



# Data Storage in Blackout Comms



## Storage Options

Several options for data storage are supported by the firmware. The same level of at-rest encryption is used, regardless of how you store your data.



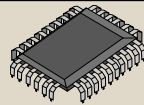
### Micro SD Card

- Highly recommended for T-Deck
- Preferred for Links
- For T-Deck, functions as a SIM card, and is easily transferable between T-Decks (v1.9+)
- **Not all SD cards are compatible**, see list at: [chatters.io/support](https://chatters.io/support)
- Easily backup by creating copies of the card



### Onboard Flash

- Less preferred for T-Deck
- OK for Links, but less preferred
- Very convenient, but your data is then locked to a particular device
- Over time, wear leveling could cause data loss
- No way to back up your device



## What Blackout Comms Stores

Data Type	Description	Encrypted	Volatile
Device Settings	Name, Private Keys, ...	Yes	No
Known Clusters	Cluster names, keys, configs	Yes	No
Public Keys	Trusted <i>public</i> keys	No	No
RF Packets	Packets to/from this device	Yes	Yes
Mesh Packets	Mesh cache packets	Yes	No
Messages	Sent/received messages	Yes	Configurable
Location Data	Location & movement for on-cluster devices	Yes	Configurable
Pings	Most recent ping times/RSSI from devices	No	Depends
Mesh Graph	Connectivity ratings between all devices	No	Depends
Additional Settings	WiFi Configs, ...	Yes	No

**Volatile:** Encrypted using a randomly-generated in-memory key that is lost when the device restarts (effectively losing the data between restarts).

	Micro SD	Flash
T-Deck & Variants		
T-Beam Supreme		
T3S3 E-Paper		
T3S3 (sx1262)		
Heltec Vision e290		

## Encryption Options



You may choose to set a password on your device (in settings). If you choose to do so, that password will be required any time your device powers up or wakes up.

**No Password:** Stored data is encrypted using a key that is automatically calculated for your device.

**Password:** Stored data is encrypted using your password as a symmetric key. This key / password is *never* stored, and never recoverable...so don't forget it if you set one!

## Storage Format



Blackout Comms stores data in a proprietary format designed for reduced IO, high portability & stability, pluggable encryption, and high fault tolerance

The Blackout Comms storage layer runs entirely in memory, only flushing to physical storage occasionally.

Blackout Comms can use SPIFFs + Flash, FAT + SD, or raw storage, such as FRAM (no file system).

