Acute®
PC-based T&M Instruments

# BF7264B/B+/Pro
# SD 3.0 / SDIO 3.0
# analyzer

# Index

# Feature

Supported Models:

| BF6264B | BF7264B | BF7264B+ | BF7264 Pro |
|---|---|---|---|
| ● | ● | ● | ● |

BF7264B/B+/Pro has two USB holes at the front.

Specifications:

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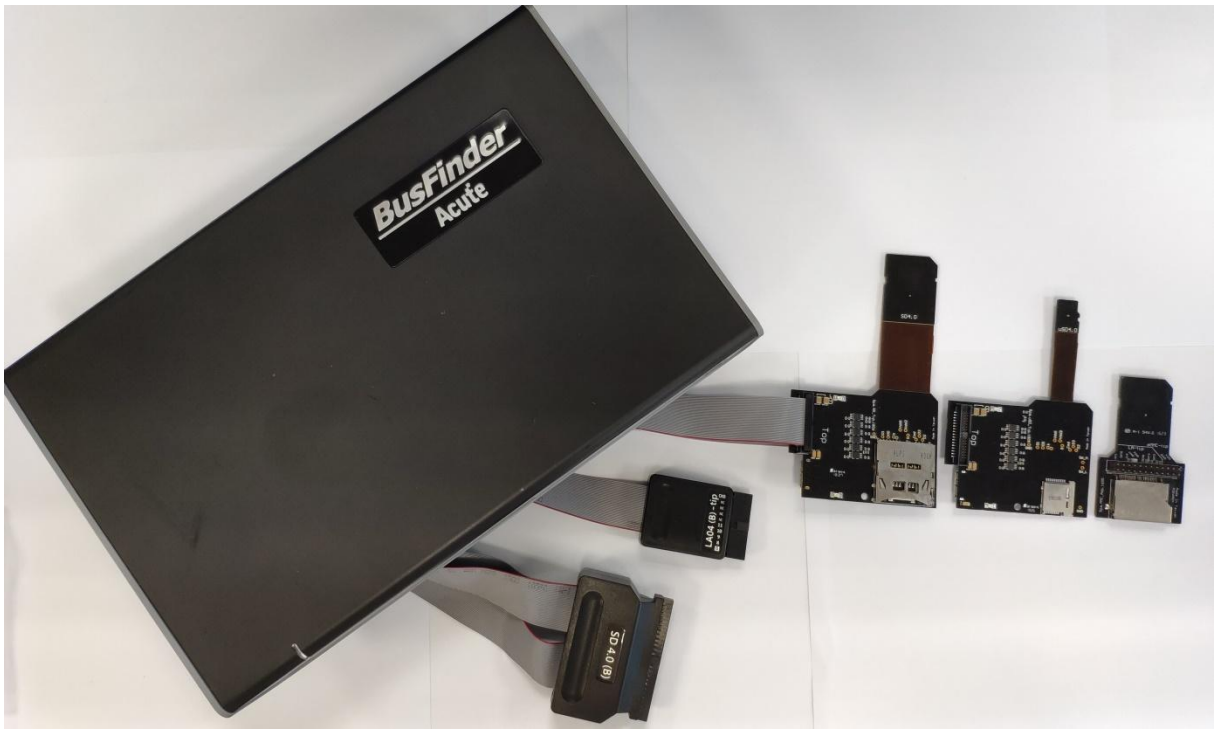
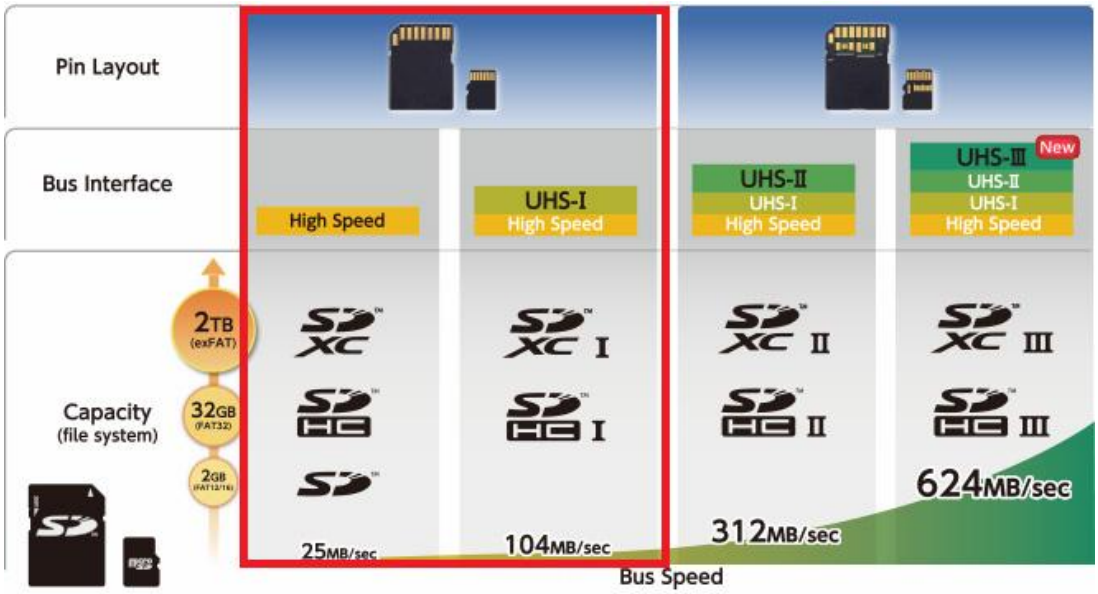
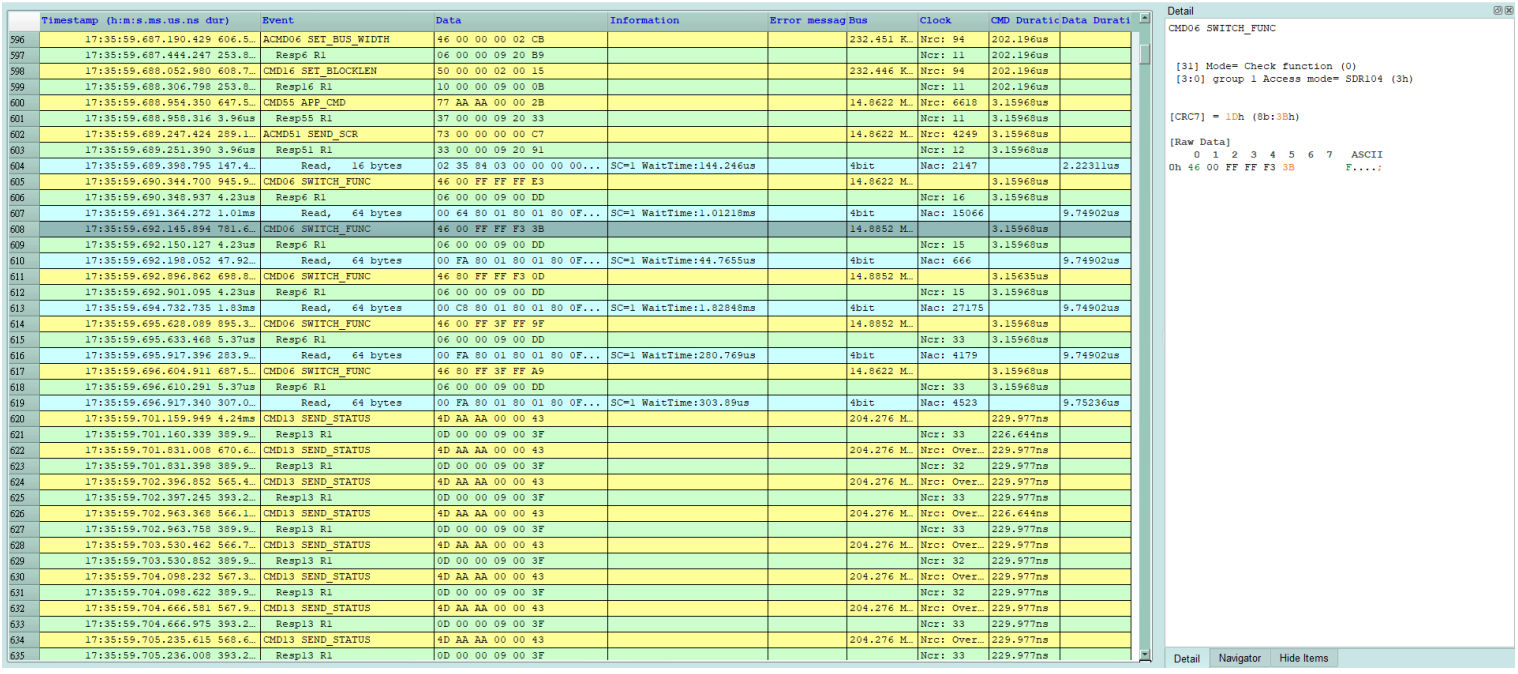
**1. BF7264B/B+/Pro, 32Gb RAM, SD 4.0 / SD 3.0 probe**




