

```
tempR equ 32 ;memory assignments
tempL equ 33
LPFr1 equ 34
LPFL1 equ 35
LPFr2 equ 36
LPFL2 equ 37
LPFr3 equ 38
LPFL3 equ 39
LPFr4 equ 40
LPFL4 equ 41
LPFr5 equ 42
LPFL5 equ 43
INr equ 44
PKr equ 45
INL equ 46
PKL equ 47
LPK equ 0.50
;/////////////////////////////////Right Channel Filter/////////////////////////////////
rdax adcr,1
;simple agc limiter, -24 dB threshold, peak detecting
wrx INr,1 ;input from ACC
maxx PKr,0.99998 ;compare with pkfil*.999 (abs)
wrx PKr,1 ;write peak value back
log -1,-0.25
exp 1,0 ;1/x
mulx INr
sof 1.8,0
sof -1.8,0 ;restore gain, but avoid output clipping
sof -1.8,0
sof -1.8,0
;/////////////////////////////////Left Channel Filter/////////////////////////////////
rdfx LPFr1,LPK ;do LPF1
wrx LPFr1,1
rdfx LPFr2,LPK ;do LPF2
wrx LPFr2,1
rdfx LPFr3,LPK ;do LPF3
wrx LPFr3,1
rdfx LPFr4,LPK ;do LPF4
wrx LPFr4,1
rdfx LPFr5,LPK ;do LPF5
wrx LPFr5,1
wrx tempR,0
;/////////////////////////////////Left Channel Filter/////////////////////////////////
rdax adcl, 1
;simple agc limiter, -24 dB threshold, peak detecting
wrx INL,1 ;input from ACC
maxx PKL,0.99998 ;compare with pkfil*.999 (abs)
wrx PKL,1 ;write peak value back
log -1,-0.25
exp 1,0 ;1/x
mulx INL
sof 1.8,0
sof -1.8,0 ;restore gain, but avoid output clipping
sof -1.8,0
sof -1.8,0
rdfx LPFL1,LPK ;do LPF1
wrx LPFL1,1
rdfx LPFL2,LPK ;do LPF2
wrx LPFL2,1
rdfx LPFL3,LPK ;do LPF3
wrx LPFL3,1
rdfx LPFL4,LPK ;do LPF4
wrx LPFL4,1
rdfx LPFL5,LPK ;do LPF5
```

```
wrax LPFL5,1
wrax tempL,1
;////////////////////////////////AM Demodulator////////////////////////////////
mulx tempL      ;Square Left Channel
wrax tempL,0
ldax tempR
mulx tempR      ;Square Right Channel
rdax tempL, 1   ;Take sum of squared channels
LOG    0.5,0
EXP    1,0      ;Take square root of sum
;////////////////////////////////
wrax DACr,0
```

