

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/prog$ ./ViewSig.sh SignalX.dat&
total 996
drwx----- 2 mignotte mignotte 4096 Aug 10 10:00 .
drwx----- 5 mignotte mignotte 4096 Aug 10 10:00 ..
-rwx----- 1 mignotte mignotte 105 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 23631 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 23629 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 2656 Aug 10 10:00 .gitignore
-rw-rw-r-- 1 mignotte mignotte 25984 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 5397 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 20672 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 120080 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 28158 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 692385 Aug 10 10:00 .gitignore
-rwxrwxr-x 1 mignotte mignotte 31296 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 3089 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 3085 Aug 10 10:00 .gitignore
-rwx----- 1 mignotte mignotte 473 Aug 10 10:00 .gitignore
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/prog$
```

```
compilation du programme Tp9_IFT3205_1.c
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/prog$
Sauvegarde de SignalX au format dat
visu de SignalX.eps
./ViewSig.sh SignalX.dat&
Sauvegarde de SignalZ au format wav
Appel Systeme::sox tmp.dat SignalZ.wav
```

C'est fini ...

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/prog$ sox WARN sox: `tmp.dat' input clipped 29698 samples
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/prog$ emacs Tp9_IFT3205_1.c &
```

```
[1] 23924
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/prog$ Warning: Lisp directory `/usr/local/share/emacs/23.4/sit'
```

```
emacs@goldorak
File Edit Options Buffers Tools C Help

//Question 1
//=====
length=256;
float* SignX=fmatrix_allocate_1d(length);

//Signal d'entré x(n) aléatoire compris entre [0::200]
for(i=0;i<length;i++) SignX[i]=(int)(((float)rand())/RAND_MAX)*200.0);

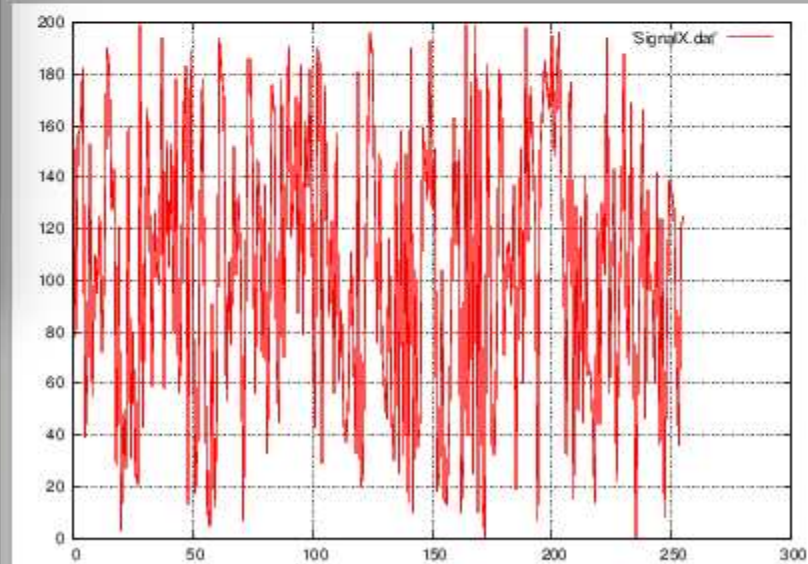
//Sauvegarde en fichier .dat
SaveSignalDat("SignalX",SignX,length);

//Visu Ecran
strcpy(BufSystVisuSig,NAME_VISUALISER);
strcat(BufSystVisuSig,"SignalX.dat&");
printf(" %s",BufSystVisuSig);
system(BufSystVisuSig);

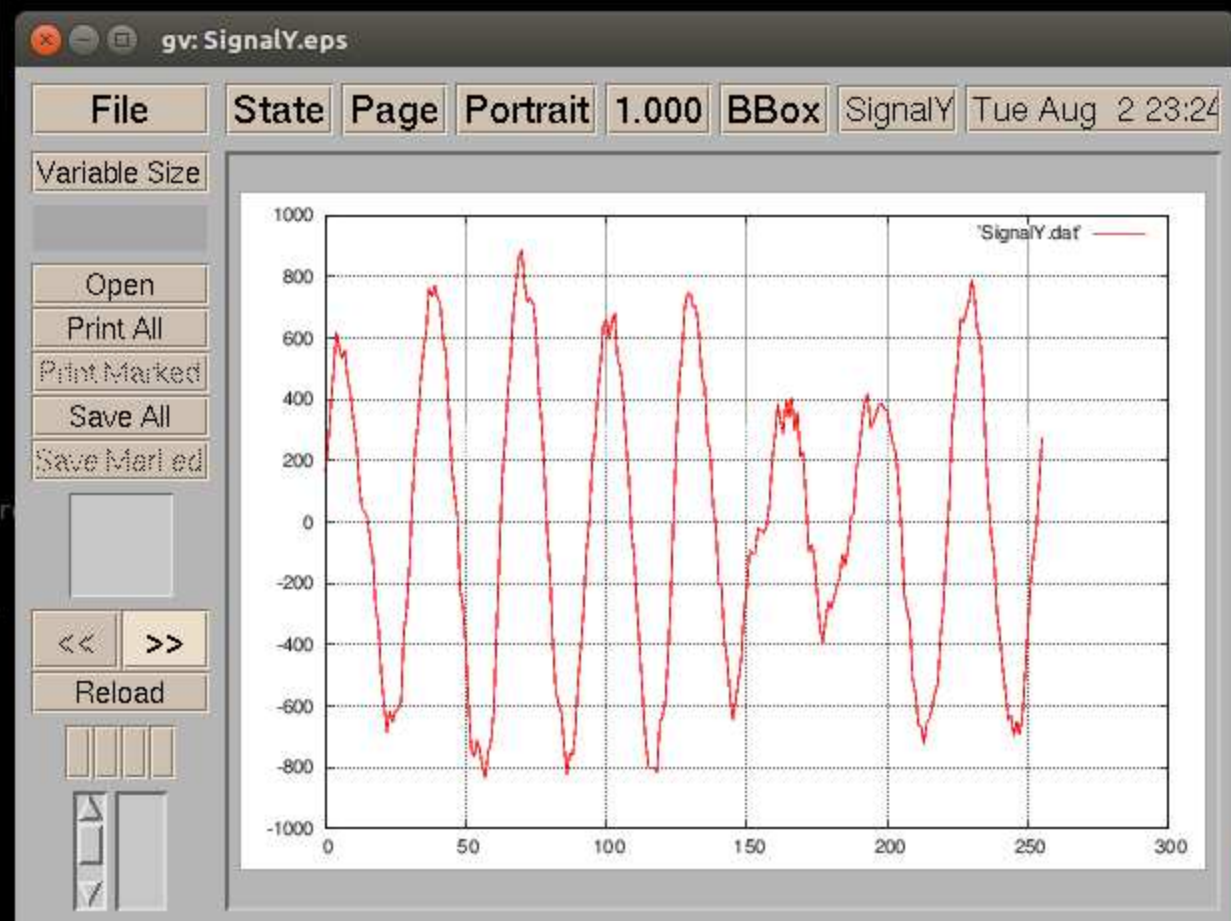
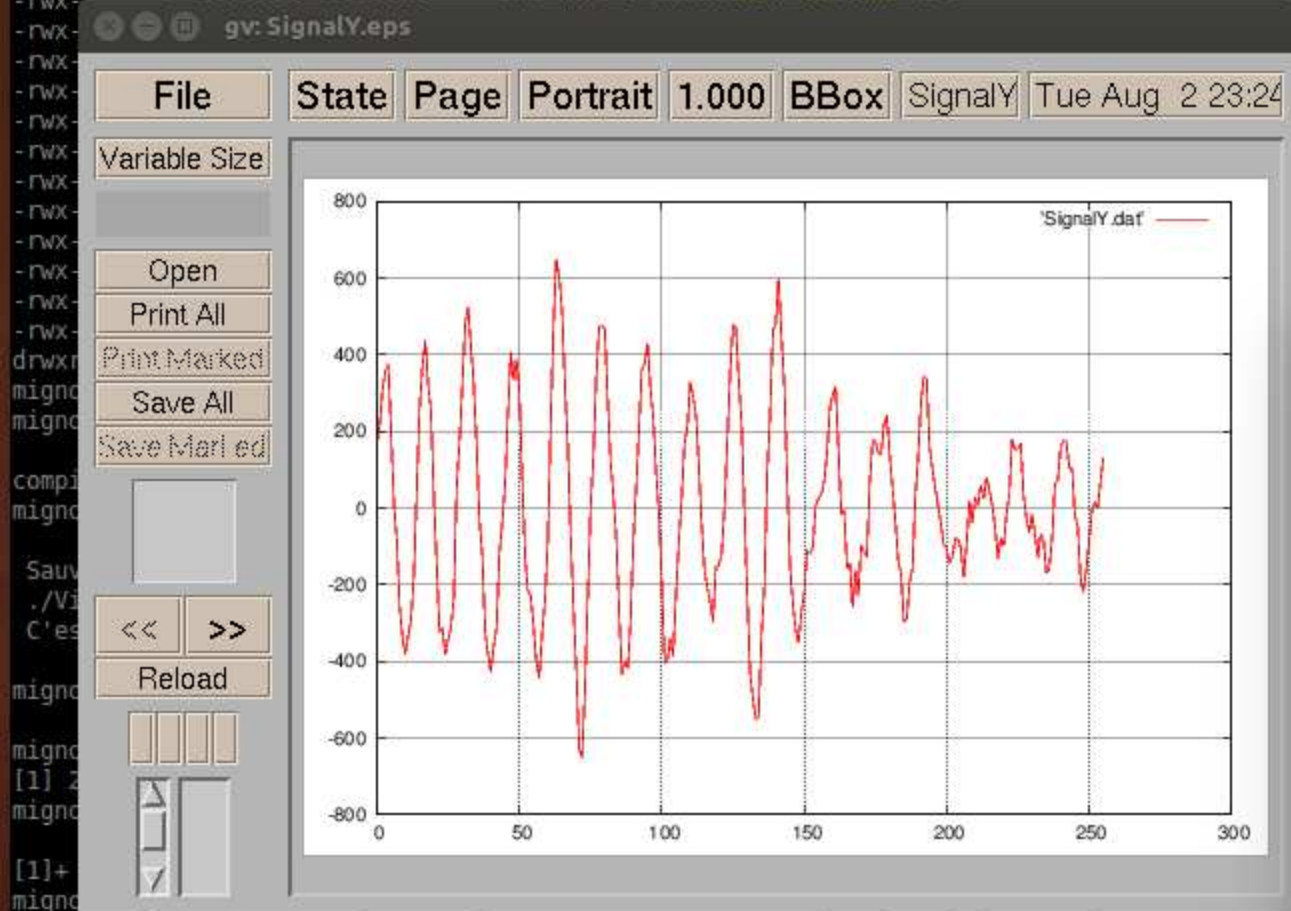
//-----
//Sauvegarde de SignZ (30000 echantillons
//aléatoire entre [0::200]) dans un
//fichier .wav avec une periode
//d'echantillonnage de 10000: Nb echant/seconde
-1:--- Tp9_IFT3205_1.c 48% L52 (C/l Abbrev)-----
```

