

# SERVICE MANUAL & PARTS LIST

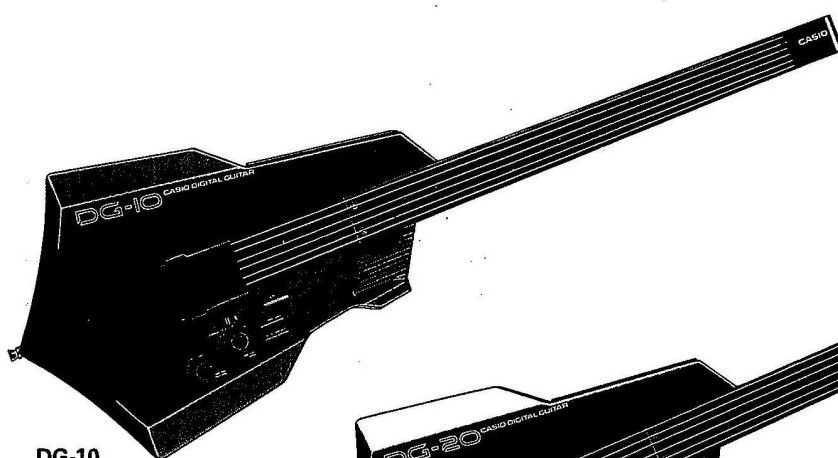
(without price)

**Digital Guitar**

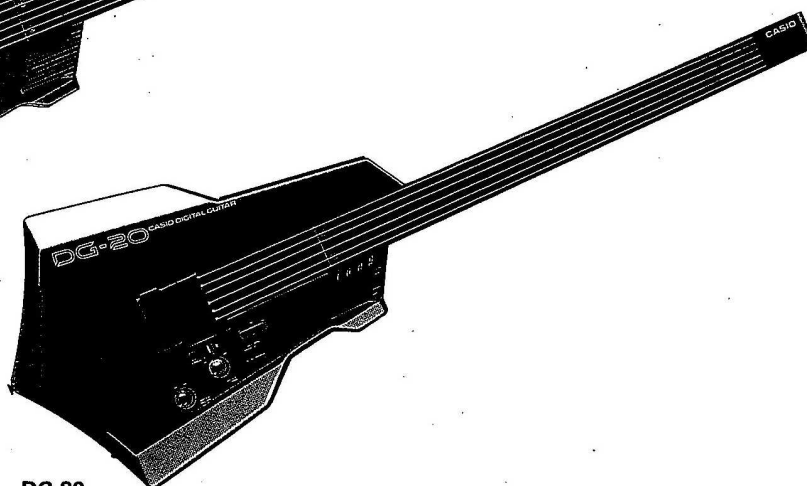
**DG-10**

**DG-20**

**AUGUST 1987**



**DG-10**



**DG-20**

**CASIO®**

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# SCHEMATIC DIAGRAM

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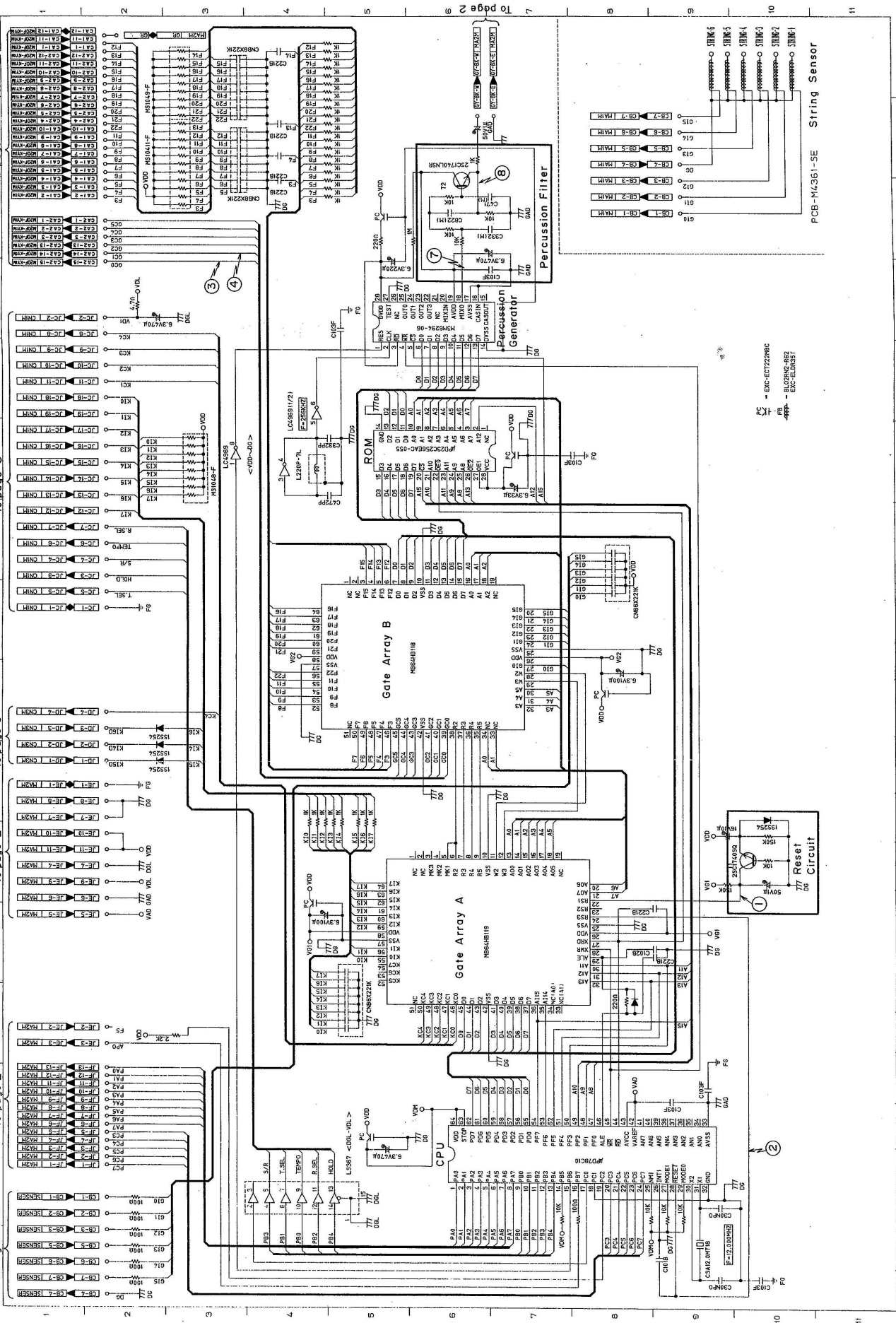
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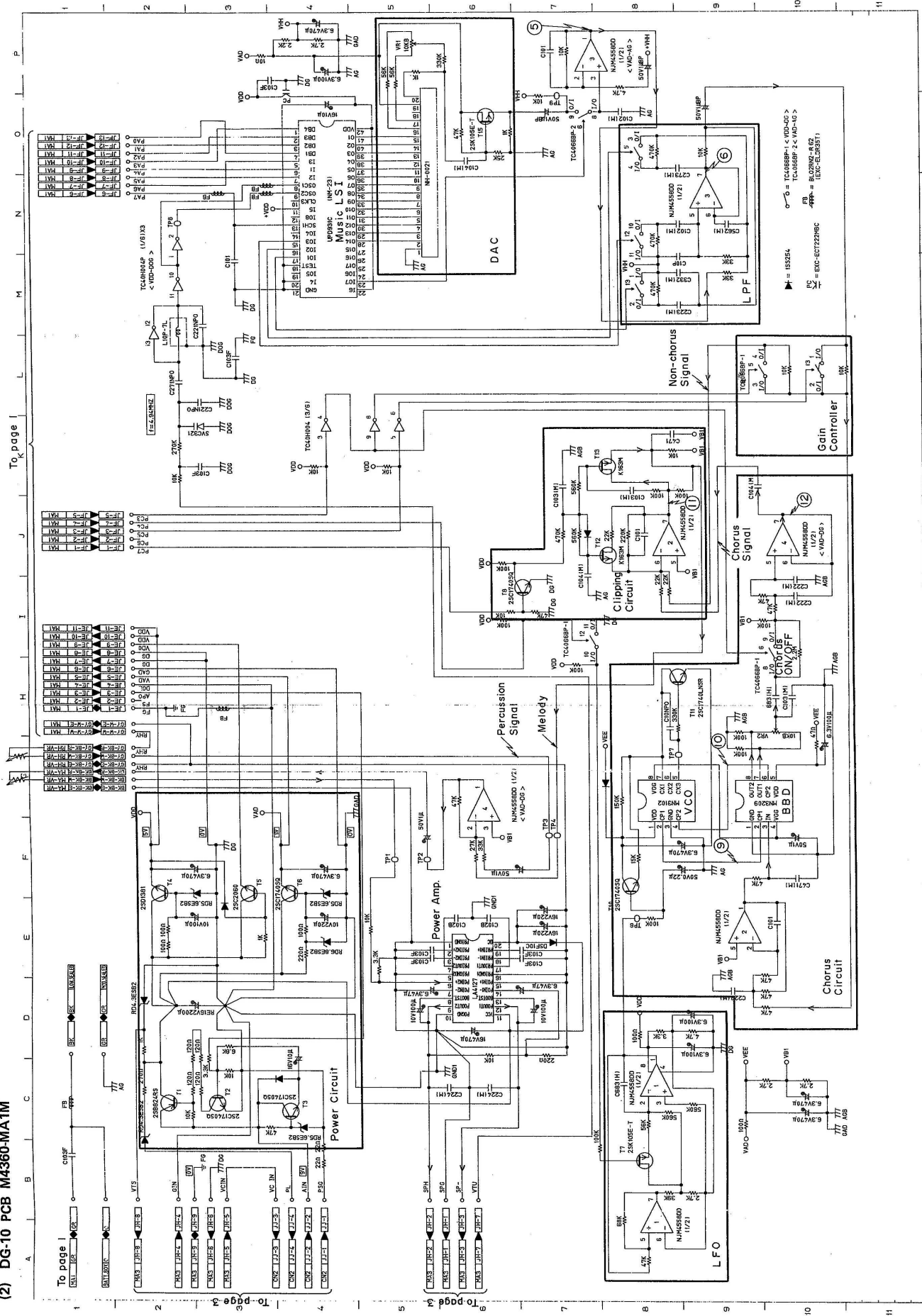
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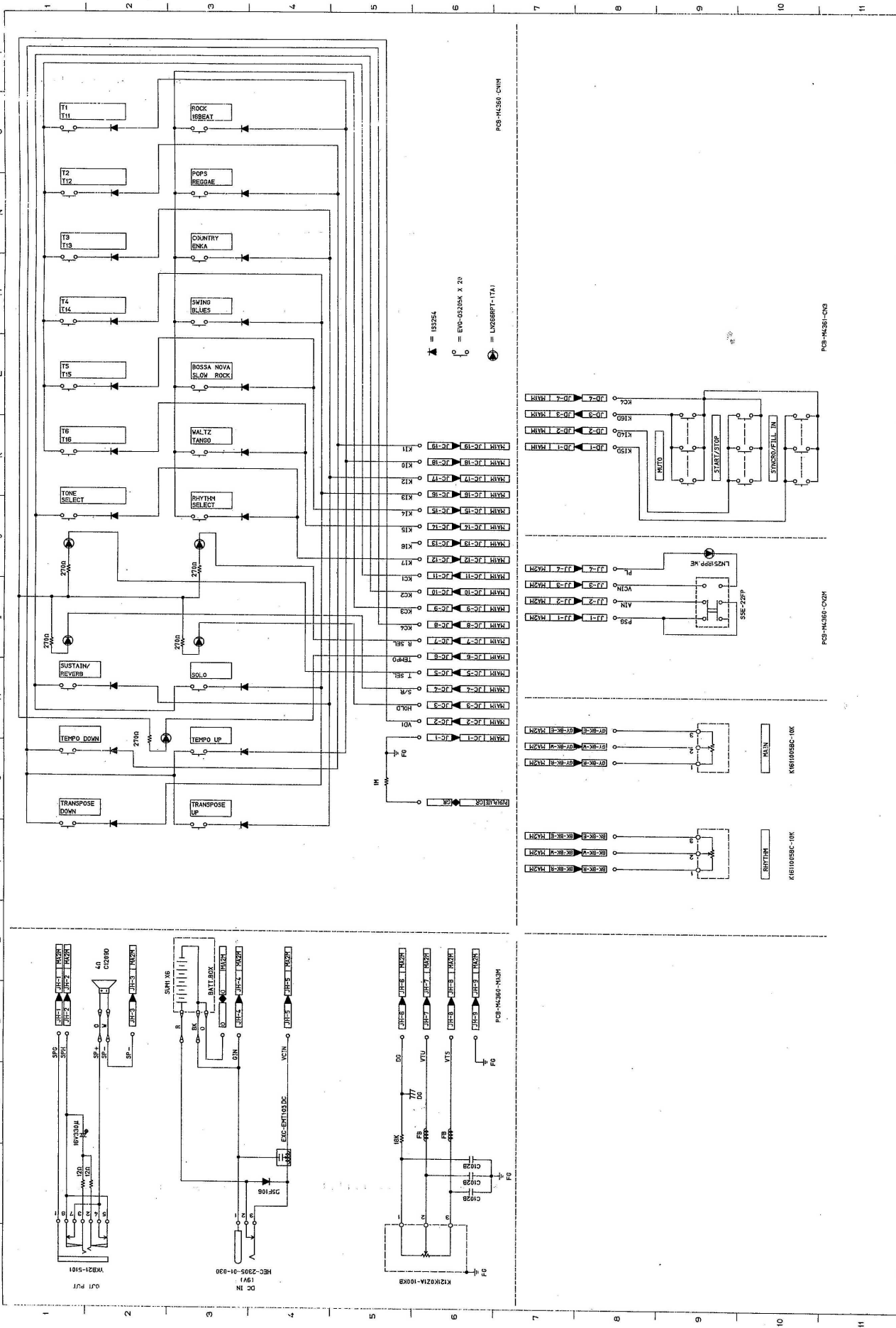
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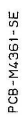




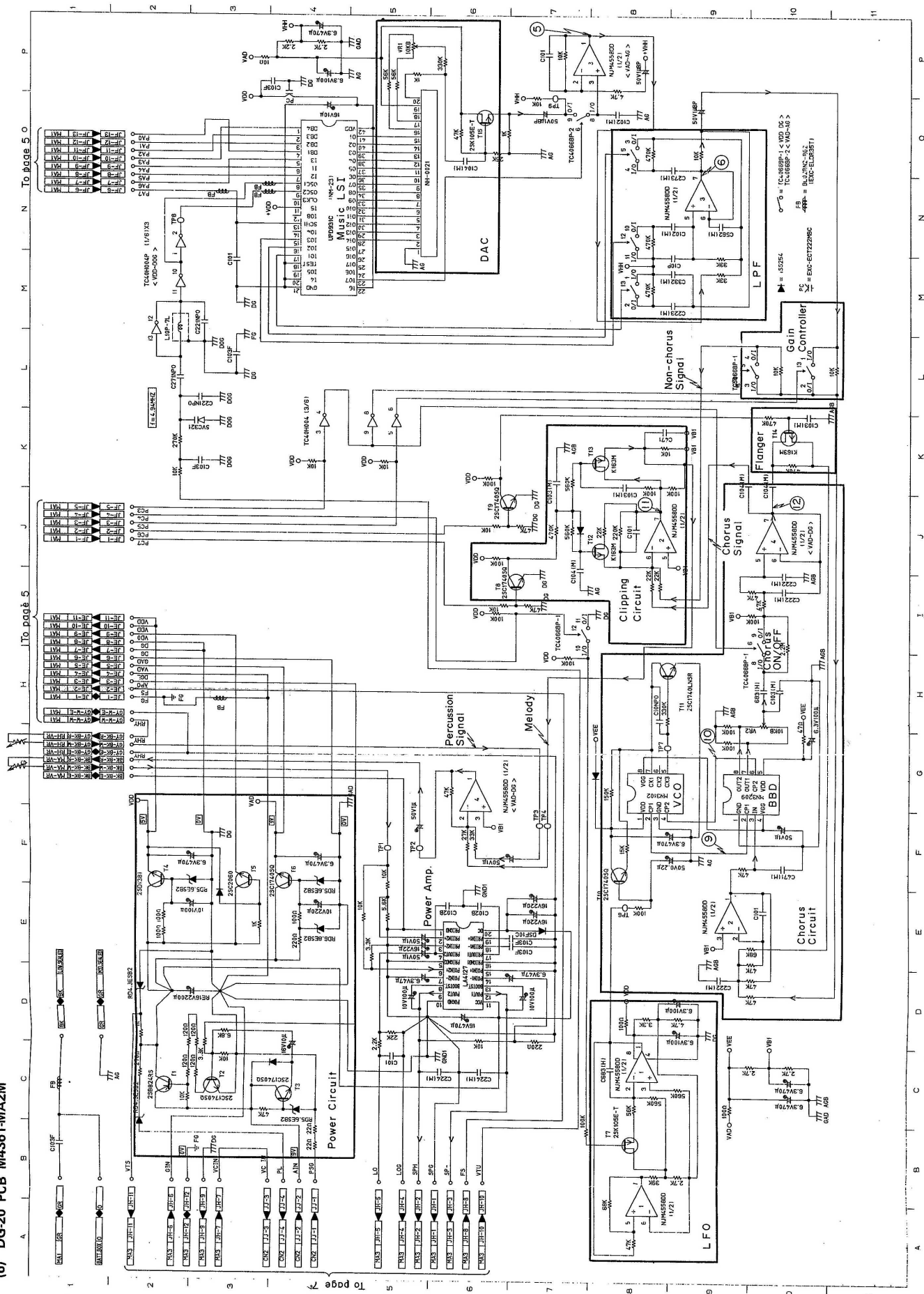
(3) DG-10 PCBs M4360-CN1M, CN2M, MA3M, M4361-CN3



