

Directed[®]
V I D E O

OWNER'S GUIDE
—
INSTALLATION GUIDE



Video Cassette Recorder with TV Tuner

MODEL VC2050

Limited One-Year Warranty

For a period of ONE YEAR from the date of purchase, Directed Electronics, Inc. ("DIRECTED") promises to the original purchaser to repair or replace, free of cost, with a comparable reconditioned model any **VIDEO CASSETTE RECORDER** (hereafter the "UNIT"), which prove to be defective in workmanship or material defect under normal use, provided the following conditions are met: the unit was purchased and installed by an authorized DIRECTED dealer; the unit remains in the vehicle in which the unit was originally installed; and the unit is returned to DIRECTED. The unit in question must be returned to DIRECTED postage paid and must be accompanied by a clear, legible copy of the bill of sale bearing the following information:

- Date of Purchase
- Your Full name and address
- Authorized dealer's company name and address
- Type of unit installed
- Year, make, model, and color of the automobile
- Automobile license number
- Vehicle Identification number
- Installation receipts

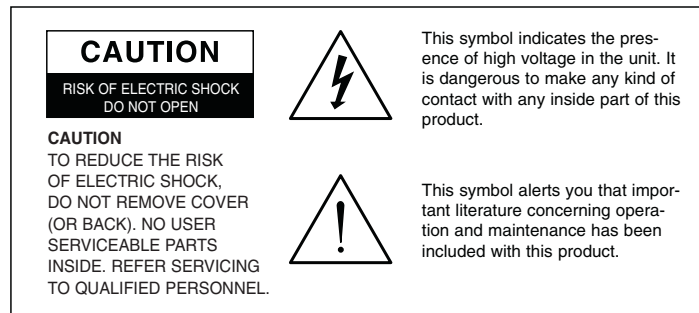
All components other than the unit, including and without limitation the remote control, cables and installation accessories, carry a 60-day warranty from the date of purchase of the same.

This warranty is automatically void if the unit's date code or serial number is defaced, missing or altered; the unit has been modified or used in a manner contrary to its intended purpose; or the unit has been damaged by accident, unreasonable use, neglect, improper service, installation or other causes not arising out of defects in materials or construction. This warranty is nontransferable and does not apply to any unit that has been modified or used in a manner contrary to its intended purpose and does not cover batteries. This warranty **does not cover labor costs** for the removal, diagnosis, troubleshooting or reinstallation of the unit. For service on an out-of-warranty product a flat rate fee by model is charged. Contact

your authorized dealer to obtain the service charge for your unit.

TO THE MAXIMUM EXTENT ALLOWED BY LAW, ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, ARE EXPRESSLY EXCLUDED; AND DIRECTED NEITHER ASSUMES NOR AUTHORIZES ANY PERSON OR ENTITY TO ASSUME FOR IT ANY DUTY, OBLIGATION OR LIABILITY IN CONNECTION WITH ITS PRODUCTS. DIRECTED DISCLAIMS AND HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING DEALERS OR INSTALLERS. IN THE EVENT OF A CLAIM OR A DISPUTE INVOLVING DIRECTED OR ITS SUBSIDIARY, THE PROPER VENUE SHALL BE SAN DIEGO COUNTY IN THE STATE OF CALIFORNIA. CALIFORNIA STATE LAWS AND APPLICABLE FEDERAL LAWS SHALL APPLY AND GOVERN THE DISPUTE. THE MAXIMUM RECOVERY UNDER ANY CLAIM AGAINST DIRECTED SHALL BE STRICTLY LIMITED TO THE AUTHORIZED DIRECTED DEALER'S PURCHASE PRICE OF THE UNIT. DIRECTED SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, ANY CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, DAMAGES FOR THE LOSS OF TIME, LOSS OF EARNINGS, COMMERCIAL LOSS, LOSS OF ECONOMIC OPPORTUNITY AND THE LIKE. NOTWITHSTANDING THE ABOVE, THE MANUFACTURER DOES OFFER A LIMITED WARRANTY TO REPLACE OR REPAIR THE CONTROL MODULE AS DESCRIBED ABOVE. Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights and you may also have other rights that vary from State to State. DIRECTED does not and has not authorized any person or entity to create for it any other obligation, promise, duty or obligation in connection with these UNITS.

