EVGA 151-SX-E299-KR

EVGA X299 Dark Motherboard User Manual

Model: 151-SX-E299-KR

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your EVGA X299 Dark Motherboard. Designed for high-performance computing, this EATX motherboard supports Intel Core 7th Generation Processors for the LGA 2066 socket and is compatible with Windows 10 64-bit operating systems. Please read this manual thoroughly before proceeding with installation to ensure proper setup and optimal performance.

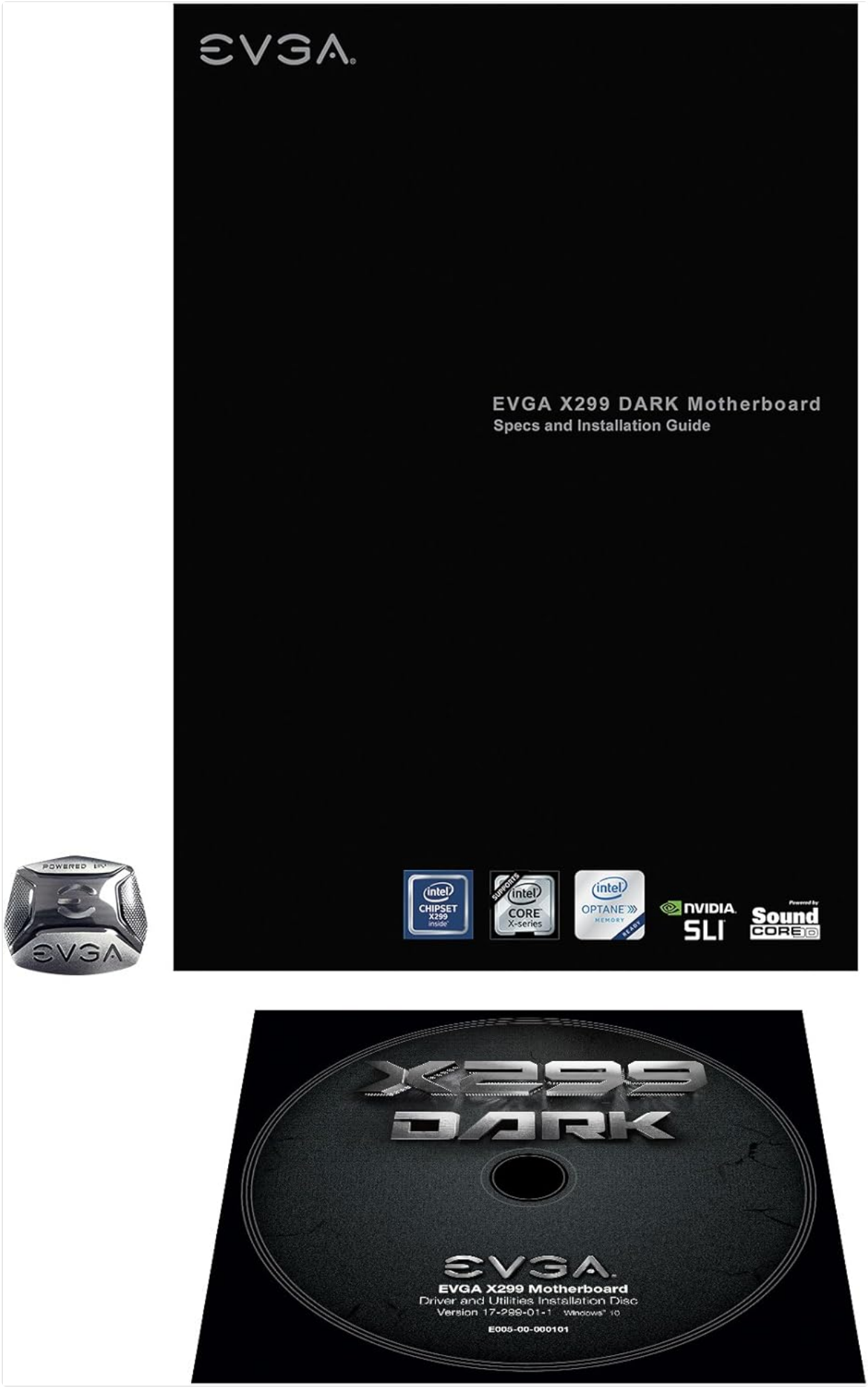

Figure 1.1: EVGA X299 Dark Motherboard Manual Cover

2. Package Contents

Verify that all items listed below are present in your product package. If any items are missing or damaged, please contact EVGA customer support.

