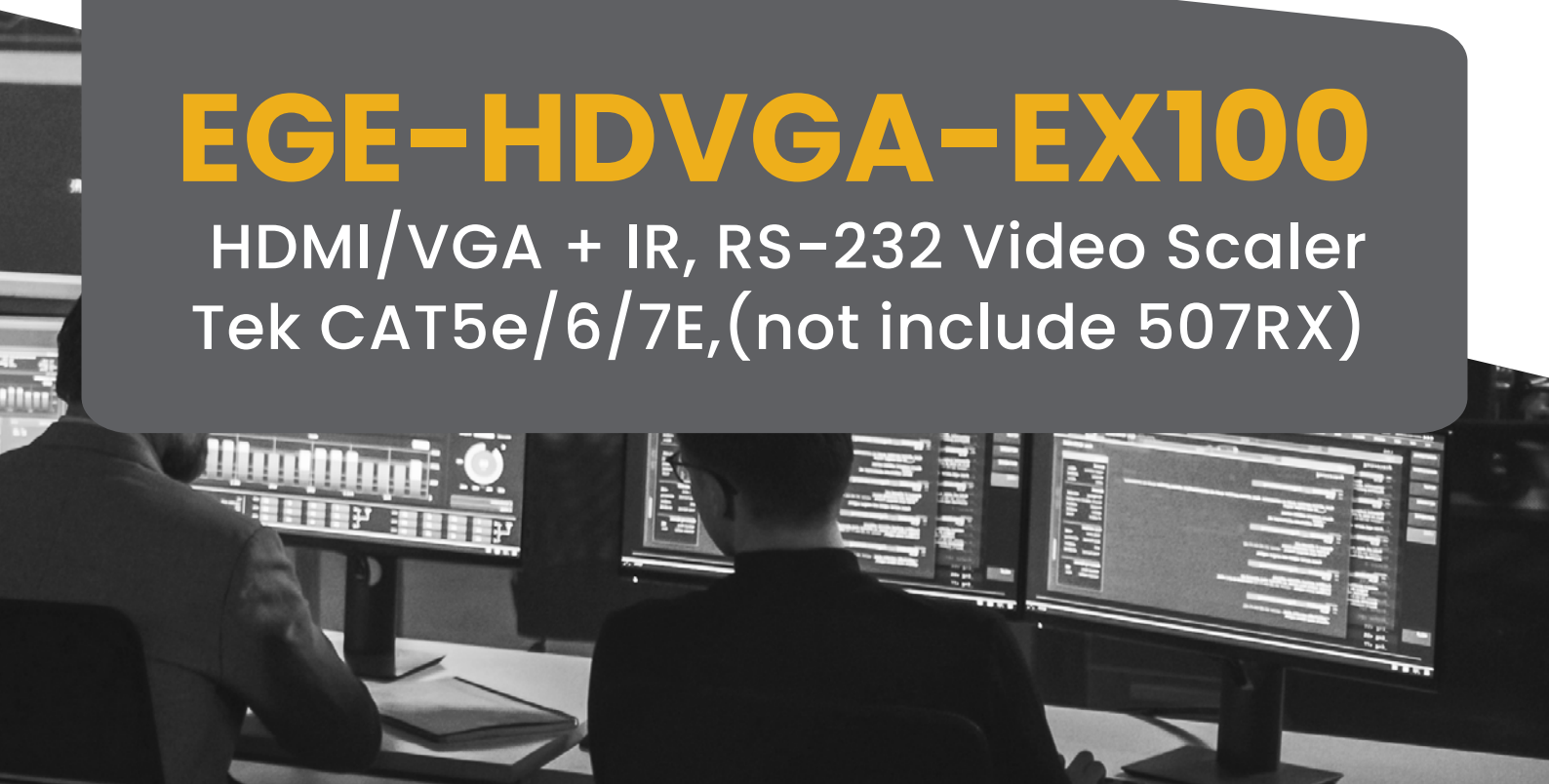
geratech®

EGE-HDVGA-EX100

HDMI/VGA + IR, RS-232 Video Scaler Tek CAT5e/6/7E,(not include 507RX)



