

pst-osci & AllColor

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1 Présentation

J'ai trouvé ce package magnifique de puissance et de simplicité mais les couleurs employées ne passant pas à l'impression noir et blanc j'ai ajouté une option qui emploie des nuances de gris pour palier à ce problème.

2 Utilisation

2.1 En préambule

```
\usepackage{pst-osci}
```

Remarque : `\usepackage{pstcol}` n'est pas utilisable.

2.2 Commande

```
\Oscillo[options éventuelles]
```

2.3 Compilation

Sous MacOSX j'utilise *altpdflatex* ce qui doit correspondre à *latex+dvips+ps2pdf*.

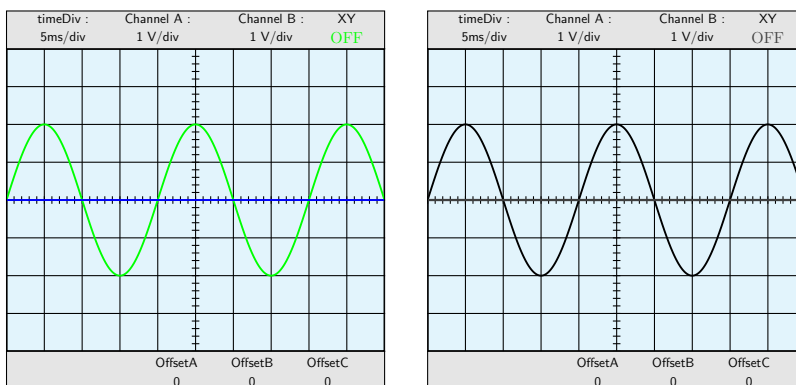
2.4 Nouvelle option

AllColor qui par défaut est à `true` mais qui lorsqu'on la met à `false` permet d'obtenir des oscillogrammes qui passent mieux à l'impression.

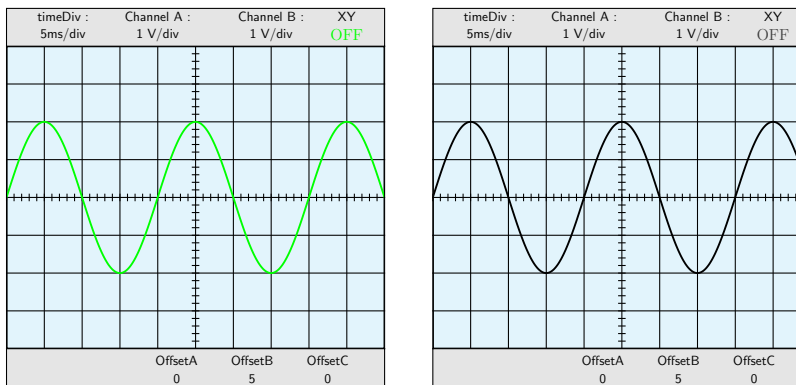
3 Exemples

Je reprends les exemples du document *pst-osci.pdf* de Manuel LUQUE et Christophe JORSSEN¹ pour m'assurer qu'ils fonctionnent tels quels puis en rajoutant `AllColor=false`. La taille est réduite à 50 % grâce à `\psscalebox {0.5}{ }`.

3.1 Oscillo & Oscillo[AllColor=false]



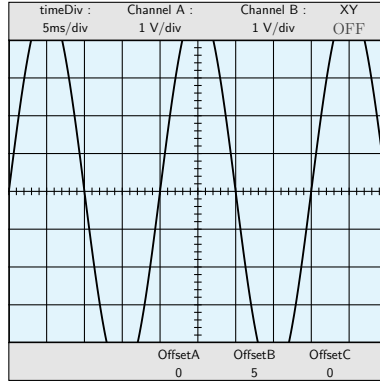
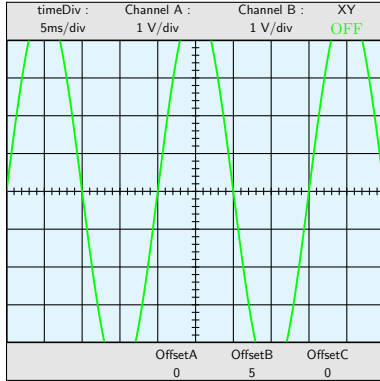
3.2 Oscillo[offset2= 5] & Oscillo[offset2= 5, AllColor=false]



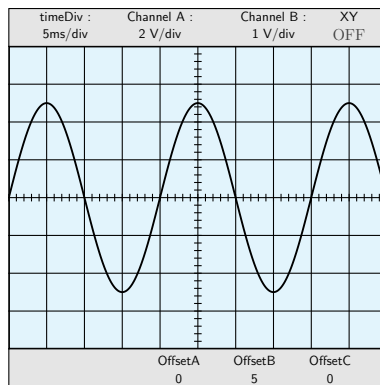
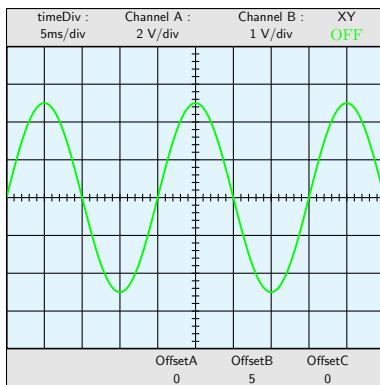
Remarque : À partir de là, je ne précise plus que la figure de droite a été obtenue en rajoutant l'option `AllColor=false`.

