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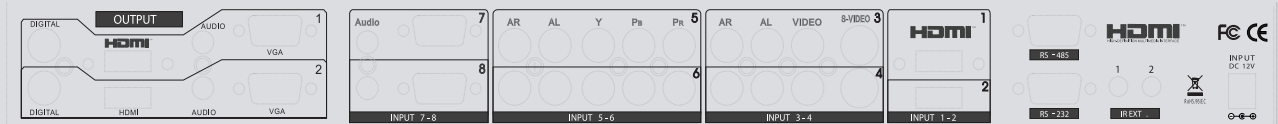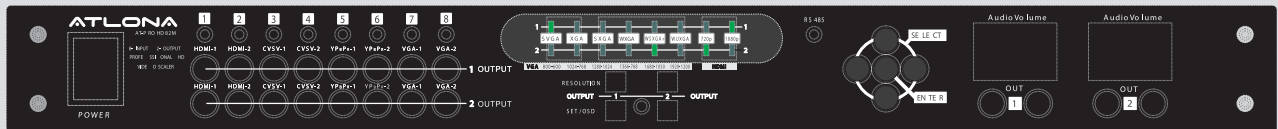
User Manual

ATLONA

8 Input and 2 Output HD Video Scaler with 2 Matrix Outputs

AT-PROHD82M

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INTRODUCTION

Atlona Technologies AT-PROHD82M has big switching power in a compact 1U size. AT-PROHD82M is a Multi-Video Matrix Switcher featuring 8 inputs and 2 outputs; each having both HDMI and VGA connections. Both outputs are matrix and can display signals from any of the 8 inputs. This allows you to send audio and video signals across multiple displays and is great for multi-room applications. Be able to display a presentation from a computer on one display while video conferencing with a client on another at the same time; the possibilities and applications are endless. The AT-PROHD82M scales the outgoing video signal on both the HDMI and VGA outputs. The HDMI outputs are capable of displaying 720p and 1080p. The VGA outputs can display resolutions from SVGA 800x600 to WUXGA 1920x1200. The AT-PROHD82M is also an auto signal sensing switcher. Once a new device powers on, the AT-PROHD82M will automatically select that source and display it on the selected output device. It will also take the analog stereo audio from any of the inputs and send it out on the HDMI outputs. Take control with the On Screen Display, audio volume adjustment for each input, front IR receiver, two rear IR extensions, RS-232 and RS-485 for third party control systems.

The 8 inputs include:
- 2 x Composite Video/S-Video + Stereo Audio
- 2 x Component Video + Stereo Audio
- 2 x VGA + Stereo Audio
- 2 x HDMI

The 2 matrix include:
- 2 x VGA + Stereo Audio
- 2 x Digital Audio S/PDIF
- 2 x HDMI

The AT-PROHD82M will automatically detect incoming TV signals in these formats:
- NTSC 3.58, NTSC-EIAJ, NTSC 4.43
- PAL, PALM, PAL-N, PAL-COMB-N, PAL-60
- SECAM

The AT-PROHD82M HDMI inputs support all resolutions: 480i/p, 720p or 1080i/p.

PC resolutions up to 1920x1200 are ideal for high resolution projectors, LCD and Plasma televisions and other HDTV applications.

Controlling the AT-PROHD82M is provided by front panel buttons with LED indicators, supplied IR remote control or RS-232. The RS-232 connection is designed to interface with third party control systems and programs.

PACKAGE CONTENTS:

- Atlona Technologies AT-PROHD82M multi source HD video scaler with matrix outputs
- IR Remote Control
- 12V DC/3A Universal Power supply 110/240 V
- Instruction Manual
- RS-232 cable
- 19" rack ears

FEATURES:

