Torque
1	Phillips flat-head, M1.4 × 1.5 (1)	Black	N/A

1080 Main PCBA

Important notices for handling PCB:

When handling PCB, bear the following in mind:

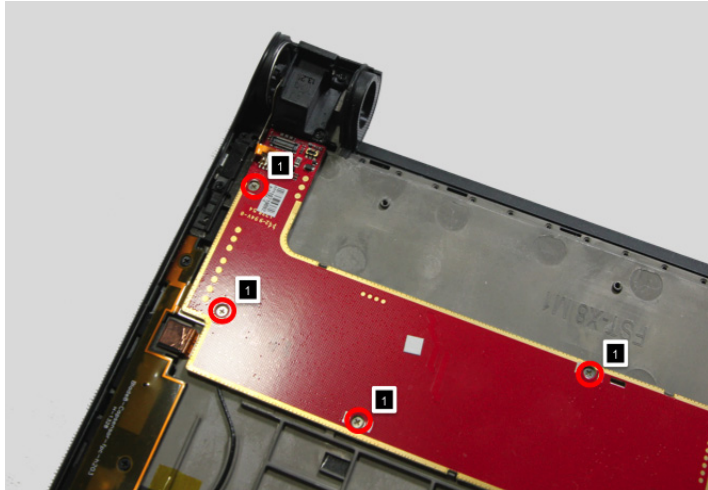
- Be careful not to drop the PCB onto a bench top that has a hard surface, such as surface made of metal, wood, or composite materials.
- Avoid rough handling of any kind.
- Make sure not to drop or stack the PCB in the whole process.
- Make sure to put the PCB only on surface covered with materials such as an ESD mat or conductive corrugated plate.

For access, remove the following FRUs in order:

- “1010 Rear cover” on page 28
- “1020 Right speaker box” on page 32
- “1030 Hinge frame and pivot” on page 36
- “1040 Main camera” on page 39
- “1050 Left speaker box” on page 41
- “1060 Main antenna” on page 42
- “1070 WiFi antenna” on page 44

1. Remove four screws **1** for fixing the main PCBA to the main body.

Figure 8-1 Remove four screws on the main PCBA



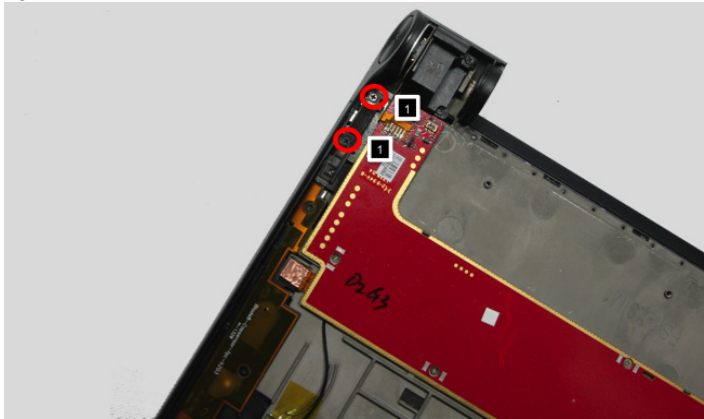
2. Remove the conductive fiber of the main PCBA as shown below.

Figure 8-2 Removing the conductive fiber



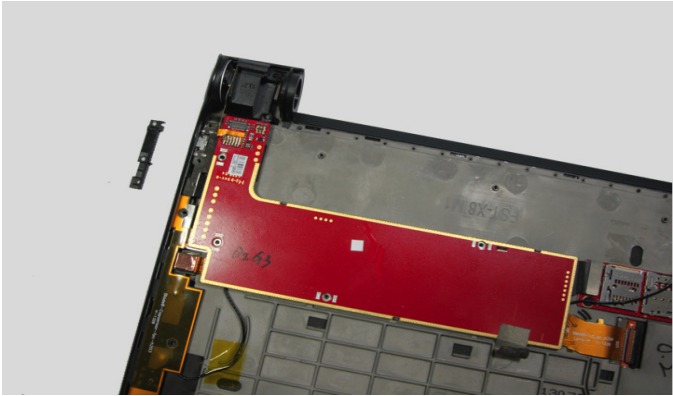
3. Remove two screws **1** on the holder for fixing the USB FPC.