Safety Instructions



CAUTION: FCC REGULATIONS STATE THAT ANY UNAUTHORIZED CHANGES OR MODIFICATIONS TO THIS EQUIPMENT MAY VOID THE USER'S AUTHORITY TO OPERATE IT.

IMPORTANT: One Federal Court has held that unauthorized recording of copyrighted TV programs is an infringement of U.S. copyright laws.

Certain Canadian programs may be copyrighted and any unauthorized recording in whole or in part may be a violation of these rights.

To prevent damage that may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

Important Safeguards

1. **Read Instructions** - Read all safety and operating instructions before operating the product.
2. **Retain Instructions** - Retain all safety and operating instructions for future reference.
3. **Heed Warnings** - Adhere to all warnings on the product and in the operating instructions.
4. **Follow Instructions** - Follow all operating and usage instructions.
5. **Cleaning** - Use dry cloth only; do not use liquid or aerosol cleaners.
6. **Attachments and Connections** - Do not use attachments or make any connections other than those recommended by the manufacturer.
7. **Ventilation** - Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect against overheating, these openings must not be blocked or covered.
8. **Power Cord Wiring Harness** - The power cord should be routed in such a way that it is not likely to be stepped on, have objects placed on it, shorted to ground, or hinder operation of the vehicle in any way.

9. **Unit Placement** - The unit should be positioned on a flat, sturdy surface and secured in such a way that it cannot move freely about the passenger compartment or hinder operation of the vehicle in any way.
10. **Object and Liquid Entry** - Never insert objects (other than video cassette tapes, as instructed) into this product. Electric shock, fire, or electric short can occur. Never spill/pour liquid of any kind onto/into this product.
11. **Servicing** - Do not attempt to service this product yourself; opening or removing the covers may expose you to dangerous electric voltage or other hazards. Refer all servicing to qualified service personnel.
12. **Damage Requiring Service** - Unplug this product from the power source and refer to qualified service personnel for the following:
 - a. Liquid has spilled into or objects have been dropped onto the product.
 - b. The product has been exposed to rain or water.
 - c. The product does not operate normally according to the operating instructions. Adjust only those controls covered by the operating instructions, as improper adjustment of other controls can cause damage and can require extensive repair work by a qualified technician to restore normal operation.
 - d. The product has been dropped or damaged in any way.
 - e. The product exhibits a distinct change in performance.
13. **Repairs** - If the unit stops working for any reason, discontinue use immediately and consult with your Directed retailer about any necessary repairs.
14. **Heat** - The product should be located away from heat source devices such as radiators, heater vents, or other products (including amplifiers) that produce heat.

Important Information

FCC NOTICE

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

YOUR WARRANTY

Your warranty registration must be completely filled out and returned within 10 days of purchase. Your product warranty will not be validated if your warranty registration is not returned. Make sure you receive the warranty registration from your dealer. It is also necessary to keep your proof of purchase, which reflects that the product was installed by an authorized dealer.

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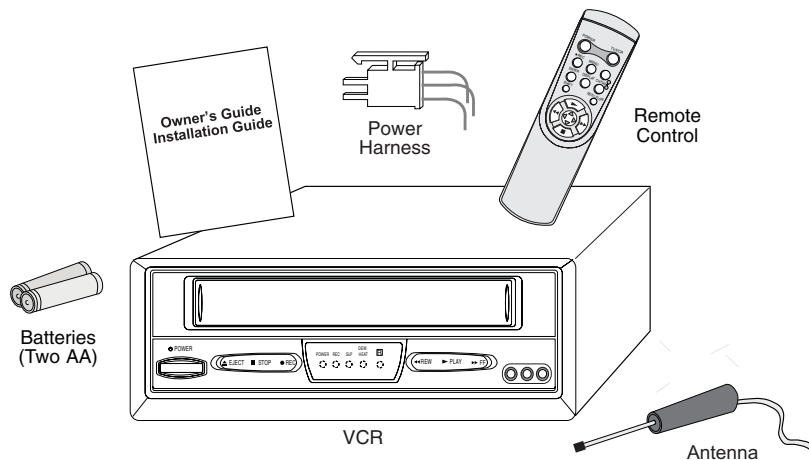
Features

FEATURES

- Hi-Fi stereo.
- Audio/Video inputs.
- Digital auto Tracking.
- Built-in HQ (High Quality) video circuitry.
- Frame advance and slow motion.
- DLC (Diamond Like Carbon) Head - special alloy reduces head wear and increases durability.
- Infrared remote control.
- On-screen display.
- Built-in 125-channel TV tuner.
- Remote Ejection - tape can be ejected using the remote control.