- The AT-PROHD82M is an 8 input and 2 output matrix switcher and scaler
- Any of the 8 inputs with stereo audio can simultaneously route to any output; and the same input can route to all outputs or any other combination
- Multi-Video input signals include 2 x Composite, 2 x S-Video, 2 x Component, 2 x VGA and 2 x HDMI
- Composite, S-Video, Component and VGA are paired with stereo audio inputs
- Outputs include 2 x VGA + Stereo Audio and 2 x HDMI
- Signal sensing across all inputs automatically detects and changes input
- Direct video input selection by front panel buttons with LED readout
- Direct VGA output resolution selection. VGA resolution up to 1920x1200
- Stereo Audio volume adjustment on front panel
- OSD (On Screen Display) for menu, color, resolution and input source selection
- HDMI and HDCP compliant
- Supports RS-232 interface control driver software and third party control systems
- IR transceiver on front panel for IR remote control (included). External IR port on the rear panel supports extended distances up to 1,000 ft.
- 19" rack mount included, 1U unit height

APPLICATIONS:

Drive 2 HDMI enabled HDTV's and/or 2 displays via VGA with high resolution video and stereo audio from up to 8 different sources and scale each signal up to 1080p or 1920x1200.
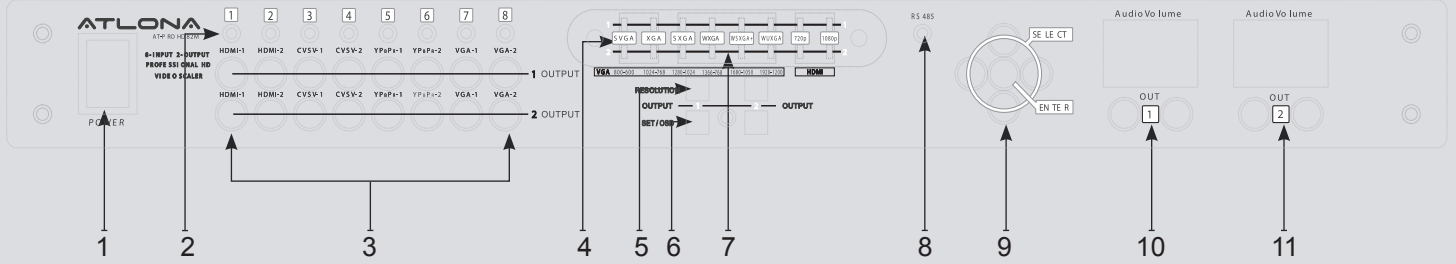
SPECIFICATIONS:

Video Scaling Outputs		2x HDMI (Additional S/PDIF Digital Audio Output for each) 2x VGA via HD-15 Female connector (Audio: 2x 3.5mm connectors)
Video Input Signals*	TV Standards	NTSC-M 3.58, NTSC-J 4.43, PAL-B-D-I-G-H-K, PAL-M, PAL-N COMB-N, SECAM (Impedance 75 ohms)
	Composite Video	2x RCA connectors
	S-Video (Y/C)	2x 4 pin Mini-Din Female connectors
	Component Video (YPrPb)	2x (3x RCA connectors)
	PC-VGA (RGBHV)	2x HD-15 Female connectors
	HDMI	Digital Video, Digital Audio (PCM), 2x HDMI connectors
Input sources		1 & 2 HDMI, 3 & 4 AV, 5 & 6 Component Video/Audio, 7 & 8 VGA
VGA output resolutions		SVGA, XGA, SXGA, WXGA, WSGA+, WUXGA
Video bandwidth		400MHz, (-3 dB)
Audio bandwidth		60MHz, (-3 dB)
Audio Frequency Response		20Hz~20KHz
Safety Approvals		CE, FCC and RoHS (2002/95/EC)
Dimensions (LWH)		19" x 7.87" x 1.75" (482mm x 200mm x 44mm), 1U height
Power Supply		12V DC/3A

Composite, S-Video and Component inputs paired with analog audio input (RCA)
VGA inputs paired with analog audio input (3.5mm)

PANEL DESCRIPTIONS

1. Front Panel

1) POWER SWITCH
The power switch turns the unit on and off. The build in LED will illuminate red to indicate that the switcher is ON and receiving power.

2) INPUT 1-8 SOURCE DISPLAY
Input sources 1-8 LED's illuminate green to indicate that a video source is present on that input.

