

SX proFRAME 3.0 - Safety Instructions, Hardware Installation

Applies for:

- SX proFRAME Base Board 3.0
 - PCIe (Art. No. 500884)
 - CompactPCI-Serial (Art. No. 500911)
- SX camAD3
 - SX camAD3 DUAL MAX9296A (Art. No. 500920)
 - SX camAD3 DUAL TI954 (Art. No. 500965)
 - SX camAD3 DUAL MAX96717/96716A (Art. No. t.b.d.)
 - SX camAD3 DUAL MAX9295A/9296A (Art. No. t.b.d.)
 - SX camAD3 TI953/954 (Art. No. t.b.d.)
- SX proFRAME accessories
 - SX proFRAME 3.0 Sync

Rev. a03

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1. About this Document

Purpose

This document provides safety and hardware installation instructions to

SX proFRAME 3.0

This document applies for all variants of SX proFRAME Base Board 3.0:

- SX proFRAME Base Board 3.0 PCIe (Art. No. 500884)
- SX proFRAME Base Board 3.0 CompactPCI-Serial (Art. No. 500911)

This document also applies for all variants of SX camAd3:

- SX camAD3 DUAL MAX9296A (Art. No. 500920)
- SX camAD3 DUAL TI954 (Art. No. 500965)
- SX camAD3 DUAL MAX96717/96716A (Art. No. t.b.d.)
- SX camAD3 DUAL MAX9295A/9296A (Art. No. t.b.d.)
- SX camAD3 TI953/954 (Art. No. t.b.d.)

This document also applies for SX proFRAME 3.0 accessories:

- SX proFRAME 3.0 Sync

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Information

Due to continuous product development, the information within this document is subject to change without notice. If you find any problems or inaccuracies in this document, please report them to us in writing.

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2. References and related documents

Reference	Document title	Revision / date
[QUICKSTART]	SX_proFRAME3_Quickstartguide.pdf: Hardware and software manual to SX proFRAME (Gen 2 and Gen 3).	a01 / 2021-xx-xx
[SONNET_ECHO_EXP]	echo_express_se_i_tb3_ug.pdf: User's Guide for Echo™ Express SE I - Thunderbolt™ 3 Edition Thunderbolt 3 to PCIe Card Expansion Chassis	n.a.

3. Regulatory Compliance

Refer to the sticker on the corresponding delivery package.

4. Safety Instructions

4.1 Warning Signs and Indications



WARNING

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. Working with *SX proFRAME 3.0* presupposes knowledge and familiarity with electronic components and safety practices. The system where the *SX proFRAME 3.0* is operated may be disconnected from any power source while and other external electronic devices such as networks before executing any of the procedures described below. Only authorized and skilled people may do one of the procedures described below.



CAUTION

Indicates a potentially damage of *SX proFRAME 3.0* due to electrostatic discharge. Any procedure described in the succeeding chapters may only be executed in an ESD protected working environment such as ESD workstations. If not available, make sure to wear an antistatic wrist strap electrically connected to a system chassis. Only authorized and skilled people may do one of the procedures described below.



NOTICE

Indicates other important information while working with *SX proFRAME 3.0*.

4.2 Specific Safety

- Only operate *SX proFRAME Base Board 3.0* in a system that has been designed according to the corresponding specification (PCIe or Compact-PCI-Serial), otherwise *SX proFRAME Base Board 3.0* and/or the system where *SX proFRAME Base Board 3.0* is installed may be damaged!
- Do not store *SX proFRAME Base Board 3.0* and *SX camAD3 <type>* near a strong magnetic field, or in areas where it would be subjected to direct sunlight, extreme temperatures (lower than -30°C or higher than 110°C), high levels of humidity or severe vibrations.
- Do not use *SX proFRAME Base Board 3.0* outside the specified operating temperature range (-20°C to +85°C).
- Keep all liquids away from the *SX proFRAME Base Board 3.0* and *SX camAD3 <type>*. Do not place containers with liquids on top of the image processing unit. Risk of fire, electric shock and/or damage!
- Do not use *SX proFRAME Base Board 3.0* and *SX camAD3 <type>* in places where it could get in contact with water, moisture, steam or dust. This could damage the system and/or cause fire or electric shock!