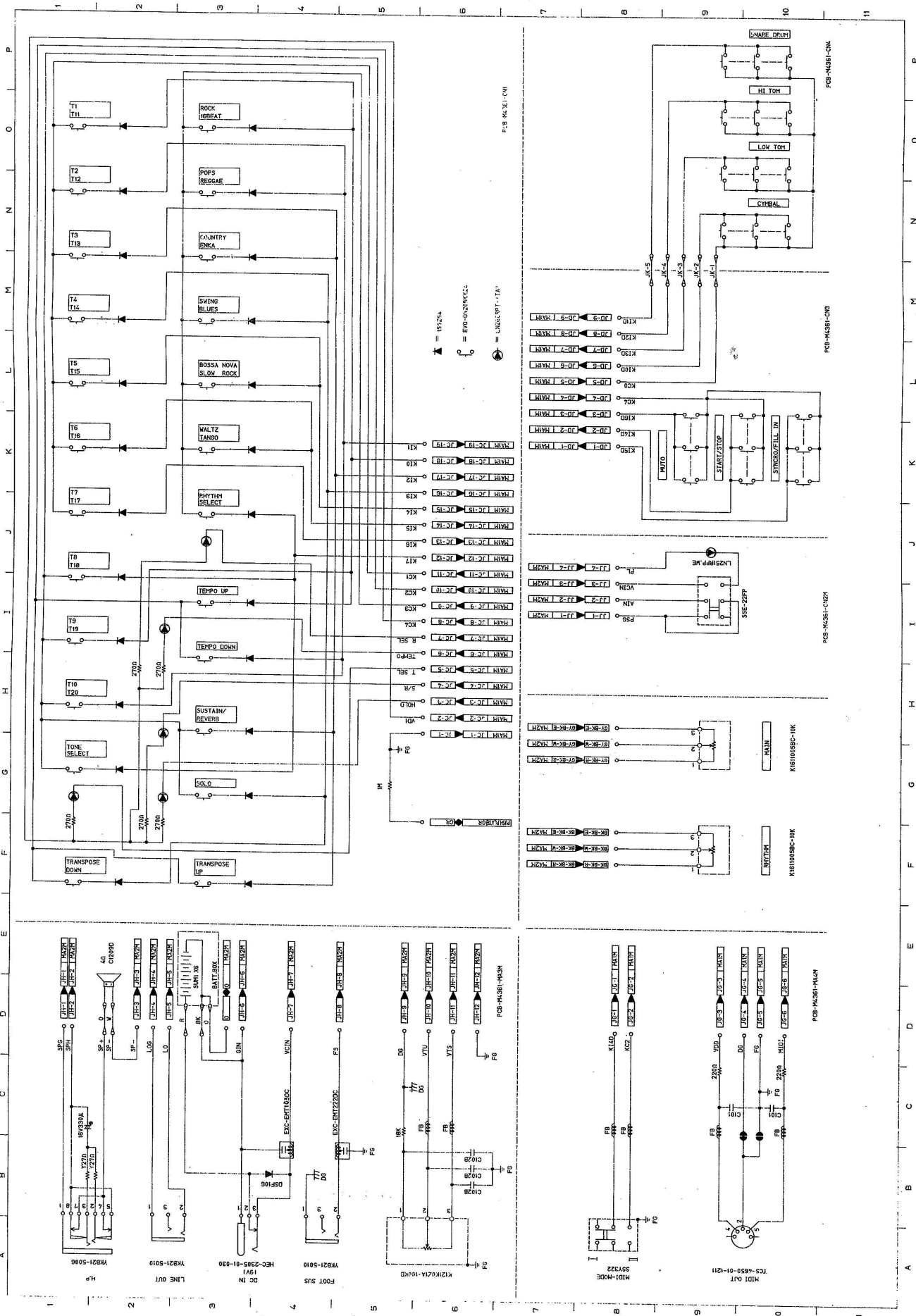




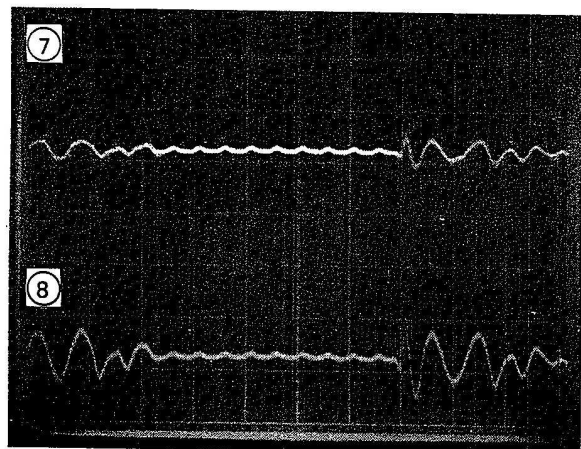
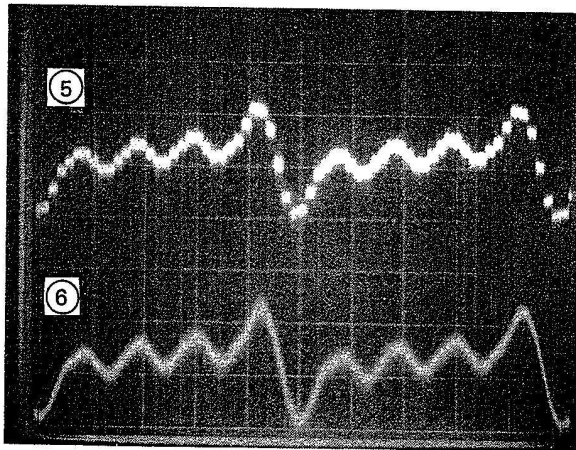
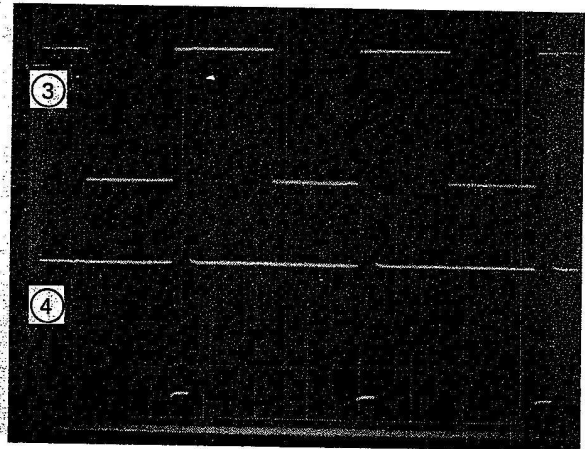
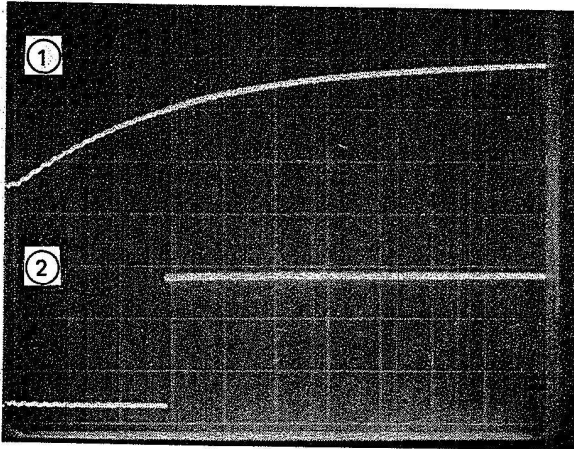
PC ~~FB~~ ~~EXC-ELDR35T~~ ~~BL02RN2-R62~~ ~~EXC-ECT2224BC~~



(7) DG-20 PCBs M4361-CN1M, CN2M, CN3, CN4, MA3M, MA4M



## MAJOR WAVEFORMS



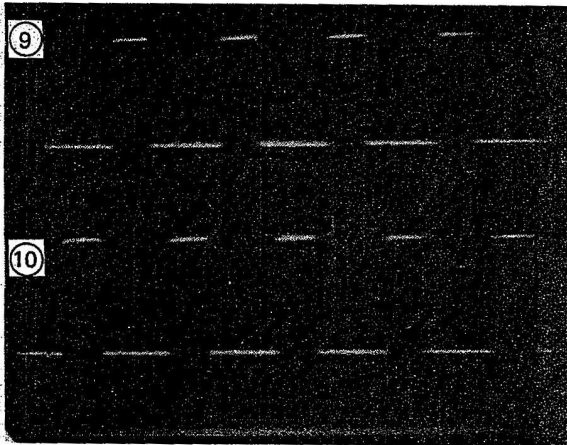
⑤ NJM4558-3 pin 1  
10mV/div., 1ms/div.

⑥ NJM4558-3 pin 7  
10mV/div., 1ms/div.

Tone: Jazz Organ  
3rd string, Open fret

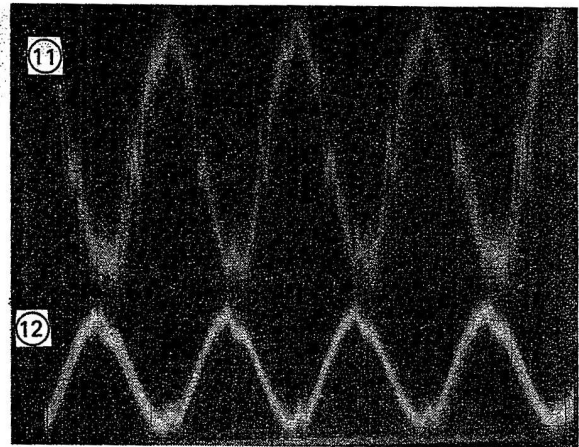
⑦ MSM6294 pin 28  
50mV/div., 20ms/div.

⑧ T2 emitter  
50mV/div., 20ms/div.



- ⑨ MN3209 pin 2  
0.2V/div., 2 $\mu$ s/div.
- ⑩ MN3209 pin 6  
0.2V/div., 2 $\mu$ s/div.

One cycle period varies  
from 3.5 $\mu$ s to 6 $\mu$ s

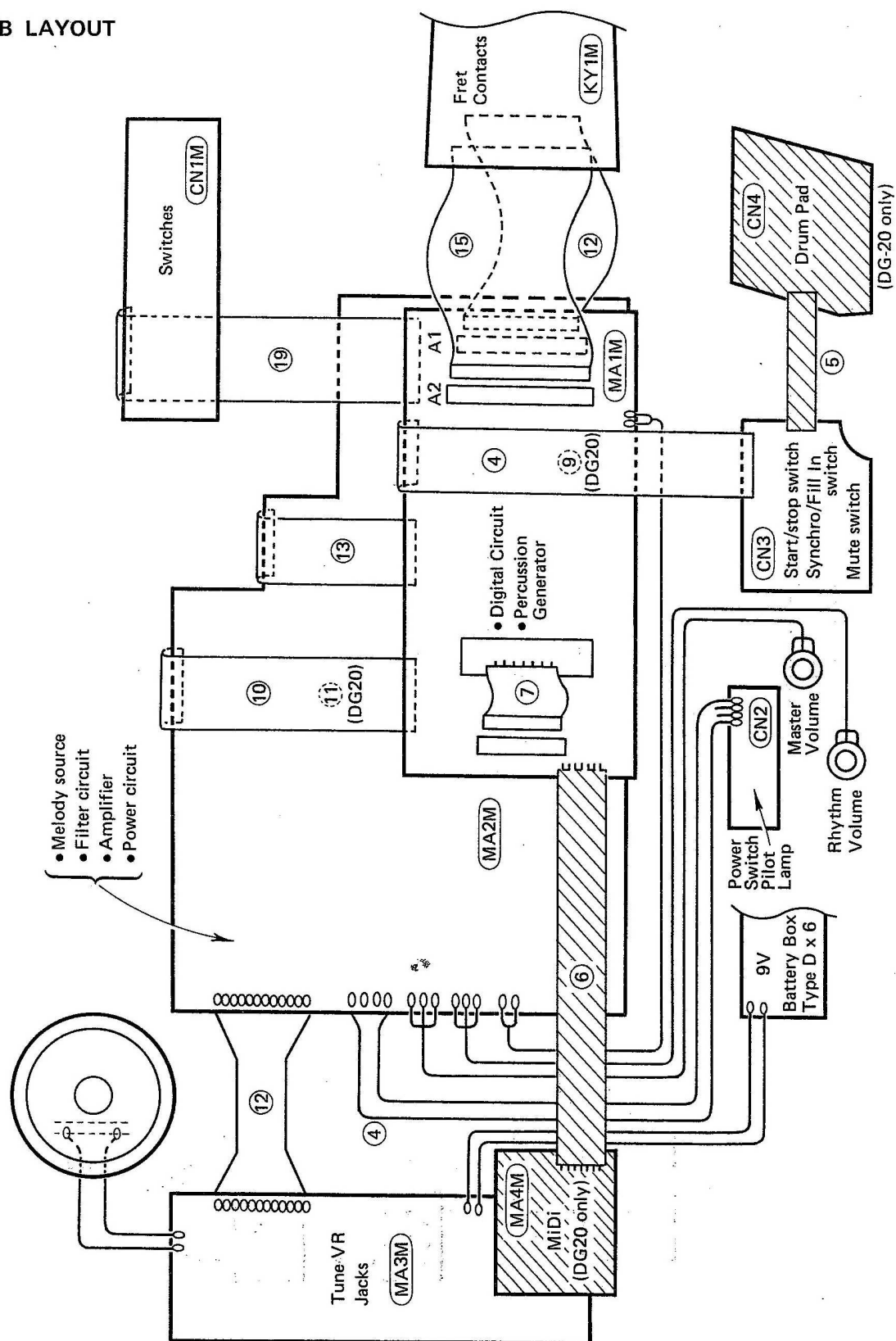


- ⑪ PCB MA2M NJM4558-2 pin 7  
2mV/div., 2ms/div.
- ⑫ PCB MA2M NJM4558-4 pin 7  
5mV/div., 2ms/div.

Tone: Elec. Guitar  
3rd string, Open fret

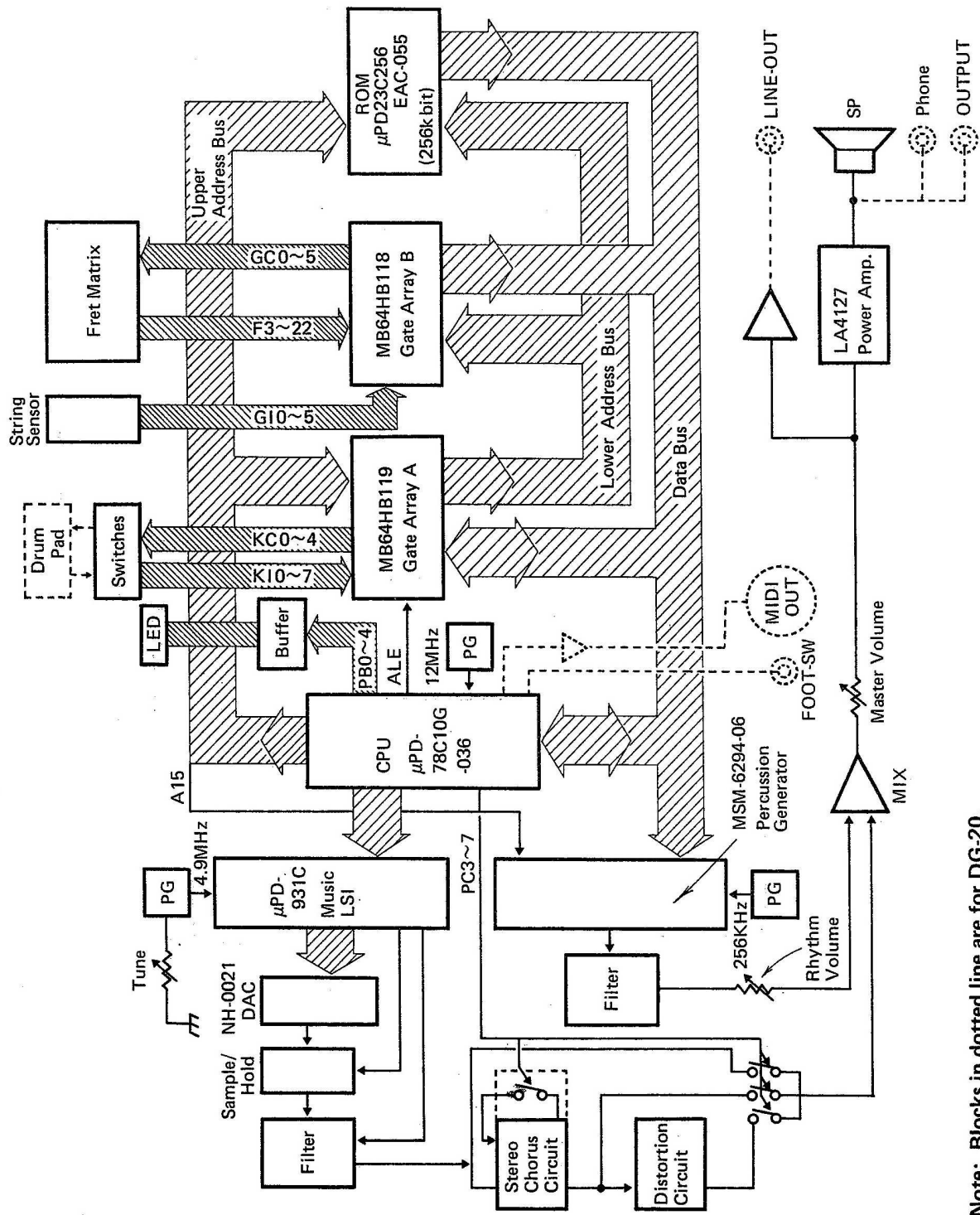


12cm Speaker





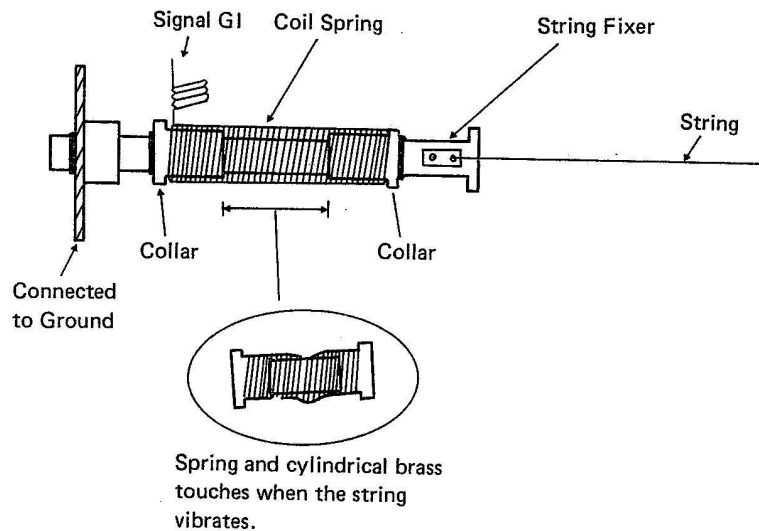
# BLOCK DIAGRAM



Note: Blocks in dotted line are for DG-20.

## STRING SENSOR MECHANISM

This block detects the vibration of the strings.

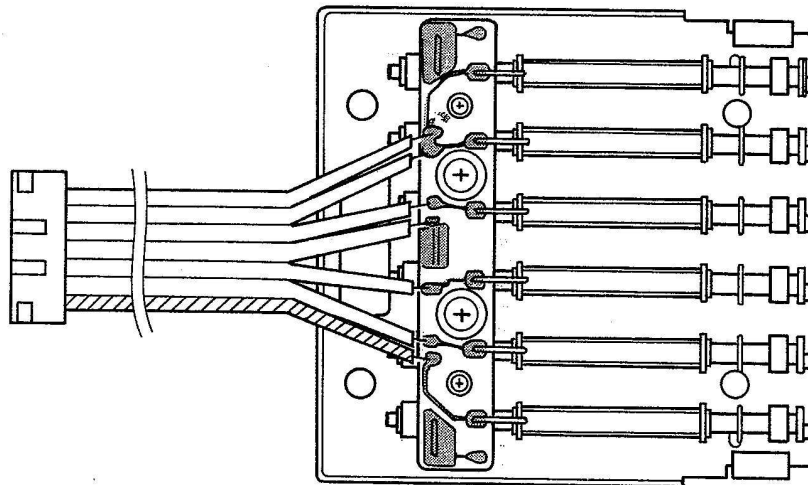


Each string is connected to a cylindrical brass. Around the brass, a coil spring is fixed with plastic collars.

The ground is provided to the brass whereas the spring is connected to a GI terminal.

When a string is touched, the spring bends and contacts with the brass.

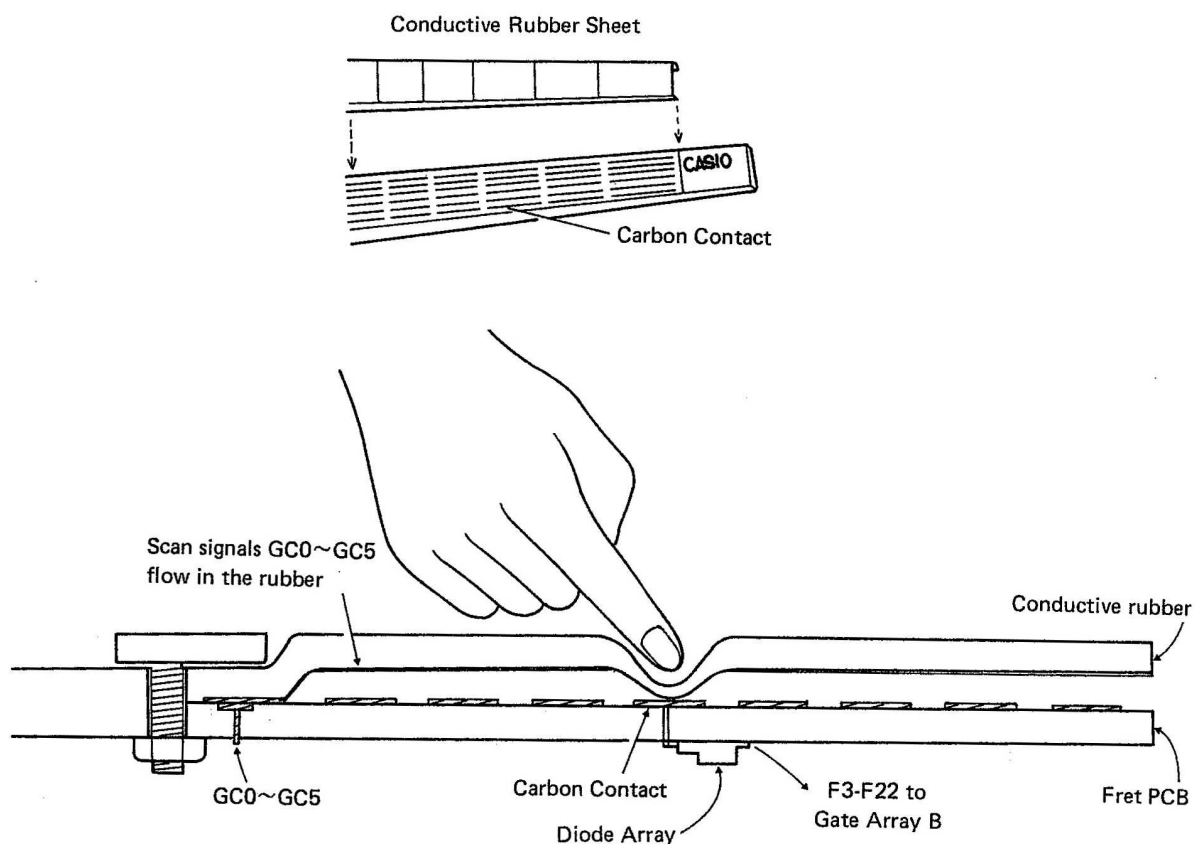
Gate Array B detects the vibration of the string by receiving ground from the GI terminals.



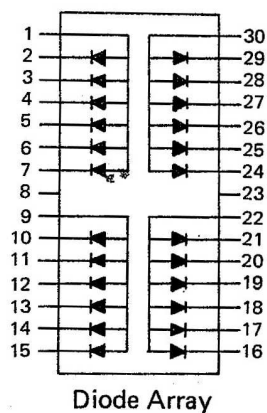
String Sensor Unit

## FRET DETECTION MECHANISM

Fret detection block is composed of a conductive rubber sheet and carbon contact fret PCB and detects the pressed fret position.



When a fret is pressed, the conductive rubber touches the carbon contact on the fret PCB. As each strings' scan signals GC0 ~ GC5 are provided on the conductive rubber, fret signals F3 ~ F22 enter Gate Array B via carbon contact and diode array.