Figure 8-3 Screws on the USB FPC holder



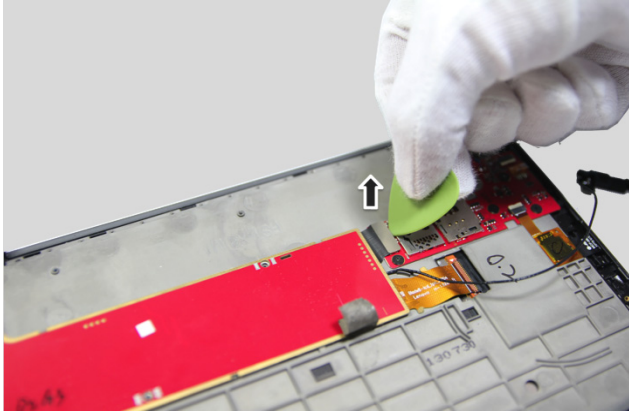
4. Remove the USB FPC holder as shown below.

Figure 8-4 Removing the USB FPC holder



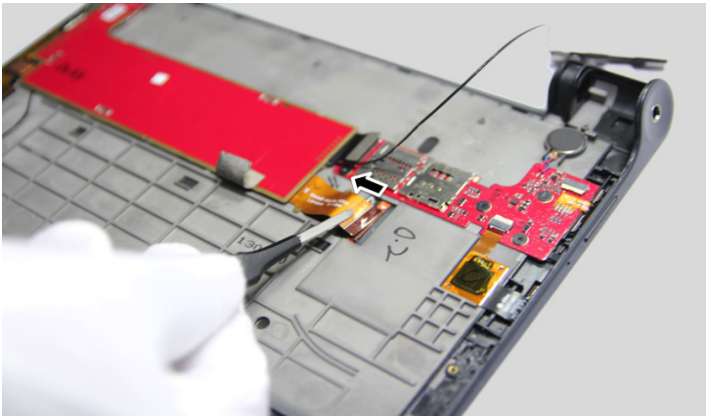
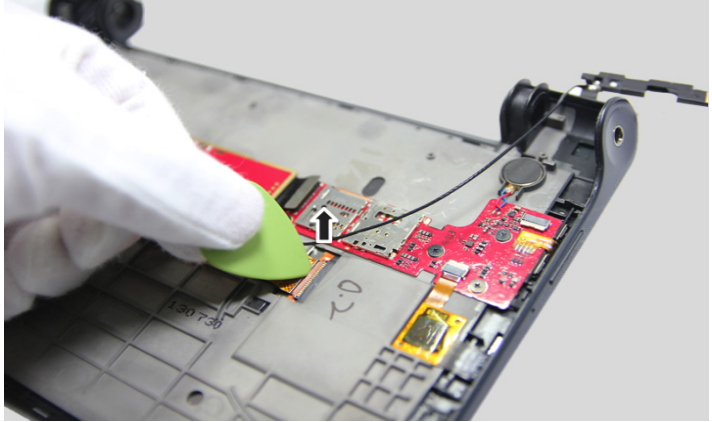
5. Disconnect the FPC for connecting the main PCBA and sub board as shown below.

Figure 8-5 Disconnecting the FPC between the main PCBA and sub board



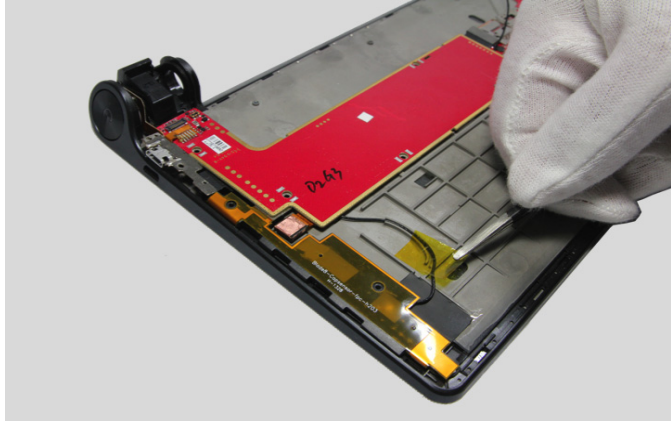
6. Unlock the LCD FPC connector using a guitar pick and then unplug the LCD FPC from the connector as shown in the figure below.