SignalX.eps

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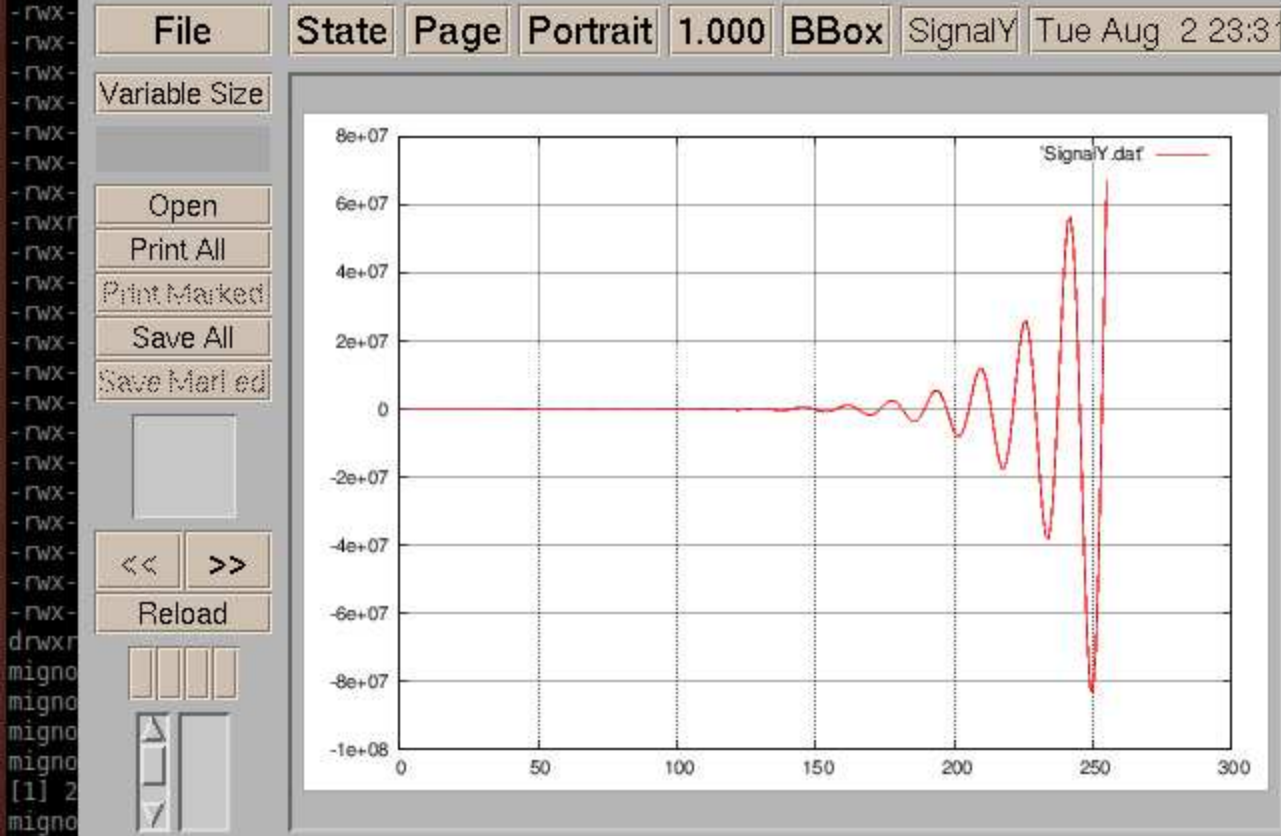



```
-rwX----- 1 mignotte mignotte 3105 Aug 2 23:23 Tp9_IFT3205_1.c
-rwx----- 1 mignotte mignotte 3105 Aug 2 23:23 Tp9_IFT3205_1.o
```




```
-rwx----- 1 mignotte mignotte 621382 Jul 21 15:20 SoundFileInCanalRestor.dat
```

```
gv: SignalY.eps
```



```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ./compilegcc Tp9_IFT3205_1
```

```
compilation du programme Tp9_IFT3205_1.c
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ./Tp9_IFT3205_1
```

```
Sauvegarde de SignalY au format dat
```

