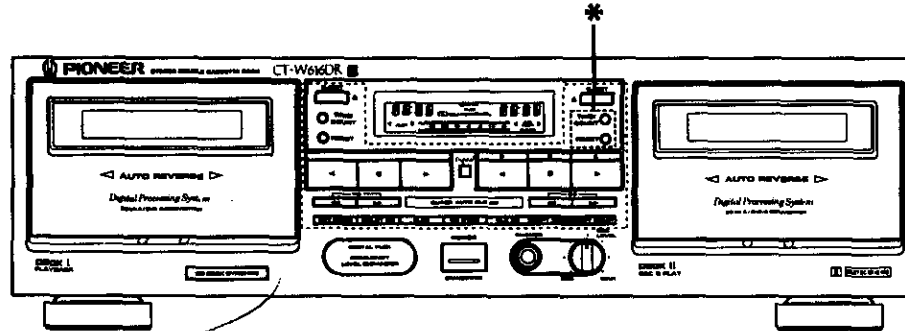


Operating Instructions

STEREO DOUBLE CASSETTE DECK

CT-W606DR CT-W616DR



• The above illustration shows CT-W616DR.

About the Demo mode (*)

Press the Deck II counter reset button (RESET) and the DECK II time counter button (TIME/COUNT) simultaneously to set the demonstration mode. To cancel the demonstration mode, press any one of the buttons enclosed in the dotted lines above.

Thank you for buying this Pioneer product.

Please read through these operating instructions so you will know how to operate your unit properly. After you have finished reading the instructions, keep them in a safe place for future reference.

In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE

[For U.S. model]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

CAUTION

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

This product complies with the Low Voltage Directive (73/23/EEC), EMC Directives (89/336/EEC, 92/31/EEC) and CE Marking Directive (93/68/EEC).

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

IMPORTANT 1



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

blue	neutral
brown	live

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 5 amp fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

NOTE

After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost replacement fuse covers can be obtained from your dealer.

Only 5 A fuses approved by B.S.I. or A.S.T.A to B.S. 1362 should be used.

IMPORTANT SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the product is operated.

RETAIN INSTRUCTIONS — The safety and operating instructions should be retained for future reference.

HEED WARNINGS — All warnings on the product and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

CLEANING — The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

ATTACHMENTS — Do not use attachments not recommended by the product manufacturer as they may cause hazards.

WATER AND MOISTURE — Do not use this product near water — for example, near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

ACCESSORIES — Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

CART — A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



VENTILATION — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

POWER SOURCES — This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

LOCATION — The appliance should be installed in a stable location.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

GROUNDING OR POLARIZATION

• If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

• If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

OUTDOOR ANTENNA GROUNDING — If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article B10 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

LIGHTNING — For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

POWER LINES — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

OVERLOADING — Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

OBJECT AND LIQUID ENTRY — Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

SERVICING — Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

DAMAGE REQUIRING SERVICE — Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance — this indicates a need for service.

REPLACEMENT PARTS — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

SAFETY CHECK — Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

WALL OR CEILING MOUNTING — The product should not be mounted to a wall or ceiling.

HEAT — The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

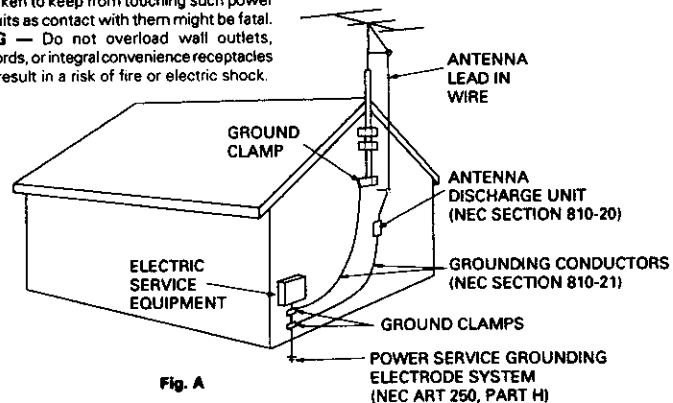


Fig. A

NEC — NATIONAL ELECTRICAL CODE

CONDENSATION

When this unit is brought into a warm room from previously cold surroundings or when the room temperature rises sharply, condensation may form inside, and the unit may not be able to attain its full performance. To prevent this, allow the unit to stand for about an hour before switching it on, or raise the room temperature gradually.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

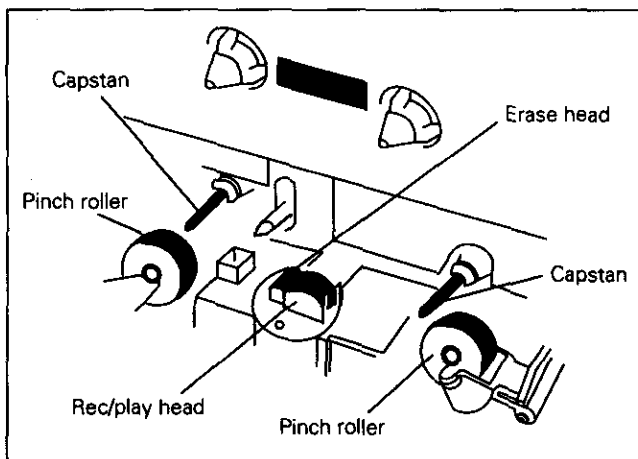
[FOR USE IN THE UNITED KINGDOM] INFRINGEMENT OF COPYRIGHT

Recording and playback of copyrighted material may require consent. See Copyright Act 1956 and the Performers' Protection Acts 1958 and 1972.

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment.

MAINTENANCE



CLEANING THE HEADS, PINCH ROLLERS AND CAPSTANS

The heads, pinch rollers and capstans are likely to get dirty quite easily. If these parts, particularly the heads, get dirty, the high frequency components of a recording will not be reproduced and the stereo balance will be impaired, resulting in a deterioration of the playback sound. It is therefore recommended that the head section be cleaned regularly.

