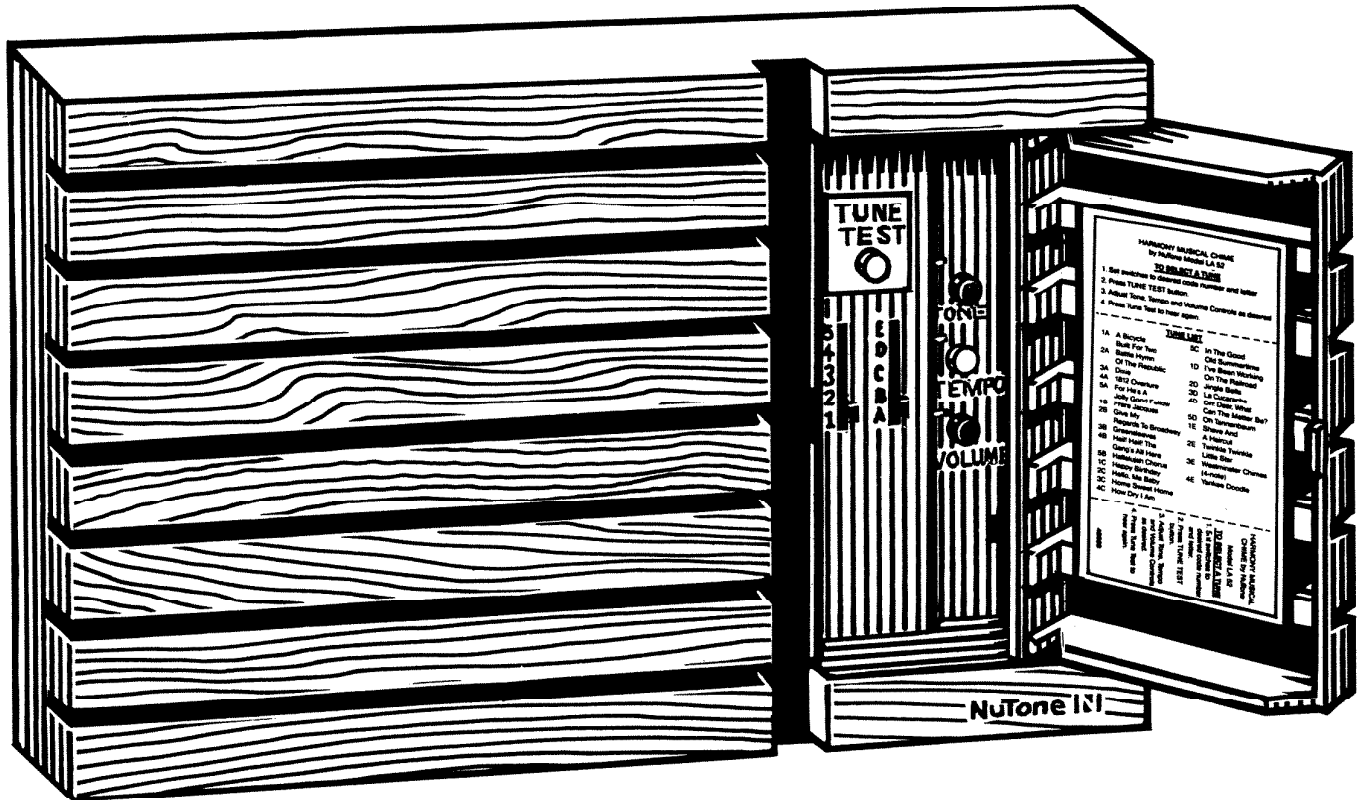


SERVICE MANUAL

MODEL LA-52 MUSICAL CHIME



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NuTone

INTRODUCTION

The LA-52 is designed to replace an existing door chime without changing the wiring, or it may be installed as original equipment.

Features include —

- use with lighted or unlighted pushbuttons;
- vertical or horizontal mounting position;
- adjustable volume, tone, and tempo controls;
- compatibility with NuTone radio intercom systems;
- optional external speaker to play the chime in another area of the home.

The LA-52 Harmony can be used with 10-volt or 16-volt transformers. If your region is subject to low line-voltage or you are using an extension speaker with the LA-52, a 16-volt transformer is necessary to avoid sound distortion.

NOTE: The LA-52 has terminals for one- or two-door operation. The LA-52 cannot be used in multiple chime installations.

Installation of the LA-52 is performed in TWO STEPS: First, AT THE CHIME SITE; and Second, AT THE FRONT-DOOR PUSHBUTTON.

AT THE CHIME SITE

Replacement Installation

Handle carefully as you would any precision instrument. Turn off power to existing chime.

1. Remove cover from existing chime.
2. Disconnect the wires from the terminal strip of the existing chime, marking each wire as you remove it — Front, Trans, Rear.

If any additional wires (for example — side door) are present which are not required by the wiring diagram (page 3, Figure 2), cap these wires individually with a wire nut and electrical tape.

3. Remove the existing chime base from the wall.
4. Determine whether you want the LA-52 to hang vertically or horizontally. Pull the remaining wires through whichever large hole in the base plate that provides the best coverage of the wall cavity. See Figure 3.
5. Mount the base to the wall using the screws that were removed from the old chime base.

NOTE: If the LA-52 replaces a horizontally mounted chime, the two small round holes in the new base should align with the holes used to mount the old chime base. If the LA-52 replaces a vertically mounted chime, use the two slotted holes — T-shaped slot at the top.

6. Attach wires to their respective screws (FRONT, TRANS, REAR) on the base's terminal block.
7. Holding the LA-52 housing in one hand, attach the blue, yellow, and green wires from the chime housing to the lugs marked FRONT, TRANS, and REAR respectively on the terminal block.
8. If you plan to use the LA-52 Harmony with a NuTone radio intercom or an external speaker, follow the instructions under these headings before proceeding.
9. With all wires connected, snap the LA-52 housing onto the base, securing all four corners.
10. Restore power to chime.