Figure 8-6 Disconnecting the LCD FPC



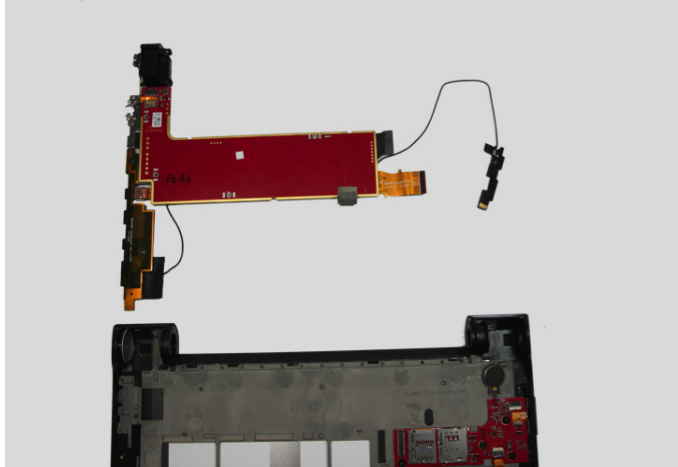
7. Remove the adhesive tapes for fixing the RF cable and frame of the main antenna as shown below.

Figure 8-7 Removing the adhesive tapes



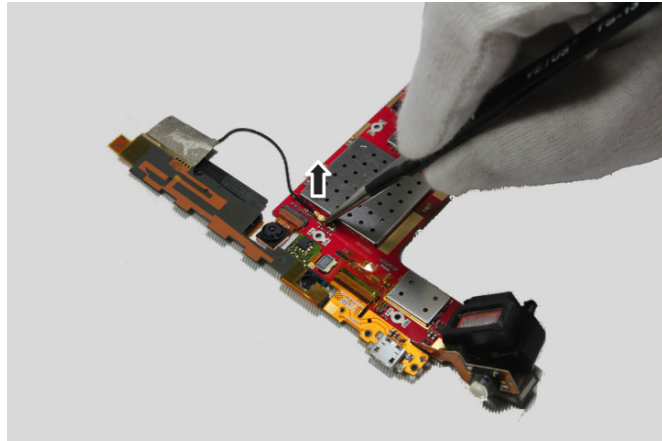
8. Remove the main PCBA together with the connected main antenna and WiFi antenna.

Figure 8-8 Main PCBA removed



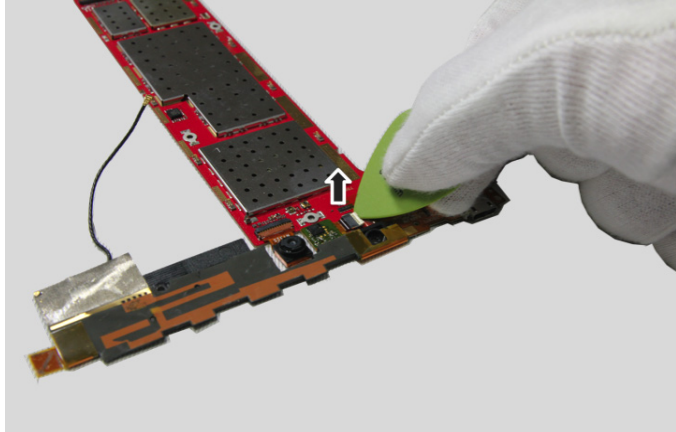
9. Turn over the main PCBA as well as the connected parts and then disconnect the RF cable of the main antenna (for B6000-H and B8000-H only).

Figure 8-9 Disconnecting the RF cable of the main antenna



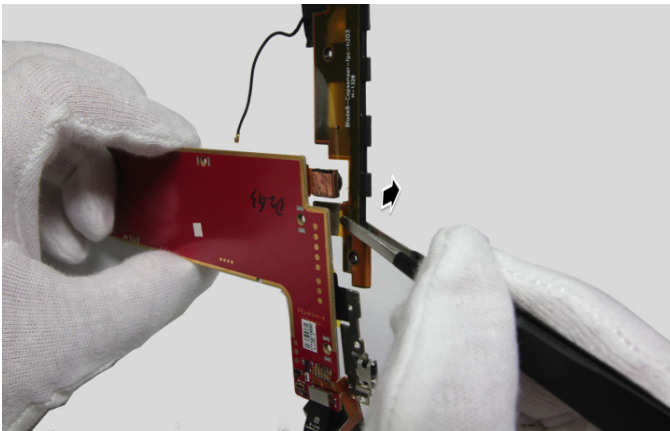
10. Unlock the connector of the main antenna FPC using a guitar pick as shown below.