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Version 1.0 January 2014

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CONTENTS

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	20/03/15	Preliminary release
VR1	30/05/16	Add RS-232 Command
VR2	15/12/16	Add WUXGA's Input Timing

1. INTRODUCTION

The HDMI/PC video scaler with LAN/IR/RS-232/Bidirectional PoE over Single CAT5e/6/7 transmitter can send uncompressed audio/video over a single run of CAT5e/6/7 cable up to 100 m with Bidirectional PoE feature. The system supports various ways of control that can be done through on-panel buttons, IR remote, RS-232, and OSD. The device provides full range of output resolutions through CAT5e/6/7 up to 1080p for HDTV timing and WUXGA(RB) for PC timing.

2. APPLICATIONS

- Scale low resolution video onto High-Definition display
- HDMI/PC signals extension
- Lecture room/Showroom/Meeting room/Classroom display and control

3. PACKAGE CONTENTS

- HDMI/PC to CAT5e/6/7 with LAN/IR/RS-232/Bidirectional PoE Transmitter
- IR Extender x 1
- IR Blaster x 1
- 24 V/2.7 A DC Power Adaptor
- Power Cable
- Remote control with battery(CR-128)
- Operation Manual

4. SYSTEM REQUIREMENTS

Input HDMI/PC source equipment such as DVD/Video player or PC/Laptop and output to HDBaseT compatible Receiver.

5. FEATURES

- Supports HDMI/PC input scaler to full range of HDTV and PC output resolutions through CAT5e/6/7
- Transmission of uncompressed data over a single 100 m/328 ft CAT5e/6/7 cable
- 5Play™ convergence: Video, Audio, LAN, Bidirectional PoE & Control (IR & RS-232 bypass)
- Supports IR, Remote control, RS-232 (bypass) and on-panel controls
- Supports OSD (On Screen Display) selection and display system information
- Provides 24V DC power to or received from compatible PoE Receiver through CAT5e/6/7
- Supports Ethernet transmission rate up to 100Mbps

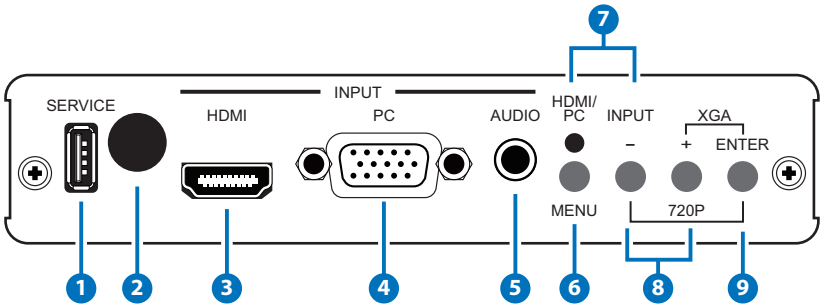
Note:

1.This system was tested with CAT6/23AWG cables, results may vary with cables of a different specification.

2.The PoE function is designed for powering compatible Receiver units only—non-PoE Receivers will need their own power supply. Receivers of another brand may not be compatible.

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1 **SERVICE:** This port is reserved for firmware update only.

2 **IR:** IR Receiver window (accepts the remote control signal of this device only).

3 **HDMI:** Connect to source equipment such as DVD/Video player for video signal sending.

4 **PC:** Connect with PC/Laptop source equipment for signal input with D-Sub 15 pin cable.

5 **AUDIO:** Connect to audio source equipment for L/R stereo audio input with 3.5mm phone jack.

