



HDD (SATA, NVMe) Password Handling

- Two different security protocols (HDDSecurity / OPAL)
- Usage of Master/Admin password and User password
- Set, change and clear passwords
- Handle password prompts during boot

Revision History

Revision	Change description	Date
V1.0	Initial version	28.03.2023

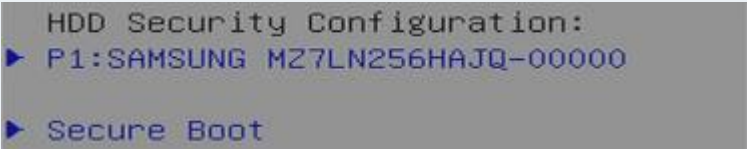

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1 Overview of BIOS Options

NOTICE

The storage password options are available in BIOS setup's Security tab. Depending on the protocol that is supported by the storage device the related submenu will be available.

Security Section	Typically used for	Link to chapter
	SATA disks	HDD Security
	NVMe disks	TCG Storage Security

2 HDD Security

New devices should not have any password installed, e.g.

```
HDD PASSWORD CONFIGURATION:

Security Supported :           Yes
Security Enabled   :           No
Security Locked    :           No
Security Frozen    :           No
HDD User Pwd Status:          NOT INSTALLED
HDD Master Pwd Status :       NOT INSTALLED

Set User Password
Set Master Password
```

Password responsibilities

Master Password:

- Combined clear of Master and User Password

User Password:

- Modify User Password
- Clear User Password
- Unlock device during boot

2.1 Set / modify / clear Master Password

NOTICE

The option "Set Master Password" will just be available as long as no User Password is installed or the storage device was not unlocked via User Password.

Executing "Set Master Password" will prompt an input box:



Enter your new *Master Password* and press ENTER...

If you want to clear the *Master Password*, just leave the input box empty and press ENTER...



Confirm your new *Master Password* and press ENTER.

If you want to clear the *Master Password*, just leave the input box empty and press ENTER...

Now the *Master Password* is installed and the information is updated immediately:

```
HDD PASSWORD CONFIGURATION:

Security Supported :           Yes
Security Enabled   :           No
Security Locked    :           No
Security Frozen    :           No
HDD User Pwd Status:          NOT INSTALLED
HDD Master Pwd Status :        INSTALLED

Set User Password
Set Master Password
```

2.2 Set new User Password


WARNING

As soon as a User Password is installed and the storage device is unlocked, the Master Password cannot be set or modified!

Executing "Set User Password" will prompt an input box:



Enter your new *User Password* and press ENTER...



Confirm your new *User Password* and press ENTER.

Now the *User Password* is installed and the information is updated immediately:

```
HDD PASSWORD CONFIGURATION:

Security Supported :           Yes
Security Enabled  :           Yes
Security Locked   :           No
Security Frozen   :           No
HDD User Pwd Status:          INSTALLED
HDD Master Pwd Status :          INSTALLED

Set User Password
Set Master Password
```

2.3 Modify the User Password

Executing "Set User Password" will prompt an input box:

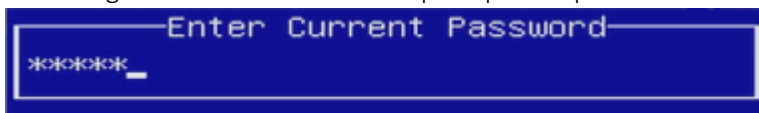
A screenshot of a terminal window showing a prompt 'Enter Current Password' followed by a rectangular input box. Inside the box, there are five asterisks '*****' and a cursor at the end.

Enter the current *User Password* and Confirm with ENTER...

Now follow the steps described in the previous chapter ["Set new User Password"](#).

2.4 Clear the User Password

Executing "Set User Password" will prompt an input box:

A screenshot of a terminal window showing a prompt 'Enter Current Password' followed by a rectangular input box. Inside the box, there are five asterisks '*****' and a cursor at the end.

Enter the current *User Password* and confirm with ENTER...

A screenshot of a terminal window showing a prompt 'Create New Password' followed by a rectangular input box. The box is empty with a cursor at the beginning.

Leave the input box empty and press ENTER...

A screenshot of a terminal window showing a 'WARNING' dialog box. The text inside reads 'Clear Old Password. Continue?'. At the bottom, there are two options: 'Yes' and 'No', with 'Yes' highlighted.

Confirm by pressing ENTER or select No + ENTER to cancel.