5. Installation of *SX proFRAME 3.0*

5.1 Before you begin

Installation and initialization of *SX proFRAME Base Board 3.0* into customer's working environment takes place in four major steps:

1. Installation of *SX camAD3 <type>* camera adapters on *SX proFRAME Base Board 3.0* (see section 5.2 for detailed assembly instructions). This step can be skipped, if camera adapter modules are already assembled on *SX proFRAME Base Board 3.0* (usually done by Solectrix Systems with delivery).
2. Installation of *SX proFRAME Base Board 3* into the host system. Different approaches are possible depending on the hardware form factor of *SX proFRAME Base Board 3.0*:
 - a. Installation into a PCIe-based host system such as a PC (only applies for product variant *SX proFRAME Base Board 3.0 PCIe*). Refer to section 5.3.1 for detailed assembly instructions.
 - b. Installation into a host system as CompactPCI-Serial module (only applies for product variant *SX proFRAME Base Board 3.0 CompactPCI-Serial*). Refer to section 5.3.2 for detailed assembly instructions.

- c. Installation into an external I/O device such as *Sonnet Echo Express SE I* (only applies for product variant *SX proFRAME Base Board 3.0 PCIe*). Refer to section 5.3.3 for detailed assembly instructions.
3. Software installation (refer to [QUICKSTART] for instructions)
4. System initialization and operation (refer to [QUICKSTART] for instructions)

5.2 Installation of camera adapters *SX camAD3 <type>*

Assembly of camera adapters *SX camAD3 <type>* is done by pinning the adapter modules into the adapter slots as shown in Figure 1.



Execute this step in an ESD protected working environment such as ESD workstations. If not available, make sure to wear an antistatic wrist strap electrically connected to a system chassis. Only authorized and skilled people may do one of the procedures described below.

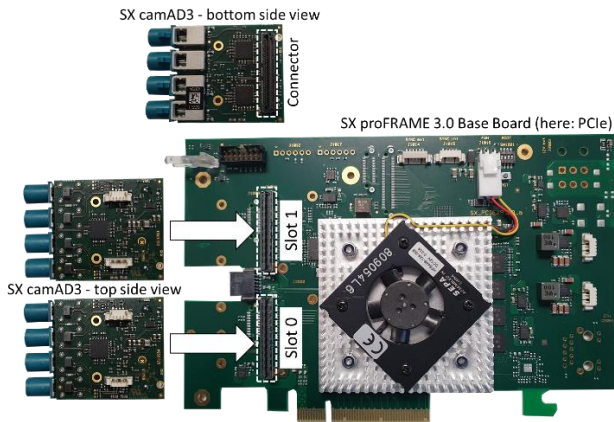


Figure 1: Assembly of *SX camAD3 <type>* camera adapters on *SX proFRAME Base Board 3.0* (here: product variant *SX proFRAME Base Board 3.0 PCIe*).

5.3 Installation of *SX proFRAME Base Board 3.0*

5.3.1 Installation into a PCIe-based Host system



This assembly is only possible with product variant *SX proFRAME Base Board 3.0 PCIe* (Art. No. 500884).

Recommended host system:

Parameter	Value	Comment
PCIe	PCIe x8 Gen 3 or higher	n.a.
n.a.	n.a.	n.a.

Hardware assembly and setup:

Refer to the manual of your PC and follow the instructions to assemble *SX proFRAME Base Board 3.0 PCIe* into the Host system.



Execute this in an ESD protected working environment such as ESD workstations. If not available, make sure to wear an antistatic wrist strap electrically connected to a system chassis. Only authorized and skilled people may do one of the procedures described below.

5.3.2 Installation into a CompactPCI-Serial system



This assembly is only possible with product variant *SX proFRAME Base Board 3.0 CompactPCI-Serial (Art. No. 500911)*.

Hardware requirements to the host system:

Parameter	Value	Comment
Processor	t.b.d.	n.a.
PCIe	PCIe x8 Gen 3 or higher	n.a.

Hardware assembly and setup:

Refer to the manual of your CompactPCI-Serial system and follow the instructions to assemble *SX proFRAME Base Board 3.0 CompactPCI-Serial* into the system.



Execute this in an ESD protected working environment such as ESD workstations. If not available, make sure to wear an antistatic wrist strap electrically connected to a system chassis. Only authorized and skilled people may do one of the procedures described below.

