EKS

ENTERPRISE CAT5 KVM SWITCH WITH DIGITAL VIDEO



USER MANUAL

Control 16 or 32 computers from one keyboard, monitor and mouse over CATx cable, with hotkeys, an on-screen menu and, on PRO models, remote access from a web browser.

Designed and Manufactured in the USA

Smart-AVI
SMART AUDIO VIDEO INNOVATION

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EKS-1602 - EKS-1602-PRO - EKS-3202 - EKS-3202-PRO
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> **In a hurry?**
> Section 5 gets the unit connected, section 6 gets you logged in, and section 10 is a one-page list of every hotkey.

1 INTRODUCTION

The EKS is a KVM switch for the server room. One keyboard, monitor and mouse control 16 or 32 computers, and each computer connects with a single CATx cable up to 150 feet long. A small adapter at the computer end carries its video and USB, so computers with HDMI, DisplayPort or VGA outputs can be mixed on the same switch.

You choose a computer with keyboard hotkeys or from an on-screen menu. Access is protected by user accounts and passwords, and the administrator decides which ports each user may reach. PRO models add remote access over the network from a web browser.

MODELS COVERED BY THIS MANUAL

MODEL	COMPUTERS	CONSOLES	WEB ACCESS
EKS-1602	16	2 local	No
EKS-1602-PRO	16	1 local + 1 remote over IP	Yes
EKS-3202	32	2 local	No
EKS-3202-PRO	32	1 local + 1 remote over IP	Yes

Everything in this manual applies to all four models unless a section says **PRO models**.

KEY FEATURES

- Control 16 or 32 computers from one console
- One CATx cable per computer, up to 150 ft
- HDMI, DisplayPort and VGA computers on the same switch
- Switch by hotkey or from the on-screen display (OSD)
- One administrator and 15 user accounts, with access set per port
- Channel scan, port names and per-channel brightness and contrast
- Front panel lights show which computers are online and which is selected
- Remote access from a web browser (PRO models)
- Firmware upgradeable

2 PACKAGE CONTENTS

QTY	DESCRIPTION
1	EKS unit: EKS-1602, EKS-1602-PRO, EKS-3202 or EKS-3202-PRO
1	AC power cord
1	User manual

Also needed
One computer adapter for every computer (sold separately, see section 3), one CATx cable per computer, and a DVI monitor, USB keyboard and USB mouse for the console.

3 COMPUTER ADAPTERS

Every computer needs one adapter. The adapter plugs into the computer's video output and a USB port, and a CATx cable runs from the adapter to a port on the EKS. Choose the adapter that matches the computer's video output. Adapters are sold separately.



EKS-HD100
HDMI and USB
(sold separately)



EKS-DP100
DisplayPort and USB
(sold separately)



EKS-VG100
VGA and USB
(sold separately)

PART NUMBER	COMPUTER VIDEO OUTPUT	
EKS-HD100	HDMI	Sold separately
EKS-DP100	DisplayPort	Sold separately
EKS-VG100	VGA	Sold separately

The on-screen menus call the adapter a **CIM**.

4 FRONT AND REAR PANELS

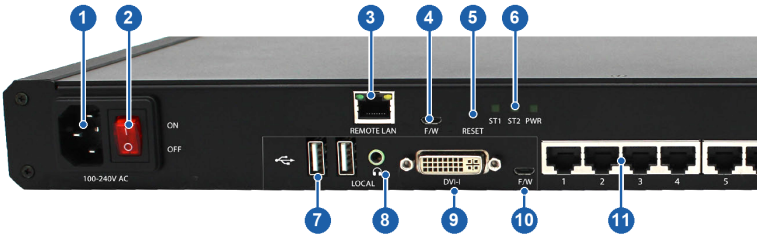
FRONT PANEL



EKS-1602-PRO front. 32-port models have a second block of lights for ports 17 to 32.

POWER	Lit when the unit is switched on.
Port lights	One light for each computer port. **White**: a computer is connected and powered on. **Green**: this is the computer currently selected.

