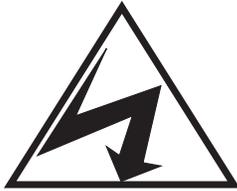


RT-195- G
MOBILE VIDEO CASSETTE RECORDER
USER GUIDE
(NTSC & PAL)

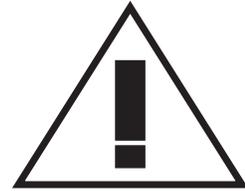


OPERATION MANUAL
VHS





CAUTION!
RISK OF ELECTRICAL SHOCK!
DO NOT OPEN!



CAUTION! TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE!

WARNING!

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. IT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A COMPUTING DEVICE PURSUANT TO SUBPART J OF PART 15 FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE WHEN OPERATED IN A COMMERCIAL ENVIRONMENT.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

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1. INTRODUCTION

Thank you for purchasing an AVE Event Recorder. You have made a wise investment by choosing the latest addition to our Mobile VCR product line. This RT-195-G is an economical, 12VDC event recorder with interactive on-screen programming. All on screen programming is entered via the wireless IR or wired remote control included with the VCR. This eliminates push-button programming for VCRs mounted in permanent enclosures or hard to reach areas. An unobstructed line of sight to the front of VCR is all that is necessary for all programming. An on-screen Alarm counter allows instant verification of alarm occurrence since the last reset. The EOT output is also available for notifying the user when the tape needs replacement.

2. FEATURES

- EOT End of Tape Output
- Alarm Input Programmable (Normally Open or Normally Closed)
- Time and Date On-Screen
- 12 hr/24hr Mode (Standard AM/PM and European time)
- Universal Date Format Programmable (DD/MM/YY, MM/DD/YY or YY/MM/DD)
- 20 Character Title
- Recycle Record On/Off
- Power up Record On/Off
- The RT-195 can record
 - NTSC: T-120 - SP 2 Hrs / EP 6 Hrs T-160 - SP 4 Hrs / EP 8 Hrs
 - PAL: E-180 - SP 3 Hrs / LP 6 Hrs E-240 - SP 4 Hrs / LP 8 Hrs
- Alarm Dwell Record 15 Sec. - 60 Min.
- Display Settings:
 - Horizontal Position
 - Vertical Position
 - Character Gray Scale
 - Character Gray Border
- VCR Status On-Screen Display Programmable On/Off
- IR Remote or Wired Remote On Screen programming
- Tape Speed Selection (SP/EP) in NTSC and (SP/LP) in PAL.

3. SPECIFICATIONS

<i>Description</i>	<i>Specification</i>
Video Input	1 P-P 75 ohm Terminated
Video Output	1 V P-P into 75 ohm Terminated, 2 V P-P unterminated
Horizontal Resolution	220 lines B&W and Color
Video S/N	42 dB
Audio Output	-5 dBm
Audio S/N	38 dB
Audio Response	150Hz-8Khz
Operation Temperature	-5 Deg °C to 40 Deg °C
Power Draw	0.7 Amp
Voltage	12 to 14 VDC
Dimensions	250W X 94H X 260D mm
Accessories	IR wireless remote, Wired Remote, Car Cord, batteries, 12VDC Adapter
Alarm Input	Hi-Z or High Impedance Normally Open Mode - closure to ground triggers alarm mode. Normally Closed Mode must be shorted and when opened triggers alarm.
EOT End of Tape Output	Open Collector, Normally Open Imax=20ma@ 12 VDC max

6. FRONT PANEL



CASSETTE COMPARTMENT

Insert the VHS cassette into this compartment to load the tape.

POWER

DONOT USE THIS BUTTON. VCR power is controlled by the display microprocessor. The VCR will automatically power up when 12 VDC is applied. A red light on this button indicate that VCR's power is ON.

STOP/EJECT

To stop the tape or eject a stopped tape. A green light on this button indicate that cassette is in the VCR.

REC/SPEED

This button can also be used to start recording manually.

A dim Red light indicate that the VCR speed is on SP mode. Green light indicate that VCR is in LP/EP mode. Orange light indicate that the VCR is recording in LP mode and a dark red light indicate that the VCR is recording in SP mode. See programming section to set the speed of VCR.

SENSOR

This sensor receives the infrared signal from the remote control.

REWIND

Use this button to rewind the tape in the stop mode or to perform a reverse picture search in the play mode. A green light indicate that the VCR is rewinding the tape.

