3" VOICE ROM

Features

- Single power supply can operate at 2.4V through 4.5V.
- Current output can drive 8 ohm speaker with a transistor.
- The voice content is stored up to 3.5 seconds (5100h) and can be separated to 8 sections.
- Five trigger input pins are provided. Each trigger pin can access a sentence instead of a simple section. A sentence is composed of one or more sections, or table entries.
- Duration of sections with appended memory-less mute is up to 22 seconds (20000h).
- Higher key priority is provided.
- Last key priority is provided.
- Up to 192 table entries for all sentences.
- Auto ramp up / ramp down & sleep functions are built in.
- Playnext OKY is provided optionally chipwise.
- Continuous S.W.A.I. OKY is provided optionally chipwise.
- Home S.W.A.I. OKY is provided optionally chipwise.
- Off LED when Playing audio is provided optionally entrywise.
- 3/6/12 Hz Ring LED when playing audio is provided optionally entrywise.
- Dynamic flash LED when playing audio is provided optionally entrywise.
- 3Hz fix flash LED when playing audio is provided optionally entrywise.

- 6Hz fix flash LED when playing audio is provided optionally entrywise.
- On LED when playing audio is provided optionally entrywise.
- High busy when playing audio is provided optionally entrywise.
- Low busy when playing audio is povided optionally entrywise.
- DC high (when playing audio and lasting to next trigger) is provided optionally entrywise.
- DC low(when playing audio and lasting to next trigger) is provided optionally entrywise.
- Low Stop after playing audio is provided optionally entrywise.
- High Stop after playing audio is provided optionally entrywise.
- OKY's sentences could be different from those from TGS'.
- 8 loudness levels are provided entrywise.
- 8 different pitches are provided entrywise.
- Edge trigger is provided optionally triggerwise.
- Level trigger is provided optionally triggerwise.
- Holdable output by TG is provided optionally triggerwise.
- Retriggerrable TG by itself is provided optionally triggerwise.
- High trigger is provided optionally triggerwise.
- Low trigger is provided optionally trigger wise.

Description

The MSS0306 is a monolithic CMOS VLSI ASIC that can memorize voice up to 3.5 seconds   (at 6KHz S.R.) using MOSEL qualified coding method (MPCM-4) in 8 sections. Both the volume and pitch can be different for each entry each sentence. 3 versatile outputs are available through programmable logic array. Most of the necessary circuit are built in like oscillator, ROM, DAC and interface logic. Customer voice data will be edited and built in by mask programming during the device fabrication.

Mask Option

■ Either LED function or STATUS function for OUT X pin.
■ Either LED function or STATUS function for OUT Y pin.
■ Either LED function or STATUS function for OUT Z pin.
■ Either initial low or inital high for OUT X pin.
■ Either initial low or inital high for OUT Y pin.
■ Either initial low or inital high for OUT Z pin.
■ Among (0) on LED (1) 3Hz Ring (2) dynamic flash (3) 6Hz Ring (4) 12Hz Ring (5) 3Hz fix flash (6) 6Hz fix flash (7) off LED for LED selection when playing audio for every entry.
■ Among (0) high busy (1) low busy (2) DC high (3) reserved (4) reserved (5) DC low (6) low stop (7) high stop for STATUS selection for every entry.
■ Either TG5 or OKY for TG5/OKY pin.
■ Either Continuous S.W.A.I. or Home S.W.A.I. for PLAYNEXT selection. S.W.A.I. means sequence when after interrupt occured.
■ Either small loop or large loop for OKY cycle.
■ 8 loudness levels 7, 6, 5, 4, 3, 2, 1, 0 for each sentence each entry.
■ 8 different pitches 7, 6, 5, 4, 3, 2, 1, 0 for each sentence each entry.
■ Either Edge or Level trigger type for TG1 pin.
■ Either Edge or Level trigger type for TG2 pin.
■ Either Edge or Level trigger type for TG3 pin.
■ Either Edge or Level trigger type for TG4 pin.
■ Either Edge or Level trigger type for TG5/OKY pin.
■ Either active high or active low for TG1 pin.
■ Either active high or active low for TG2 pin.
■ Either active high or active low for TG3 pin.
■ Either active high or active low for TG4 pin.
■ Either active high or active low for TG5/OKY pin.
■ Among (a) Holdable & Irretrigger & No stop (b) Unhold & Irretrigger (c) Unhold & Retrigger for TG1 pin.
■ Among (a) Holdable & Irretrigger & No stop (b) Unhold & Irretrigger (c) Unhold & Retrigger for TG2 pin.
■ Among (a) Holdable & Irretrigger & No stop (b) Unhold & Irretrigger (c) Unhold & Retrigger for TG3 pin.
■ Among (a) Holdable & Irretrigger & No stop (b) Unhold & Irretrigger (c) Unhold & Retrigger for TG4 pin.
■ Among (a) Holdable & Irretrigger & No stop (b) Unhold & Irretrigger (c) Unhold & Retrigger for TG5/OKY pin.