New Installation

For best results, use a NuTone model 105N transformer (not included) in wiring the LA-52. Comply with local and national wiring codes. You will also need bell wire and pushbuttons.

Your new LA-52 Harmony should be seen as well as heard. Position the LA-52 on a wall at eye level. Handle carefully as you would any precision instrument.

Wiring

NOTE: Turn off the house power before wiring a transformer into a junction box.

1. Mount the transformer to a convenient junction box (attic location not recommended) or circuit-breaker box. Connect the house-power leads to the transformer leads — black wire to black wire and white to white. See Figure 1.

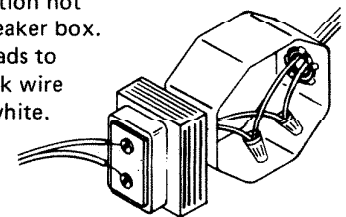


FIGURE 1

2. Run 20/2 or 18/2 wire from the transformer and the pushbutton(s) to the LA-52 location.

NOTE: When fastening the wiring to wall studs and ceiling joists, avoid short-circuits that can result when staples or clips cut through the wiring insulation.

3. Bring the wires through one of the large holes in the LA-52 base plate. Fasten the base plate to the wall with screws. If it is mounted vertically, use the two slotted holes — T-shaped slot at the top. See Figure 3.
4. Connect the transformer and pushbutton wires to the LA-52's terminal board, as shown in Figure 2.

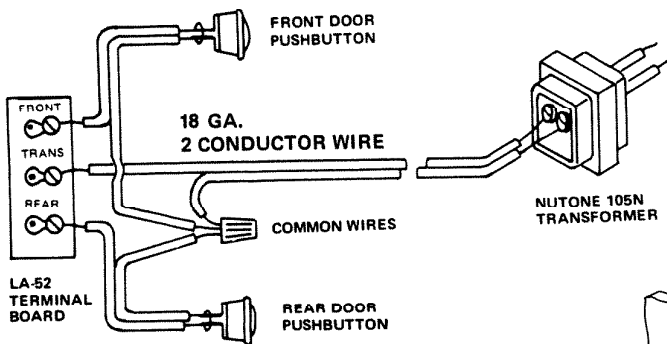


FIGURE 2

5. If you plan to use the LA-52 Harmony with a NuTone radio intercom or an external speaker, follow the instructions under these headings before proceeding.
6. Holding the LA-52 housing in one hand, attach the blue, yellow, and green wires coming from the chime housing to the lugs marked FRONT, TRANS, REAR respectively on the terminal block.
7. With all wires connected, snap the LA-52 housing onto the base, securing all four corners.

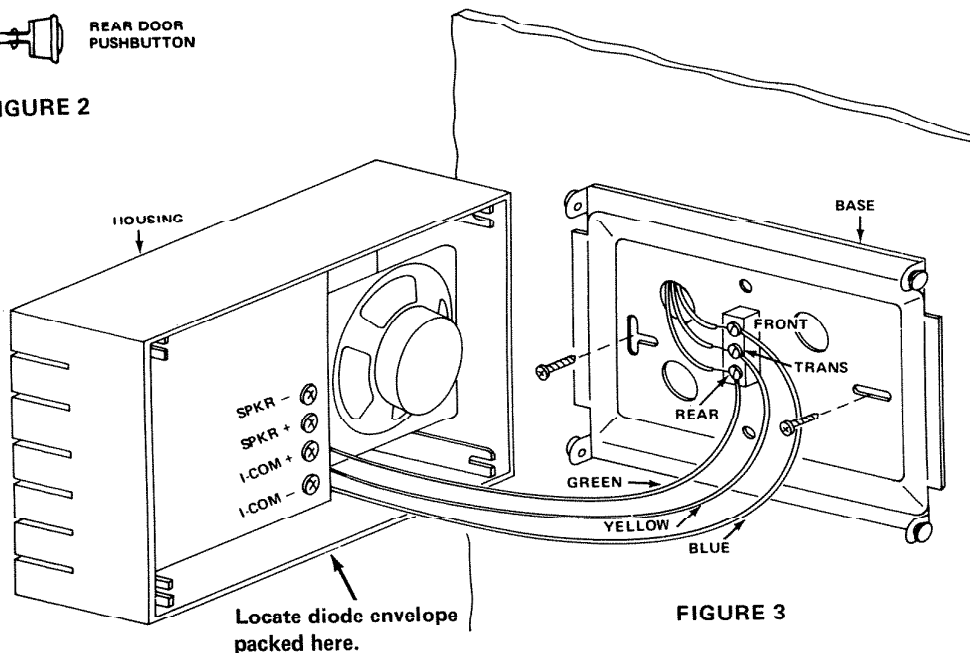


FIGURE 3

AT THE FRONT DOOR PUSHBUTTON

A diode must be added to the front-door pushbutton to supply power continuously to the LA-52 while the tune is playing. The diode is inside an envelope which is located between the base plate and the chime housing. No diode is required at the back door.

1. Remove the pushbutton from the door jamb or wall.
2. Wire the diode to the two terminals on the pushbutton, as shown in Figure 4, 5, or 6 — whichever most looks like your pushbutton.
3. Press the front-door pushbutton and listen for chime to play.

4. If the tune quits playing as soon as you remove your finger from the pushbutton, the diode is installed backwards. Reverse the wiring connections on the pushbutton and test again. This time the tune should continue playing even after the button is released.

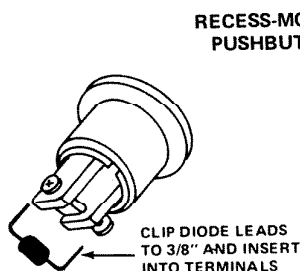


FIGURE 4

5. Tighten the terminal screws and replace the pushbutton in the door jamb or wall. (On metal siding, place a small piece of insulating tape on the surface opposite the diode to prevent shorting.)

