

SEFRAM's 8440, DAS600 and DAS1400 recorders are particularly adapted for saving default. Lots of menus allow the recorder configuration to trap accurate disturbances. Therefore, it is important to understand the interactions between all the offered options.

Menu glossary:

Event (Trigger or stop)

- **Sample rate:** corresponds to sampling period of the signal. To have a satisfying line, it is recommended to have a minimum of 10-points definition per signal period.
- **Logic/analog channels:** trigger can be done from analog channels (banana plugs, screw terminal blocks) or from logic channels (SUB-D25 connector).
- **Threshold:** each channel is tested according to two thresholds. They represent a value (voltage, current, and pressure...) on which an event will occur (trigger, acquisition stop). For example, the start condition can be set on channel A1 with threshold 1 and stop condition can be set on the same channel A1 with threshold 2.
- **Simple threshold/several thresholds:** - trigger on a simple threshold.
- using several thresholds, it is possible to make a "complex" trigger on a combination of several channels with several thresholds.
- **Edge:** edge trigger requires a state change to be valid.
Example: Channel 1, negative edge, threshold = 0V: trigger only occurs if channel A1 goes from positive state to negative state.
- **Level:** level triggered does not require a state change. It compares threshold value with current value. Example: channel 1, upper level, threshold = 0V: trigger occurs if the signal is positive.

Operation at the acquisition end

- **Stop:** recorder is in Replay mode at the acquisition end.
- **Rearm:** at the acquisition end, recorder waits for a trigger in the same configuration as the previous acquisition.
- **Change setup:** permits to load a preset setup (config key- setup - load) from internal memory when acquisition is complete.

Setup dependent on current mode

(Refer to application note « Memory Mode / File Mode »)

Memory Mode

- **Blocks:** determines the number of blocks that will segment the internal memory.
- **Real time save:** allows saving a trace on hard disk during acquisition (on top of save on blocks).
Possibility of adjusting file length (in amount of samples).
Look out for sampling rate limits.
- **Pre-trigger:** only possible if stop is automatic. It allows saving the trace with a percentage (on memory size) in advance or delay according to trigger.



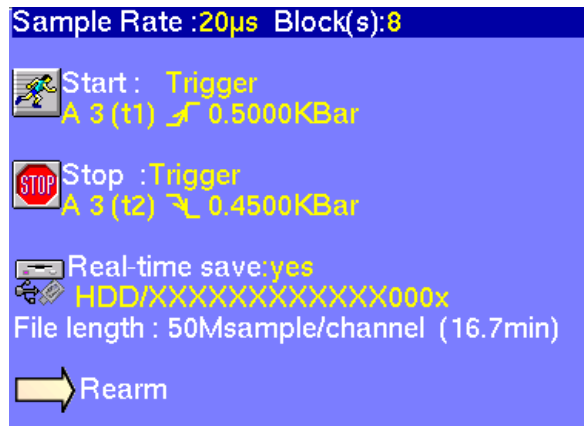
Memory mode is particularly adapted for saving quick defaults (can quickly sample several channels in a short time).

File mode

- **File length:** determines maximum length of saved file (in amount of samples).
- **Pre-trigger:** can save the trace with an amount of samples in advance or delay according to trigger.
- **Secondary file:** permits to define a different sample rate for a specified channel (slower) and so, to prevent a signal oversampling corresponding to this channel.