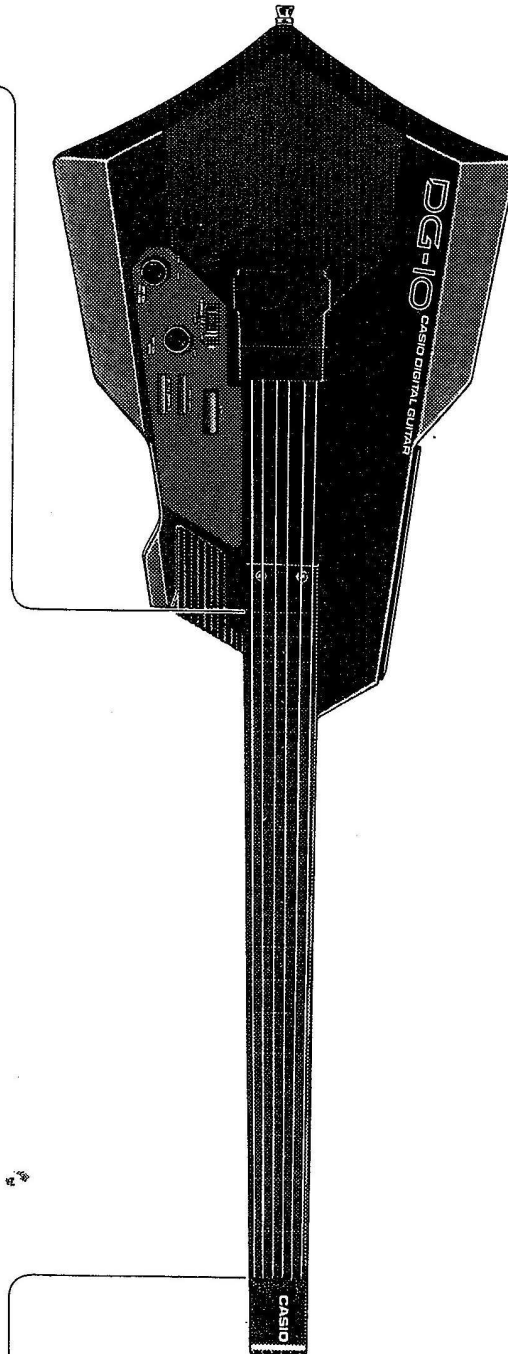


# FRET/STRING MATRIX TABLE

\*Number in ( ) is MIDI note number.

|            | F   | Open   | F22     | F21     | F20     | F19     | F18    | F17     | F16     | F15     | F14     | F13    | F12     | F11    | F10     | F9      | F8      | F7      | F6     | F5      | F4      | F3      |
|------------|-----|--------|---------|---------|---------|---------|--------|---------|---------|---------|---------|--------|---------|--------|---------|---------|---------|---------|--------|---------|---------|---------|
| 1st string | GC0 | E4(64) | F4 (65) | F#4(66) | G4 (67) | G#4(68) | A4(69) | A#4(70) | B4 (71) | C5 (72) | C#5(73) | D5(74) | D#5(75) | E5(76) | F5 (77) | F#5(78) | G5 (79) | G#5(80) | A5(81) | A#5(82) | B5 (83) | C6 (84) |
| 2nd "      | GC1 | B3(59) | C4 (60) | C#4(61) | D4 (62) | D#4(63) | E4(64) | F4 (65) | F#4(66) | G4 (67) | G#4(68) | A4(69) | A#4(70) | B4(71) | C5 (72) | C#5(73) | D5 (74) | D#5(75) | E5(76) | F5 (77) | F#5(78) | G5 (79) |
| 3rd "      | GC2 | G3(55) | G#3(56) | A3 (57) | A#3(58) | B3 (59) | C4(60) | C#4(61) | D4 (62) | D#4(63) | E4 (64) | F4(65) | F#4(66) | G4(67) | G#4(68) | A4 (69) | A#4(70) | B4 (71) | C5(72) | C#5(73) | D5 (74) | D#5(75) |
| 4th "      | GC3 | D3(50) | D#3(51) | E3 (52) | F3 (53) | F#3(54) | G3(55) | G#3(56) | A3 (57) | A#3(58) | B3 (59) | C4(60) | C#4(61) | D4(62) | D#4(63) | E4 (64) | F4 (65) | F#4(66) | G4(67) | G#4(68) | A4 (69) | A#4(70) |
| 5th "      | GC4 | A2(45) | A#2(46) | B2 (47) | C3 (48) | C#3(49) | D3(50) | D#3(51) | E3 (52) | F3 (53) | F#3(54) | G3(55) | G#3(56) | A3(57) | A#3(58) | B3 (59) | C4 (60) | C#4(61) | D4(62) | D#4(63) | E4 (64) | F4 (65) |
| 6th "      | GC5 | E2(40) | F2 (41) | F#2(42) | G2 (43) | G#2(44) | A2(45) | A#2(46) | B2 (47) | C3 (48) | C#3(49) | D3(50) | D#3(51) | E3(52) | F3 (53) | F#3(54) | G3 (55) | G#3(56) | A3(57) | A#3(58) | B3 (59) | C4 (60) |
|            |     |        | 1st     | 2nd     | 3rd     | 4th     | 5th    |         |         |         |         |        |         |        |         |         |         |         |        |         |         |         |
|            |     |        | Fret    | Fret    | Fret    | Fret    | Fret   |         |         |         |         |        |         |        |         |         |         |         |        |         |         |         |
|            |     |        |         |         |         |         |        |         |         |         |         |        |         |        |         |         |         |         |        |         |         |         |
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|            |     |        |         |         |         |         |        |         |         |         |         |        |         |        |         |         |         |         |        |         |         |         |

1st Fret 2nd Fret 3rd Fret 4th Fret 5th Fret ..... 20th Fret



**CPU ( $\mu$ PD78C10)**

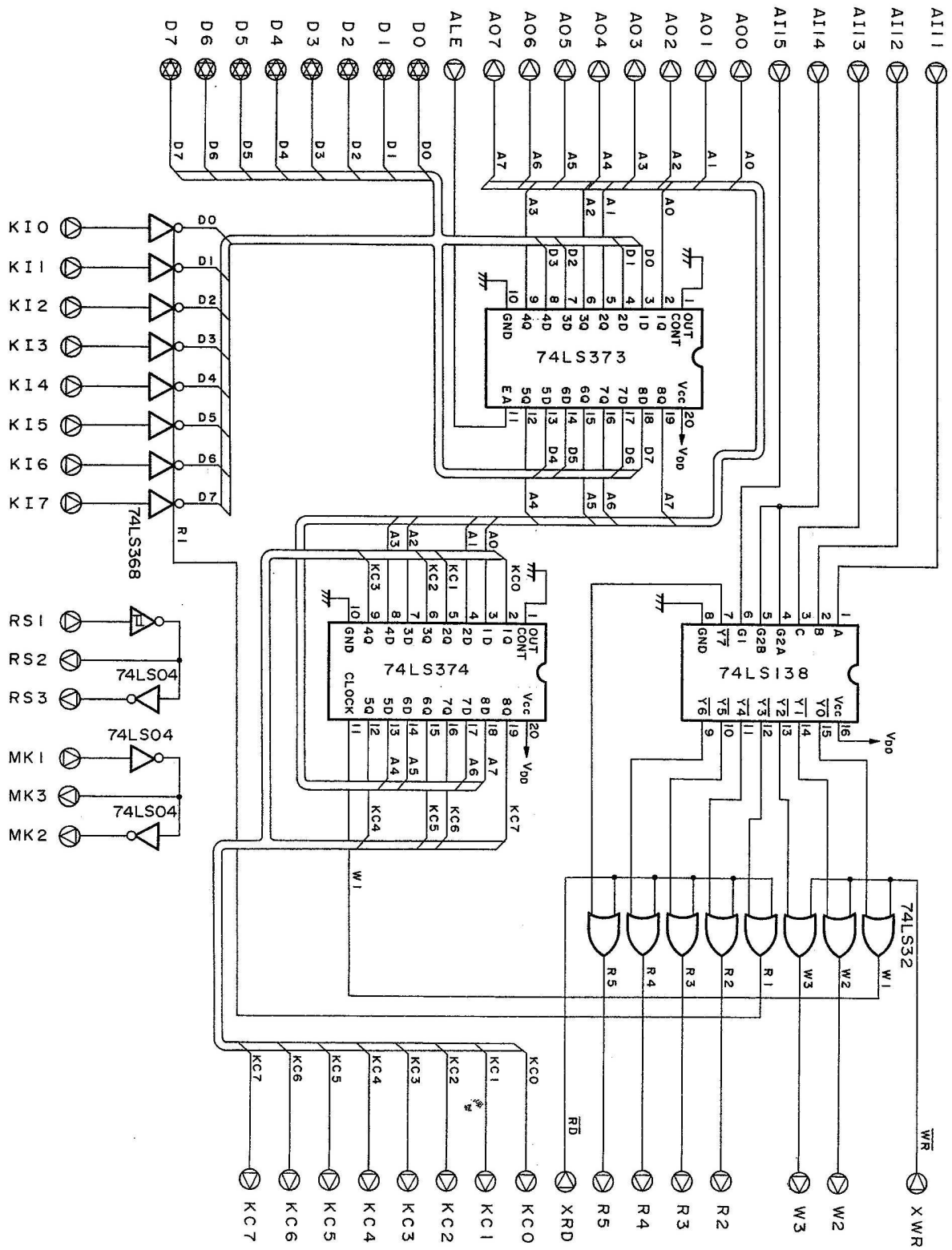
| Pin No. | Terminal  | Signal   | In/Out | Signal Function                                                                                                                  |
|---------|-----------|----------|--------|----------------------------------------------------------------------------------------------------------------------------------|
| 1 ~ 8   | PA0 ~ PA7 | —        | Out    | Data and control signals for Music LSI                                                                                           |
| 9       | PB0       | TEMPO    | Out    | Tempo LED drive signal                                                                                                           |
| 10      | PB1       | T. SEL   | Out    | Tone Select LED drive signal                                                                                                     |
| 11      | PB2       | R. SEL   | Out    | Rhythm Select LED drive signal                                                                                                   |
| 12      | PB3       | S/R      | Out    | Sustain/Reverb LED drive signal                                                                                                  |
| 13      | PB4       | HOLD     | Out    | Poly/Mono LED drive signal                                                                                                       |
| 14      | PB5       | —        | —      | Not used                                                                                                                         |
| 15      | PB6       | —        | Out    | Reset signal for Percussion Generator.<br>High active.                                                                           |
| 16      | PB7       | APO      | Out    | Auto power off signal. Low active.                                                                                               |
| 17      | PC0       | MIDI     | Out    | MIDI signal output                                                                                                               |
| 18      | PC1       | —        | In     | DG10/DG20 selection terminal.<br>Low — DG10<br>High — DG20                                                                       |
| 19      | PC2       | FS       | In     | Foot switch input. Being Low of this terminal sustains sounds (DG20 only)                                                        |
| 20      | PC3       | —        | Out    | Chorus ON/OFF and Melody gain control signal.<br>Being Low of this terminal gives sound chorus effect and rises the sound level. |
| 21      | PC4       | —        | Out    | Chorus speed control signal.<br>High — Slow<br>Low — Fast                                                                        |
| 22      | PC5       | —        | Out    | Melody sound's gain control.<br>Low — Loud<br>High — Soft                                                                        |
| 23      | PC6       | —        | Out    | Chorus depth control. Deeper chorus effect (flanging) is given to the sounds when the terminal is Low.                           |
| 24      | PC7       | —        | Out    | Distortion effect control. Being High of this terminal distorts the sounds.                                                      |
| 25 ~ 27 | —         | —        | —      | Not used                                                                                                                         |
| 28      | RESET     | —        | In     | Power ON Reset signal input. Low active.                                                                                         |
| 29      | MODE 0    | —        | —      | Not used                                                                                                                         |
| 30, 31  | X2, X1    | —        | In/Out | 12MHz clock pulse input and output                                                                                               |
| 32      | GND       | DG       | —      | Digital ground source                                                                                                            |
| 33      | AVSS      | GAD      | —      | Analog ground                                                                                                                    |
| 34 ~ 41 | AN0 ~ AN7 | —        | —      | Not used                                                                                                                         |
| 42      | VAREF     | VAD      | —      | Not used                                                                                                                         |
| 43      | AVCC      | VAD      | —      | Not used                                                                                                                         |
| 44      | RD        | —        | Out    | Read signal. Low active.                                                                                                         |
| 45      | WR        | —        | Out    | Write signal. Low active.                                                                                                        |
| 46      | ALE       | —        | Out    | Address Latch Enable. Data bus D0 ~ D7 become lower address bus when this terminal is High.                                      |
| 47 ~ 54 | PF0 ~ PF7 | A8 ~ A15 | Out    | Upper address bus                                                                                                                |
| 55 ~ 62 | PB0 ~ PB7 | D0 ~ D7  | In/Out | Data bus                                                                                                                         |
| 63      | STOP      | —        | —      | Not used                                                                                                                         |
| 64      | VDD       | VDM      | —      | +5V source                                                                                                                       |

## GATE ARRAY A (MB64HB119)

Containing address latch circuit, Gate Array A turns the data bus into lower address bus.  
The LSI also provides timing signals for switches and strings scanning.

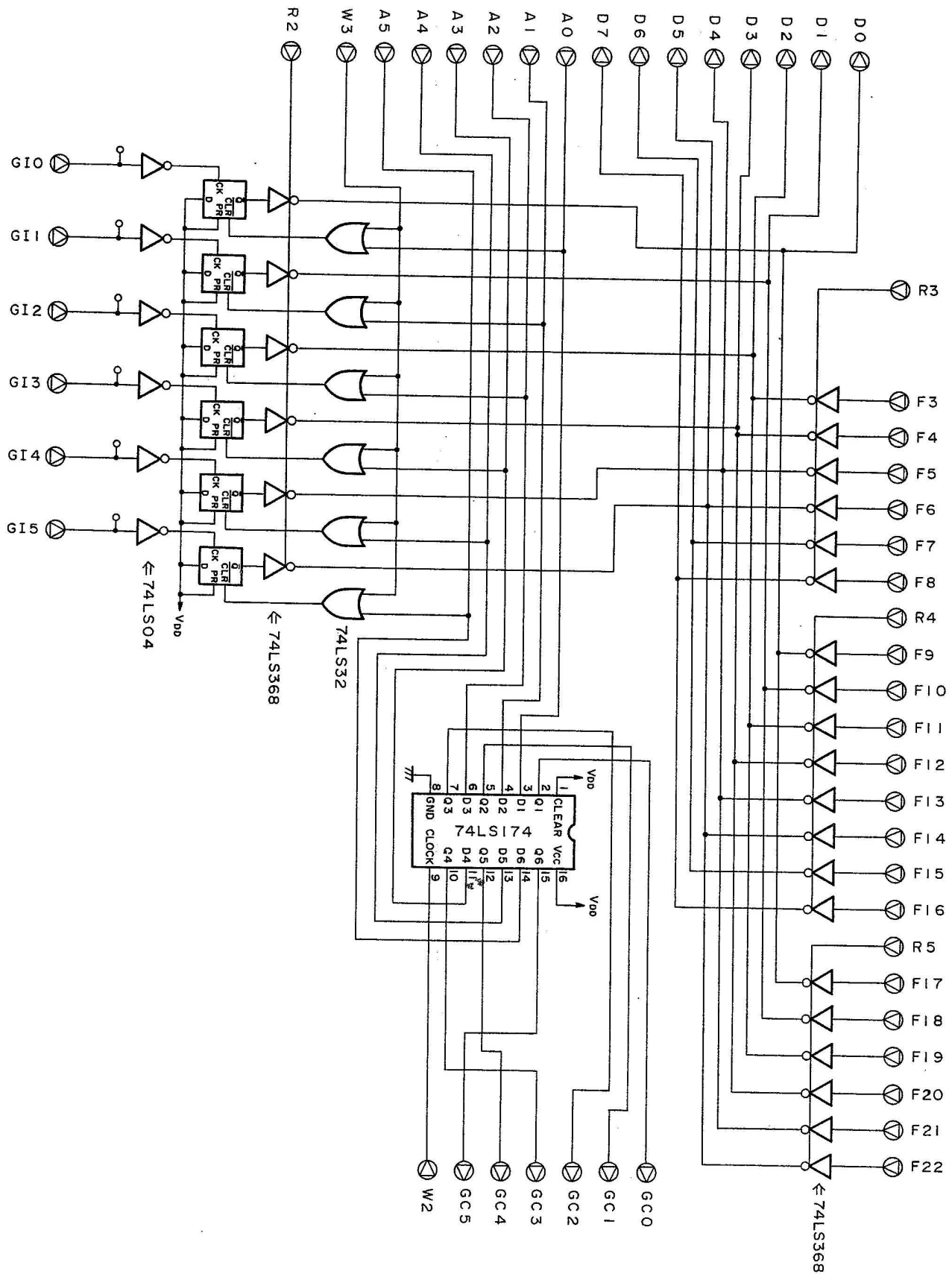
| Pin No. | Terminal  | Signal          | In/Out | Signal Function                                                                                                    |
|---------|-----------|-----------------|--------|--------------------------------------------------------------------------------------------------------------------|
| 1 ~ 5   |           | —               | —      | Not used                                                                                                           |
| 6       | R2        | —               | Out    | String sensor read enable signal. When Low, signals G10 ~ G15 are able to enter Gate Array B                       |
| 7       | R3        | —               | Out    | Fret signals F3 ~ F8 read enable signal. Signals F3 ~ F8 are able to enter Gate Array B when this terminal is Low. |
| 8       | R4        | —               | Out    | Fret signals F9 ~ F16 read enable signal. Low active.                                                              |
| 9       | R5        | —               | Out    | Fret signals F17 ~ F22 read enable signal. Low active.                                                             |
| 10      | VSS       | DG              | —      | Ground                                                                                                             |
| 11      | W2        | —               | Out    | Lower address bus A0 ~ A5 become the string scan signals GC0 ~ GC5 when this terminal is High.                     |
| 13      | W3        | —               | Out    | Timing signal for reading string input signals G10 ~ G15                                                           |
| 13~18   | A0 ~ A5   | A0 ~ A5         | In     | Lower address bus                                                                                                  |
| 19      | NC        | —               | —      | Not used                                                                                                           |
| 20, 21  | A6, A7    | A6, A7          | In     | Lower address bus                                                                                                  |
| 22      | RS1       | —               | In     | Reset signal input                                                                                                 |
| 23      | RS2       | —               | Out    | Inverted reset signal output                                                                                       |
| 24      | RS3       | —               | Out    | Reset signal output                                                                                                |
| 25      | VSS       | DG              | —      | Ground                                                                                                             |
| 26      | VDD       | VC1             | —      | +5V source                                                                                                         |
| 27      | XRD       | $\overline{RD}$ | In     | Signals R2 ~ R5 (pins 6 ~ 9) can be provided when this terminal is Low.                                            |
| 28      | XWR       | $\overline{WR}$ | In     | Signals W2 and W3 (pins 11 and 12) can be provided when this terminal is Low.                                      |
| 29      | ALE       | ALE             | In     | Address Latch Enable signal. When High, data bus D0 ~ D7 become lower address bus A0 ~ A5.                         |
| 30~32   | A11 ~ A13 | A11 ~ A13       | In     | Upper address bus                                                                                                  |
| 33, 34  | NC        | —               | —      | Not used                                                                                                           |
| 35, 36  | A14, A15  | A14, A15        | In     | Upper address bus                                                                                                  |
| 37 ~ 41 | D7 ~ D3   | D7 ~ D3         | In/Out | Data bus                                                                                                           |
| 42      | VSS       | DG              | —      | Ground                                                                                                             |
| 43~45   | D2 ~ D0   | D2 ~ D0         | In/Out | Data bus                                                                                                           |
| 46~50   | KC0~KC4   | KC0~KC4         | Out    | Switch scan signals                                                                                                |
| 51~54   | —         | —               | —      | Not used                                                                                                           |
| 55, 56  | K10, K11  | K10, K11        | In     | Switch input signals                                                                                               |
| 57      | VSS       | DG              | —      | Ground                                                                                                             |
| 58      | VDD       | VG1             | —      | +5V source                                                                                                         |
| 59~64   | K12 ~ K17 | K12 ~ K17       | In     | Switch input signals                                                                                               |

