# PC-3000 for HDD. How to unlock SED on WD SMR drives without a special board

Posted on

3–4 минуты

Hello dear friends,

In June 2022, we released a new <u>PC-3000 software version 7.1.x</u>, and one of the main features in this update is the SED unlocking option for new WD SMR families.

It means that now you don't need to buy a special unlocked PCB to get the Service Area access on these drives anymore!



In this article, we describe how to use this option in practice.

Modern WD families have a locked CPU. That is why it isn't possible to apply the <u>SED unlocking procedure</u> which we used on models from the previous generation.

But what are the steps for unlocking?

#### **1.** Read the ROM using a programmer device

It's the main challenge because you can't read ROM either via the native SATA / USB interface or via Terminal. The only way is to use an external programmer device.





We will not provide special recommendations here about models

and brands. Everything depends on your own preferences and budget.

2. Open the WDC Marvell Utility without connecting the drive



**3.** Find the Unlock SED HDD option and choose the saved ROM image

Mode				
Normal	OKenel	O Self-Text monitoring	Beet ROM (COV	(Port)
25.				
Scopio	Mercury	O Sheeta 3D	Hubble	C HwbU72
Orion	O Sheeta	C Europe	Barbados	Pebbleb
Aquarius	Cellisto	O Jamaica 480	Bløde	F8H159L
Aries	0 Everenti	C Everent V	C Bledeh/IS	OPalmer
Olama	OPlute	Marn54K	O Big Bearth	Overger
McKinley	Mariner	C Zephyr	BigBear	Sev@ess2
Viling	Dolphin	Helies	Hubble LT	SevGlass2 Ultra
Couper	Bebert	C Esprit	OFBLite	Sev@less3
Denali	Olemaica	O Shrek	O Shrek LT	
Seturn	Firebird	Diamaica 48V	Sevilles	
Verap	O Sheete 2D	Oince	Makalu	
33.				
Manaroth	O Tornedo 21	O Dreaffy1	Drace	0 1 mill 8
Sabre53 (Sabre)	C Atlantis	O DragFls2	Saile 20	Ganth15
Sabre50 (Unicom)	Pinnacle	Pinnacle PATA	O NOUN RE	Tec0.82
Buccarveer	Hulk (96)	DregFtr3	· Treach	C Gent2
Havk	O Hulk (A6)	DragFluit	Diablo3D	Cannel
Zeur	Tornado 30	Tahos 20	Ohh	Apollo
Rider	ÖSpider	Vulcan RE	O Tresselb	O Venice
Starling .	Mars	Dragon	Tahoe XL	Carryell
Havk2	Sequela RE	Manpi RE	O Treaks	VeniceR
Tornado	Kernit	O DEHPL RE	Gant	ApolloCR
Sequola	Сурмая	M2TOP RE	Diablo35	Avalore C5
Tornado RATA	Gelka	Attec PL	C Taillis	CanvelR 7200
Jupiter	Atlantis PATA	Sunt RE	Vivaldi	<ul> <li>Tend</li> </ul>
Tornede 20	Manti RE	<ul> <li>Tahoe LT</li> </ul>	Malibu	
Sequoia PMR	<ul> <li>Taboe</li> </ul>	Sadle BK	<ul> <li>Endeavor</li> </ul>	
570 Twin lakes	Mideri	DP4 48LT	Rembendt	
Tornedu 2PMR	Pindite	C Sadle 66	O Ballille	
Load resources from				
H00	Profile	<ul> <li>Database</li> </ul>		
Auge Auge of	Inthusted	1000 Initialization	Halash SED I.S.	

**4.** Press Unlock HDD (with SA access) and save the generated ROM

onerty	Value	N	ID	A ###	Dississ	De elunt sins	Courses adds	Deetedate	European de	December	Marria
General	Value			Attr	DIOCK SIZE	Packet size	Source addr	Dest addr	Exec aur	Decompess	version
P Style	Palmer (locked)	00	SA	04	001828	001824	000020	00001000	00001000	001EF8	00008601
Size	1 048 576 b	01	01	04	002921	002820	002180	00049688	00049688	001EF8	00008601
m size	1040 570 0	02	02	11	0040CD	0040CC	004AA1	30080000	FFFFFFF	005600	0000B601
T Active copy	0	03	03	0C	0003F5	0003F4	008B6E	24000000	FFFFFFFF	000000	0000B60
Boot Data		04	04	40	0053DD	0053DC	008F63	FFE00200	FFFFFFFF	000000	0000B60
😭 ID	5A	BB 05	05	01	000B0D	000B0C	00E340	38265E00	FFFFFFFF	000D48	0000B60
😭 Size	8 192 b	06	06	04	0004A1	0004A0	00EE4D	38266E00	FFFFFFFF	000000	0000B60
🚰 Signed	Yes	<b>B</b> 07	07	01	005F49	005F48	00F2EE	00000000	FFFFFFFF	007968	0000B60
P CS Check	Yes (4)	80 🔐	08	01	000421	000420	015237	0000DF8C	FFFFFFFF	0004EC	0000B60
Code Data		<b>31</b> 09	09	03	0026A5	0026A4	015658	00040340	FFFFFFFF	003198	0000B60
n ID	OB	A0	0A	03	0003DD	0003DC	017CFD	60267E00	FFFFFFFF	0009BC	0000B60
Size	133 184 h	🔐 OB	0B	01	0184A9	0184A8	0180DA	3834EE00	FFFFFFFF	020840	0000B60
P CS Check	Yes (1)	80 OC	0C	01	025C49	025C48	030583	38008230	00000000	033460	0000B60
Analyze											
ROM Family	PALMER										
P CPU	M1053										
_											

5. Write the unlocked ROM back on the native PCB using the

programmer device

That's it! The techno mode is unlocked and you can work with SA modules.

