Keypad Sound Tape Interface Schematic

~ 1200Hz / 2400Hz FSK

Bleep Sound (FSK div 2)

PIA_PB0 — Tape Out

R12 10K

U3 TS12A4514P

+5V

R1 1K

R3 56K   **R2** 56K

U2 NE555P
- TR 2
- CV 5
- R 4
- VCC 8
- Q 3
- DIS 7
- THR 6
- GND 1

C3 10nf Polyester

C6 100nf

U6B 74HCT74
- D 12
- C 11
- R 13
- S 10
- Q 9
- Q̄ 8

PIA_PB6 — Sound Enable

R6 4K7

R10 10K

RV1 500 Volume

C7 100nf

U1 LM386

C1 220μf

LS1 Speaker

C8 100nf

R13 10

RV2 10K   Adjust for 312μs

C4 47nf

R11 10K

U5A 74HCT123
- RCext 15
- Cext 14
- A 1
- B 2
- Clr 3
- Q 13
- Q̄ 4

J6 Conn_01x01   **J5** Conn_01x01   Test Points

U6A 74HCT74
- D 2
- C 3
- R 1
- S 4
- Q 5
- Q̄ 6

PIA_PB7 — Tape In

U4A LM358

C9 100nf   **R4** 6K8

TAPE_OUT

R5 2K2

TAPE_IN

C5 100nf

U4B LM358

R7 4K7   **R8** 47K

C2 10μf   **R9** 3K3

+5V

C10 100nf   **C11** 100nf   **C12** 100nf   **C13** 100nf   **C14** 100nf

One Bypass Capacitor, located adjacent to IC power pins.

U4C LM358
- V+ 8
- V- 4

U5C 74HCT123
- VCC 16
- GND 8

U6C 74HCT74
- VCC 14
- GND 7

J3 Conn_RCA-105A   TAPE_OUT

J4 Conn_RCA-105A   TAPE_IN

J2 Conn_02x12_Odd_Even

PIA_PA0	1	2	PIA_PA1
PIA_PA2	3	4	PIA_PA3
PIA_PA4	5	6	PIA_PA5
PIA_PA6	7	8	PIA_PA7
PIA_CA1	9	10	PIA_CA2
PIA_PB0	11	12	PIA_PB1
PIA_PB2	13	14	PIA_PB3
PIA_PB4	15	16	PIA_PB5
PIA_PB6	17	18	PIA_PB7
PIA_CB1	19	20	PIA_CB2
	21	22	
	23	24	

PIA Interface

J1 Conn_01x09

PIA_PA3	9
PIA_PA2	8
PIA_PA1	7
PIA_PA0	6
PIA_CA2	5
PIA_PA4	4
PIA_PA5	3
PIA_PA6	2
PIA_PA7	1

5x4 Matrix Keypad Input

Spare (terminated as unused)

U5B 74HCT123
- RCext 7
- Cext 6
- A 9
- B 10
- Clr 11
- Q 5
- Q̄ 12

H1 MountingHole   **H5** MountingHole
H2 MountingHole   **H6** MountingHole
H3 MountingHole   **H7** MountingHole
H4 MountingHole   **H8** MountingHole