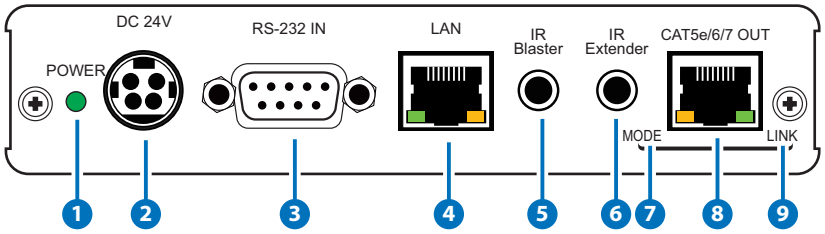
6 **MENU:** Press this button to enter into the OSD menu.

7 **– INPUT & HDMI/PC LED:** Press to select HDMI or PC source input. When in HDMI mode the LED will illuminate in Red, when in PC mode the LED will illuminated in Green.

8 **-/+:** Press these buttons to scroll down and up in the OSD selection.

9 **ENTER:** Press this button to confirm the selection. Press this button together with [–] key to switch output timing to 720p@60 instantly. Press this button together with [+] key to switch output timing to XGA (1024x768) instantly.

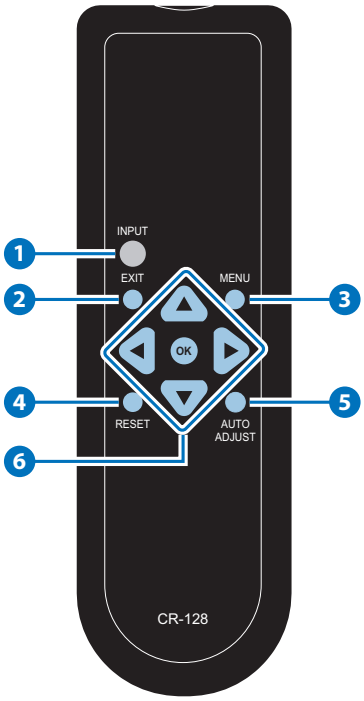
6.2 Rear Panel



1. **Power LED:** This LED will illuminate when the device is connected with power supply.
2. **DC 24V:** Plug the 24 V DC power supply into the unit and connect the adaptor to an AC outlet. Only one side of power is needed to activate both Transmitter and Receiver when both obtain the PoE function.
3. **RS-232 IN:** Connect to a PC or Laptop with D-Sub 9-pin male cable to bypass RS-232 commands to Receiver end.
4. **LAN:** Connect to an active network for LAN sharing of a total transmission rate up to 100Mbps. Or when a compatible LAN equipped Receiver is connected to an active network, this allows the network access (including internet access if available) to be shared between the Transmitter and Receiver. Connect any Ethernet equipped device e.g. a Smart TV or games console to the LAN port for that device to share the network internet access.

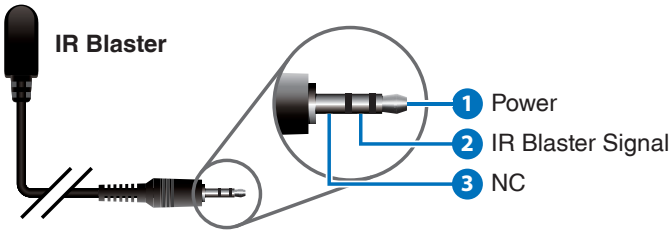
   Note: *DO NOT connect this slot with any of the CAT5e/6/7 port. Doing so may trigger power shoot down and ruin the device.*
5. **IR Blaster:** Connect to the supplied IR Blaster cable for IR signal transmission. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.
6. **IR Extender:** Connect to the supplied IR Receiver cables for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR Extender.
7. **MODE LED:** This LED will illuminated when the power is connected.
8. **Link LED:** This LED will illuminate when the slot has been connected to the Receiver and the Receiver has connected with display that shows image on screen.
9. **CAT5e/6/7 Out:** Connect to the Receiver unit with a single CAT5e/6/7 cable for transmission of all data signals.

