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10 ; Amstrad background music
20 ; (c) 1985 Myles Dunlop
30 ;
40 ORG $A000
50 TICKER: DEFS 6
60 EBLOCK: DEFS 7
70 POINTR: DEFS 6
80 DELAY: DEFS 3
90 DATA: DEFS 6
100 NCHAN: DEFS 0
110 TEMPO: DEFW 0
120 VOLUME: DEFS 6
130 DEL: DEFW 0
140 MUSON: CALL RESMP
150 CALL RESSND
160 LD C,60
170 LD A,7
180 CALL $BD34
190 LD HL,EBLOCK
200 LD B,129
210 LD DE,MUSIC
220 CALL $BDEF
230 LD HL,TICKER
240 LD DE,30
250 LD BC,(TEMPO)
260 CALL $BDEF
270 RET
280 MUSOFF: LD HL,TICKER
290 CALL $BDOA
300 CALL $BDEF
310 RESSND: LD D,3
320 RESSN2: LD A,7
330 ADD A,D
340 LD C,0
350 CALL $BD34
360 DEC D
370 JR NZ,RESSN2
380 RET
390 RESMP: LD HL,(DATA)
400 LD (POINTR),HL
410 LD HL,(DATA+2)
420 LD (POINTR+2),HL
430 LD HL,(DATA+4)
440 LD (POINTR+4),HL
450 LD A,1
460 LD (DELAY),A
470 LD (DELAY+1),A
480 LD (DELAY+2),A
490 RET
500 MUSIC: LD HL,DELAY
510 LD BC,DATA
520 LD DE,POINTR
530 XOR A
540 CALL MUSIC2
550 LD A,(NCHAN)
560 CP 1
570 RET Z
580 LD A,1
590 INC HL
600 INC BC
610 INC BC
620 INC DE
630 INC DE
640 CALL MUSIC2
650 LD A,(NCHAN)
660 CP 2
670 RET Z
680 LD A,2
690 INC HL
700 INC BC
710 INC BC
720 INC DE
730 INC DE
740 CALL MUSIC2
750 RET

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760 MUSIC2: DEC (HL)
770 RET NZ
780 PUSH HL
790 PUSH BC
800 PUSH DE
810 PUSH AF
820 LD (DEL),HL
830 LD A,(DE)
840 LD L,A
850 INC DE
860 LD A,(DE)
870 LD H,A
880 INC HL
890 INC HL
900 LD A,H
910 LD (DE),A
920 DEC DE
930 LD A,L
940 LD (DE),A
950 LD A,(HL)
960 CP 0
970 JR NZ,MUSIC3
980 LD A,(BC)
990 LD (DE),A
1000 INC DE
1010 INC BC
1020 LD A,(BC)
1030 LD (DE),A
1040 LD A,1
1050 LD HL,(DEL)
1060 LD (HL),A
1070 MUSIC6: POP AF
1080 PUSH AF
1090 ADD A,8
1100 LD C,0
1110 CALL $BD34
1120 MUSIC4: POP AF
1130 POP DE
1140 POP BC
1150 POP HL
1160 RET
1170 MUSIC3: BIT 7,A
1180 JR Z,MUSIC5
1190 RES 7,A
1200 LD BC,(DEL)
1210 LD (BC),A
1220 JR MUSIC6
1230 MUSIC5: LD BC,(DEL)
1240 LD (BC),A
1250 INC HL
1260 PUSH HL
1270 LD A,(HL)
1280 AND 240
1290 SRL A
1300 LD E,A
1310 SLA A
1320 ADD A,E
1330 LD E,A
1340 LD D,0
1350 LD HL,NOTDAT
1360 ADD HL,DE
1370 LD B,H
1380 LD C,L
1390 POP HL
1400 LD A,(HL)
1410 AND 15
1420 LD E,A
1430 SLA E
1440 LD H,B
1450 LD L,C
1460 ADD HL,DE
1470 POP AF
1480 PUSH AF
1490 SLA A
1500 PUSH AF
1510 LD C,(HL)
1520 CALL $BD34
1530 POP AF
