

KEC MOBILE
® APPLICATIONS

VIDEO CASSETTE PLAYER

OPERATING INSTRUCTIONS

MODEL: MAX2

FOR RV-SPECIFIC DC-ONLY OPERATION

NOTICE: If you need any information, please contact:
KTV Inc. directly at out of state (800) 524-1216
in N.J. (973) 470-9191

CAUTIONS

CAUTION:
♦ ANY CHANGES OR MODIFICATIONS IN CONSTRUCTION OF THIS DEVICE WHICH ARE NOT EXPRESSLY APPROVED BY THE FACTORY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

WARNINGS:

- ♦ TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.
- ♦ DO NOT OPEN THE CABINET. DANGEROUS HIGH VOLTAGE IS PRESENT. SERVICING SHOULD ONLY BE PERFORMED BY QUALIFIED PERSONNEL.
- ♦ THIS VIDEO CASSETTE PLAYER SHOULD ONLY BE OPERATED WITH 12V DC.

GRAPHICAL SYMBOLS EXPLANATION



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



This lightning flash with arrowhead symbol, 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.

The exclamation mark 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.

FCC WARNING:

This equipment may generate or use radio frequency energy. Change or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authorization to operate this equipment if an unauthorized change or modification is made.

NOTE TO CATV SYSTEM INSTALLER:

This unit is provided to call the CATV system installer's attention to Section 520-42 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

IMPORTANT NOTICE TO THE USER OF THIS VIDEO CASSETTE PLAYER CONCERNING THE OPERATION OF THE DEW PROTECTION CIRCUIT.

If you have just moved this unit from a cold area to a warm area, connect the unit to a power supply and turn the unit on. Allow the VCP to warm up, but don't operate it for several hours.

The exposure to a sudden temperature change leads to condensation, resulting in dew (moisture) formation inside the unit. This VCP has a built-in dew or vapor circuit that will not allow the unit to be operated until the humidity inside the unit has evaporated. This normal built-in function protects the video heads and your video tape. Normal operation will be restored once the dew circuit has done its job. You will know that the unit can be operated because the DEW Warning light on the front panel will no longer be illuminated.

If this VCP is mounted in an RV, Van, or other outdoor installation, you should be aware that it may often be exposed to the sudden warning conditions described above. When this occurs, simply follow the procedure outlined above.

FCC ID: B1WVDD301

MADE IN KOREA

THIS DEVICE COMPLIES WITH PART 15 OF THE 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 UNDESIRABLE OPERATION.

TABLE OF CONTENTS

We strongly recommend that you carefully read all of the descriptions and operating procedures contained in this Owner's Manual prior to operating your new MA2X.

• CAUTIONS	2
• TABLE OF CONTENTS (THIS PAGE)	3
• FEATURES	3
• ACCESSORIES	3
• IMPORTANT SAFEGUARDS	3
• FRONT AND REAR VIEWS	4
• POWER CONNECTION	4
• SIGNAL CONNECTION	6
• LOADING & UNLOADING VIDEO CASSETTES	8
• PRECAUTIONS	9
• VIDEO CASSETTE PLAYBACK	10
• SPECIAL PLAYBACK & VISUAL SEARCH FEATURES	11
• REMOTE CONTROL OPERATION	12
• TROUBLESHOOTING GUIDE	13
• SPECIFICATIONS	15
• VIDEO HEAD CLEANING	16
• VIDEO HEAD CLEANING	17

FEATURES

- ♦ Front Loading
- ♦ 12VDC DC Operation
- ♦ Automatic Power On & Play At Tape Insertion
- ♦ Automatic Playback Speed Selection (SP, LP, EP)
- ♦ Automatic End Of Tape Rewind
- ♦ KECC Mobile-Specific Design Package:
 - ♦ DC Fuseless Design
 - ♦ Compact All Electronic Construction
 - ♦ Mobile-Specific Transport Operation
 - ♦ Led Tape Status Indicators
 - ♦ Direct Outputs For Improved Resolution With KECC @ 300 Lines & Other TV Monitors
- ♦ This Unit May Be Remotely Controlled With The Unified TV/VCR Remote Controller.
- ♦ That is Packaged With KECC @ 300 Lines & Other TV Monitors.