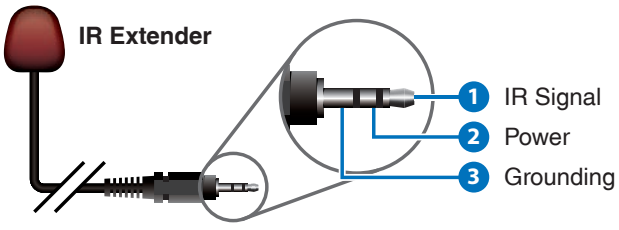
6.3 Remote Control



1. **INPUT:** Press this button to switch HDMI/PC input source instantly.
2. **EXIT:** Press this button to exit the menu or escape the current selection under OSD.
3. **MENU:** Press this button to enter into the OSD menu.
4. **RESET:** Press this button to set the device back into the factory default setting.
5. **AUTO ADJUST:** Press this button to optimize the positioning of the picture (picture centering) on the screen.
6. **ENTER & ▲ ▼ ◄ ►:** Press Enter to confirm the selection or press the arrow buttons to scroll in the OSD selections.

6.4 IR Cable Pin Assignment





6.5 RS-232 Pin Definitions

PIN	DEFINE TX/RX
1	N/C
2	TxD/RxD
3	RxD/TxD
4	N/C
5	GND
6	N/C
7	N/C
8	N/C
9	N/C

Baud Rate: 9600bps
Data bit: 8 bits
Parity: None
Flow Control: None
Stop Bit: 1

6.6 RS-232 Commands

COMMAND	DESCRIPTION	
S SOURCE 1~2	1=PC 2=HDMI	
R SOURCE	Reports the numerical equivalent for SOURCE setting (as above)	
S OUTPUT 0~25	0=Native	12=1600×1200
	1=640×480	13=1920×1080
	2=800×600	16=1920×1200
	3=1024×768	17=480p
	5=1360×768	18=720p@60
	6=1280×720	19=1080p@60
	7=1280×800	20=1080i@60
	8=1280×1024	22=576p
	9=1440×900	23=720p@50
	10=1400×1050	24=1080p@50
	11=1680×1050	25=1080i@50
R OUTPUT	Reports the numerical equivalent for OUTPUT setting (as above)	
S SIZE 0~6	0=OVERSCAN	4=LETTER BOX
	1=FULL	5=UNDER 2
	2=BEST FIT	6=UNDER 1
	3=PAN SCAN	
R SIZE	Reports the numerical equivalent for SIZE setting (as above)	
S SYNCSHIFT 0/1	0=OFF	1=ON
R SYNCSHIFT	Reports the numerical equivalent for Syncshift setting	
S CONTRAST 0~60	Setups the numerical equivalent for CONTRAST setting (as left)	
R CONTRAST	Reports the numerical equivalent for CONTRAST setting	
S BRIGHTNESS 0~60	Setups the numerical equivalent for BRIGHTNESS setting (as left)	
R BRIGHTNESS	Reports the numerical equivalent for BRIGHTNESS setting	
S HUE 0~60	Setups the numerical equivalent for HUE setting (as left)	
R HUE	Reports the numerical equivalent for HUE setting	
S SATURATION 0~60	Setups the numerical equivalent for SATURATION setting (as left)	
R SATURATION	Reports the numerical equivalent for SATURATION setting	
S SHARPNESS 0~30	Setups the numerical equivalent for SHARPNESS setting (as left)	
R SHARPNESS	Reports the numerical equivalent for SHARPNESS setting	
S NR 0~3	0=OFF	2=MIDDLE
	1=LOW	3=HIGH
R NR	Reports the numerical equivalent for the NOISE REDUCTION setting (as above)	

S AUDIO DELAY 0~3	0=OFF	2=110ms
	1=40ms	3=150ms
R AUDIO DELAY	Reports the numeric equivalent for AUDIO DELAY setting (as above)	
S AUDIO MUTE 0/1	0=ON	1=MUTE
R AUDIO MUTE	Reports the numeric equivalent for AUDIO MUTE setting (as above)	
S KEY LOCK 0/1	0=ENABLE	1=DISABLE
R KEY LOCK	Reports the numeric equivalent for KEY LOCK setting (as above)	
S AUTOSCAN 0/1	0=DISABLE	1=ENABLE
R AUTOSCAN	Reports the numeric equivalent for AUTO SCAN setting (as above)	
FW	Checks the FIRMWARE version	
S RESET 1	Setups the numerical equivalent for RESET setting (as left)	
S PCAUTO 1	Setups the numerical equivalent for PC AUTO setting (as left)	

