

## s\_phase\_shift\_pwm (subcircuit)

### Attributes

```
inputs: m
outputs: g1 g2
e_left_nodes:
e_right_nodes:
e_top_nodes:
e_bottom_nodes:
b_left_nodes:
b_right_nodes:
b_top_nodes:
b_bottom_nodes:
parameters:
  T_mono: computed
  delt_min: 0.1u
  delt_nrml: 1u
  fc: 1e3
  t0_1: computed
```

### Description

s\_phase\_shift\_pwm is used to generate gate signals g1 and g2 where g2 is a phase-shifted version of g1. The parameter m determines the phase shift. By varying m from  $-1$  to  $1$ , the phase of g2 with respect to g1 can be varied from  $180^\circ$  to  $-180^\circ$ .

The frequency of the gate signals is given by the parameter fc. The parameters delt\_min, delt\_nrml are used for controlling the simulator time steps (see documentation for cmpr\_1\_1).

Note that m is limited internally (within s\_phase\_shift\_pwm) to the range  $-1 < m < 1$ . Sample waveforms are shown in the following figures.

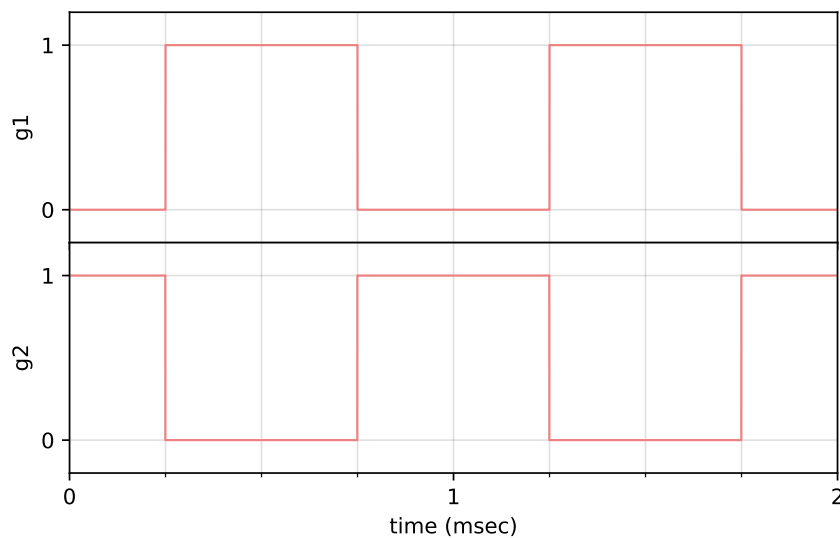


Figure 1: Sample waveforms obtained with  $fc = 1$  kHz,  $m = 1$ .

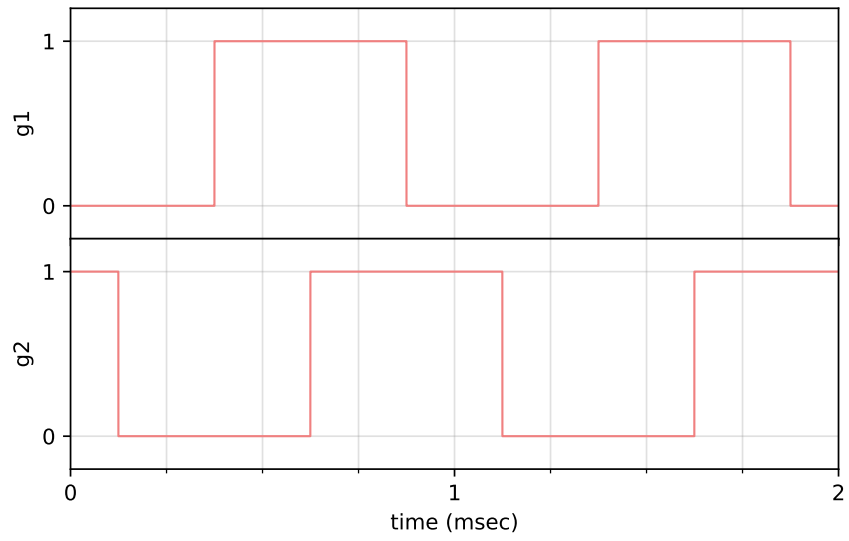


Figure 2: Sample waveforms obtained with  $f_c = 1$  kHz,  $m = 0.5$ .

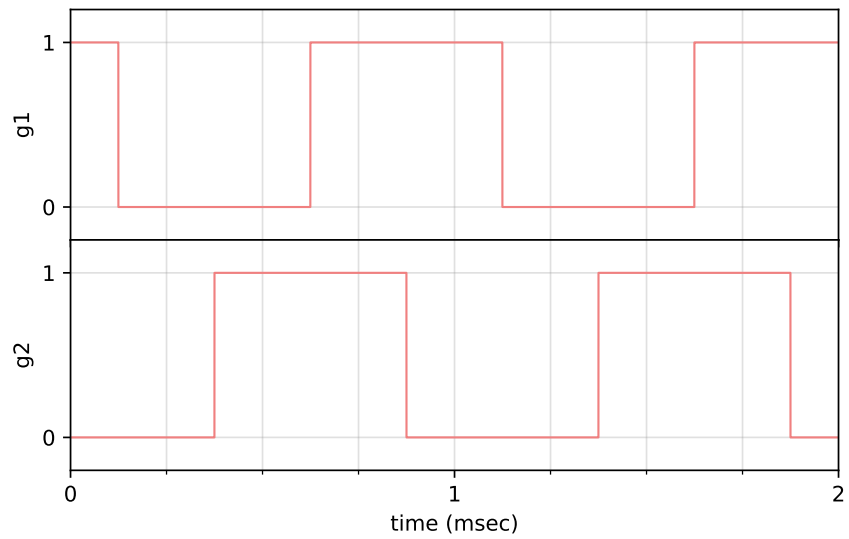


Figure 3: Sample waveforms obtained with  $f_c = 1$  kHz,  $m = -0.5$ .

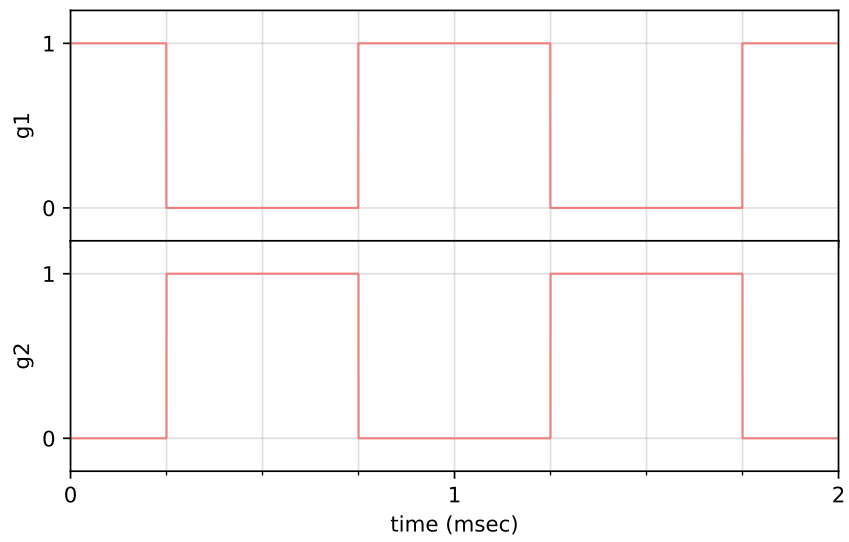


Figure 4: Sample waveforms obtained with  $f_c = 1$  kHz,  $m = -1$ .