1540 INC A

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1550 INC HL
1560 LD C,(HL)
1570 CALL $BD34
1580 POP AF
1590 PUSH AF
1600 LD HL,VOLUME
1610 LD E,A
1620 LD D,0
1630 ADD HL,DE
1640 ADD A,8
1650 LD C,(HL)
1660 CALL $BD34
1670 JR MUSIC4
1680 NOTDAT: DEFW $0777,$070C
1690 DEFW $06A7,$0647
1700 DEFW $05ED,$0598
1710 DEFW $0547,$04FC
1720 DEFW $04D4,$0470
1730 DEFW $0431,$03F4
1740 ;
1750 DEFW $03DC,$0386
1760 DEFW $0353,$0324
1770 DEFW $02F6,$02CC
1780 DEFW $02A4,$027E
1790 DEFW $025A,$0238
1800 DEFW $0218,$01FA
1810 ;
1820 DEFW $1DE,$1C3
1830 DEFW $1AA,$192
1840 DEFW $17B,$166
1850 DEFW $152,$13F
1860 DEFW $12D,$11C
1870 DEFW $10C,$FD
1880 ;
1890 DEFW $EF,$E1
1900 DEFW $D5,$C9
1910 DEFW $BE,$B3
1920 DEFW $A9,$9F
1930 DEFW $96,$8E
1940 DEFW $86,$7F
1950 ;
1960 DEFW $77,$71
1970 DEFW $6A,$64
1980 DEFW $5F,$59
1990 DEFW $54,$50
2000 DEFW $4B,$47
2010 DEFW $43,$3F
2020 ;
2030 DEFW $3C,$38
2040 DEFW $35,$32
2050 DEFW $2F,$2D
2060 DEFW $2A,$28
2070 DEFW $26,$24
2080 DEFW $22,$20
2090 ;
2100 ; add extension commands
2110 ;
2120 LOGRSX: LD BC,COMTAB
2130 LD HL,SPACE
2140 CALL $BCD1
2150 RET
2160 SPACE: DEFS 4
2170 COMTAB: DEFW NTABLE
2180 JP MONRSX
2190 JP MUSOFF
2200 JP PAUSE
2210 JP CONT
2220 JP VOLRSX
2230 NTABLE: DEFW "MUSI"
2240 DEFW "C","D","N"+128
2250 DEFW "MUSI"
2260 DEFW "C","D","F","F"+128
2270 DEFW "PAUS"
2280 DEFW "E"+128
2290 DEFW "CONT"
2300 DEFW "I","N","U","E"+128
2310 DEFW "VOLU"
2320 DEFW "M","E"+128
2330 DEFW 0

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2340 ;
2350 ; music-on
2360 ;
2370 MONRSX: PUSH AF
2380 PUSH IX
2390 CALL MUSOFF
2400 POP IX
2410 POP AF
2420 CP 2
2430 RET C
2440 CP 5
2450 RET NC
2460 CP 2
2470 JR Z,MON5
2480 CP 3
2490 JR Z,MON4
2500 LD A,3
2510 LD (NCHAN),A
2520 LD L,(IX)
2530 LD H,(IX+1)
2540 LD (DATA+4),HL
2550 INC IX
2560 INC IX
2570 MON3: LD L,(IX)
2580 LD H,(IX+1)
2590 LD (DATA+2),HL
2600 INC IX
2610 INC IX
2620 MON2: LD L,(IX)
2630 LD H,(IX+1)
2640 LD (DATA),HL
2650 INC IX
2660 INC IX
2670 LD A,(IX)
2680 LD (TEMPO),A
2690 CALL MUSON
2700 RET
2710 MON4: LD A,2
2720 LD (NCHAN),A
2730 JR MON3
2740 MON5: LD A,1
2750 LD (NCHAN),A
2760 JR MON2
2770 ;
2780 ; PAUSE
2790 ;
2800 PAUSE: CALL RESSND
2810 LD HL,EBLOCK
2820 CALL $BDOA
2830 RET
2840 ;
2850 ; CONTINUE
2860 ;
2870 CONT: XOR A
2880 LD (EBLOCK+2),A