# Gate Array A Block Diagram





Gate Array B Block Diagram



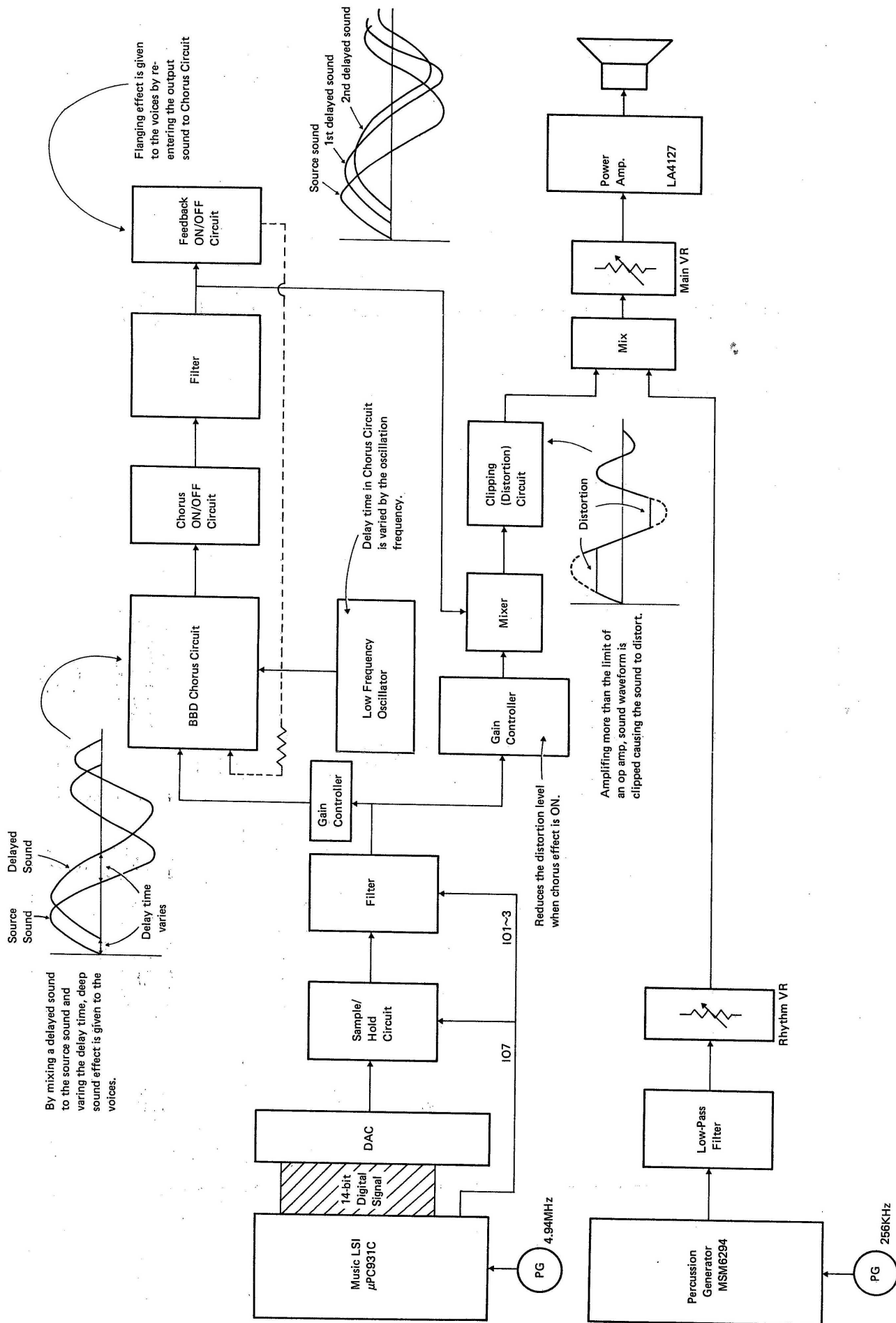
## GATE ARRAY B (MB64HD118)

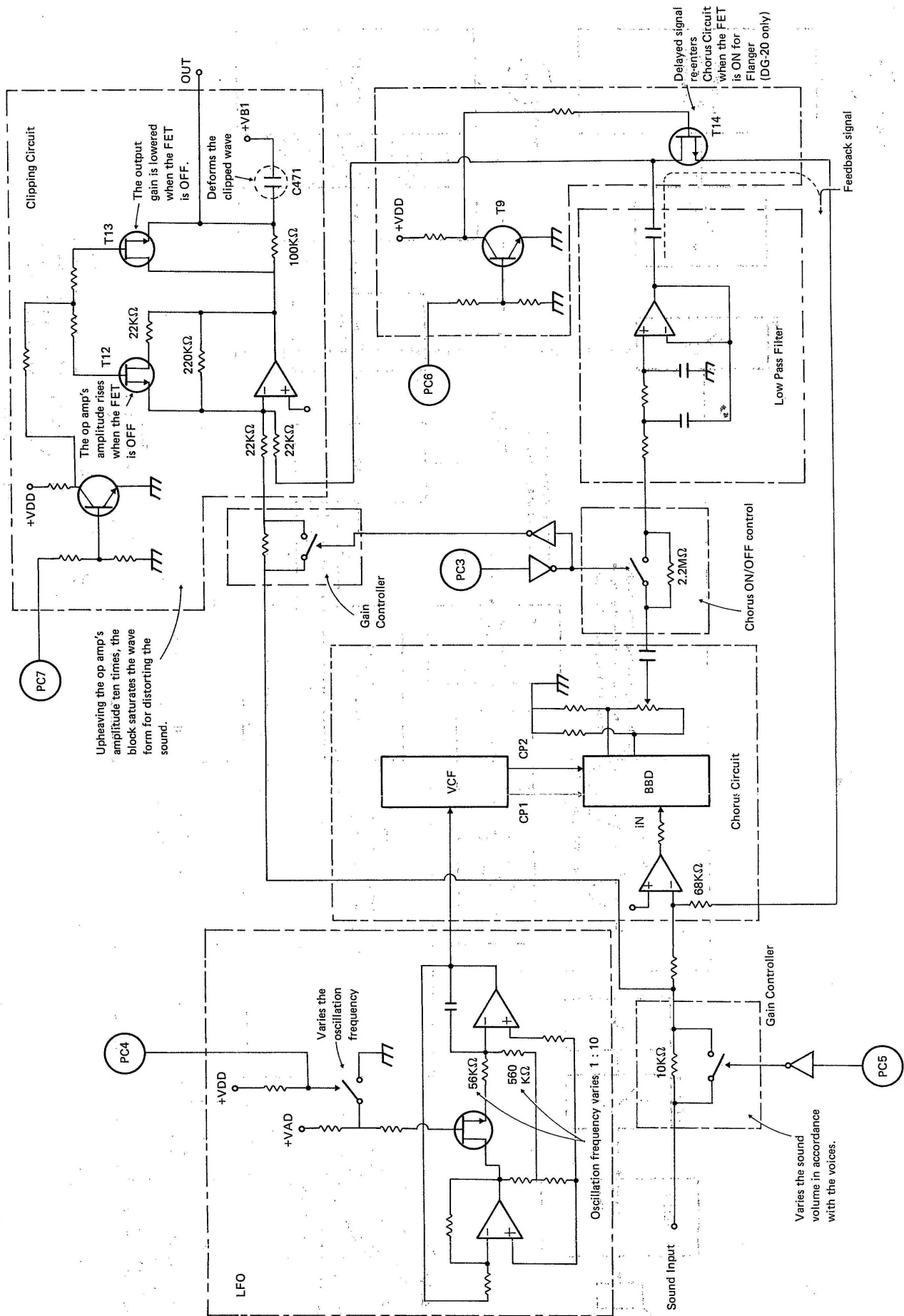
Receiving fret signals F3 ~ F22 and string input signals GI0 ~ GI5, Gate Array B sends fret depression data to CPU via the data bus.

The LSI also provides string scan signals GC0 ~ GC5.

| Pin No. | Terminal  | Signal    | In/Out | Signal Function                                                  |
|---------|-----------|-----------|--------|------------------------------------------------------------------|
| 1, 2    | NC        | —         | —      | Not used                                                         |
| 3 ~ 6   | F15 ~ F12 | F15 ~ F12 | In     | Fret input signals                                               |
| 7 ~ 9   | D0 ~ D2   | D0 ~ D2   | Out    | Fret depression data outputs                                     |
| 10      | VSS       | DG        | —      | Ground                                                           |
| 11 ~ 15 | D3 ~ D7   | D3 ~ D7   | Out    | Fret depression data outputs                                     |
| 16 ~ 18 | A0 ~ A2   | A0 ~ A2   | In     | Address bus. These signals become string scan signals GC0 ~ GC2. |
| 19      | NC        | —         | —      | Not used                                                         |
| 20 ~ 24 | GI5 ~ GI1 | GI5 ~ GI1 | In     | String input signals                                             |
| 25      | VSS       | DG        | —      | Ground                                                           |
| 26      | VDD       | VC2       | —      | +5V source                                                       |
| 27      | GI0       | GI0       | In     | String input signal                                              |
| 28      | W2        | W2        | In     | Timing signal for generating string scan signals GC0 ~ GC5       |
| 29      | W3        | W3        | In     | Timing pulse for reading string input signals                    |
| 30 ~ 32 | A5 ~ A3   | A5 ~ A3   | In     | Address bus. These signals become string scan signals GC3 ~ GC5  |
| 33, 34  | NC        | —         | —      | Not used                                                         |
| 35      | R5        | R5        | In     | Fret signals F17 ~ F22 input enable.<br>Low active.              |
| 36      | R4        | R4        | In     | Fret signals F9 ~ F16 input enable.<br>Low active.               |
| 37      | R3        | R3        | In     | Fret signals F3 ~ F8 input enable.<br>Low active.                |
| 38      | R2        | R2        | In     | String input signals GI0 ~ GI5 input enable.<br>Low active.      |
| 39 ~ 41 | GC0 ~ GC2 | GC0 ~ GC2 | Out    | Fret scan signals                                                |
| 42      | VSS       | DG        | In     | Ground                                                           |
| 43 ~ 45 | GC3 ~ GC5 | GC3 ~ GC5 | Out    | Fret scan signals                                                |
| 46 ~ 49 | F3 ~ F7   | F3 ~ F7   | In     | Fret input signals                                               |
| 50, 51  | NC        | —         | —      | Not connected                                                    |
| 52 ~ 56 | F8 ~ F22  | F8 ~ F22  | In     | *Fret input signals                                              |
| 57      | VSS       | DG        | —      | Ground                                                           |
| 58      | VDD       | VC2       | —      | +5V source                                                       |
| 59 ~ 64 | F21 ~ F16 | F21 ~ F16 | In     | Fret input signals                                               |

# MELODY & PERCUSSION SIGNAL FLOW CHART





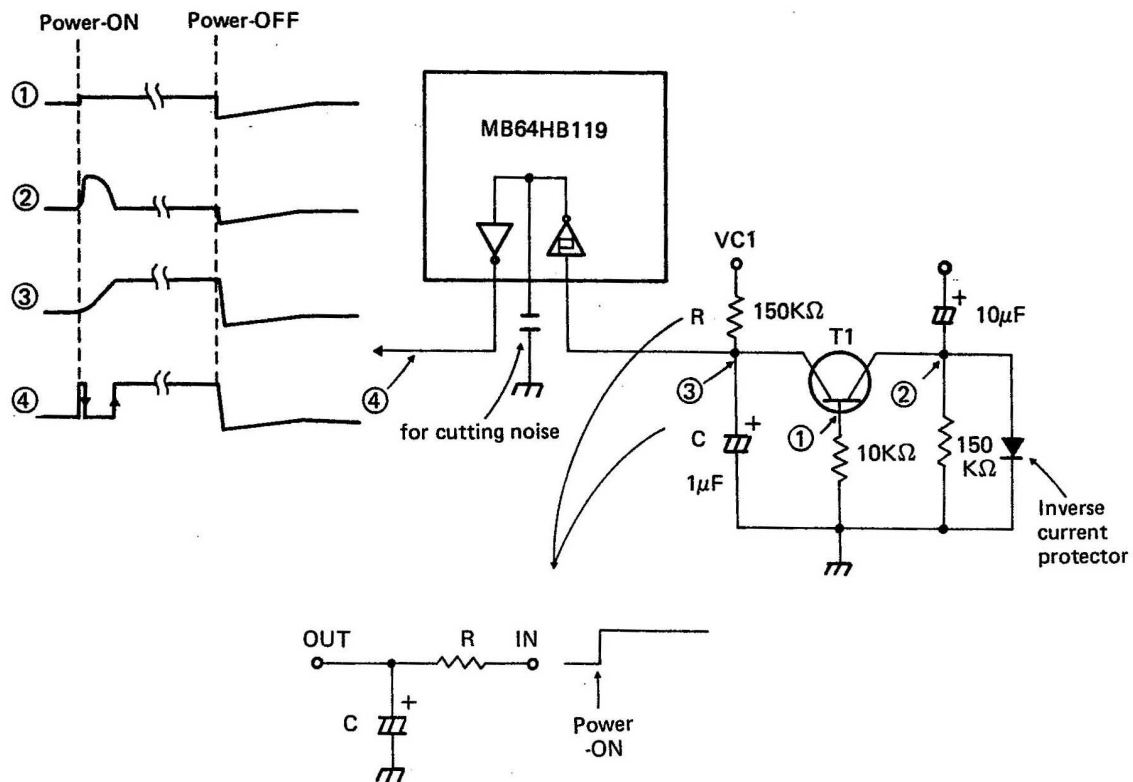
## PRESET EFFECTS IN EACH TONE

| Tone                | IO1  | IO2  | IO3  | Cutoff Freq. | Delayed Vibrator | Chorus Speed | Flanging | Distortion |
|---------------------|------|------|------|--------------|------------------|--------------|----------|------------|
| Acoustic Guitar 1   | High | Low  | High | 1.9KHz       | No               | No           | No       | No         |
| Acoustic Guitar 3*  | Low  | Low  | Low  | 1.2KHz       | Yes              | Yes/Slow     | No       | No         |
| Elec. Guitar 1      | Low  | Low  | High | 2.7KHz       | Yes              | Yes/Slow     | No       | No         |
| (Flanger)**         | Low  | Low  | High | 2.7KHz       | No               | No           | Yes      | No         |
| Glocken             | Low  | Low  | Low  | 1.2KHz       | No               | No           | No       | No         |
| (Harpsichord)       | High | High | Low  | 1.4KHz       | No               | No           | No       | No         |
| Shamisen            | Low  | Low  | Low  | 1.2KHz       | No               | No           | No       | No         |
| Jazz Organ          | High | Low  | High | 1.9KHz       | No               | Yes/Fast     | No       | No         |
| Trumpet             | Low  | Low  | High | 2.7KHz       | Yes              | No           | No       | No         |
| (Chorus)            | High | High | High | 1.0KHz       | No               | Yes/Slow     | No       | No         |
| (Acoustic Guitar 2) | Low  | High | Low  | 3.2KHz       | No               | No           | No       | No         |
| (Acoustic Guitar 4) | Low  | Low  | Low  | 1.2KHz       | No               | No           | No       | No         |
| Elec. Guitar 2      | Low  | Low  | High | 2.7KHz       | Yes              | Yes/Slow     | No       | No         |
| Distortion          | Low  | High | Low  | 3.2KHz       | Yes              | Yes/Slow     | No       | Yes        |
| Crystal             | Low  | Low  | High | 2.7KHz       | No               | Yes/Fast     | No       | No         |
| Funky Clavi.        | Low  | High | Low  | 3.2KHz       | Yes              | Yes/Slow     | No       | Yes        |
| Mandolin            | Low  | Low  | Low  | 1.2KHz       | No               | No           | No       | No         |
| (Organ)             | Low  | Low  | Low  | 1.2KHz       | No               | Yes/Slow     | No       | No         |
| (Flute)             | High | Low  | High | 1.9KHz       | Yes              | No           | No       | No         |
| (Clarinet)          | Low  | Low  | High | 2.7KHz       | Yes              | No           | No       | No         |

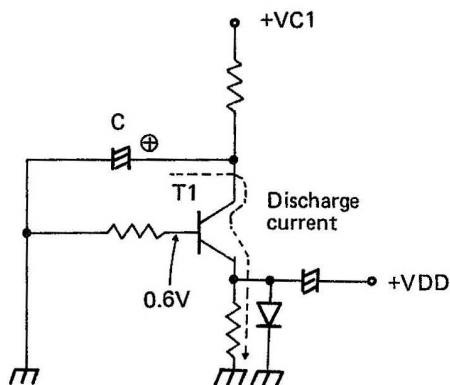
\* Acoustic Guitar 2 on MG-10

\*\* Tones in parentheses are for MG-20

## RESET CIRCUIT

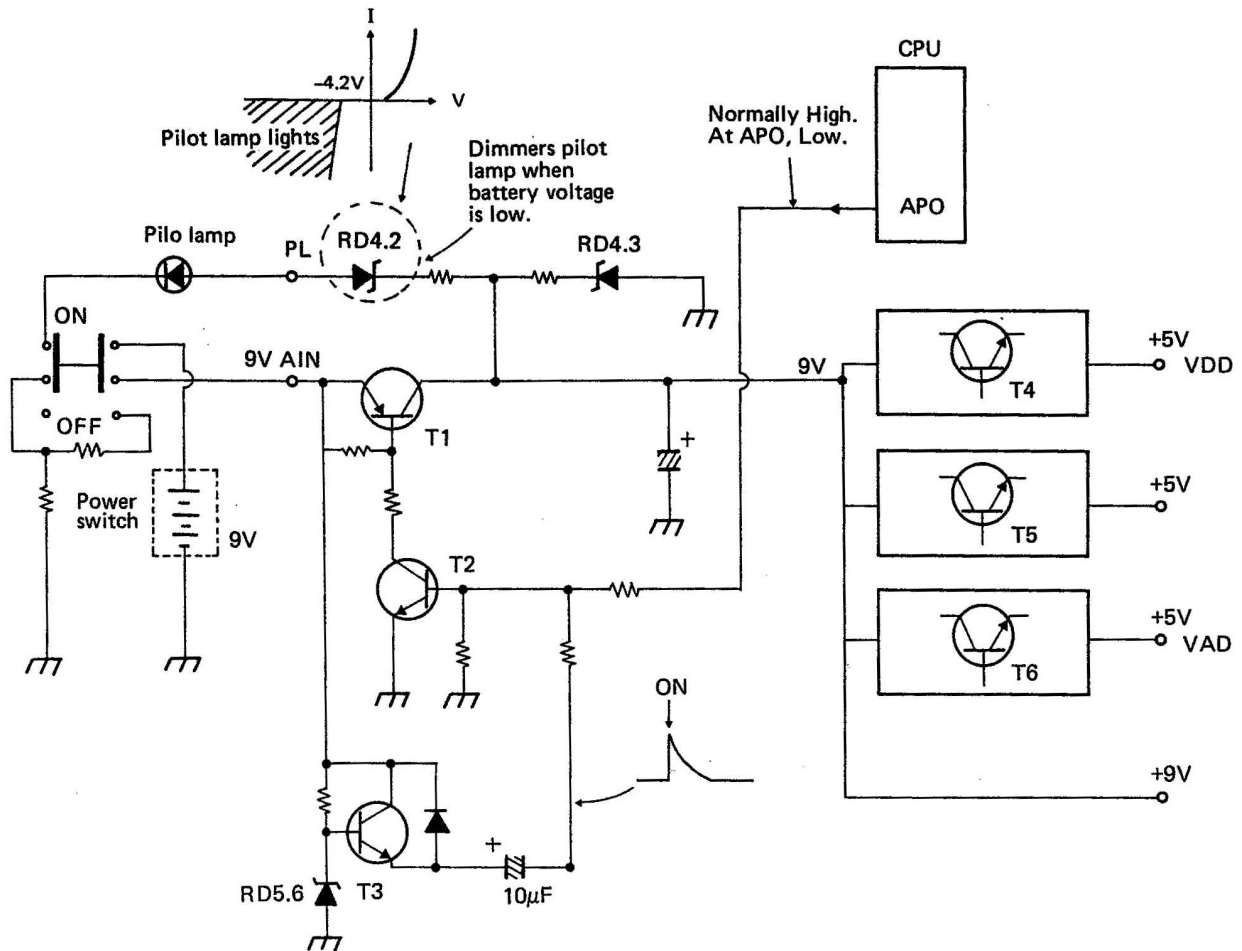


At Power ON, VC1 (+5V) is delayed by the integral circuit of resistor R and capacitor C. The delayed VC1 is shaped in square wave by two inverters in Gate Array B and sent to CPU.



When the power switch is turned off, electric charge in capacitor C should be discharged immediately for the next Power ON. While C is charged, the base voltage of transistor is 0.6 volt. T1 turns on discharging the capacitor.

## POWER CIRCUIT

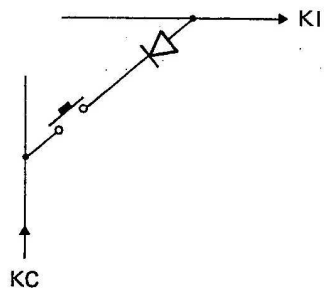


- (1) When the power switch is turned on, battery voltage is provided to the base of transistor T3 causing the transistor to turn on. Current from T3 emitter charges the 10-microfarad capacitor.
- (2) The electric charge from the capacitor turns T2 on compulsorily.
- (3) Transistor T1 turns on providing the battery voltage to voltage regulating transistors T4, T5, and T6.
- (4) After being charged, the capacitor does not provide voltage to T2 base however, receiving VDD (+5V), the CPU provides +5V to T2 base by signal APO.
- (5) If the guitar is not played for six minutes, CPU lowers signal APO causing the transistors T1, T2, T4, T5, and T6 off.