3) 2x OUTPUT SOURCE SELECT BUTTONS
A separate select button for Output 1 and Output 2 are provided for each destination. Selectable sources are: 1-HDMI, 2-HDMI, 3-CV/SV, 4-CV/SV, 5-YPbPr, 6-YPbPr, 7-VGA, 8-VGA

4) HDMI & VGA RESOLUTIONS DISPLAY
LED displays resolution for HDMI and VGA outputs. VGA will output resolutions of: SVGA (800x600), XGA (1024x768), SXGA (1280x1024), WXGA (1366x768), WSXGA (1680x1050) and WUXGA (1920x1200). HDMI will output 720p and 1080p.

5) RESOLUTION SELECT BUTTONS
Select separate output resolutions for Output 1 and 2.

6) SET / OSD BUTTONS
Select the On Screen Display for Output 1 and 2.

7) IR SENSOR
The IR sensor received IR commands from the supplied remote control.

8) RS-485 LED DISPLAY
RS-485 LED illuminates when RS-485 is present.

9) OSD CONTROL
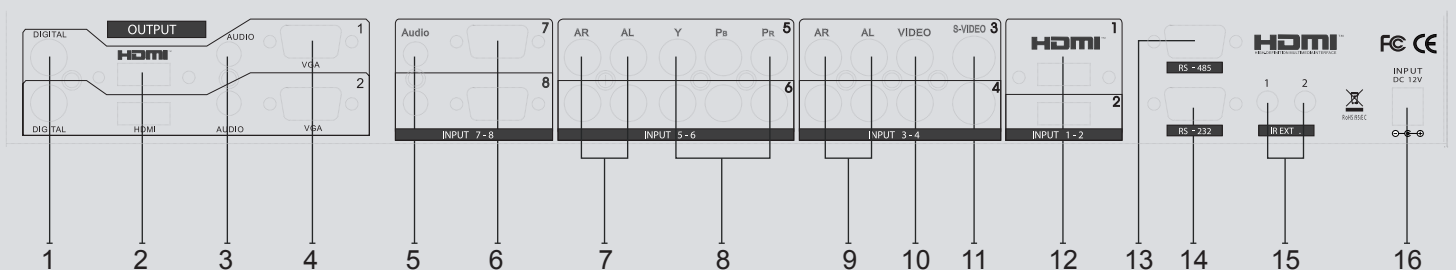Navigate the On Screen Display for both output screens.

10) OUTPUT AUDIO-1 ADJUST
Adjust Output-1 audio level via LED display

11) OUTPUT AUDIO-2 ADJUST
Adjust Output-2 audio level via LED display

2. Rear Panel

1) DIGITAL AUDIO OUTPUTS
Digital audio output for both Output-1 and Output-2 with RCA connector is provided for each destination output. These signals correspond to the HDMI outputs for Output-1 and Output-2 only.

2) HDMI OUTPUTS
Separate HDMI ports for Output-1 and Output-2 are provided for each output destination. These will carry signals converted from Composite/S-Video, Component (YPbPr), VGA and HDMI.

3) STEREO AUDIO OUTPUTS
Stereo audio output for both Output-1 and Output-2 with 3.5mm port is provided for each destination output. These signals correspond to the VGA outputs for Output-1 and Output-2 only.

4) VGA OUTPUTS
Separate VGA (RGBHV) ports for Output-1 and Output-2 with 2x HD-15F female connectors are provided for each output destination. These will carry signals converted from Composite/S-Video, Component (YPbPr), VGA and HDMI.

5) INPUT 7 & 8 AUDIO INPUTS
Input 7 is a stereo analog audio RCA connector (AR/AL*) for Input 7 VGA.
Input 8 is a stereo analog audio RCA connector (AR/AL*) for Input 8 VGA.
* Analog Right/Analog Left

6) INPUT 7 & 8 VGA INPUTS
Both Input 7 and Input 8 is a VGA (RGBHV) input with HD-15P connector.