**2. Supports SD 3.0 SDR104 / SD6.0 Legacy mode SDR104, DDR200/ SDIO 3.0**




**3.** Can display SD 3.0 protocol packet data in tabular form, including command parsing



| | Timestamp (h:m:s.ms.us.ns dur) | Event | Data | Information | Error messag | Bus | Clock | CMD Duratic | Data Durati |
|---|---|---|---|---|---|---|---|---|---|
| 596 | 17:35:59.687.190.429 606.5… | ACMD06 SET_BUS_WIDTH | 46 00 00 00 02 CB | | | 232.451 K… | Ncr: 94 | 202.196us | |
| 597 | 17:35:59.687.444.247 253.8… | Resp6 R1 | 06 00 00 09 20 B9 | | | | Ncr: 11 | 202.196us | |
| 598 | 17:35:59.688.052.980 608.7… | CMD16 SET_BLOCKLEN | 50 00 00 02 00 15 | | | 232.446 K… | Ncr: 94 | 202.196us | |
| 599 | 17:35:59.688.306.798 253.8… | Resp16 R1 | 10 00 00 09 00 0B | | | | Ncr: 11 | 202.196us | |
| 600 | 17:35:59.688.954.350 647.5… | CMD55 APP_CMD | 77 AA AA 00 00 2B | | | 14.8622 M… | Ncr: 6618 | 3.15968us | |
| 601 | 17:35:59.688.958.316 3.96us | Resp55 R1 | 37 00 00 09 20 33 | | | | Ncr: 11 | 3.15968us | |
| 602 | 17:35:59.689.247.424 289.1… | ACMD51 SEND_SCR | 73 00 00 00 00 C7 | | | 14.8622 M… | Ncr: 4249 | 3.15968us | |
| 603 | 17:35:59.689.251.390 3.96us | Resp51 R1 | 33 00 00 09 20 91 | | | | Ncr: 12 | 3.15968us | |
| 604 | 17:35:59.689.398.795 147.4… | Read, 16 bytes | 02 35 84 03 00 00 00 00... | SC=1 WaitTime:144.246us | | 4bit | Nac: 2147 | | 2.22311us |
| 605 | 17:35:59.690.344.700 945.9… | CMD06 SWITCH_FUNC | 46 00 FF FF FF E3 | | | 14.8622 M… | | 3.15968us | |
| 606 | 17:35:59.690.348.937 4.23us | Resp6 R1 | 06 00 00 09 00 DD | | | | Ncr: 16 | 3.15968us | |
| 607 | 17:35:59.691.364.272 1.01ms | Read, 64 bytes | 00 64 80 01 80 01 80 0F... | SC=1 WaitTime:1.01218ms | | 4bit | Nac: 15066 | | 9.74902us |
| 608 | 17:35:59.692.145.894 781.6… | CMD06 SWITCH_FUNC | 46 00 FF FF F3 3B | | | 14.8852 M… | | 3.15968us | |
| 609 | 17:35:59.692.150.127 4.23us | Resp6 R1 | 06 00 00 09 00 DD | | | | Ncr: 15 | 3.15968us | |
| 610 | 17:35:59.692.198.052 47.92… | Read, 64 bytes | 00 FA 80 01 80 01 80 0F... | SC=1 WaitTime:44.7655us | | 4bit | Nac: 666 | | 9.74902us |
| 611 | 17:35:59.692.896.862 698.8… | CMD06 SWITCH_FUNC | 46 80 FF FF F3 0D | | | 14.8852 M… | | 3.15635us | |
| 612 | 17:35:59.692.901.095 4.23us | Resp6 R1 | 06 00 00 09 00 DD | | | | Ncr: 15 | 3.15968us | |
| 613 | 17:35:59.694.732.735 1.83ms | Read, 64 bytes | 00 C8 80 01 80 01 80 0F... | SC=1 WaitTime:1.82848ms | | 4bit | Nac: 27175 | | 9.74902us |
| 614 | 17:35:59.695.628.089 895.3… | CMD06 SWITCH_FUNC | 46 00 FF 3F FF 9F | | | 14.8852 M… | | 3.15968us | |
| 615 | 17:35:59.695.633.468 5.37us | Resp6 R1 | 06 00 00 09 00 DD | | | | Ncr: 33 | 3.15968us | |
| 616 | 17:35:59.695.917.396 283.9… | Read, 64 bytes | 00 FA 80 01 80 01 80 0F... | SC=1 WaitTime:280.769us | | 4bit | Nac: 4179 | | 9.74902us |
| 617 | 17:35:59.696.604.911 687.5… | CMD06 SWITCH_FUNC | 46 80 FF 3F FF A9 | | | 14.8622 M… | | 3.15968us | |
| 618 | 17:35:59.696.610.291 5.37us | Resp6 R1 | 06 00 00 09 00 DD | | | | Ncr: 33 | 3.15968us | |
| 619 | 17:35:59.696.917.340 307.0… | Read, 64 bytes | 00 FA 80 01 80 01 80 0F... | SC=1 WaitTime:303.89us | | 4bit | Nac: 4523 | | 9.75236us |
| 620 | 17:35:59.701.159.949 4.24ms | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | | 229.977ns | |
| 621 | 17:35:59.701.160.339 389.9… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 33 | 226.644ns | |
| 622 | 17:35:59.701.831.008 670.6… | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | Ncr: Over… | 229.977ns | |
| 623 | 17:35:59.701.831.398 389.9… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 32 | 229.977ns | |
| 624 | 17:35:59.702.396.852 565.4… | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | Ncr: Over… | 229.977ns | |
| 625 | 17:35:59.702.397.245 393.2… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 33 | 229.977ns | |
| 626 | 17:35:59.702.963.368 566.1… | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | Ncr: Over… | 226.644ns | |
| 627 | 17:35:59.702.963.758 389.9… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 33 | 229.977ns | |
| 628 | 17:35:59.703.530.462 566.7… | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | Ncr: Over… | 229.977ns | |
| 629 | 17:35:59.703.530.852 389.9… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 32 | 229.977ns | |
| 630 | 17:35:59.704.098.232 567.3… | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | Ncr: Over… | 229.977ns | |
| 631 | 17:35:59.704.098.622 389.9… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 32 | 229.977ns | |
| 632 | 17:35:59.704.666.581 567.9… | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | Ncr: Over… | 229.977ns | |
| 633 | 17:35:59.704.666.975 393.2… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 33 | 229.977ns | |
| 634 | 17:35:59.705.235.615 568.6… | CMD13 SEND_STATUS | 4D AA AA 00 00 43 | | | 204.276 M… | Ncr: Over… | 229.977ns | |
| 635 | 17:35:59.705.236.008 393.2… | Resp13 R1 | 0D 00 00 09 00 3F | | | | Ncr: 33 | 229.977ns | |

