



[MPC5xxx] No debugger access due to a censored device

2025-01-02 - Comments (4) - MPC5xxx / SPC5xx

The MPC5XXX processors implement a censorship feature. When enabled, the JTAG debugger is locked out and debugging or tracing is impossible.

The debug implementation on the MPC5XXX does not allow detecting if a processor is censored or not. The indication of active censorship is that reading the JTAGID works, but any further accesses, fail. The debugger will report a **Debug Port Fail** error and the additional error description in the message AREA will look like follows:

```
JTAGID=0x____1D
Error: received invalid OSR (0x000)
is the device censored?
```

If the processor was censored on intention, it is possible to regain access using this command sequence:

```
SYStem.DETECT CPU
SYStem.Option.KEYCODE 0xFEEDFACECAFEBEEF
SYStem.Up
```

Note:

- If the password (keycode) is unknown or illegal (e.g. after accidentally erasing the shadow row), the processor is locked forever and can not be recovered, unless the application in flash provides a feature to unlock the processor (e.g. via CAN).
- Some processors require the upper and lower 32-bit parts to be exchanged for **SYStem.Option.KEYCODE** (e.g. 0xCAFEFEEFFEEFACE instead of 0xFEEDFACECAFEBEEF)

Tags

MPC55XX

Comments (4)

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AM Arun Mukundan

2 months ago

Hi, consider my password is 12345678123456781234567812345678. How can I provide this

data through lauterbach

1, using space as a separator. eg: 0x12345678 0x12345678 0x12345678 0x12345678

2, using comma separator. eg: 0x12345678,0x12345678,0x12345678,0x12345678

please help me to resolve this.

Wafi Jmal

2 months ago

Hello,

If I understand you request correctly this script should help:

```
&password_1="0x11111111,0x22222222,0x33333333,0x44444444"
```

```
&password_2="0x55555555 0x66666666 0x77777777 0x88888888"
```

```
&output_1=STRing.Replace("&password_1","0x","","0.")
```

```
&output_2=STRing.Replace("&password_2"," 0x","","0.")
```

```
print "&output_1"
```

```
print "&output_2"
```

```
ENDDO
```

Output:

```
0x11111111222222223333333344444444
```

```
0x55555555666666667777777788888888
```

Please let me know your feedback on this

Best Regards

Wafi

AM Arun Mukundan

2 months ago

Hi Wafi,

Thanks for the help, PFB is the exact script I'm executing. I think now I'm sending the keycode as expected.

```
SYStem.RESet
```

```
SYStem.BdmClock 16.0MHz
```

```
SYStem.DETECT CPU
```

```
SYStem.Option.ResBreak OFF
```

```
SYStem.Option.WaitReset 3s
```

```
SYStem.Option KEYCODE 0x12345678 0x12345678 0x12345678 0x12345678 0x12345678
```

```
0x12345678 0x12345678 0x12345678
```

```
System.Option ResetMode FUNCtional
```

```
SYStem.Option.WATCHDOG OFF
```

```
SYStem.Up
```

After this either I end up with target reset or debug port fail

Wafi Jmal

1 month ago

Hello,

Please refer to this document: https://repo.lauterbach.com/pdf/debugger_mpc5500.pdf

If the issue persists:

. kindly open a new ticket using this link: <https://support.lauterbach.com/new-ticket>.

. Generate a system information report about your TRACE32 configuration by selecting the TRACE32 menu:

Help > Support > System Information..., click Save to File, and attach the resulting text file to your email.

This will help us investigate the issue further.

Best Regards

Wafi