1. Set the STANDBY/ON switch to STANDBY.
2. Press the eject button to open the cassette door.
3. Dip a cleaning swab in cleaning fluid and use it to wipe the heads, capstans and pinch rollers.

NOTE:

After cleaning the head section, do not load a tape until the cleaning fluid has dried completely (about two or three minutes).

DEMAGNETIZING THE HEADS

After using the cassette deck for a period of time, the heads will become magnetized. The same effect will occur if a magnetized screwdriver, magnet or other magnetized object is brought too close to the heads. When the heads become magnetized, highfrequency sounds will be lost during recording or playback, and interference noise may also occur. The heads should be regularly demagnetized with a head demagnetizer, which can be purchased at most audio stores.

When demagnetizing the heads, make sure that the STANDBY/ON switch of the cassette deck is set to ON. **However, be sure to turn down the amplifier's volume control to its lower position**, and disconnect any headphones from their headphones jack. For detailed instructions, refer to the operating instructions of the head demagnetizer.

CLEANING THE FRONT PANEL

Clean the deck regularly with a soft cloth. If the front panel becomes soiled, moisten a soft cloth with a weak solution of neutral detergent (diluted in five to six parts water), wring the cloth well, and wipe the panel clean. Never use volatile cleaners like thinners, benzine or alcohol because they will damage the panel finish.


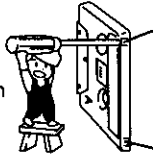
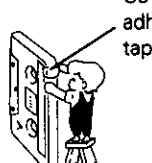
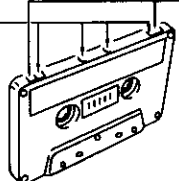
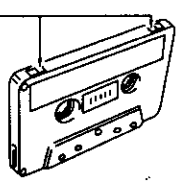
INSTALLATION

When installing the deck, avoid locations with high temperatures or humidity, and make sure that the deck receives adequate ventilation.

- Do not install the deck in locations subject to direct sunlight, or near a space heater or other heating device, as this may cause damage to the finish or internal parts.
- Malfunctions may also result if the deck is installed in an excessively humid or dusty location. Avoid installing the deck next to kitchen counters or other locations subject to oily smoke or humidity.

- If the deck is placed directly on top of an amplifier, it may pick up humming or other noise. Also, if the amplifier generates a large amount of heat, the deck may malfunction.
- If the deck is located near a television set, it may pick up interference noise, which will be recorded as a whistling sound on the tape. If this happens, move the deck further away from the television set or turn the television set off when operating the deck.
- Do not place a cloth over the deck, or block the ventilation slots in any way. The ventilation slots on this deck are necessary to keep internal parts cool. If they are blocked, the deck may malfunction.

HANDLING CASSETTE TAPES

<p>A</p>  <p>Turn the pencil to take up the tape slack</p>	<p>B</p>  <p>For erasure prevention remove...</p> <p>Tab for Side A</p> <p>Tab for Side B</p>	<p>C</p>  <p>Cover with adhesive tape</p>
<p>D</p>  <p>Sensor holes</p> <p>Erasure prevention tabs</p> <p>TYPE IV (Metal) tape</p>	<p>E</p>  <p>Sensor holes</p> <p>TYPE II (High/CrO₂) tape</p>	

Do not use tapes longer than 90 minutes in length

Because over the C-90 tapes are very thin, they can easily jam in the pinch rollers and capstan, and they often are subject to other problems such as irregular winding.

TIPS ON CASSETTE TAPES

- Leader tape (which cannot be recorded on) is provided at the beginning of a cassette tape. Let the tape run for about 5 seconds before starting to record, to allow the leader tape to clear the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case after use so that dust and dirt do not adhere to the tape, and so the tape will not get slack. Store tapes in a location free from magnetism, dust, dirt, oil, heat and humidity.
- If cassette tapes are irregularly wound, the tape may get jammed in the rollers. This can cause damage to both the tape and the deck. If you are not certain whether the tape is wound evenly, fast forward or rewind the tape from beginning to end, to make sure that the tape is properly wound.

CHECK CASSETTE BEFORE USE

Check the following items before loading a cassette tape:

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is loose or projecting outside the cassette shell, the tape may not load properly between the capstan and pinch roller. This will prevent the tape from operating properly, and may even damage the tape itself. To prevent this, insert a pencil into the reel hole and take up the slack (Fig. A).

Some cassette tapes come with a plastic or thick paper stopper to prevent the tape from becoming slack. Remove this stopper when loading the cassette and replace it after using the cassette.

Are the accidental erasure prevention tabs intact?

These tabs allow you to prevent important recordings from being erased accidentally. When the tab on the cassette shell is broken off (Fig. B), it is not possible to activate the recording function, so valuable recordings will not be erased by mistake.

To rerecord on a cassette whose tab has been broken off, simply stick a piece of doubled adhesive tape over the hole (Fig. C).

When using TYPE IV (Metal) or TYPE II (High/CrO₂) tapes, be careful not to block the sensor holes with the tape (Fig. D, Fig. E). If the holes are blocked, the automatic tape selector mechanism will not operate correctly.

NOTES:

- The accidental erasure tab for each side is the one located on the top left when the side that you want to protect is facing you.
- When breaking off the tab, do not use a magnetized screwdriver.

AUTOMATIC TAPE SELECTOR FUNCTION

This cassette deck is equipped with an automatic tape selector function which utilizes the sensor holes on the tape cassette to determine the type of tape being used. The deck is then set to match the tape recording bias and equalization.

NOTES:

- When using TYPE IV (Metal) tapes, make sure that the tapes have sensor holes.
- Make sure that the sensor holes on the cassette are not blocked; otherwise the tape selector mechanism will not function properly.
- Do not use TYPE III (FeCr) tapes.