Detail

CMD06 SWITCH_FUNC

[31] Mode= Check function (0)
[3:0] group 1 Access mode= SDR104 (3h)

[CRC7] = 1Dh (8b:3Bh)

[Raw Data]
0 1 2 3 4 5 6 7 ASCII
0h 46 00 FF FF F3 3B F....;

Detail Navigator Hide Items

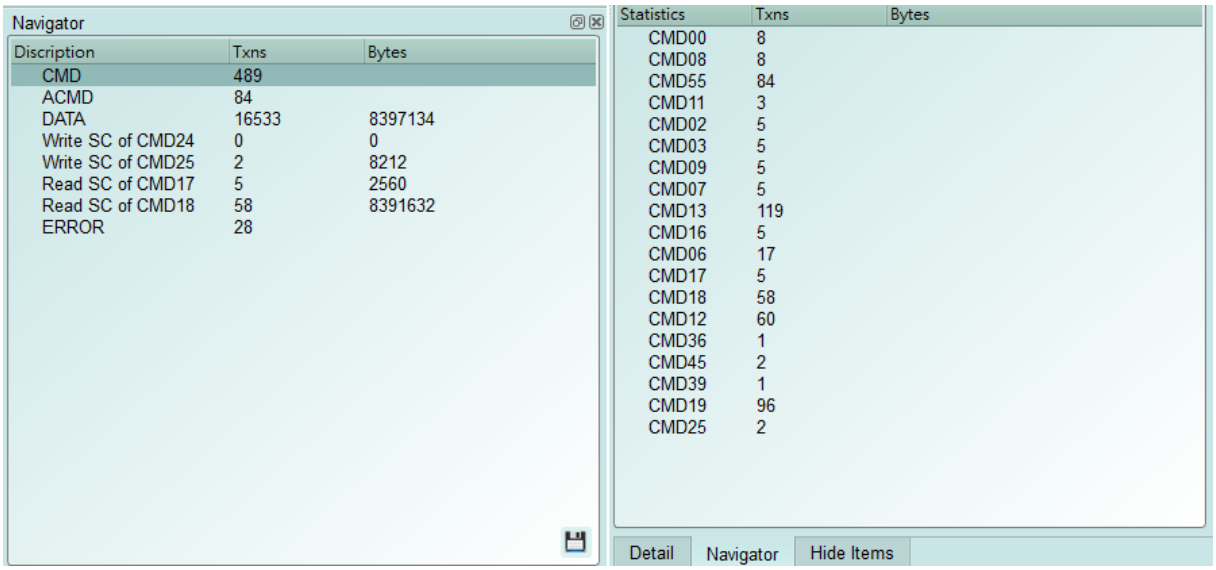
**4. Use 32Gb RAM as the buffer to stream all SD 3.0 data into the SSD HD in order to record all data flow from Low Power Mode to High Speed Mode.**

**5. “Data Filter” filters unwanted data to save memory.**

**6. “Search” searches specific data.**

**7. “CRC Packet” displays and counts CRC**

**8. SD 3.0 command statistics include numbers of packets, individual command, different data length, and errors**




## 9. SD 3.0 command trigger

**a.** Trigger parameters include commands and data in order to cover all kinds of packets.

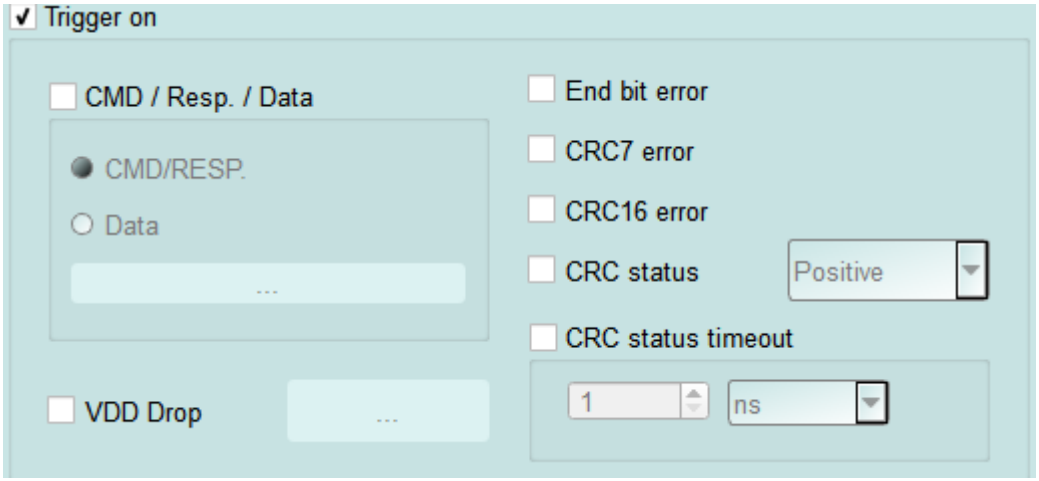
**b.** Command or 16 byte Data.