Figure 8-10 Unlock the main antenna FPC connector



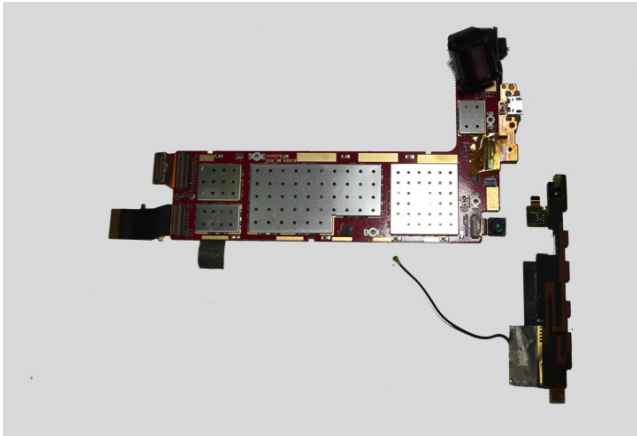
11. Turn over the main PCBA and then detach the main antenna FPC from the PCBA using a thin flat blade.

Figure 8-11 Main antenna FPC detached



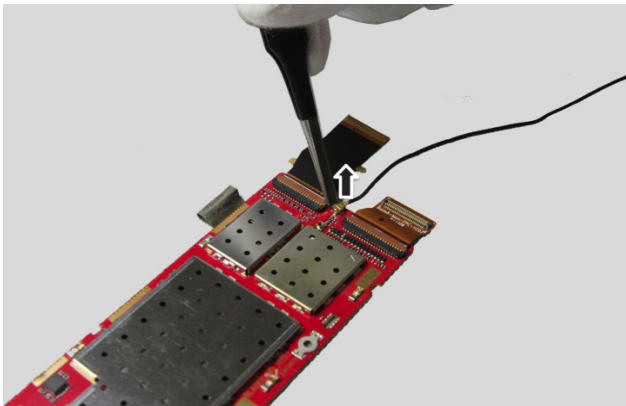
12. Remove the main antenna from the main PCBA.

Figure 8-12 Main antenna removed



13. Disconnect the RF cable of the WiFi antenna from its connector on the main PCBA and remove the WiFi antenna.

Figure 8-13 Disconnecting the RF cable of the WiFi antenna



Step	Screw (quantity)	Color	Torque
1	Phillips flat-head, M1.4 × 1.5mm (6)	Black	N/A

1090 Sub board

Important notices for handling PCB:

When handling PCB, bear the following in mind:

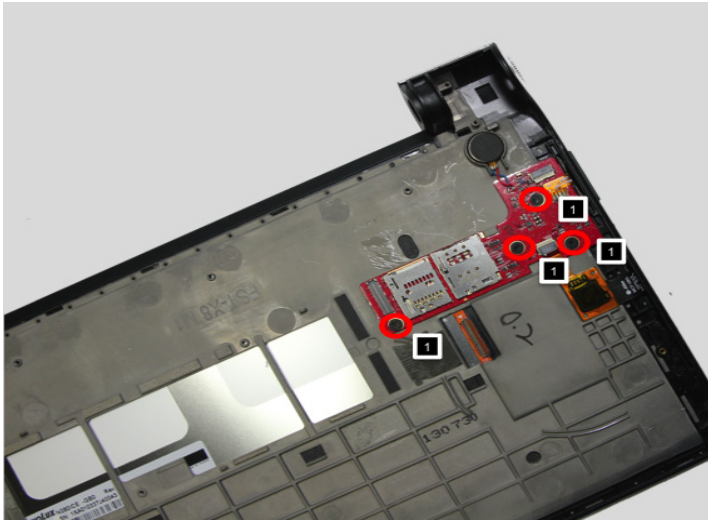
- Be careful not to drop the PCB onto a bench top that has a hard surface, such as surface made of metal, wood, or composite materials.
- Avoid rough handling of any kind.
- Make sure not to drop or stack the PCB in the whole process.
- Make sure to put the PCB only on surface covered with materials such as an ESD mat or conductive corrugated plate.