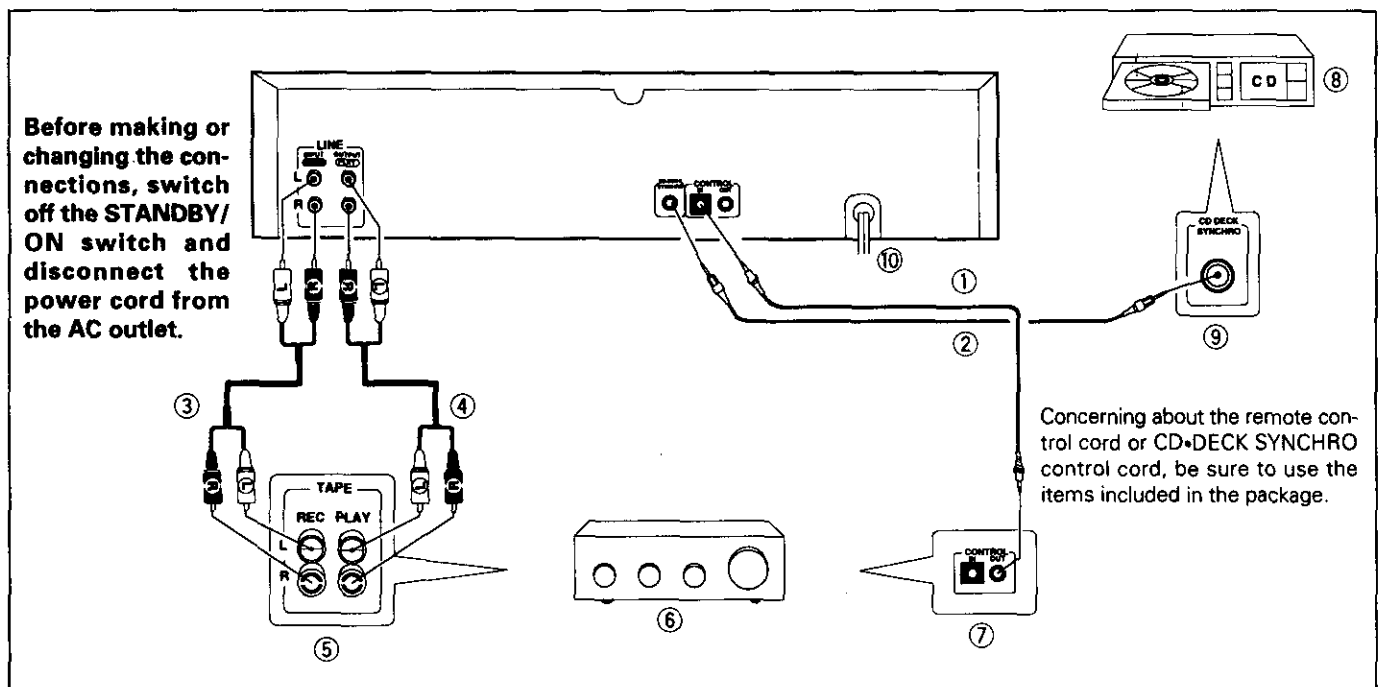
POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

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CONNECTIONS




- ① Remote control cord
- ② CD-DECK SYNCHRO control cord
- ③ Recording connection cord
- ④ Playback connection cord
- ⑤ TAPE REC/PLAY jacks
- ⑥ Stereo Amplifier
- ⑦ CONTROL OUT jack
- ⑧ Compact Disc Player
- ⑨ CD-DECK SYNCHRO jack
- ⑩ Power cord

- Read through the operating instructions of the stereo components which you intend to connect to this unit.
- Make sure that all of the connection plugs are inserted securely, as improper connections may generate noise.

CONNECTIONS

PIONEER SYSTEM REMOTE CONTROL (①)

CONTROL IN jack

Use the enclosed Remote Control Cord to connect this jack to the CONTROL OUT jack of another component which bears the  mark (indicating that it is equipped with PIONEER System Remote Control). You will then be able to operate this unit using the Pioneer system remote control unit. If the remote control unit does not have separate buttons for deck I and deck II, or a selection button to choose deck I or deck II, the buttons will only operate deck II. To operate deck I with a remote control unit which was not designed for double cassette deck, see page 10.

CONTROL OUT jack

Intermediary jack which outputs signals from the CONTROL IN jack of this unit to the input jack of another unit. Connect this jack to the CONTROL IN jack of another component compatible with PIONEER System Remote Control.

NOTE:

Be sure to connect both of the control cord's plugs securely to the CONTROL IN and CONTROL OUT jacks. Do not connect only one end of the cable.

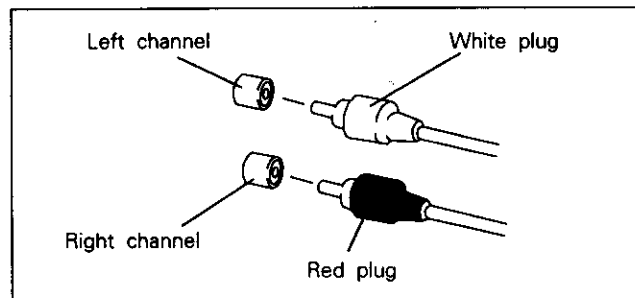
CD-DECK SYNCHRO RECORDING (②)

- CD-DECK SYNCHRO recording can be carried out when this unit is connected to a Pioneer CD player equipped with a CD-DECK SYNCHRO jack.