## SWITCH MATRIX

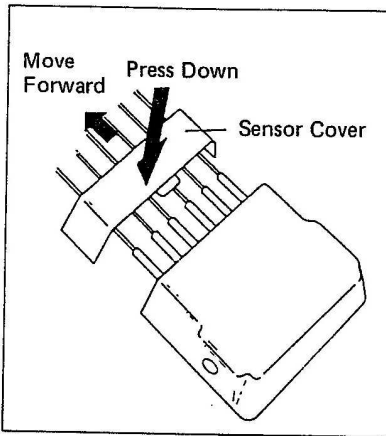
Switches in   are for DG-20 only.

|     | K17              | K16         | K15                 | K14            | K13          | K12          | K11          | K10          |
|-----|------------------|-------------|---------------------|----------------|--------------|--------------|--------------|--------------|
| KC0 |                  |             |                     |                | DRUMPAD<br>4 | DRUMPAD<br>3 | DRUMPAD<br>2 | DRUMPAD<br>1 |
| KC1 | TONE<br>7        | TONE<br>6   | TONE<br>5           | TONE<br>4      | TONE<br>3    | TONE<br>2    | TONE<br>1    | TONE<br>0    |
| KC2 | TONE<br>SELECT   |             |                     | MIDI<br>SW     | HOLD         | REV<br>/SUS  | TONE<br>9    | TONE<br>8    |
| KC3 | RHYTHM<br>SELECT |             | RHYTHM<br>5         | RHYTHM<br>4    | RHYTHM<br>3  | RHYTHM<br>2  | RHYTHM<br>1  | RHYTHM<br>0  |
| KC4 |                  | SUS<br>MUTE | SYNCHRO<br>/FILL-IN | START<br>/STOP | PITCH<br>▽   | PITCH<br>△   | TEMPO<br>▽   | TEMPO<br>△   |



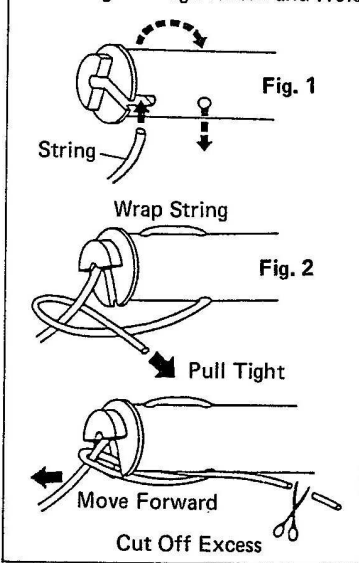


## CHANGING STRINGS

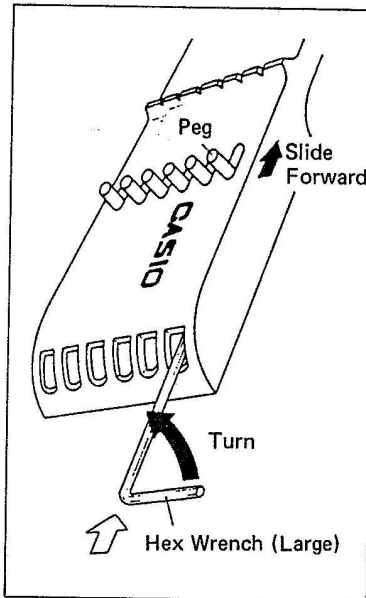


1. As shown in the above diagram, press down on the sensor cover and move it toward the neck. **Do not use excessive force on any parts in the sensor assembly.**

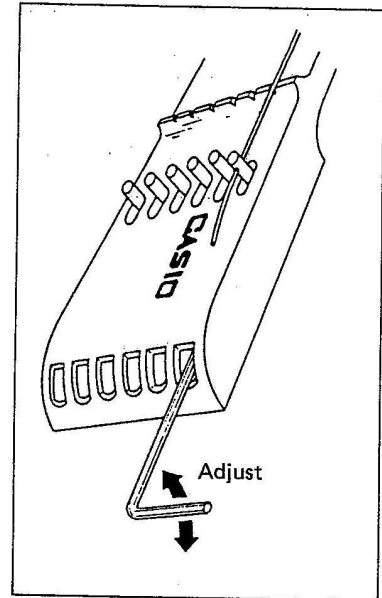
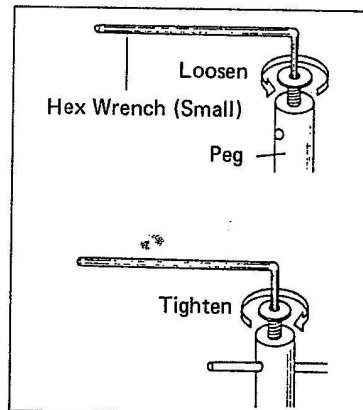
Pull String Through Notch and Hole



2. As shown in Fig. 1 above, strings pass through a notch in the end of the sensor, and then through a hole in the sensor. After pulling through a few inches of string, tie the string as shown in Fig. 2. Next, fix the string tight and cut off any excess.



3. Insert the accessory hex wrench (large) into the head and turn it counter-clockwise to slide the headpiece towards the body. Next, insert the other hex wrench (small) in the headpiece and loosen the screw.



4. Next, pull the string through the hole in the headpiece and tighten the headpiece screw while pulling the string taut. Using the large hex wrench, move slide the headpiece back into position to adjust string tension. **Avoid tightening the strings excessively, as this may lead to neck warps or other damage. Also, do not use excessive force on the neck. Follow the same procedures to change all 6 strings.**

**Note:** Use nylon B strings only for all 6 strings.

## SELF DIAGNOSTIC PROGRAM

DG-10 and DG-20 have built-in diagnostic program which checks the following functions.

**Note:** \*Marked checkings are for DG-20 only.

- (1) Reset Mode
  - Percussion sounds check
  - Foot switch check\*
  - Drum pad check\*
- (2) Switch Check Mode
  - All the panel switches' function check
- (3) Bit Compensation Adjustment Mode
  - For the DAC's bit compensation adjustment
- (4) String Sensor Check Mode
  - String sensor's sensitivity check
- (5) Fret Check Mode
  - All the frets' contact check

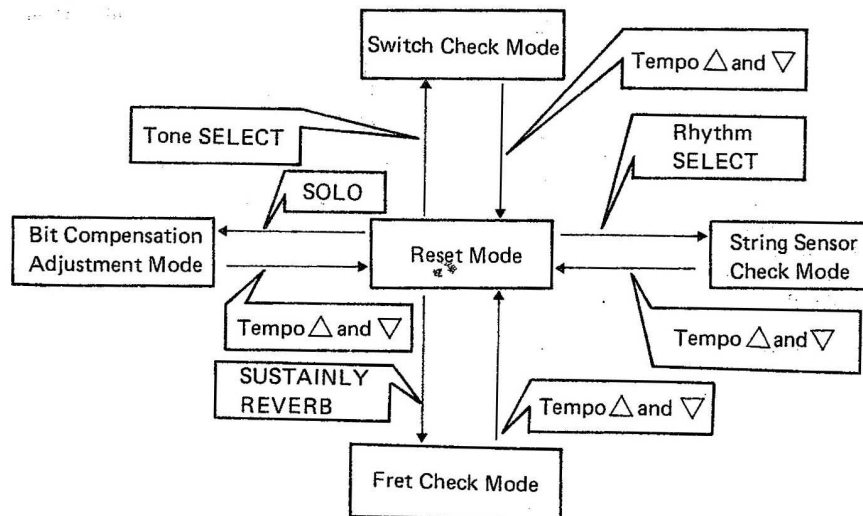
From any of the check modes, APO (Auto Power Off) feature is checked by pressing ROCK, COUNTRY, and BOSSA NOVA switches simultaneously. Escaping from the diagnostic mode is done by pressing POPS, SWING, and WALTZ switches together.

Starting of the diagnostic program.

While pressing ACO GUITAR, DISTORTION, and SHAMISEN (ACO. GUITAR 1, ELEC. GUITAR 1, and GLOCKEN for DG-20) switches, turn the power switch on.

If the ROM and RAM function properly, the guitar is set in reset mode and all the LEDs illuminate.

Escaping to other check mode is made only from the reset mode as shown below:



## Reset Mode

The following table shows each switches' function in the reset mode

| Switch                | Function                                     |
|-----------------------|----------------------------------------------|
| Tone switches         | Tone change                                  |
| Tone select           | Escaping to Switch Check Mode                |
| Rock                  | Cymbal sound check                           |
| Pops                  | Hi-hat sound check                           |
| Country               | Rim shot sound check                         |
| Swing                 | Snare drum sound check                       |
| Bossa Nova            | Bass drum sound check                        |
| Waltz                 | High tom sound check                         |
| Rhythm select         | Escaping to String Sensor Check Mode         |
| Transpose $\triangle$ | Transpose "UP"                               |
| Transpose $\nabla$    | Transpose "DOWN"                             |
| Tempo $\triangle$     | Tempo "UP"                                   |
| Tempo $\nabla$        | Tempo "DOWN"                                 |
| Sustain/Reverb        | Escaping to Fret Check Mode                  |
| Solo                  | Escaping to Bit Compensation Adjustment Mode |
| Mute                  | Low tone sound check                         |
| MIDI (DG-20 only)     | MIDI Mode I or II switching                  |

In Reset Mode, also check the illumination of each LED.

## Switch Check Mode

DG-10 or DG-20 is set in Switch Check Mode by pressing Tone SELECT switch while the guitar is in Reset mode.

In this mode, all the switches' functions are checked by pressing them in order as shown on the following pages.

If a switch functions properly, the guitar sounds certain pitch in Acoustic Guitar tone. When the switch is multifunction or wrong switch is pressed, a cymbal sound is generated.

After the last switch depression, the guitar returns to Reset mode automatically.

Escaping to Reset mode at the middle of Switch Check Mode is made by pressing TEMPO  $\triangle$  and  $\nabla$  switches simultaneously.

# DG-10 Switch Checking Order

| Order | Switch         | LED to be Lit | Pitch | Order | Switch          | LED to be Lit | Pitch |
|-------|----------------|---------------|-------|-------|-----------------|---------------|-------|
| 1     | Tone 1         | Tone SELECT   | D     | 21    | Mute            |               | D     |
| 2     | 2              | "             | D#    | 22    | Start/Stop      |               | D#    |
| 3     | 3              | "             | E     | 23    | Synchro/Fill In |               | E     |
| 4     | 4              | "             | F     |       |                 |               |       |
| 5     | 5              | "             | F#    |       |                 |               |       |
| 6     | 6              | "             | G     |       |                 |               |       |
| 7     | Tone SELECT    | "             | G#    |       |                 |               |       |
| 8     | SUSTAIN/REVERB | "             | A     |       |                 |               |       |
| 9     | TEMPO ▽        | "             | A#    |       |                 |               |       |
| 10    | TRANSPOSE ▽    | "             | B     |       |                 |               |       |
| 11    | Rhythm 1       | "             | D     |       |                 |               |       |
| 12    | 2              | "             | D#    |       |                 |               |       |
| 13    | 3              | "             | E     |       |                 |               |       |
| 14    | 4              | "             | F     |       |                 |               |       |
| 15    | 5              | "             | F#    |       |                 |               |       |
| 16    | 6              | "             | G     |       |                 |               |       |
| 17    | Rhythm SELECT  | "             | G#    |       |                 |               |       |
| 18    | SOLO           | "             | A     |       |                 |               |       |
| 19    | TEMPO △        | "             | A#    |       |                 |               |       |
| 20    | TRANSPOSE △    | "             | B     |       |                 |               |       |

# DG-20 Switch Checking Order

| Order | Switch             | LED to be Lit | Pitch | Order | Switch                | LED to be Lit | Pitch |
|-------|--------------------|---------------|-------|-------|-----------------------|---------------|-------|
| 1     | Tone 1             | Tone SELECT   | D     | 23    | SOLO                  | Tone SELECT   | C     |
| 2     | 2                  | "             | D#    | 24    | Transpose $\triangle$ | "             | C#    |
| 3     | 3                  | "             | E     | 25    | Mute                  | "             | D     |
| 4     | 4                  | "             | F     | 26    | Start/Stop            | "             | D#    |
| 5     | 5                  | "             | F#    | 27    | Synchro/Fill-In       | "             | E     |
| 6     | 6                  | "             | G     | 28    | MIDI                  | "             | F     |
| 7     | 7                  | "             | G#    |       |                       |               |       |
| 8     | 8                  | "             | A     |       |                       |               |       |
| 9     | 9                  | "             | A#    |       |                       |               |       |
| 10    | 10                 | "             | B     |       |                       |               |       |
| 11    | Tone SELECT        | "             | C     |       |                       |               |       |
| 12    | Transpose $\nabla$ | "             | C#    |       |                       |               |       |
| 13    | Rhythm 1           | "             | D     |       |                       |               |       |
| 14    | 2                  | "             | D#    |       |                       |               |       |
| 15    | 3                  | "             | E     |       |                       |               |       |
| 16    | 4                  | "             | F     |       |                       |               |       |
| 17    | 5                  | "             | F#    |       |                       |               |       |
| 18    | 6                  | "             | G     |       |                       |               |       |
| 19    | Rhythm SELECT      | "             | G#    |       |                       |               |       |
| 20    | TEMPO $\triangle$  | "             | A     |       |                       |               |       |
| 21    | TEMPO $\nabla$     | "             | A#    |       |                       |               |       |
| 22    | SUSTAIN/REVERB     | "             | B     |       |                       |               |       |

### String Sensor Check Mode

The guitar is set in String Sensor Check mode by pressing Rhythm SELECT switch while it is in Reset mode.

This mode detects the triggering period of string sensor.

The triggering period is indicated by the illumination of the following LEDs.

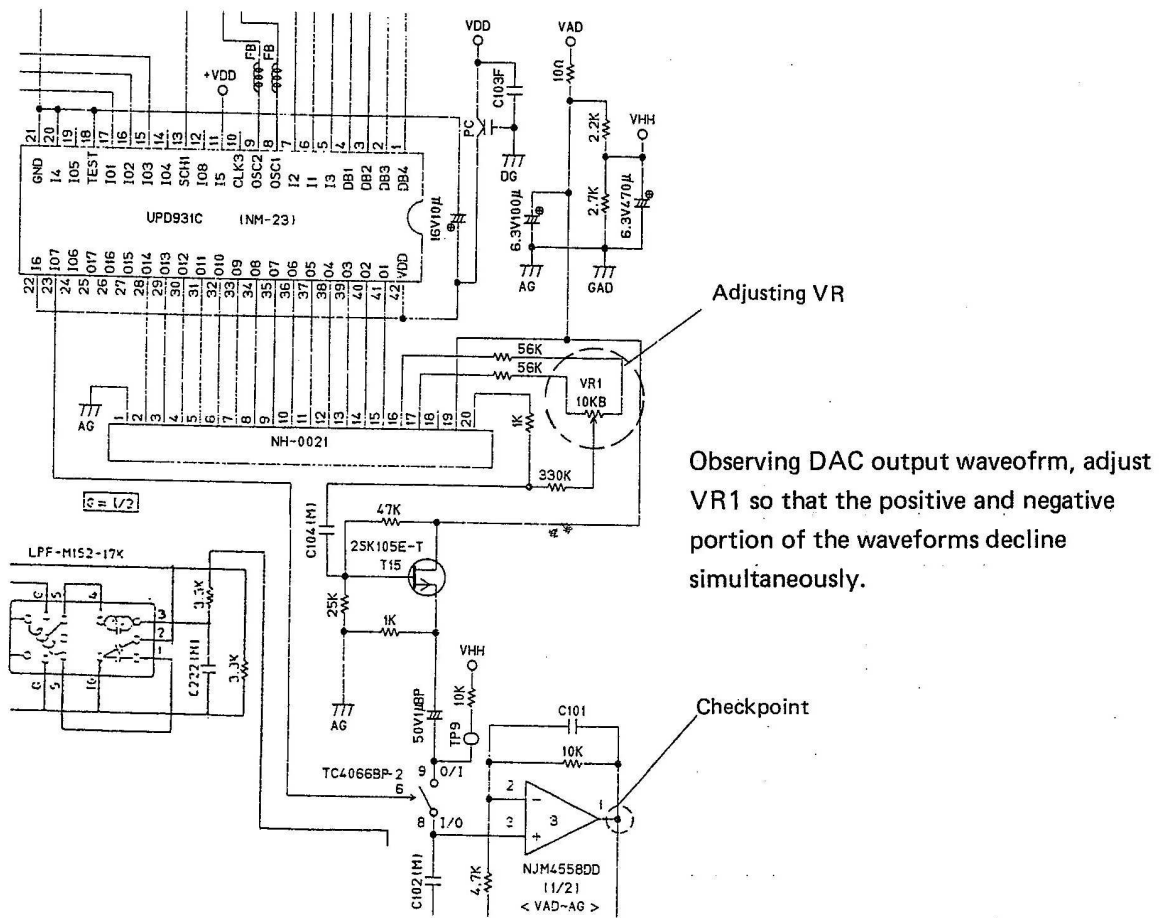
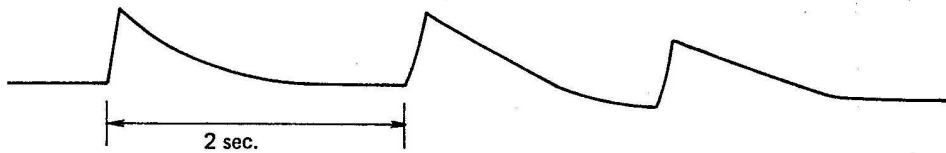
| Triggering Period<br>(ms) | LED to be Lit |                |       |               |      |
|---------------------------|---------------|----------------|-------|---------------|------|
|                           | TONE<br>SEL.  | RHYTHM<br>SEL. | TEMPO | SUS./<br>REV. | SOLO |
| 0 ~ 48                    | ○             |                |       |               |      |
| 48 ~ 64                   | ○             | ○              |       |               |      |
| 64 ~ 80                   | ○             | ○              | ○     |               |      |
| 80 ~ 96                   | ○             | ○              | ○     | ○             |      |
| 96 ~                      | ○             | ○              | ○     | ○             |      |

Playing each string, make sure that the triggering period is less than 80ms.

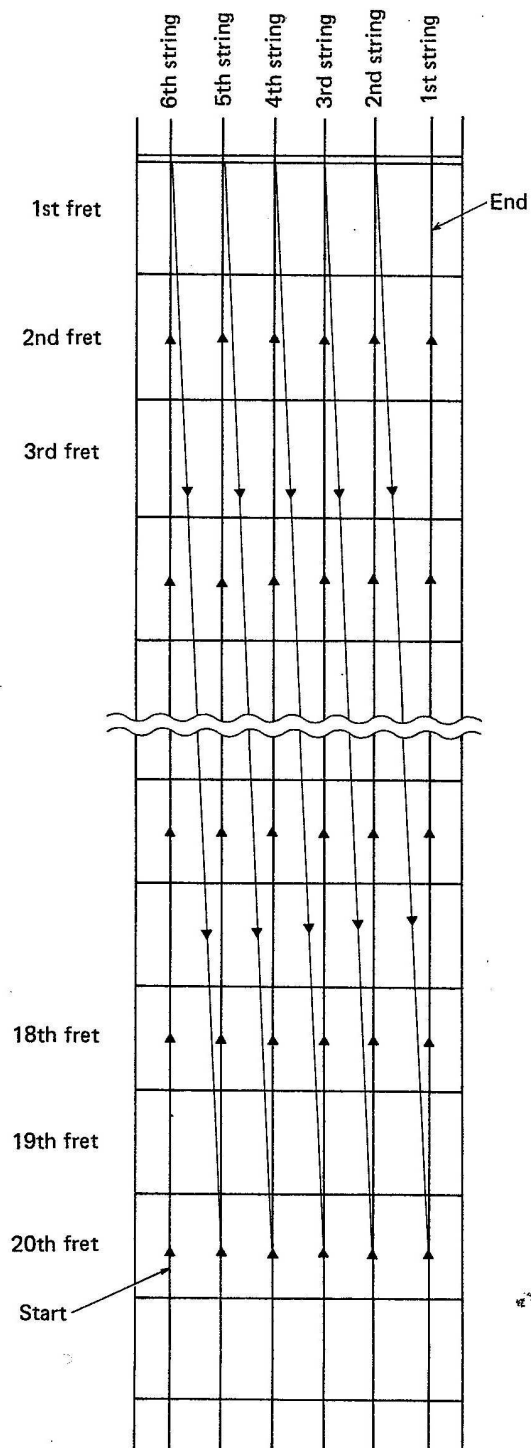
Press Tempo  $\triangle$  and  $\nabla$  switches simultaneously for escaping to Reset mode.

## Bit Compensation Adjustment Mode

Pressing of SOLO switch in Reset mode sets the DG-10/20 in Bit Compensation Mode. In this mode, the guitar provides an Acorstic Guitar sound in every two seconds.



