

### ◆ Features

- \* Full and pure natural harmonic sound effect , maximum at 512 musical notations
- \* Built in audio amplifier , do not need transistor on output for sound amplifier
- \* Built in 1 LED flash circuit , flash speed follows sound output of melody tempo
- \* Built in alone motor driver signal output ( MD pin ) , not be effect to sound quality during motor is derived
- \* 5 kinds different trigger mode by MODE & SL pins :
  - Power on/off control mode
  - One shot non re-trigger mode
  - One shot re-trigger mode
  - On/off switch mode ( TG key control sound on or off )
  - Single touch plays all songs mode ( one touch TG pin playing all tunes )

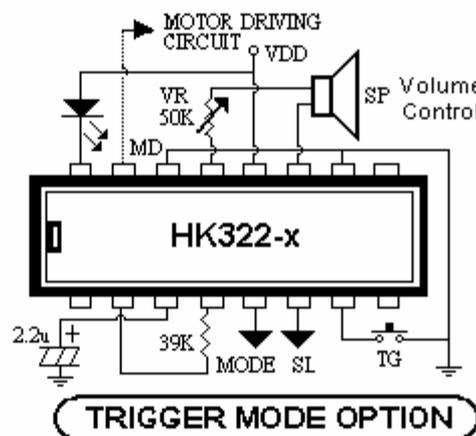
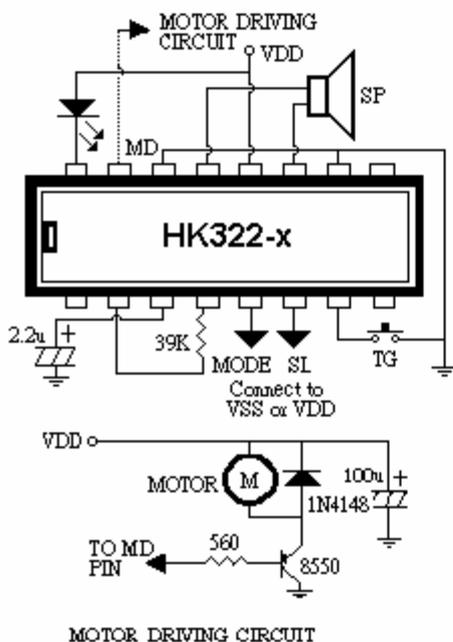
### ◆ Application

- \* Toys , Clock melody , Key chain , Musical box

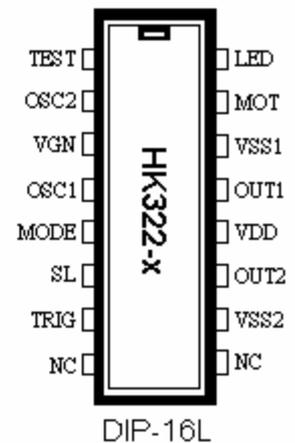
### ◆ Electrical Characteristics

Characteristics	Sym.	Min.	Typ.	Max.	Unit	Remark
Operating voltage	V <sub>DD</sub>	1.8	3.0	5.2	V	
Operating current	I <sub>OP</sub>	----	0.1	0.5	mA	
Stand by current	I <sub>SB</sub>	----	0.4	1	uA	
Oscillator frequency	F <sub>OSC</sub>	----	500	----	KHz	± 30% R <sub>osc</sub> = 39KΩ
Operating temperature	T <sub>EMP</sub>	0	25	60	°C	
Driving current	I <sub>O</sub>	----	18	----	mA	@ V <sub>DS</sub> =1V