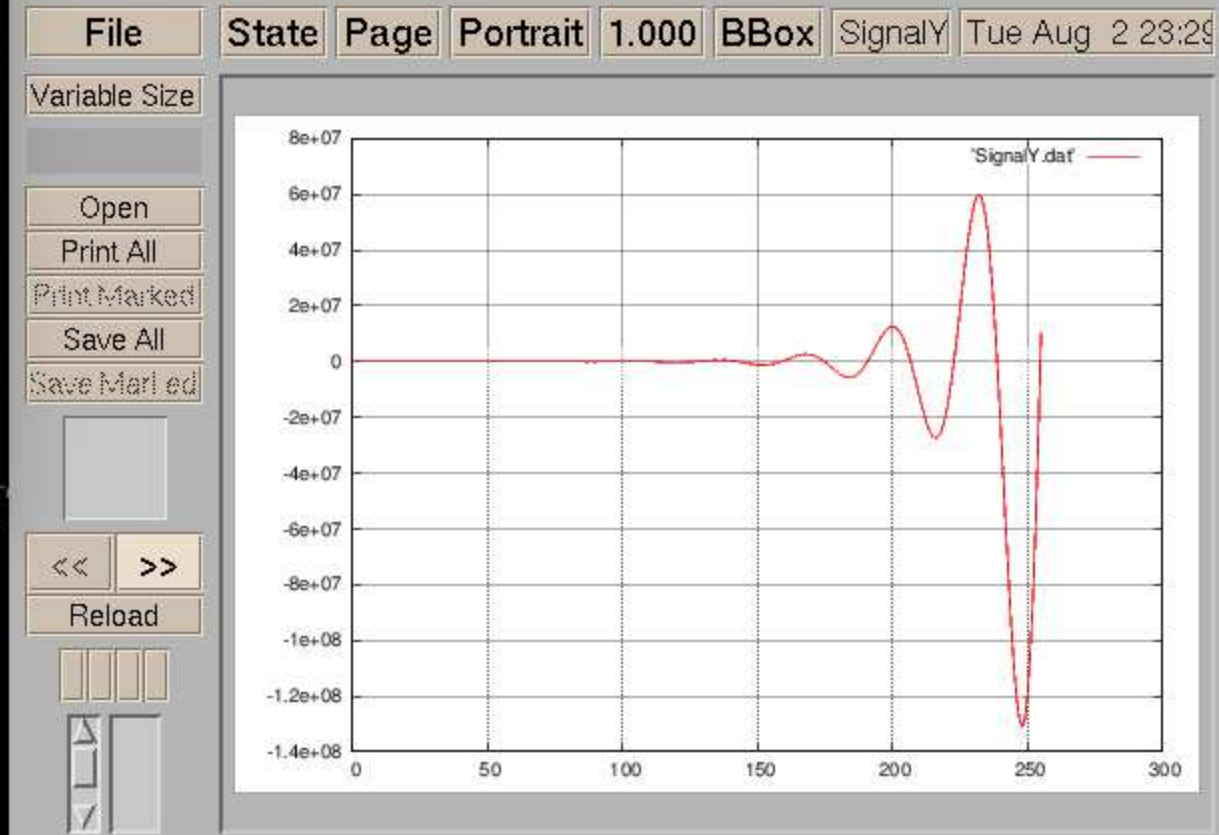
```
./ViewSig.sh SignalY.dat&
```

```
C'est fini ...
```

```
visu de SignalY.eps
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$
```

```
gv: SignalY.eps
```




```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ls
```

```
compilegcc      SignalX.eps      SoundFileDeg.eps      SoundFileInCanalRestor.dat  SoundFileRest.eps      Tp9_IFT3205_1      Tp9_IFT3205_2-3.c      Tp9_IFT3205_3-4
FonctionDemo9.c SignalY.dat      SoundFileDeg.wav      SoundFileInCanalRestor.eps  SoundFileRest.wav      Tp9_IFT3205_1.c      Tp9_IFT3205_3-1      Tp9_IFT3205_3-4.c
FonctionDemo9.h SignalY.eps      SoundFile.eps         SoundFileInCanalRestor.wav  SoundFile_SamplingRate.dat  Tp9_IFT3205_2-2      Tp9_IFT3205_3-1.c      ViewSig.sh
FonctionDemo9.o SoundFile.dat    SoundFileInCanal.dat  SoundFileInCanal.wav      SoundFile.wav           Tp9_IFT3205_2-2.c      Tp9_IFT3205_3-2      Ztmp
SignalX.dat     SoundFileDeg.dat SoundFileInCanal.eps  SoundFileRest.dat          tmp.dat                 Tp9_IFT3205_2-3      Tp9_IFT3205_3-2.c
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ./compilegcc Tp9_IFT3205_2-2
```

```
compilation du programme Tp9_IFT3205_2-2.c
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ./Tp9_IFT3205_2-2
```

```
>> Ouverture de SoundFile.dat (28114 echantillons)
```

```
>> Techantillonnage:: 11025 echantillons/seconde
```

```
Sauvegarde de SoundFileDeg au format wav
```

```
Appel Systeme::sox tmp.dat SoundFileDeg.wav
```

```
Sauvegarde de SoundFileDeg au format dat
```