7) INPUT 5 & 6 AUDIO INPUTS
Input 5 is a stereo analog audio RCA connector (AR/AL) for Input 5 Component video.
Input 6 is a stereo analog audio RCA connector (AR/AL) for Input 6 Component video.

8) INPUT 5 & 6 COMPONENT VIDEO INPUTS
Both Input 5 and Input 6 is a Component (YPbPR) input with RCA connectors.

9) INPUT 3 & 4 AUDIO INPUTS
Input 3 is a stereo analog audio RCA connector (AR/AL) for Input 3 Composite or S-Video.
Input 4 is a stereo analog audio RCA connector (AR/AL) for Input 4 Composite or S-Video.

10) INPUT 3 & 4 COMPOSITE INPUTS
Both Input 3 and Input 4 is a Composite Video input with RCA connector.

11) INPUT 3 & 4 S-VIDEO INPUTS
Both Input 3 and Input 4 is a S-Video (Y/C) input with 4 pin Mini-Din connector.

12) INPUT 1 & 2 HDMI INPUTS
Both Input 1 and Input 2 is a HDMI (Digital) input that is HDCP compliant.

13) RS-485 CONTROL
RS-485 control port to allow for interfacing to a PC or third party control system.

14) RS-232 CONTROL
RS-232 control port to allow for interfacing to a PC or third party control system.

15) IR EXTENDER CONTROL
Separate IR Extender ports for Output-1 and Output-2.
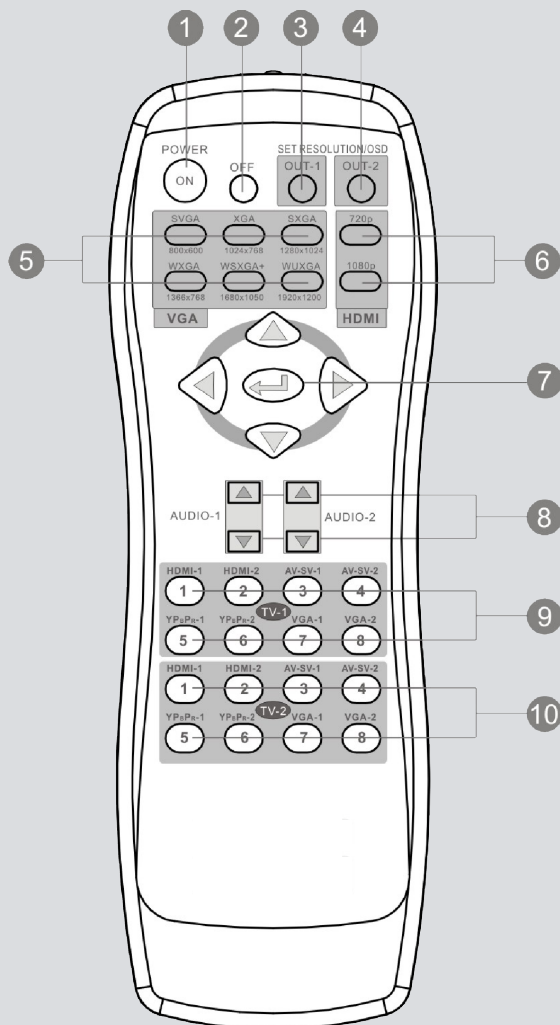IR EXT. 1 is for Output-1
IR EXT. 2 is for Output-2

16) DC POWER INLET
The AT-PROHD82M is fitted with a DC power plug pack input connector. Please ensure that the plug pack used is of an approved type and is of sufficient current carrying capacity with the correct voltage and connector polarity. 12V DC power supply 3A Max.