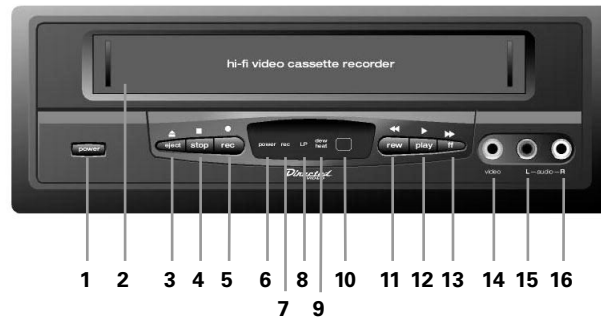
ACCESSORIES

- VCR.
- Remote infrared (IR) sensor (Optional part).
- Antenna.
- Remote control.
- AA Batteries for remote.
- Power harness.
- Mounting brackets (2).
- Mounting hardware.
- 4 machine screws.
- 4 sheet metal screws.
- Sticker sheet to cover unused holes.



RSE DRW-33

Front Panel



1. **POWER** - Turns VCR on and off.
2. **Cassette Compartment** - For cassette insertion/removal.
3. **EJECT** - Ejects cassette.
4. **STOP** - Stops tape movement.
5. **REC** - Starts recording.
6. **Power Indicator Light**
7. **Record Indicator Light**
8. **SP/SLP Indicator** - Lit when VCR is recording in SLP mode.
9. **DEW/HEAT Indicator** - When DEW/HEAT indicator is blinking and "DEW/HEAT" is displayed on the TV screen, which shows the VCR is under a high moist circumstance or VCR is overheated, the VCR will not be able to work. Then the VCR will turn to standby and dry itself. When moisture disappears, the VCR will work normally.
10. **Remote Sensor Eye**
11. **REW** - Rewinds tape from stop mode.
12. **PLAY** - Press to begin playback.
13. **FF** - Fast forwards tape from stop mode.
14. **Video Input**
15. **Audio Input (left)**
16. **Audio Input (right)**

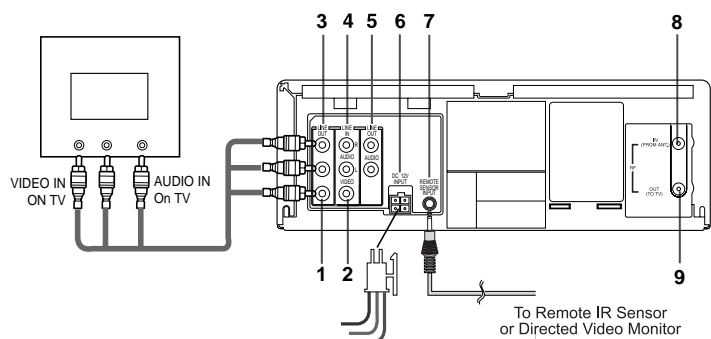
Installation

The VCR can be mounted vertically, horizontally, or at any angle using the optional mounting brackets. The VCR cannot be mounted upside down or on its side. The VCR is sensitive to dirt and other contaminants. Do not mount the unit

in direct sunlight, on the floor near heavy traffic areas, or where fluids are likely to spill on or in the unit. The VCR is for (-) 12 volt ground vehicles only.