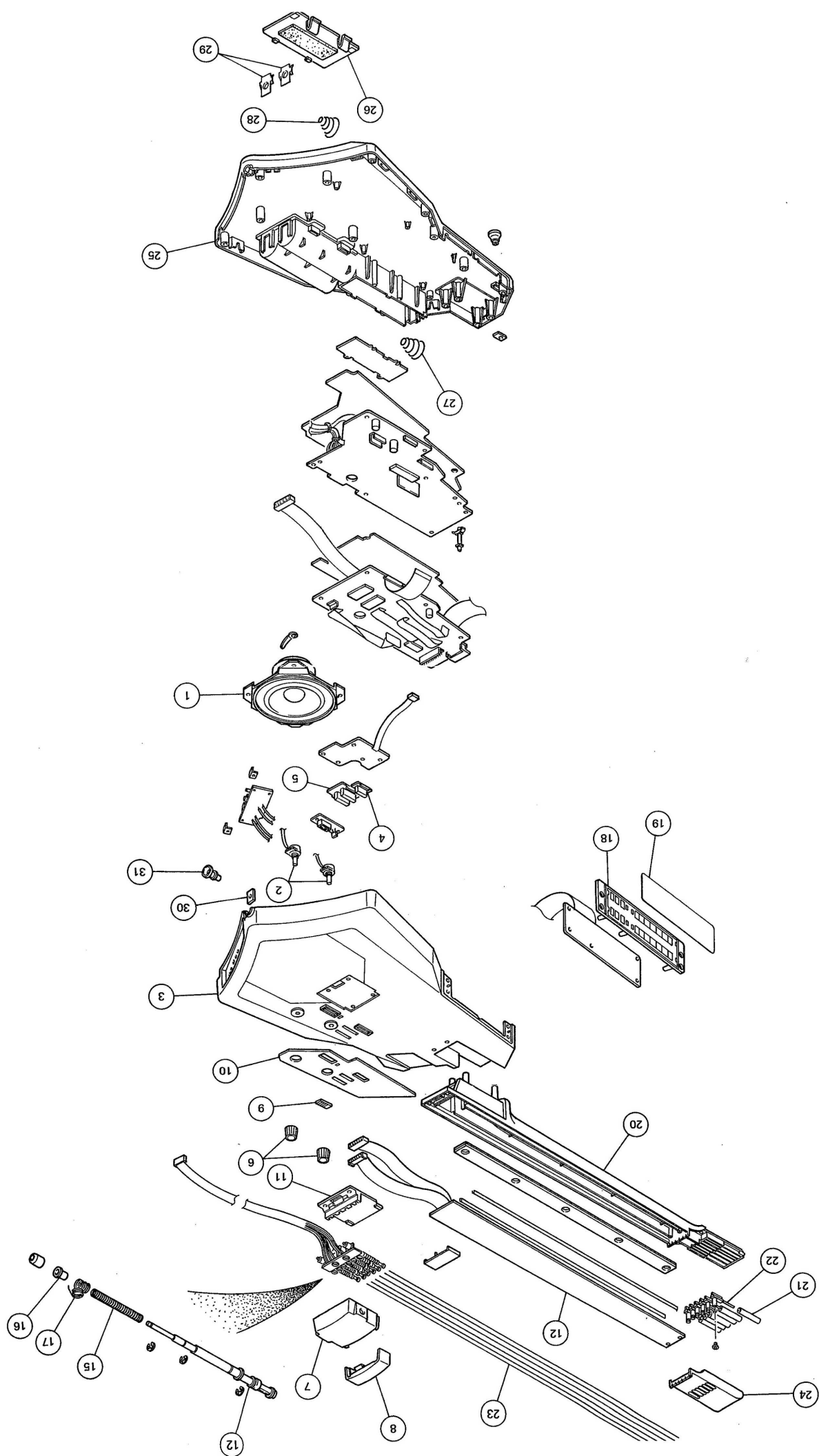
## Fret Check Mode



Pressing SUSTAIN/REVERB switch in Reset mode sets the guitar in Fret Check mode. In this mode, all the frets' contacts can be checked.

As soon as SUSTAIN/REVERB switch is pressed, the guitar sounds a note and the pitch varies by pressing the frets in order as shown in the left figure.





# PARTS LIST

DG-10

- Notes:
1. Prices and specifications are subject to change without prior notice.
  2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare Parts Supply", published separately.
  3. The numbers in item column correspond to the same numbers in drawing.

| Item | Code No.                       | Part Name              | Specification                             | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|------|--------------------------------|------------------------|-------------------------------------------|------|----|--------------------------------------------|------|
|      | <b>1) M4360-MA1M PCB ASS'Y</b> |                        |                                           |      |    |                                            |      |
|      | 2010 2128                      | LSI                    | μPD78C10G-36                              | 1    |    |                                            | A    |
| ☆    | 2010 3290                      | LSI                    | MB64HB118                                 | 1    |    |                                            | A    |
| ☆    | 2010 3297                      | LSI                    | MB64HB119                                 | 1    |    |                                            | A    |
| ☆    | 2010 3304                      | LSI                    | MSM6294-06                                | 1    |    |                                            | A    |
| ☆    | 2010 3367                      | LSI                    | μPD23C256EAC-055                          | 1    |    |                                            | A    |
|      | 2105 0532                      | C-MOS IC               | LC4969                                    | 1    | 10 |                                            | A    |
|      | 2111 5215                      | Bipolar IC             | SN74LS367AN                               | 1    |    |                                            | A    |
|      | 2590 0140                      | Ceramic oscillator     | CSA12.0MT18                               | 1    | 5  |                                            | B    |
|      | 2720 3540                      | Module resistor        | MS10411F                                  | 1    | 10 |                                            | B    |
|      | 2720 3566                      | Module resistor        | MS1049F                                   | 1    | 10 |                                            | B    |
|      | 2720 3604                      | Module resistor        | MS1048F                                   | 1    | 10 |                                            | B    |
| ☆    | 2801 7483                      | Electrolytic capacitor | 6.3RE2-220-S1                             | 1    | 20 |                                            | C    |
| ☆    | 2252 0063                      | Transistor             | 2SC1310F-T<br>(2SC1340LNSR)               | 2    | 10 |                                            | A    |
|      | 2301 0241                      | Diode                  | 1SS254T-77-T                              | 4    | 20 |                                            | C    |
|      | 2617 0028                      | Carbon film resistor   | R-20-100-J-T24-T<br>(1/5W, 100ohm, ±5%)   | 7    | 20 |                                            | C    |
|      | 2617 0036                      | Carbon film resistor   | R-20-220-J-T24-T<br>(1/5W, 220ohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0052                      | Carbon film resistor   | R-20-1K-J-T24-T<br>(1/5W, 1Kohm, ±5%)     | 29   | 20 |                                            | C    |
|      | 2617 0061                      | Carbon film resistor   | R-20-2.2K-J-T24-T<br>(1/5W, 2.2Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0095                      | Carbon film resistor   | R-20-10K-J-T24-T<br>(1/5W, 10Kohm, ±5%)   | 9    | 20 |                                            | C    |
|      | 2617 0150                      | Carbon film resistor   | R-20-150K-J-T24-T<br>(1/5W, 150Kohm, ±5%) | 2    | 20 |                                            | C    |
| ☆    | 2617 0176                      | Carbon film resistor   | R-20-1M-J-T24-T<br>(1/5W, 1Mohm, ±5%)     | 1    | 20 |                                            | C    |
| ☆    | 2617 0869                      | Carbon film resistor   | R-20-4.7-J-T-24-T<br>(1/5W, 4.7ohm, ±5%)  | 1    | 20 |                                            | C    |
| ☆    | 2801 7091                      | Electrolytic capacitor | 6.3RE2-33-T2-T                            | 1    | 20 |                                            | C    |
|      | 2805 3142                      | Electrolytic capacitor | 16RE2-10-T2-T                             | 1    | 20 |                                            | C    |
|      | 2807 1023                      | Electrolytic capacitor | 50RE2-1-T2-T                              | 2    | 10 |                                            | C    |
|      | 2807 1040                      | Electrolytic capacitor | 6.3RE2-470-T2-T                           | 3    | 10 |                                            | C    |
|      | 2807 1091                      | Electrolytic capacitor | 6.3RE2-100-T2-T                           | 1    | 20 |                                            | C    |
|      | 2807 1104                      | Electrolytic capacitor | 6.3RE2-100-T14-T                          | 1    | 20 |                                            | C    |
|      | 2818 0390                      | Ceramic capacitor      | RT-HE40TKYB221K-T                         | 5    | 10 |                                            | C    |
|      | 2818 2082                      | Ceramic capacitor      | RT-HE70TKYF103Z-T                         | 8    | 10 |                                            | C    |
|      | 2818 3283                      | Ceramic capacitor      | RT-HE50TKCH300J-T                         | 2    | 10 |                                            | C    |

Note: ☆ — New parts

Q'ty — Quantity used per unit

\* — Minimum order and supply quantity

Rank A: Essential

B: Stock recommended

C: Others

X: No stock recommended

| Item                           | Code No.  | Part Name                | Specification               | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|--------------------------------|-----------|--------------------------|-----------------------------|------|----|--------------------------------------------|------|
|                                | 2830 6296 | Mylar capacitor          | AMZV-332K50-T               | 1    | 10 |                                            | C    |
|                                | 2830 6312 | Mylar capacitor          | AMZV-471K50-T               | 1    | 10 |                                            | C    |
|                                | 2830 6363 | Mylar capacitor          | AMZV-882K50-T               | 1    | 10 |                                            | C    |
|                                | 2831 0119 | Film capacitor           | AMSV-472J100-T              | 1    | 20 |                                            | C    |
|                                | 2831 0126 | Film capacitor           | APSV-332J100-T              | 1    | 20 |                                            | C    |
|                                | 2845 0049 | Module capacitor         | CNB8X221K                   | 3    | 5  |                                            | C    |
| ☆                              | 2845 0273 | Three polarity capacitor | EXC-ETC222MBC               | 5    | 20 |                                            | C    |
|                                | 3500 3240 | Pin assembly 7P          | IL-G-7P-S3T2-E              | 1    |    |                                            | C    |
|                                | 3500 3401 | Connector 4P             | IL-G-4P-S3T2-E              | 1    |    |                                            | C    |
|                                | 3500 3878 | Pin assembly 12P         | IL-G-12P-S3L2-E             | 1    |    |                                            | C    |
|                                | 3500 7695 | Print plate connector    | IL-G-15P-S3T2-E             | 1    |    |                                            | C    |
|                                | 3841 0049 | Coil                     | L220P-7L                    | 1    | 10 |                                            | B    |
| ☆                              | 4307 7880 | Blank PCB M4360-MA1M     | M11364-1                    | 1    |    |                                            | X    |
| <b>2) M4360-MA2M PCB ASS'Y</b> |           |                          |                             |      |    |                                            |      |
|                                | 2001 2043 | LSI                      | μPD931C                     | 1    |    |                                            | A    |
|                                | 2100 3549 | MOS IC                   | TC4066BP<br>(μPD4066BC)     | 2    |    |                                            | A    |
|                                | 2100 3786 | CMOS IC                  | TC40H004P                   | 1    |    |                                            | A    |
|                                | 2100 7552 | CMOS IC                  | MN3102                      | 1    |    |                                            | A    |
|                                | 2100 7692 | BBD                      | MN3209                      | 1    |    |                                            | A    |
|                                | 2114 0007 | Monolithic IC            | BA4558CA<br>(NJM4558DD)     | 3    |    |                                            | A    |
|                                | 2114 0070 | Monolithic IC            | LA4127                      | 1    |    |                                            | A    |
|                                | 2120 1154 | Hybrid IC                | NH0021                      | 1    |    |                                            | A    |
|                                | 2121 0013 | OP amp                   | NJM4558DD                   | 1    |    |                                            | A    |
|                                | 2240 1068 | FET                      | 2SK163M-T                   | 2    |    |                                            | A    |
|                                | 2240 1149 | FET                      | 2SK105E-T                   | 2    | 10 |                                            | A    |
| ☆                              | 2252 0063 | Transistor               | 2SC1310F-T<br>(2SC1740LNSR) | 6    | 10 |                                            | A    |
|                                | 2210 6236 | Transistor               | 2SB824R.S                   | 1    |    |                                            | A    |
| ☆                              | 2252 0266 | Transistor               | 2SC2060Q.R                  | 1    | 10 |                                            | A    |
| ☆                              | 2253 0154 | Transistor               | 2SD1381Q.R                  | 1    | 10 |                                            | A    |
|                                | 2320 9764 | LED                      | LN251RPP.WE                 | 1    | 10 |                                            | B    |
|                                | 2301 0241 | Diode                    | 1SS254T-77-T                | 3    | 20 |                                            | C    |
|                                | 2310 7732 | Zener diode              | RD5.6ESB2-T1-T              | 3    | 20 |                                            | B    |
| ☆                              | 2310 7767 | Zener diode              | RD6.8ESB2-T1-T              | 1    | 20 |                                            | B    |
|                                | 2310 7848 | Zener diode              | RD4.3ESB2-T1-T              | 2    | 20 |                                            | B    |
|                                | 2340 0022 | Variable capacitor       | SVC321                      | 1    | 10 |                                            | B    |

Note: ☆ — New parts  
Q'ty. — Quantity used per unit  
\* — Minimum order and supply quantity

Rank A: Essential  
B: Stock recommended  
C: Others  
X: No stock recommended

| Item | Code No.  | Part Name            | Specification                             | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|------|-----------|----------------------|-------------------------------------------|------|----|--------------------------------------------|------|
| ☆    | 2390 0210 | Diode                | DSF10C-UB1-H                              | 2    | 20 |                                            | C    |
| ☆    | 2606 0595 | Carbon film resistor | R-20-12-J-T24-T<br>(1/5W, 12ohm, ±5%)     | 2    | 20 |                                            | C    |
|      | 2617 0028 | Carbon film resistor | R-20-100-J-T24-T<br>(1/5W, 100ohm, ±5%)   | 5    | 20 |                                            | C    |
|      | 2617 0036 | Carbon film resistor | R-20-220-J-T24-T<br>(1/5W, 220ohm, ±5%)   | 2    | 20 |                                            | C    |
|      | 2617 0052 | Carbon film resistor | R-20-1K-J-T24-T<br>(1/5W, 1Kohm, ±5%)     | 4    | 20 |                                            | C    |
|      | 2617 0061 | Carbon film resistor | R-20-2.2K-J-T24-T<br>(1/5W, 2.2Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0079 | Carbon film resistor | R-20-3.3K-J-T24-T<br>(1/5W, 3.3Kohm, ±5%) | 5    | 20 |                                            | C    |
|      | 2617 0087 | Carbon film resistor | R-20-4.7K-J-T24-T<br>(1/5W, 4.7Kohm, ±5%) | 2    | 20 |                                            | C    |
|      | 2617 0095 | Carbon film resistor | R-20-10K-J-T24-T<br>(1/5W, 10Kohm, ±5%)   | 16   | 20 |                                            | C    |
|      | 2617 0109 | Carbon film resistor | R-20-33K-J-T24-T<br>(1/5W, 33Kohm, ±5%)   | 4    | 20 |                                            | C    |
|      | 2617 0117 | Carbon film resistor | R-20-47K-J-T24-T<br>(1/5W, 47Kohm, ±5%)   | 13   | 20 |                                            | C    |
|      | 2617 0125 | Carbon film resistor | R-20-68K-J-T24-T<br>(1/5W, 68Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0141 | Carbon film resistor | R-20-100K-J-T24-T<br>(1/5W, 100Kohm, ±5%) | 10   | 20 |                                            | C    |
|      | 2617 0150 | Carbon film resistor | R-20-150K-J-T24-T<br>(1/5W, 150Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0203 | Carbon film resistor | R-20-470K-J-T24-T<br>(1/5W, 470Kohm, ±5%) | 5    | 20 |                                            | C    |
|      | 2617 0206 | Carbon film resistor | R-20-39K-J-T24-T<br>(1/5W, 39Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0211 | Carbon film resistor | R-20-120-J-T24-T<br>(1/5W, 120ohm, ±5%)   | 4    | 20 |                                            | C    |
|      | 2617 0214 | Carbon film resistor | R-20-2.7K-J-T24-T<br>(1/5W, 3.7Kohm, ±5%) | 4    | 20 |                                            | C    |
|      | 2617 0231 | Carbon film resistor | R-20-270-J-T24-T<br>(1/5W, 270ohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0265 | Carbon film resistor | R-20-10-J-T24-T<br>(1/5W, 10ohm, ±5%)     | 1    | 20 |                                            | C    |
|      | 2617 0271 | Carbon film resistor | R-20-5.6K-J-T24-T<br>(1/5W, 5.6Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0273 | Carbon film resistor | R-20-22-J-T24-T<br>(1/5W, 22ohm, ±5%)     | 2    | 20 |                                            | C    |

Note: ☆ — New parts

Q'ty — Quantity used per unit

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| Item | Code No.  | Part Name              | Specification                             | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|------|-----------|------------------------|-------------------------------------------|------|----|--------------------------------------------|------|
|      | 2617 0289 | Carbon film resistor   | R-20-15K-J-T24-T<br>(1/5W, 15Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0297 | Carbon film resistor   | R-20-22K-J-T24-T<br>(1/5W, 22Kohm, ±5%)   | 2    | 20 |                                            | C    |
|      | 2617 0301 | Carbon film resistor   | R-20-56K-J-T24-T<br>(1/5W, 56Kohm, ±5%)   | 3    | 20 |                                            | C    |
|      | 2617 0319 | Carbon film resistor   | R-20-560K-J-T24-T<br>(1/5W, 560Kohm, ±5%) | 4    | 20 |                                            | C    |
|      | 2617 0327 | Carbon film resistor   | R-20-2.2M-J-T24-T<br>(1/5W, 2.2Mohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0408 | Carbon film resistor   | R-20-6.8K-J-T24-T<br>(1/5W, 6.8Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0416 | Carbon film resistor   | R-20-18K-J-T24-T<br>(1/5W, 18Kohm, ±5%)   | 1    | 20 |                                            | C    |
| ☆    | 2617 0441 | Carbon film resistor   | R-20-25K-J-T24-T<br>(1/5W, 25Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0459 | Carbon film resistor   | R-20-27K-J-T24-T<br>(1/5W, 27Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0483 | Carbon film resistor   | R-20-270K-J-T24-T<br>(1/5W, 270Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0491 | Carbon film resistor   | R-20-330K-J-T24-T<br>(1/5W, 330Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0893 | Carbon film resistor   | R-20-47-J-T24-T<br>(1/5W, 470hm, ±5%)     | 1    | 20 |                                            | C    |
|      | 2800 9014 | Electrolytic capacitor | 50RE2-R22-T2-T                            | 1    | 20 |                                            | C    |
|      | 2805 3142 | Electrolytic capacitor | 16RE2-10-T2-T                             | 2    | 20 |                                            | C    |
|      | 2805 3169 | Electrolytic capacitor | 6.3RE2-47-T2-T                            | 4    | 20 |                                            | C    |
|      | 2807 0276 | Electrolytic capacitor | 50RNB BP1-T2-T                            | 3    | 10 |                                            | C    |
|      | 2807 0985 | Electrolytic capacitor | 16RE2-220-T2-T                            | 2    | 20 |                                            | C    |
|      | 2807 1007 | Electrolytic capacitor | 16RE2-330-T2-T                            | 1    | 10 |                                            | C    |
|      | 2807 1023 | Electrolytic capacitor | 50RE2-1-T2-T                              | 4    | 10 |                                            | C    |
|      | 2807 1040 | Electrolytic capacitor | 6.3RE2-470-T2-T                           | 6    | 10 |                                            | C    |
|      | 2807 1091 | Electrolytic capacitor | 6.3RE2-100-T2-T                           | 4    | 20 |                                            | C    |
|      | 2807 1112 | Electrolytic capacitor | 10RE2-100-T2-T                            | 3    | 20 |                                            | C    |
|      | 2807 1121 | Electrolytic capacitor | 10RE2-220-T2-T                            | 1    | 20 |                                            | C    |
|      | 2805 2210 | Electrolytic capacitor | 16RE2-470-S1                              | 1    | 10 |                                            | C    |
|      | 2805 2261 | Electrolytic capacitor | 16RE2-2200-S1                             | 1    | 10 |                                            | C    |
|      | 2818 0365 | Ceramic capacitor      | RT-HE50TKYB102K-T                         | 5    | 10 |                                            | C    |
|      | 2818 2082 | Ceramic capacitor      | RT-HE70TKYF103Z-T                         | 13   | 10 |                                            | C    |
|      | 2818 3364 | Ceramic capacitor      | RT-HE12TKCH271J-T                         | 1    | 10 |                                            | C    |
|      | 2819 0506 | Ceramic capacitor      | RT-HE11TKCH221J-T                         | 2    | 10 |                                            | C    |
|      | 2819 0557 | Ceramic capacitor      | RT-HE50TKSL101K-T                         | 5    | 10 |                                            | C    |