Before making any connections to the AT-PROHD82M, observe the following:
• Ensure the main voltage supply matches the label on the supplied power plug (+/- 10%)
• Ensure that the power switch is OFF
• Ensure that all system grounds are connected to a common point
• Connect all audio/video sources and destination equipment
• Power up all source and destination audio/video sources
• For each destination output, select the appropriate input source by using the front panel input 1-8 select buttons, the supplied IR remote control or through the RS-232/RS-485 serial communications port
• Upon power up, the AT-PROHD82M will return to its last used setting before powering down

REMOTE CONTROL

1) POWER ON
Turns unit ON with discrete command

2) POWER OFF
Turns unit OFF with discrete command

3) OUTPUT-1 RESLUTION SET / OSD
Setup the Output-1 resolutions or manual OSD

4) OUTPUT-2 RESOLUTION SET / OSD
Setup the Output-2 resolutions or manual OSD

5) SELECT VGA OUTPUT RESOLUTIONS
Select VGA output resolutions as following: SVGA 800x600, XGA 1024x768, SXGA 1280x1024, WXGA 1366x768, WSXGA+ 1680x1050, MAX WUXGA 1920x1200

6) SELECT HDMI OUTPUT RESOLUTIONS
Select HDMI output resolutions as 720p or 1080p

7) MANUAL OSD
OSD navigation buttons to setup or adjust settings

8) AUDIO VALUE ADJUSTMENT
Volume Up and Down adjustment

9) SELECT OUTPUT-1 SOURCES
Inputs 1-8 source selections to be displayed from Output-1

10) SELECT OUTPUT-2 SOURCES
Inputs 1-8 source selections to be displayed from Output-2

INSTALLATION

Connect all source equipment such as HD set top boxes, BluRay & DVD players, VCR, game system, digital media player or computer to any of the 8 inputs on the AT-PROHD82M. Connect the destination displays/televisions to any of the 2 outputs using HDMI or VGA. Make all connections to source equipment and displays before connecting the power supply and powering the unit on.
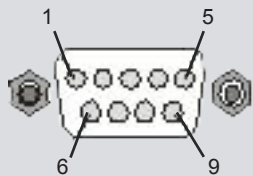
INPUT CONNECTIONS
1. HDMI
2. HDMI
3. S-Video + Audio or Composite Video + Audio
      Output dependent on last source used
4. S-Video + Audio or Composite Video + Audio
      Output dependent on last source used
5. Component Video (YPbPr) + Audio
      Supports all resolutions: 480i, 480p, 720p, 1080i and 1080p
6. Component Video (YPbPr) + Audio
      Supports all resolutions: 480i, 480p, 720p, 1080i and 1080p
7. VGA + Audio
      Supported resolutions: SVGA, XGA, SXGA, WXGA, WSXGA+ and WUXGA
8. VGA + Audio
      Supported resolutions: SVGA, XGA, SXGA, WXGA, WSXGA+ and WUXGA

OUTPUT CONNECTIONS
1. HDMI – HDMI output with digital video and digital audio
   Digital Audio S/PDIF – Digital Audio (PCM) from HDMI input sources
   VGA + Audio – Output resolution scaling to WUXGA (1920x1200)
2. HDMI – HDMI output with digital video and digital audio
   Digital Audio S/PDIF – Digital Audio (PCM) from HDMI input sources
   VGA + Audio – Output resolution scaling to WUXGA (1920x1200)

RS 232 & RS-485 SERIAL INTERFACE

RS-232 & RS-485 SERIAL INTERFACE CONNECTS A PC OR THIRD PARTY CONTROL SYTEM

RS-232 SERIAL INTERFACE

Pin	RS-232	Definition
1	-	Not used
2	Tx	Transmitter
3	Rx	Receiver
4	-	Not used
5	GND	Ground
6	-	Not used
7	-	Not used
8	-	Not used
9	-	Not used

RS-485 SERIAL INTERFACE

Pin	RS-485	Definition
1	-	Not used
2	A	Non-inverting
3	B	Inverting
4	-	Not used
5	GND	Ground
6	-	Not used
7	-	Not used
8	-	Not used
9	-	Not used

RS232

The Atlona AT-PROHD82M switcher can be controlled via the RS-232 serial control port to allow for interfacing to a PC, or similar third party control system.

The serial communication parameters are 9600 baud, 8 bit no parity and 1 stop bit. This is often referred to as 9600 8N1. When the unit recognizes a complete command it will perform the requested action. There is no delimiter character required.