Rear Panel/TV Connection/Power

To connect the VCR and TV, use cable type (A/V RCA-type) appropriate to your TV. Connect the VCR and TV as shown:



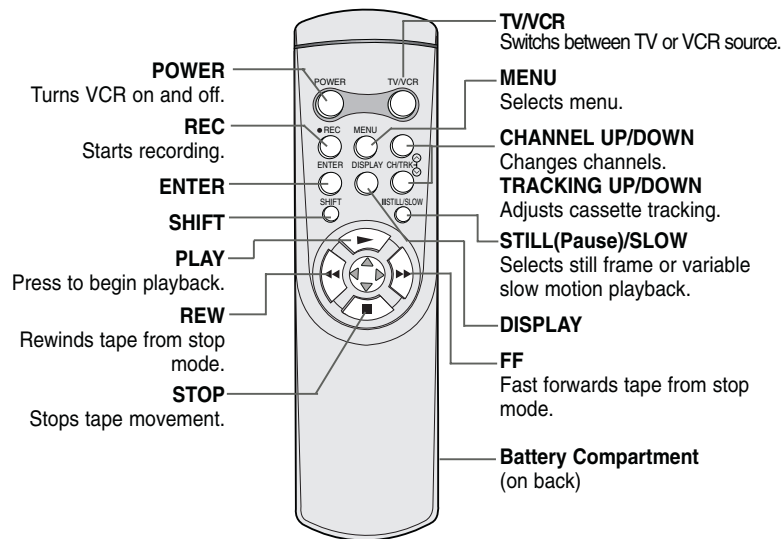
RSE DRW-30

1. **VIDEO OUT** - Connects to TV video input.
2. **VIDEO IN** - Connects to a second VCR for recording or video camera for recording.
3. **AUDIO OUT** - Connects to receiver or amplifier input.
4. **AUDIO IN** - Connects to a second VCR or an audio source to record audio.
5. **Audio Output** - Additional audio output.
6. **DC (+) 12 VOLT INPUT** - To provide power for the VCR, connect the small plug end of the power harness on the back of the VCR.
 RED: This wire connects to a circuit that turns on and off with the key.
 YELLOW: This wire connects to the battery or a constant power source.
 BLACK: This wire connects to a good factory ground wire or a metal part of the chassis.
7. **REMOTE SENSOR INPUT** - The optional remote infrared (IR) sensor eye allows you to access all the features on the remote control when the VCR is mounted in another location away from the remote. To install the remote IR sensor, simply plug it into the input next to the power plug. Run the sensor cable to the front of the vehicle and mount the sensor in a convenient location so that the remote control can be easily pointed toward the remote sensor eye.
8. **IN FROM ANT** - Use to input cable or antenna signal.
9. **OUT TO TV** - Use to output VCR signal to TV or monitor.

Note: Route the wires so they can not be pinched, punctured, or chaffed against bare metal. Always fuse appropriately at the source.

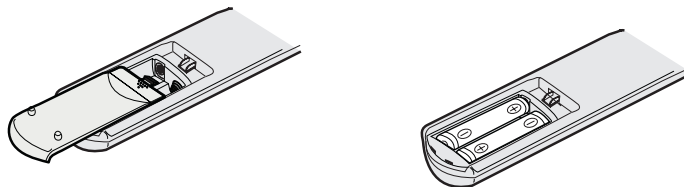
Remote Control

Always aim the remote control directly at the VCR or the remote sensor eye.



Remote Control Battery Install/Replace

1. Slide battery compartment cover out from back of remote control.
2. Insert two AA batteries as diagrammed.
3. Slide battery compartment cover back in.



Playing a Tape

1. Turn TV and VCR on. If connected with RCA cable, set TV to video mode. If connected with RF cable, set TV to channel 3 or 4 and set VCR output to channel 3 or 4 in the MAIN MENU. (Refer to page 11.)
 2. Load a video cassette tape. VCR power turns on automatically.
 3. Press **PLAY** to start playback. If the tape doesn't have a safety tab, VCR will play-back automatically. When playback starts, the VCR automatically adjusts the tracking for clear picture and sound.
 4. To stop playback, press **STOP**.
- tape; this alignment is called tracking. Videocassettes recorded on other VCRs and videocassettes with copy protection may require some manual adjustment.
- To adjust manually, press **CH/TRK** up or down as necessary until the best picture possible is achieved.
- NOTE: Picture distortion often occurs at the beginning of a tape. Let the tape play for a moment to see if the distortion clears. If manual tracking adjustments do not produce a clear picture, there may be a problem with the videotape.*

MANUAL TRACKING

For best picture quality, the VCR video head must be aligned with the recorded track on the

Recording

1. Turn on TV and VCR.
2. Insert videocassette tape.
3. Press the **MENU** button on the remote control to access the on-screen menu. Use the **SHIFT** button to select the Record Speed function. Press the **ENTER** button to select the desired recording speed. Press **MENU** button to exit.
5. Press **REC**; the REC button will light.
6. To pause recording, press **STILL/SLOW**. To resume recording, press **REC**.
7. To end recording, press **STOP**.