For access, remove this FRU:

- “1010 Rear cover” on page 28

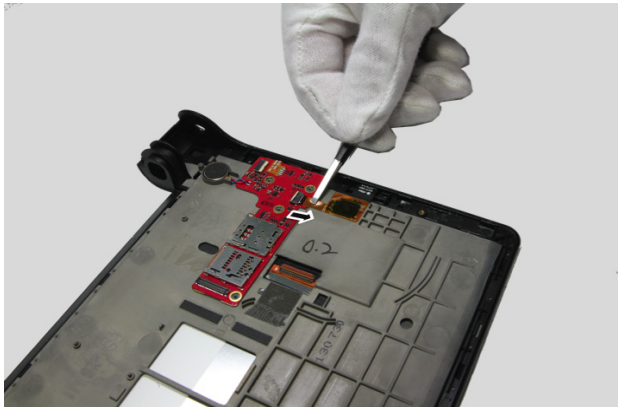
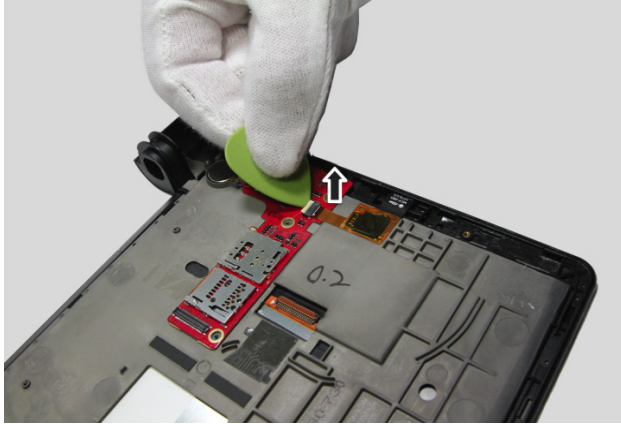
1. Remove four screws **1** for fixing the sub board to the main body.

Figure 9-1 Screws on the sub board



2. Unlock the TP FPC connector on the sub board using a guitar pick and then detach the TP FPC from the connector.

Figure 9-2 Disconnecting the TP FPC



3. Detach the right speaker FPC as described in operation task "1020 Right speaker box" on page 32.
4. Disconnect the FPC for connecting the main PCBA and sub board as described in operation task "1080 Main PCBA" on page 46.

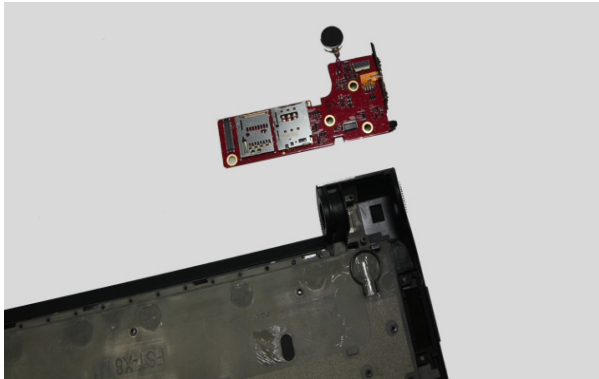
5. Insert a thin flat blade under the sub board and detach the vibrator motor from its seat.

Figure 9-3 Detaching the vibrator motor



6. Remove the sub board from the main body of the tablet.

Figure 9-4 Sub board removed



Step	Screw (quantity)	Color	Torque
1	M1.4 × 1.3, wide head (4)	Black	N/A

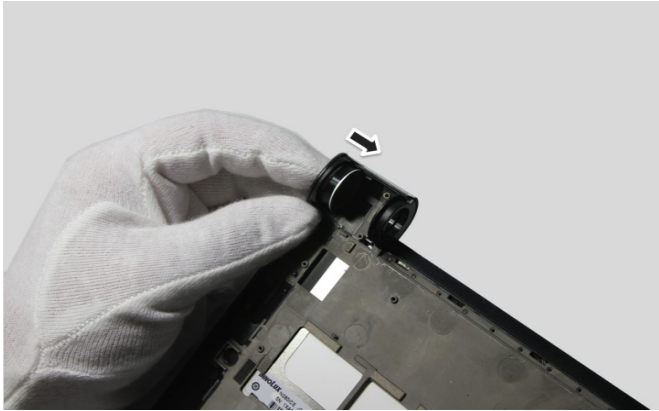
1100 Power button

For access, remove the following FRUs in order:

