

# Duress PIN - For Plausible Deniability Mode (vhd4.vhd) User Manual

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This document explains how to use the **Duress PIN - For Plausible Deniability Mode** feature by creating a **vhd4.vhd** file in the root folder and showing only that VHD on the PC when the device is unlocked with the User 4 PIN.

**Supported products:** This feature is supported only on **ST400** and **MINI PRO**.

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## 1. Creating and Using vhd4.vhd

The basic procedure is as follows.

1. Unlock the device with a PIN other than the **User 4 PIN**.
2. On the PC, create the **vhd4.vhd** file in the **root folder** of the first partition.
3. Make sure **vhd4.vhd** is in the root folder, not in a subfolder.
4. Return to the root folder list on the device screen.
5. Press **Key 1** to rebuild the root folder list. You can also reboot the device, or enter a subfolder and return to the root folder.
6. When **vhd4.vhd** appears in the list, the device updates the VHD setting.
7. Unlock the device again with the **User 4 PIN**.
8. The PC shows a disk whose size matches **vhd4.vhd**.

Important points:

- The file name must be exactly **vhd4.vhd**.
  - The file must be located in the root folder of the first partition.
  - **vhd4.vhd** must be stored contiguously on the disk. It must also be a fixed-size VHD.
  - After creating **vhd4.vhd**, the root folder list must be rebuilt. Use **Key 1**, reboot the device, or enter a subfolder and return to the root folder.
  - Rebuild the root folder list only while unlocked with a PIN other than the User 4 PIN.
  - However, a user with **disk write protection** cannot update the VHD setting.
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## 2. Setup PIN and Duress PIN

Type	Purpose	What the PC Sees
PIN other than User 4	File management, ISO/VHD management, <b>vhd4.vhd</b> setting update	Normal physical partition
User 4 PIN (Duress PIN)	<b>vhd4.vhd</b> use	Disk sized to <b>vhd4.vhd</b>

When you unlock with a PIN other than the User 4 PIN, you can see the files in the root folder. In this state, create or delete **vhd4.vhd**, then rebuild the root folder list to update the setting.

The User 4 PIN works as the Duress PIN and shows only `vhd4.vhd` in Plausible Deniability Mode. When you unlock with the User 4 PIN, the device does not scan the root folder again. Before using the User 4 PIN, update the `vhd4.vhd` setting first while unlocked with a PIN other than the User 4 PIN.

A user with disk write protection cannot update the `vhd4.vhd` setting.

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### 3. `vhd4.vhd` File Requirements

`vhd4.vhd` must meet the following requirements.

Item	Requirement
File name	<code>vhd4.vhd</code>
Location	Root folder of the first partition
Format	VHD file
Placement	Contiguous, without fragmentation

Select `vhd4.vhd` and press **Key 5** to display the file information message. The `fragment` value in this message must be `1`.

A fragmented `vhd4.vhd` cannot be used. If the LCD shows a defragmentation or `DEFRAG` message, recreate `vhd4.vhd` as a contiguous file on the PC, then unlock with a PIN other than the User 4 PIN and rebuild the root folder list.

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### 4. Rebuilding the Root Folder List

The device checks whether `vhd4.vhd` exists when it builds the root folder list.

Rebuild the root folder list in the following cases:

- You created `vhd4.vhd` on the PC.
- You deleted `vhd4.vhd` on the PC.
- You copied `vhd4.vhd` again or recreated it.
- You fixed a fragmentation issue and need to check the file again.

Use one of the following methods to rebuild the root folder list:

- Press **Key 1**.
- Reboot the device.
- Enter a subfolder, then return to the root folder.

Behavior when rebuilding the root folder list:

State	Device Behavior
<code>vhd4.vhd</code> exists and is not fragmented	Updates the VHD setting for use with the User 4 PIN
<code>vhd4.vhd</code> exists but is fragmented	Does not apply the VHD setting

State	Device Behavior
<code>vhd4.vhd</code> does not exist	Deletes the saved VHD setting

## 5. What the PC Sees

State	What the PC Sees
Unlocked with a PIN other than User 4	Normal physical partition
Unlocked with the User 4 PIN, valid <code>vhd4.vhd</code> setting	Disk sized to <code>vhd4.vhd</code>
Unlocked with the User 4 PIN, no setting	The VHD disk may not appear
<code>vhd4.vhd</code> is fragmented	The VHD disk may not appear or may not be applied

While unlocked with the User 4 PIN, you cannot see other files from the physical partition. To manage files on the physical partition, unlock again with a PIN other than the User 4 PIN.

## 6. Troubleshooting

### The VHD Disk Does Not Appear After Unlocking With the User 4 PIN

1. Unlock the device with a PIN other than the User 4 PIN.
2. Check that `vhd4.vhd` exists in the root folder.
3. Rebuild the root folder list by pressing **Key 1**, rebooting the device, or entering a subfolder and returning to the root folder.
4. Check that `vhd4.vhd` is not fragmented.
5. Unlock again with the User 4 PIN.

If the PIN used to update the setting has disk write protection enabled, the VHD setting cannot be updated.

### The Device Does Not Recognize `vhd4.vhd` After It Is Created

- Make sure the file name is exactly `vhd4.vhd`.
- Make sure the file is in the root folder of the first partition.
- Make sure the root folder list was rebuilt after creating the file. Pressing **Key 1**, rebooting the device, or entering a subfolder and returning to the root folder is enough.
- A fragmented file cannot be used.

### A Defragmentation or `DEFRAG` Message Appears

`vhd4.vhd` is not stored contiguously on the disk. Delete and recreate `vhd4.vhd` on the PC, or arrange it so it is stored in a contiguous area. Then unlock with a PIN other than the User 4 PIN and rebuild the root folder list.

## 7. Summary

- Place `vhd4.vhd` in the root folder of the first partition.
- After creating `vhd4.vhd`, rebuild the root folder list. Pressing **Key 1**, rebooting the device, or entering a subfolder and returning to the root folder is enough.
- A PIN other than User 4 is used for file management and VHD setting updates.
- A user with disk write protection cannot update the VHD setting.
- The User 4 PIN works as the Duress PIN and is used to show the `vhd4.vhd` disk on the PC in Plausible Deniability Mode.
- A fragmented `vhd4.vhd` cannot be used.