### ◆ Application circuit

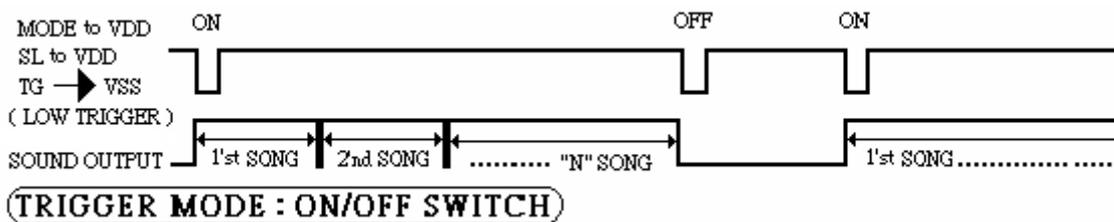
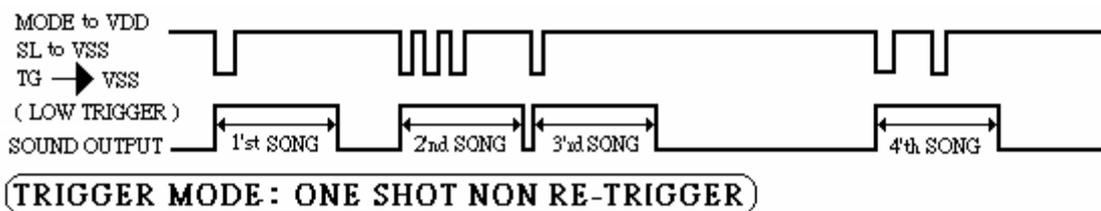
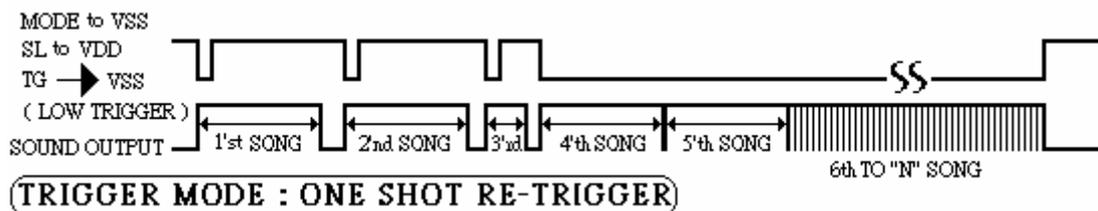
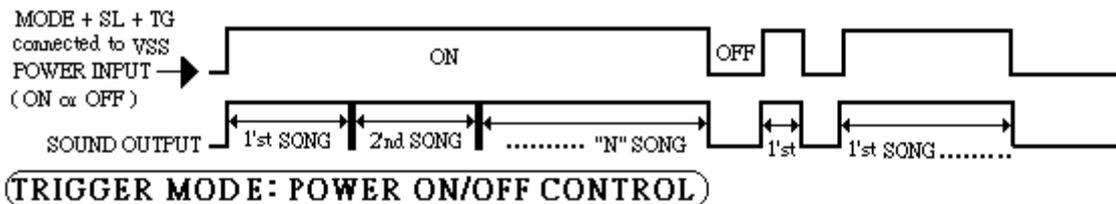


MODE	SL	Trigger Mode
VSS	VSS	POWER ON/OFF ( TG = VSS )
VSS	VDD	ONE SHOT RE -TRIGGER (by TG pin touch )
VDD	VSS	ONE SHOT NON RE-TRIGGER ( by TG pin touch )
VDD	VDD	ON / OFF SWITCH ( by TG pin touch )
VSS	VSS	PLAY ALL SONGS ( by TG pin touch )



★ Package Type : DIP-16L

★ Trigger Mode and Timing Chart :



## ◆ Song list

### HK322-1:

1. JINGLE BELLS
2. O CHRISTMAS TREE
3. SILENT NIGHT
4. DECK THE HALLS
5. THE FIRST NOEL
6. JOY TO THE WORLD
7. WE WISH YOU A MERRY CHRISTMAS
8. HARK! THE HERALD ANGELS SING

### HK322-2:

1. BRAHM'S LULLABY
2. TWINKLE TWINKLE LITTLE STAR
3. ARE YOU SLEEPING
4. LONDON BRIDGE IS FALLING DOWN
5. THREE BLIND MICE
6. ROCK BYE BABY

### HK322-3:

1. EASTER PA RADE
2. PETER COTTON TAIL
3. AMERICAN PATROL

### HK322-6:

1. LOVE ME TENDER
2. LET ME CALL YOU SWEETHEART
3. YOU ARE MY SUNSHINE
4. SILVER THREADS AMONG THE GOLD
5. LOVE'S OLD SWEET SONG ( BY  
JAMES LYMAN MOLLOY )
6. I LOVE YOU ( BY BEETHOVEN )