#### What about data access and encryption?

The user area will be accessible in a decrypted format because encryption keys are located in the CPU.

# What if the original board is USB?

If it's not working well, you can convert it to the SATA interface via soldering the SATA connector.

### Any possible problems?

The unlock HDD option isn't active

ROM structure											×
											R
Property	Value	N	ID	Attr	Block size	Packet size	Source addr	Dest addr	Exec adr	Decompess	Version
📄 General		00	5A	04	002128	002124	000160	00055688	00055688	000000	0000B601
📲 Style	Classic	801	01	11	004241	004240	002288	30080000	FFFFFFFF	005798	0000B601
Size	524 288 b	02	02	0C	000409	000408	0064C9	24000000	FFFFFFFF	000000	0000B601
Active copy	0	03	03	40	005CED	005CEC	0068D2	FFE00200	FFFFFFFF	000000	0000B601
📄 Boot Data		8804	04	01	000B15	000B14	00C5BF	382D4800	FFFFFFFF	000D54	0000B601
- 😭 ID	5A	805	05	01	0050AD	0050AC	00D0D4	00000000	FFFFFFFF	0066C0	0000B601
Size	8 488 b	806	06	01	00041D	00041C	012181	00015F94	FFFFFFFF	0004EC	0000B601
Signed	No	807	07	03	002A89	002A88	01259E	000402E0	FFFFFFFF	003698	0000B601
CS Check	Yes (4)	80 👪	08	03	0003BD	0003BC	015027	602D6800	FFFFFFFF	0009A8	0000B601
📄 Code Data		88 09	09	01	019245	019244	0153E4	383CA400	FFFFFFFF	021AC0	0000B601
ID	09	A0	0A	01	023771	023770	02E629	38008230	00000000	030930	0000B601
Size	137 920 b										
CS Check	Yes (1)										
📄 Analyze											
ROM Family	SPYG2ULT										
😭 CPU	M1054										
		Un	lock HD	D (with SA ac	cess)						Close

SOLUTION: This usually happens with SpyGlass 2 UITRA drives.

They were added beginning with the 7.1.10 software version.

Please update the software version.

If it didn't help, probably your drive is currently unsupported. Please check the list at the end of this article.

R Property Value Ν ID Attr Block size Packet size Source addr Dest addr Decompess ... Version Exec adr General 001B24 000020 00001000 00001000 00 5A 04 001B28 001EF8 0000B601 Style Palmer (locked) 01 01 04 002820 002180 00049688 00049688 0000B601 002921 001EF8 Size 524 288 b 802 02 11 30080000 004091 004090 004AA1 FFFFFFF 0055BC 0000B601 Active copy 24000000 0 03 03 0C 0003E5 0003E4 008B32 FFFFFFF 000000 0000B601 Boot Data 04 04 40 0053DD 0053DC 008F27 FFE00200 FFFFFFF 000000 0000B601 05 ID 🗗 805 5A 38265E00 FFFFFFFF 000D48 0000B601 D0E304 06 07 Size 8 192 b 06 DOEE11 38266E00 FFFFFFF 000000 0000B601 Not enough space for stack update 807 0079B8 Signed  $\mathbf{E}$ 0F2B2 00000000 FFFFFFF 0000B601 Yes CS Check 80 🔛 08 015233 0000DF60 FFFFFFFF 0004EC 0000B601 Yes (4) 809 09 Code Data 015654 00040340 FFFFFFF 003184 0000B601 OK 0A A0 17CE9 60267E00 FFFFFFF 0009BC 0000B601 🗗 ID 0B 0B 01 018295 018294 0180C6 3834EE00 FFFFFFF 020578 0000B601 👯 0B Size 132 472 b Real OC 03035B 0C 01 025BF1 025BF0 38008230 00000000 0333D0 0000B601 CS Check Yes (1) Analyze ROM Family PALMER CPU M1053

Error: Not enough space for stack update



SOLUTION: Incorrect ROM size! Check settings for your

programmer device and reread the ROM chip.

UDMA data CRC error in the log after utility start:



# SOLUTION: Open Tools -> Settings -> PC-3000 Ports and

change SATA mode:

Log		COMP	orts		Sound		
Indicat	ors	Repo	rts		View		
Gener	ral	PC-3000	Ports				
Port	PIO Mode	SATA Mode	IORDY	Ready type	:		
SATA1	PIO4	SATA-I		NO <bsy></bsy>	(SATA)	i	
	G						
	SATA1				×		
		PIO Mode	PIO4		~		
		SATA Mode	SATA-I		~		
		Ready mode	NO <bs< td=""><td>(&gt; (Sata)</td><td>~</td><td></td></bs<>	(> (Sata)	~		
Edit		(	Ok	Car	ncel		

The described feature is currently supported for the following WD SMR drives:

- Palmer
- Charger
- SpyGlass 2
- SpyGlass 2 Ultra
- SpyGlass 3
- Venice
- VeniceR
- Carmel
- CarmelR

Our developers are working on expanding this list.

You can also watch the video with some theoretical points on this update and step-by-step examples below:

If you have questions, you are welcome to contact our Technical Support via the <u>New TS Portal</u>.

Constant

Loading...

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