¹Les auteurs du package *pst-osci*

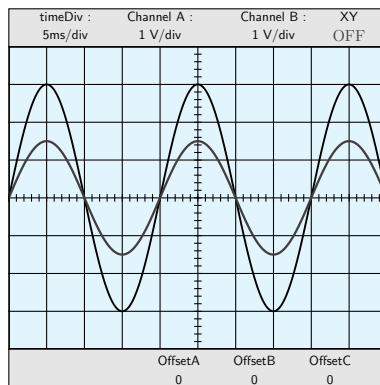
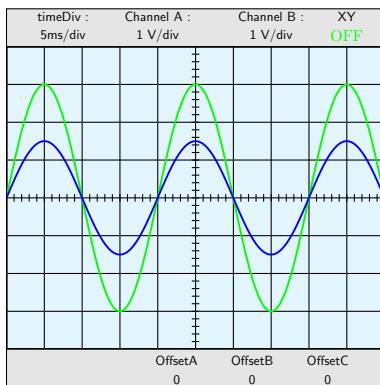
3.3 Extrema invisible : Oscillo[offset2=5, amplitude1=5]



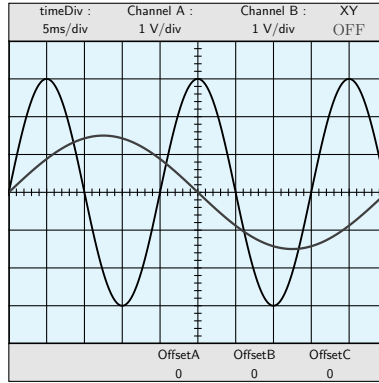
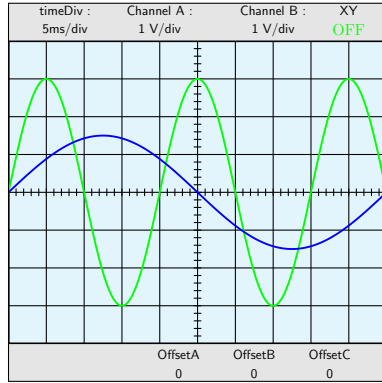
3.4 Good sensivity choice : Oscillo[offset2=5, amplitude1=5, sensivity1=2]



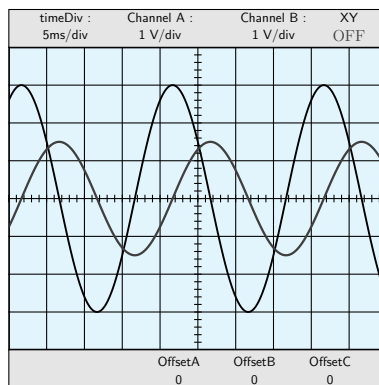
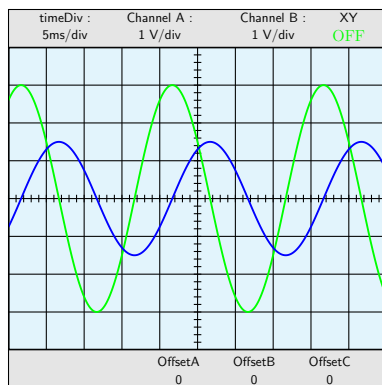
3.5 Different amplitude : Oscillo[amplitude1=3, amplitude2=1.5]



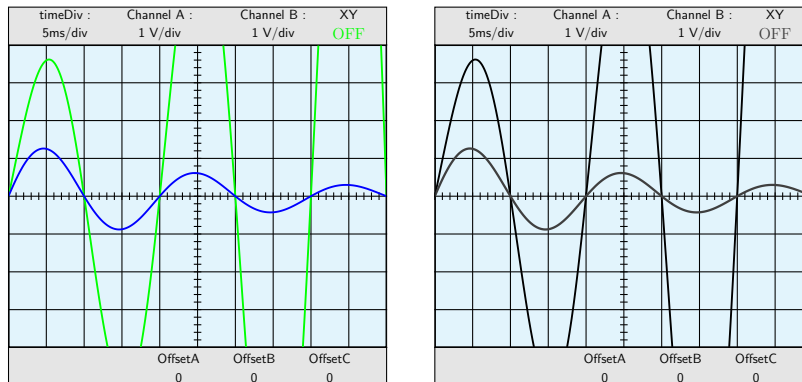
3.5.1 Different period : Oscillo[amplitude1=3,amplitude2=1.5, period2=50]



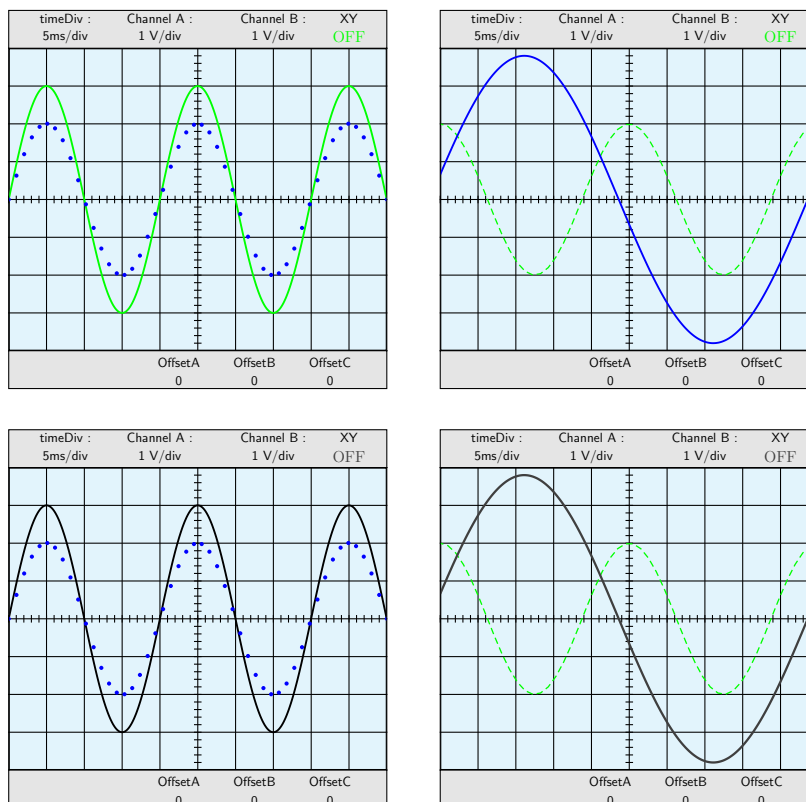
3.6 Different phase : Oscillo[amplitude1=3,amplitude2=1.5, phase1=60, phase2=-30]



