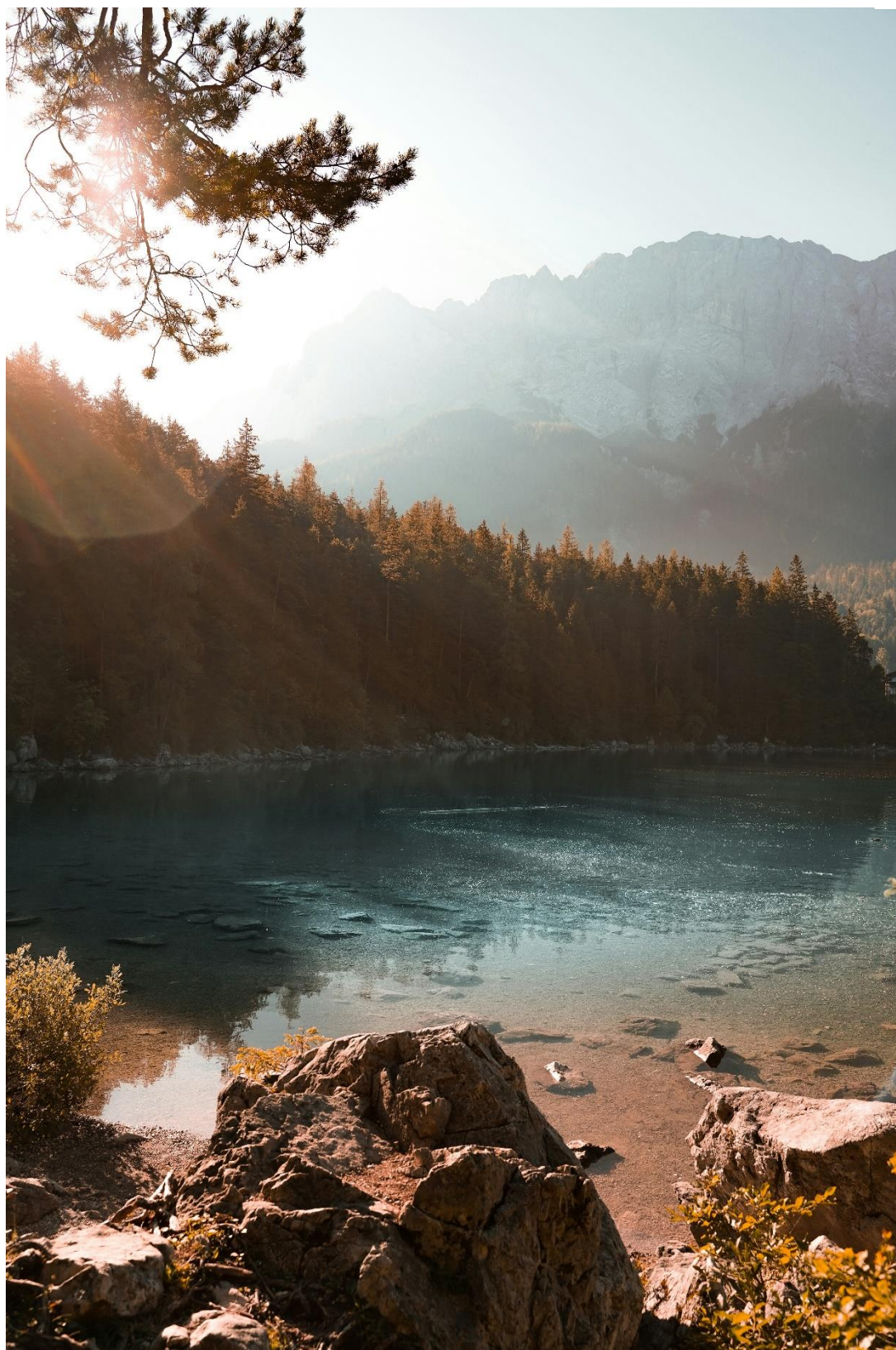


## Interfacing FlashRunner 2.0 with R7FA



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## Standard Commands

### CONNECT

This command is used to connect to the device. It might print information on the status of the debug interfaces.

### MASSERASE <memory\_type>

This command is used to erase the specified memory.