Note: ☆ — New parts

Q'ty — Quantity used per unit

\* — Minimum order and supply quantity

Rank

A: Essential

B: Stock recommended

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X: No stock recommended

| Item                           | Code No.  | Part Name                 | Specification                           | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|--------------------------------|-----------|---------------------------|-----------------------------------------|------|----|--------------------------------------------|------|
|                                | 2819 0565 | Ceramic capacitor         | RT-HE90TKSL471K-T                       | 1    | 10 |                                            | C    |
|                                | 2819 5241 | Semi conductive capacitor | DD407SR683K16-T                         | 1    | 20 |                                            | C    |
|                                | 2830 6229 | Mylar capacitor           | AMZV-104K50-T                           | 1    | 10 |                                            | C    |
|                                | 2830 6237 | Mylar capacitor           | AMZV-102K50-T                           | 2    | 10 |                                            | C    |
|                                | 2830 6261 | Mylar capacitor           | AMZV-103K50-T                           | 3    | 10 |                                            | C    |
|                                | 2830 6270 | Mylar capacitor           | AMZV-223K50-T                           | 1    | 10 |                                            | C    |
|                                | 2830 6288 | Mylar capacitor           | AMZV-273K50-T                           | 1    | 10 |                                            | C    |
|                                | 2830 6296 | Mylar capacitor           | AMZV-332K50-T                           | 1    | 10 |                                            | C    |
|                                | 2830 6312 | Mylar capacitor           | AMZV-471K50-T                           | 1    | 10 |                                            | C    |
|                                | 2830 6339 | Mylar capacitor           | AMZV-222K50-T                           | 4    | 10 |                                            | C    |
|                                | 2830 6428 | Mylar capacitor           | AMZV-562K50-T                           | 1    | 10 |                                            | C    |
|                                | 2830 6592 | Mylar capacitor           | AMZV-683K50-T                           | 1    |    |                                            | C    |
|                                | 2830 6606 | Mylar capacitor           | AMZV-224K50-T                           | 2    |    |                                            | C    |
| ☆                              | 2845 0273 | Three polarity capacitor  | EXC-ECT222MBC                           | 1    | 20 |                                            | C    |
| ☆                              | 2845 0280 | Ferrite beads             | EXC-ELDR35C                             | 5    | 20 |                                            | C    |
| ☆                              | 3025 0203 | EMI filter                | EXC-EMT222DC                            | 1    | 20 |                                            | C    |
|                                | 3420 0050 | Slide switch              | SSE-22FP                                | 1    | 5  |                                            | B    |
|                                | 3500 3258 | Pin assembly 13P          | IL-G-13P-S3T2-E                         | 1    |    |                                            | C    |
|                                | 3501 0070 | DC jack                   | HEC2305-01-030                          | 1    | 10 |                                            | B    |
|                                | 3511 1409 | Print plate connector     | 5229-11CPB                              | 1    |    |                                            | C    |
|                                | 3612 0711 | Miniature jack            | YKB21-5101                              | 1    |    |                                            | B    |
|                                | 3841 0007 | Coil                      | L10P-7L                                 | 1    | 10 |                                            | B    |
| ☆                              | 5860 1442 | Card spacer               | KGLS-14S                                | 6    |    |                                            | C    |
| ☆                              | 4307 7760 | Blank PCB M4360-MA2M      | M11365-1                                | 1    |    |                                            | X    |
| ☆                              | 4307 7790 | Blank PCB M4360-MA3M      | M11365-3                                | 1    |    |                                            | X    |
| ☆                              | 4307 7870 | Blank PCB M4360-CN2M      | M11365-2                                | 1    |    |                                            | X    |
| <b>3) M4360-CN1M PCB ASS'Y</b> |           |                           |                                         |      |    |                                            |      |
|                                | 3410 1728 | Tact switch               | EVO-QS20SK                              | 20   | 20 |                                            | B    |
| ☆                              | 2301 0241 | Diode                     | 1SS254T-77-T                            | 20   | 20 |                                            | C    |
|                                | 2320 9799 | LED                       | LN266RPT-(TA)                           | 5    | 10 |                                            | B    |
|                                | 2617 0231 | Carbon film resistor      | R-20-270-J0T24-T<br>(1/5W, 270ohm, ±5%) | 5    | 20 |                                            | C    |
| ☆                              | 3725 0952 | PC joiner M361C           | JSF00-19-137M                           | 1    | 5  |                                            | B    |
| ☆                              | 4307 7810 | Blank PCB M4360-CN1M      | M21782-1                                | 1    |    |                                            | X    |

Note: ☆ -- New parts  
Q'ty -- Quantity used per unit  
\* -- Minimum order and supply quantity

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C: Others  
X: No stock recommended

| Item | Code No.                      | Part Name                 | Specification   | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|------|-------------------------------|---------------------------|-----------------|------|----|--------------------------------------------|------|
|      | <b>4) M4361-CN3 PCB ASS'Y</b> |                           |                 |      |    |                                            |      |
| ☆    | 3501 1295                     | 4P connector              | IL-4P-25-M360   | 1    |    |                                            | C    |
| ☆    | 4307 7830                     | Blank PCB M4361-CN3       | M32795-1        | 1    |    |                                            | X    |
|      | <b>5) M20F-KY1 PCB ASS'Y</b>  |                           |                 |      |    |                                            |      |
| ☆    | 2390 0343                     | Diode                     | LB1105M         | 5    | 20 |                                            | C    |
| ☆    | 3501 1330                     | 12P connector M361A       | IL-12P-27-M361  | 1    |    |                                            | C    |
| ☆    | 3501 1337                     | 15P connector M361        | IL-15P-29-M361  | 1    |    |                                            | C    |
| ☆    | 4307 7860                     | Blank PCB M20F-KY1        | M11359-1        | 1    |    |                                            | X    |
|      | <b>6) UPPER CASE ASS'Y</b>    |                           |                 |      |    |                                            |      |
| 1    | 3830 3171                     | Speaker                   | C1209D          | 1    |    |                                            | B    |
| ☆ 2  | 2765 0427                     | VR                        | K1611005BC-10KB | 2    | 5  |                                            | B    |
| ☆ 3  | 6913 2520                     | Upper case sub ass'y      | M21791*1        | 1    |    |                                            | C    |
| ☆ 4  | 6913 2530                     | Contact rubber 361        | M32784-2        | 1    |    |                                            | B    |
| ☆ 5  | 6913 2540                     | Rhythm contact rubber 361 | M32785-2        | 1    |    |                                            | B    |
| ☆ 6  | 6913 2550                     | Knob 361                  | M32782-1        | 2    |    |                                            | C    |
| ☆ 7  | 6913 2720                     | Sensor cap sub ass'y      | M43400*1        | 1    |    |                                            | C    |
| ☆ 8  | 6913 2450                     | Sensor cap B              | M32807-1        | 1    | 10 |                                            |      |
| ☆ 9  | 6913 2560                     | Slide knob                | M32018-7        | 1    | 20 |                                            |      |
| ☆10  | 6913 2650                     | Pick card                 | M32808-1        | 1    |    |                                            | C    |
| ☆    | 3501 1316                     | 7P connector M361         | IL-7P-40-M361   | 1    |    |                                            | C    |
| ☆    | 4307 7740                     | Blank PCB M4361-SE        | M32797-1        | 1    |    |                                            | X    |
| ☆11  | 6913 2810                     | Sensor base               | M32767-1        | 1    |    |                                            | C    |
| ☆12  | 6913 2791                     | Contact sheet 20F         | M11333C-1       | 1    |    |                                            | B    |
| ☆14  | 6913 2881                     | Sensor pole sub ass'y     | M43399A*1       | 1    |    |                                            | C    |
| ☆15  | 6913 2891                     | Sensor coil               | M43372A-1       | 1    | 10 |                                            | B    |
| ☆16  | 6913 2900                     | Sensor spacer             | M43375-1        | 1    | 20 |                                            | C    |
| ☆17  | 6913 3580                     | Contact coil              | M43407-1        | 1    | 20 |                                            | B    |
| ☆18  | 6913 2590                     | Panel 360 sub ass'y       | M32814*1        | 1    |    |                                            | C    |
| ☆19  | 6913 2610                     | Switch sheet 360          | M32806-1        | 1    |    |                                            | C    |

Note: ☆ — New parts  
Q'ty — Quantity used per unit  
\* — Minimum order and supply quantity

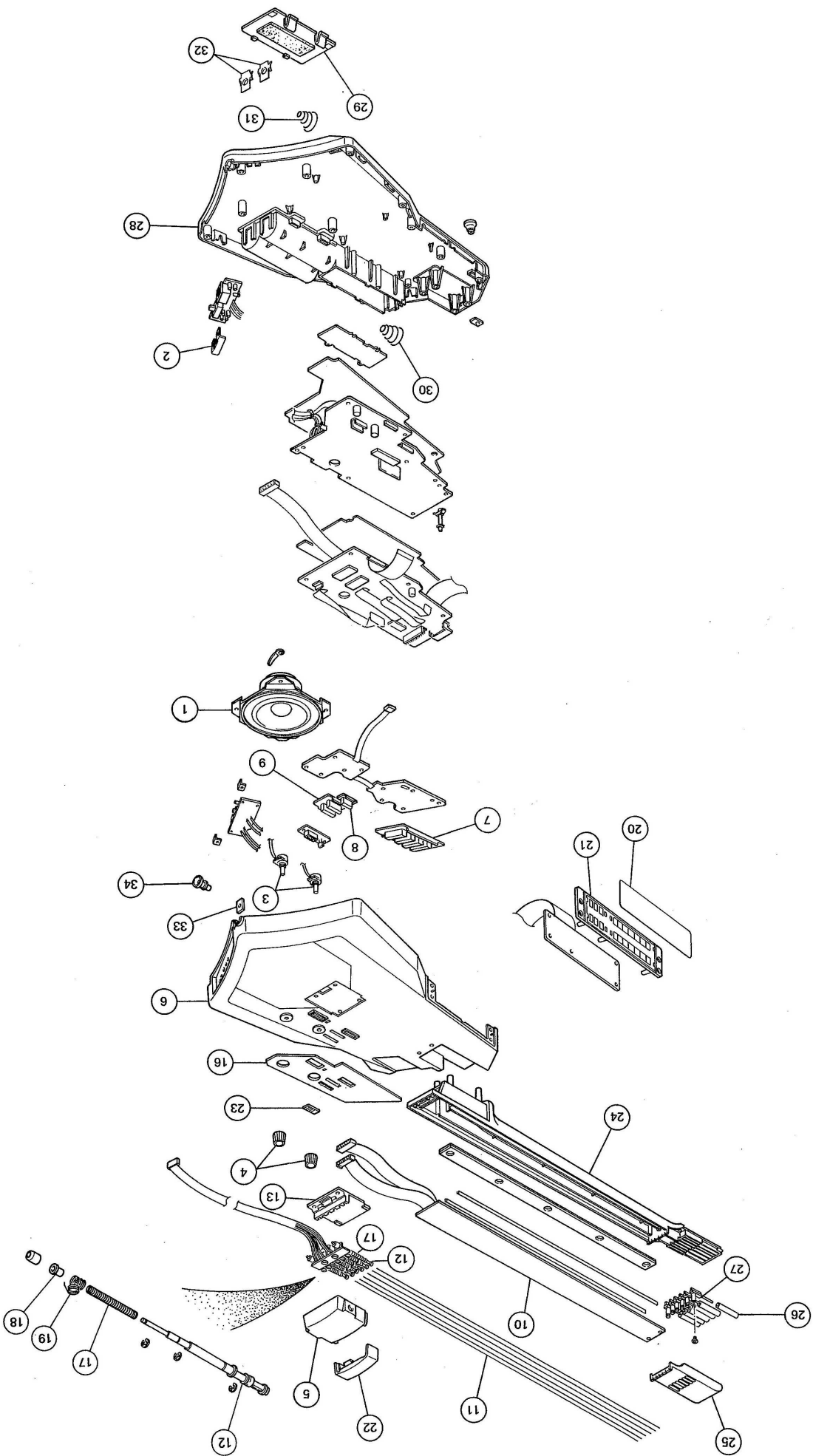
Rank A: Essential  
B: Stock recommended  
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X: No stock recommended



| Item                | Code No.  | Part Name               | Specification | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |   |
|---------------------|-----------|-------------------------|---------------|------|----|--------------------------------------------|------|---|
| 7) NECK CASE ASS'Y  |           |                         |               |      |    |                                            |      |   |
| ☆20                 | 6913 2740 | Neck case sub ass'y     | M32812*1      | 1    | 10 |                                            | C    |   |
| ☆21                 | 6913 2760 | String bar nut          | M43368-1      | 6    |    |                                            |      |   |
| ☆22                 | 6913 2770 | String lever            | M53367-1      | 6    |    |                                            | C    |   |
| ☆23                 | 5860 1526 | String black-B          | N610-C2       | 6    |    |                                            |      | B |
| ☆24                 | 6913 3050 | Neck cover              | M21763-2      | 1    |    |                                            |      |   |
| 8) LOWER CASE ASS'Y |           |                         |               |      |    |                                            |      |   |
| ☆25                 | 6913 2440 | Lower case sub ass'y    | M21793*1      | 1    | 10 |                                            | C    |   |
| ☆26                 | 6912 6062 | Battery cover sub ass'y | M314718*6     | 1    |    |                                            | C    |   |
| 27                  | 6902 6140 | Battery spring 90       | M41226-1      | 1    |    |                                            | C    |   |
| 28                  | 6903 0450 | Battery spring          | M41329-1      | 1    |    |                                            | C    |   |
| 29                  | 6903 0460 | Battery spring          | M41328-1      | 2    |    |                                            | C    |   |
| ☆30                 | 6908 4730 | Strap pin nut           | M42806-2      | 1    |    |                                            | C    |   |
| ☆31                 | 6913 3520 | Strap pin               | M43406-1      | 1    |    |                                            | C    |   |

Note: ☆ — New parts  
Q'ty — Quantity used per unit  
\* — Minimum order and supply quantity

Rank A: Essential  
B: Stock recommended  
C: Others  
X: No stock recommended



# PARTS LIST

DG-20

- Notes:
1. Prices and specifications are subject to change without prior notice.
  2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare Parts Supply", published separately.
  3. The numbers in item column correspond to the same numbers in drawing.

| Item | Code No.                       | Part Name              | Specification                             | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|------|--------------------------------|------------------------|-------------------------------------------|------|----|--------------------------------------------|------|
|      | <b>1) M4361-MA1M PCB ASS'Y</b> |                        |                                           |      |    |                                            |      |
|      | 2010 2128                      | LSI                    | μPD78C10G-36                              | 1    |    |                                            | A    |
| ☆    | 2010 3290                      | LSI                    | MB64HB118                                 | 1    |    |                                            | A    |
| ☆    | 2010 3297                      | LSI                    | MB64HB119                                 | 1    |    |                                            | A    |
| ☆    | 2010 3304                      | LSI                    | MSM6294-06                                | 1    |    |                                            | A    |
| ☆    | 2010 3367                      | LSI                    | μPD23C256EAC-055                          | 1    |    |                                            | A    |
|      | 2105 0532                      | C-MOS IC               | LC4969                                    | 1    | 10 |                                            | A    |
|      | 2111 5215                      | Bipolar IC             | SN74LS367AN                               | 1    |    |                                            | A    |
|      | 2590 0140                      | Ceramic oscillator     | CSA12.0MT18                               | 1    | 5  |                                            | B    |
|      | 2720 3540                      | Module resistor        | MS10411F                                  | 1    | 10 |                                            | B    |
|      | 2720 3566                      | Module resistor        | MS1049F                                   | 1    | 10 |                                            | B    |
|      | 2720 3604                      | Module resistor        | MS1048F                                   | 1    | 10 |                                            | B    |
| ☆    | 2801 7483                      | Electrolytic capacitor | 6.3RE2-220-S1                             | 1    |    |                                            | C    |
| ☆    | 2252 0063                      | Transistor             | 2SC1310F-T<br>(2SC1740LNSR)               | 2    |    |                                            | A    |
|      | 2301 0241                      | Diode                  | 1SS254T-77-T                              | 10   | 20 |                                            | C    |
|      | 2617 0028                      | Carbon film resistor   | R-20-100-J-T24-T<br>(1/5W, 100ohm, ±5%)   | 7    | 20 |                                            | C    |
|      | 2614 5619                      | Carbon film resistor   | ELR-25-220-J-T32-T                        | 2    | 20 |                                            | C    |
|      | 2617 0036                      | Carbon film resistor   | R-20-220-J-T24-T<br>(1/5W, 220ohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0052                      | Carbon film resistor   | R-20-1K-J-T24-T<br>(1/5W, 1Kohm, ±5%)     | 30   | 20 |                                            | C    |
|      | 2617 0061                      | Carbon film resistor   | R-20-2.2K-J-T24-T<br>(1/5W, 2.2Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0095                      | Carbon film resistor   | R-20-10K-J-T24-T<br>(1/5W, 10Kohm, ±5%)   | 10   | 20 |                                            | C    |
|      | 2617 0150                      | Carbon film resistor   | R-20-150K-J-T24-T<br>(1/5W, 150Kohm, ±5%) | 2    | 20 |                                            | C    |
| ☆    | 2617 0176                      | Carbon film resistor   | R-20-1M-J-T24-T<br>(1/5W, 1Mohm, ±5%)     | 1    | 20 |                                            | C    |
| ☆    | 2617 0869                      | Carbon film resistor   | R-20-4.7-J-T24-T<br>(1/5W, 4.7ohm, ±5%)   | 1    | 20 |                                            | C    |
| ☆    | 2801 7091                      | Electrolytic capacitor | 6.3RE2-33-T2-T                            | 1    |    |                                            | C    |
|      | 2805 3142                      | Electrolytic capacitor | 16RE2-10-T2-T                             | 1    | 20 |                                            | C    |
|      | 2807 1023                      | Electrolytic capacitor | 50RE2-1-T2-T                              | 2    | 10 |                                            | C    |
|      | 2807 1040                      | Electrolytic capacitor | 6.3RE2-470-T2-T                           | 3    | 10 |                                            | C    |
|      | 2807 1091                      | Electrolytic capacitor | 6.3RE2-100-T2-T                           | 1    | 20 |                                            | C    |
|      | 2807 1104                      | Electrolytic capacitor | 6.3RE2-100-T14-T                          | 1    | 20 |                                            | C    |
|      | 2818 0390                      | Ceramic capacitor      | RT-HE40TKYB221K-T                         | 7    | 10 |                                            | C    |
|      | 2818 2082                      | Ceramic capacitor      | RT-HE70TKYF103Z-T                         | 8    | 10 |                                            | C    |

Note: ☆ — New parts

Q'ty — Quantity used per unit

\* — Minimum order and supply quantity

Rank A: Essential

B: Stock recommended

C: Others

X: No stock recommended

| Item                           | Code No.  | Part Name                | Specification               | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|--------------------------------|-----------|--------------------------|-----------------------------|------|----|--------------------------------------------|------|
|                                | 2819 0557 | Ceramic capacitor        | RT-HE50TKSL101K-T           | 2    | 10 |                                            | C    |
|                                | 2818 0365 | Ceramic capacitor        | RT-HE50TKYB102K-T           | 1    | 10 |                                            | C    |
|                                | 2845 0056 | Module capacitor         | CNB6 x 221K                 | 1    | 10 |                                            | C    |
|                                | 2818 3283 | Ceramic capacitor        | RT-HE50TKCH300J-T           | 2    | 10 |                                            | C    |
|                                | 2830 6296 | Mylar capacitor          | AMZV-332K50-T               | 1    | 10 |                                            | C    |
|                                | 2830 6312 | Mylar capacitor          | AMZV-471K50-T               | 1    | 10 |                                            | C    |
|                                | 2830 6363 | Mylar capacitor          | AMZV-822K50-T               | 1    | 10 |                                            | C    |
|                                | 2831 0119 | Film capacitor           | APSV-472J100-T              | 1    | 20 |                                            | C    |
|                                | 2831 0126 | Film capacitor           | APSV-332J100-T              | 1    | 20 |                                            | C    |
|                                | 2845 0049 | Module capacitor         | CNB8X221K                   | 3    | 5  |                                            | C    |
| ☆                              | 2845 0273 | Three polarity capacitor | EXC-ETC222MBC               | 5    |    |                                            | C    |
| ☆                              | 2845 0280 | Ferrite beads            | EXC-ELDR35C                 | 4    | 20 |                                            | C    |
|                                | 3420 2338 | Slide switch             | SSY322                      | 1    |    |                                            | B    |
|                                | 3612 0541 | DIN jack                 | TCS4650-01-1211             | 1    |    |                                            | B    |
|                                | 3500 3240 | Pin assembly 7P          | IL-7P-S3U x 2               | 1    |    |                                            | C    |
|                                | 3500 3878 | Pin assembly 12P         | IL-G-12P-S3L2-E             | 1    |    |                                            | C    |
|                                | 3500 7695 | Print plate connector    | IL-G-15P-S3T2-E             | 1    |    |                                            | C    |
|                                | 3841 0049 | Coil                     | L220P-7L                    | 1    | 10 |                                            | B    |
| ☆                              | 4307 7750 | Blank PCB M4361-MA1M     | M11360-1                    | 1    |    |                                            | X    |
| ☆                              | 4307 7940 | Blank PCB M4361-MA4M     | M11360-2                    | 1    |    |                                            | X    |
|                                | 2819 0557 | Ceramic capacitor        | RT-HE50TKSL101K-T           | 1    | 10 |                                            | C    |
| <b>2) M4361-MA2M PCB ASS'Y</b> |           |                          |                             |      |    |                                            |      |
|                                | 2001 2043 | LSI                      | μPD931C                     | 1    |    |                                            | A    |
|                                | 2100 3549 | MOS IC                   | TC4066BP<br>(μPD4066BC)     | 2    |    |                                            | A    |
|                                | 2100 3786 | CMOS IC                  | TC40H004P                   | 1    |    |                                            | A    |
|                                | 2100 7552 | CMOS IC                  | MN3102                      | 1    |    |                                            | A    |
|                                | 2100 7692 | BBD                      | MN3209                      | 1    |    |                                            | A    |
|                                | 2114 0007 | Monolithic IC            | BA4558CA                    | 3    |    |                                            | A    |
|                                | 2114 0070 | Monolithic IC            | LA4127                      | 1    |    |                                            | A    |
|                                | 2120 1154 | Hybrid IC                | NH0021                      | 1    |    |                                            | A    |
|                                | 2121 0013 | OP amp                   | NJM4558DD                   | 4    |    |                                            | A    |
|                                | 2240 1068 | FET                      | 2SK163M-T                   | 3    |    |                                            | A    |
|                                | 2240 1149 | FET                      | 2SK105E-T                   | 2    | 10 |                                            | A    |
| ☆                              | 2252 0063 | Transistor               | 2SC1310F-T<br>(2SC1740LNSR) | 7    | 10 |                                            | A    |
|                                | 2210 6236 | Transistor               | 2SB824R.S                   | 1    |    |                                            | A    |
| ☆                              | 2252 0266 | Transistor               | 2SC2060Q.R                  | 1    | 10 |                                            | A    |
| ☆                              | 2253 0154 | Transistor               | 2SD1381Q.R                  | 1    | 10 |                                            | A    |