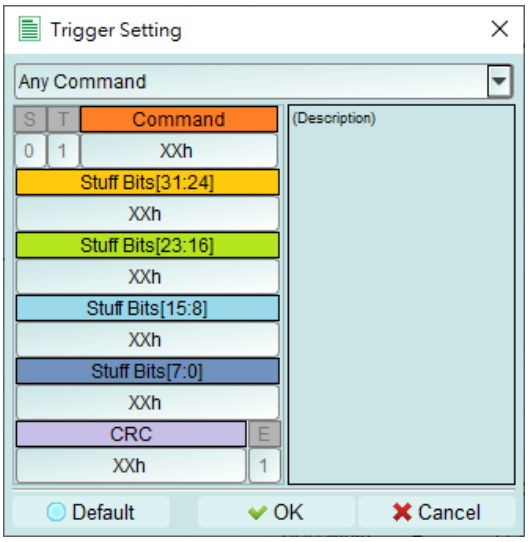
**c.** CRC7, CRC16, End Bit Error.

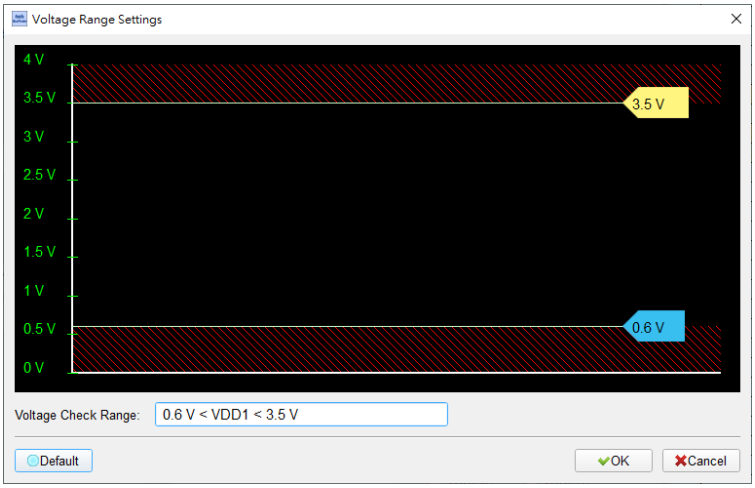
**d.** CRC Status timeout, CRC Status pattern.

**e.** VCC drop, VCCQ2 drop.

**f.** The Trigger-Out port is to trigger a DSO to capture waveforms

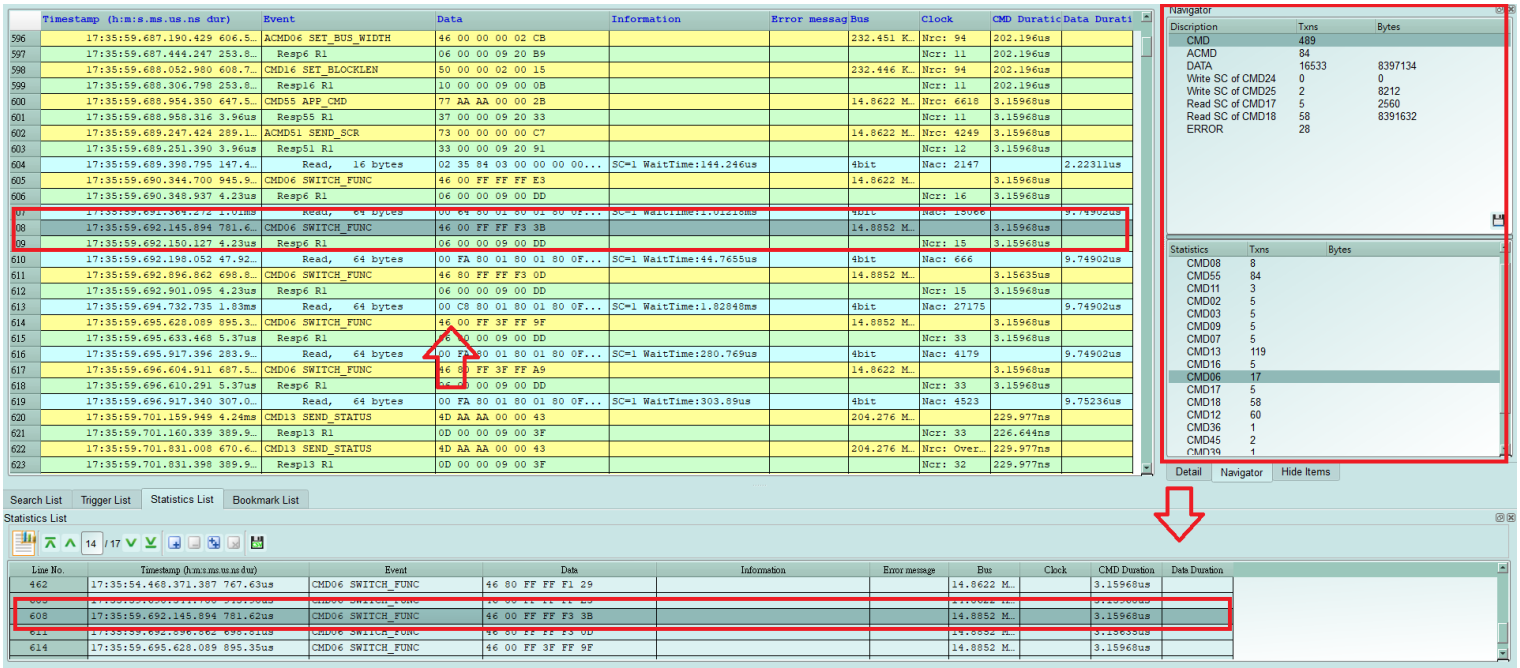





## 10. Report area

Statistics list: Quickly categorize and track the location of data with statistical functions