Block Diagram
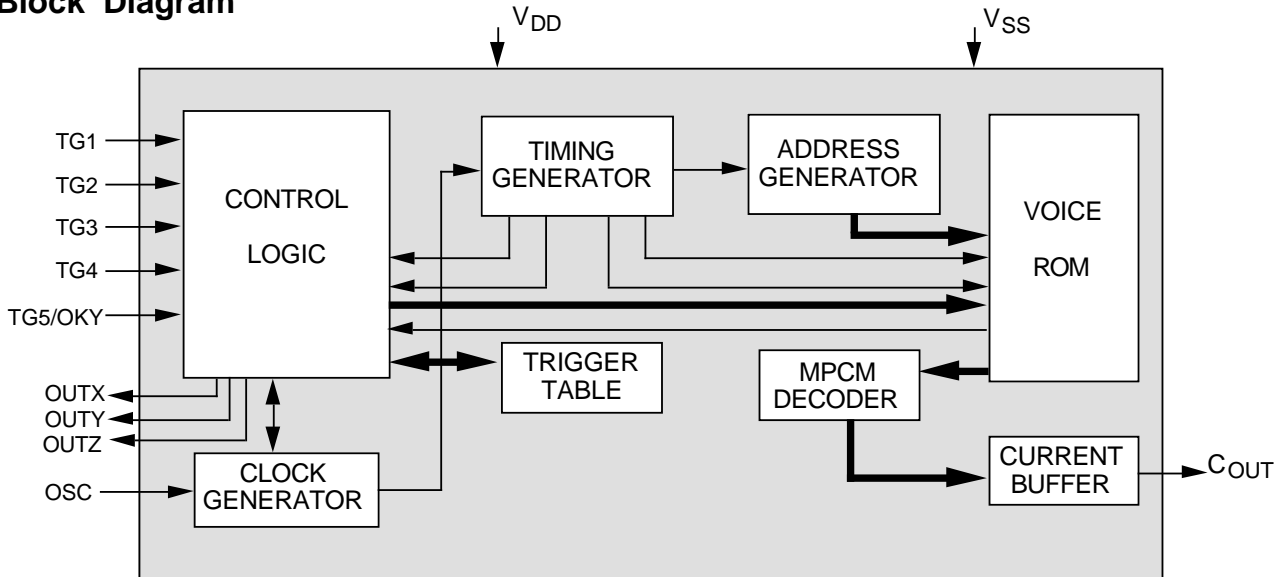
Pad Description

Pad No.	Signal Name	I/O	Function
1	V_{DD}	Power	Positive power supply
2	OUTZ	O	Status (STOP/BUSY) or LED output
3	C_{OUT}	O	Audio signal current output (for speaker)
4	OUTY	O	Status (STOP/BUSY) or LED output
5	OUTX	O	Status (STOP/BUSY) or LED output
6	V_{SS}	Power	Negative power supply
7	OSC	I	Oscillator resistor input
8	NC	NC	No connection
9	TG5/OKY	I	Tirgger 5 or One-key input, high active or low active, mask optional
10	TG4	I	Trigger 4 input, high active or low active, mask optional
11	TG3	I	Trigger 3 input, high active or low active, mask optional
12	TG2	I	Trigger 2 input, high active or low active, mask optional
13	TG1	I	Trigger 1 input, high active or low active, mask optional

Signals

Cout

Cout is tristate during standby.

Cout has zero current output when sound data is zero. Cout has full current output when sound data is the highest. Cout has half of full current output when sound is silence at middle data value. Cout has half of full current output when playing sound at appended memory-less mute.

The bypass Cout Resistor is used to bypass the audio output current from Cout. This bypassing extra current to ground gives a way to prevent the saturation of audio waveform amplified by transistor. This Resistance is 470 ohm typically. It always is not very small. Or user can let it open if the transistor has a fair beta value.

A transistor with beta value 150 is sufficient for typical applications. Larger beta value get larger sound but may have the amplified waveform saturated.

8 ohm speaker is recommended. The speaker characeristics and housing impacts the loudness very much. When user is using variable loudness, user must carefully calculate the bypass resistance and transistor's beta value due to that the current from Cout may vary very much due to user's specified loudness variance.

Terms

Retriggerable TG
Retriggerable TGm means the sentence addressed by TGm could be retriggerred by other TGs.
See Timing diagrams. Of course, it can be retriggered by itself. See Timing diagrams II.

Hold and Retrigger
This combination allows user controlling both the output and the input.   Its output is holdable and the input could retrigger the former.   This is an exquisite feature, to ensure your application is fit to this feature or not before being manufactured is recommended strongly. Or the user may overshoot the mark and end up with a blunder.
To contact MVI sales representatives is the best solution for this feature.

Small Loop & Large Loop
This is a function belongs to OKY. OKY plays many sentences, up to 32. User can play 1st sentence through 32nd sentence if user selects "large loop". At this time the sentence lst, 2nd, 3rd and 4th may be triggerred by TGs.
User will play 16 sentences, from 17th through 32nd sentence, when user selects "small loop".
User may have less sentences triggered by OKY at this selection. But user definitely can prevent those OKY's sentences triggerred by TGs.

Cycle Loop
This is a count number ranges 1 through 32 which defines the sentence range OKY will play. This number is determined automatically by the sentences user filled, user defined.

Continuous OKY & Home OKY
This is a function belongs to OKY and determines the play sequence when the first OKY comes after any other trigger addressing. The "continuous" preserves the sequence while the "home"rewinds to the very beginning. This very beginning means either 17th sentence or 1st sentence which is determined by Loop Size - small or large.
You will see a term S.W.A.I. in this data sheet, it means sequence when after interrupt by other trigger addressing.

Ring 3 Hz LED
Ring 3 Hz LED had better to mask 3 LED sink pins together. But if user insists, two LED pins or one LED pin could be used to perform this ring function.
LEDX and LEDY must be adopted to perform "Ring" if user specifies 2 LEDs. Adopting LEDX and LEDZ is not guaranteed the performance. Of course adopting LEDY and LEDZ is not guaranteed, either.
LEDX must be adopted to perform "Ring" if user specifies one LED. Neither adopting LEDY nor LEDZ can perform guaranteed function.
Each LED turns on for 333 ms (1/3 second) and turns off for 667 ms (2/3 second).   LEDX turns on first. LEDY turns on immediately after LEDX turns off.   LEDZ turns on immediately after LEDY turns off.   LEDX turns on again immediately after LEDZ turns off.
This 3Hz is sample rate dependent.

Ring 6 Hz LED
It performs what "Ring 3 Hz LED" works except the turn on and off frequency.   Each LED turns on for 1/6 second and turns off for 2/6 seconds.

Ring 12 Hz LED
It performs what "Ring 3 Hz LED" works except the turn on and off frequency.   Each LED turns on for 1/12 second and turns off for 2/12 seconds.

Fix flash LED
Fix 3 Hz flash means this pin turns LED lamp on for 166ms and then turns it off for 166ms alternately. Fix 6 Hz flash means quicker, it turns on 83 ms and then turns off 83 ms. There are up to 3 LED sink pins could be manufactured as user's mask specified. LEDX is synchronous with LEDZ. LEDY shifts 180 degrees phase with LEDX. User can find their timing relationships on timing diagram VI.
These 3Hz as well as 6Hz are sample rate dependent.

Dynamic Flash LED
The LED turns on whenever the sound amplitude is over a certain threshold potential.   Three LEDs (X, Y and Z) have different threshold. LEDX is the easiest to turn on. LEDY's threshold is the highest.   LEDX's is 4/8 of full scale output current.   LEDY's is 7/8 while LEDZ's is 6/8.
For example, A point (a sample pixel) of sound in volume level 90% of full scale output current, it will turn on all three LEDs.   A point in 80% current will turn on LEDX as well as LEDZ.   A point in 70% current will turn on LEDX only. A point in 49% current or less turns no LED on.

Initial high & Initial low
This is a function belongs to OUTs. It defines the state only from power on to the first audio activated. It is effective both for LED and Status.
"Initial low" means user want this OUT pin is put to low

whenever this chip is power on. "Initial high" means vice versa.