2890 RET
2900 ;
2910 ; VOLUME
2920 ;
2930 VOLRSX: CP 0
2940 RET Z
2950 CP 4
2960 RET NC
2970 CP 1
2980 JR Z,VOL2
2990 CP 2
3000 JR Z,VOL3
3010 LD A,(IX)
3020 LD (VOLUME+2),A
3030 INC IX
3040 INC IX
3050 VOL3: LD A,(IX)
3060 LD (VOLUME+1),A
3070 INC IX
3080 INC IX
3090 VOL2: LD A,(IX)
3100 LD (VOLUME),A
3110 RET

```

10 REM machine code loader

20 check=0

30 FOR I=&A000 to &A2A0

40 READ J:check=check+J

50 NEXT

1000 DATA 0,0,0,0,0,0,0,0,0

1010 DATA 0,0,0,0,0,0,0,0,0

1020 DATA 0,0,0,0,0,0,0,0,0

1030 DATA 0,0,0,0,0,0,0,0,0

1040 DATA 0,0,0,0,0,0,0,0,205

1050 DATA 100,160,205,86,160,14,60,62

1060 DATA 7,205,52,189,33,6,160,6

1070 DATA 129,17,130,160,205,239,188,33

1080 DATA 0,160,17,30,0,237,75,29

1090 DATA 160,205,233,188,201,33,0,160

1100 DATA 205,10,189,205,236,188,22,3

1110 DATA 62,7,130,14,0,205,52,189

1120 DATA 21,32,245,201,42,22,160,34

1130 DATA 13,160,42,24,160,34,15,160

1140 DATA 42,26,160,34,17,160,62,1

1150 DATA 50,19,160,50,20,160,50,21

1160 DATA 160,201,33,19,160,1,22,160

1170 DATA 17,13,160,175,205,176,160,58

1180 DATA 28,160,254,1,200,62,1,35

1190 DATA 3,3,19,19,205,176,160,58

1200 DATA 28,160,254,2,200,62,2,35

1210 DATA 3,3,19,19,205,176,160,201

1220 DATA 53,192,229,197,213,245,34,37

1230 DATA 160,26,111,19,26,103,35,35

1240 DATA 124,18,27,125,18,126,254,0

1250 DATA 32,26,10,18,19,3,10,18

1260 DATA 62,1,42,37,160,119,241,245

1270 DATA 198,8,14,0,205,52,189,241

1280 DATA 209,193,225,201,203,127,40,9

1290 DATA 203,191,237,75,37,160,2,24

1300 DATA 229,237,75,37,160,2,35,229

1310 DATA 126,230,240,203,63,95,203,39

1320 DATA 131,95,22,0,33,53,161,25

1330 DATA 68,77,225,126,230,15,95,203

1340 DATA 35,96,105,25,241,245,208,39

1350 DATA 245,78,205,52,189,241,60,35

1360 DATA 78,205,52,189,241,245,33,31

1370 DATA 160,95,22,0,25,198,8,78

1380 DATA 205,52,189,24,170,119,7,12

1390 DATA 7,167,6,71,6,237,5,152

1400 DATA 5,71,5,252,4,212,4,112

1410 DATA 4,49,4,244,3,220,3,134

1420 DATA 3,89,3,36,3,246,2,204

1430 DATA 2,164,2,126,2,90,2,56

1440 DATA 2,24,2,250,1,222,1,195

1450 DATA 1,170,1,146,1,123,1,102

1460 DATA 1,82,1,63,1,45,1,28

1470 DATA 1,12,1,253,0,239,0,225

1480 DATA 0,213,0,201,0,190,0,179

1490 DATA 0,169,0,159,0,150,0,142

1500 DATA 0,134,0,127,0,119,0,113

1510 DATA 0,106,0,100,0,95,0,89