NOTE: If you are using a lighted pushbutton, the bulb's brightness will be reduced 30 - 40%. This is normal and will increase the bulb's life.

IMPORTANT: The diode must be installed before either the front or back door pushbuttons will sound the chime.

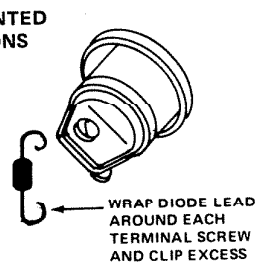


FIGURE 5

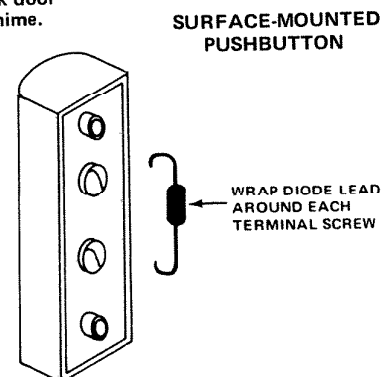


FIGURE 6

TUNE LABEL AND SELECTION

Tune Label

The tune label (Figure 7) is packaged in the same envelope with the diode inside the LA-52's control panel.

If you have mounted the LA-52 horizontally, tear off and discard the bottom of the label, peel off the back and mount the label on the inside of the panel door. If you have mounted the LA-52 vertically, tear the label at both perforations, discard the top and mount the tune list and instructions side by side.

Tune Selection

The LA-52 Harmony will play 1 of 24 tunes at the front door and 2 notes at the rear door.

To select a tune, move the letter and number switches to the tune you want to hear. See Figure 8.

Press the TUNE TEST button. Set the loudness, speed and pitch of the tune by adjusting the VOLUME, TEMPO, and TONE controls respectively – clockwise to increase, counterclockwise to decrease.

NOTE: Position 5E does not play a tune. The chime is off.

HARMONY MUSICAL CHIME
by NuTone Model LA 52

TO SELECT A TUNE

1. Set switches to desired code number and letter.
2. Press TUNE TEST button.
3. Adjust Tone, Tempo and Volume Controls as desired.
4. Press Tune Test to hear again.

TUNE LIST

1A A Bicycle	5C In The Good
2A Battle Hymn	6D Old Summertime
3A Dixie	7D I've Been Working
4A 1812 Overture	8D On The Railroad
5A For He's A	9D Jingle Bells
Jolly Good Fellow	0D La Cucaracha
1B Frere Jacques	1D Oh! Dear, What
2B Give My	2D Can The Matter Be?
Regards To Broadway	3D Oh Tannenbaum
3B Greensleeves	4D Shave And
4B Hail! Hail! The	5D A Haircut
Gang's All Here	6D Iwinkie Iwinkie
5B Hallelujah Chorus	7D Little Star
1C Happy Birthday	8D Westminster Chimes
2C Hello, Ma Baby	9D (4-note)
3C Home Sweet Home	0D Yankee Doodle
4C How Dry I Am	

4 Press Tune Test to hear again.

3 Adjust Tone, Tempo and Volume Controls as desired.

2 Press TUNE TEST button.

1 Set switches to desired code number and letter.

TO SELECT A TUNE

Model LA 52

HARMONY MUSICAL CHIME by NuTone

48689

FIGURE 7

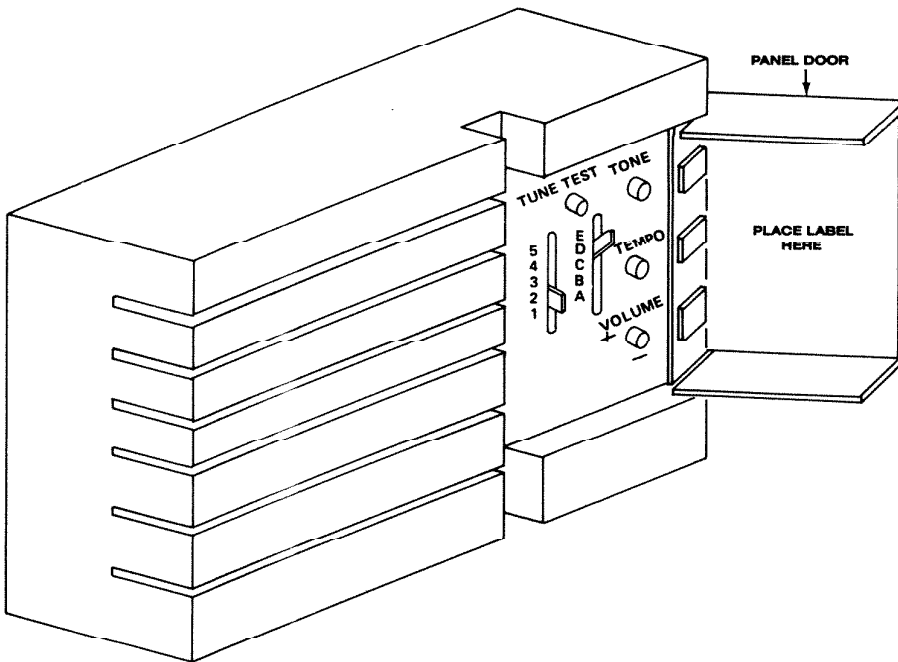


FIGURE 8

Selector Switches set at 2D, "Jingle Bells"

OPTIONAL FEATURES

Use with NuTone Radio Intercom

You can connect the LA-52 to a NuTone radio intercom system. The LA-52 chime signal will **override** the radio intercom, but will **not** mute the music source.

Follow the wiring diagram that matches your radio intercom system. (see below) Connect the wires to the LA-52's circuit-board terminals, inside the chime housing.