This model is designed for Video Cassette playback. Recording is not possible.

ACCESSORIES

These items are packaged with your VCP. Check to make sure that they were included with your unit.

75 Ohm Coaxial Cable	DC CAR Cord (1Way)
OR	

Note: Your VCP will be packaged either with a 75 Ohm coaxial cable or with a pair of RCA Cables, it will not be packaged with both.

IMPORTANT SAFEGUARDS

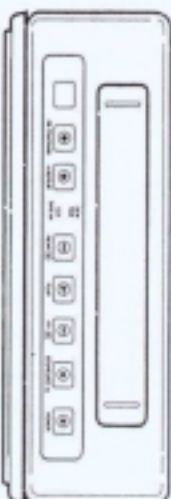
1. **Read Instructions-** All the safety and operating instructions should be read before the product is opened.
2. **Retain Instructions-** The safety and operating instructions should be retained for future reference.
3. **Heed Warnings-** All warnings on the product and in the operating instructions should be adhered to.
4. **Follow Instructions-** All operating and use instructions should be followed.
5. **Cleaning-** Unplug this product from car lighter adaptor before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **Attachments-** Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. **Water and Moisture-** Do not use this product near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement, or near a swimming pool; and the like.
8. **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.
9. **A product and car combination should be moved with care.**
Quick stops, excessive force, and uneven surfaces may cause the product and car combination to overturn.
10. **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 followed to.
11. **Power Source-** 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 car, consult your product dealer or local power company. For products intended to operate from battery power, or other source, refer to the operating instructions.
12. **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.
13. **Protective Attachment Plug-** The product is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.
14. **Object and Liquid Entry-** Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-circuit parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.



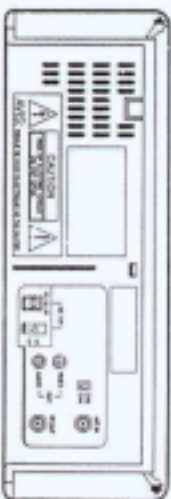
15. **Servicing-** Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. **Damage Requiring Service-** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled, or objects have fallen into the product.
 - c. If the product has been exposed to rain or water.
 - d. 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.
 - e. If the product has been dropped or the cabinet has been damaged.
 - f. When the product exhibits a distinct change in performance that indicates a need for service.
17. **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 parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.
18. **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.
19. **Wall or Ceiling Mounting-** The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
20. **Heat-** The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

FRONT AND REAR VIEWS

FRONT



REAR



FRONT PANEL

1. POWER BUTTON & INDICATOR

Press to turn the VCR on and off. When power is on, the button will illuminate. Inserting a video cassette will also activate POWER ON. If power is pressed while the unit is on and a tape is in the player, power will be turned OFF and the tape will automatically be ejected.

2. STOP/EJECT BUTTON

Press once to stop tape motion. Press again to eject the tape.

3. AUTO REPEAT BUTTON

Press to activate the continuous automatic repeat function. The button will illuminate. When activated, each time the tape comes to the end, it will automatically rewind to the beginning and then begin play again. This cycle will repeat continuously. To cancel AUTO REPEAT mode, press the AUTO REPEAT button again and the VCR will stop.

4. RE-TRACKING BUTTON

Use these buttons to minimize the noise bars that may occur at the top or bottom of the screen during playback.

5. TAPE IN DICATOR

The TAPE light will illuminate whenever a video cassette is in the unit and power is on.
DEW INDICATOR:
 The DEW light will illuminate whenever excessive moisture condenses inside of the VCR. If this light is ON, the unit will not operate. If this occurs, leave the unit in POWER ON mode, and let it remain at room temperature until the light goes off. Please refer to the detailed description of this very important tape protection circuit on Page 2.