Example of simple configuration for saving a default

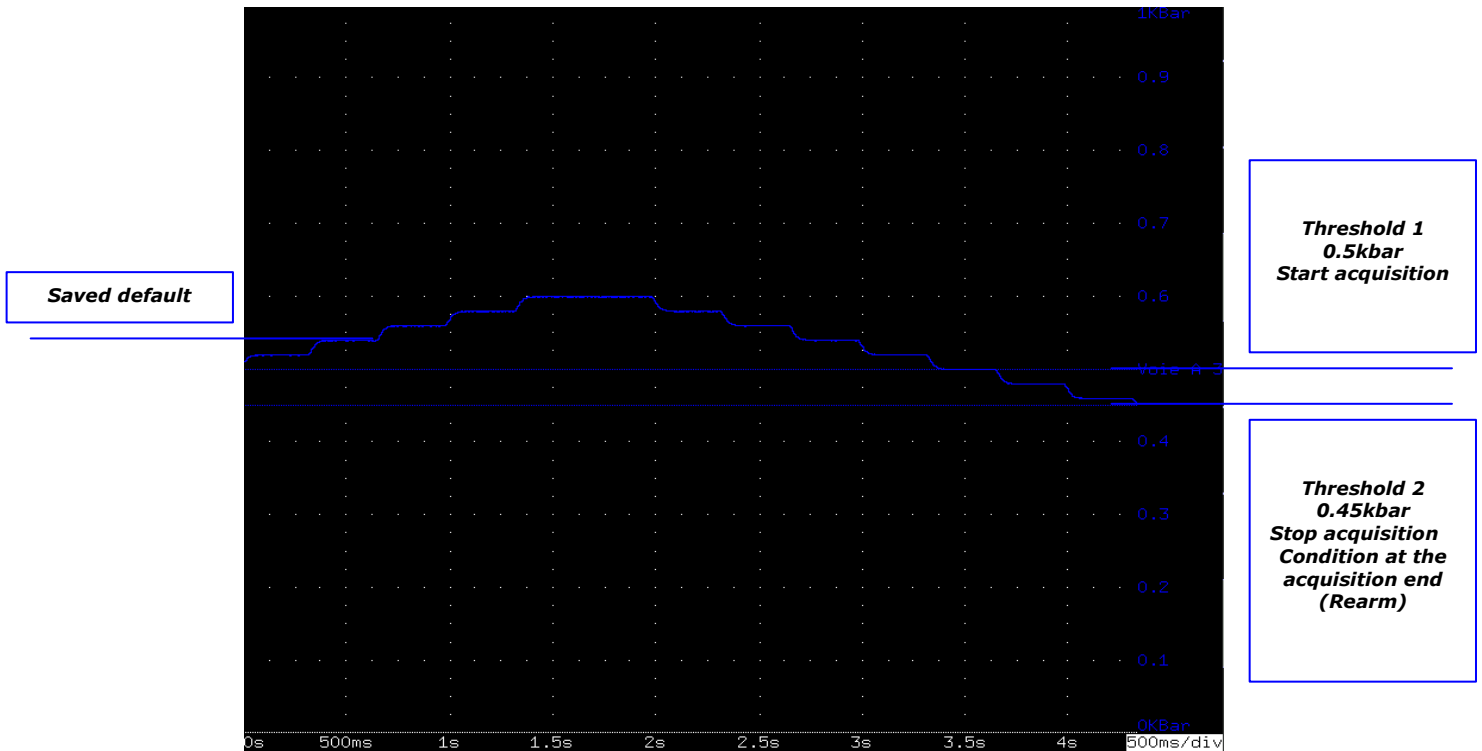
Example of simple trigger in Memory mode



In this configuration, we want to save any signal overflowing 5000bar. Recording continues until signal lowers below 4500bar. The default is saved both on an internal memory block and on a hard disk file (here, for example, 50Msamples/channel max). Once the acquisition is complete, recorder is rearmed; i.e. it passes to recording and waits for another trigger.

Once trigger configurations set, "Start / Stop" key allows recorder to wait for trigger. It can be a manual trigger or like in the example, under some conditions. Current acquisition can be stopped whenever you want with stop button (F1).

Default acquisition



Example of configuration with complex trigger for saving a default

Procedure:

Acquisition only begins when channels 2 OR 3 are above 50% full scale. Save has to stop when channel 2 is below 50% AND channel 3 below 55% full scale. It can also be done in real time on hard disk. Once recording is complete, we will load the setting #2.

→ Memory mode, "Mode" key: Memory

→ "Trigger" key

- "Sample rate": 2µs
- "Blocks»: 8

- "Start»: Trigger
- "Analog channels"
- "Several thresholds"

→ Definition of starting condition (below)

- "Modification call"
- "One of thresholds (OR)"
- "Add a threshold": Channel A2, Threshold1, rising edge, 50%
- "Add a threshold": Channel A3, Threshold1, rising edge, 50%

- "Stop»: Trigger
- "Analog channels"
- "Several thresholds"

→ Definition of starting condition (below)

- "Modification call"
- "All thresholds (AND)"
- "Add a threshold": Channel A2, Threshold1, lower level, 50%
- "Add a threshold": Channel A3, Threshold1, lower level, 55%

- "Real-time save": Yes
- Save location

→ "File length": 50Msamples/channel max

- "Stop"
- "Rearm»: 2 (preset configuration loading)

With this configuration, a similar window appears. Just press "Start / Stop" key to arm the recorder.

Example of configuration with complex trigger