NOTES:

- *Keep the input and output jacks connected between the amplifier and this unit, otherwise, the CD-DECK SYNCHRO recording cannot be carried out.*
- *Even when the CD player is connected to the amplifier with an optical fiber cable, connect the CD player to the amplifier or this unit with the input and output cords that have pin plugs.*
- *Do not use any cords other than the supplied accessory cord. (Use only the supplied accessory cord.)*

CONNECTING THE RECORDING AND PLAYBACK CORDS (③, ④)



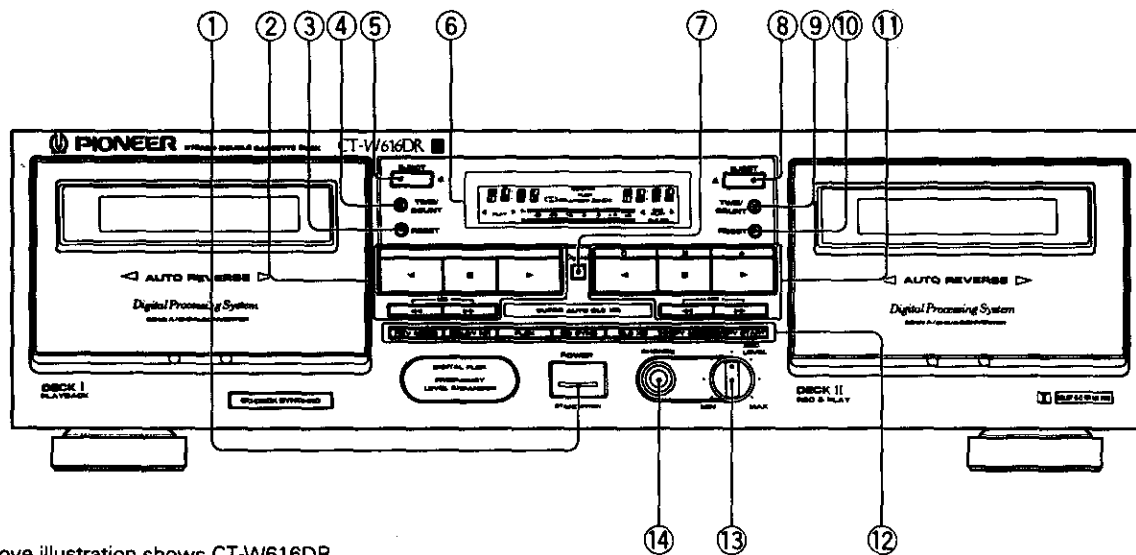
Connect the TAPE jacks of your amplifier to the LINE jacks of the cassette deck. Be sure to connect the REC (INPUT) jacks of the deck to the recording (output) jacks of the amplifier, and the PLAY (OUTPUT) jacks of the deck to the play (input) jacks of the amplifier.

- Connect the plugs properly:
 - Left channel - White plug
 - Right channel - Red plug

CONNECTING THE POWER CORD (⑩)

Insert the power cord of the cassette deck into the accessory AC outlet of your amplifier, or into a normal household outlet.

FRONT PANEL FACILITIES



● The above illustration shows CT-W616DR.

① STANDBY/ON switch

The STANDBY/ON switch activates the secondary transformer only.

Even when the switch is in the STANDBY position, there will be a power flow to the deck's circuits as long as the power cord is connected to a power outlet.

When the STANDBY/ON switch is left ON, standby mode is controlled by the connected amplifier's System Remote Control (SR) function. Press the POWER button on the remote control unit to select the standby mode.

This mode is displayed as "ST-BY" on the DECK II counter. (except for U.S. model)

② DECK I operation buttons

- ◀ : Reverse playback
- : Stop
- ▶ : Forward playback
- ◀◀/MS : Fast reverse/music search
- ▶▶/MS : Fast forward/music search

③ DECK I counter reset button (RESET)

④ DECK I counter mode button (TIME/COUNT)

⑤ DECK I eject button (▲)

- If the tape is moving (playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (▲) button.

⑥ Function display

⑦ Digital indicator

Turns off while the Digital-NR is OFF.

⑧ DECK II eject button (▲)

- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (▲) button.

⑨ DECK II counter mode button (TIME/COUNT)

⑩ DECK II counter reset button (RESET)

⑪ DECK II operation buttons

- ◀ : Reverse playback
- : Stop
- ▶ : Forward playback
- ◀◀/MS : Fast reverse/music search
- ▶▶/MS : Fast forward/music search
- : Recording mute
- ⏸ : Pause
- : Recording

⑫ REV MODE button

DOLBY* NR button (OFF/B/C)

- * *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- "DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

FLEX button (Except for U.S. model of CT-W606DR)

CD-DECK SYNCHRO recording button (CD SYNC).

BLE XD button (Except for U.S. model of CT-W606DR)

COPY MODE button

- NOR : Normal speed copy.
- HI : High speed copy.
- TDNS : TDNS copy (Normal speed copy).

COPY START button

⑬ Recording level control (REC LEVEL)

⑭ Headphones jack (PHONES)

FRONT PANEL FACILITIES

Digital-NR

The Digital-NR is a noise reduction system developed originally by PIONEER. It is an innovative system capable of reducing almost all hiss noise regardless of how the tape being played was recorded.

*(This system can reduce noise based on operations during playback only.)

When a tape is played by selecting Dolby NR, the Dolby NR circuit reduces hiss noise then the Digital-NR circuit eliminates residual hiss noise remaining after the Dolby processing, thereby achieving a very high S/N.

Though this system has been set so that it is activated every time a tape is played, it is also possible to cancel its operation by the procedure described below.

- Sufficient NR effect may not be obtained in case the level of noise recorded in the tape is higher than the hiss noise level.

<How to cancel Digital-NR>

To cancel the Digital-NR, press the DECK I TIME/COUNT button and DECK II TIME/COUNT button simultaneously while the power is ON. (The DIGITAL indicator on the center of the front panel should turn off.)

To activate the Digital-NR again, perform the same operation as above again. The Digital-NR cannot be turned ON/OFF in record-pause mode. Also note that the Digital-NR is always ON in the initial condition after turning the power from OFF to ON.