Initial high is good for LED because that high will forbid the LED to be turned on, user want not keep the LED light even user don't use very long time since user power on the chip. So, we suggest user to define "initial high" whenever LED is chosen for that OUT pin. But it is not absolutely right. User may on purpose turn it on once user likes it.

Initial low is good for STATUS because that low will have every Status starts from zero on whole time line. So, user are suggested to define "initial low" whenever Status is chosen for that OUT pin. But it is not absolutely right. User may on purpose have a high to do whatever user want, to turn a motor running this way or tell a situation since power on, etc.

DC 0 & DC 1
This is a function belongs to OUTs. User may be confused it with Busy. It is similar to Busy signal but it is not only valid during audio is being played, like Busy, but also valid after the audio has been played. Its response lasts until next audio entry is activated. DC0 means zero potential (Vss) while the DC1 means the Vdd.

Sample Rate
There are some parameters depend on sample rate. They are debounce time, LED Ring frequency, LED fix flash frequency and Stop pulse width. The numbers mentioned in this data sheet are based on 6 KHz sample rate if not specified. Higher SR has LED flashes quicker. Higher SR makes Stop pulse shorter. Higher SR let the debounce time shorter.

This chip provides multi-SR function. What it means is that user can digitize two different sounds in different SR but plays them by a common Rosc. For example, user has rocket sound digitized in 9.5 KHz but have rooster digitized at 6KHz. While manufactured, user just specify different pitch numbers on request form - 4 for rocket and 1 for rooster. The chip could be played those two sounds at a Rosc fit for 6 KHz SR. Because that "pitch 4" at 6 KHz Rosc means 6 KHz playback while "pitch 1" at 6 KHz Rosc meas playback in 1.6 times 6 KHz.

The 1.2 M ohm Rosc playback 6 KHz sample rate typically, but just typical. Smaller Rosc playbacks quicker - Higher pixel rate. MVI provides voice chip with very flat response for playback vs working voltage. Higher working voltage get slower playback but insignificantly.

Stop Pulse
Stop pulse is one of Status definition. There never is this pulse o/p if user defines this o/p pins as LEDs.

This Stop pulse is not guaranteed when user defines the trigger behavior as Holdable. Stop pulse width is determined on the sample rate as well as the pitch of that playing entry when stop pulse occurs.

Higher Key Priority
What's the result when multi triggers are activated simultaneously? Which trigger is acknowledged among these five? Among these four? Among these three? Between these two?

The higher key priority means the trigger with higher index has the priority to be acknowledged and responsed when there are several triggers activated simultaneously.

For example: Three triggers are activated simultaneously, TG1,2,3. The TG3 has the priority, sentence 3 will be responsed.

For another example: Five triggers are activated simultaneously, TG1,2,3,4,5. The TG5 has the priority, sentence 5 will be responsed.

First Key Priority
This feature is not provided on this MSS0306 chip. But it still worth to explain.

This defines the relationship on time line for two or more triggers. While user activating a trigger, for example TG1, and its sound plays, user is unable to activate the other trigger once the TG1 is kept activated regardless TG1's sound is finished or not.

It means first TGn prohibits the acknowledge of latter TGms when TGn is kept true.

Last Key Priority
This defines the relationship on time line for two or more triggers. What will it result when a trigger is activated while a trigger is true ahead and kept true ?

While user already activates a trigger, for example TG1, and keeps this TG1 true, the latter trigger is still able to come in and acknowledged by chip. It means the last trigger is not prohibited by formers.

See timing diagram VII for reference.

User may be confused it with "retrigger". They are different.

Loudness Levels Reference

Mask	Index	I output	Loudness
111	7	100% x Ico	Loudest
110	6	87% x Ico	
101	5	75% x Ico	
100	4	62% x Ico	
011	3	50% x Ico	
010	2	37% x Ico	
001	1	25% x Ico	
000	0	12% x Ico	Least Loud

The precision is +/- 10%

Pitches Reference

Mask	Index	Playback	Playback	Pitch
111	7	73% x Fosc	Fosc / 1.37	Slowest
110	6	80% x Fosc	Fosc / 1.25	
101	5	88% x Fosc	Fosc / 1.13	
100	4	100% x Fosc		Standard
011	3	115% x Fosc		
010	2	133% x Fosc		
001	1	158% x Fosc		
000	0	198% x Fosc		Fastest

The precision is +/- 10%

Absolute Maximum Rating

Symbol	Rating	Unit
$V_{DD} \sim V_{SS}$	-0.5 ~ +7.0	V
V_{IN}	$V_{SS} -0.3 < V_{IN} < V_{DD}+0.3$	V
V_{OUT}	$V_{SS} < V_{OUT} < V_{DD}$	V
T (Operating)	-10 ~ +60	$^{\circ}$C
T (Storage)	-55 ~ +125	$^{\circ}$C

DC Characteristics at 4.5 Vdd (S0306T)

Symbol	Parameter	Valid	Min.	Typ.	Max.	Unit.	Condition
I sb	Standardby I	Vdd			1	uA	i/o open
I op	Operation I	Vdd		100	200	uA	
I ih4	input high I	TG1-4		10	20	uA	mask:=active high
I iL4	input low I	TG1-4		0		uA	mask:=active high
I ih5	input high I	TG5/OKY		10	20	uA	mask:=active high
I iL5	input low I	TG5/OKY		0		uA	mask:=active high
I ohr	output high I	OUTX,Y,Z		-20		mA	
I oLr	output low I	OUTX,Y,Z		20		mA	
I co	current output	Cout		4.4	5	mA	half scale
V co	Current o/p V	Cout				mV	
R osc	Oscillation R	Rosc		1200		Kohm	SR=6 KHz
R osc	Oscillaion R	Rosc		940		Kohm	SR=8 KHz
R cds	cds R					Kohm	
d F/F	Frq. stability			+/- 5		%	[F(4.5V)-F(4.0V)]/F(4.5V)
d F/F	Frq. variation			+/- 10		%	lot by lot

DC Characteristics at 3.0 Vdd (S0306T)