Note: Tape speed can be changed while recording; there may be minor distortion but no interruption.

Videocassette Tapes

Always insert the videocassette window-side up with the arrow on the case pointing toward the VCR.

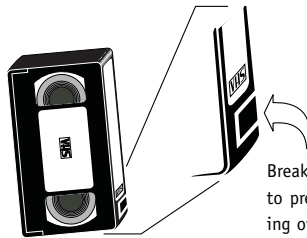
Use only videocassette tapes marked **VHS**. European-standard PAL VHS videocassette tapes and S-VHS prerecorded videocassette tapes are not compatible.

To prevent accidentally recording over previously recorded material, remove the Record Protect Safety Tab on the videocassette case after recording.

To record a tape that has the Record Protect Safety Tab removed, place a piece of cellophane tape over the space from which the tab was removed.

NOTE: The recording time available on a videocassette depends on Tape Speed (SP or SLP) and Cassette Type (T60 = 60 minutes at SP or 180 minutes at SLP; T120 = 120 minutes at SP or 360 minutes at SLP).

| Tape | SP (standard play) | SLP (super longplay) |
|-------|--------------------|----------------------|
| T-120 | 2 hrs | 6 hrs |
| T-160 | 2 hrs, 40 minutes | 8 hrs |
| T-180 | 3 hrs | 9 hrs |



Break off the plastic safety tab to prevent accidentally recording over important tapes.



Cover the record protect space with cellophane tape to make a new recording.

ABOUT VIDEOCASSETTES

- In general, high-quality, brand name videocassettes last longer and provide a better picture.
- Rewind your cassettes all the way so that the tape is not at a midpoint; this can extend the tape life.
- Do not touch or splice the tape; this can damage the tape and playing such a tape can damage the VCR.
- Do not take apart any cassette you plan to use again.

- Do not put any object inside a videocassette and do not clean inside a videocassette; this can permanently damage the tape, making it unusable.

NOTE: Keep cassettes from direct sunlight, heat, or extreme cold. Do not drop cassettes. Never touch the recording surface of the tape.

Using Special Features

FORWARD AND REVERSE PICTURE SEARCH

While in Play mode, press **REW** or **FF**; to resume normal viewing, press **PLAY** button.

FORWARD AND REVERSE JET SEARCH

While in Play mode, press and hold **REW** or **FF**; Jet Search increases the tape speed 7 times if recorded at SP speed or 21 times for tapes recorded at SLP speed. To resume normal viewing, release the button.

NOTE: While in Forward or Reverse Jet Search, audio is muted.

STILL AND FRAME ADVANCE

While in Play mode, press **STILL/SLOW** to stop on a single still frame. Press **STILL/SLOW** again to advance picture frame by frame. To resume normal viewing, press **PLAY**.

Note: Using Still mode for more than five minutes stresses the tape and causes undue stress on the video heads; the VCR automatically disengages Still mode after five minutes have elapsed.

SLOW MOTION PLAYBACK

Press **STILL/SLOW** for more than two seconds for SLOW Motion Playback.

Cleaning and Care

- Disconnect the VCR from the power source before cleaning.
- Do not use liquid or aerosol cleaners on or in the VCR.
- Use a dry cloth to dust the VCR.
- Keep the remote control with the VCR and secure it in such a manner that it is unlikely to be lost or damaged.
- Keep liquids away from the VCR. A spill on the VCR can damage the electronics and cause electric shock or fire.

VIDEO HEAD CLEANING

If poor playback qualities (snow, distortion, streaking, etc.) develop and persist, the unit's videoheads may need cleaning. If necessary, purchase a head cleaning cassette. Do not clean the heads excessively.

When using a head cleaning cassette, read all instructions carefully; incorrect head cleaning can permanently damage the video heads.

IMPORTANT!