- EVGA Driver Installation Disc with EVGA E-LEET X
- Rear Case I/O Panel
- 3-Way SLI® Bridge
- 2 SATA 6G Data Cables
- ProbeIT adapter
- Socket 20XX Backplate (optional)
- Vertical adapter for M.2 Key-E
- 2x Thermal Pad for M.2 SSDs
- Visual Guide / Bench Stand (incl. standoffs and screws)
- USB 2.0 Header Bracket
- Case Badge
- Manual

Figure 2.1: Included accessories for the EVGA X299 Dark Motherboard.

3. Motherboard Layout

The EVGA X299 Dark motherboard features an EATX form factor, providing extensive connectivity and expansion options. Familiarize yourself with the layout to ensure correct component installation.

3.1. Overview

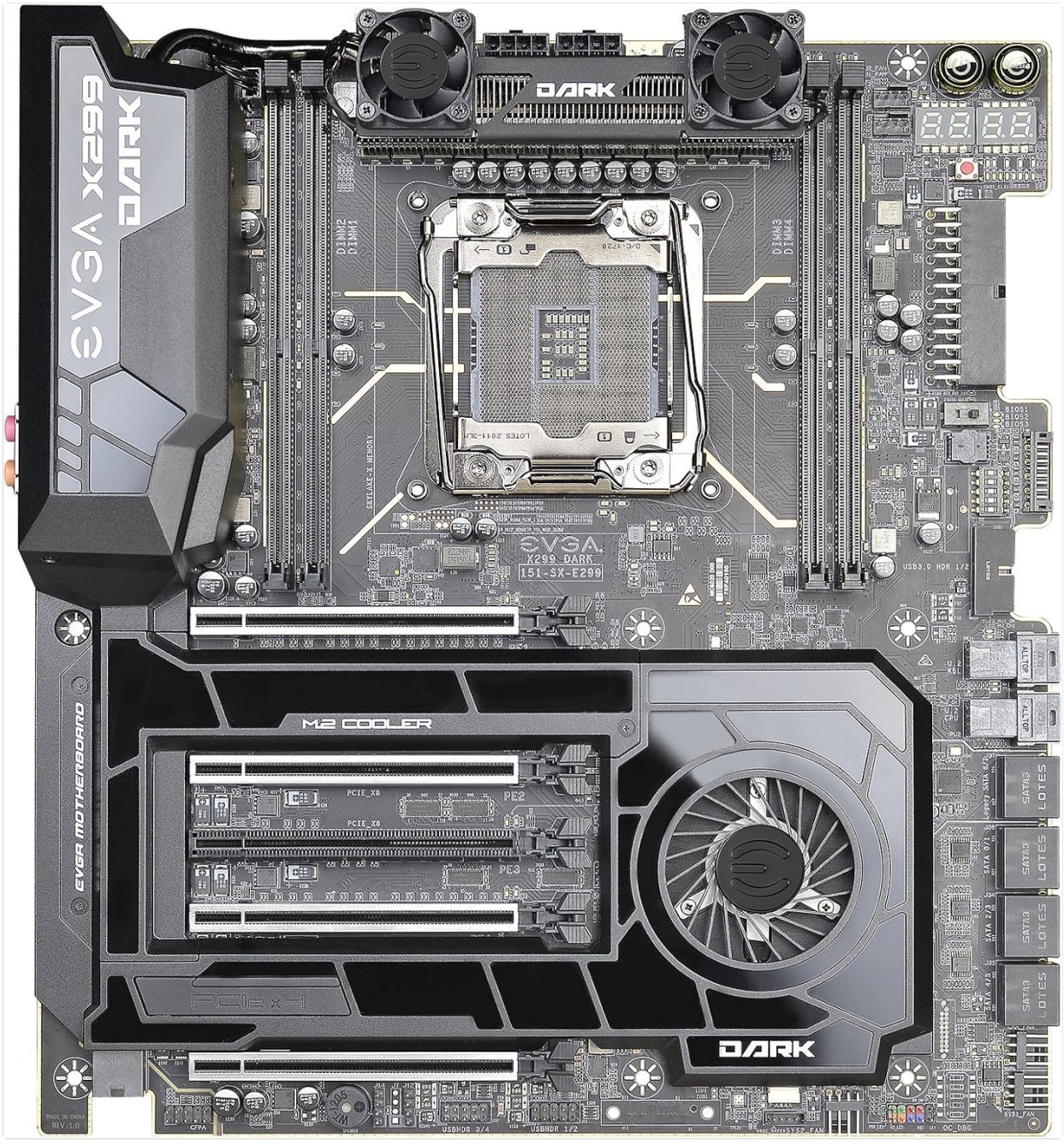

Figure 3.1: Top-down view of the EVGA X299 Dark Motherboard, highlighting key component placement.