6. WIRELESS REMOTE SENSOR

Receives the infrared signal from the unified wireless remote controller that is packaged with KTC Mobile Applications Television/Video. Please note that the remote controller is not packaged with this VCR.

7. REW (REWIND) BUTTON

This button has several functions depending on the current operating mode of the VCR. See the SPECIAL EFFECTS PLAYBACK Section of this manual for a complete description.

NORMAL REWIND:

Press REW button when the VCR is in the STOP or FAST FORWARD mode and the tape will rewind.

REVERSE SEARCH/REVIEW:

Press REW button when the VCR is in the PLAY mode and the tape will be played back at high speed in the Reverse direction.

8. PLAY BUTTON

Press to begin tape playback, and the button will illuminate.

9. FF (FAST FORWARD) BUTTON

This button has several functions depending on the current operating mode of the VCR. See the SPECIAL EFFECTS PLAYBACK Section of this manual for a complete description.

NORMAL REWIND:

Press FF button when the VCR is in the STOP or REWIND modes and the tape will fast forward.

FORWARD SEARCH/CLIP:

Press FF button when the VCR is in the PLAY mode and the tape will be played back at high speed in the Forward direction.

10. CASSETTE LOADING COMPARTMENT & DOOR

Insert the video cassette here.

REAR PANEL

11. DC Car Cord

Connection point for 12 Volt supply.

12. VIDEO OUTPUT JACK

For connection to television monitors equipped with a Direct Video Input.

13. AUDIO OUTPUT JACK

For connection to television monitors equipped with a Direct Audio Input.

Please note that it is not necessary to connect the RF OUTPUT & ANTENNA INPUT TERMINALS SW15 & 16 below if two jacks are used.

14. RF OUTPUT TERMINAL

Connect to the VHF Antenna input terminal on the back of the television with the supplied 75 Ω Cable. If your television does not have a 75 Ω input terminal, you will need to purchase a 75 Ω to 300 Ω adapter.

15. ANTENNA INPUT TERMINAL

Connect the signal from the VHF Antenna to this terminal. When the VCR is not operating, the antenna signal will be passed to the television through the RF OUTPUT TERMINAL connection (see #15 above), and normal television viewing will be enabled.

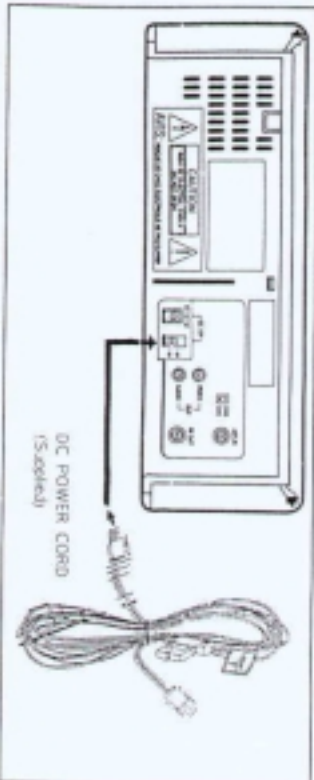
16. CHANNEL 3/4 OUTPUT SELECTOR

Set this selector to Channel 3 or 4-whichever is not active in your area. This will be the channel that you switch to in order to view video tapes.

POWER CONNECTION

This VCP is designed for mobile or portable use and should be attached to a matching male & lock connector supplying power from the vehicle's electrical system.

(Note: We strongly recommend use of male & lock connections throughout the installation as they provide better and more secure power delivery. However, should you wish to connect to a cigarette lighter type plug instead, an adapter is available for this purpose. Contact your distributor or KEC for details.)



DC CAR CORD

To operate on 12Volt Direct Current, attach the supplied Car Battery Cord to the DC Input Connector on the rear of the VCP. Connect the other end of the cord to a matching male & lock connector supplying power from the vehicle's electrical system.