PLAY

Use this button to start the play back mode. A green light on this button indicate that the VCR is in the Play back mode.

FAST FORWARD

Use this button to fast forward the tape from stop mode or to perform a forward picture search during play back. A green light on this button indicate that VCR is fast forwarding the tape.

AUTO REPEAT

When the tape ends and auto repeat is on then the VCR automatically starts rewinding the tape and start replay. A red light on this button indicate that AUTO REPEAT is ON. The tape will auto rewind and play again indefinitely while in this mode.

7. BACK PANEL



Power

The RT-195 G takes 12-14 VDC adaptor that connects to the rear of the VCR via the DC coax jack.

Audio Output

Connect the Audio output of the VCR to the audio input of the monitor.

Video Output

Connect Video output of the VCR to the Video input of the monitor.

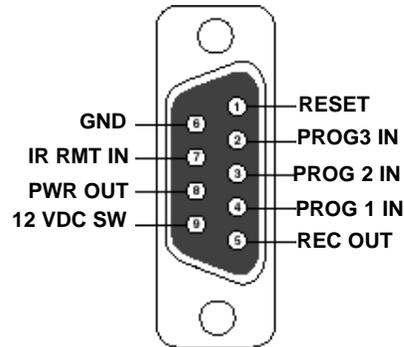
Audio Input

Connect audio output from the audio services to the Audio input of the VCR.

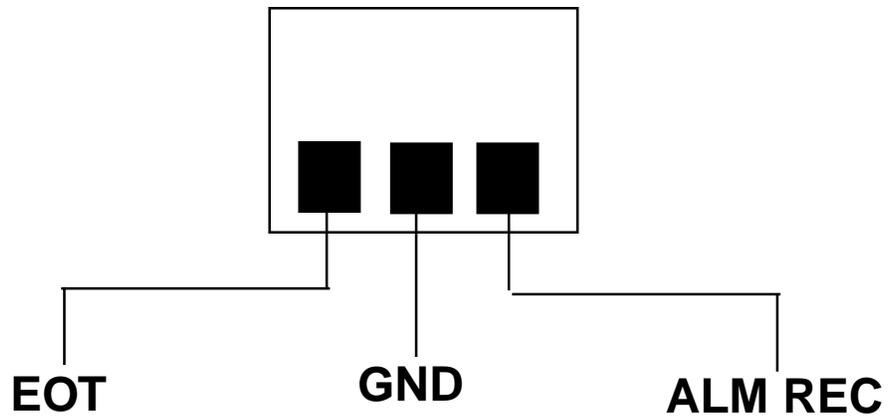
Video Input

Connect video output of the camera or other video source to video input of the VCR.

Pin Out for DB-9 Pin Out for DB-9 Female



P3-Pin Terminal Block



8. REMOTE CONTROL



POWER

Don't use this button. VCR power is controlled by the internal microprocessor. The VCR will automatically power up when 12 VDC is applied to the VCR.

REC

Use combination of these two buttons pressed simultaneously to manually start recording.

PAUSE/STILL

Press during the recording to pause recording. Press during the playback to freeze picture.

Caution: If this button is held for 6 seconds then it will master reset the VCR and clear all the programming to factory default.

SP/EP

Don't use this button. Recording speed can only be set in the on-screen programming mode.

STOP

Press this button to stop a running tape. Alternatively press and hold that button for 3 to 5 seconds to access in the programming mode.

PLAY

Press this button to start the play back mode.

REW

To rewind the tape during the stop mode and to reverse picture search in play back mode.

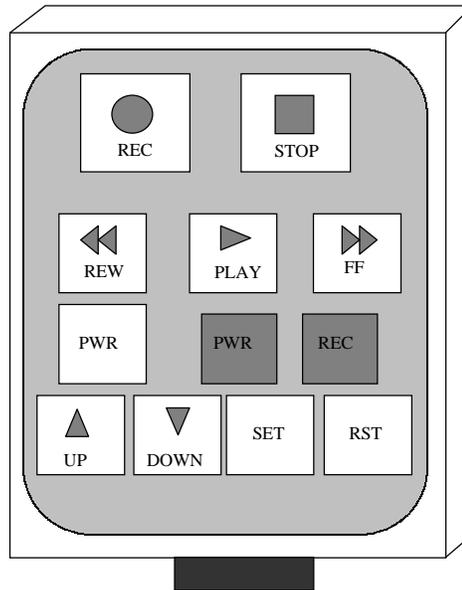
FAST FORWARD

To Fast Forward the tape during the stop mode and forward picture search in the play back mode. In programming mode use this button to access the menu selection.