DIGITAL FLEX SYSTEM (Except for U.S. model of CT-W606DR)

- DIGITAL FLEX system: DIGITAL Frequency Level Expander system. (hereafter abbreviated to FLEX system)
This system automatically compensates high and low frequency level balance above 1 kHz according to the $1/f$ curve during playback.
Generally, the envelope line of sound energy distribution of Hi-Fi sounds corresponds statistically with the $1/f$ curve.
The $1/f$ curve indicates that if the frequency doubles, the level decreases by approx. Half of the original frequency level.
- During playback, the FLEX system automatically compensates tapes with poor sound quality at high frequency levels of 1 kHz and over, based on the appropriate auditory characteristics.
The FLEX system is designed to improve high frequency reproduction in the 10 kHz range be up to about 10 dB (max.), particularly in tapes with poor sound clarity and sound presence at high frequency levels. If the playback tape sound matches the $1/f$ curve, the FLEX system defeats compensation adjustment automatically.
- When you press the FLEX button to turn the FLEX system on and start playback, the FLEX indicator flashes and compensation adjustment begins.
Compensation adjustment takes within approximately 3–5 seconds to complete, depending on the music source. The indicator changes from a flashing to a steadily lit condition when the adjustment is completed.
- When the FLEX system is engaged, each music selection is automatically adjusted during playback. System operation status is indicated by the FLEX indicators (flashing or steadily lit.)

NOTE:

- When a tape has been recorded at a high frequency level above the compensation level, the FLEX system operation is automatically defeated during playback.

DIGITAL SUPER AUTO BLE XD (Except for U.S. model of CT-W606DR)

- With commercially available cassette tapes, sensitivity and frequency characteristics might differ slightly from one another, even though the same sound adjustment is set for them.
To utilize tape characteristics to the maximum possible and realize an ideal recording which reproduces the source exactly, optimum recording level (sensitivity) and equalizer values must be set accordingly for each tape. In many conventional tape decks, standard values are fixed for standard tapes, thus nullifying the subtle differences between individual tapes. Perfect tuning by ear through use of fine adjustment controllers for bias and sensitivity is difficult and requires a lot of effort. It is especially difficult with a 2-head deck where the recording sound cannot be monitored. The AUTO BLE on this unit automatically adjusts bias, level and equalizer by using a microprocessor to set the optimum recording characteristics accordingly for each tape.
- AUTO BLE XD (XD: eXtended Dynamic range)
This function enables recording with expanded dynamic range in the high range by combining our unique bias control technology with conventional AUTO BLE.
After adjusting the above bias, level, and equalization (BLE), this system checks the tape's recording capability by using relatively high level high-range test signals. During recording, AUTO BLE XD controls the bias to maximize the tape's recording capability. This makes possible a more faithful recording of sources having a wide dynamic range in the high range.
- You can switch between AUTO BLE and AUTO BLE XD. Refer to page 13 for the switching procedure.
- Since this system controls the quality of recording itself, the clarity of the sound will be maintained even when the tapes are played back on another cassette deck.

DIGITAL TDNS SYSTEM

DIGITAL TDNS system: Tape Duplication Noise Suppressor system (hereafter abbreviated to TDNS)

Ordinary tape copy contains much noise due to the hiss noise of the copy source master tape and the noise due to tape recording bias. The TDNS is a system which allows to copy tape by reducing the noise. It reduces the hiss noise in the master tape by applying Digital-NR processing and the bias noise by decreasing the recording bias amount while the played music signal is in the no-signal condition. (As a result, the noise in the middle of music is equivalent to the master tape and the noise between music can be reduced.)

- The TDNS copy may not be effective with a master tape in which the noise between music and music signal are hardly distinguishable. In such a case, use the normal-speed or high-speed copy function.

FRONT PANEL FACILITIES

REVERSE MODE (REV MODE)

There are three settings:

One way mode ⇄ position

When this mode is selected by pressing the REV MODE button, playback or recording is performed on one side of the tape only. When the tape reaches the end of the side, it stops automatically (auto stop function).

Two way mode ⇄ position

When this mode is selected by pressing the REV MODE button, playback or recording can be performed on both sides of the tape. When the tape reaches the end of the first (forward) side, its direction is automatically reversed, and playback or recording continues on the other (reverse) side. When it reaches the end of the reverse side, the tape stops automatically (auto stop function). If playback or recording is started from the reverse side, the tape will stop when it reaches the end of that side.

Repeat mode ⇄ position (RELAYPLAY)

[If a tape is loaded in either DECK I or II]

Both sides of a tape are played back repeatedly using the auto reverse system. When 16 sides of the tape have been played back the deck stops automatically.

Recording will be performed in the same manner as the two way mode.

[If both DECK I and II are loaded with tapes]

Relay play will be used for playback (See page 12).

DOLBY NR & DOLBY HX PRO

■ **Dolby NR Systems**

Dolby NR systems are designed to reduce the amount of tape hiss, mainly in the treble components. During recording, the highpitched pianissimo sounds which are most characteristic of audible noise are boosted, and during playback, only these boosted sections are attenuated, so that tape sound is returned to normal. As a result, the noise is attenuated by an amount equal to the boosting in the treble range. The Dolby B-type NR system reduces noise in the treble range, cutting tape hiss and expanding the dynamic range. The Dolby C-type NR system is even more effective in reducing noise, as it reduces noise from the mid-range on.

NOTE:

When a tape has been recorded using the Dolby B-type or C-type NR system, the same DOLBY NR system selected for recording must be selected for playback.

■ **Dolby HX PRO Headroom Extension System**

The DOLBY HX PRO system controls the bias current during recording and maintains it at the optimal level based on the amount of the high-frequency components in the music signal. It therefore provides excellent recording quality even when recording signals from digital sources, which contain a large amount of high-frequency components. To guarantee optimal results, the HX PRO system is activated automatically when recording begins. Since this system controls the quality of recording itself, the clarity of the sound will be maintained even when the tapes are played back on another cassette deck which does not contain the HX PRO Headroom Extension System.

FRONT PANEL FACILITIES

OPERATION OF DECK I WITH A REMOTE CONTROL UNIT NOT DESIGNED FOR DOUBLE DECKS (System remote control)

Selecting DECK I

In order to operate DECK I with the remote control unit, adjust the unit as follows: With the power off, press and hold the stop (■) button of DECK I, and turn the power on. Continue to hold the stop (■) button for approximately five seconds. DECK I can now be operated using the remote control unit, but DECK II cannot.