5.3.3 Installation into device box *Sonnet Echo Express SE I*



This assembly is only possible with product variant *SX proFRAME Base Board 3.0 PCIe (Art. No. 500884)*.

Hardware assembly and setup:

To connect Sonnet Echo Express SE I with your laptop use the Thunderbolt 3 cable coming with Sonnet Echo Express SE I and connect it to your Thunderbolt connector on the Laptop or PC. Refer to [SONNET_ECHO_EXP] for assembly details.



Execute this in an ESD protected working environment such as ESD workstations. If not available, make sure to wear an antistatic wrist strap electrically connected to a system chassis. Only authorized and skilled people may do one of the procedures described below.

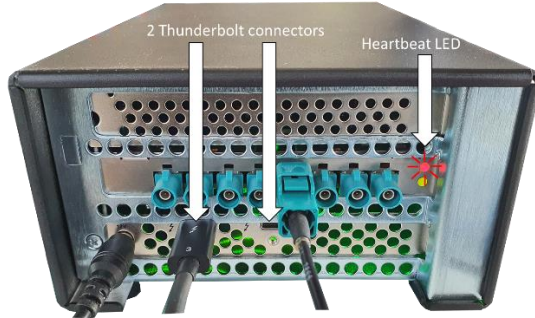


Figure 2: Thunderbolt connection at *Sonnet Echo Express SE I*.



Take care that you really use the Thunderbolt cable and the Thunderbolt connector, because USB3 and Thunderbolt 3 use the same USB-Type-C connector but from technical side they are different.



Take care that you are using the latest software and BIOS firmware.



Do not use Thunderbolt docking stations that might cause problems.



Because Thunderbolt is sometimes not very good supported from the BIOS and operating system. Windows usually works better than Linux in this case.

Sonnet Echo Express SE I has two Thunderbolt connectors on the backside (see Figure 2). Both connectors may be used.



Do not forget to connect the external power supply to *Sonnet Echo Express SE I*. Thunderbolt allows power supply through the Thunderbolt cable but this does not work with *Sonnet Echo Express SE I*.

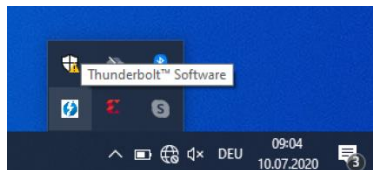


Figure 3: Thunderbolt try icon (Windows 10).

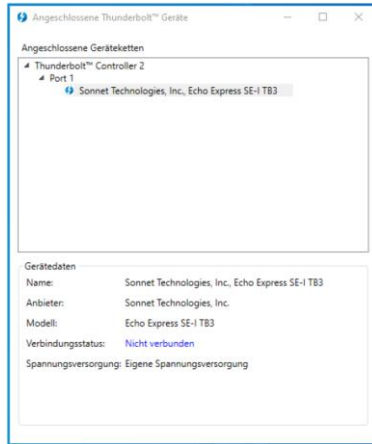


Figure 4: Thunderbolt dialog (Windows 10, german language version).

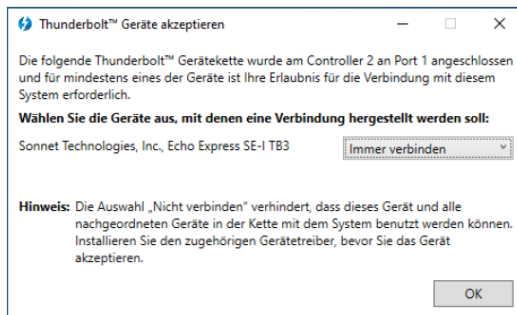


Figure 5: Thunderbolt connect dialog (Windows 10, german language version).

Check the heartbeat LED on the slot bracket to verify SX proFRAME 3.0 Base Board is connected correctly and is also attached to the operating system (LED shall blink orange/green). You might have to allow your host system to connect to new Thunderbolt devices. Depending on the Thunderbolt software driver a Thunderbolt icon in the tray bar may be visible (see Figure 3). A double-click on this icon opens a dialog as shown in Figure 4 which shows the connection status. If this connection status is 'not connected' you can change this by clicking the connection status. Another dialog window appears which allows the connection to new devices. After completing these steps, the heartbeat LED shall blink orange/green to indicate a working connection. If the LED lights up red please contact your IT service to check for possible problems with your Thunderbolt settings.

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