Note:

1. All the RS-232 command will be not executed unless followed with carriage return and LF (Line Feed).

2. Commands are case-insensitive.

3. Resolution 1~16 are RGB encoded and 17~25 are YUV encoded.

6.7 OSD Menu

1st Layer	2nd layer	3rd Layer	
DISPLAY	OUTPUT	Native	
		640X480 60	
		800x600 60	
		1024x768 60	
		1360x768 60	
		1280x720 60	
		1280x800 60	
		1280x1024 60	
		1440x900 60	
		1400x1050 60	
		1680x1050 60	
		1600x1200 60	
		1920x1080 60	
		1920x1200 60	
		720X480P 60	
		1280X720P 60	
		1920X1080I 60	
		1920X1080P 60	
		720X576P 50	
		1280X720P 50	
		1920X1080I 50	
		1920X1080P 50	
	SIZE	OVER SCAN	
		FULL	
		ASPECT RATIO	
		PAN SCAN	
		LETTER BOX	
		UNDER 2	
		UNDER 1	
	MODE INFO	***INFO***	
		ON	
		OFF	
	PC(PC mode only)	AUTO SETUP	No
			YES
		H_POSITION	0~60 (30)
		V_POSITION	0~60 (30)
		PHASE	
		CLOCK	
		WXGA/XGA	***XGA***

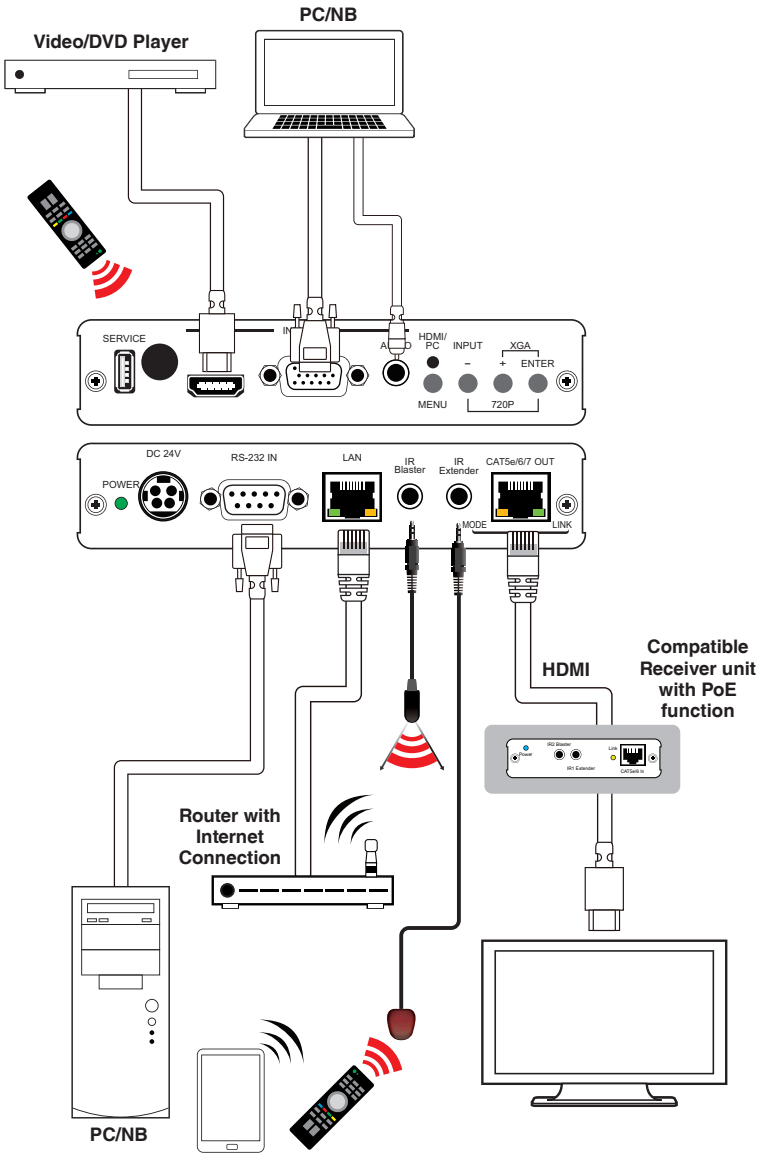
			WXGA
		RESET	NO
			YES
	TIMING SHIFT	***OFF***	
		ON	
COLOR	COLOR	R	
		G	
		B	
		R OFFSET	
		G OFFSET	
		B OFFSET	
	CONTRAST	0~60	
	BRIGHTNESS	0~60	
	HUE	0~60	
	SATURATION	0~60	
	SHARPNESS	0~30	
	NR.	**OFF**	
		LOW	
		MIDDLE	
		HIGH	
AUDIO	VOLUME	0~100	
	DELAY	**OFF**	
		40mS	
		110mS	
		150mS	
	SOUND	**ON**	
		MUTE	
SETUP	FACTORY RESET	***NO***	
		YES	
	KEY LOCK	***OFF***	
		ON	
	AUTO SCAN	***OFF***	
		ON	
INFORMATION	INPUT		
	OUTPUT		
	REVISION		