### BLANKCHECK <memory\_type>

This command is used to check if the specified memory or a portion of it is blank.

Start address and size are optional parameters.

### PROGRAM <memory\_type>

This command is used to flash the specified memory with a customer's firmware which fits into this memory.

### VERIFY <memory\_type> <verify\_method>

This command is used to compare the content of the memory with a customer's firmware.

R – Readout method: compares the content bit by bit.

S – Checksum method: compares the checksum of the flashed memory with the source file one

### READ <memory\_type> <start\_address> <size>

This command is used to read the specified memory or a portion of it and print it out in the GUI terminal.

### DUMP <memory\_type> <start\_address> <size>

This command is used to read the specified memory or a portion of it and save it into a binary file stored inside the programming system SD-CARD.

### DISCONNECT

This command is used to disconnect from the device.

## Supported protocols

R7FA flashing algorithm supports SWD protocol.

**#TCSETPAR CMODE <SWD>**

## Additional Parameters

**#TCSETPAR UNLOCK\_MODE <ALLERASE|IDCODE>**

Used to unlock the debug port when the device is locked.

**IDCODE:** Renesas native routine that allows the user to unlock the debug port without deleting the content from the memories. Usable only when the IDCODE stored inside the MCU is respecting IDCODE native routine requirements.

**ALLERASE:** Renesas native routine that allows the user to unlock the debug port and deletes the content from the memories. Usable only when the IDCODE stored inside the MCU is respecting ALLERASE native routine requirements.

## Memories and commands

### RA6M1/RA6M2/RA6M3

- Memories supported:
  - [F] – CodeFlash
  - [D] – DataFlash
  - [O] – OotionBytes

Commands supported:

#TPCMD [CONNECT](#)

#TPCMD [MASSERASE F|D](#)

#TPCMD [BLANKCHECK F](#)

#TPCMD [PROGRAM F|D|O](#)

#TPCMD [VERIFY F|D|O R|S](#)

#TPCMD [READ F|D|O <start\\_address> <size>](#)

#TPCMD [DUMP F|D|O <start\\_address> <size>](#)

#TPCMD [DISCONNECT](#)

### RA6M4/RA6M5/RA6E1

- Memories supported:
  - [F] – CodeFlash
  - [D] – DataFlash
  - [O] – OotionBytes

Commands supported:

#TPCMD [CONNECT](#)

#TPCMD [MASSERASE F|D](#)

#TPCMD [BLANKCHECK F](#)

#TPCMD [PROGRAM F|D|O](#)

#TPCMD [VERIFY F|D|O R|S](#)

#TPCMD [READ F|D|O <start\\_address> <size>](#)

#TPCMD [DUMP F|D|O <start\\_address> <size>](#)

#TPCMD [DISCONNECT](#)

## RA0E1

- Memories supported:
  - [F] – CodeFlash
  - [D] – DataFlash
  - [O] – OotionBytes

Commands supported:

#TPCMD **CONNECT**

#TPCMD **MASSERASE F|D**

#TPCMD **BLANKCHECK F**

#TPCMD **PROGRAM F|D|O**

#TPCMD **VERIFY F|D|O R|S**

#TPCMD **READ F|D|O <start\_address> <size>**

#TPCMD **DUMP F|D|O <start\_address> <size>**

#TPCMD **DISCONNECT**

*\*If TCSETPAR UNLOCK\_MODE ALLERASE|IDCODE is used, the CONNECT command will unlock the debug port if it finds it locked.*

## RA2E1/RA2E2/RA2L1

- Memories supported:
  - [F] – CodeFlash
  - [D] – DataFlash
  - [O] – OotionBytes

Commands supported:

#TPCMD **CONNECT**

#TPCMD **MASSERASE F|D**

#TPCMD **BLANKCHECK F**

#TPCMD **PROGRAM F|D|O**

#TPCMD **VERIFY F|D|O R|S**

#TPCMD **READ F|D|O <start\_address> <size>**

#TPCMD **DUMP F|D|O <start\_address> <size>**

#TPCMD **DISCONNECT**

*\*If TCSETPAR UNLOCK\_MODE ALLERASE|IDCODE is used, the CONNECT command will unlock the debug port if it finds it locked.*