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XFFSIN: LEA XFFSIN, A3 → fonction sin pour $x < 0$ mais précision faible
 BRA GAP64 si $|x| \ll 1$

XFFTAN: LEA XFFTAN, A3
 BRA GAP64

① Entrée $x = \langle A0 \rangle$ 99

Pose en libre $\langle A2 \rangle = \sin(x)$ précision 99
 $D6^3 \equiv \lambda$

Alti- $\langle A0 \rangle$ d'entrée est divisé par 2
BSR XFFTWO
BVS CFLRE

pose x si x trop petit

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XFFSIN: ADDQ #1, (A0)
        MOVE.L A6, -(SP)
XFFSN1: BSR XFLDVP
        MOVE.L A2, A0
        MOVE TPREG, D1
        CMP #43, D1
        BLE ML75
    
```

$u = \frac{x}{2}$
 $\langle A2 \rangle = A6$

et $D0 \equiv \lambda \pmod{4}$

$\mu = \frac{\lambda \pi}{4} + \frac{1}{2} \lambda'$
 $\left\{ \frac{\pi}{4} - \lambda' \right.$
 $\lambda = 0, 2 \rightarrow 0, 2$
 $\lambda = 1, 3 \rightarrow 1, 3$

x → calcul par polynome

calcul par série

```

SUBQ #1, (A0)
        BSR XUNFL
        MOVE.L A2, A0
        BSR XASIN
        MOVE.L A2, A0
        BSR XFLOR
    
```

→ $\frac{\pi}{4}$

$\sin(\frac{\pi}{4})$

en flottant

$\lambda \equiv$	Angle
0	$\sin(2\pi')$
1	$\sin(2\pi')$
2	$-\sin(2\pi')$
3	$-\sin(2\pi')$

```

ML73: MOVE (SP)+, D6
        CMP #2, D6
        BLE ML74
        ADDQ #2, A2
        CHGS
        SUBQ #2, A2
    
```

change le signe si $\lambda \equiv 2$ ou $3 \pmod{4}$

```

ML74: BRA KL860
    
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ML75: BSR XFFTG1
        MOVE.L A2, A0
        MOVE.L A0, -(SP)
        MOVE.L A0, A1
        BSR XFLMUL
        MOVE.L A2, A0
        LEA TCONSFL1, A1
        BSR XFLADD
        MOVE.L A2, A1
        MOVE.L (SP)+, A0
        BSR XFLDIV
        SUBQ #1, (A2)
        BRA ML73
    
```

$\langle A2 \rangle = \tan(u)$

t^2

$\langle A1 \rangle = 1$

$1+t^2$

t

$\frac{t}{1+t^2}$

$\frac{2t}{1+t^2}$

①

Entrée $x = \langle A0 \rangle$ qq (voir ①150)

Pose en libre $\langle A2 \rangle = \text{tg}(x)$ précision qq

② si calcul par série $\langle A0 \rangle$ est divisé par 2

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XFFTAN1: MOVE TPREC, D0
          MOVE.L A6, -(SP)
          CMP #43, D0
          BGT ML7F
  
```

calcul par polynome ↓

$\text{tg}(x) = \frac{\sin(x)}{\cos(x)}$

```

ML7F MOVE.L A0, (SP)
     BSR XFFSIN
     MOVE.L (SP)+, A0
     BSR XFFCOS
     MOVE.L (SP), A0
     MOVE.L A2, A1
     BSR XFLDIV
     BRA KL860
  
```

sin x

SUBQ #1, (A0) remet x

sin x

cos x

ok

```

ML73: BSR XFLDVP
      MOVE D0, -(SP)
      MOVE.L A2, A0
      BSR XFFTG1
      MOVE (SP), D0
      BEQ ML73
      CMP #3, D0
      BEQ ML73
      MOVE.L A2, A0
      BSR XFLINV
      BRA ML73
  
```

$\langle A0 \rangle$ A6
... $\lfloor \frac{x}{\pi} \rfloor$
 $D0 \equiv \lambda \pmod{4}$

$x = \lambda \frac{\pi}{4} + \begin{cases} r' & \lambda = 0, 2 \\ (\frac{\pi}{4} - r') & \lambda = 1, 3 \end{cases}$

λ	sin(x)
0	$\text{tg}(r')$
1	$1/\text{tg}(r')$
2	$-1/\text{tg}(r')$
3	$-\text{tg}(r')$

cas $\lambda \equiv 1$ ou 2
 $y = 1/\text{tg}(r')$

change le signe si $\lambda \equiv 2, 3$