Symbol	Parameter	Valid	Min.	Typ.	Max.	Unit.	Condition
I sb	Stand by I	Vdd			1	uA	i/o open
I op	Operation I	Vdd		75	150	uA	
I ih4	input high I	TG1-4			15	uA	mask:=active high
I iL4	input low I	TG1-4		0		uA	mask:=active high
I ih5	input high I	TG5/OKY			15	uA	mask:=active high
I iL5	input low I	TG5/OKY		0		uA	mask:=active high
I ohr	output high I	OUTX,Y,Z		-10		mA	
I oLr	output low I	OUTX,Y,Z		10		mA	
I co	current output	Cout		2.2		mA	half scale
V co	Current o/p V	Cout				mV	
R osc	Oscillation R	Rosc		1200		Kohm	SR=6 KHz
R osc	Oscillaion R	Rosc		950		Kohm	SR=8 KHz
R cds	cds R					Kohm	
d F/F	Frq. stability			+/- 5		%	[F(3.0V)-F(2.7V)]/F(3.0V)
d F/F	Frq. variation			+/- 10		%	lot by lot

DC Characteristics at 4.5 Vdd (S0306J)

Symbol	Parameter	Valid	Min.	Typ.	Max.	Unit.	Condition
I sb	Stand by I	Vdd			1	uA	i/o open
I op	Operation I	Vdd		100	200	uA	
I ih4	input high I	TG1-4		10	20	uA	mask:=active high
I iL4	input low I	TG1-4		0		uA	mask:=active high
I ih5	input high I	TG5/OKY		10	20	uA	mask:=active high
I iL5	input low I	TG5/OKY		0		uA	mask:=active high
I ohr	output high I	OUTX,Y,Z		-20		mA	
I oLr	output low I	OUTX,Y,Z		20		mA	
I co	current output	Cout		3.4		mA	half scale
V co	Current o/p V	Cout				mV	
R osc	Oscillation R	Rosc		1200		Kohm	SR=6 KHz
R osc	Oscillaion R	Rosc		900		Kohm	SR=8 KHz
R cds	cds R					Kohm	
d F/F	Frq. stability			+/- 5		%	[F(4.5V)-F(4.0V)]/F(4.5V)
d F/F	Frq. variation			+/- 10		%	lot by lot

DC Characteristics at 3.0 Vdd (S0306J)

Symbol	Parameter	Valid	Min.	Typ.	Max.	Unit.	Condition
I sb	Standardby I	Vdd			1	uA	i/o open
I op	Operation I	Vdd		75	150	uA	
I ih4	input high I	TG1-4			15	uA	mask:=active high
I iL4	input low I	TG1-4		0		uA	mask:=active high
I ih5	input high I	TG5/OKY			15	uA	mask:=active high
I iL5	input low I	TG5/OKY		0		uA	mask:=active high
I ohr	output high I	OUTX,Y,Z		-10		mA	
I oLr	output low I	OUTX,Y,Z		9		mA	
I co	current output	Cout		1.7		mA	half scale
V co	Current o/p V	Cout				mV	
R osc	Oscillation R	Rosc		1200		Kohm	SR=6 KHz
R osc	Oscillaion R	Rosc		910		Kohm	SR=8 KHz
R cds	cds R					Kohm	
d F/F	Frq. stability			+/- 5		%	[F(3.0V)-F(2.7V)]/F(3.0V)
d F/F	Frq. variation			+/- 10		%	lot by lot

AC Characteristics

Timing		Min.	Typ.	Max.	Unit	
T $_{STOP}$	Stop Pulse width	40	-	-	ms	SRD
T $_R$	Power Ripple width	-	-	1	ms	-
T $_P$	Power Rise up time	-	-	1	ms	-
T $_T$	Debounce time or minimal Trigger pulse width	-	10	-	ms	SRD

SRD : Sample Rate Dependent

Standard Codes Lineup

Code #	Triggers	OKY	Title
002	1,2,3,4,5	NO	Police Car
003	1,2	OKY	Happy Chinese New Year
004	1,2,3,4,5	NO	Go Go Train
006	1,2,3,4	OKY	Laughing Witch
007	1,2,3	OKY	Cuckoo Bird
008	1,2,3,4	OKY	Gun Set
010	1,2,3,4	OKY	Shrilling Gird
013	1,2,3	NO	Running Car
026	1,2,3,4,5	NO	Happy Train
031	1,2,3	OKY	Running Neighing