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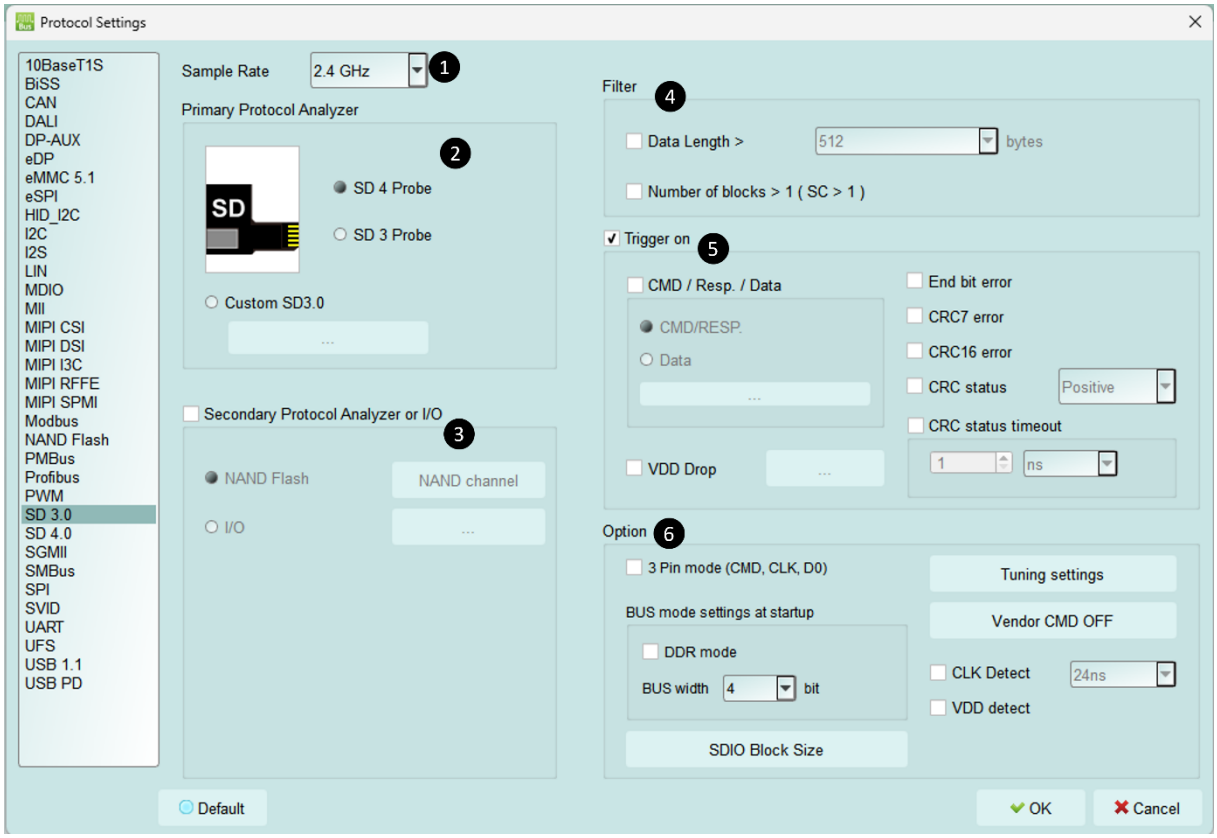
## 11. SD 3.0 settings




1. **Sample Rate:** Choose the sampling rate to use. To enable the Secondary Protocol Analyzer – NAND Flash option, the sampling rate must be set below 1GHz,
2. **Primary Protocol Analyzer:** Choose to use the probe type, and set the channel / trigger level,
3. **Secondary Protocol Analyzer or I/O:** An additional set of specified logic analysis can be opened to analyze the remaining available pins at the same time,
4. **Filter:** Each Data Frame can specify the size of the collection, and data larger than the set value will not be recorded
5. **Trigger on:** CMD, DATA, ERROR, Voltage, Timeout, CRC Status trigger conditions can be set
6. **Option:**
   a. **3 Pin mode:** After connecting CLK, CMD, D0, the protocol flow and status agreement can be analyzed,
   b. **Startup:** It needs to be set to the mode of the current acquisition, the mode of the test object is running, and has the Tuning function.
   c. **Tuning setting:** Adjust channel phase.

d. **Vendor CMD:** Can change the name of the command group by itself, with or without data,

e. **CLK Detect:** Can detect whether CLK has action,

f. **Two sets of voltage detection function**

# FAQ

1. **What SD version is supported?**

   A：Support SD3.0 SDR104, SD6.0 Legacy mode SDR104 / DDR200.

2. **Will the signal quality be affected during measurement?**

   A: The measurement of the external instrument will inevitably have some load effect. We use the active probe to reduce the interference of the object to be measured and improve the signal quality.