- “1010 Rear cover” on page 28
- “1040 Main camera” on page 39
- “1050 Left speaker box” on page 41
- “1060 Main antenna” on page 42
- “1070 WiFi antenna” on page 44
- “1080 Main PCBA” on page 46

1. Push the power button in the direction shown in the figure below.

Figure 10-1 Pushing out the power button



2. Remove the power button.

Locations

Front view

- 1 Sub camera
- 2 Speaker



Rear view

- 3** Volume key
- 4** Audio jack
- 5** Main camera
- 6** Power button
- 7** Micro USB



Parts list

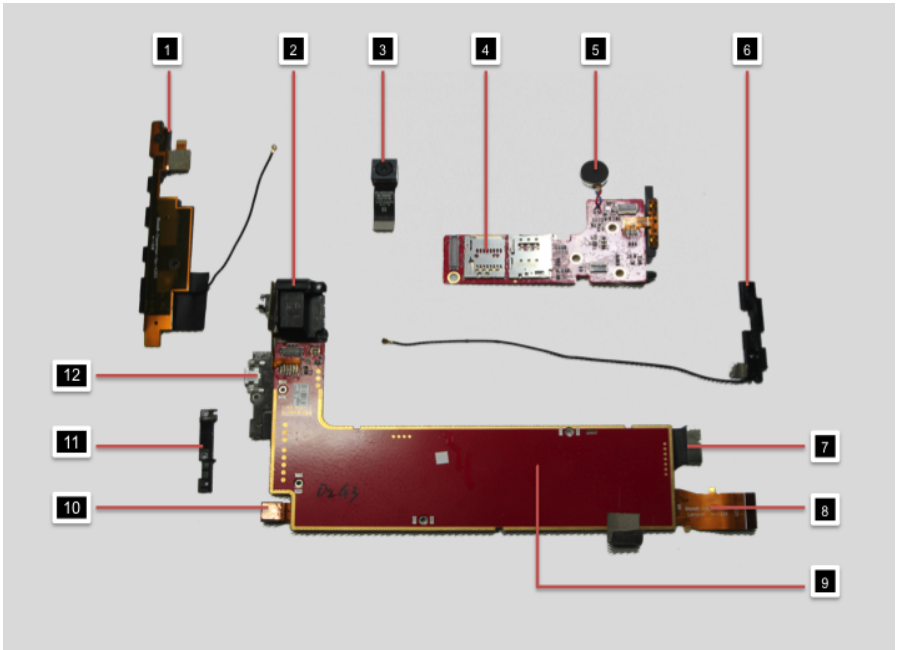
This section presents the following service parts:

- “Overall” on page 62
- “Screw” on page 66

Notes:

The listed FRUs are applicable to all types or models of the product, unless otherwise specified.