Timing Diagram

I. Acceptable Power On Signal & Ripple
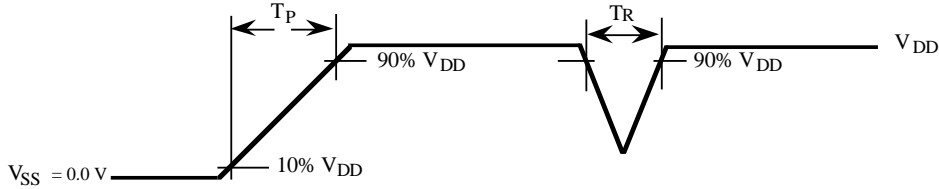
II. Edge/Unholdable/Retrigger/LED/STOP/BUSY Trigger Mask
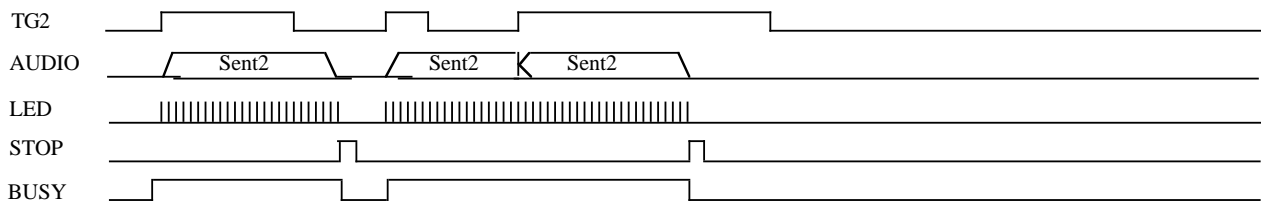
III. Level/Unholdable/Retrigger/LED/STOP/BUSY Trigger Mask
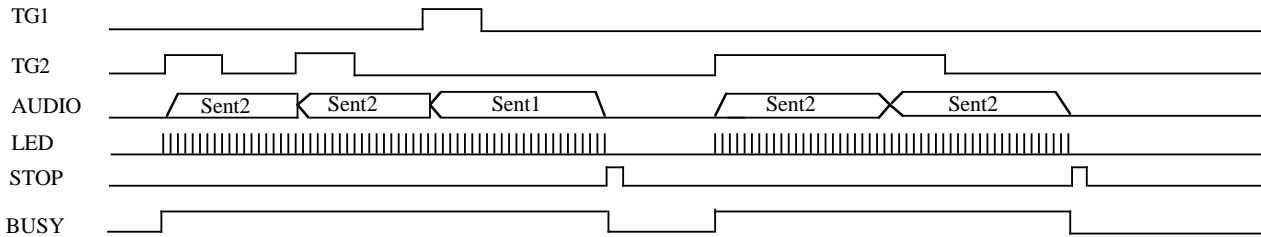
IV. Edge/Holdable/Retrigger/LED/STOP/BUSY Trigger Mask
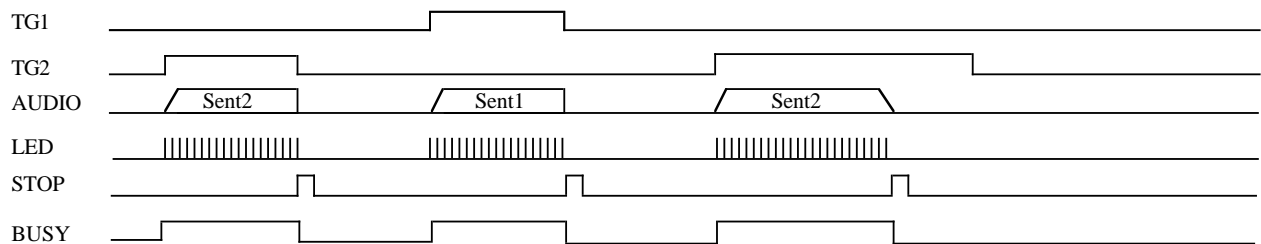
V. Level/Holdable/Retrigger/LED/STOP/BUSY Trigger Mask
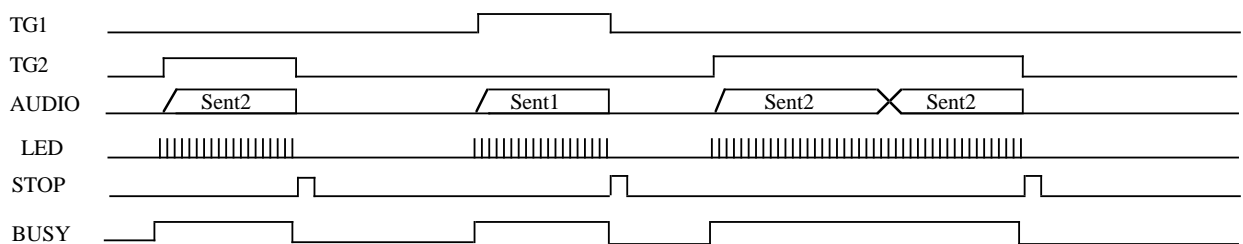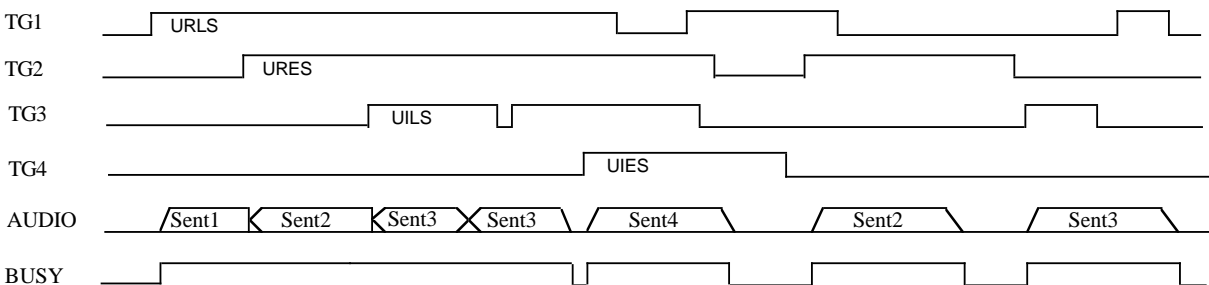
VI. Status & LED Outputs
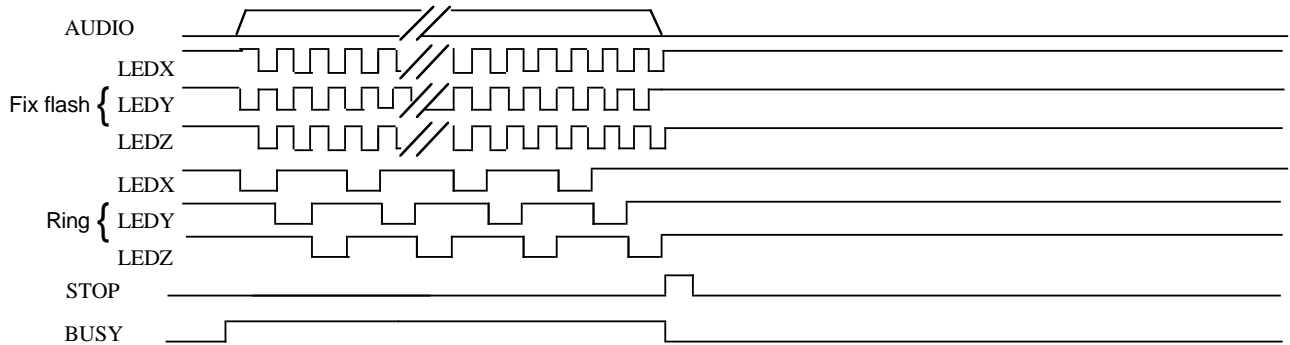
VII. Key Priority