3.7 Damping and amplification : Oscillo[amplitude1=3,amplitude2=1 damping2=0.005, damping1=-0.005]



3.8 Changing the plot style



```
\newpsstyle{BlueDots}{plotstyle=dots,
linecolor=blue,linewidth=0.02,plotpoints=50}
\Oscillo[amplitude1=3, plotstyle2=BlueDots,amplitude2=2]\hspace{1cm}
```

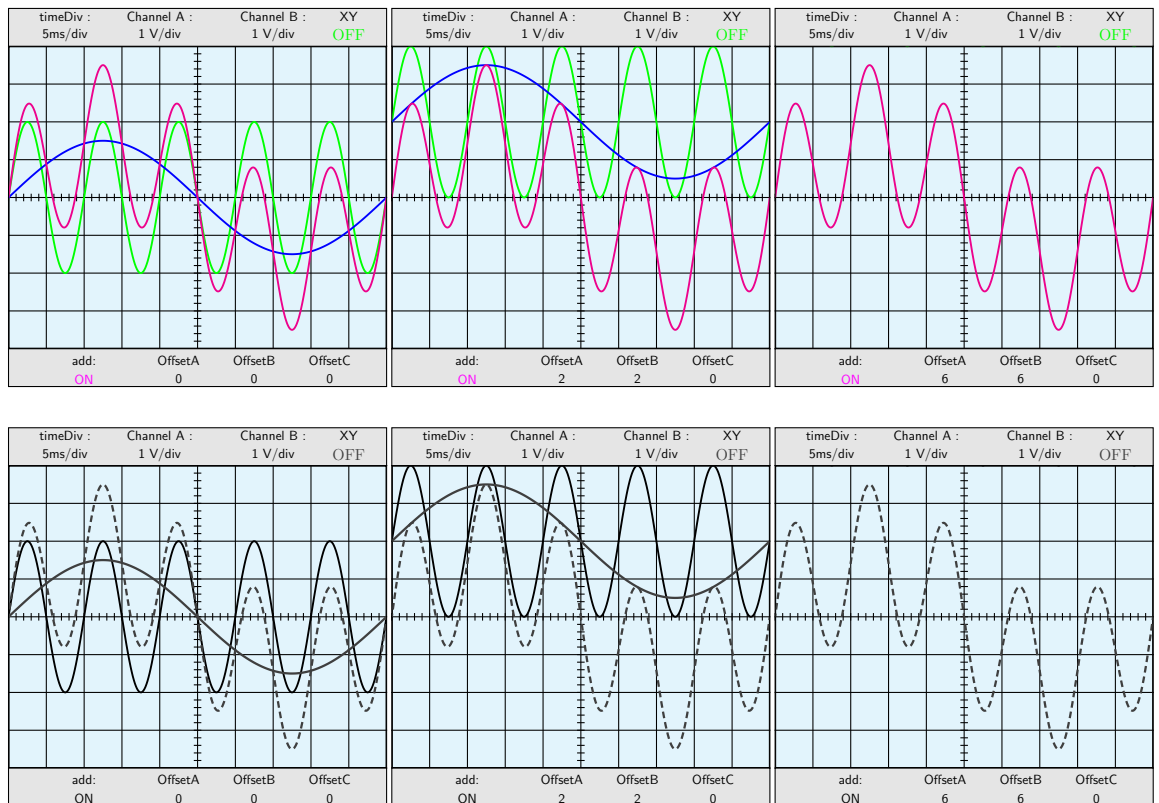
```

\newpsstyle{GreenDash}{linestyle=dashed,
linecolor=green,linewidth=0.035,plotpoints=50}
\Oscillo[amplitude1=2,phase1=90,amplitude2=3.8,period1=25,
period2=50,phase2=10, plotstyle1=GreenDash]

```

Remarque : Ce n'est plus possible si l'on met `AllColor=false`. Mais rien ne vous empêche de faire des `linecolor=black` (cependant les ON et OFF ne passeront pas mieux à l'impression qu'auparavant).

