

THE MUSIC SYSTEM

THIS IS DESIGNED TO PLAY TUNES INPUT ON PAPER TAPE ON THE 903 INTERNAL LOUDSPEAKER IN A SIMILAR WAY TO THE MAESTRO SYSTEM DESCRIBED ELSEWHERE. IT HAS SEVERAL ADVANTAGES OVER THE MAESTRO SYSTEM:-

- A. THE TONE IS VERY MUCH CLEARER.
- B. A GREATER RANGE OF NOTES IS AVAILIABLE. THE LOWEST USABLE NOTE IS MIDDLE C, THE HIGHEST IS E FLAT 28 SEMITONES HIGHER.
- C. FAR HIGHER SPEEDS ARE AVAILIABLE.

EACH TUNE CONSISTS OF A NUMBER OF NOTES, EACH ON A SEPARATE LINE. EACH NOTE IS REPRESENTED BY TWO INTEGERS. THE FIRST CORRESPONDS TO THE PITCH THE SECOND TO THE LENGTH.

PITCH

UNFORTUNATELY IT HAS NOT BEEN POSSIBLE TO DETERMINE AN EQUATION FOR THE RELATIONSHIP OF THE PITCH PRODUCED TO THE NUMBER REQUIRED TO GENERATE IT. IT IS NOT A LINEAR RELATIONSHIP. A TABLE BELOW GIVES A SET OF EXPERIMENTAL RESULTS. THE DIFFERENCE, THOUGH, BETWEEN SUCCEEDING TERMS OF THE SERIES DECREASES CONSIDERABLY THE HIGHER THE PITCH, AND AS ONLY INTEGERS ARE ALLOWED, THESE UPPER NOTES ARE APT TO BE OUT OF TUNE.

LENGTH

THE LENGTH OF THE NOTE PRODUCED IS DEPENDANT ON THE PITCH. THEREFORE TO GENERATE A MIDDLE C OF LENGTH ONE SECOND, A LONGER INTEGER FOR THE LENGTH ENTRY IS REQUIRED THAN TO PRODUCE A NOTE AN OCTAVE ABOVE FOR THE SAME LENGTH OF TIME. A LENGTH TABLE FOR ONE SECOND IS ALSO GIVEN OVERLEAF. THIS PLACES A RESTRICTION ON THE HIGHER NOTES, AS NOTES FOR MORE THAN ABOUT THIRTY SECONDS CAUSE AN INTEGER OVERFLOW.

THIS METHOD OF WRITING OUT NOTES IS RATHER TEDIOUS, AND THERE IS NOW A TRANSLATOR TO PRODUCE THE TUNE IN THIS FORMAT AUTOMATICALLY SO THAT THE USER CAN USE A RATHER EASIER FORM OF NOTATION.

USE OF MUSIC SYSTEM.

THE MASTER SOB MUSIC TAPE IS LOADED AT INITIAL INSTRUCTION(8181) THE TAPE CONTAINING THE TUNE TO BE PLAYED IS THEN LOADED AT 33. TO REPEAT THE TUNE, THE TAPE WILL HAVE TO BE RELOADED.

RELATIONSHIP BETWEEN PITCH & LENGTH.
 PITCH LENGTH FOR 1SEC DURATION.

NOTE
 E FLAT
 D
 C SHARP
 C
 B
 B FLAT
 A
 A FLAT
 G
 F SHARP
 F
 E
 E FLAT
 D
 C SHARP
 C
 B
 B FLAT
 A
 A FLAT
 G
 F
 F SHARP
 E
 E FLAT
 D
 C SHARP
 C(MIDDLE)

0
 2
 4
 7
 10
 13
 16
 19
 23
 27
 31
 36
 40
 45
 51
 61
 67
 74
 81
 92
 104
 115
 127
 141
 160
 181
 226
 245

11100
 13000
 13000
 9090
 9090
 8300
 7700
 7140
 6670
 6250
 5880
 5550
 5260
 5000
 4540
 4000
 3850
 3570
 3330
 3030
 2780
 2560
 2380
 2170
 1960
 1790
 1560
 1390

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