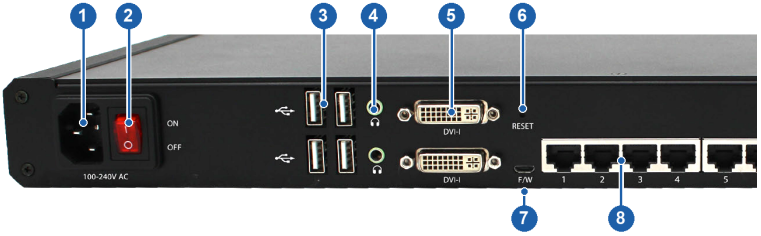
REAR PANEL, PRO MODELS



EKS-1602-PRO rear, left side

1	Power inlet	100-240 V AC. Use the supplied power cord.
2	Power switch	Lights when on.
3	REMOTE LAN	Network port for remote access over IP.
4, 10	F/W	Micro-USB ports used for firmware upgrades.
5	RESET	Recessed reset button.
6	ST1, ST2, PWR	Status lights.
7	USB	Keyboard and mouse for the local console.
8	Audio	3.5 mm audio output for the local console.
9	DVI-I	Monitor for the local console.
11	Ports 1-16	RJ45 computer ports. Each takes the CATx cable from one computer adapter.

REAR PANEL, EKS-1602 AND EKS-3202



EKS-1602 rear, left side

1	Power inlet	100-240 V AC. Use the supplied power cord.
2	Power switch	Lights when on.
3	USB	Keyboard and mouse. Two pairs, one for each console.
4	Audio	3.5 mm audio output, one for each console.
5	DVI-I	Monitor, one for each console.
6	RESET	Recessed reset button.
7	F/W	Micro-USB port used for firmware upgrades.
8	Ports 1-16	RJ45 computer ports. Each takes the CATx cable from one computer adapter.

Each row of USB, audio and DVI-I connectors is one console: a keyboard, mouse and monitor on the top row, and a second set on the bottom row.

32-PORT MODELS



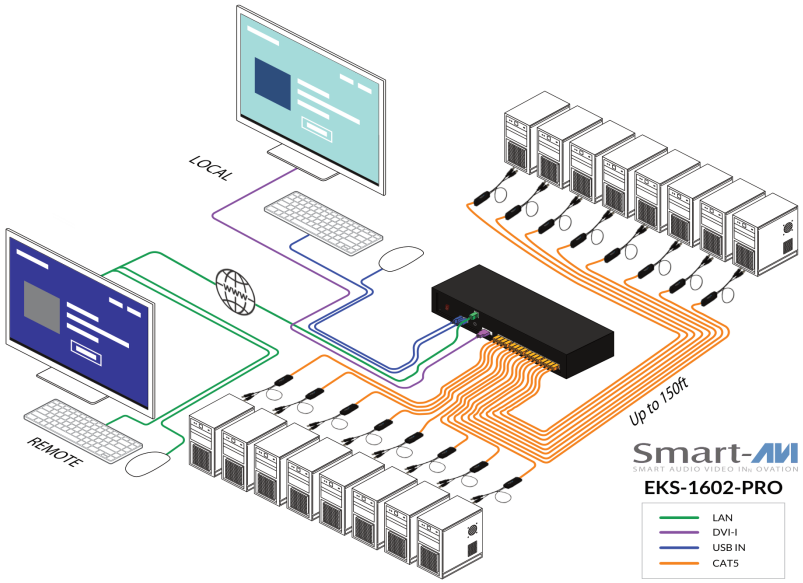
EKS-3202-PRO rear



EKS-3202 rear

The console and power connectors are the same as on the 16-port models. Ports 1 to 16 are on the bottom row and ports 17 to 32 on the top row.

5 INSTALLATION



EKS-1602-PRO with a local console, a remote user and 16 computers

1. **Place the unit.** Choose a ventilated spot in or near the rack, within 150 ft of cable run from every computer you want to connect. Leave the power switch off for now.

2. **Connect each computer.** Plug an adapter (EKS-HD100, EKS-DP100 or EKS-VG100) into the computer's video output and a USB port. Run a CATx cable from the adapter to a numbered port on the back of the EKS. The port number is the channel number you will use to select that computer. No cable may be longer than 150 ft.

3. **Connect the console.** On the back of the EKS, plug the monitor into **DVI-I** and the keyboard and mouse into the two **USB** ports beside it. Speakers or headphones go in the audio jack. On the EKS-1602 and EKS-3202 a second console connects the same way to the other row.

4. **PRO models: connect the network.** Run a network cable from **REMOTE LAN** to your network switch or router.

