

# MINIMAL SECTOR ARCHIVER

minimal fault-tolerant data encoding of archives on virtual sectors level

## SECTOR FORMAT

XXX	DESCRIPTION	FORMULA
DAT	File data	
ARN	Archive name	
FID	File ID	$FID = \text{SHA512}(\text{DAT})$
SID	Sector <sub>N</sub> ID	$SID = \text{HMACSHA512}_{ARN}(FID)^N$
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DATA SECTOR <sub>N</sub> : [SID <sub>N</sub> DAT <sub>N</sub> ]		
default sector size = 512		
sector payload size = 448 (sector size - 64)		
N - sector number		
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DAT	format: byte array	
ARN	format: UTF-8 bytes (without BOM)	
FID	format: byte array	
SID	format: byte array	
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Data correction: binary voting on sector copies		
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## USER-SIDE INFORMATION TO RESTORE DATA

ARN+FID (Archive name + File identifier + File Size)
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ARN	Archive name			
FID	A	B	C	D
1	FFFF	FFFF	FFFF	FFFF
2	FFFF	FFFF	FFFF	FFFF
3	FFFF	FFFF	FFFF	FFFF
4	FFFF	FFFF	FFFF	FFFF
5	FFFF	FFFF	FFFF	FFFF
6	FFFF	FFFF	FFFF	FFFF
7	FFFF	FFFF	FFFF	FFFF
8	FFFF	FFFF	FFFF	FFFF
SIZE	0000	0000	0000	0000

- ARN - allows to store each archive in dedicated space of virtual sectors
- FID - allows to identify/check integrity of stored file
- SIZE - file size in decimal format, used in SID-generation (quantity of sectors) and allows to trim restored data

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<https://github.com/art-drobanov/MinimalSectorArchiver>