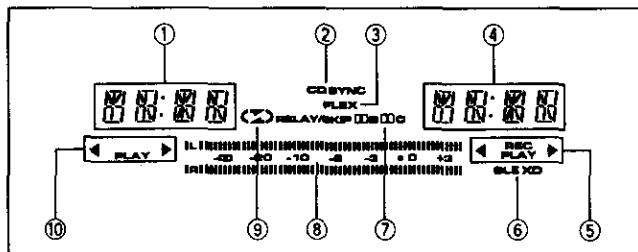
Switching to DECK II

To restore remote control operation to DECK II, press the stop (■) button of DECK II while DECK II is in stop mode. DECK II can now be operated using the remote control unit. Remote control operation can be switched back and forth between decks by pressing the stop button of the desired DECK while it is in stop mode.

NOTE:

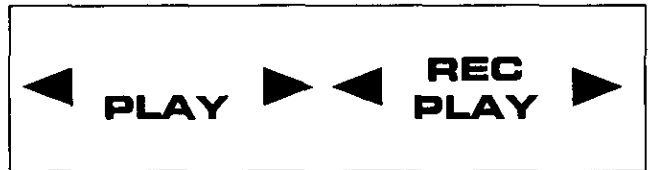
If a power failure or a sudden change in the power supply (caused by lightning, etc.) occurs, the unit is reset to its original state. Only DECK II can be operated by remote control. To restore operation to either deck, repeat the above procedure from the beginning.

FUNCTION DISPLAY



- ① **DECK I counter indicator**
Normally the tape counter or time counter is displayed (see page 11). It flashes for 4 seconds after the power cord is connected to the power supply.
- ② **CD-DECK SYNCHRO indicator (CD SYNC)**
This indicator lights steadily when the CD SYNC button is pressed and the operation starts.
- ③ **FLEX indicator (Except for U.S. model of CT-W606DR)**
This indicator lights when the FLEX button is pressed.
- ④ **DECK II counter indicator**
Normally the tape counter or time counter is displayed (see page 11). It flashes for 4 seconds after the power cord is connected to the power supply.
- ⑤ **DECK II tape transport mode indicators**
See table entitled "TAPE TRANSPORTATION MODE INDICATORS" on this page.
- ⑥ **DECK II AUTO BLE XD indicator (Except for U.S. model of CT-W606DR)**
● See page 13.
- ⑦ **DOLBY NR B/C indicator**
- ⑧ **Level meter**
Holds peak for about 1.3 seconds.
The "●" mark beside the 0 dB mark indicates the Dolby NR system standard level.
- ⑨ **Reverse mode indicator**
- ⑩ **DECK I tape transport mode indicators**
See table entitled "TAPE TRANSPORTATION MODE INDICATORS" on this page.

TAPE TRANSPORTATION MODE INDICATORS



These indicators display the current tape transport mode. The chart below shows the meaning of each of these indicators. The indicators for DECK I and DECK II differ only in the location of the PLAY and REC indicators (DECK I-left, DECK II-right).

For both DECK I and II

⦿ Flashing rapidly

	Forward mode	Reverse mode
Stop	▶	◀
Playback	▶ PLAY	◀ PLAY
Fast forward	▶⦿	◀⦿
Fast reverse	◀⦿ ▶	▶⦿ ◀
Forward music search	◀-▶ PLAY	▶-◀ PLAY
Reverse music search	◀-▶ PLAY	▶-◀ PLAY

DECK II only

◻ Flashing slowly

	Forward mode	Reverse mode
Playback pause	▶ ◻	◻ ▶
Recording	▶ REC	◀ REC
Recording standby	▶ ◻	◻ ▶
Recording mute	◻ ▶	◻ ▶

FRONT PANEL FACILITIES

TWO MODES COUNTER

Counter Mode button (TIME/COUNT)

Press the button, and 2 modes change alternately.
Tape counter \rightleftharpoons Time counter

■ Tape counter

Different counters are provided for DECK I and II. The number on the counters increase/decrease as a tape runs. It is useful if you make a note of the location and length of a selection while recording or playing back. You can then easily locate a desired selection or where to resume recording.

■ Time counter

- This indicates the elapsed time for recording or playback. This automatically starts counting when recording or playback starts. During fast-forwarding/rewinding, the counter automatically switches to a tape counter.
- The time counter indicates only the time duration of recording or playback. When recording or playback is changed to fastforwarding, rewinding, or music search, the counter switches from the time counter to the tape counter. When the operation returns to recording or playback, the counter switches to the time counter.
- Tape counter indication

0 0 0 0

- Time counter indication

0 0 : 0 0

Counter reset button (RESET)

Press this button to reset the tape counter to 0 0 0 0, or to reset the time counter to 0 0 : 0 0.

Counter indicator during music search

0 0 0 0

Normal tape counter indicator



P+01

Counter indicator during music search

Plus sign

P-01

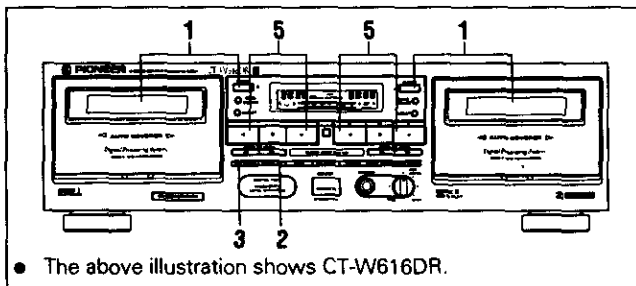
Minus sign

- A plus sign (+) appears during music search in the forward direction.
- A minus sign (-) appears during music search in the reverse direction.

The last two digits of the counter indicator show the number of selections to be skipped. If three selections are to be skipped, for example, it shows "P+03" initially. The number then decreases by 1 each time a selection is skipped ("P+02" → "P+01" etc.). When the deck resumes playback, the normal tape counter reappears.