DO NOT INSERT ANY OBJECTS INTO THE CABINET SLOTS; CONTACT WITH A VOLTAGE POINT INSIDE THE VCR CAN CAUSE DANGEROUS SHOCK OR MAY SHORT OUT PARTS AND CAUSE FIRE OR ELECTRIC SHOCK.

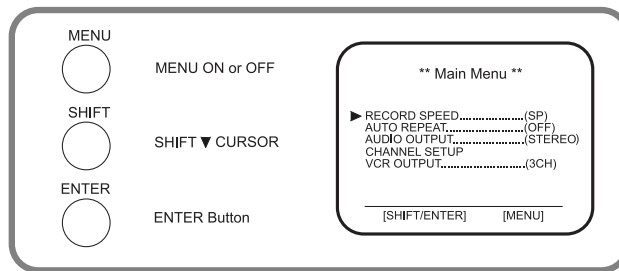
Setting the Main Menu

ON-SCREEN MENU

Your VCR has on-screen menus that allow you to access and control the VCR's programmable features. You will use the buttons on the remote control to work with the on-screen programming. If the setup menu does not appear, make

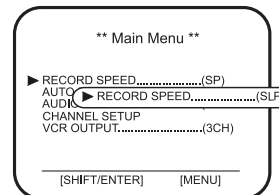
sure the TV is tuned to the same channel as the VCR output CH3/4 on the SETUP MENU of the VCR. If the VCR is in the TV mode, press **TV/VCR** on the remote control to set VCR to TV mode.

To make all of the VCR's features available, set the VCR functions before playing or recording a tape.



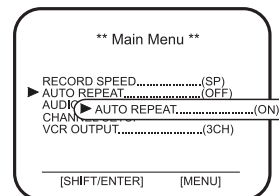
RECORD SPEED

The VCR can record at two tape speeds. The slower speed (SLP) allows the VCR to record more program material on a tape. Tapes recorded at standard speed (SP) provide a clearer picture. (See page 12.)



AUTO REPEAT

Press **ENTER** to activate the AUTO REPEAT. Auto repeat sets the VCR to play a tape repeatedly unless a tape control is activated (stop, fast-forward, or rewind).



AUDIO OUTPUT

Press **ENTER** to change the AUDIO OUTPUT. The VCR can record a program in stereo. It can also be set to record the secondary Audio Program (SAP) of any broadcast with second language audio. The VCR records the same audio on both the Hi-Fi and linear tracks on the tape.

CHANNEL SETUP

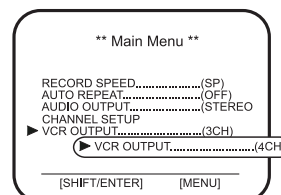
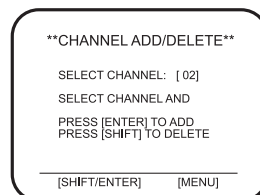
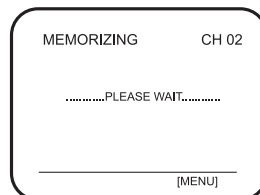
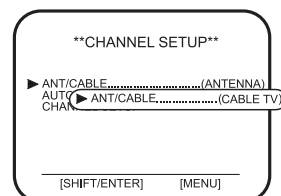
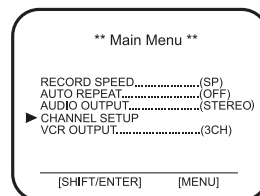
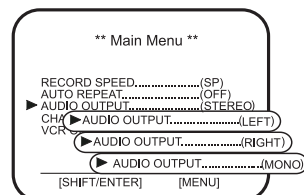
When the VCR memorizes all the available channels, you can use CH/TRK to select channel. Select the **CHANNEL SETUP** using **SHIFT** and **ENTER**.

- Setting the Source**
 Before the VCR can memorize available channels, you must set the signal source for your VCR, leave ANTENNA displayed in the ANT/CABLE screen. If you have a cable system hooked up to your VCR, press **ENTER** to change to CABLE TV.
- Auto Channel Memory**
 Select to activate the auto channel memory. Your VCR will begin scanning through available channels. To interrupt, press **MENU** on the remote control. When the channel number on screen stops changing, the VCR has finished.
- Channel Add/delete**
 You can add or delete channels that have been memorized by the Automatic Channel Memory function. Press **ENTER** to add the selected channel. Press **SHIFT** to delete the selected channel.