3.9 Channel C : operations

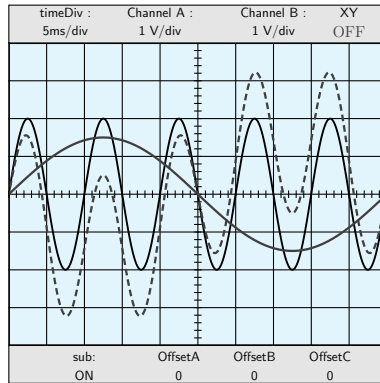
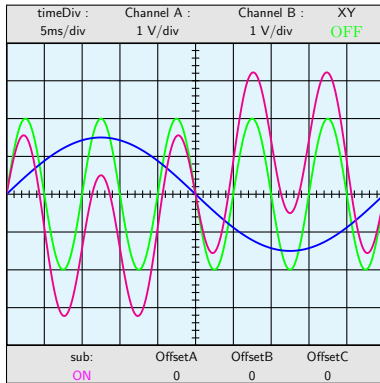


```

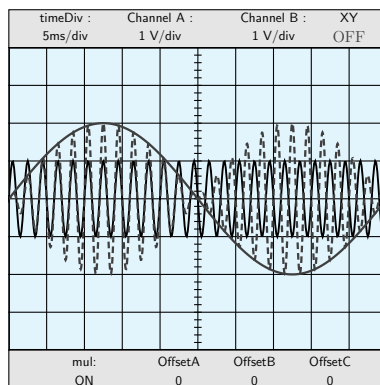
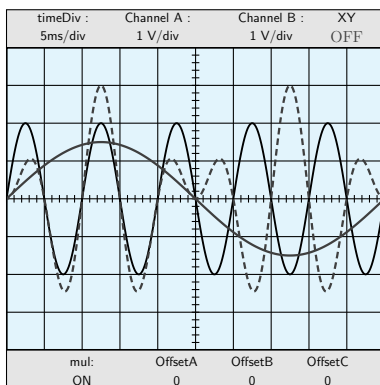
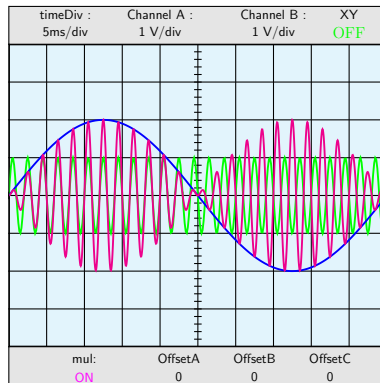
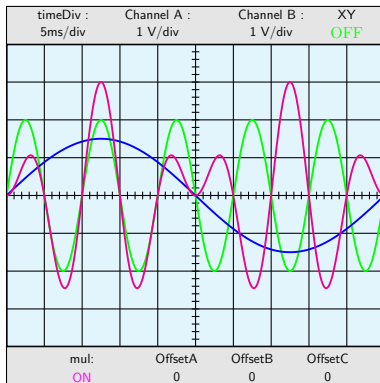
\Oscillo[amplitude2=1.5,period2=50,period1=10,
combine= true, operation= add]
\Oscillo[amplitude2=1.5,period2=50,period1=10,
combine= true, operation= add,offset1=2,offset2=2]
% SignalA and SignalB are invisible
\Oscillo[amplitude2=1.5,period2=50,period1=10,
combine= true, operation= add,offset1=6,offset2=6]

```

3.10 Subtraction : Oscillo[amplitude2=1.5,period2=50,period1=10, combine= true,operation= sub]



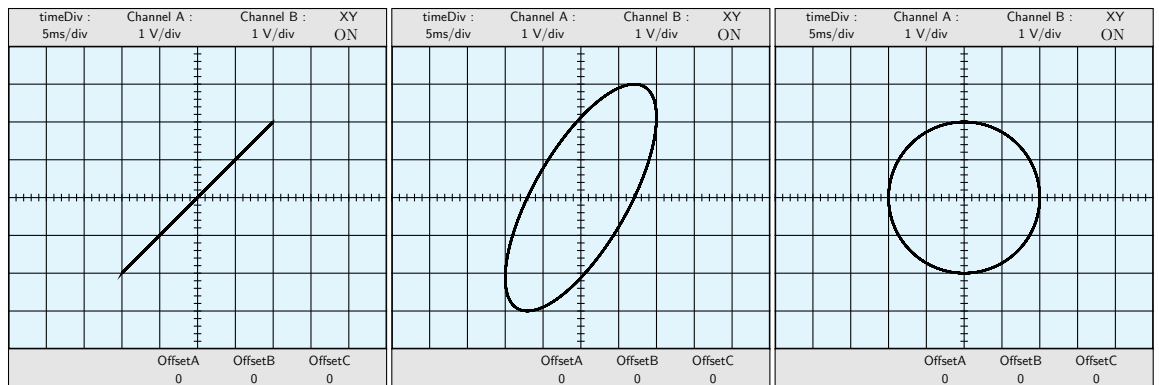
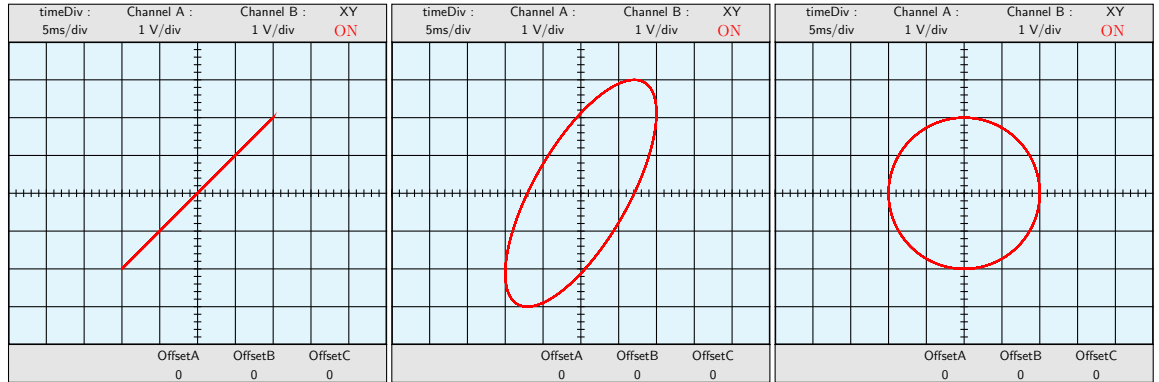
3.11 Multiplications



```
\Oscillo[amplitude2=1.5,period2=50,period1=10,
combine= true, operation= mul]
\Oscillo[amplitude1=1,amplitude2=2,
```

```
period2=50,period1=2, combine= true, operation= mul]
```