1520 DATA 0,84,0,80,0,75,0,71

1530 DATA 0,67,0,63,0,60,0,56

1540 DATA 0,53,0,50,0,47,0,45

1550 DATA 0,42,0,40,0,38,0,36

1560 DATA 0,34,0,32,0,1,211,161

1570 DATA 33,207,161,205,209,188,201,0

1580 DATA 0,0,0,228,161,195,7,162

1590 DATA 195,77,160,195,98,162,195,108

1600 DATA 162,195,113,162,77,85,83,73

1610 DATA 67,79,206,77,85,83,73,67

1620 DATA 79,70,198,80,65,85,83,197

1630 DATA 67,79,78,84,73,78,85,197

1640 DATA 86,79,76,85,77,197,0,245

1650 DATA 221,229,205,77,160,221,225,241

1660 DATA 254,2,216,254,5,208,254,2

1670 DATA 40,65,254,3,40,54,62,3

1680 DATA 50,28,160,221,110,0,221,102

1690 DATA 1,34,26,160,221,35,221,35

1700 DATA 221,110,0,221,102,1,34,24

1710 DATA 160,221,35,221,35,221,110,0

1720 DATA 221,102,1,34,22,160,221,35

1730 DATA 221,35,221,126,0,50,29,160

1740 DATA 205,39,160,201,62,2,50,28

1750 DATA 160,24,213,62,1,50,28,160

1760 DATA 24,219,205,86,160,33,6,160

1770 DATA 205,10,189,201,175,50,8,160

1780 DATA 201,254,0,200,254,4,208,254

1790 DATA 1,40,24,254,2,40,10,221

1800 DATA 126,0,50,33,160,221,35,221

1810 DATA 35,221,126,0,50,32,160,221

1820 DATA 35,221,35,221,126,0,50,31

1830 DATA 160,201,0,0,0,0,0,0

3000 IF check() 60526 THEN PRINT"

error in data"

```
10 REM ** music test prog **
20 MEMORY &8FFF
30 a=&9000
40 FOR octave=0 TO 5
50 FOR note=0 TO 11
60 POKE a,1
70 POKE a+1,16*octave+note
80 a=a+2:NEXT note,octave
90 POKE a,0
100 :VOLUME,15
110 :MUSICON,15,&9000-2
```

' start of data

' set duration

' set octave & note number

' set end of data marker

```
10 REM ** background music demo **
20 REM ** By Myles Dunlop **
30 REM
35 CLS:PRINT"Please wait..."
40 MEMORY &9FFF:LOAD "!",&A000:CALL &A1C5
50 a=&A300:GOSUB 1000
60 a=&A380:GOSUB 1000
70 !VOLUME,15,15
80 !MUSICON,10,&A300-2,&A380-2
90 MODE 2:LIST
1000 READ b:IF b=-1 THEN RETURN
1010 POKE a,b:a=a+1:GOTO 1000
1020 REM
1030 REM channel 1 data
1040 DATA 152,0,3,&37,131,0,134,0,3,&37,136,0,1,&37,3,&40,1,&3b,1,&39,1,&3b
1050 DATA 2,&40,4,&37,3,&40,1,&3b,1,&39,1,&3b,2,&40,4,&37,3,&40,1,&3b,1,&39
1060 DATA 1,&3b,2,&40,3,&37,141,0,0,-1
1070 REM
1080 REM channel 2 data
1090 DATA 3,&34,3,&32,6,&30,3,&34,3,&32,6,&30,131,0,3,&35,6,&34,131,0,3,&35
1100 DATA 5,&34,129,0,3,&34,3,&32,6,&30,3,&34,3,&32,6,&30,3,&34,3,&32,3,&30
1110 DATA 130,0,1,&35,3,&34,3,&32,6,&30,0,-1
```