5. **Power on.** Plug in the AC power cord and set the power switch to ON. The POWER light comes on and the login screen appears on the console monitor. Turn on the computers.

6 FIRST-TIME SETUP

Do these three things the first time the unit is powered on. They take about two minutes.

STEP 1: SET THE KEYBOARD LAYOUT



Do this first, at the login screen, so that the characters you type for the user name and password are the ones you expect.

Ctrl + F1

Type the number of your layout, then press **Esc**:

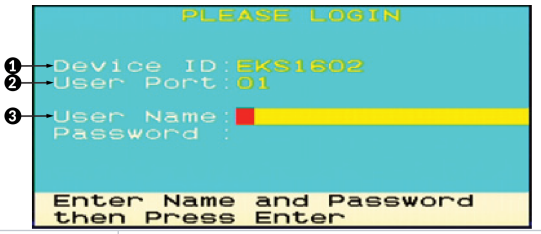
33 English (US) **08** French **09** German

3 > 3 > Esc

STEP 2: LOG IN

Type the user name and press **Enter**, then the password and **Enter**. The factory administrator account is:

User name	**admin**
Password	**pass**



1 Device ID	The model name of the unit.
2 User Port	The number of the console you are sitting at.
3 User Name, Password	User name: up to 16 characters. Password: up to 8 characters. Letters and numbers.

The unit has one administrator account, **admin**, and 15 user accounts, **user001** to **user015**. The user accounts have no default password. The accounts cannot be deleted, but the administrator can rename the user accounts and set every password (section 8).

STEP 3: CHANGE THE ADMINISTRATOR PASSWORD

From the Selection Menu that appears after login:

1. Press **F1** for Setup, then **F5** for User Configuration.
2. Highlight **admin** and press **Enter**.
3. Type the new password (up to 8 characters) and press **Enter**. Type it again and press **Enter**. To cancel, press **Esc** instead.

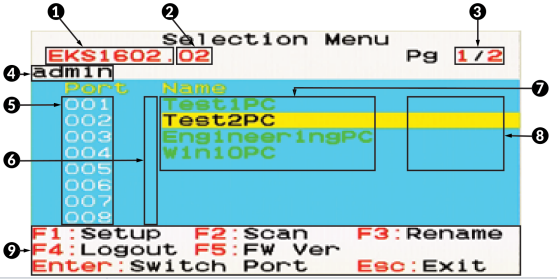
Write the new password down and keep it somewhere safe.

7 SWITCHING COMPUTERS

There are three ways to choose a computer. All of them are done from the console keyboard.

1. PICK FROM THE SELECTION MENU

The Selection Menu appears as soon as you log in. Highlight a computer with the arrow keys and press **Enter**.



1 Model name	The model of this EKS.
2 Selected channel	The channel this console is on now.
3 Page	Current page and number of pages.
4 Login ID	The account that is logged in.
5 Channel numbers	The channels on this page.
6 Borderless mouse	**S** appears when it is on. Press **S** to switch.
7 Channel names	A **+** marks a channel that leads to a second EKS.
8 CIM resolution	The resolution set for the adapter on each channel.
9 Keys	The keys that work in this menu.

To bring the Selection Menu back at any time, press the hotkey three times:

Scroll Lock > Scroll Lock > Scroll Lock

> **The hotkey**
> The hotkey is **Scroll Lock** unless you change it in Setup to **Caps Lock** or **Num Lock**. This manual shows Scroll Lock. Finish a hotkey sequence within 6 seconds or it is ignored.

2. GO STRAIGHT TO A CHANNEL

Press the hotkey twice, type the channel number, then press **Enter**. For channel 3:

Scroll Lock > Scroll Lock > 3 > Enter

3. STEP TO THE NEXT OR PREVIOUS COMPUTER

With no menu on the screen, press a Ctrl key twice. Only channels with a computer that is powered on are visited.

