# \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# WaveDump Configuration File

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# NOTE:

# The lines between the commands @OFF and @ON will be skipped.

# This can be used to exclude parts of the file.

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# Settings common to all channels

# ----------------------------------------------------------------

[COMMON]

# OPEN: open the digitizer

# options: USB 0 0 Desktop/NIM digitizer through USB

# USB 0 BA VME digitizer through USB-V1718/V3718 (BA = BaseAddress of the VME board, 32 bit hex)

# PCI 0 0 0 Desktop/NIM/VME through CONET (optical link)

# PCI 0 0 BA VME digitizer through V2718/V3718 (BA = BaseAddress of the VME board, 32 bit hex)

# USB\_A4818 X 0 0 Desktop/NIM digitizer through USB->A4818->CONET (X is the PID (product id) of A4818)

# USB\_A4818\_V2718 X 0 BA VME digitizer through USB-A4818-V2718 (BA = BaseAddress of the VME board, 32 bit hex) (X is the PID (product id) of A4818)

# USB\_A4818\_V3718 X 0 BA VME digitizer through USB-A4818-V3718 (BA = BaseAddress of the VME board, 32 bit hex) (X is the PID (product id) of A4818)

OPEN USB 0 0

#OPEN USB\_A4818 12345 0 0

#OPEN USB\_A4818\_V2718 12345 0 32100000

#OPEN USB 0 32100000

#OPEN PCI 0 0 0

#OPEN PCI 0 0 32100000

# RECORD\_LENGTH = number of samples in the acquisition window

RECORD\_LENGTH 1024

# DECIMATION\_FACTOR: ONLY FOR 740 and 724 MODELS. change the decimation factor for the acquisition.

# options: 1 2 4 8 16 32 64 128

DECIMATION\_FACTOR 1

# POST\_TRIGGER: post trigger size in percent of the whole acquisition window

# options: 0 to 100

# On models 742 there is a delay of about 35nsec on signal Fast Trigger TR; the post trigger is added to

# this delay

POST\_TRIGGER 50

#PULSE\_POLARITY: input signal polarity.

#options: POSITIVE, NEGATIVE

#

PULSE\_POLARITY POSITIVE

# EXTERNAL\_TRIGGER: external trigger input settings. When enabled, the ext. trg. can be either

# propagated (ACQUISITION\_AND\_TRGOUT) or not (ACQUISITION\_ONLY) through the TRGOUT

# options: DISABLED, ACQUISITION\_ONLY, ACQUISITION\_AND\_TRGOUT

EXTERNAL\_TRIGGER DISABLED

# FPIO\_LEVEL: type of the front panel I/O LEMO connectors

# options: NIM, TTL

FPIO\_LEVEL NIM

# OUTPUT\_FILE\_FORMAT: output file can be either ASCII (column of decimal numbers) or binary

# (2 bytes per sample, except for Mod 721 and Mod 731 that is 1 byte per sample)

# options: BINARY, ASCII

OUTPUT\_FILE\_FORMAT BINARY

# OUTPUT\_FILE\_HEADER: if enabled, the header is included in the output file data

# options: YES, NO

OUTPUT\_FILE\_HEADER NO

# TEST\_PATTERN: if enabled, data from ADC are replaced by test pattern (triangular wave)

# options: YES, NO

TEST\_PATTERN NO

# WRITE\_REGISTER: generic write register access. This command allows the user to have a direct write access

# to the registers of the board. NOTE: all the direct write accesses are executed AFTER the other settings,

# thus it might happen that the direct write overwrites a specific setting.

# To avoid this use the right "MASK".

# Syntax: WRITE\_REGISTER ADDRESS DATA MASK, where ADDRESS is the address offset of the register (16 bit hex), DATA

# is the value being written (32 bit hex) and MASK is the bitmask to be used for DATA masking.

# Example: Set only bit [8] of register 1080 to 1, leaving the other bits to their previous value

# WRITE\_REGISTER 1080 0100 0100

# Example: Set only bit [8] of register 1080 to 0, leaving the other bits to their previous value

# WRITE\_REGISTER 1080 0000 0100

# Example: Set register 1080 to the value of 0x45:

# WRITE\_REGISTER 1080 45 FFFFFFFF

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# Individual Settings

# ----------------------------------------------------------------

# The following setting are usually applied on channel by channel

# basis; however, you can put them also here in the [COMMON] section in

# order to apply them to all the channels.

# ----------------------------------------------------------------

# ENABLE\_INPUT: enable/disable one channel

# options: YES, NO

ENABLE\_INPUT NO

#BASELINE\_LEVEL: baseline position in percent of the Full Scale.

# POSITIVE PULSE POLARITY (Full Scale = from 0 to + Vpp)

# 0: analog input dynamic range = from 0 to +Vpp

# 50: analog input dynamic range = from +Vpp/2 to +Vpp

# 100: analog input dynamic range = null (usually not used)\*

# NEGATIVE PULSE POLARITY (Full Scale = from -Vpp to 0)

# 0: analog input dynamic range = from -Vpp to 0

# 50: analog input dynamic range = from -Vpp/2 to 0

# 100: analog input dynamic range = null (usually not used)\*

#

# options: 0 to 100

# NOTE: reasonable values should keep a margin of 10%, otherwise the

# actual baseline level may differ from the specified one.

BASELINE\_LEVEL 0

# TRIGGER\_THRESHOLD: threshold for the channel auto trigger (ADC counts)

# options 0 to 2^N-1 (N=Number of bit of the ADC)

# \*The threshold is relative to the baseline:

# POSITIVE PULSE POLARITY: threshold = baseline + TRIGGER\_THRESHOLD

# NEGATIVE PULSE POLARITY: threshold = baseline - TRIGGER\_THRESHOLD

#

TRIGGER\_THRESHOLD 100

# CHANNEL\_TRIGGER: channel auto trigger settings. When enabled, the ch. auto trg. can be either

# propagated (ACQUISITION\_AND\_TRGOUT) or not (ACQUISITION\_ONLY) through the TRGOUT

# options: DISABLED, ACQUISITION\_ONLY, ACQUISITION\_AND\_TRGOUT, TRGOUT\_ONLY

# NOTE: since in x730 boards even and odd channels are paired, their 'CHANNEL\_TRIGGER' value

# will be equal to the OR combination of the pair, unless one of the two channels of

# the pair is set to 'DISABLED'. If so, the other one behaves as usual.

CHANNEL\_TRIGGER ACQUISITION\_ONLY

#In the following, you can see the use of some individual settings to:

# -enable channel [0]

# -position the baseline to 10% of the full scale, to use the input dynamic range in a better way

# -set the trigger threshold of channel [0] to 50 LSB (relative to the baseline position)

#

[0]

ENABLE\_INPUT YES

BASELINE\_LEVEL 10

TRIGGER\_THRESHOLD 50

[1]

[2]

[3]