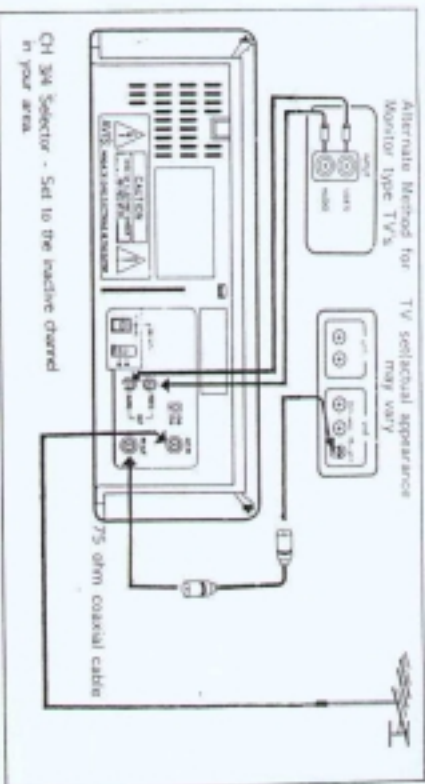
WARNING:

The DC Battery Cord is ONLY for this model. Do not use it to power any other product.

CAUTIONS:

- Make sure that the battery has a 12 Volt nominal rating. A few older vehicles may be rated at 6V.
- Make sure that the negative terminal of the battery is grounded. This set is designed for use with negative ground systems ONLY.
- Check the battery's charge level regularly when a television is used in a vehicle. If the vehicle's supply voltage drops below approximately 10 Volts, the unit may not work properly.
- A 3A blade type fuse is installed in a fuse holder on the Car Battery Cord for protection. To replace a blown fuse, lift up the fuse holder cover, remove the fuse with a fuse puller, and replace it with a new one.
- Do not leave the VCP in a location where temperatures exceed 158° Fahrenheit (70° Centigrade).
- The following cautions only apply to non-permanent installations utilizing a power connection through a Cigarette plug adapter:
 - The inside of a cigarette lighter socket may become fouled with ash or other foreign matter. Clean the inside with a dry cloth to insure a good connection.
 - To prevent possible electric shock and/or possible damage to your VCP, always unplug the DC Cord from the cigarette lighter socket before you unplug it from the VCP.
 - Please remove the Car Cord from the cigarette lighter socket when cranking the engine.

SIGNAL CONNECTION



Method #1 (Conventional)

1. Connect the antenna lead to the ANT IN terminal of the unit.
2. Connect the supplied 75 Ω Cable from the RF OUT terminal of the unit to the ANT IN terminal on the back of your TV.
- To view a television broadcast, turn the POWER button on the VCP to OFF, and tune to the desired channel.

Method #1 (Conventional)

- If your television is equipped with DIRECT AUDIO/VIDEO INPUTS (such as KEC Mobile Applications television), this method will result in better picture detail and clarity on playback of video tapes than is possible with the VCP connected through the antenna and viewed on Channel 3 or 4.
- If you use this method, do not make the antenna connections shown in method #1 above. Instead, attach the antenna lead from the antenna directly to the ANT IN terminal on the back of your TV.
- 1. Obtain a pair of RCA to RCA cables (see illustration) from any local electronics store.
- 2. Connect one cable from the VIDEO OUTPUT Jack on the back of the VCP to the VIDEO INPUT Jack on the back of the television.
- 3. Connect the other cable from the AUDIO OUTPUT Jack on the back of the VCP to the AUDIO INPUT Jack on the back of the television.
- To view a television broadcast, set the TV/VIDEO selector on your television (or Remote Control if applicable) to the TV position.
- To view a Video Cassette, set the TV/VIDEO selector on your television (or Remote Control if applicable) to the VIDEO position.
- Additional instructions on this method will usually be found in the Owner's Manual that came with your monitor equipped television.

LOADING AND UNLOADING

LOADING

Insert Video Cassette so that label label area is facing up. Push the middle of the cassette inward gently. The VCP's transport will advance and load the cassette properly. The Tape IN indicator will light.