Next active channel	Right Ctrl > Right Ctrl
Previous active channel	Left Ctrl > Left Ctrl

BORDERLESS MOUSE SWITCHING

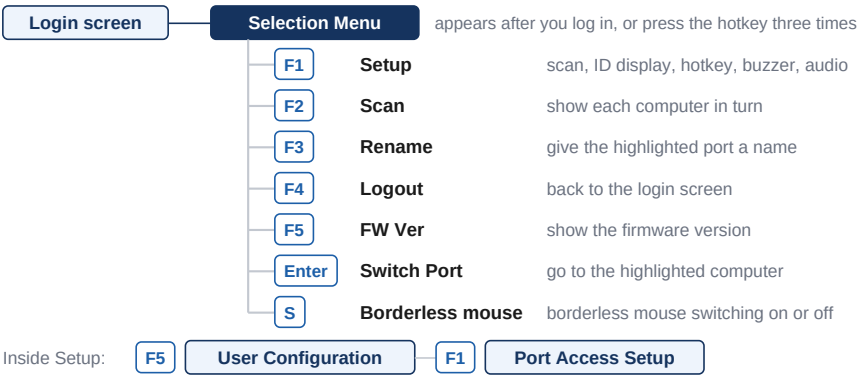
Press **S** in the Selection Menu to turn borderless mouse switching on or off. Before turning it on, set each port's resolution to match the video output of the computer on that port.

SCANNING AND LOGGING OUT

In the Selection Menu, **F2** starts a scan that shows each computer in turn. Which channels are scanned, and for how long, is set in Setup. **F4** logs you out and returns to the login screen.

8 ON-SCREEN MENUS

Every setting is reached from the Selection Menu. This is the map:



SETUP

In the Selection Menu, press **F1**.

FIELD	CHOICES	WHAT IT DOES
Scan Mode	All, or PC ON	Which channels a scan visits. **All**: every channel. **PC ON**: only channels with a computer that is powered on.
Scan Time	5 to 255 s, in steps of 5	How long each channel is shown during a scan.
ID Display	5 to 25 s, or ALL	How long the channel ID stays on the screen after you switch.
Position	Menu, or ID	Moves things on the screen. **Menu**: the main pages, such as the login screen and Selection Menu. **ID**: the channel ID.
Hotkey	Scroll Lock, Caps Lock or Num Lock	The key that opens the menu and starts a channel hotkey.
Buzzer	ON or OFF	The unit's beep.
Audio	ON or OFF	Audio from the selected computer.

USER CONFIGURATION

In Setup, press **F5**. Only the administrator can change accounts.

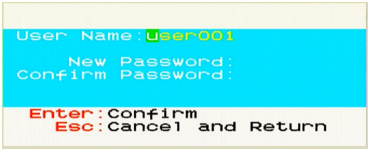


Up / Down	Move to an account
Page Up / Down	Previous or next page
Enter	Edit the highlighted account
F1	Port access for the highlighted user
Esc	Leave

To change the administrator password

1. Highlight **admin** and press **Enter**.
2. Type the new password, up to 8 characters, and press **Enter**.
3. Type it again and press **Enter**. To cancel, press **Esc** instead.

To rename a user or change a user's password



Highlight the user and press **Enter**, then:

1. Type a new name, up to 16 characters, and press **Enter**. To keep the name, just press **Enter**.

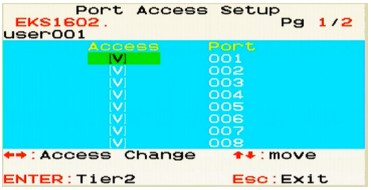
2. Type the new password, up to 8 characters, and press **Enter**.

3. Type the password again and press **Enter**. To cancel, press **Esc** instead.

> **Important**
> Keep a record of all user names and passwords in a secure place.

PORT ACCESS SETUP

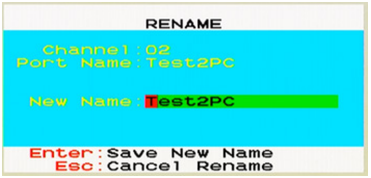
This sets which ports a user may reach. In User Configuration, highlight the user and press **F1**. It is not available for the administrator, who can always reach every port.



Up / Down	Move to a port
Left / Right	Change access for that port
Esc	Leave

A **V** in the Access column marks a port the user is allowed to use.

RENAME A PORT



1. In the Selection Menu, highlight the port and press **F3**.

2. Type the new name and press **Enter** to save it.

To leave without changing the name, press **Esc**.

VIDEO ADJUSTMENT

Brightness and contrast are set separately for each channel.