TRACKING

Use (+) or (-) button to manually adjust the tracking of the picture. In the programming mode use these buttons to move the cursor upward and downward.

9. WIRED REMOTE



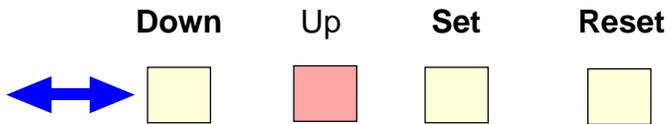
Wired remote can also use in place of IR remote to allow simple changing of display setting as well as the on screen programming of the VCR. Follow the important programming steps to change the display settings. The Rec, Stop, Rew, Play, FF, and PWR buttons do the same function as describe in the front panel control section of this manual.

Changing the Gray scale



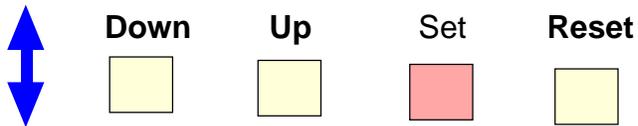
- 1) Press and hold the Down button
- 2) Press and release the Reset button
- 3) Release the Down button
- 4) Press Down or Up to select the Gray scale
- 5) When choice is made, press and release the Reset button

Changing the Horizontal Position



- 1) Press and hold the Up button
- 2) Press and release the Reset button
- 3) Release the Up button
- 4) Press Down or Up to move the text block
- 5) When choice is made, press and release the Reset button

Changing the Vertical Position



- 1) Press and hold the Set button
- 2) Press and release the Reset button
- 3) Release the Set button
- 4) Press Down or Up to move the text block
- 5) When choice is made, press and release the Reset button

10. BASIC OPERATION

Insert Cassette

- Power up the VCR.
- Insert the tape in to the cassette compartment until VCR pulls cassette in.

WARNING : Do not force the tape in the mechanism or this will damage the VCR. If 12 VDC is not applied to the VCR it will not accept the tape.

Start Recording

- Alternatively, Press and release the REC/SPEED button on the front panel or on the IR Remote control to start recording.

Stop Recording

- Press the Stop/ Eject button from the front panel or the Stop button of the IR Remote control to stop recording.

Playback

- Press and release the Play button either from the front panel or from the IR Remote control.

Ejecting the Tape

- Press the Stop/ Eject button once to stop the tape then press and Stop/Eject button again to eject the tape.

11. PROGRAMMING

11.1 RT-195-G On-screen Programming

The RT-195-G can be programmed via the IR or wired remote control. You will need a composite video source in and a monitor connected to be able to see the programming menu.

The programming menu can be accessed via both wired or IR remote control. The following table shows the comparison of accessing the programming menu using the IR remote and wired remote control.

FUNCTION	IR REMOTE	WIRED REMOTE
Main Menu	Hold 'STOP' button for 3 sec	Hold 'UP' and 'DOWN' button and press and release 'RST' button and then release 'UP' and 'DOWN' button.
Cursor up	'+' button	'UP' button
Cursor down	'-' button	'DWN' button
Selecting an option	'PAUSE/ STILL' button	'SET' button

To access the programming menu of the RT-195 VCR, press and hold the **STOP** button for approximately 3 seconds. The following program menu will appear:

Set Time/Date
Titler
Record Setting
Display Setting
Exit

MANEUVERING INSIDE MENUS AND SUB-MENUS

Use the (+) or (-) buttons to move the arrow up or down the on screen-menu. To select press the **PAUSE/STILL** button.

EXITING MENUS AND SUB-MENUS

Utilize the (-) or (+) buttons to select **EXIT**. Once the cursor is on **EXIT** press the **PAUSE/STILL** button.

12 FUNCTION SETTINGS

12.1 Time/Date

Access Main Menu, and select **SET TIME/DATE**. The following Sub-menu should appear:

Time/Date
T/D Display ON [OFF]
Time Format 12 Hour [24 Hour]
Date Format MM/DD/YY [DD/MM/YY, YY/MM/DD]
Set Time/Date
Reset Time/Date
Exit

Make your selection by using the (+) or (-) buttons. Press the PAUSE/ STILL button to make the selection.

Time/Date Display

Time and date display can be toggled on/off by pressing and release **PAUSE/STILL** button.

Time Format

European or Standard AM/PM time is selected by pressing and releasing the **PAUSE/STILL** button.