UNLOADING

Push the STOP/EJECT button once to stop the tape. Push the STOP/EJECT button a second time to eject the tape. The cassette compartment will open and the tape will be partially ejected. Grasp the cassette and remove it from the VCP.

NOTES:

- Do not use force to insert the cassette into the VCP.
- Loading and unloading of the cassette is only possible when power is connected to the VCP.
- The STOP button on the Unified Remote Controller packaged with KEC Model Applications DC Only Televisions does not eject the tape. To eject the tape with the remote control, press the "POWER" control POWER button.

CORRECT VIDEO CASSETTE INSERTION

The cassette can only be used window side up. The arrow on the cassette must be facing towards the Player. Attempting to insert a video cassette improperly will result in damage to the cassette and/or the player.



VIDEO CASSETTE TYPES

Use VHS type tapes with this unit. This table shows the maximum playback times of various cassettes.

Tape Speed	MAXIMUM PLAYBACK TIME		
	T-150	T-120	T-60
SP(Standard Play)	2 HRS. 40 MIN.	2 HRS.	1 HR.
LP(Long Play)	5 HRS. 20 MIN.	4 HRS.	2 HRS.
EP(Extended Play)	8 HRS.	6 HRS.	3 HRS.

PRECAUTIONS

DEW WARNING

If condensation occurs inside the unit, the DEW indicator will illuminate and built-in protection circuits will not allow the VCP to operate. If this occurs, DO NOT ATTEMPT TO PLAY A TAPE. Do leave POWER ON. When humidity has evaporated from the VCP, the DEW indicator will go off. We recommend that you wait for an additional hour before playing a tape to make sure that all moisture has left the VCP.

Please read the other DEW precautions throughout this manual. Avoid locating the unit in an area where DEW conditions are likely to occur. For example, do not locate the VCP directly in the path of an air conditioner.

DO NOT INSERT ANY OBJECT OTHER THAN A VIDEO CASSETTE INTO THIS PLAYER

Doing so might be dangerous. There is also a strong possibility that damage will occur if any internal parts are touched. Such damage is not covered by your warranty. Do not disassemble the unit. There are no user serviceable parts inside.

AVOID MAGNETIC FIELDS

Do not bring a magnet or a magnetized object near the VCP or recorded video cassettes. Magnets can erase tapes, and hurt the performance of the player.

CLEANING THE UNIT

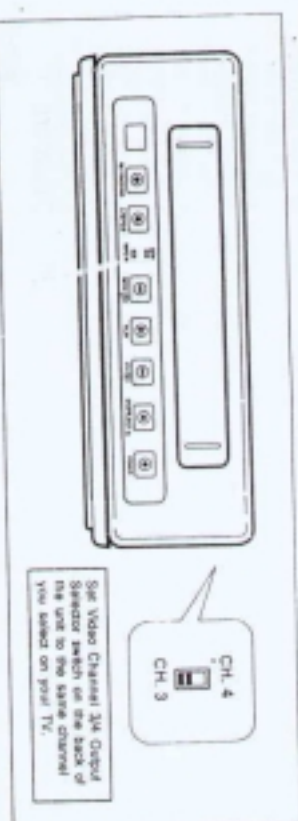
Wipe the unit with a clean, dry cloth. Do not use cleaning fluids or similar chemicals. A slightly moist cloth may be used, but never spray any liquid cleaner or wax directly onto the unit. Do not use a forced air sprayer to remove dust.

VIDEO CASSETTE CARE

The Video Cassette is a precision mechanism. Treat them with care observing the manufacturer's recommendations.

- Don't repeatedly insert and eject a cassette.
- Never try to open the cassette, splice the tape, open the video cassette door, or touch the tape.
- Video Cassette Tapes and VCP's can be wonderful and educational tools for a child, but it is a good idea to properly instruct the child in their proper operation.

VIDEO CASSETTE PLAYBACK



OPERATION

1. Turn on the VCP and TV.
2. Set the TV to the Video Channel/Channel 3 or 4) or set TV/VIDEO mode to VIDEO if the VCP is connected through the television's monitor inputs.
3. Insert a Video Cassette or push the PLAY button to begin Video Playback.
4. When you are finished viewing the tape, push the STOP/EJECT button once to stop the tape. To eject the tape, push the STOP/EJECT button a second time.