To adjust the LA-52's volume over the radio intercom, use a screwdriver to turn a recessed control just below the I-COM terminals on the circuit board. See Figure 3.

Use with External Speaker

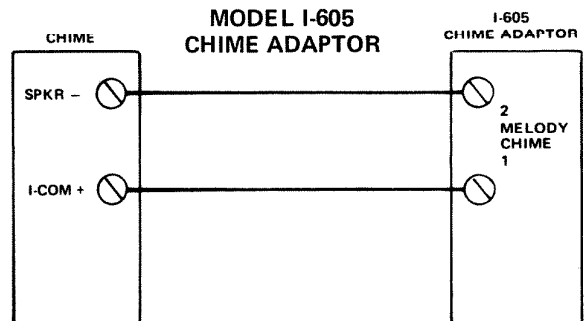
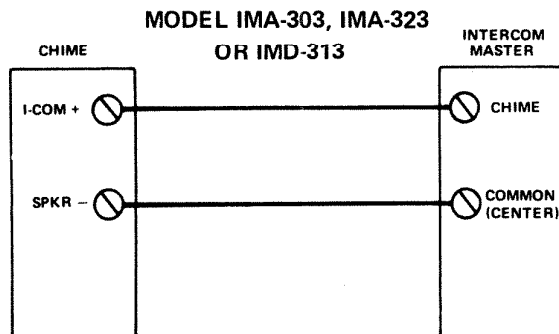
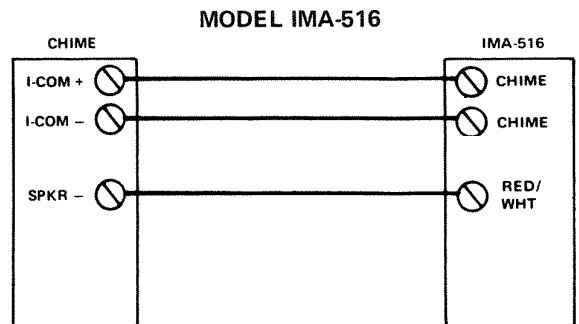
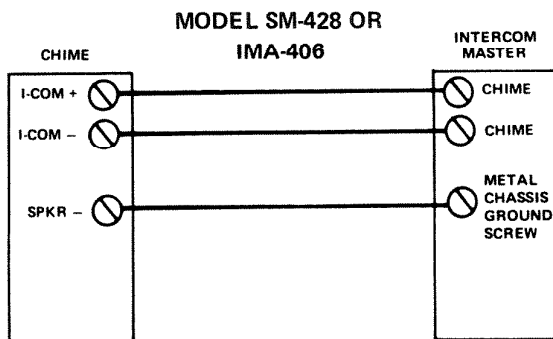
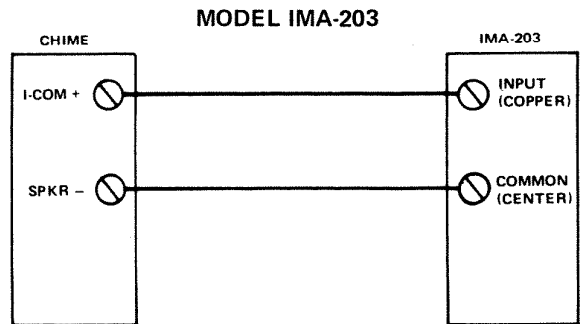
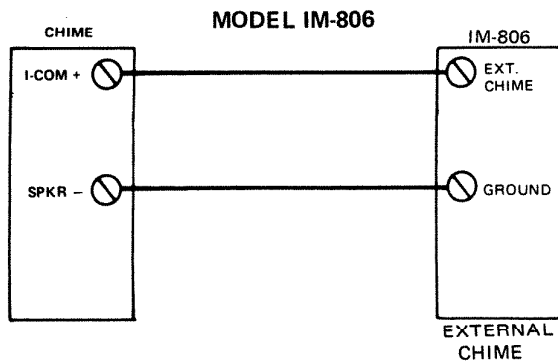
If you do not have a NuTone radio intercom, but wish to have the chime signals relayed to another part of your home, the LA-52 may be used with one external speaker.

Use Model ISA-63 for inside the home or Model ISA-64 (with push-button) at the front door.

NOTE: If ISA-64 is used, the diode must be added to the push-button.

Connect speaker terminals to the LA 52's circuit board at SPKR+ and SPKR-, inside the chime housing. Polarity is not important: connect either speaker terminal to either SPKR terminal on the LA-52 Harmony.