Date Format

Date Format can be toggle through the selections by pressing and release **PAUSE/STILL** button.

Set Time/Date

Use the (+) or (-) buttons to increment or decrement numerical value. To save selection press and release **PAUSE/STILL** button. To move to next selection press and release **PAUSE/STILL** button. To return Back to sub-menu press and release **STOP** button.

Reset Time/Date

The time and date can be reset to the factory default by pressing and release **PAUSE/STILL** button.

Exit

Press and releae the **PAUSE/STILL** button to go back to the main menu.

12.2 Titler

Programming a Title - The RT-195-G provides you with the option of displaying a 1 line by 20 character title. This will appear as one line of 20 solid blocks, with the first block flashing. Use the (-) or (+) buttons to select the first character of your title. After your selection is displayed, press and release the **PAUSE/STILL** button to advance to the next character position. Follow this procedure to complete the programming of your title. When you have programmed the last character of your title, press and release the **STOP** button. This will return you to the main sub-menu.

12.3 RECORD SETTING

Programming record function is initiated by accessing main menu then, the sub-menu for **Record Setting** once selected the following sub-menu will appear:

Recording Setting	
Recycle Rec	OFF [ON]
Power-up Record	OFF [ON]
Alarm Rec Dwell	1 min [15s,30s,1m,2m,3m,4m,5m,10m,15m,30m,45m,60m]
Alarm-In Mode	NO [NC]
Tape Speed	EP [SP] NTSC / LP[SP] PAL
Exit	

Recycle Record

This optional feature will automatically rewind the tape at **EOT** and start the VCR recording again. The choices for this feature are: **ON** or **OFF**. The factory default is **OFF**. To turn this feature on, from the main menu place the arrow in front of **RECYCLE RECORD** and press and release **PAUSE/STILL** button. The cursor will flash. To change the selection, use the **(-)** or **(+)** button to toggle between the choices, **OFF** or **ON**. After your selection is showing, press and release the **PAUSE/STILL** button and the cursor stops flashing and you may continue programming other features.

Power-Up Record

The **POWER-UP REC** option will allow the RT-195-G to go into the **RECORD** mode when power is applied, considering, a blank tape is in the VCR. The choices for this feature are: **ON** or **OFF**. The factory default is **OFF**. To turn this feature on, from the main menu place the arrow in front of **POWER-UP REC** and press and release **PAUSE/STILL** button. The cursor will flash. To change the selection, use the **(-)** or **(+)** button to toggle between the choices, **OFF** or **ON**. After your selection is showing, press and release the **PAUSE/STILL** button and the cursor stops flashing and you may continue programming other features.