Overall



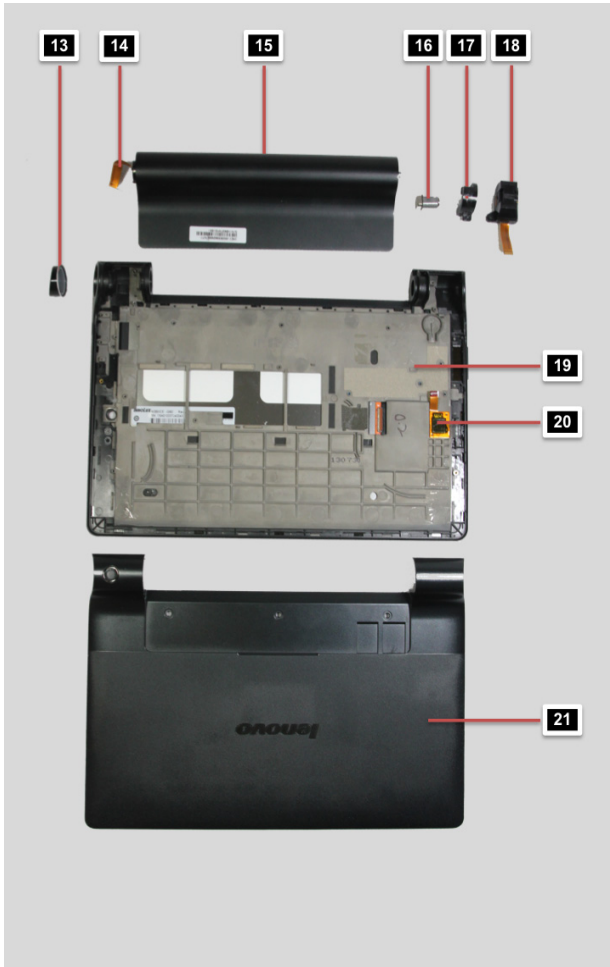


Table 1. Parts list—Overall (for Lenovo B6000 only)

No.	FRU	FRU no.	CRU ID
1	B6000 main antenna frame (for Lenovo B6000-F only)	SSR9A46-2RH	N
1	B6000 main antenna assembly (for Lenovo B6000-H only)	SA39A46-2Q9	N
2	Left speaker	5SB9A464FU	N
3	Main camera_5.0M_AF	SC29A46239	N
4	B6000 sub board module	5B29A464WC	N
5	Vibrator motor	SM79A46-2OH	N
6	B6000 WiFi antenna assembly	SA39A46-2Q4	N
7	B6000 FPC_main PCBA_sub board	TBD	N
8	B6000 LCD FPC	SF79A462QH	N
9	B6000 main PCBA	5B29A464WB	N
10	B6000 sub camera_1.6M	SC29A46238	N
11	B6000 USB FPC assembly holder	SS59A46-2OY	N
12	B6000 USB FPC assembly	SF79A46-2GS	N
13	B6000 power button	SB69A462PJ	N
14	B6000 main FPC	SF79A462GR	N
15	B6000 hinge frame	SS59A462OV	N
16	B6000 hinge pivot	5SR9A463P5	N
17	B6000 right speaker holder	TBD	N
18	B6000 right speaker assembly	SSB9A462RL	N
19	B6000 TP+LCM front module assembly	5D69A464WD	N
20	B6000 TP FPC	TBD	N
21	B6000 rear cover	5SR9A464WF	N

Table 2. Parts list—Overall (for Lenovo B8000 only)

No.	FRU	FRU no.	CRU ID
1	B8000 main antenna frame (for Lenovo B8000-F only)	5A39A46-4Q0	N
1	B8000 main antenna assembly (for Lenovo B8000-H only)	SA39A46-2SS	N
2	Left speaker	5SB9A464FU	N
3	Main camera_5.0M_AF	SC29A46239	N
4	B8000 sub board module	5B29A464VM	N
5	Vibrator motor	SM79A46-2OH	N
6	B8000 WiFi antenna assembly	TBD	N
7	B8000 FPC_main PCBA_sub board	TBD	N
8	B8000 LCD FPC	SF79A462TQ	N
9	B8000 main PCBA	5B29A464VL	N
10	B8000 sub camera_1.6M	SC29A46388	N
11	B8000 USB FPC assembly holder	SS59A46-2SZ	N
12	B8000 USB FPC assembly	TBD	N
13	B8000 Power button	SB69A462TV	N
14	B8000 main FPC	SF79A462TI	N
15	B8000 hinge frame	SS59A462SW	N
16	B8000 hinge pivot	5SR9A463TU	N
17	B8000 right speaker holder	TBD	N
18	B8000 right speaker assembly	SSB9A462RK	N
19	B8000 TP+LCM front module assembly	5D69A464VN	N
20	B8000 TP FPC	TBD	N
21	B8000 rear cover	5SR9A464VP	N

Screw

Table 3. Parts list—Screw

FRU	P/N	CRU ID
Screw M1.4 × 1.3mm, wide head (for B6000 only)	SM89A462RE	N
Screw M1.4 × 1.1mm, wide head (for B8000 only)	5M89A464IP	N
Screw M1.4 × 1.5mm	5M89A31163	N
Screw M1.4 × 3.8mm (for B6000 only)	SM89A44140	N
Screw M1.4 × 3.0mm (for B8000 only)	SM89A44143	N

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