3.2. Key Components and Connectors

- **CPU Socket:** LGA 2066 for Intel Core 7th Generation Processors.
- **Memory Slots:** 4 DIMM slots supporting Quad Channel DDR4 memory up to 64GB (Skylake-X) or 32GB (Kaby Lake-X).
- **PCIe Slots:** Multiple PCIe slots for graphics cards and expansion cards. Note the small switches near the top corner that enable/disable individual PCI slots.

- **Storage:** 8 SATA 3/6 Gbit/s ports (6 from X299 PCH, 2 from ASMedia ASM1061), 1 M.2 Key-M 110mm slot, 1 M.2 Key-M 80mm slot, 1 M.2 Key-E 32mm slot, and 2 U.2 ports.
- **USB Ports:** 4 USB 2.0 ports (2 internal headers), 8 USB 3.0 ports (6 rear panel, 2 from 1 internal header), and 2 USB 3.1 ports (1x Type-A, 1x Type-C on rear panel).
- **Rear I/O Panel:** Includes USB ports, audio jacks, Ethernet, and other connectivity.

Figure 3.2: Angled view of the EVGA X299 Dark Motherboard, showcasing the rear I/O panel and various connectors.

Figure 3.3: Angled view of the EVGA X299 Dark Motherboard, highlighting the M.2 cooler and CPU socket area.

4. Setup and Installation

Follow these steps carefully to install your EVGA X299 Dark Motherboard and its components.

4.1. Preparing the Motherboard

1. **Unpacking:** Carefully remove the motherboard from its packaging. Place it on an anti-static surface or use the included Visual Guide / Bench Stand.
2. **CPU Installation:** Open the LGA 2066 socket lever. Align the CPU with the socket, ensuring the gold triangle on the CPU matches the indicator on the socket. Gently place the CPU into the socket without forcing it. Close the lever to secure the CPU.
3. **CPU Cooler Installation:** Install your compatible CPU cooler according to its manufacturer's instructions. If using a custom backplate, utilize the optional Socket 20XX Backplate provided.
4. **RAM Installation:** Open the clips on the DDR4 DIMM slots. Align the memory modules with the slots, ensuring the notch on the module matches the key in the slot. Press down firmly on both ends until the clips snap into place. Refer to your cooler's clearance for optimal slot usage.

4.2. Installing Storage Devices

1. **M.2 SSDs:** Locate the M.2 slots. Remove any protective covers or screws. Insert the M.2 SSD into the slot at an angle and secure it with the provided screw. Apply the included thermal pads for optimal cooling, especially for PCIe 4 M.2 drives. If using a Key-E M.2 device, use the vertical adapter.
2. **SATA Drives:** Connect your SATA storage devices (HDDs/SSDs) to the SATA 6Gbit/s ports using the provided SATA data cables. Ensure power cables are also connected from your power supply.

3. **U.2 Drives:** Connect U.2 drives to the dedicated U.2 ports if applicable.

4.3. Power Connections

Connect the 24-pin ATX power connector and the 8-pin CPU power connectors from your power supply to the corresponding ports on the motherboard. Ensure all connections are firm.

4.4. Expansion Cards and Peripherals

1. **Graphics Cards:** Insert your graphics card(s) into the appropriate PCIe x16 slots. If installing multiple graphics cards for SLI, use the provided 3-Way SLI® Bridge. Ensure the PCI slot switches are enabled for the slots you intend to use.
2. **Other PCIe Cards:** Install any other PCIe expansion cards as needed.
3. **Front Panel Connectors:** Connect your case's front panel headers (power button, reset button, USB, audio) to the corresponding pins on the motherboard. Use the USB 2.0 Header Bracket for additional USB 2.0 ports if required.

5. Operating Instructions

Once your system is assembled, follow these steps for initial boot-up and configuration.