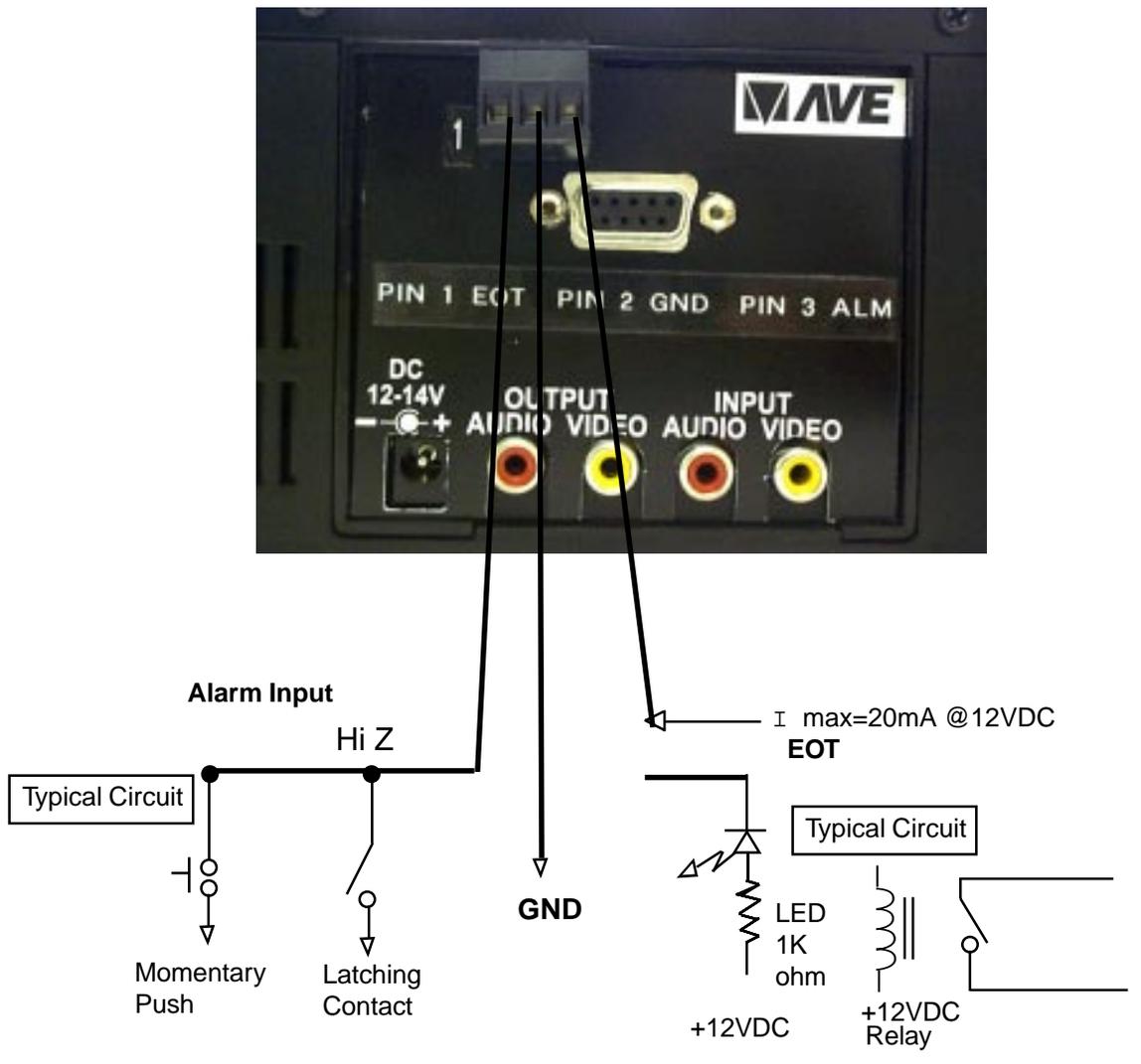
Alarm Record Dwell

This selection allows the length of time the RT-195-G records for upon the acceptance of a valid alarm signal. When the alarm is initiated or in the **true** condition, the RT-195 stays in the alarm mode for the length of the alarm active. The following programmable dwell time settings starts timing out when the alarm is removed or in the **false** condition. The dwell times can be toggle through the selections by pressing and release **PAUSE/STILL** button. The dwell time selection defaults to 1 minute and the possible selections are 15s, 30s, 1m,2m,3m,4m,5m,10m,15m,30m,45m and 60m.

Alarm-In Mode

To utilize this function access the main menu and select **Alarm-In Mode**. The sense of the input signal can be either Normally Open (NO) or Normally Closed (NC) by pressing and release **PAUSE/STILL** button. The following diagram illustrates the connection as appeared on back of RT-195-G. The Alarm pulse must be at least 200 mS to trigger the N/O (Normally Open) or N/C (Normally Closed) input at the rear of the VCR.

Note: When connecting to PIR Motion sensors, do not set the alarm dwell for less than one minute. In busy motion areas, PIRs will constantly trigger the VCR. Event recorders are designed for occasional alarm inputs not continuous. If this is your application a Time Lapse VCR is recommended.



Tape Speed

The tape speeds can be toggle through the selections by pressing and release **PAUSE/STILL** button.

Maximum Recording/Playback Time

Tape speed, SP (Standard Play) or EP (Extra Long Play) or SLP (Super Long Play)

TAPE TYPE	SP	EP/SLP
• T-120	2 Hrs.	6 Hrs.
• T-160	4 Hrs.	8 Hrs.

Note: Because the VCR unloads tape 5 minutes after it goes idle, it takes time to put it back to the business for recording. To overcome this problem, the RT-195-G has a 4 minute timer to keep track of the idle time. After the idle mode is detected, the controller starts a timer. If the timer times out in the idle mode, the controller sends a record command and a stop command 0.25 seconds later. In this way, the VCR is always loaded with tape.