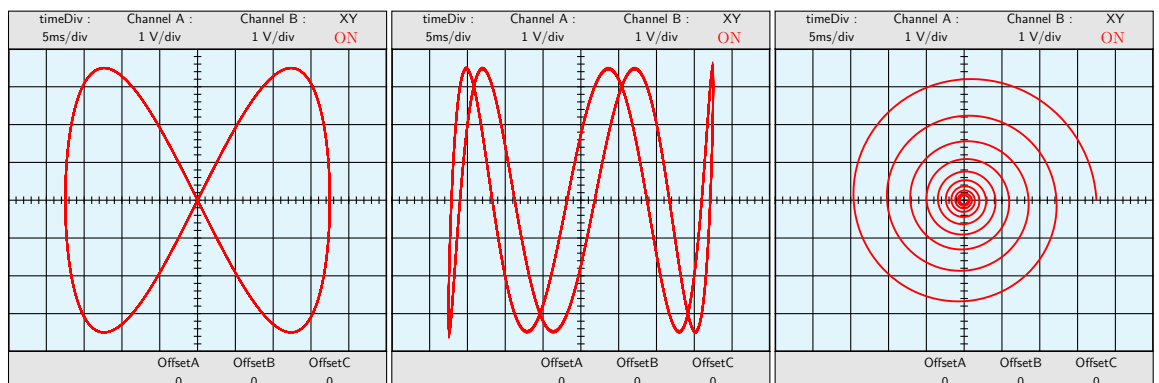
3.12 Channel C : XY-mode

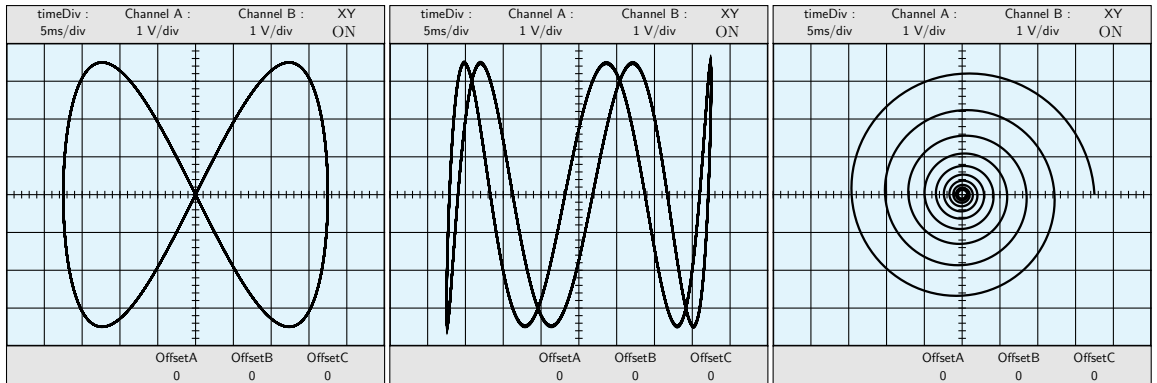


```
\Oscillo[ Lissajous= true,amplitude2=2]
```

```
\Oscillo[Lissajous=true,amplitude2=3,phase2=45]
```

```
\Oscillo[Lissajous=true,amplitude2=2,phase2=90]
```



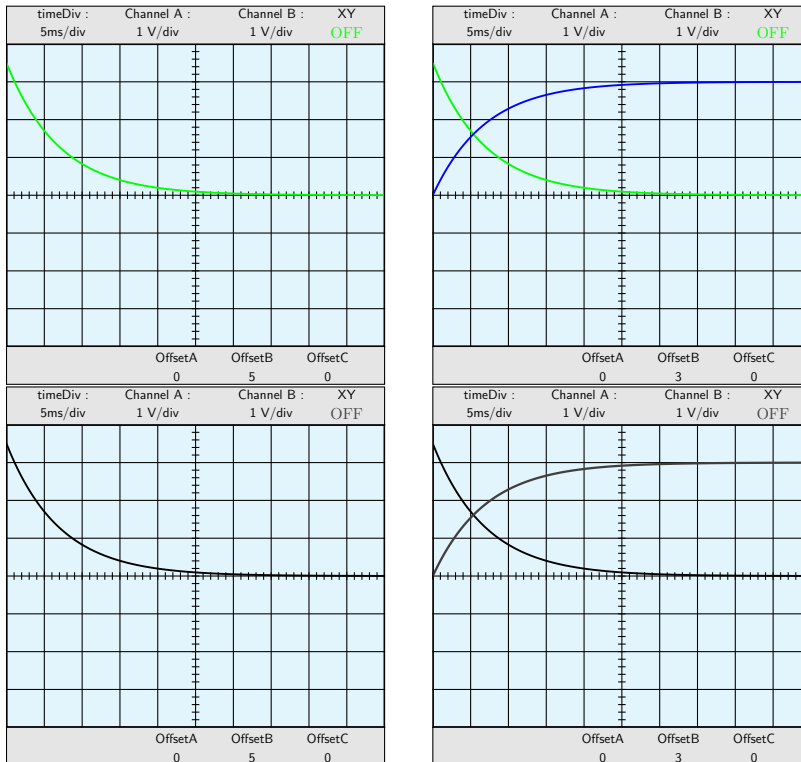


```

\Oscillo[amplitude1=3.5,phase1=90,amplitude2=3.5,
period1=20,period2=10,phase2=0,Lissajous=true]
\Oscillo[amplitude1=3.5,phase1=90,amplitude2=3.5,
period1=25,period2=5,phase2=60,Lissajous=true]
\Oscillo[amplitude1=3.5,phase1=90,
amplitude2=3.5,period1=50,period2=50,
Lissajous=true,damping1=0.01,damping2=0.01]