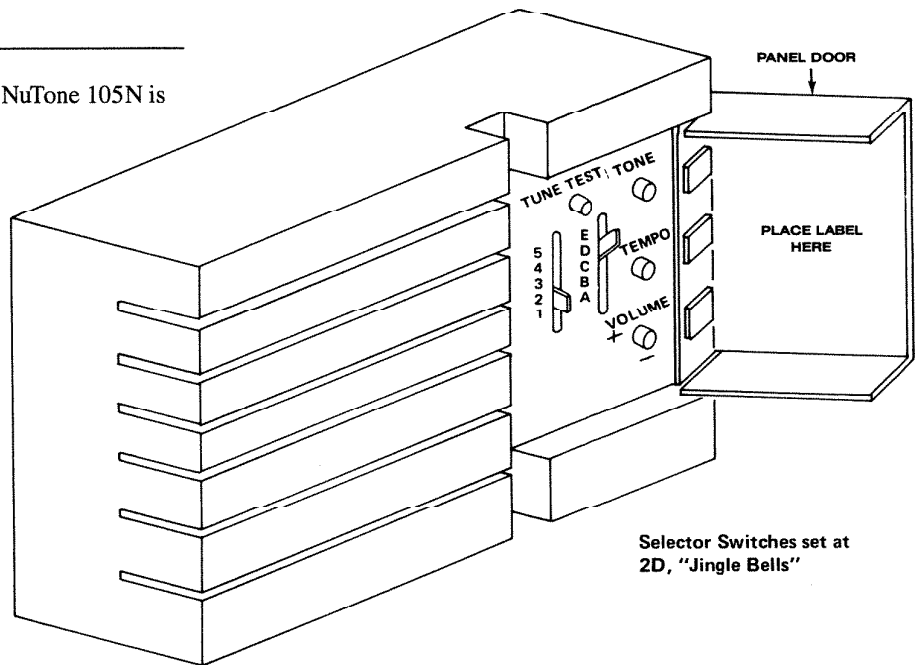
STANDARD CHIME-TO-INTERCOM CONNECTIONS



OPERATIONAL CHECKOUT

Initial Setup

1. Make sure the transformer is connected. (NuTone 105N is recommended but not furnished.)
2. Check to see if diode (furnished) has been installed across front door pushbutton terminals and that screws are tight.