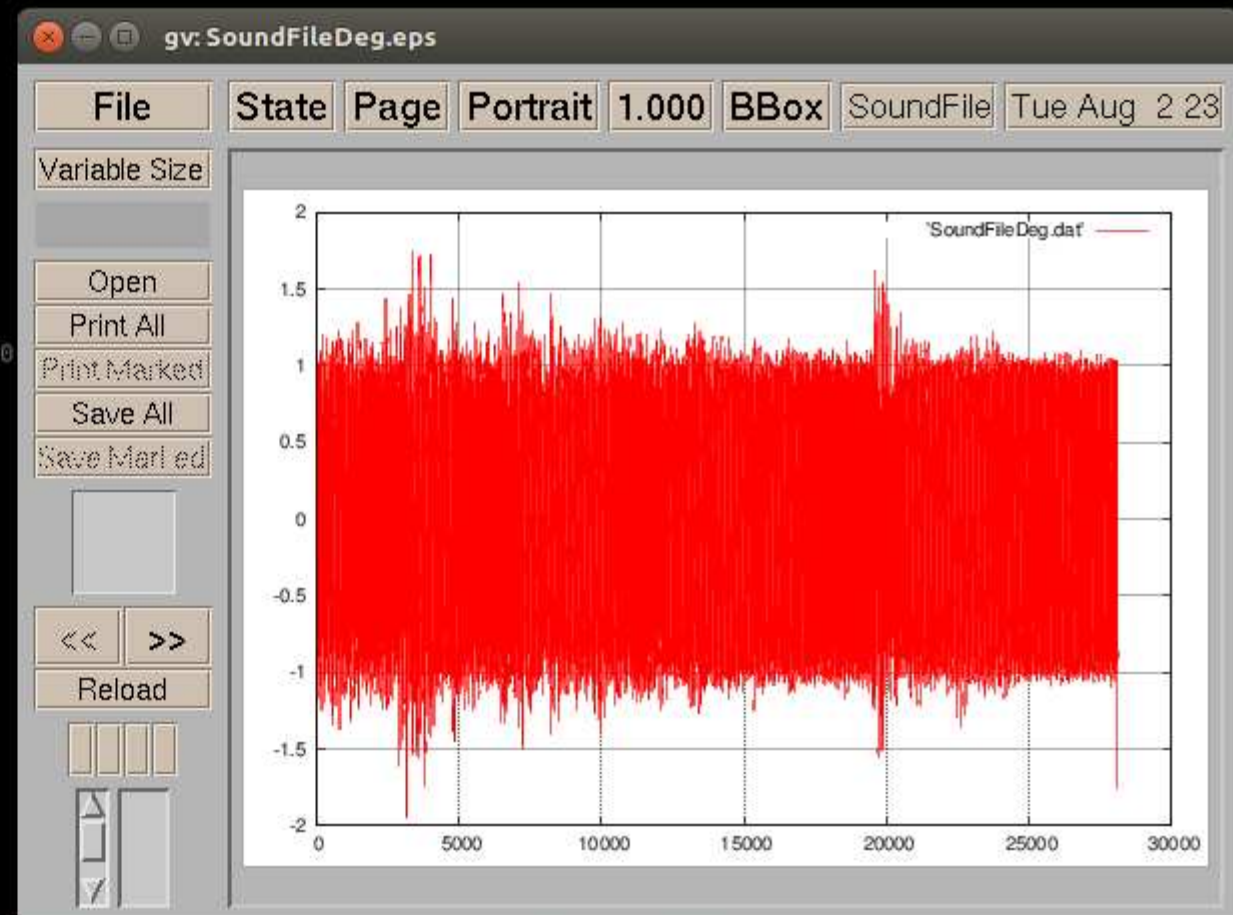
```
./ViewSig.sh SoundFileDeg.dat&
```

```
C'est fini ...
```

```
visu de SoundFileDeg.eps
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ sox WARN sox: 'tmp.dat' input clipped 3410
```

```
█
```




```
-rwx----- 1 mignotte mignotte 621452 Jul 21 15:20 SoundFileRest.dat
-rwx----- 1 mignotte mignotte 239823 Jul 21 15:20 SoundFileRest.eps
-rwx----- 1 mignotte mignotte 112532 Jul 21 15:20 SoundFileRest.wav
-rwx----- 1 mignotte mignotte 1012139 Jul 21 15:20 SoundFile_SamplingRate.dat
-rwx----- 1 mignotte mignotte 28158 Jul 21 15:20 SoundFile.wav
-rwx----- 1 mignotte mignotte 621474 Aug 2 23:34 tmp.dat
-rwxrwxr-x 1 mignotte mignotte 31296 Aug 2 23:31 Tp9_IFT3205_1
-rwx----- 1 mignotte mignotte 3104 Aug 2 23:31 Tp9_IFT3205_1.c
-rwxrwxr-x 1 mignotte mignotte 31298 Aug 2 23:34 Tp9_IFT3205_2-2
-rwx----- 1 mignotte mignotte 2906 Aug 2 23:19 Tp9_IFT3205_2-2.c
-rwx----- 1 mignotte mignotte 26425 Jul 21 15:20 Tp9_IFT3205_2-3
-rwx----- 1 mignotte mignotte 3227 Aug 2 23:19 Tp9_IFT3205_2-3.c
-rwx----- 1 mignotte mignotte 26145 Jul 21 15:20 Tp9_IFT3205_3-1
-rwx----- 1 mignotte mignotte 2713 Aug 2 23:20 Tp9_IFT3205_3-1.c
-rwx----- 1 mignotte mignotte 26260 Jul 21 15:20 Tp9_IFT3205_3-2
-rwx----- 1 mignotte mignotte 2687 Aug 2 23:20 Tp9_IFT3205_3-2.c
-rwx----- 1 mignotte mignotte 27660 Jul 21 15:20 Tp9_IFT3205_3-4
-rwx----- 1 mignotte mignotte 3720 Aug 2 23:21 Tp9_IFT3205_3-4.c
-rwx----- 1 mignotte mignotte 473 Jul 21 15:20 ViewSig.sh
-rwxrwxr-x 2 mignotte mignotte 4096 Aug 2 23:21 Ztmp
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ./compilegcc Tp9_IFT3205_2-3
```