VII. 1 At the same time   (Higher priority, TG5>TG4>TG3>TG2>TG1)
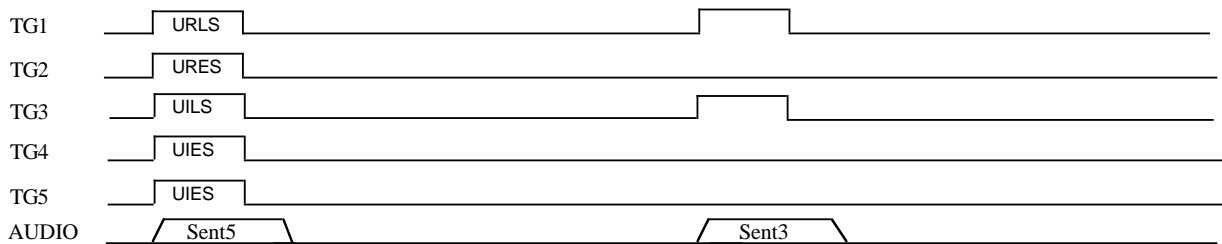
VII. 2 Triggered at different time 1, Last key priority and else
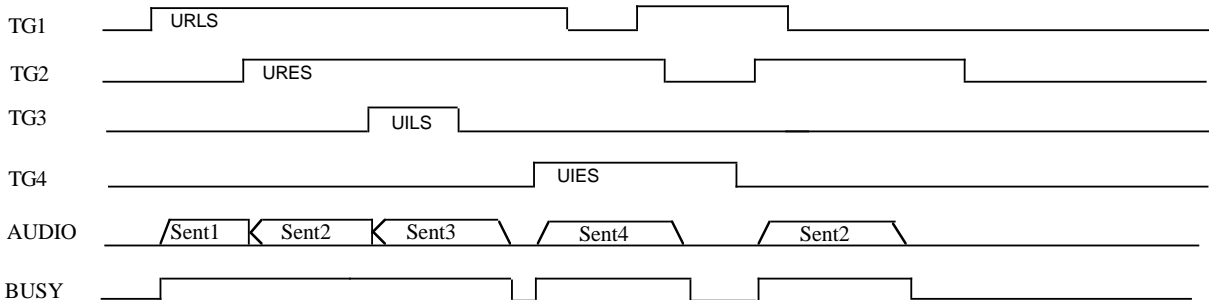
VII. 3 Triggered at different time 2, Last key priority and else

VIII. Debounce Time
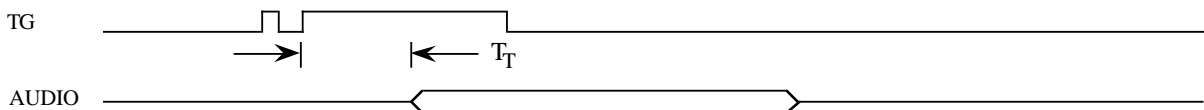
Application Circuit

1. Typical Application
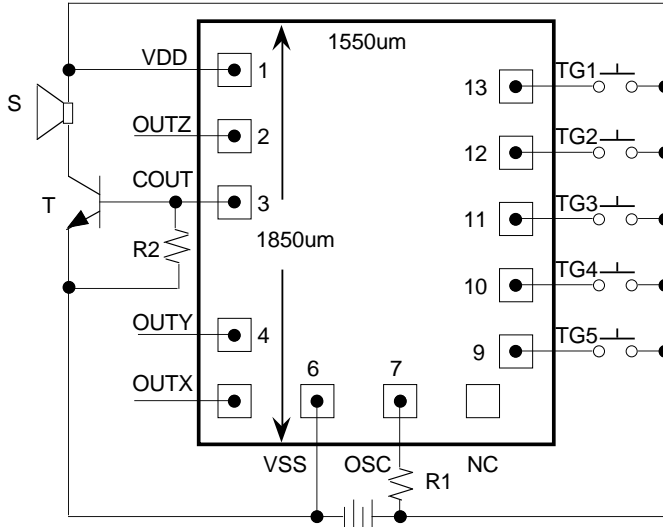
Pad No.	Designation	X	Y
1	VDD	-608.5	728.7
2	OUTZ	-608.5	415.9
3	COUT	-608.5	173.5
4	OUTY	-608.5	-389.5
5	OUTX	-602.9	-731.7
6	VSS	-602.9	-731.7
7	OSC	95.1	-731.7
8	NC	333.7	-731.7
9	TG5 / OKY	608.5	-629.9
10	TG4	608.5	-316.7
11	TG3	608.5	-3.5
12	TG2	608.5	309.7
13	TG1	608.5	622.9

Unit: μm

NOTE : SUBSTRATE is VDD   Pad Size = 90um X 90um

2. CDS Application
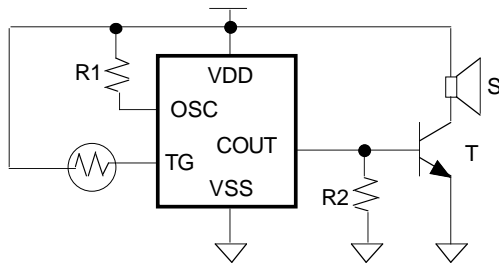
3. Use LED Pin To Drive LED
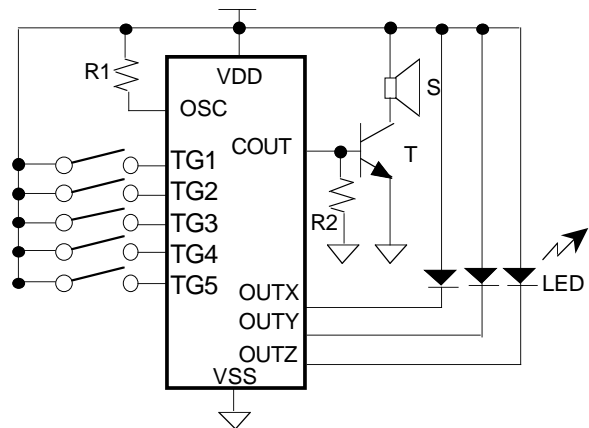
To :   Mosel Vitelic Inc.   886-3-5772788 (fax)

Attn :   Sales & Marketing Department

T I T L E

P r o d u c t   R e q u e s t   F o r m

      I hereby request MVI to start preparing produce MSS0306 which is specified as below description as well as attached form(s).   I already read this data sheet PID 239 and understand MSS0306 completely and know how to specify to fit my requirement.

General Desciptions		Chip descriptions			
Customer	Cannot proceed when empty	☐ TG5	Title		
		☐ OKY	SampleRate		Hz
Agent		☐ No use & don't care	Output	☐ Buzzer (F fr =1KHz)	
Sales		Specify below only for OKY	Device	☐ Speaker (0.25W,	
Repr'tives	Who is MVI sales you contact ?	☐ Playnext		8 ohm, 1" diam.)	
Providing	☐ 8-bit PCM sound files	☐ No use & don't care		☐ Other:_____	
to	☐ .WAV sound files	☐ Home sequence when	Working	☐ 2.5 V	
MVI	☐ DAT or equivalent	after Interrupt	Voltage	☐ 3.0 V	
	☐ application is special,	☐ Continue sequence when		☐ 3.5 V	
	see our written memo	after Interrupt		☐ 4.0 V	
	☐ Others_____	☐ No use & don't care		☐ 4.5 V	
Service	☐ EPROMs with data inside	☐ Small Loop (17-32)	Power	☐ Battery	
Required	☐ files to be programmed into	☐ Large Loop (1-32)	Source	☐ size "D"	
from	EPROM	☐ No use and don't care		☐ size "AA"	
MVI	☐ 9016 emul'n board & Eprom			☐ size "AAA"	
	☐ Confirm table			other size = _____	
	☐ Others_____			☐ Mains	
				☐ Other_____	

☐ Form K is attached due to this Single form meets my need.