SPECIAL OPERATION FEATURES

AUTOMATIC POWER ON/AUTOMATIC PLAYBACK:

To watch a tape, you can just insert a video cassette with VCP Power OFF. The VCP will automatically POWER ON and automatically begin tape playback.

AUTOMATIC END OF TAPE REWIND:

If you allow the Video Cassette to PLAY all the way through, the VCP will automatically go into the REWIND mode when the end of the tape is reached and rewind to the beginning of the cassette.

POWER OFF AUTOMATIC EJECT:

When the VCP's power is turned off and a video cassette is still loaded, the tape will be ejected automatically before power goes off. Please note that this function only works when the VCP is wired to a live voltage source.

RE-TRACKING FUNCTION

While the tape is in PLAY mode:

- ➔ Push the desired RE-TRACKING button.
- ➔ The picture will adjust tracking automatically so the picture is optimized. The circle above the RE-TRACKING button will illuminate in red and blink on and off about once per second.

AUTO TRACKING SYSTEM:

When playback is started, the auto tracking function operates and adjusts tracking automatically so the picture is optimized.

SPECIAL PLAYBACK AND VISUAL SEARCH FEATURES

Please note that all of these special features are intended to make location of specific portions of a tape more convenient. While a picture will be visible on screen, do not expect that picture quality and image stability will be comparable to quality at normal playback speeds. Special features operate best on tapes recorded at SP and EP speed.

VISUAL SEARCH/REVIEW



While the tape is in PLAY mode:

- ➔ Push the desired search button (REW or FFW) ONCE.
- ➔ Tape speed will increase, sound will be muted, and a speeded up picture will appear on the screen. The double arrow above the REW or FF button will illuminate in red.

➔ Search in the FORWARD direction is called CUE, SEARCH in the reverse direction is called REVIEW.

To resume normal speed playback, push the PLAY button.

- ➔ If the VCP is left in CUE or REVIEW mode for more than about 5 minutes, the VCP will automatically return to normal PLAY mode to protect the tape and video heads.

HIGH SPEED VISUAL SEARCH



While the tape is in CUE or REVIEW mode:

- ➔ Push the desired search button (REW or FFW) AGAIN and the picture search speed will be even faster (15 times normal speed on EP recorded tapes, 10 times faster on LP tapes, and 5 times faster on SP tapes). The double arrow above the REW or FF button will illuminate in red.

To resume normal speed playback, push the PLAY button.

- ➔ If the VCP is left in HIGH SPEED VISUAL SEARCH MODE for more than about 5 minutes, the VCP will automatically return to normal PLAY mode to protect the tape and video heads.

NOTES:

- ➔ You may cycle between SEARCH and HIGH SPEED SEARCH modes by repeatedly pressing the REW or FF buttons.
- ➔ A short period is usually needed before a stable picture appears when returning to PLAY mode.
- ➔ Audio is automatically muted in search modes.

REMOTE CONTROL OPERATION

Please note that this Video Cassette Player is not normally packaged with a remote control unit. A Unifred Remote Controller is packaged with selected 3-inch and 13-inch KEC Mobile Applications televisions.

You must install batteries in the remote control hand unit before use. Follow the instructions on battery installation in the TV Owner's Manual.

All VCP functions except AUTO REPEAT may be accessed with the remote controller. For proper operation, the remote control unit must have a clear line of sight to the WIRELESS REMOTE SENSOR on the front of the VCP. It should be within 25 feet of the SENSOR and no more than 30 degrees off center. If operation is sluggish, it is probably time to replace the batteries.

To EJECT the video tape with the remote controller, press the POWER button. VCP Power will be turned off and the tape will be ejected.