3. **Is Tx supported?**

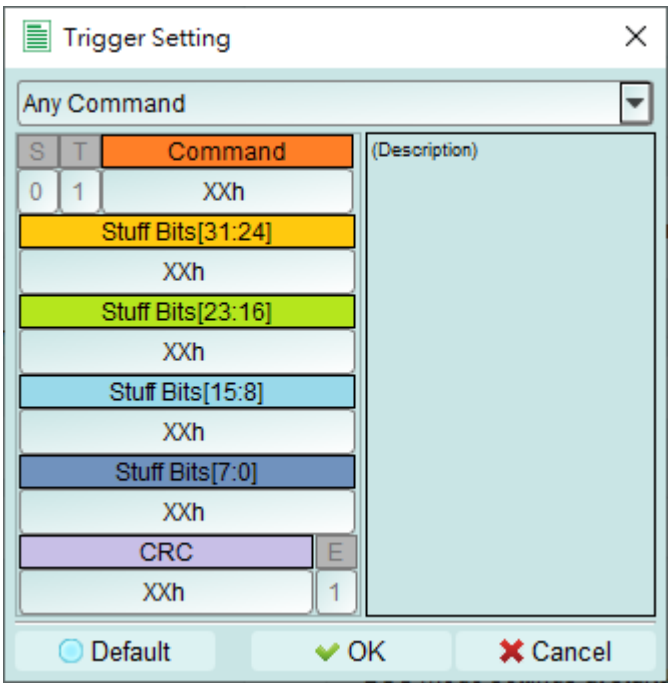
   A: No

4. **Precautions during measurement**

   Please make sure to connection according to the “Probe and test object connection” on page 9.

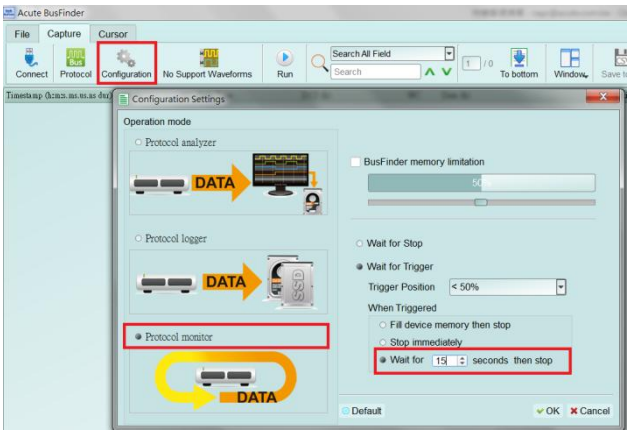
5. **Can I specify an SD packet as the trigger point function?**

   A: You can specify specific SD packet or Error to trigger.



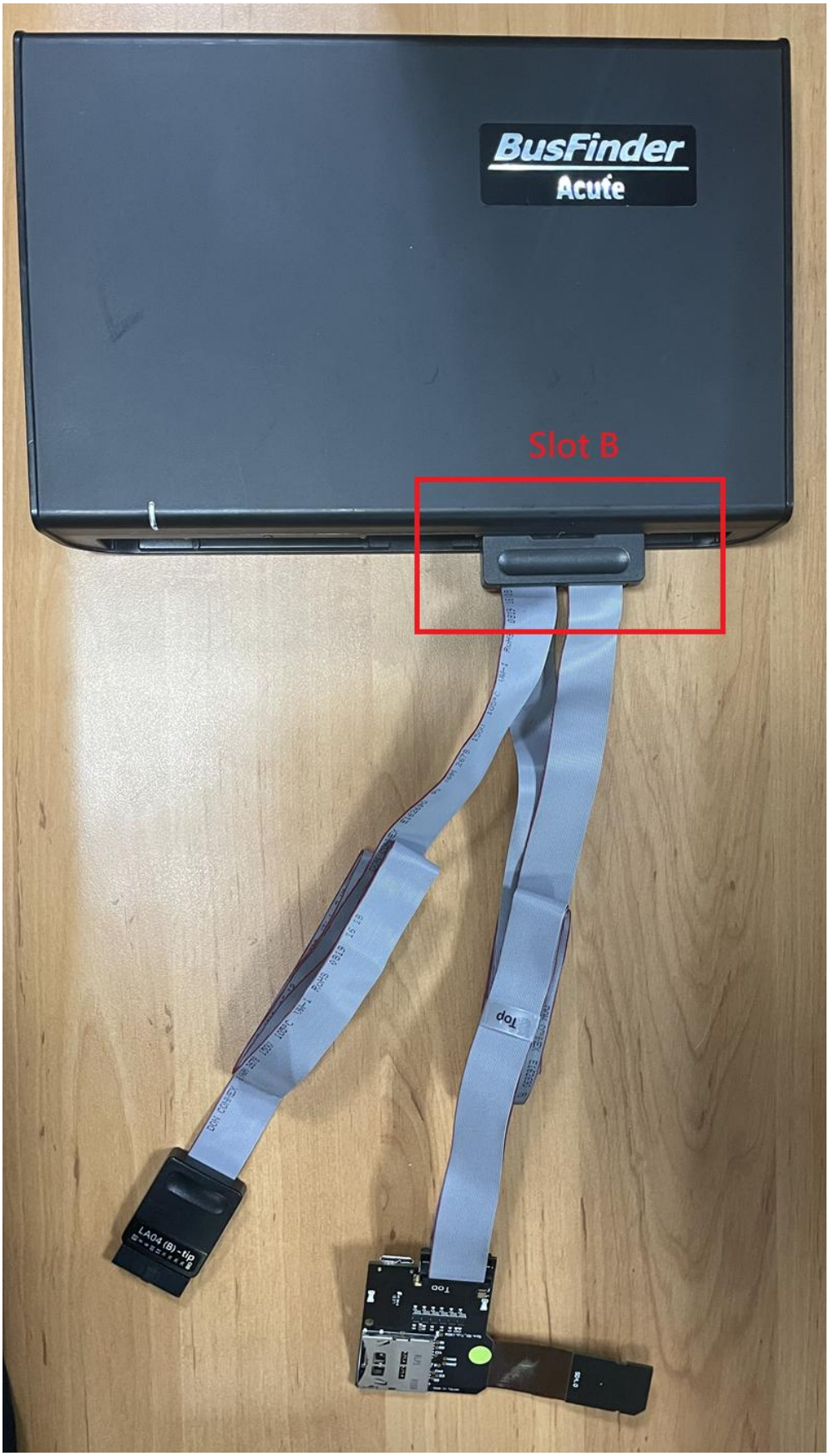
**6. Is it possible to set an SD starting point, and specify how much time to capture Data?**