3 TCG Storage Security

New devices should not have any password installed, e.g.

```
PASSWORD CONFIGURATION:

Security Subsystem Class   :      Pyrite 2.0
Security Supported        :      Yes
Security Enabled          :      No
Security Locked           :      No
Security Frozen           :      No
User Pwd Status           :      NOT INSTALLED
Admin Pwd Status          :      NOT INSTALLED

Set Admin Password
Set User Password
```

NOTICE

The option “Set User Password” is greyed-out until an Admin Password is installed.

Password features

Admin Password:

- Set / modify User Password
- Modify Admin Password
- Clear User Password
- Combined clear of Admin and User Password
- Unlock device during boot

User Password:

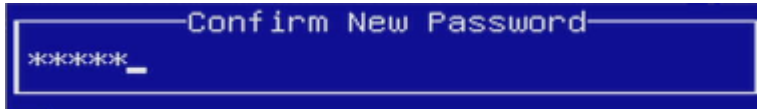
- Modify User Password
- Unlock device during boot

3.1 Set new Admin Password

Executing "Set Admin Password" will prompt an input box:



Enter your new *Admin Password* and press ENTER...



Confirm your new *Admin Password* and press ENTER.

Now the *Admin Password* is installed and the information is updated immediately:

```
PASSWORD CONFIGURATION:

Security Subsystem Class   :      Pyrite 2.0
Security Supported        :      Yes
Security Enabled          :      Yes
Security Locked           :      Yes
Security Frozen           :      No
User Pwd Status           :      NOT INSTALLED
Admin Pwd Status          :      INSTALLED

Set Admin Password
Set User Password
```

3.2 Set new User Password

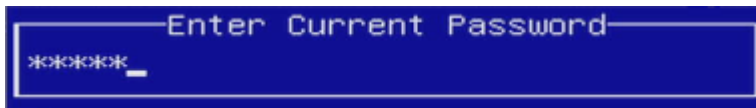
NOTICE

The option "Set User Password" will just be available if an Admin Password is installed.
The Admin Password must be provided to set an initial User Password.

Executing "Set User Password" will show this dialog:



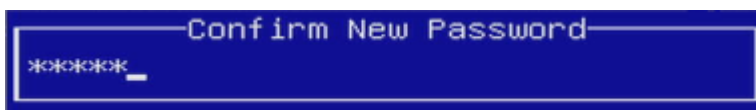
Confirm with ENTER...



IMPORTANT: Enter the *Admin Password* if you want to install the initial *User Password* and press ENTER...

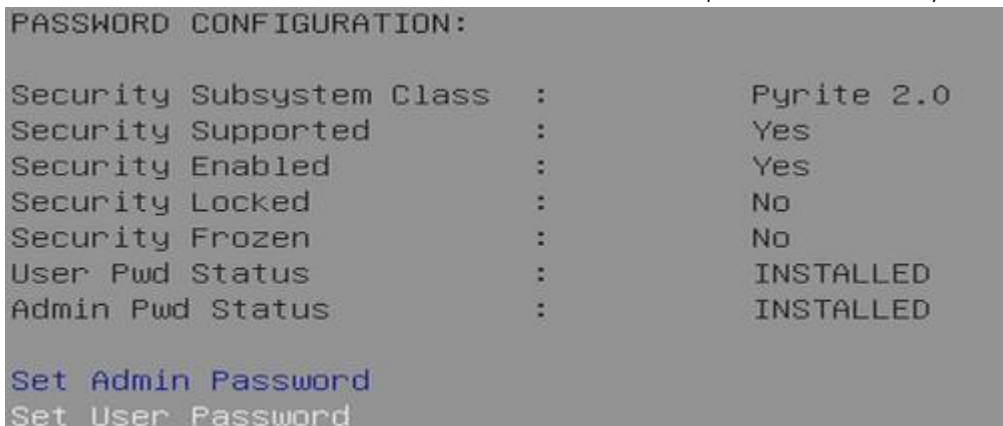


Enter your new *User Password* and press ENTER...



Confirm your new *User Password* and press ENTER.

Now the *User Password* is installed and the information is updated immediately:

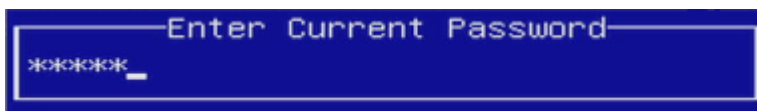


3.3 Modify the User or Admin Password

Only when executing “Set User Password” this dialog will appear, “Set Admin Password” will not show this dialog.