IF THE VIDEO CASSETTE PLAYER IS NOT RESPONDING TO SIGNALS FROM THE REMOTE CONTROLLER:

1. Make sure that the batteries in the controller are fresh and are inserted correctly.
2. Move the A-11 switch located directly above the batteries under the battery cover to the opposite position.

AUTO REPEAT FUNCTION

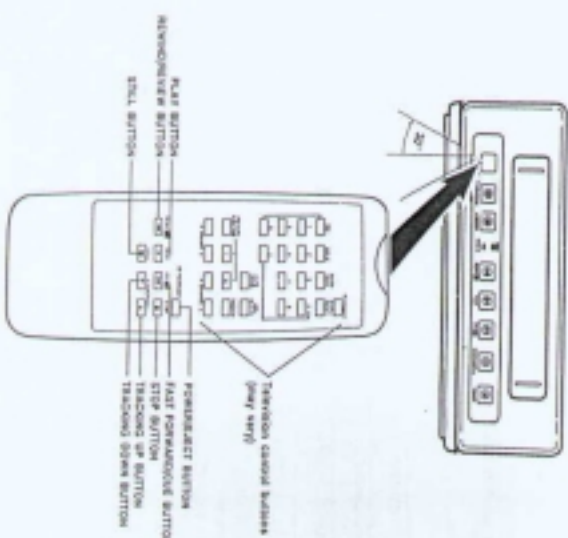
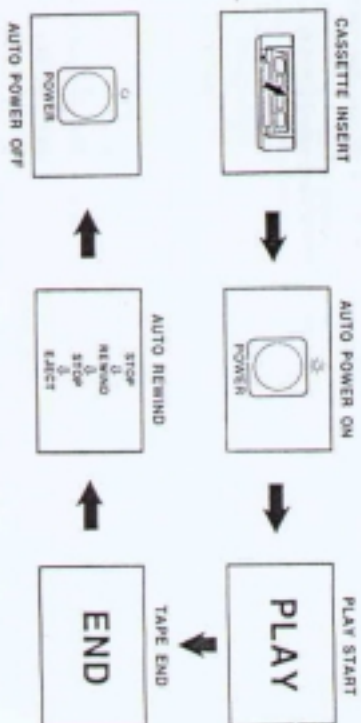


- This feature allows you to play the same video cassette repeatedly.
- Press the AUTO REPEAT button. The light above the button will illuminate.
- The tape will play through to the end, automatically rewind to the beginning, and then begin PLAY again.
- This sequence will be repeated continuously until the AUTO REPEAT button is pressed again.

To end the AUTO REPEAT function, press the AUTO REPEAT button again. The tape will stop playing and return to the STOP mode.

AUTOMATIC PLAYBACK SYSTEM

The Auto Playback System is a convenient way to operate the player without ever having to pass a button. If you insert a recorded video cassette, the unit will turn on, load and play the tape, rewind the tape at the end, eject the tape, and power itself off.



TROUBLESHOOTING GUIDE

Before requesting service, please refer to the following chart for the symptom and possible solution. For more information, see the appropriate section of this manual.

SYMPTOMS	POSSIBLE SOLUTIONS
No power	- Is the DC power cord properly attached at the back of the unit and at the power source? - Is the POWER button pressed ON? - Is the voltage source(sufficiently) properly charged? - Is power reaching the unit? Check any fuses or circuit breakers used in the installation.
Video Cassette Cannot Be Inserted Properly	- Is Power ON? - Is a tape already in the player? - Is the cassette "window side" up? - Is the DEW Indicator illuminated? If so, unit will not operate until light goes off. This is a normal operation of the built-in protection circuit. - Is the DEW Indicator illuminated? If so, unit will not operate until light goes off. This is a normal operation of the built-in protection circuit.
Power Is On But Tape Will Not Play, Fast Forward, or Rewind	- Are the batteries fresh? - Is the A-V-S Switch in the wrong position? See page 15. - Is the channel you are tuned to the same as the Channel 3/4 Output Selector? - Do the heads require cleaning? - Try to adjust picture with manual TRACKING buttons. - Is AUTO REPEAT mode selected?
Tape Is playing, but VCR does not respond to controls (POWER/FF, REW, STILL)	Adjust horizontal hold of television (if available).
Two of Video Cassette Picture Is Distorted	- Turn Video Cassette Player POWER to OFF. - If using direct Audio/Video connection/monitor operation, check that TV/video mode is set to TV.
Regular TV Broadcasts Cannot Be Viewed	If using direct Audio/Video connection/monitor operation, check that TV/video mode is set to VIDEO.
Broadcast Picture When Tape Is Playing	Wait for several seconds. Tape will usually eject on its own.
Video Cassette Tape Loaded Incorrectly	Turn POWER OFF then ON several times.
Poor Picture Quality On Playback	- Check that Cassette Tape is in good condition. - Do the heads require cleaning.