☐ Form H and J are attached due to these simple forms meet my demand.

☐ Form G, C, B, A are attached due to my application is delicate.

Company Name : _____   Fax number : _____

Signature : _____   Date : _____

Department/Section : _____   Position Title : _____

There are $1 \leq \quad \leq 192$ entries included in this sentence.

Product Request Form A: Sentence $1 \leq \quad \leq 32$ **Definitions** | **T I T L E** |

There are $1 \leq \quad \leq 64$ words defined on this page.

	Section 76543210	Pitch 76543210	Loudness 76543210	OUTX 76543210	OUTY 76543210	OUTZ 76543210								
00							32							
01							33							
02							34							
03							35							
04							36							
05							37							
06							38							
07							39							
08							40							
09							41							
10							42							
11							43							
12							44							
13							45							
14							46							
15							47							
16							48							
17							49							
18							50							
19							51							
20							52							
21							53							
22							54							
23							55							
24							56							
25							57							
26							58							
27							59							
28							60							
29							61							
30							62							
31							63							

Page ☐ of ☐   Signature & date   MVI Sales & date

Product Request Form B: Sentence | 1≤ ≤32 | Definitions | T I T L E

There are | 0≤ ≤64 | words defined on this page.

	Section 76543210	Pitch 76543210	Loudness 76543210	OUTX 76543210	OUTY 76543210	OUTZ 76543210
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
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122						
123						
124						
125						
126						
127						

Page ☐ of ☐ | Signature & date | MVI Sales & date

Product Request Form C: Sentence | 1≤ ≤32 | **Definitions** | T I T L E |

There are | 0≤ ≤64 | words defined on this page.

	Section 76543210	Pitch 76543210	Loudness 76543210	OUTX 76543210	OUTY 76543210	OUTZ 76543210							
128							160						
129							161						
130							162						
131							163						
132							164						
133							165						
134							166						
135							167						
136							168						
137							169						
138							170						
139							171						
140							172						
141							173						
142							174						
143							175						
144							176						
145							177						
146							178						
147							179						
148							180						
149							181						
150							182						
151							183						
152							184						
153							185						
154							186						
155							187						
156							188						
157							189						
158							190						
159							191						

Page ☐ of ☐ | Signature & date | MVI Sales & date

Product Request Form G: (Trigger & Entry dependent) | **T I T L E** | |

*Section Definition: There are 1≤   section defined.

Address	Voice Description	Voice Length		Mute Length		File name	Check Sum
0		s	ooh	s	ooh		h
1		s	ooh	s	ooh		h
2		s	ooh	s	ooh		h
3		s	ooh	s	ooh		h
4		s	ooh	s	ooh		h
5		s	ooh	s	ooh		h
6		s	ooh	s	ooh		h
7		s	ooh	s	ooh		h

ooh   ≤ 5100h

*Trigger Option Definition:

TG1	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Retrigger & Unhold ☐ Retrigger & Hold & No stop	☐ Irretrigger & Unhold ☐ Irretrigger & Hold & No stop	☐ Don't care
TG2	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Retrigger & Unhold ☐ Retrigger & Hold & No stop	☐ Irretrigger & Unhold ☐ Irretrigger & Hold & No stop	☐ Don't care
TG3	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Retrigger & Unhold ☐ Retrigger & Hold & No stop	☐ Irretrigger & Unhold ☐ Irretrigger & Hold & No stop	☐ Don't care
TG4	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Retrigger & Unhold ☐ Retrigger & Hold & No stop	☐ Irretrigger & Unhold ☐ Irretrigger & Hold & No stop	☐ Don't care
TG5	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Retrigger & Unhold ☐ Retrigger & Hold & No stop	☐ Irretrigger & Unhold ☐ Irretrigger & Hold & No stop	☐ Don't care

*Trigger Sentence Definition & Its Outputs definition: There are 1≤   sentences defined

☐ Forms A,B,C (pages ☐ , ☐ , ☐ respectively) are attached to define sentence of TG1.

☐ Forms A,B,C (pages ☐ , ☐ , ☐ respectively) are attached to define sentence of TG2.

☐ Forms A,B,C (pages ☐ , ☐ , ☐ respectively) are attached to define sentence of TG3.

☐ Forms A,B,C (pages ☐ , ☐ , ☐ respectively) are attached to define sentence of TG4.

☐ Forms A,B,C (pages ☐ , ☐ , ☐ respectively) are attached to define sentence of TG5.

☐ Forms As,Bs,Cs are attached to define TG6 through TG16's sentences for OKY responses.

☐ Forms As,Bs,Cs are attached to define TG17 through TG32's sentences for OKY responses.

Company Name : _____   MVI Sales : _____

Signature : _____   Date : _____

Product Request Form H: (Trigger / Sentence dependent)   **T I T L E** [　　　　　　　]

*Section Definition: There are |1≤ | section defined.

Address	Voice Description	Voice Length		Mute Length		File name	Check Sum
0		s	ooh	s	ooh		h
1		s	ooh	s	ooh		h
2		s	ooh	s	ooh		h
3		s	ooh	s	ooh		h
4		s	ooh	s	ooh		h
5		s	ooh	s	ooh		h
6		s	ooh	s	ooh		h
7		s	ooh	s	ooh		h

*Trigger Option Definition: |ooh| ≤ 5100h

TG1	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Unhold & Retrigger ☐ Hold & Retrigger & No stop	☐ Unhold & Irretrigger ☐ Hold & Irretrigger & No stop	☐ Don't care
TG2	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Unhold & Retrigger ☐ Hold & Retrigger & No stop	☐ Unhold & Irretrigger ☐ Hold & Irretrigger & No stop	☐ Don't care
TG3	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Unhold & Retrigger ☐ Hold & Retrigger & No stop	☐ Unhold & Irretrigger ☐ Hold & Irretrigger & No stop	☐ Don't care
TG4	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Unhold & Retrigger ☐ Hold & Retrigger & No stop	☐ Unhold & Irretrigger ☐ Hold & Irretrigger & No stop	☐ Don't care
TG5	☐ Edge ☐ Level	☐ Active High ☐ Active Low	☐ Unhold & Retrigger ☐ Hold & Retrigger & No stop	☐ Unhold & Irretrigger ☐ Hold & Irretrigger & No stop	☐ Don't care

*Trigger Sentence Definition: There are |1≤ | sentences defined

	Sentence Description (Word section addresses)	Address Count
TG1		
TG2		
TG3		
TG4		
TG5		

*Output Definition 1:   Address count summation= |≤192|

OUTX	OUTY	OUTZ
☐ SS & iH ☐ LED & iH ☐ DNC ☐ SS & iL ☐ LED & iL	☐ SS & iH ☐ LED & iH ☐ DNC ☐ SS & iL ☐ LED & iL	☐ SS & iH ☐ LED & iH ☐ DNC ☐ SS & iL ☐ LED & iL

SS:=Staus   iH:=initial high   iL:=initial low   DNC:=Don't care

Company Name : _____   MVI Sales : _____

Signature : _____   Date : _____

Product Request Form J:(Trigger / Sentence dependent) | **T I T L E** |

*Output Definition 2 :   Neither variable pitch nor variable loudness is used.