Confirm with ENTER...



Enter the current Password and Confirm with ENTER...

NOTICE

For changing the *User Password* you can also use the current *Admin Password*.



Enter your new Password and press ENTER...



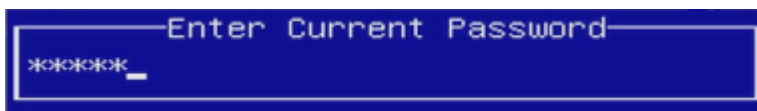
Confirm your new Password and press ENTER.

3.4 Clear the User or Admin Password

Only when executing “Set User Password” this dialog will appear, “Set Admin Password” will not show this dialog.



Confirm with ENTER...



Enter the Admin Password and confirm with ENTER...



Leave the input box empty and press ENTER...



Confirm by pressing ENTER or select No + ENTER to cancel.

Only when the *Admin Password* was deleted, this dialog will be shown:



WARNING

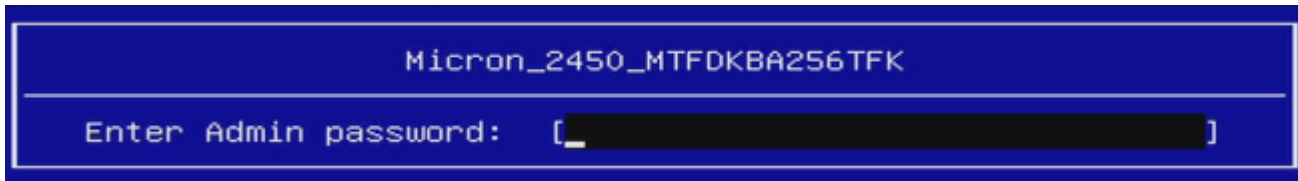
Clearing the Admin Password will also clear the User Password!

4 Unlock storage devices during boot

The input prompts for storage passwords differ according to the protocol used.

4.1 TCG Storage Security

By default the *Admin Password* is requested:



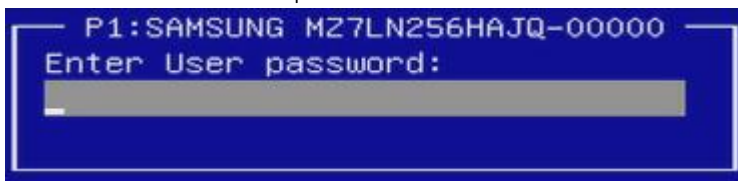
If you want to unlock via the *User Password*, just press ESC:



Enter the requested password and press ENTER to unlock the storage device

4.2 HDD Security

The *User Password* is requested:



Enter the requested password and press ENTER to unlock the storage device

NOTICE

In difference to TCG Storage Security it's not possible to use the *Master Password* to unlock the storage device.

5 What if I forgot my Password

5.1 TCG Storage Security

WARNING

You should always remind your Admin Password!
Only a lost User can be reset by using the Admin Password!

Enter the BIOS setup.

Unlock the storage device with the Admin Password

Follow the steps from chapter [“Clear the User or Admin Password”](#)

5.2 HDD Security

WARNING

You should always remind your Master Password!
Only a lost User can be reset by using the Master Password!

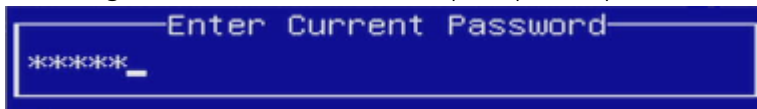
Enter the BIOS setup.
At the password prompt just press ESC.

This message will be shown:



Now you have to clear the *Master Password* which will also clear the *User Password*.

Executing "Set Master Password" will prompt an input box:



Enter the current *Master Password* and Confirm with ENTER...



Leave the input box empty and press ENTER...



Confirm by pressing ENTER.

Both, *Master Password* and *User Password* are cleared now. You have to re-install both passwords.



About Kontron

Kontron is a global leader in IoT/Embedded Computing Technology (ECT). Kontron offers individual solutions in the areas of Internet of Things (IoT) and Industry 4.0 through a combined portfolio of hardware, software and services. With its standard and customized products based on highly reliable state-of-the-art technologies, Kontron provides secure and innovative applications for a wide variety of industries. As a result, customers benefit from accelerated time-to-market, lower total cost of ownership, extended product lifecycles and the best fully integrated applications.

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