NOTE: The Auto Channel Memory function must be performed before Channel Add/delete can be used.

VCR OUTPUT CH

VCR sends the output signals to channel 3 or 4 on your TV. Set the output channel on the menu to 3 CH or 4 CH, whichever is vacant in your area.



Troubleshooting

Before calling for service, check the following:

| PROBLEM | SOLUTION |
|---|---|
| No Power. | Make sure the VCR is on and connected to an operating power source; check the remote for "good" batteries. |
| Videocassette cannot be inserted. | Press EJECT to see if a cassette is already in the VCR. Make sure the videocassette is window-side up, with the arrow pointing toward the VCR. |
| No picture, distorted picture playback. | <ul style="list-style-type: none"> ■ Try another videocassette to see if it plays back properly. ■ Press TRK up or down to adjust the picture. ■ Set INPUT MODE on TV to AUX IN, VIDEO or EXTERNAL. ■ Make sure the TV is working properly. ■ If the problem occurs on more than one tape, try using a video head cleaner cassette. |
| No TV broadcast picture. | <ul style="list-style-type: none"> ■ Check all connections between VCR and TV. ■ Make sure TV is on. |
| Streaks (noise) on a taped program. | <ul style="list-style-type: none"> ■ Press TRK up or down to adjust the picture. ■ Check all connections. ■ View another videocassette to see if it plays back properly. ■ If the problem occurs on more than one tape, try using a video head cleaner cassette. |
| Streaks (noise) or jitter with the VCR in Still mode. | Press TRK up or down to adjust the picture. |
| Streaks (noise) on a taped program. | <ul style="list-style-type: none"> ■ Check if the VCR is in Still mode. ■ Check if the cassette has been rewound. |
| The VCR motor continues to run after STOP is pressed. | This is normal; the video heads run for five minutes even after a cassette has been stopped. |

Specifications

| | |
|-----------------------|--|
| Format | VHS 1/2 inch (12.7mm) |
| Recording System | Rotary Double azimuth four-head helical scanning |
| Video Heads | DA-4 rotary heads |
| Audio heads | Linear : 1 stationary Hi-Fi : 2 rotary |
| Control head | 1 stationary |
| Erase | 1 full track; 1 audio track |
| Record/play time | 6 hours with T-120 in SLP mode |
| Video input | Video IN terminal (RCA) 1.0 Vp-p |
| Video output | Video out terminal (RCA) 1.0 Vp-p |
| Audio input | Audio IN terminal (RCA) 300 MV, 50K ohm |
| Audio output | Audio out terminal (RCA) 300 MV |
| Signal-to-noise ratio | Linear : Better than 40 dB Hi-Fi : Better than 68 dB |
| Power source | 12V DC |
| Power consumption | Approx. 10 Watts while in use |
| Dimensions | 10.5 " (W) x 3.64 " (H) x 10.5 " (D) (265mm x 92.5mm x 265mm) |
| Fuse | Internal 1.6 Amp GMA style |
| Weight | 6.17 lbs (2.8 kg) |

Your VCR can receive 68 broadcast TV channels or up to 125 unscrambled cable channels. Check your local cable company for complete compatibility requirements.

| Type | Number | Channel List of Channels |
|-----------|--------|--|
| On Air | 12 | VHF (Channels 2~13) |
| | 56 | UHF (Channels 14~69) |
| CATV | 113 | Channels 14~22 (A~I) |
| | | Channels 23~94 (J~W+58) and 100~125(W+59-W+84) |
| | | Channels 95~97 (A~5,A~4,A~3)* |
| | | Channels 98~99(A~2,A~1)* |
| | | Channel 01 (5A)* |
| Total 181 | | |

The company behind this system is Directed Electronics, Inc.

Since its inception, Directed has had one purpose, to provide consumers with the finest vehicle security, car stereo products, rear seat entertainment, and accessories available. The recipient of more than 20 patents in the field of advanced electronic technology, Directed is ISO 9001 registered.

Quality Directed Electronics products are sold and serviced throughout North America and around the world.

Call **(800) 274-0200** for more information about our products and services.



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