1. Switch to the channel you want to adjust.
2. Press the hotkey twice, then **C**, then **Enter**:

   Scroll Lock > Scroll Lock > C > Enter

3. Use **Up** and **Down** to choose brightness or contrast, and **Left** and **Right** to change the value.

4. Press **Esc** to save and return.

FIRMWARE VERSION

In the Selection Menu, press **F5**.

KEYBOARD LAYOUT

The layout can only be changed at the login screen. If you are logged in, press **F4** in the Selection Menu first. Then press **Ctrl** + **F1**, type **33** (English US), **08** (French) or **09** (German), and press **Esc**.

FACTORY DEFAULTS

A factory reset returns the unit's settings to the values it shipped with. It also starts at the login screen: if you are logged in, press **F4** in the Selection Menu first. Then:

Ctrl + **Shift** + **F10** › **Enter**

9 REMOTE ACCESS OVER IP (PRO MODELS)

The EKS-1602-PRO and EKS-3202-PRO include SmartEKS, a web interface that lets you see and control the connected computers from a browser on the network.

OPENING SMARTEKS

1. Make sure **REMOTE LAN** on the EKS is connected to the network, and that your computer is on the same network.
2. Open a web browser and go to **192.168.0.100** or **https://ipdsk.local**
3. Log in with your user name and password. The dashboard opens.

WHAT YOU CAN DO

Channels	Lists every channel. Click one to switch to that computer. **Synchronize aliases** copies the port names from the EKS, so the list shows names instead of numbers.
Video Settings	Picture quality and speed of the remote view (table below).
Cursor Settings	**Default**: the cursor as set on the remote computer. **None**: no cursor in the remote view. **Pointer**: a cursor drawn by SmartEKS. The change takes effect immediately.
Device Info	Button at the top right. Shows the firmware version, IP configuration and other details of the unit.
Logs	A record of activity and changes, useful when troubleshooting.
Logout	Always log out when you finish, so nobody else can use your session.

VIDEO SETTINGS

SETTING	WHAT IT DOES
Quality	Slider. Higher gives a better picture; lower is faster on a slow connection.
Frames per second	Higher is smoother and uses more bandwidth.
Resolution	Choose the one that matches your monitor.
Video Device	Chooses the video source, when more than one is available.
Drop Same Frames	A count that controls how unchanged frames are handled.
Default, Extended, Fullscreen	The viewing mode.
Submit	Saves the changes. Nothing is applied until you click it.

10 HOTKEY QUICK REFERENCE

Hotkeys work from the keyboard connected to the EKS. Finish each sequence within 6 seconds. Scroll Lock is the default hotkey; if you changed it in Setup, press that key instead.

TO DO THIS	PRESS	WHEN
Open the Selection Menu	Scroll Lock › Scroll Lock › Scroll Lock	Any time.
Go to channel N	Scroll Lock › Scroll Lock › N › Enter	N is the port number.
Next active channel	Right Ctrl › Right Ctrl	No menu on screen.
Previous active channel	Left Ctrl › Left Ctrl	No menu on screen.
Brightness and contrast	Scroll Lock › Scroll Lock › C › Enter	For the channel on screen.
Keyboard layout	Ctrl + F1	At the login screen. Then 33, 08 or 09, and Esc.
Factory defaults	Ctrl + Shift + F10 › Enter	At the login screen.

IN THE SELECTION MENU

Enter	Switch to the highlighted computer
F1	Setup. From Setup, F5 opens User Configuration, and from there F1 opens Port Access Setup
F2	Scan
F3	Rename the highlighted port
F4	Log out
F5	Firmware version
S	Borderless mouse switching on or off
Esc	Close the menu

