



Trackit T4A Firmware Version 10 Enhancements

1. Enhancements Overview

This new firmware improves the recording of EEG data to SD cards

1.1. Recording Enhancements

- The T4A will now resume a recording if shut down unexpectedly.
- New BDF file created to avoid missed samples. If there is a delay to writing to the SD card, the T4A shall generate a new BDF file.
- Record From TRS file. A recording will be started if there is a TRS file on the SD card – Only works with Ambulatory only recordings with no video.
- Improvements to SD card detection – more resilient to bumps and knocks.
- Improvements to SD card Write protect switch.
- Improvements to Low battery behaviour.

1.2. Other Enhancements

- Improved Patient ID and Recording ID privacy.
- Unformatted SD card will not prevent the T4A from powering on.

2. Pause recording Functionality

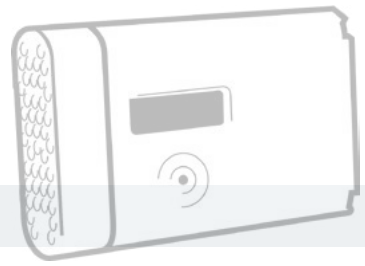
If the amplifier shuts down while recording, the recording will be paused and will resume if restarted within 18 hours (see below).

If the recording is paused due to low battery and the amplifier has not switched off, replacing the battery packs or plugging in the USB cable will resume the recording.

3. Resume Recording Functionality

If the T4A has shut down unexpectedly during a recording, this feature will resume the recording when the amplifier restarts, and performs the following checks:

- That an SD card is inserted.
- For a BDF file on the SD card.
- That the header on the BDF file matches the header on the T4A.



4 New BDF Files in event of card errors

Should there be a delay in writing to the SD card, the T4A will close the BDF file and start a new BDF/TEV file to avoid missing samples. If this happens repeatedly, try replacing the card*.

5. Record From TRS file (Trackit + only)

Users can set up an ambulatory only recording on Trackit+ using "Save to Disk" to create a TRS file, which is loaded on the SD card. When the T4A starts it will find the TRS file on the SD card, and immediately start the recording. This only works with Ambulatory only recordings with no video

6. Improvements to SD card detection

We have reduced the sensitivity of the card detect switch. The recording will only be disrupted if the SD card is dislodged when dropped or knocked, or removed. Should this happen, the T4A will pause the recording and display a message "Check SD Card" and will beep once every 10 seconds. To fix this, **re-insert the same SD card**. A new BDF/TEV file will be created.

Don't worry if the software says the card is full when re-inserted, the message will normally be cleared after a few seconds.

7. Improvements to SD card Write protect switch

This firmware update ignores the state of the write protect switch after a recording has started.

8. Low Battery behaviour

When the T4A batteries are nearing depletion the T4A will trigger a "Low Battery" alert and event for the following actions, in this sequence:

- **Switching to "Low battery boost mode"**. Provides about 3 hours of recording.
- **Switching to Backup battery mode**. The display shows "LOW", EEG data streaming to the PC will stop, and the T4A will beep regularly for 15-30 minutes to alert the user.
- **Pausing the recording due to low battery**. When the backup battery does not have enough power to maintain the recording, the recording will pause. Replacing the battery packs or connecting a USB cable will resume the recording.

*SD Cards

Due to reports of inconsistencies with some consumer grade SD cards used with the T4A, and the potential loss of crucial study data, we have made the decision to supply, support and recommend the use of industrial grade SD cards only, in future.