```

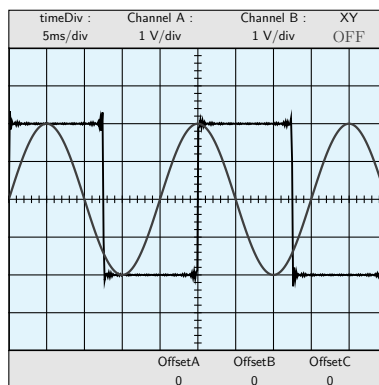
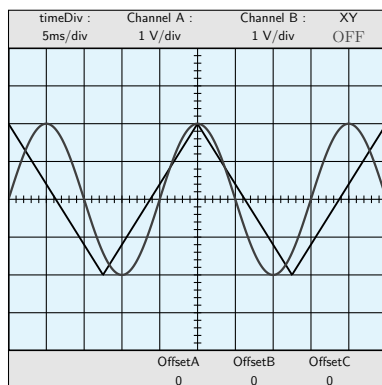
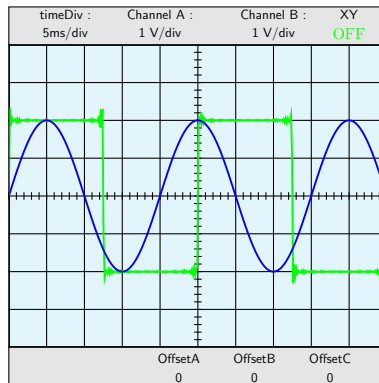
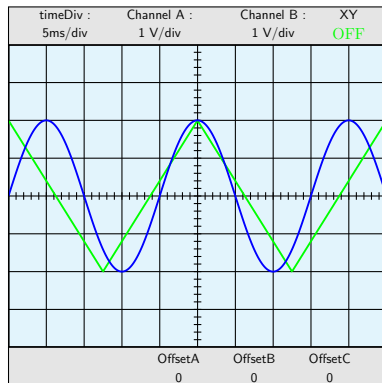
3.13 Non sinusoidal signals



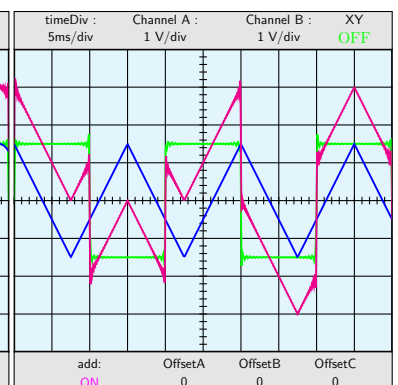
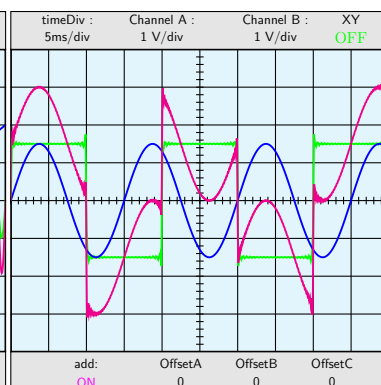
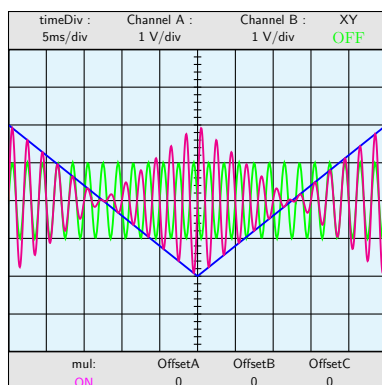
```

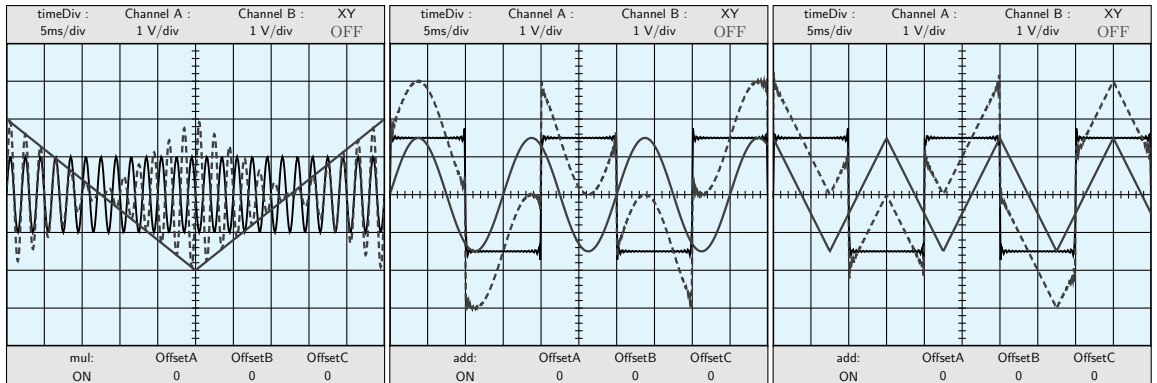
\Oscillo[amplitude1=3.5,phase1=90,
period1= 2E30,offset2=5,damping1=0.02]
\Oscillo[amplitude1=3.5,phase1=90,
period1= 2E30,offset2=3,amplitude2=-3,da
period2= 2E31,damping2=0.02,phase2=90]