PLAYBACK

SINGLE PLAYBACK (Either DECK I or DECK II)



- The above illustration shows CT-W616DR.

1. Load a prerecorded tape in DECK I or II.
2. Select the Dolby NR mode with the DOLBY NR button.
 - Always set the same Dolby NR system that was used for recording.
3. Select the reverse mode with the REV MODE button (see page 9).
4. Set the stereo amplifier for tape playback.
5. Press the playback (▶ or ◀) button of either DECK I or II.

To improve high frequency sound during playback in tapes with poor recordings (Except for U.S. model of CT-W606DR)

Press the FLEX button and playback the tape.

To stop playback temporarily (DECK II only)

Press the pause (⏸) button.

- To resume playback, either press the pause (⏸) button again, or press the playback (▶ or ◀) button.

To fast forward or rewind tape

▶▶ : Press in stop mode to fast forward the tape on the side which can be seen through the cassette door (the tape on the invisible side is rewind).

◀◀ : Press in stop mode to rewind the tape on the side which can be seen through the cassette door (the tape on the invisible side is fast forwarded).

To stop playback

Press the stop (■) button.

Select the reverse mode with the REV MODE button to ◀.

BLANK SKIP

This function allows you to skip unrecorded portions of the tape during playback.

Press the REV MODE button to ◀.

NOTE:

- When the REV MODE button is set to the ◀ position, the relay mode will be selected.
- When this mode is selected, if the tape deck encounters an unrecorded portion of tape more than 15 seconds in length, it will fast forward the tape until it encounters another recorded portion, and resume playback from that point.

PLAYBACK (RELAY PLAYBACK)

RELAY PLAYBACK

When relay playback mode is selected, continuous playback can be performed. When the tape in the first deck reaches its end and stops, the other deck will automatically begin playback.

1. Load prerecorded tapes in DECK I and DECK II.
2. Select the Dolby NR mode with the DOLBY NR button.
 - Always set the switch to the same positions that were used for recording.
3. Select the (∞) reverse mode with the REV MODE button (see page 9).
4. Set the stereo amplifier for tape playback.
5. Press the playback (▶ or ◀) button of the deck that will start to play first.
 - When the tape in one deck ends, the other deck automatically begins playback.
 - To cancel relay playback, press the stop (■) button.

To improve high frequency sound during playback in tapes with poor recordings (Except for U.S. model of CT-W606DR)
Press the FLEX button and playback the tape.

NOTES:

- Relay playback can begin from either DECK I or DECK II.
- The tape in the idle deck can be replaced during relay playback mode, allowing many tapes to be played back continuously. This is a convenient feature for parties, background music, etc.
- When this mode is selected, if the deck encounters an unrecorded portion of tape more than 15 seconds in length, it will fast forward the tape until it encounters another recorded portion, and resume playback from that point.

To stop playback temporarily (DECK II only)

Press the pause (⏸) button.

- To resume playback, either press the pause (⏸) button again, or press the playback (▶ or ◀) button.

To stop playback

Press the stop (■) button of the operating deck.

PLAYBACK SEQUENCE WITH REV MODE BUTTON SETTING

The playback sequence depends on the setting of the REV MODE button and on which playback (▶ or ◀) button is pressed first. The playback sequence for each possible selection is shown below.

*2 In the repeat (∞) mode, relay playback always begins from the forward direction.

- I ▶ : DECK I forward playback
- I ◀ : DECK I reverse playback
- II ▶ : DECK II forward playback
- II ◀ : DECK II reverse playback
- ∞ : Auto-reverse function
- ∞ → : Relay

REV MODE button	Starting playback button	Another deck mode	Playback sequence
∞	DECK I ▶	*2	[I▶∞I◀→II▶∞II◀→I▶∞I◀... 15 times relay (32 sides playback)
∞	DECK I ◀	*2	I◀→II▶∞II◀→I▶∞I◀→I▶... 15 times relay (31 sides playback)
∞	DECK II ▶	*2	II▶∞II◀→I▶∞I◀→II▶∞II◀... 15 times relay (32 sides playback)
∞	DECK II ◀	*2	II◀→I▶∞I◀→II▶∞II◀→I▶... 15 times relay (31 sides playback)

MUSIC SEARCH

(Skipping forward or backward to playback a desired selection)

The music search function detects blanks (longer than 4 seconds) between selections, advances the tape in the forward or reverse direction to find the beginning of the desired selection and automatically starts playback.

It can find a selection located up to 15 selections before or after the present position.

During forward playback

When you wish to locate a future song, press the ▶▶ button as many times as the number of songs to be skipped. When you wish to listen to the song currently being played from the beginning, press the ◀◀ button once. To return to a previously played song, press the ◀◀ button as many times as the number of songs to be skipped, plus one.

During reverse playback

When you wish to locate a future song, press the ◀◀ button as many times as the number of songs to be skipped. When you wish to listen to the song currently being played from the beginning, press the ▶▶ button once. To return to a previously played song, press the ▶▶ button as many times as the number of songs to be skipped, plus one.

From the stop mode

Press the playback (▶ or ◀) button to set the playback mode, then press the ◀◀ or ▶▶ button to perform music search as mentioned above.

- If the button is pressed more times than the number of selection recorded on the tape, forward search will continue on the opposite side, but reverse search will stop at the tape end.

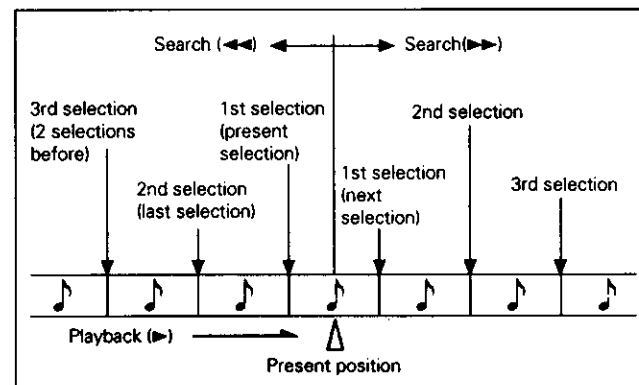
NOTES:

In the following circumstances, the music search function may be unable to properly detect blanks between selections; this is not, however, a sign of a malfunction with the unit.