A: You can set the starting condition to the trigger item and adjust to the data monitor mode in the working mode menu. And specify the length of acquisition time.



# BusFinder and Probe connection

The BusFinder can only use Slot B as the probe connection slot.

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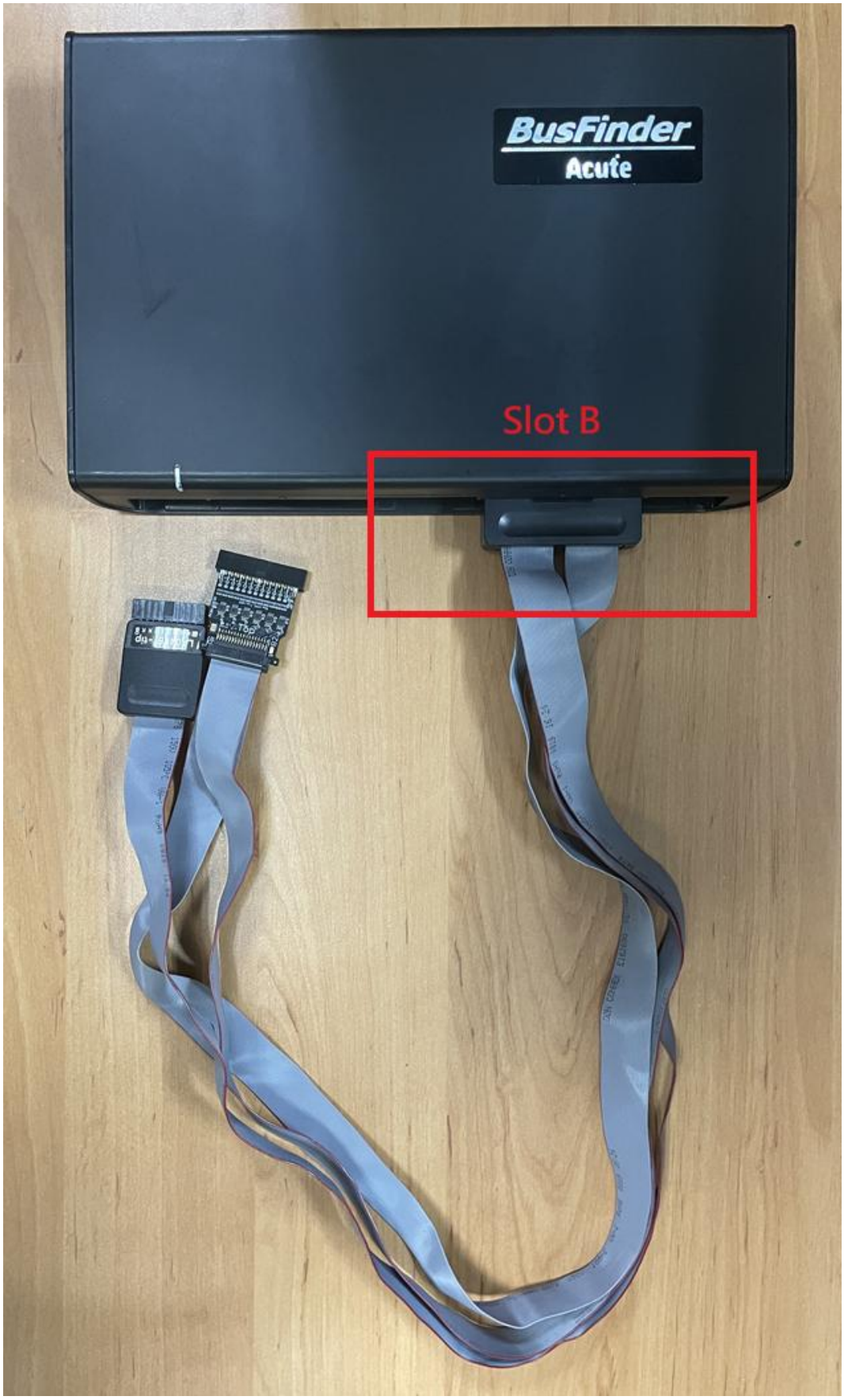


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# Probe and test object connection




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## SD4.0 adapter board test point:

When to use:

a. When you need to use the oscilloscope to view the waveform at the same time

b. When the flexible circuit of the transfer board can be checked whether it is normal, the electric meter can measure whether the golden finger of the front end is connected to the measuring point.