compilation du programme Tp9_IFT3205_2-3.c

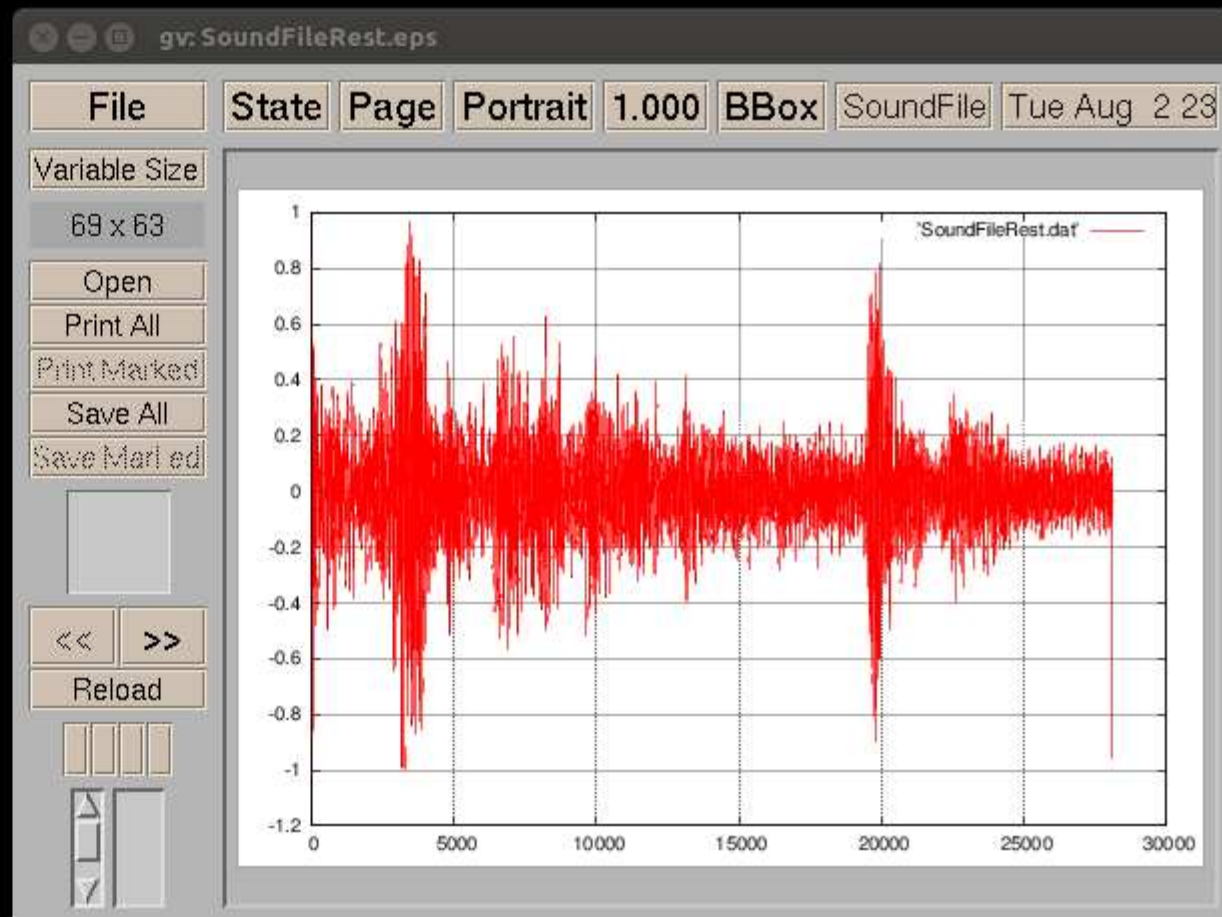
```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ./Tp9_IFT3205_2-3
```

```
>> Ouverture de SoundFile.dat (28114 echantillons)
>> Techantillonnage:: 11025 echantillons/seconde
Sauvegarde de SoundFileRest au format wav
Appel Systeme::sox tmp.dat SoundFileRest.wav
```

```
Sauvegarde de SoundFileRest au format dat
./ViewSig.sh SoundFileRest.dat&
C'est fini ...
```

visu de SoundFileRest.eps

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ sox WARN sox: 'tmp.dat' input clipped 1 samples
```




```
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution$
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution$ ls
compilegcc      SignalX.eps      SoundFileDeg.eps      SoundFileInCanalRestor.dat      SoundFileRest.eps      Tp9_IFT3205_1      Tp9_IFT3205_2-3.c      Tp9_IFT3205_3-4
FonctionDemo9.c  SignalY.dat      SoundFileDeg.wav      SoundFileInCanalRestor.eps      SoundFileRest.wav      Tp9_IFT3205_1.c      Tp9_IFT3205_3-1      Tp9_IFT3205_3-4.c
FonctionDemo9.h  SignalY.eps      SoundFile.eps         SoundFileInCanalRestor.wav      SoundFile_SamplingRate.dat      Tp9_IFT3205_2-2      Tp9_IFT3205_3-1.c      ViewSig.sh
FonctionDemo9.o  SoundFile.dat    SoundFileInCanal.dat  SoundFileInCanal.wav           SoundFile.wav           Tp9_IFT3205_2-2.c      Tp9_IFT3205_3-2      Ztmp
SignalX.dat      SoundFileDeg.dat  SoundFileInCanal.eps  SoundFileRest.dat             tmp.dat                 Tp9_IFT3205_2-3      Tp9_IFT3205_3-2.c
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution$
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution$
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution$
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution$ ./Tp9_IFT3205_3-1

Reponse-Dirac:: [1.0000][-2.3333][0.6666][0.0000][0.0000][0.0000][0.0000][0.0000][0.0000][0.0000]
Reponse-Echelon:: [1.0000][-1.3333][-0.6667][-0.6667][-0.6667][-0.6667][-0.6667][-0.6667][-0.6667][-0.6667]
C'est fini ...

mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution$
```

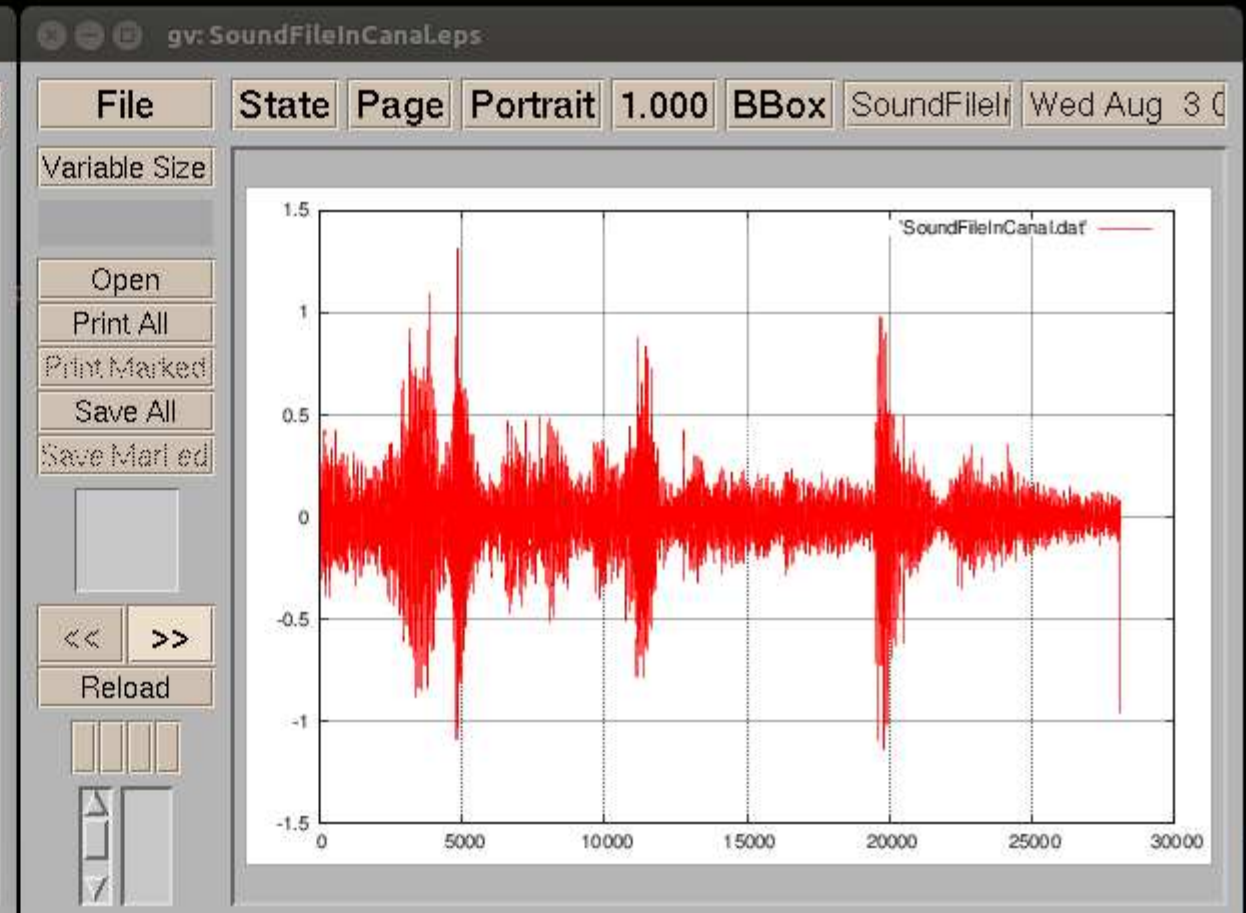
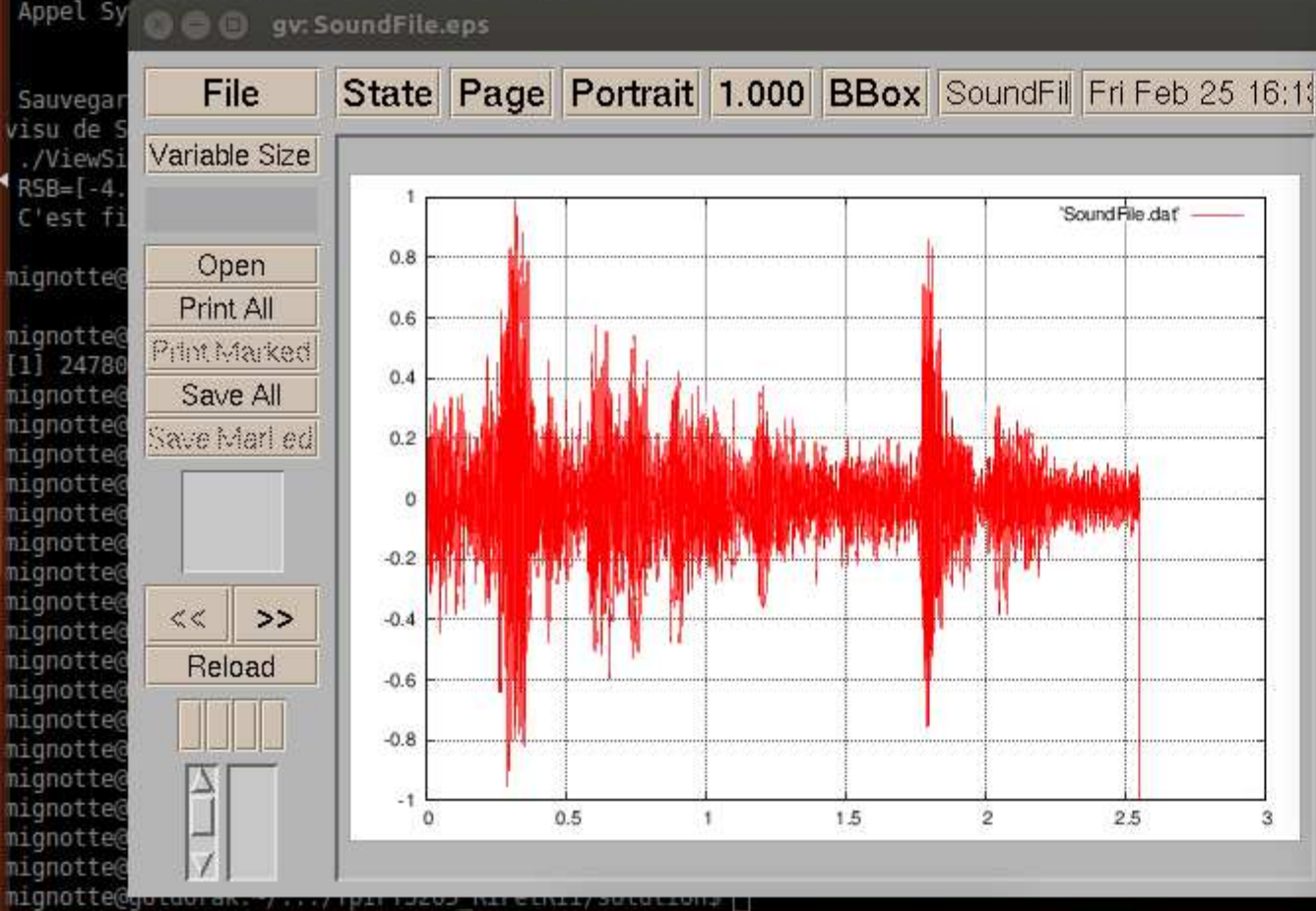
mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution

mignotte@goldorak: ~/.../TpIFT3205_RIFetRII/solution 185x43

```
FonctionDemo9.h  SignalY.eps      SoundFile.eps      SoundFileInCanalRestor.wav  SoundFile_SamplingRate.dat  Tp9_IFT3205_2-2  Tp9_IFT3205_3-1.c  ViewSig.sh
FonctionDemo9.o  SoundFile.dat      SoundFileInCanal.dat  SoundFileInCanal.wav      SoundFile.wav              Tp9_IFT3205_2-2.c  Tp9_IFT3205_3-2    Ztmp
SignalX.dat      SoundFileDeg.dat   SoundFileInCanal.eps  SoundFileRest.dat         tmp.dat                    Tp9_IFT3205_2-3   Tp9_IFT3205_3-2.c
```

```
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ aplay SoundFile.wav
Playing WAVE 'SoundFile.wav' : Unsigned 8 bit, Rate 11025 Hz, Mono
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ aplay SoundFileInCanal.wav
Playing WAVE 'SoundFileInCanal.wav' : Signed 32 bit Little Endian, Rate 11025 Hz, Mono
mignotte@goldorak:~/.../TpIFT3205_RIFetRII/solution$ ./Tp9_IFT3205_3-2
```