		TG1	TG2	TG3	TG4	TG5
OUTX		☐ 7, High Stop or Off LED	☐ 7	☐ 7	☐ 7	☐ 7
		☐ 6, Low Stop or 6Hz LED	☐ 6	☐ 6	☐ 6	☐ 6
		☐ 5, DC ø or 3Hz fixed LED	☐ 5	☐ 5	☐ 5	☐ 5
		☐ 4, NA or 12 Hz Ring LED	☐ 4	☐ 4	☐ 4	☐ 4
		☐ 3, NA or 6 Hz Ring LED	☐ 3	☐ 3	☐ 3	☐ 3
		☐ 2, DC 1 or Dynamice LED	☐ 2	☐ 2	☐ 2	☐ 2
		☐ 1, Low Busy or 3Hz Ring LED	☐ 1	☐ 1	☐ 1	☐ 1
		☐ 0, High busy or On LED	☐ 0	☐ 0	☐ 0	☐ 0
		☐ Don't care	☐ don't care	☐ don't care	☐ don't care	☐ don't care
OUTY		☐ 7, High Stop or Off LED	☐ 7	☐ 7	☐ 7	☐ 7
		☐ 6, Low Stop or 6Hz LED	☐ 6	☐ 6	☐ 6	☐ 6
		☐ 5, DC ø or 3Hz fixed LED	☐ 5	☐ 5	☐ 5	☐ 5
		☐ 4, NA or 12 Hz Ring LED	☐ 4	☐ 4	☐ 4	☐ 4
		☐ 3, NA or 6 Hz Ring LED	☐ 3	☐ 3	☐ 3	☐ 3
		☐ 2, DC 1 or Dynamice LED	☐ 2	☐ 2	☐ 2	☐ 2
		☐ 1, Low Busy or 3Hz Ring LED	☐ 1	☐ 1	☐ 1	☐ 1
		☐ 0, High busy or On LED	☐ 0	☐ 0	☐ 0	☐ 0
		☐ Don't care	☐ don't care	☐ don't care	☐ don't care	☐ don't care
OUTZ		☐ 7, High Stop or Off LED	☐ 7	☐ 7	☐ 7	☐ 7
		☐ 6, Low Stop or 6Hz LED	☐ 6	☐ 6	☐ 6	☐ 6
		☐ 5, DC ø or 3Hz fixed LED	☐ 5	☐ 5	☐ 5	☐ 5
		☐ 4, NA or 12 Hz Ring LED	☐ 4	☐ 4	☐ 4	☐ 4
		☐ 3, NA or 6 Hz Ring LED	☐ 3	☐ 3	☐ 3	☐ 3
		☐ 2, DC 1 or Dynamice LED	☐ 2	☐ 2	☐ 2	☐ 2
		☐ 1, Low Busy or 3Hz Ring LED	☐ 1	☐ 1	☐ 1	☐ 1
		☐ 0, High busy or On LED	☐ 0	☐ 0	☐ 0	☐ 0
		☐ Dont'care	☐ don't care	☐ don't care	☐ don't care	☐ don't care

Company Name : _____   MVI Sales : _____

Signature : _____   Date : _____

MOSEL VITELIC **MSS0306**

Product Request Form K: (whole chip dependent) | T I T L E |

*Section Definition : There are | 1≤ | sections defined.

Address	Voice Description	Voice Length		Mute Length		File name	Check Sum
0		s	ooh	s	ooh		h
1		s	ooh	s	ooh		h
2		s	ooh	s	ooh		h
3		s	ooh	s	ooh		h
4		s	ooh	s	ooh		h
5		s	ooh	s	ooh		h
6		s	ooh	s	ooh		h
7		s	ooh	s	ooh		h

| ooh | ≤ 5100h

*Tirgger Option Denfinition:

☐ Edge   ☐ Level   ☐ Active high   ☐ Active low

☐ Unhold & Irretrigger   ☐ Hold & Irretrigger & No Stop Status   ☐ Don't care

☐ Unhold & Retrigger   ☐ Hold & Retrigger & No Stop Status

*Trigger Sentence Definition: There are | 1≤ | sentences define

	Sentence Description (Word section addresses)	Address Count
TG1		
TG2		
TG3		
TG4		
TG5		

*Output Definition: Neither variable pitch nor variable loudness is used.   Address count summation= | ≤192

OUTX	OUTY	OUTZ	OUTX	OUTY	OUTZ
☐ SS & iH	☐ SS & iH	☐ SS & iH	☐ 7	☐ 7	☐ 7
☐ SS & iL	☐ SS & iL	☐ SS & iL	☐ 6	☐ 6	☐ 6
☐ LED & iH	☐ LED & iH	☐ LED & iH	☐ 5	☐ 5	☐ 5
☐ LED & iL	☐ LED & iL	☐ LED & iL	☐ 4	☐ 4	☐ 4
☐ Don't Care	☐ Don't Care	☐ Don't care	☐ 3	☐ 3	☐ 3

SS:= Status   iH:= initial high   iL:= initail low

☐ 2	☐ 2	☐ 2
☐ 1	☐ 1	☐ 1
☐ 0	☐ 0	☐ 0
☐ Don't Care	☐ Don't Care	☐ Don't care

7:= High Stop or Off LED
6:= Low Stop or 6Hz LED
5:= DC ø or 3Hz fixed LED
4:= NA or 12 Hz Ring LED
3:= NA or 6 Hz Ring LED
2:= DC1 or Dynamic LED
1:= Low Busy or 3Hz Ring LED
0:= High Busy or On LED

Company Name : _____   MVI Sales : _____

Signature : _____   Date : _____

19/19 PID239 05/96