All servicing should be performed by qualified service personnel.

IMPORTANT WARNING:

As explained earlier, this unit has a built-in Power Off Automatic Eject function. We provide this function because it is not a good practice to leave tapes in the unit with POWER OFF especially if the VCR is located in a mobile installation because of the increased exposure to temperature variations and the resulting potential for DEW formation.

The Power Off Automatic Eject function does not function if the VCR is not connected to power. Since many mobile installations draw their power through a switched supply, it is very possible that power to the VCP is lost if the vehicle's system is shut down.

Please insure that any video tape in this unit is ejected BEFORE the vehicle's system is turned off.

NOTICE: If you need any information, please contact KEC/KTV directly at:

Outside New Jersey : (800) 524-1216
From New Jersey : (201) 470-9191

SPECIFICATIONS

Television System	: EIA Standard 525 Lines/60 Fields, NTSC Color System
Power Source	: DC 12 V
Power Consumption	: DC Approximately 11 Watts
Cassette Construction	: IC Solid State
Remote Control System	: Infrared/Not packaged with VCP
RF Modulator	: CH. 3 or 4 Selectable
Antenna	: 75 Ohm VHF Terminal
Operating Temperature	: 5° - 35° Centigrade
Operating Humidity	: 35 - 80 %
Tape Speed	(SP) : 30.25 mm/sec (LP) : 16.67 mm/sec (EP) : 11.12 mm/sec
Cassette Type	: 1/2" Video-VHS Type
Playback Time(T-160)	(SP) : 160 minutes maximum (LP) : 320 minutes maximum (EP) : 480 minutes maximum
Wind/Rewind Time(T-120)	: Less than 4 minutes 30 seconds
Direct Video Output Level	: 1 V Peak to Peak/75 Ω Unbalanced
Horizontal Resolution	: Greater than 220 lines(SP)
S/N Ratio	: Greater than 43 dB(SP)
Direct Audio Output Level	: -6.0 dBm
S/N Ratio	: Greater than 42 dB(SP)
Frequency Response	: 200 Hz - 7 kHz(SP)
Dimensions(W X H X D)	: 288.5 X 89.5 X 290.5 mm(Including antennae)
Weight	: 10.61 X 3.52 X 11.64 inches(Including antennae) : 3.5 Kg/7.7 lbs

CLEANING THE VIDEO HEAD



- Periodic head cleaning is necessary to maintain the high quality picture and reliable operation of this (or any other) Video Cassette Player or Recorder. If tape playback gives you a picture that looks scratching like the picture on the left, but the picture looks fine when watching a regular TV broadcast, you probably need to clean the video head.
- The head cleaning procedure is very simple. Use your local video store and purchase any of the widely available well known Video Head Cleaning Tapes. Follow the instructions that come with the Cleaning Tape-overlies can scratch video head life.
- If good quality tapes are used, head cleaning will not be required very often. But continuing failure to perform this operation may result in gradually deteriorating picture quality.
- If poor quality or damaged tapes are used in this unit, much more frequent head cleaning will be necessary. It is possible that the video heads can become so badly degraded that professional service is required. Service returned as the result of poor maintenance is not covered under warranty. Please protect your investment by using only high quality brand name blank tapes or prerecorded tapes from well known suppliers.