Note: Bold *Italian fonts are the Factory default setting. ( ) are default settings.*

6.8 Input Resolution Support

INPUT RESOLUTION	HDMI	PC
NTSC/PAL	-	-
VGA@60/72/75 Hz	✓	✓
SVGA@56/60/72/75 Hz	✓	✓
XGA@60/70/75 Hz	✓	✓
SXGA@60/75 Hz	✓	✓
UXGA@60 Hz	✓	✓
1280×800@60 Hz	✓	✓
1680×1050RB@60 Hz	✓	✓
1920×1080@60 Hz	✓	✓
1920×1200RB@60 Hz	✓	✓
480i/576i	✓	-
480p/576p	✓	-
720p@50/60 Hz	✓	-
1080i@50/60 Hz	✓	-
1080p@50/60 Hz	✓	-

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Output Video Bandwidth	300MHz / 10.2Gbps
Ethernet Speed	100 Mbps
Input Ports	1 x HDMI, 1 x PC, 1 x 3.5mm Phone Jack (L/R) , 1 x RS-232, 1×LAN, 1 x IR Extender
Output Ports	1×CAT5e/6, 1×IR Blaster
CAT5e/6/7 Output Cable Distance	Up to 100 Meters
Supports Resolution	HD: 480i~1080p
	PC: VGA ~ WUXGA(RB)
CAT5e/6/7 Output Resolution	HD: Up to 1080p@60Hz PC: Up to WUXGA(RB)
IR Frequency	30~50kHz
Power Suppiy	24V/2.7A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Dimensions (mm)	145 (W) x 192 (D) x 30(H)/Jacks Excluded 145 (W) x 202 (D) x 30(H)/Jacks Included
Weight (g)	608
Chassis Material	Aluminum
Silkscreen Color	Black
Operating Temperature	0˚C~40˚C / 32˚F~104˚F
Storage Temperature	-20˚C ~ 60˚C / -4 ˚F ~ 140 ˚F
Relative Humidity	20 ~ 90% RH (non-condensing)
Power Consumption	17W

9. ACRONYMS

ACRONYM	COMPLETE TERM
CAT5e	Category 5 Cable
CAT6	Category 6 Cable
CAT7	Category 7 Cable
CV	Composite Video
DVI	Digital Visual Interface
HDMI	High-Definition Multimedia Interface
IR	Infrared
WUXGA (RB)	Widescreen Ultra Extended Graphics Array (Reduce blanking)

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