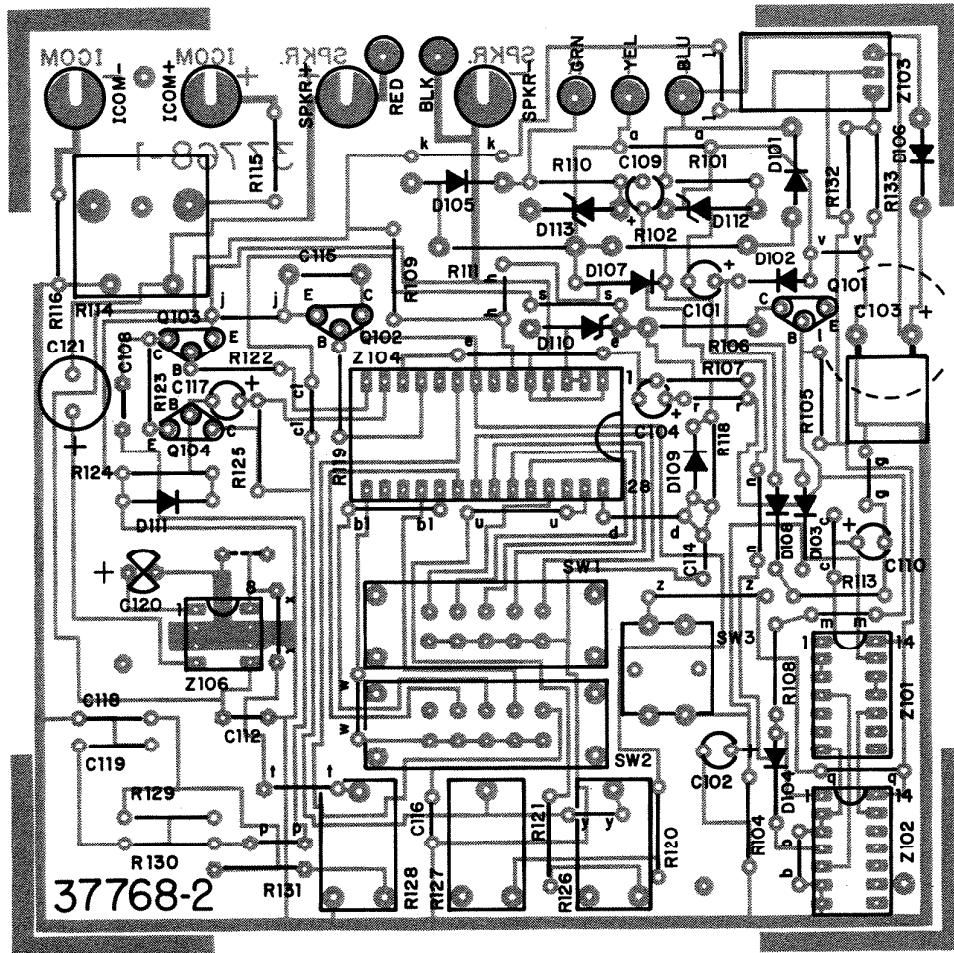


Chime Operation

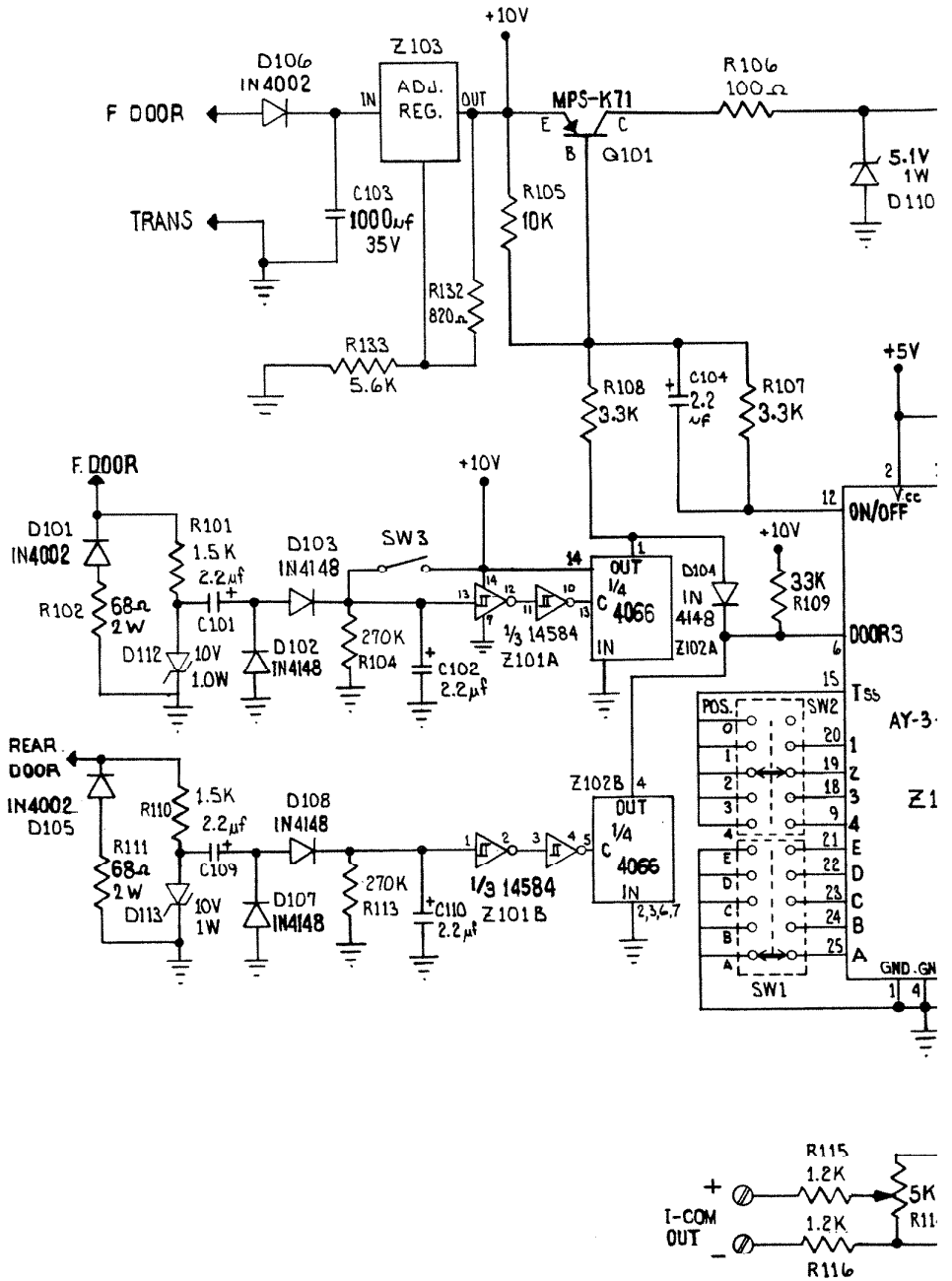
CONTROL	OPERATION	RESPONSE
1. Two number-letter code switches	Set both to desired code number and letter.	None.
2. TUNE TEST button	Press.	Selected tune should play without the need to push front door pushbutton.
3. TONE	Adjust knob after TUNE TEST is pressed.	Should be able to change pitch of sound.
4. TEMPO	Adjust knob after TUNE TEST is pressed.	Should be able to speed up or slow down the music.
5. VOLUME	Adjust knob after TUNE TEST is pressed.	Should be able to make the tune louder or softer.
6. Rear door pushbutton	Press.	Two notes should sound.
7. Front door pushbutton	Press.	Selected tune should play. If the tune quits playing as soon as pushbutton is released, the diode is installed backwards. Reverse the wiring connections on the pushbutton and test again. This time the tune should continue playing after the button is released.