```



3.14 Combine examples



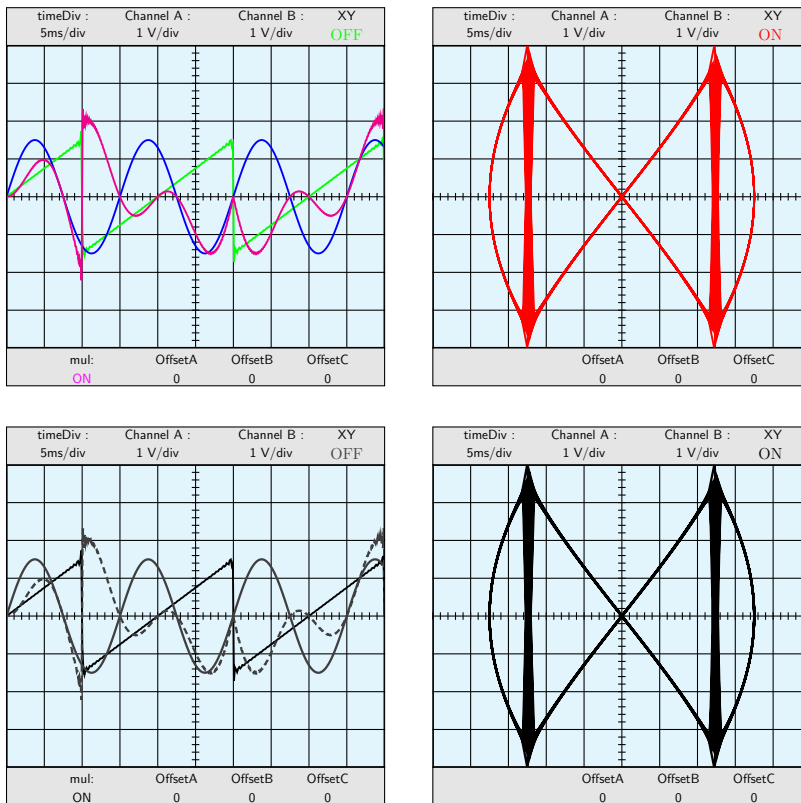


```

\Oscillo[Wave2=\TriangleB,combine=true,operation=mul,amplitude2=2,
period2=50,period1=2,amplitude1=1]
\Oscillo[combine=true,operation=add,amplitude2=1.5,
Wave1=\RectangleA,amplitude1=1.5,period2=15]
\Oscillo[combine=true,operation=add,amplitude2=1.5,
Wave1=\RectangleA,amplitude1=1.5,period2=15,Wave2=\TriangleB]

```

3.15 Dog's tooth signal

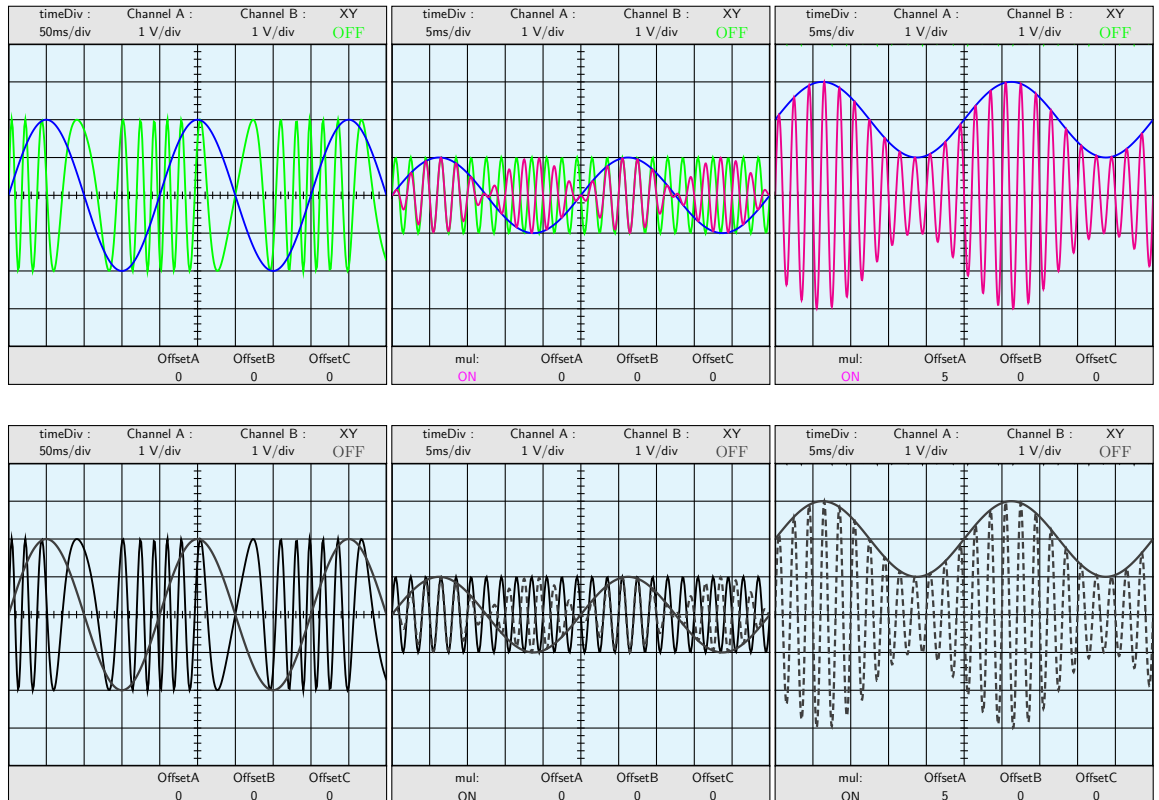


```

\Oscillo[combine=true,operation=mul,amplitude2=1.5,
Wave1= \RDogToothA,amplitude1=1.5,period2=15]
\Oscillo[amplitude1=3.5,phase1=90,amplitude2=3.5,
period1=25,period2=6.25,phase2=0,Lissajous=true,Wave2=\RDogToothB]