- When using a tape with blanks between selections less than 4 seconds long.
- When listening to tapes with long low-level intervals, like classical music, or with sound breaks several seconds long within selections.
- When listening to recorded conferences or talk shows, where sound is intermittent.
- When using tapes with noise in the blanks between selections.

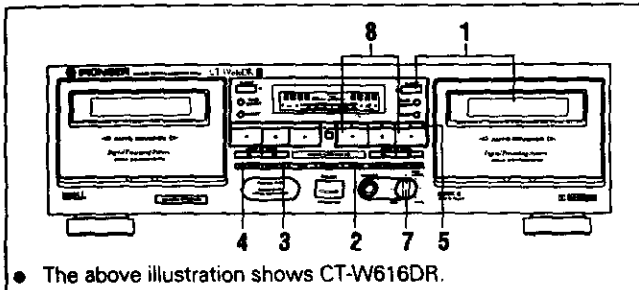
How Selections are counted

When starting the music search operation from the middle of a selection and specifying "1st previous selection," playback will return to the beginning of the present selection. To return to selections further back, count one extra selection.



RECORDING

RECORDING (DECK II only)



• The above illustration shows CT-W616DR.

1. Load a tape for recording in DECK II.
2. If you use AUTO BLE XD, press BLE XD button. (Except for U.S. model of CT-W606DR)
3. Select the Dolby NR mode with the DOLBY NR button.
4. Select the reverse mode with the REV MODE button
 - To record on one side only, set the button to the \Leftarrow position. To record on both sides, set the button to the \Rightarrow .
 - When the record (●) button is pressed while (⇐) has been set, the reverse mode switches automatically to ⇐. In this case, the reverse mode switches back to (⇐) automatically after completion of the recording.

Press the recording (●) button.

Prepare the audio source from which you wish to record. Turn on the stereo amplifier and prepare it for playback of the desired audio source.

Adjust the recording level. For details, see "ADJUSTING THE RECORDING LEVEL" below.

Press the playback (▶ or ◀) button or the pause (⏏) button to begin recording.

When recording on both sides, press the ▶ button. If the ◀ button is pressed, recording will stop after only one side is recorded.

Stop recording temporarily

Press the pause (⏏) button. To resume recording, either press the pause (⏏) button again, or press the playback (▶ or ◀) button.

Recording

Press the stop (■) button.

Erasure prevention tabs

The recording (●) button does not work when the erasure prevention tabs of a loaded cassette tape have been broken off (See page 4). Press the recording (●) button with unreasonable force. When recording on both sides, make sure that both tabs are intact.

ADJUSTING THE RECORDING LEVEL

The level of the recorded signal is the most important factor in good recording results. A high level provides a good signal-to-noise ratio and dynamic range, but an excessively high level distorts. If the level is set too low for fear of sound distortion, hiss will mar the recording. The characteristics of tapes vary according to the manufacturer and the type of tape. Set the recording level meter's "-3 dB" indicator lights so that they are just on the verge of lighting. No harm will be done if the "0 dB" indicator lights occasionally flash.

The recording level may differ somewhat depending on the type of tape used. In order to obtain the best results, the recording level after actual testing should be adjusted differently during recording and playback. This is due to differences in tape sensitivity and recording level.

AUTO BLE XD TUNING (Except for U.S. model of CT-W606DR)

(See page 8 AUTO BLE XD)

1. Load a tape for recording in DECK II.

- The AUTO BLE XD does not work when the erasure prevention tabs of the loaded cassette tape have been broken off.

2. Press the BLE XD button.

The BLE XD indicator will flash for about 50 seconds, after which it will light steadily.

The tape will be forwarded for approximately one second after pressing the start button so that recording will start from the recordable portion of the tape.

The operation is completed when the start position is resumed.

Error display

- If the old tape, the tape end or the leader (white portion) immediately prior to the tape end is reached during AUTO BLE XD operation, tuning becomes impossible. That means recording will stop immediately and the counter indicator will display the following (flashing) message: "Err".

In this case, press the BLE XD button again to reset, and record without AUTO BLE XD tuning.

Turning XD ON/OFF

(Switching between the BLE XD system and BLE system)

After setting the BLE XD system, the XD function can be turned OFF and ON as desired.

When the BLE XD button is pressed in record-pause mode, the XD indicator turns off so that recording is possible based only on the setting of the BLE system. Pressing the BLE XD button again turns the XD indicator on and recalls the BLE XD system setting.

The following illustrates the operation:

Operation	Counter Indicator	Display
(Start)		
① Fast forward	BLE	BLE flashes.
② Record	BIAS	
⑤ Play	LEV L	
③ Record	LEV L	
⑥ Play		BLE lights. XD flashes.
④ Rewind	BLE	
⑧ Rewind	BLE	
⑦ Record	EQ	
⑨ Play		BLE lights. XD flashes.
⑩ Record	BIAS	
⑫ Play		BLE and XD lights.
⑪ Rewind	BLE	
⑬ Rewind or Stop (End of adjustment)	TUNE	

NOTES:

- To cancel AUTO BLE XD tuning before it has finished, press the STOP (■) button.
- To reset a tuned condition, press the BLE XD button again.
- During AUTO BLE XD tuning, a test signal is recorded on the tape to determine the proper adjustment. Therefore, any music (etc.) recorded on that portion of the tape will be erased.
- You can select any type of Dolby NR when using AUTO BLE XD. You can also change the type of Dolby NR after AUTO BLE XD adjustment without disturbing AUTO BLE XD effect.
- If you switch tapes after setting the AUTO BLE XD, be sure to set the AUTO BLE XD again.

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