The unit does not send out a message when a value is changed from the front panel or by IR control. If the switcher needs to be controlled in addition to the RS-232 control, you should regularly verify the unit's status to ensure the control system accurately reflects the current settings.

RS 232 SERIAL COMMANDS

1. Protocol Commands

To switch Inputs to Outputs
SBI0XO0Y – Where X is Output Number (1-8) and Y is Input Number (1-2)

Unit will respond with:

SBUD0XOY – Where X is Output Number (1-2) and Y is Input Number (1-8)

Example: Send Input 7 to Output 2
SBI07O02 – Sending Command

SBUD07O2 – Would be feedback command which switcher will send back to the control system to confirm the input change. Command received.

Note: Turning the unit System Power Off over RS-232 will extinguish the LED channel display leaving only the Power Switch LED on. The Video and Audio outputs will also mute. While the unit is turned off by RS0-232 it will continue to accept and act upon switching commands. For example, if the unit is in the off mode (via RS-232) and you send a command to switch an input to an output, that route will complete and the video and audio will now appear on that channel only. The front panel LED channel display for that particular output will also show the input selected (for that single output channel only).
The remaining LED's will remain off and video and audio outputs muted. The unit will still return status and change messages in response to commands sent while in Power Off state. A hard reset command (SBALLRST) will return the unit to normal operation and also unlock the front panel.

Power OFF Command: **SBSYSMOF**
Power ON Command: **SBSYSMON**

Unit will respond with:
Unit is in Standby mode: **SBALOFAK**
Unit is no longer in Standby mode: **SBALONAK**

Example: Put unit in Standby (Soft Power) **SBSYSMOF**
　　　　　Switcher will have feedback with **SBALOFAK**

2. Front Panel Lock
Note: Hard resetting the unit will unlock the Front Panel controls.

Lock Front Panel: **SBSYSMLK** – When locked, change can only be made via RS-232
Unlock Front Panel: **SBSYSMUK**

Unit will respond with: **SBSYSLOK** – Front panel has been locked
SBSYSULK – Front Panel has been unlocked

3. Unit Reset
SBALLRST – Reset every output to Input 1

Unit will respond with: **SBRSTACK** - Unit has reset each Output to Input 1

Example: Reset all Outputs to Input 1: **SBALLRST**
Switcher will have feedback with: **SBRSTACK**

ATLONA PRODUCT REGISTRATION

Thank you for purchasing this Atlona product — we hope you'll enjoy it.

We also hope that you'll take a few moments to register your new purchase. Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona, we respect and protect your privacy and assure you that your registration information is completely secure. Of course, Atlona product registration is totally voluntary and failure to register will not diminish your limited warranty rights.

To register go to **www.atlona.com/registration**

Safeguards

To reduce the risk of electric shock, do not expose this product to rain or moisture.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

Do not modify the wall plug.
Doing so will void the warranty and safety features.

This equipment should be installed near the socket outlet and the device should be easily accessible in case it requires disconnection.

Precautions

FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product or cause fires.

In the event of an electrostatic discharge, this device may automatically turn off. If this occurs, unplug the device, and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins, or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements and swimming pools.

Use only accessories recommended by ATLONA to avoid fire, shock or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning. Do not use cleaning fluid or aerosols, which could enter the unit and cause damage, fire or electrical shock. Some substances may also mar the finish of the product.

Never open or remove unit panels or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-PROHD82M. Opening the product will void the warranty.

Do not attempt to service the unit. Instead disconnect it and contact your Authorized ATLONA reseller or contact ATLONA directly.

1. LIMITED WARRANTY

Atlona Technologies warrants that (a) its products (the "Product") will perform substantially in accordance with the accompanying written materials for a period of 3 YEARS from the date of receipt and (b) that the Product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to Customer.

2. CUSTOMER REMEDIES

Atlona Technologies and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' option, either return of the price paid for the Product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of Customer's receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period or 3 year, whichever is longer.

3. NO OTHER WARRANTIES

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