```

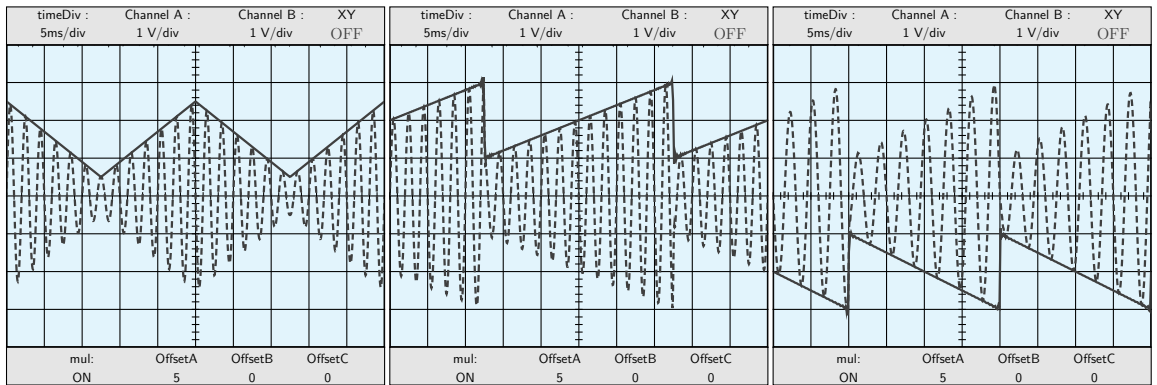
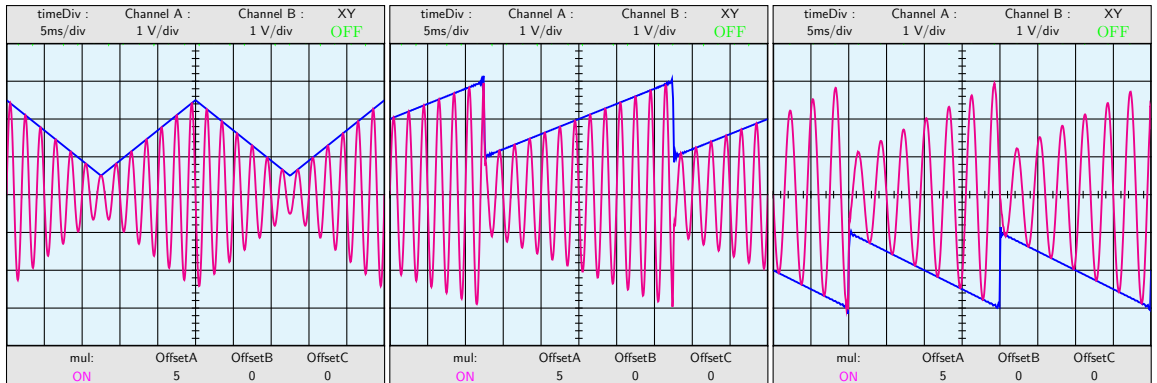
3.16 Frequency modulation examples



```

\Oscillo[ periodmodulation1=200, freqmod1=5,period1=30,
timediv=50,plotpoints=1000,amplitude2=2,period2=200]
\Oscillo[amplitude1=1,amplitude2=1,
period2=25,period1=2,combine=true,operation=mul]
\Oscillo[amplitude1=1,amplitude2=1, CC2=2,
period2=25,period1=2,combine=true,operation=mul,offset1=5]

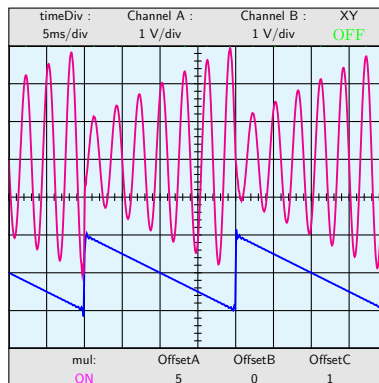
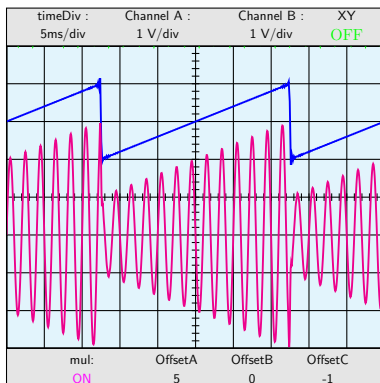
```

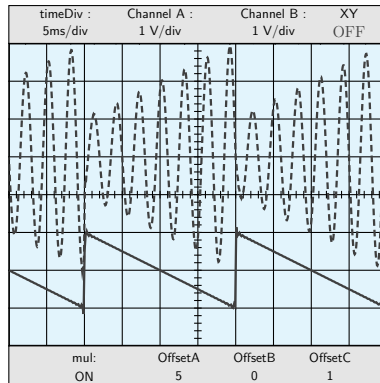
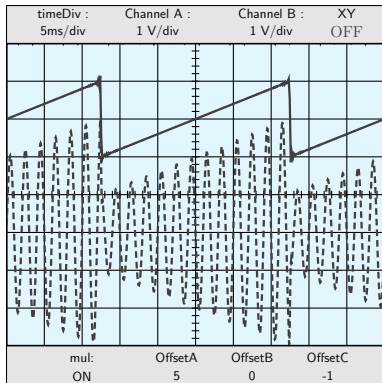


```

\Oscillo[amplitude1=1,amplitude2=1,CC2=1.5,Wave2=\TriangleB,
period2=25,period1=2,combine=true,operation=mul,offset1=5]
\Oscillo[amplitude1=1,amplitude2=1,CC2=2,Wave2=\RDogToothB,
period2=25,period1=2,combine=true,operation=mul,offset1=5]
\Oscillo[amplitude1=1,amplitude2=1,CC2=-2,Wave2=\LDogToothB,
period2=20,period1=3,combine=true,operation=mul,offset1=5]

```





```
\Oscillo[amplitude1=1,amplitude2=1,CC2=2,Wave2=\RDogToothB,
period2=25,period1=2,combine=true,operation=mul,
offset1=5,offset3=-1]\hspace{1cm}
```

```
\Oscillo[amplitude1=1,amplitude2=1,CC2=-2,Wave2=\LDogToothB,
period2=20,period1=3,combine=true,operation=mul,
offset1=5,offset3=1]
```

3.17 More examples