5.1. Initial Boot and BIOS Setup

1. **Power On:** Connect your monitor, keyboard, and mouse. Power on your system.
2. **Accessing BIOS/UEFI:** During startup, repeatedly press the **DEL** key (or as indicated on screen) to enter the BIOS/UEFI setup utility. The EVGA UEFI menus are designed to be clear and intuitive.
3. **Basic Configuration:** Set the correct date and time. Verify that all installed components (CPU, RAM, storage) are detected correctly. Configure boot order to prioritize your operating system installation media.
4. **Fan Speed Control:** Navigate to the fan control section in the BIOS to set fan speeds for onboard fans (M.2 slots and VRM fans) to prevent excessive noise.
5. **Overclocking (Optional):** The BIOS offers optional overclocking features that can actively measure system capabilities to maximize performance. Proceed with caution and consult advanced guides if attempting overclocking.
6. **Save and Exit:** Save your changes and exit the BIOS. The system will restart.

5.2. Operating System and Driver Installation

1. **OS Installation:** Install your preferred operating system (e.g., Windows 10 64-bit) following its installation prompts.
2. **Driver Installation:** After OS installation, install all necessary drivers from the EVGA Driver Installation Disc or download the latest drivers from the official EVGA website. This includes chipset, audio, network, and graphics drivers.

6. Maintenance

Regular maintenance helps ensure the longevity and stable operation of your motherboard.

- **Dust Removal:** Periodically clean dust from the motherboard and components using compressed air. Pay attention to fan vents, especially for the M.2 cooling system and VRM fans.
- **BIOS Updates:** Check the EVGA website regularly for BIOS updates. BIOS updates can improve

stability, add new features, or fix bugs. Follow the update instructions carefully to avoid system damage.

- **Cable Management:** Ensure internal cables are neatly routed to promote good airflow within the case.

7. Troubleshooting

This section provides solutions to common issues you might encounter.

7.1. No Power / No POST

- **Power Connections:** Double-check all power cables (24-pin ATX, 8-pin CPU) are securely connected to the motherboard and power supply.
- **CPU/RAM:** Ensure the CPU is correctly seated and the CPU cooler is properly installed. Verify that RAM modules are fully seated in their slots.
- **PCI Slot Switches:** If a graphics card or other PCIe device is not detected, check the small white switches near the top corner of the motherboard. These switches enable/disable individual PCI slots. Ensure the relevant slots are enabled.
- **CMOS Reset:** If the system fails to boot or exhibits unusual behavior, perform a CMOS reset. This can typically be done by pressing a dedicated button on the motherboard or by removing the CMOS battery for a few minutes.
- **BIOS Chip:** In rare cases, a faulty BIOS chip can prevent booting. If experiencing persistent boot issues, verify the BIOS chip is securely seated and undamaged.

7.2. Component Not Detected

- **Storage:** Ensure SATA data and power cables are correctly connected. For M.2 SSDs, verify they are properly seated and secured. Check BIOS settings to ensure storage controllers are enabled.
- **USB Devices:** If a USB device is not detected, try a different USB port. Ensure internal USB headers are correctly connected to the front panel.

8. Specifications

Below are the technical specifications for the EVGA X299 Dark Motherboard (Model 151-SX-E299-KR).

Feature	Specification
Brand	EVGA
Model Name	EVGA X299 Dark
Item Model Number	151-SX-E299-KR
CPU Socket	LGA 2066
Compatible Processors	Intel Core 7th Generation Processor Family
Chipset Type	Intel X299
RAM Memory Technology	DDR4
Memory Speed	Up to 3600 MHz+ (Skylake-X), 4133 MHz+ (Kaby Lake-X)

Feature	Specification
Max RAM Capacity	64GB (Skylake-X), 32GB (Kaby Lake-X)
Form Factor	EATX
Product Dimensions (LxWxH)	12 x 10.9 x 2 inches
Item Weight	3 pounds
SATA Ports	8 (6 from X299 PCH, 2 from ASMedia ASM1061)
M.2 Slots	1x Key-M 110mm, 1x Key-M 80mm, 1x Key-E 32mm
U.2 Ports	2
USB 2.0 Ports	4 (2 internal headers)
USB 3.0 Ports	8 (6 rear panel, 2 from 1 internal header)
USB 3.1 Ports	2 (1x Type-A, 1x Type-C rear panel)
Operating System Support	Windows 10 64-bit

9. Warranty and Support

EVGA products are backed by a limited warranty. For detailed warranty information, please refer to the official EVGA website or the warranty card included with your product. For technical support, driver downloads, and further product information, visit the EVGA support portal.
You can also scan the QR code below for quick access to product details and support resources:

EVGA X299 Dark Product Page

Figure 9.1: EVGA X299 Dark Manual Cover, showing the QR code for additional information.