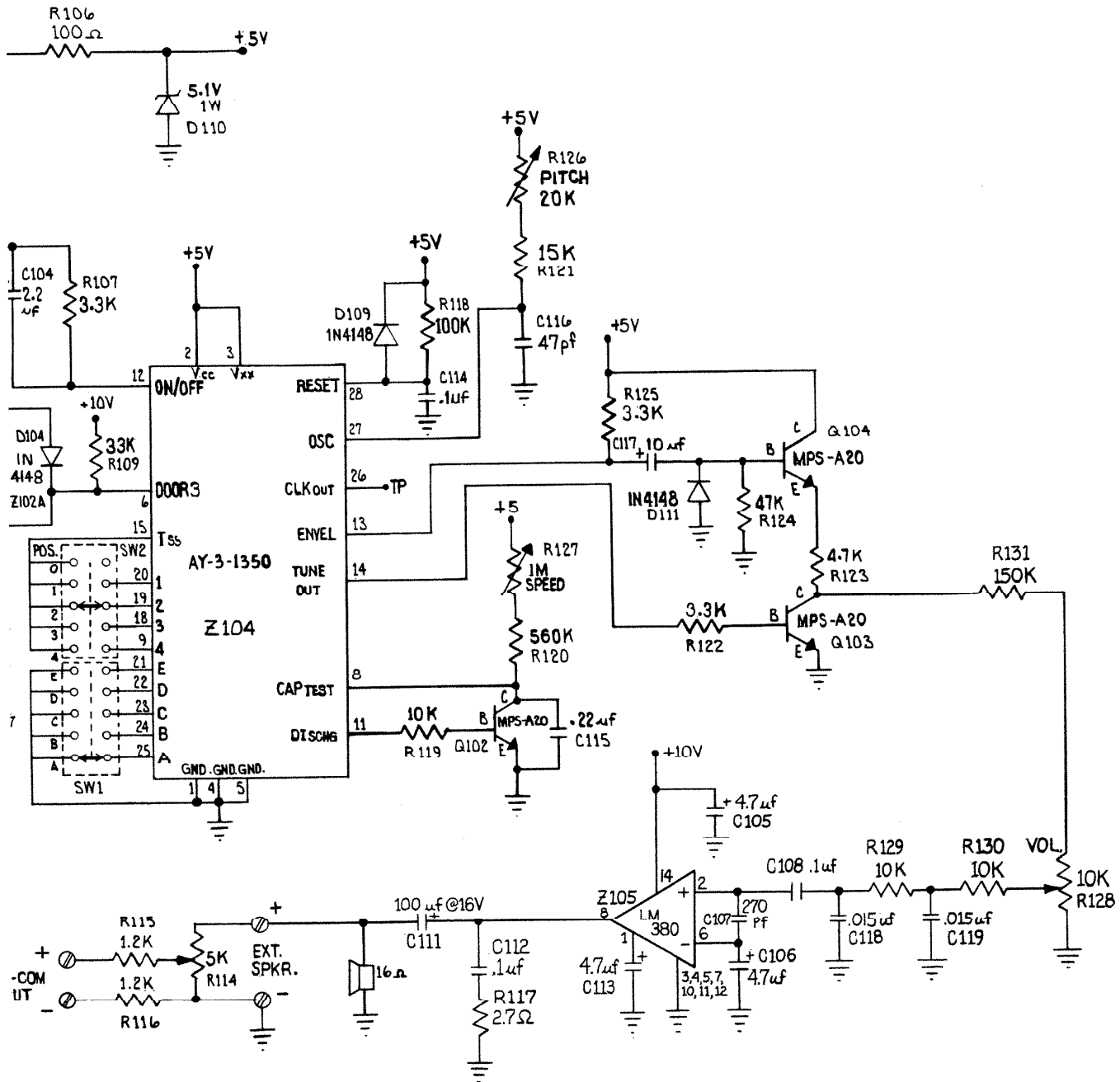
P.C. BOARD LAYOUT

Model LA-52 Printed Circuit Board



SCHEMATIC





THEORY OF OPERATION

General

The Model LA-52 musical door chime is wired similar to a two note chime. The connections to the transformer only supply AC while the pushbutton is pressed. A diode (furnished), therefore, must be connected across the front door pushbutton to supply half wave rectified DC during the time the chime is playing a tune. A second diode D106 continues to supply DC during the time the front door pushbutton is pressed. C103 filters the half wave DC. Z103 is an adjustable voltage regulator that supplies approximately 10 VDC to power the circuit. Refer to the Model LA-52 Musical Door Chime, Schematic Diagram for this discussion.

Front Door Pushbutton Circuit

1. D101 and R102 supply power to light the pushbutton during the negative half of the AC power cycle. R102 limits transformer current while the pushbutton is being pressed or if it becomes stuck closed.
2. R101 and D112 produces a -10 V peak-to-peak square wave at the negative side of C101 when the front door pushbutton is pressed.
3. A peak-to-peak detector consisting of C101, D102, D103 and C102 detects, rectifies and filters the -10 V peak-to-peak square wave to produce a +9.4 VDC signal at the input of the Schmitt Trigger Z101A. R104 provides a DC return path to ground.
4. The two Schmitt Triggers Z101A provide a debouncing function for the front door pushbutton. This provides a "clean" trigger signal to the control gate of the bidirectional transmission gate of Z102A.
5. When the control gate Z102A goes high, 102A pin 1 goes to ground. This turns on Q101, which supplies +5VDC to the microprocessor Z104 and its associated circuitry.
6. In 100-200 ns the +5 V supply becomes stable and C114 begins to charge through R118. This resets Z104 to the beginning of its program.
7. Ten to 20 ms after the +5V supply becomes stable, Z104 comes out of RESET and takes the ON/OFF pin to ground, keeping Q101 in saturation and therefore applies +5 V to itself.
8. After Z104 brings the ON/OFF pin to ground, it samples the tune switches to determine which tune is to be played. Z104 then plays the selected tune.
9. When the last note of the selected tune has been played, Z104 returns the ON/OFF pin to +10 V. This takes Q101 out of saturation, removing its own +5 V supply. The ON/OFF pin remains at 10 V even though Z104 is turned off, since it is an open drain output that is pulled up to +10 V through R107 and R105.

Rear Door Pushbutton Circuit

1. The rear door pushbutton circuit operates similar to the front door circuit except that R112 sets up a voltage divider network instead of providing a -10 V peak-to-peak square wave when the rear door pushbutton is pressed.

2. When the rear door pushbutton is pressed, Z102B pulls the base of Q101 low through D104, and pulls the DOOR3 input low. This tells Z104 not to play the front door tune but to play a two note chime.

Microprocessor (Z104) Master Oscillator

1. Z104's master oscillator is controlled by R126, R121 and C116. R126 is used to vary the frequency of the master oscillator which changes the pitch of the notes played.
2. The CLKout pin provides a clock signal that is derived from the master oscillator. The signal is $\frac{1}{4}$ the frequency of the master oscillator and has an approximate duty cycle of 25/75 percent. This pin is used only to verify oscillator operation.

Tempo Control Circuit

1. The tempo control circuit consists of R12, R120, R119 and Q102. These components along with the CAP test and DISCHG pins of Z104 form a timing circuit which allows the tempo of a song to be varied independent of the frequency of Z104 master oscillator.
2. As C115 charges through R120 and R127, the voltage on the capacitor is sampled by the CAPTEST pin of Z104 when it has reached a predetermined level, the DISCHG pin goes high discharging C115 through Q102. The DISCHG pin then goes low to restart the timing cycle.

Note Strike and Note Playing Circuit

1. The note strike circuit consists of R125, R124, C117, D111 and Q104. This circuit alters each note that is played to produce a strike and decay sound.
2. Before each note starts to play, the ENVEL pin which is normally high is pulled low by Z104. This reverses the charge on C117 and D111, providing a bias voltage for Q104.
3. When the ENVEL pin is brought back high, C117 begins to discharge through R124 since D111 is reverse biased. This discharge provides an exponentially decaying current at the emitter of Q104.
4. The note playing circuit consists of R122, R123 and Q103 uses the decaying current from the note strike circuit to produce an exponentially decaying square wave at the collector of Q103.

Tone Shaping Circuit

1. The tone shaping circuit consists of R129, R130, C118 and C119. These components form a two-pole RC low pass filter which helps remove some of the high order harmonics of the square wave.