11 SPECIFICATIONS

CONSOLE	
Consoles	EKS-1602, EKS-3202: 2 local EKS-1602-PRO, EKS-3202-PRO: 1 local and 1 remote over IP
Video	DVI-I female, one per local console
Resolution	Up to 1920 x 1080 at 60 Hz (DVI) Up to 1920 x 1200 at 75 Hz (VGA)
Keyboard and mouse	2 x USB Type A female per local console
Audio	3.5 mm jack per local console
COMPUTERS	
Computer ports	16 x RJ45 (EKS-1602, EKS-1602-PRO) 32 x RJ45 (EKS-3202, EKS-3202-PRO)
Cable	CATx, up to 150 ft per computer
Adapters	EKS-HD100 (HDMI), EKS-DP100 (DisplayPort), EKS-VG100 (VGA). Sold separately.
CONTROL	
Selection	Hotkeys and on-screen menu
Accounts	1 administrator, 15 users
Remote access	PRO models: web browser, over the REMOTE LAN port
Indicators	Power, and one light per port: white online, green selected
Firmware upgrade	Micro-USB
Reset	Recessed button
POWER AND ENVIRONMENT	
Power	100 to 240 V AC, 50/60 Hz. AC inlet with lighted switch.
Operating temperature	0 to 50 °C (32 to 122 °F)
Storage temperature	-20 to 60 °C (-4 to 140 °F)
PHYSICAL	
Housing	Metal
Dimensions (L x W x H)	17.4 x 5.9 x 1.7 in
Weight	4.43 lb
Approvals	CE, FCC

12 TROUBLESHOOTING

SYMPTOM	WHAT TO CHECK
No power	Check that the AC power cord is fully seated at both ends and that the power switch on the back is ON and lit. Try another outlet.
No picture on the console	Check the DVI cable between the EKS and the monitor. Check that the selected computer is powered on and awake: its port light should be white, or green when selected. Connect the monitor directly to the computer to confirm both work, then restart the computer.
A port light stays off	The computer is off, or the adapter is not plugged into both its video output and a USB port. Check the CATx cable and that it is no longer than 150 ft.
Keyboard or mouse does not work	Check they are in the USB ports on the back of the EKS. Check the adapter's USB plug at the computer and try a different USB port on the computer. Confirm the keyboard or mouse works when plugged straight into a computer.
Typed characters are wrong at login	Set the keyboard layout: at the login screen press Ctrl + F1, type 33, 08 or 09, then Esc.
Hotkeys do nothing	Finish the sequence within 6 seconds. The hotkey may have been changed in Setup to Caps Lock or Num Lock. The Ctrl + Ctrl shortcuts only work when no menu is on the screen.
A user cannot reach a port	The administrator sets which ports each user may use, in Port Access Setup (section 8).
No audio	Check that Audio is ON in Setup. Check the speakers by plugging them straight into the computer, and check the computer's audio output setting.
Web page will not open (PRO)	Check the cable in REMOTE LAN and that your computer is on the same network. Try both 192.168.0.100 and https://ipdsk.local

TECHNICAL SUPPORT

For product, warranty or technical questions contact **info@smartavi.com** or call (888) 994-7427. Please have the model number and the firmware version (**F5** in the Selection Menu) to hand.

13 WARRANTY AND NOTICE

A. EXTENT OF LIMITED WARRANTY

SmartAVI, Inc. warrants to the end-user customer that the SmartAVI product specified above will be free from defects in materials and workmanship for the duration of one year, which duration begins on the date of purchase by the customer. The customer is responsible for maintaining proof of date of purchase.

The SmartAVI limited warranty covers only those defects which arise as a result of normal use of the product, and does not apply to any improper or inadequate maintenance or modification, operation outside product specifications, or mechanical abuse and exposure to severe conditions.

If SmartAVI receives, during the applicable warranty period, a notice of defect, SmartAVI will at its discretion replace or repair the defective product. If SmartAVI is unable to replace or repair a defective product covered by the warranty within a reasonable period of time, SmartAVI shall refund the cost of the product. SmartAVI shall have no obligation to repair, replace or refund until the customer returns the defective product to SmartAVI. Any replacement product may be new or like new, provided that it has functionality at least equal to that of the product being replaced. The limited warranty is valid in any country where the covered product is distributed by SmartAVI.

B. LIMITATIONS OF WARRANTY

To the extent allowed by local law, neither SmartAVI nor its third-party suppliers make any other warranty or condition of any kind, whether expressed or implied, with respect to the SmartAVI product, and specifically disclaim implied warranties or conditions of merchantability, satisfactory quality, and fitness for a particular purpose.

C. LIMITATIONS OF LIABILITY

To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies. Except for the obligations specifically set forth in this warranty statement, in no event will SmartAVI or its third-party suppliers be liable for direct, indirect, special, incidental, or consequential damages, whether based on contract, tort or any other legal theory and whether advised of the possibility of such damages.

D. LOCAL LAW

To the extent that this warranty statement is inconsistent with local law, it shall be considered modified to be consistent with such law.

NOTICE

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