12.4 DISPLAY SETTING

This menu allows control of the Horizontal and Vertical position of the on-screen display and the Gray scale level. To use this feature, first access the main menu and select **Display Setting**. Once you have press and release the PAUSE/STILL button the following menu will appear:

Screen Setting

Display Format	BOTTOM [TOP]
Horizontal Position	
Vertical Position	
Gray Scale/Background	
Alarm Counter	ON [OFF]
VCR Status	ON [OFF]
Exit	

Display Format

The display format allows you to quickly select whether you display the on-screen data at the top of the screen or the bottom. When at the top the format will be:

<time><date><day><alarm counter><VCR status>

<20-character titler><cassette out message>

When the bottom display is selected the following is the format:

<20-character titler><cassette out message>

<time><date><day><alarm counter><VCR status>

Horizontal Position

To change the horizontal position, place the arrow in front of **Horizontal Position**, press and release **PAUSE/STILL**. The screen will display a 3 line by 40 character text block. Use the **(-)** or **(+)** button to move the display left or right on the screen. Once you arrive at the desired position, press and release the **PAUSE/STILL** button and this will save your selection and return you to the sub-menu.

Vertical Position

To change the horizontal position, place the arrow in front of **Vertical Position** and press and release **PAUSE/STILL**. The screen will display a 3 line by 40 character text block. Use the **(-)** or **(+)** button to move the display up or down on the screen. Once you arrive at the desired position, press and release the **PAUSE/STILL** button and this will save your selection and return you to the sub-menu.

Gray Scale

To change the gray scale, place the arrow in front of **Gray Scale** and press and release **PAUSE/**

STILL. The screen will display a 3 line by 40 character text block. Pressing the **(-)** or **(+)** button will allow you to toggle the text block through the 8 level of gray from white to black and two levels with backgrounds. When you get to the desired gray scale level, press and release the **PAUSE/STILL** button, this will return you to the **Display Setting** sub-menu.

VCR Status

The VCR status allows the user to enable or disable the temporary on-screen display of the current operating mode of the VCR. For example when an alarm triggers the VCR into the recording mode, an on-screen display **"REC"** is displayed. When the VCR is commanded to go into fast forward, rewind or stop, the messages **"FFW"**, **"REW"**, **"STP"** respectively are displayed continuously while in this mode. The Play mode message is not able to be displayed while in the play mode. The **VCR Status** can be toggled On/Off by pressing and release **PAUSE/STILL** button.

AVE's LIMITED EQUIPMENT WARRANTY for The RT-195 NTSC or PAL Models

AVE's Products are guaranteed to be free of defects in workmanship and material. If any failure, resulting from either workmanship or material defects should occur under normal and proper usage within the period stated below for each product from the original provable date of purchase, such failure should be repaired at no cost to the buyer for labor and if the defective product(s) is sent to AVE.

RT-195: One (1) year electrical parts, ninety (90) days mechanical parts, ninety (90) days labor, ninety (90) days on video heads.

This AVE warranty does not cover the following:

Products received for repair without an RMA number, sales or delivery receipt showing date of purchase by original customer.

Damages caused by incorrect use, carelessness, unauthorized alterations, improper Storage or unauthorized service installation or repairs.

Damage caused by fire, flood, lighting, vandalism, collision, act of God, or other events beyond the control of AVE.

External parts such as cabinet and key pad.

Damages resulting from loss of use, loss of time or inconvenience, cost of temporary replacement units or spares, property damage caused by this unit or its failure to work, or any other incidental or consequential damages.

Hostile operating environments.

In transit damage claims, improper handling by carrier of post offices.

Products or parts thereof which have had serial numbers removed, altered or defaced.

Damage defect or failure caused by or resulting from the operation of the unit by incorrect voltages.

The use of components that do not meet AVE specifications.

Periodic maintenance and adjustments resulting from normal use such as video head cleaning, mechanical part ware, etc.

Damage resulting from use of cleaning cassettes.

IMPORTANT: This warranty is in lieu of all other warranties, guarantees or agreements whether expressed or implied and no person, dealer, or company is authorized to change, modify, or extend

its term in any manner what so ever.

Warranty Return Policy

Before sending any AVE product to the factory for warranty repair, the customer must obtain an RMA number. This number must appear on the outside of the box and on any documentation accompanying the warranty repair. When calling AVE for an RMA number, be prepared to give a complete description of the problem, the invoice number, and the address to return the repaired item to. The unit must be packed in the original shipping carton or in suitable packing offering a similar degree of protection. Separate items such as power cords, remote controls units, or transformers, should be individually wrapped so as not to cause scratches or other damage during shipment.

Please include your name, telephone number, address, a copy of Sale receipt and a complete description of all inoperative functions. Ship the product prepaid. AVE will pay for the return shipping. However, AVE is not responsible for damage during shipment.

AVE will not accept any warranty repair without an RMA number.