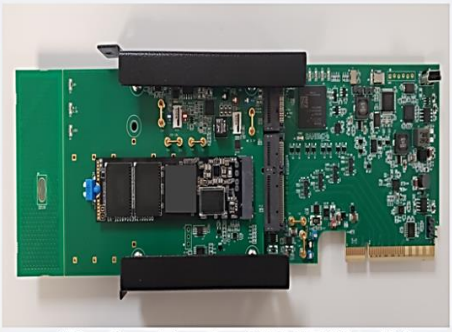
iRiser™ Family Quick Start Guide



iRiser5+ - with optional 660 EDSFF-to-M.2 Adapter installed

The iRiser family of NVMe test tools from SANBlaze – consisting of iRiser5, iRiser5+ iRiser6 and iRiser6SE – provide precision control of PCIe/NVMe power and control signals while continuously monitoring the power of each device under test (DUT):

iRiser Type	Description	SANBlaze System HW Compatibility	SANBlaze Minimum SW Support
iRiser5	• First iRiser for SBExpress-DT5 and RM5 systems • PCIe Gen5 lane control and glitching capability	DT5, RM5	10.8
iRiser5+	• Adds support for SANBlaze 660 M.2 Adapter for DMA power reading and 3.3V margin capability	DT5, RM5	11.0-Build2
iRiser6	• PCIe Gen6 iRiser with PCI lane control and glitching capability • Also supports SANBlaze 660 M.2 Adapter	RM5+ only	11.0-Build3
iRiser6SE	• Future HW release • Standard Edition PCIe Gen6 iRiser without PCI lane control or glitching capability • Also supports SANBlaze 660 M.2 Adapter	RM5+ only	TBD

The software upgrade requires the following items to proceed in the following order:

1. Update the system software to one of the minimum versions as indicated above.
   - Contact sales@sanblaze.com for the latest software

2. Verify that the Serial Boot Records (SBR) bridge firmware is upgraded to the latest, as shown in the **Verifying the SBR Images** section of the iRiser Family User Guide.

3. Power on the machine and verify the Software and SBR versions, using the following commands:
   - **`grep Version= /proc/vlun/config`** - to check the software version
   - **`sb_flash show`** - to check the SBR version

4. Power off the machine using the `poweroff` command.

5. Prepare to install the iRiser hardware into the RM5, DT5 or RM5+ chassis, noting the following:
   - For SBExpress-RM5:
     - Only iRiser5 and iRiser5+ devices can be installed in RM5
     - A maximum of four iRiser devices are supported and can be installed in slots 6, 7, 8 or 9

   - For SBExpress-DT5:
     - Only iRiser5 and iRiser5+ devices can be installed DT5
     - A maximum of three iRiser devices are supported and can be installed in slots 0, 1, or 2

   - For SBExpress-RM5+:
     - Only iRiser6 and iRiser6SE devices can be installed in RM5+
     - Up to 16 iRiser devices are supported

6. Install the iRiser into the appropriate RM5, DT5 or RM5+ chassis. Refer to the SB-Express Installation Guides for details.

7. Power on the RM5, DT5 or RM5+.

8. Verify the correct operation of the iRiser hardware, using the following command:
   - **`lspci |grep SANBlaze`**

   In RM5 or DT5 only
   - iRiser5 is Device 2015, revision d1 or higher
   - iRiser5+ is Device 2035, revision fe or higher
   - DT5 Motherboard is Device 2004
   - RM5 Motherboard is Device 2005

   For example:
   `lspci |grep SANBlaze`

```
20:00.0 Signal processing management: SANBlaze Technology, Inc. Device 2004 (rev af)
                                                                    ^ DT5
22:00.0 Signal processing management: SANBlaze Technology, Inc. Device 2015 (rev d1)
                                                                    ^ iRiser5
23:00.0 Signal processing management: SANBlaze Technology, Inc. Device 2035 (rev fe)
                                                                    ^ iRiser5+
```

In RM5+ only

- iRiser6 is Device 2016, revision b2 or higher
- iRiser6SE is Device 2026, revision XX or higher
- RM5+ Motherboard (MI5) is Device 2045
- RM6 Motherboard (MI6) is Device 2046

For example:

lspci |grep SANBlaze

```
31:00.0 Signal processing management: SANBlaze Technology, Inc. Device 2016 (rev b2)
                                                                        ^ iRiser6
4b:00.0 Signal processing management: SANBlaze Technology, Inc. Device 2045 (rev 6e)
                                                                        ^ RM5+
```

9. **Note:** If a 660 M.2 Adapter is installed within any iRiser5+ / iRiser6 / iRiser6SE device being configured, the user must enable the adapter using the following command:

   - **sb_i2c2 -d <slot> -f 3V3M2 -w 1**

   where: <slot> is the slot number of the iRiser5+ / iRiser6 / iRiser6SE device installed

10. This completes the iRiser installation.

11. If it becomes necessary to reset an iRiser device back to the factory default state, use the init command:
    - **iriser -d <slot> init**

    After the init command is used, the drive under test should re-link on PCIe and power up ready.