# Interpolator Block Diagram (Normal Mode)

set\_cross\_result(bool cross\_result)

base[0]

Right Shift

Base 0

Accumulator 0

Accumulator 1

Base 1

Base 2

Result 0

Result 1

Result 0

Result 1

false

true

Mask

Sign-extend

from Mask

Right Shift

Mask

Sign-extend

from Mask

true

false

true

false

+

+

+

Result 1

Result 0

Result 2

false

true

true

false

set\_cross\_input(bool cross\_input)

true

false

set\_shift(uint shift)

set\_mask(uint mask\_lsb, uint mask\_msb)

accum[0]

accum[1]

base[1]

base01

base01

add\_raw[0]

add\_raw[1]

+

+

add\_raw[0]

add\_raw[1]

peek[0]

pop[0]

peek[2]

pop[2]

peek[1]

pop[1]

set\_signed(bool \_signed)

false

true

set\_add\_raw(bool add\_raw)

false

true

Also affects the sign extension of

base01 for Base0 and Base1

16 LSBs

16 MSBs

# Interpolator Block Diagram (Blend Mode)

set\_cross\_result(bool cross\_result)

base[0]

Right Shift

Base 0

Accumulator 0

Accumulator 1

Base 1

Base 2

Result 0

Result 1

Result 0

Result 1

false

true

Mask

Sign-extend

from Mask

Right Shift

Mask

Sign-extend

from Mask

true

false

true

false

+

Result 1

Result 0

Result 2

false

true

true

false

set\_cross\_input(bool cross\_input)

true

false

set\_shift(uint shift)

set\_mask(uint mask\_lsb, uint mask\_msb)

accum[0]

accum[1]

base[1]

base01

base01

add\_raw[0]

add\_raw[1]

16 MSBs

16 LSBs

+

+

add\_raw[0]

add\_raw[1]

peek[0]

pop[0]

peek[2]

pop[2]

peek[1]

pop[1]

set\_signed(bool \_signed)

false

true

set\_add\_raw(bool add\_raw)

false

true

Also affects the sign extension of

base01 for Base0 and Base1 and

Linear Interpolation

Linear Interpolation

8 LSBs

INTERP0 only.

Apply set\_blend() on lane 0 of INTERP0

# Interpolator Block Diagram (Clamp Mode)

set\_cross\_result(bool cross\_result)

base[0]

Right Shift

Base 0

Accumulator 0

Accumulator 1

Base 1

Base 2

Result 0

Result 1

Result 0

Result 1

false

true

Mask

Sign-extend

from Mask

Right Shift

Mask

Sign-extend

from Mask

true

false

true

false

+

Result 1

Result 0

Result 2

false

true

true

false

set\_cross\_input(bool cross\_input)

true

false

set\_shift(uint shift)

set\_mask(uint mask\_lsb, uint mask\_msb)

accum[0]

accum[1]

base[1]

base01

base01

add\_raw[0]

add\_raw[1]

+

+

add\_raw[0]

add\_raw[1]

peek[0]

pop[0]

peek[2]

pop[2]

peek[1]

pop[1]

set\_signed(bool \_signed)

false

true

set\_add\_raw(bool add\_raw)

false

true

Also affects the sign extension of

base01 for Base0 and Base1

Clamp

+

INTERP1 only.

Apply set\_clamp() on lane 0 of INTERP1

16 LSBs

16 MSBs