```
>> Ouverture de SoundFile.dat (28114 echantillons)
>> Techantillonnage:: 11025 echantillons/seconde
Sauvegarde de SoundFileInCanal au format wav
Appel Sy
```



mignotte@goldorak: ~/IFT3205CorrectionTPs/TpIFT3205_RIFetRII/solution

mignotte@goldorak: ~/IFT3205CorrectionTPs/TpIFT3205_RIFetRII/solution 178x42

mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RIFetRII/solution\$ ls

compilegcc	SignalX.eps	SoundFileDeg.eps	SoundFileInCanalRestor.dat	SoundFileRest.eps	Tp9_IFT3205_1	Tp9_IFT3205_2-3.c	Tp9_IFT3205_3-4
FonctionDemo9.c	SignalY.dat	SoundFileDeg.wav	SoundFileInCanalRestor.eps	SoundFileRest.wav	Tp9_IFT3205_1.c	Tp9_IFT3205_3-1	Tp9_IFT3205_3-4.c
FonctionDemo9.h	SignalY.eps	SoundFile.eps	SoundFileInCanalRestor.wav	SoundFile_SamplingRate.dat	Tp9_IFT3205_2-2	Tp9_IFT3205_3-1.c	ViewSig.sh
FonctionDemo9.o	SoundFile.dat	SoundFileInCanal.dat	SoundFileInCanal.wav	SoundFile.wav	Tp9_IFT3205_2-2.c	Tp9_IFT3205_3-2	Ztmp
SignalX.dat	SoundFileDeg.dat	SoundFileInCanal.eps	SoundFileRest.dat	tmp.dat	Tp9_IFT3205_2-3	Tp9_IFT3205_3-2.c	

mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RIFetRII/solution\$

mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RIFetRII/solution\$./compilegcc Tp9_IFT3205_3-4

compilation du programme Tp9_IFT3205_3-4.c

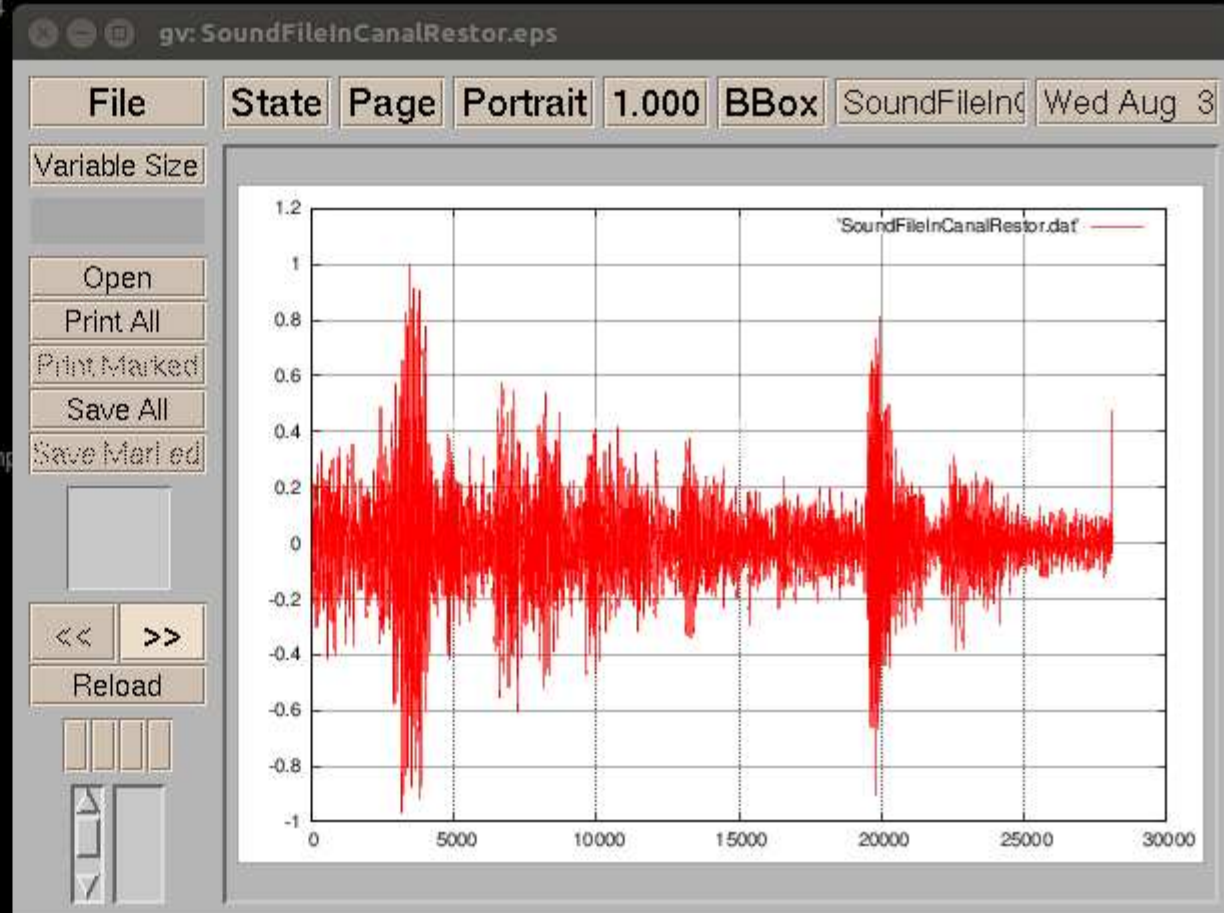
mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RIFetRII/solution\$./Tp9_IFT3205_3-4

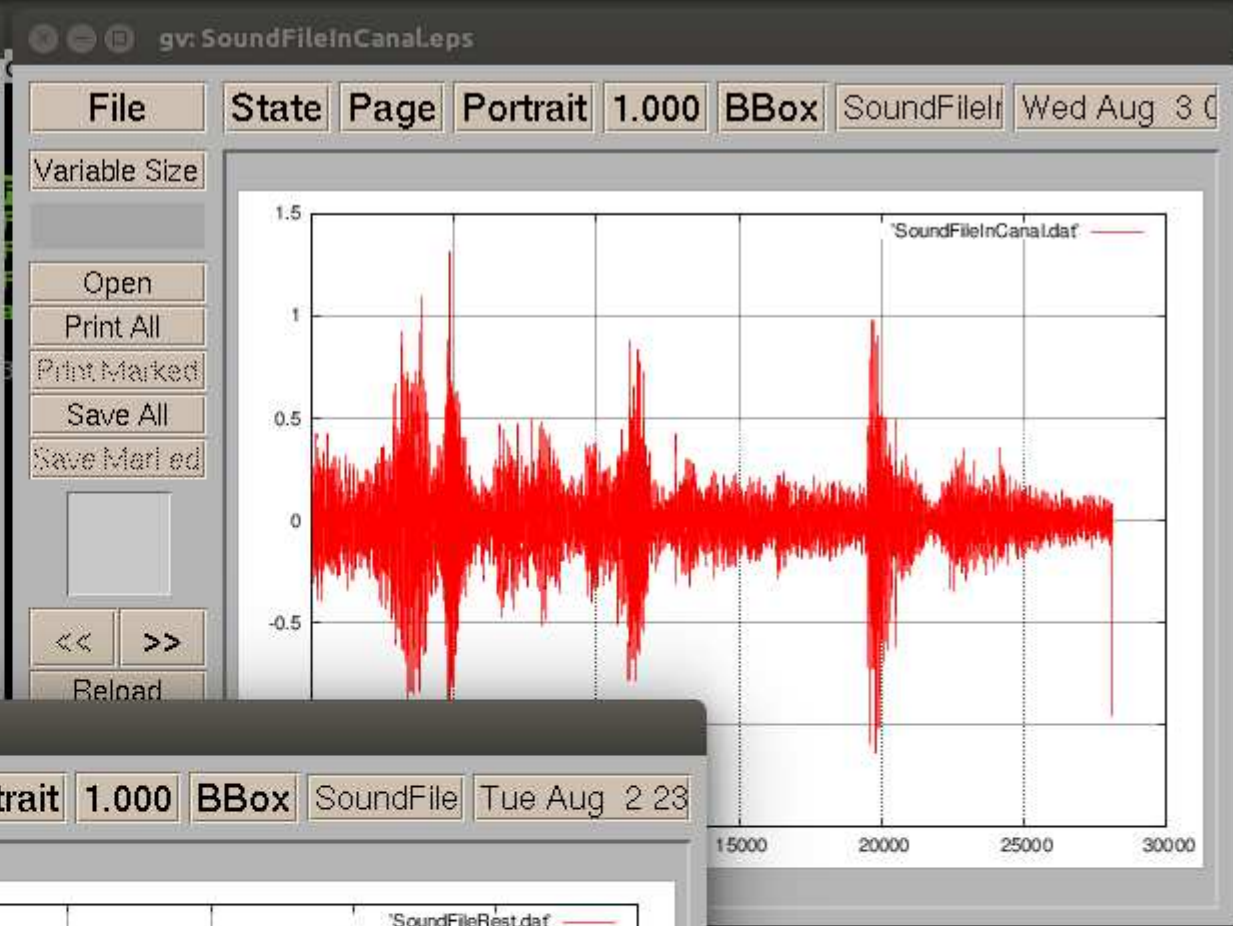
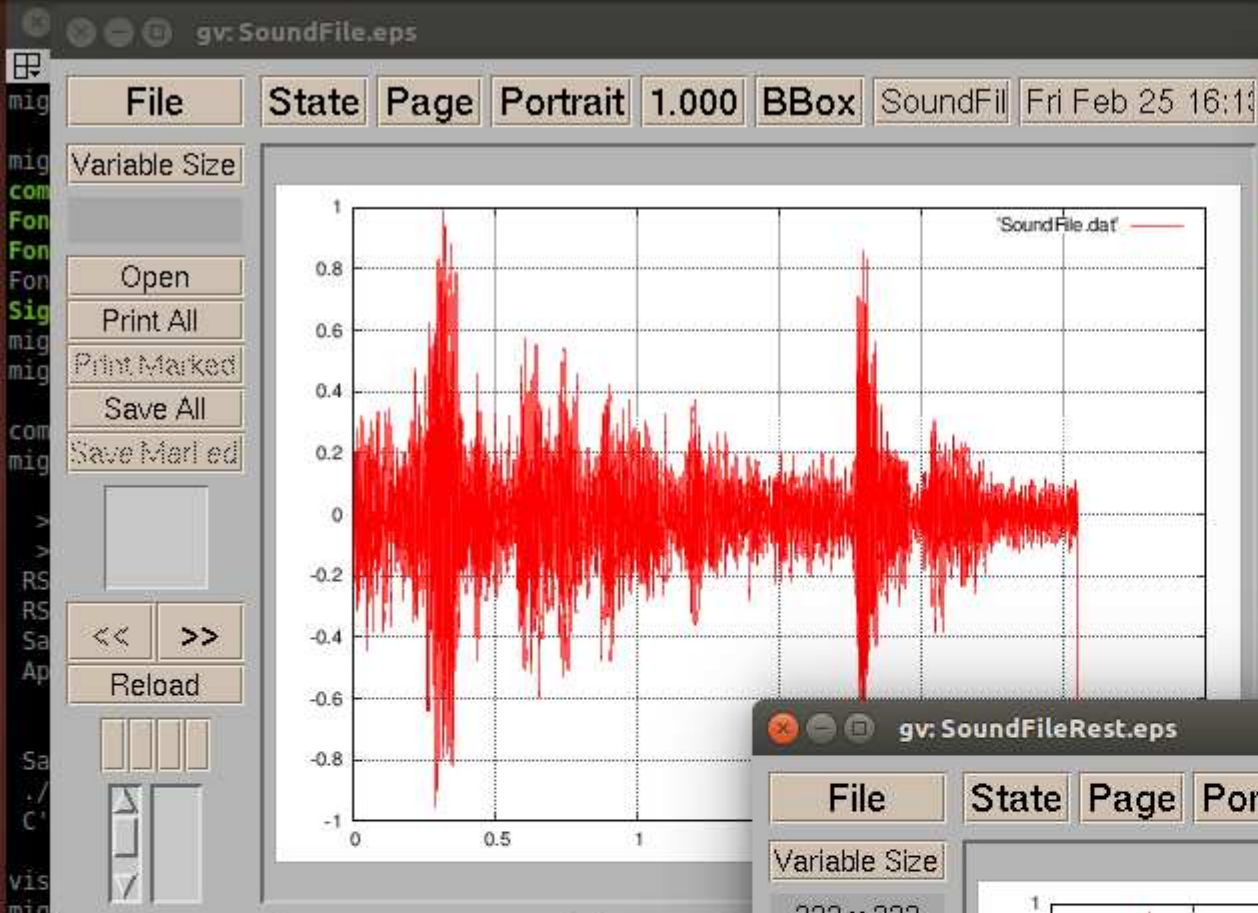
```
>> Ouverture de SoundFile.dat (28114 echantillons)
>> Techantillonnage:: 11025 echantillons/seconde
RSB_before=[-4.87 dB] (515/1582)
RSB_after=[1.38 dB] (505/368)
Sauvegarde de SoundFileInCanalRestor au format wav
Appel Systeme::sox tmp.dat SoundFileInCanalRestor.wav
```

```
Sauvegarde de SoundFileInCanalRestor au format dat
./ViewSig.sh SoundFileInCanalRestor.dat&
C'est fini ...
```

visu de SoundFileInCanalRestor.eps

mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RIFetRII/solution\$ sox WARN sox: `tmp`





```
mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RI
[1] 26902
mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RI
[2] 26907
mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RI
[3] 26911
mignotte@goldorak:~/IFT3205CorrectionTPs/TpIFT3205_RI
```