Note: ☆ — New parts

Q'ty — Quantity used per unit

\* — Minimum order and supply quantity

Rank A: Essential

B: Stock recommended

C: Others

X: No stock recommended

| Item | Code No.  | Part Name            | Specification                             | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|------|-----------|----------------------|-------------------------------------------|------|----|--------------------------------------------|------|
| ☆    | 2320 9764 | LED                  | LN251RPP.WE                               | 1    | 10 |                                            | B    |
|      | 2301 0241 | Diode                | 1SS254T-77-T                              | 4    | 20 |                                            | C    |
|      | 2310 7732 | Zener diode          | RD5.6ESB2-T1-T                            | 3    | 20 |                                            | B    |
|      | 2310 7767 | Zener diode          | RD6.8ESB2-T1-T                            | 1    | 20 |                                            | B    |
|      | 2310 7848 | Zener diode          | RD4.3ESB2-T1-T                            | 2    | 20 |                                            | B    |
|      | 2340 0022 | Variable capacitor   | SVC321                                    | 1    | 10 |                                            | B    |
|      | 2390 0210 | Diode                | DSF10C-UB1-H                              | 1    | 20 |                                            | C    |
|      | 2617 0028 | Carbon film resistor | R-20-100-J-T24-T<br>(1/5W, 100ohm, ±5%)   | 5    | 20 |                                            | C    |
|      | 2617 0036 | Carbon film resistor | R-20-220-J-T24-T<br>(1/5W, 220ohm, ±5%)   | 2    | 20 |                                            | C    |
|      | 2617 0052 | Carbon film resistor | R-20-1K-J-T24-T<br>(1/5W, 1Kohm, ±5%)     | 4    | 20 |                                            | C    |
|      | 2617 0061 | Carbon film resistor | R-20-2.2K-J-T24-T<br>(1/5W, 2.2Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0079 | Carbon film resistor | R-20-3.3K-J-T24-T<br>(1/5W, 3.3Kohm, ±5%) | 5    | 20 |                                            | C    |
|      | 2617 0087 | Carbon film resistor | R-20-4.7K-J-T24-T<br>(1/5W, 4.7Kohm, ±5%) | 2    | 20 |                                            | C    |
|      | 2617 0095 | Carbon film resistor | R-20-10K-J-T24-T<br>(1/5W, 10Kohm, ±5%)   | 16   | 20 |                                            | C    |
|      | 2617 0109 | Carbon film resistor | R-20-33K-J-T24-T<br>(1/5W, 33Kohm, ±5%)   | 4    | 20 |                                            | C    |
|      | 2617 0117 | Carbon film resistor | R-20-47K-J-T24-T<br>(1/5W, 47Kohm, ±5%)   | 13   | 20 |                                            | C    |
|      | 2617 0125 | Carbon film resistor | R-20-68K-J-T24-T<br>(1/5W, 68Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0141 | Carbon film resistor | R-20-100K-J-T24-T<br>(1/5W, 100Kohm, ±5%) | 10   | 20 |                                            | C    |
|      | 2617 0150 | Carbon film resistor | R-20-150K-J-T24-T<br>(1/5W, 150Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0203 | Carbon film resistor | R-20-470K-J-T24-T<br>(1/5W, 470Kohm, ±5%) | 5    | 20 |                                            | C    |
|      | 2617 0206 | Carbon film resistor | R-20-39K-J-T24-T<br>(1/5W, 39Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0211 | Carbon film resistor | R-20-120-J-T24-T<br>(1/5W, 120ohm, ±5%)   | 4    | 20 |                                            | C    |
|      | 2617 0214 | Carbon film resistor | R-20-2.7K-J-T24<br>(1/5W, 3.7Kohm, ±5%)   | 4    | 20 |                                            | C    |
|      | 2617 0231 | Carbon film resistor | R-20-270-J-T24-T<br>(1/5W, 270ohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0265 | Carbon film resistor | R-20-10-J-T24-T<br>(1/5W, 10ohm, ±5%)     | 1    | 20 |                                            | C    |

Note: ☆ — New parts

Q'ty — Quantity used per unit

\* — Minimum order and supply quantity

Rank A: Essential

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C: Others

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| Item | Code No.  | Part Name              | Specification                             | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|------|-----------|------------------------|-------------------------------------------|------|----|--------------------------------------------|------|
|      | 2617 0271 | Carbon film resistor   | R-20-5.6K-J-T24-T<br>(1/5W, 5.6Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0273 | Carbon film resistor   | R-20-22-J-T24-T<br>(1/5W, 22ohm, ±5%)     | 2    | 20 |                                            | C    |
|      | 2617 0289 | Carbon film resistor   | R-20-15K-J-T24-T<br>(1/5W, 15Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0297 | Carbon film resistor   | R-20-22K-J-T24-T<br>(1/5W, 22Kohm, ±5%)   | 2    | 20 |                                            | C    |
|      | 2617 0301 | Carbon film resistor   | R-20-56K-J-T24-T<br>(1/5W, 56Kohm, ±5%)   | 3    | 20 |                                            | C    |
|      | 2617 0319 | Carbon film resistor   | R-20-560K-J-T24-T<br>(1/5W, 560Kohm, ±5%) | 4    | 20 |                                            | C    |
|      | 2617 0327 | Carbon film resistor   | R-20-2.2M-J-T24-T<br>(1/5W, 2.2Mohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0408 | Carbon film resistor   | R-20-6.8K-J-T24-T<br>(1/5W, 6.8Kohm, ±5%) | 1    | 20 |                                            | C    |
| ☆    | 2617 0441 | Carbon film resistor   | R-20-25K-J-T24-T<br>(1/5W, 25Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0459 | Carbon film resistor   | R-20-27K-J-T24-T<br>(1/5W, 27Kohm, ±5%)   | 1    | 20 |                                            | C    |
|      | 2617 0483 | Carbon film resistor   | R-20-270K-J-T24-T<br>(1/5W, 270Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0491 | Carbon film resistor   | R-20-330K-J-T24-T<br>(1/5W, 330Kohm, ±5%) | 1    | 20 |                                            | C    |
|      | 2617 0893 | Carbon film resistor   | R-20-47-J-T24-T<br>(1/5W, 47ohm, ±5%)     | 1    | 20 |                                            | C    |
|      | 2760 2177 | Semi-fixed resistor    | V8K4-11B10K                               | 2    | 10 |                                            | C    |
|      | 2800 9014 | Electrolytic capacitor | 50RE2-R22-T2-T                            | 1    | 20 |                                            | C    |
|      | 2805 3142 | Electrolytic capacitor | 16RE2-10-T2-T                             | 2    | 20 |                                            | C    |
|      | 2805 3169 | Electrolytic capacitor | 6.3RE2-47-T2-T                            | 4    | 20 |                                            | C    |
|      | 2807 0276 | Electrolytic capacitor | 50RNBBP1-T2-T                             | 3    | 10 |                                            | C    |
|      | 2807 0985 | Electrolytic capacitor | 16RE2-220-T2-T                            | 2    | 20 |                                            | C    |
|      | 2807 1007 | Electrolytic capacitor | 16RE2-330-T2-T                            | 1    | 10 |                                            | C    |
|      | 2807 1023 | Electrolytic capacitor | 50RE2-1-T2-T                              | 4    | 10 |                                            | C    |
|      | 2807 1040 | Electrolytic capacitor | 6.3RE2-470-T2-T                           | 6    | 10 |                                            | C    |
|      | 2807 1091 | Electrolytic capacitor | 6.3RE2-100-T2-T                           | 4    | 20 |                                            | C    |
|      | 2807 1112 | Electrolytic capacitor | 10RE2-100-T2-T                            | 3    | 20 |                                            | C    |
|      | 2807 1121 | Electrolytic capacitor | 10RE2-220-T2-T                            | 1    | 20 |                                            | C    |
|      | 2805 2210 | Electrolytic capacitor | 16RE2-470-S1                              | 1    | 10 |                                            | C    |
|      | 2805 2261 | Electrolytic capacitor | 16RE2-2200-S1                             | 1    | 10 |                                            | C    |
|      | 2818 0365 | Ceramic capacitor      | RT-HE50TKYB102K-T                         | 5    | 10 |                                            | C    |

Note: ☆ — New parts

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\* — Minimum order and supply quantity

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| Item                           | Code No.  | Part Name                 | Specification      | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|--------------------------------|-----------|---------------------------|--------------------|------|----|--------------------------------------------|------|
|                                | 2818 2082 | Ceramic capacitor         | RT-HE70TKYF103Z-T  | 13   | 10 |                                            | C    |
|                                | 2818 3364 | Ceramic capacitor         | RT-HE12TKCH271J-T  | 1    | 10 |                                            | C    |
|                                | 2819 0506 | Ceramic capacitor         | RT-HE11TKCH221J-T  | 2    | 10 |                                            | C    |
|                                | 2819 0557 | Ceramic capacitor         | RT-HE50TKSL101K-T  | 5    | 10 |                                            | C    |
|                                | 2819 0565 | Ceramic capacitor         | RT-HE90TKSL471K-T  | 1    | 10 |                                            | C    |
|                                | 2819 5241 | Semi conductive capacitor | DD407SR683K16-T    | 1    | 20 |                                            | C    |
|                                | 2830 6229 | Mylar capacitor           | AMZV-104K50-T      | 1    | 10 |                                            | C    |
|                                | 2830 6237 | Mylar capacitor           | AMZV-102K50-T      | 2    | 10 |                                            | C    |
|                                | 2830 6261 | Mylar capacitor           | AMZV-103K50-T      | 3    | 10 |                                            | C    |
|                                | 2830 6270 | Mylar capacitor           | AMZV-223K50-T      | 1    | 10 |                                            | C    |
|                                | 2830 6288 | Mylar capacitor           | AMZV-273K50-T      | 1    | 10 |                                            | C    |
|                                | 2830 6296 | Mylar capacitor           | AMZV-332K50-T      | 1    | 10 |                                            | C    |
|                                | 2830 6312 | Mylar capacitor           | AMZV-471K50-T      | 1    | 10 |                                            | C    |
|                                | 2830 6339 | Mylar capacitor           | AMZV-222K50-T      | 4    | 10 |                                            | C    |
|                                | 2830 6428 | Mylar capacitor           | AMZV-562K50-T      | 1    | 10 |                                            | C    |
|                                | 2830 6592 | Mylar capacitor           | AMZV-683K50-T      | 1    |    |                                            | C    |
|                                | 2830 6606 | Mylar capacitor           | AMZV-224K50-T      | 2    |    |                                            | C    |
| ☆                              | 2845 0273 | Three polarity capacitor  | EXC-ECT222MBC      | 1    | 20 |                                            | C    |
| ☆                              | 2845 0280 | Ferrite beads             | EXC-ELDR35C        | 5    | 20 |                                            | C    |
|                                | 3420 0050 | Slide switch              | SSE-22FP           | 1    | 5  |                                            | B    |
|                                | 3500 3258 | Pin assembly 13P          | IL-G-13P-S3T2-E    | 1    |    |                                            | C    |
|                                | 3500 3681 | Pin assembly 12P          | IL-G-12P-S3T2-E    | 1    |    |                                            | C    |
|                                | 3511 1409 | Print plate connector     | 5229-11CPB         | 1    |    |                                            | C    |
|                                | 3841 0007 | Coil                      | L10P-7L            | 1    | 10 |                                            | B    |
| ☆                              | 5860 1442 | Card spacer               | KGLS-14S           | 6    |    |                                            | C    |
| ☆                              | 4307 7770 | Blank PCB M4361-MA2M      | M11361-1           | 1    |    |                                            | X    |
| ☆                              | 4307 7820 | Blank PCB M4361-CN2M      | M11361-2           | 1    |    |                                            | X    |
| <b>3) M4361-MA3M PCB ASS'Y</b> |           |                           |                    |      |    |                                            |      |
|                                | 2390 0210 | Diode                     | DSF10C-UB1-H       | 1    | 20 |                                            | C    |
|                                | 2765 0294 | VR                        | K121K0Z1A-100KB    | 1    | 5  |                                            | B    |
|                                | 2607 5105 | Carbon film resistor      | ELR-50X-27-J-T32-T | 2    | 20 |                                            | C    |
|                                | 2607 5112 | Carbon film resistor      | ELR-25-18K-J-T32-T | 1    | 20 |                                            | C    |
|                                | 2807 1007 | Electrolytic capacitor    | 16RE2-330-T2-T     | 1    | 10 |                                            | C    |
|                                | 2818 0365 | Ceramic capacitor         | RT-HE50TKYB102K-T  | 3    | 10 |                                            | C    |
|                                | 2845 0280 | Ferrite beads             | EXC-ELDR35C        | 2    | 20 |                                            | C    |
|                                | 3025 0203 | EMI filter                | EXC-EMT222DC       | 1    | 20 |                                            | C    |

Note: ☆ — New parts

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| Item                           | Code No.  | Part Name            | Specification                           | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|--------------------------------|-----------|----------------------|-----------------------------------------|------|----|--------------------------------------------|------|
|                                | 3501 0070 | DC jack              | HEC2305-01-030                          | 1    | 10 |                                            | B    |
|                                | 3612 0665 | Phone jack           | YKB21-5006                              | 1    |    |                                            | B    |
|                                | 3612 0789 | Jack                 | YKB21-5010                              | 2    |    |                                            | B    |
|                                | 3025 0217 | EMI filter           | EXC-EMT103DC                            | 1    |    |                                            | C    |
| ☆                              | 4307 7780 | Blank PCB M4361-MA3M | M21777-1                                | 1    |    |                                            | X    |
| <b>4) M4361-CN1M PCB ASS'Y</b> |           |                      |                                         |      |    |                                            |      |
|                                | 2301 0241 | Diode                | 1SS254T-77-T                            | 24   | 20 |                                            | C    |
|                                | 2320 9799 | LED                  | LN266RPT-(TA)                           | 5    | 10 |                                            | B    |
|                                | 2617 0231 | Carbon film resistor | R-20-270-J-T24-T<br>(1/5W, 270ohm, ±5%) | 5    | 20 |                                            | C    |
|                                | 3410 1728 | Tact switch          | EVQ-QS205K                              | 24   | 20 |                                            | B    |
|                                | 3725 0952 | PC joiner M361C      | JSF00-19-137M                           | 1    | 5  |                                            | B    |
| ☆                              | 4307 7850 | Blank PCB M4361-CN1M | M21778-1                                | 1    |    |                                            | X    |
| <b>5) M4361-CN3 PCB ASS'Y</b>  |           |                      |                                         |      |    |                                            |      |
| ☆                              | 3501 1323 | 9P connector M361    | IL-9P-25-M361                           | 1    |    |                                            | C    |
| ☆                              | 4307 7830 | Blank PCB M4361-CN3  | M32795-1                                | 1    |    |                                            | X    |
| <b>6) M4361-CN4 PCB ASS'Y</b>  |           |                      |                                         |      |    |                                            |      |
| ☆                              | 3725 0959 | PC joiner M361K      | JSF00-5-42                              | 1    | 20 |                                            | B    |
| ☆                              | 4307 7840 | Blank PCB M4361-CN4  | M32796-1                                | 1    |    |                                            | X    |
| <b>7) M20F-KY1 PCB ASS'Y</b>   |           |                      |                                         |      |    |                                            |      |
|                                | 2390 0343 | Diode                | LB1105M                                 | 5    | 20 |                                            | C    |
|                                | 3501 1337 | 12P connector M361A  | IL-12P-27-M361                          | 1    |    |                                            | C    |
|                                | 3501 1337 | 15P connector M361   | IL-15P-29-M361                          | 1    |    |                                            | C    |
|                                | 4307 7860 | Blank PCB M20F-KY1   | M11359-1                                | 1    |    |                                            | X    |
| <b>8) UPPER CASE ASS'Y</b>     |           |                      |                                         |      |    |                                            |      |
| 1                              | 3830 3171 | Speaker              | C1209D                                  | 1    |    |                                            | B    |
| 2                              | 6901 1560 | DIN jack plate       | M4598-1                                 | 1    |    |                                            | X    |
| 3                              | 2765 0427 | VR                   | K1611005BC-10KB                         | 2    | 5  |                                            | B    |
| 4                              | 6913 2550 | Knob 361             | M32782-1                                | 2    |    |                                            | C    |
| 5                              | 6913 2720 | Sensor cap sub ass'y | M43400*1                                | 1    |    |                                            | C    |
| ☆6                             | 6913 2990 | Upper case sub ass'y | M21791*2                                | 1    |    |                                            | C    |

Note: ☆ — New parts

Q'ty — Quantity used per unit

\* — Minimum order and supply quantity

Rank A: Essential

B: Stock recommended

C: Others

X: No stock recommended

| Item                        | Code No.  | Part Name                 | Specification | Q'ty | *  | Unit Price<br>N.R. Yen (¥)<br>(FOB: JAPAN) | Rank |
|-----------------------------|-----------|---------------------------|---------------|------|----|--------------------------------------------|------|
| ☆ 7                         | 6913 3000 | DS contact rubber 361     | M32786-1      | 1    |    |                                            | B    |
| ☆ 8                         | 6913 3010 | Contact rubber 361        | M32784-1      | 1    | 5  |                                            | B    |
| ☆ 9                         | 6913 3020 | Rhythm contact rubber 361 | M32785-1      | 1    | 5  |                                            | B    |
|                             | 3501 1316 | 7P connector M361         | IL-7P-40-M361 | 1    |    |                                            | C    |
|                             | 4307 7740 | Blank PCB M4361-SE        | M32797-1      | 1    |    |                                            | X    |
| ☆12                         | 6913 2881 | Sensor pole sub ass'y     | M43399A*1     | 1    |    |                                            | C    |
| 13                          | 6913 2810 | Sensor base               | M32767-1      | 1    |    |                                            | C    |
| ☆16                         | 6913 3040 | Pick guard                | M32780-1      | 1    |    |                                            | C    |
| 17                          | 6913 2891 | Sensor coil               | M43372A-1     | 1    | 10 |                                            | C    |
| 18                          | 6913 2900 | Sensor spacer             | M43375-1      | 1    | 20 |                                            | C    |
| 19                          | 6913 3580 | Contact coil              | M43407-1      | 1    | 20 |                                            | C    |
| ☆20                         | 6913 2870 | Switch sheet 361          | M32783-1      | 1    |    |                                            | C    |
| ☆21                         | 6913 2800 | Panel 361 sub ass'y       | M32810*1      | 1    |    |                                            | C    |
| 22                          | 6913 2450 | Sensor cap B              | M32807-1      | 1    | 10 |                                            | C    |
| 23                          | 6913 2560 | Slide knob 130            | M32018-7      | 1    | 20 |                                            | C    |
| ☆10                         | 6913 2791 | Contact sheet 20F         | M11333C-1     | 1    |    |                                            | B    |
| <b>9) NECK CASE ASS'Y</b>   |           |                           |               |      |    |                                            |      |
| 24                          | 6913 2740 | Neck case sub ass'y       | M32812*1      | 1    |    |                                            | C    |
| 25                          | 6913 2750 | Neck cover                | M21763-1      | 1    |    |                                            | C    |
| 26                          | 6913 2760 | String bar nut            | M43368-1      | 6    | 10 |                                            | C    |
| 27                          | 6913 2770 | String lever              | M43367-1      | 6    |    |                                            | C    |
| ☆11                         | 5860 1526 | String black-B            | N610-C2       | 6    |    |                                            | B    |
| <b>10) LOWER CASE ASS'Y</b> |           |                           |               |      |    |                                            |      |
| ☆28                         | 6913 2710 | Lower case sub ass'y      | M21793*2      | 1    |    |                                            | C    |
| 29                          | 6912 6062 | Battery cover sub ass'y   | M31471B*6     | 1    |    |                                            | C    |
| 30                          | 6902 6140 | Battery spring 90         | M41226-1      | 1    | 10 |                                            | C    |
| 31                          | 6903 0450 | Battery spring            | M41329-1      | 1    | 10 |                                            | C    |
| 32                          | 6903 0460 | Battery spring            | M41328-1      | 2    | 10 |                                            | C    |
| 33                          | 6908 4730 | Strap pin nut             | M42806-2      | 1    | 10 |                                            | C    |
| 34                          | 6913 3520 | Strap pin                 | M43406-1      | 1    |    |                                            | C    |

Note: ☆ — New parts  
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Rank A: Essential  
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X: No stock recommended

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