SERVICE TROUBLE-SHOOTING GUIDE

Test Conditions

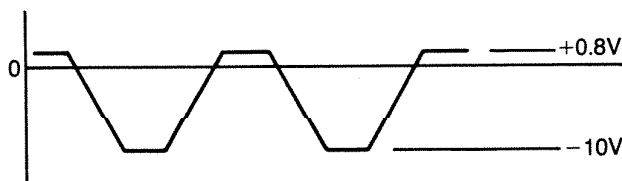
1. NuTone 105-N transformer (16V, 15VA) connected.
2. Line voltage: 120V RMS.
3. Lighted pushbuttons connected in front and rear door circuits with diode properly connected across the front door pushbutton.
4. No external speaker connected.

Chime Completely Dead

1. Check the input voltage at the adjustable voltage regulator Z103. It should be between 18 and 20 VDC. If not present, check for open D106 or shorted C103.
2. Check the output of Z103. It should be between 9.4 and 10.1 VDC (nominally it will be about 10 VDC.) If not present, check for open foil traces or replace Z103. If not within the allowable range, check the voltage across the ADJ. and OUT pins of Z103. It should read between 1.20 and 1.30 VDC (nominally it will be about 1.25V). If not within the allowable range, replace Z103. Also check the values of R132 and R133. Actual value of these resistors should be ± 2 percent of their indicated value.
Note: If either R132 or R133 need replacing, use only *exact* NuTone replacement parts.

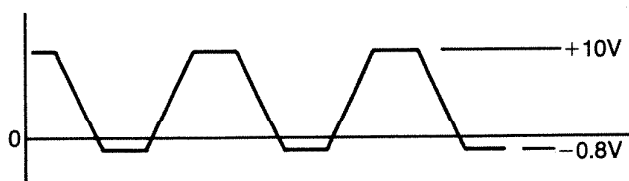
Front Door Tune Will Not Play When Front Door Pushbutton Is Pressed

1. Check to make sure that the tune selector switches are NOT in the 5E position. There is no tune at position 5E.
2. While pressing the front door pushbutton make the following checks:
 - a) Wave form at junction of R101 and D112.



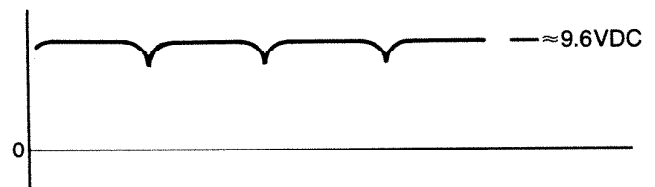
If the above wave form is not present, check for open or shorted D112 and R101 and shorted R102. If R102 or D101 is open, the above wave form will be present even when the front door pushbutton is not pressed.

- b) Wave form at junction of C101 and D102.



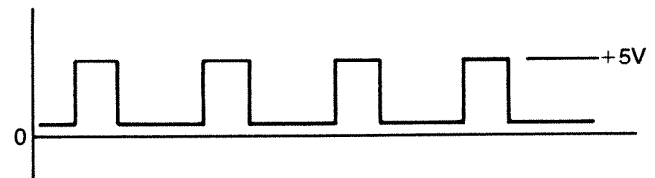
If the above wave form is not present, check for open or shorted C101, open or shorted D102.

- c) Wave form at junction of D103 and R104.



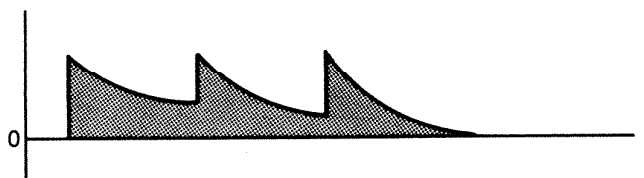
If the above wave form is not present, check for open or shorted R104 or C102.

- d) Pins 11 and 12 of Z101 should be at 0 VDC.
 - e) Pins 10 of Z101 and pin 13 of Z102 should be approximately +10VDC.
 - f) Pin 1 of Z102 should be at 0 VDC. If not, replace Z102.
3. Check wave form at pin 26 of Z104 (2 ms/division).



If the above wave form is not present when pressing the front door pushbutton, check for +5 V on pins 2 and 3 of Z104. If 5V is present, check R126, R121 and C116 for proper connections and values.

4. Press front door pushbutton and check pin 14 of Z104 for a 2.5 V peak-to-peak square wave that varies in frequency. If the square wave is not present, Z104 is probably bad.
5. Check collector of Q103 while a tune is playing.



If the above wave form is present, trace through the rest of the audio circuitry until the problem is found.

Two-Note Chime Cannot Be Played at the Rear Door

Trace through the rear door detection circuitry similar to the front door procedure. The wave forms will be slightly different but the circuit operation is the same as the front door.

INSTALLER'S TROUBLE-SHOOTING GUIDE

TROUBLE	POSSIBLE CAUSE	POSSIBLE REMEDY
1. Chime inoperative.	1a. No 120 V ac Power to transformer primary.	1aa. Check for blown fuse or tripped circuit breaker, open circuit (break in wiring, loose connection) in wiring to transformer primary.
	1b. No 10 or 16 V ac Power to chime from transformer secondary.	1bb. Check for open circuit in wiring from transformer secondary to chime terminal, replace defective transformer.
	1c. Tune selection in 5E (off).	1cc. Set selector in selection other than 5E.
	1d. Diode at pushbutton shorted.	1dd. Replace shorted diode NuTone part #36723-000.
	1e. Pushbutton(s) stuck.	1ee. Check all pushbuttons. Repair or replace as necessary.
	1f. Incorrect wiring.	1ff. Check wiring, referring to specific wiring diagram for the LA-52 found later in this section.
	1g. Chime used in multiple chime hookup application or more than one extension speaker.	1gg. LA-52 Chime may NOT be used in a multiple chime hookup application. This chime will accept one extension speaker when chime is powered by a NuTone 105-N transformer.
	1h. Defective chime printed circuit board.	1hh. Replace defective printed circuit board.
2. Chime operates only when pushbutton is held in.	2a. Diode installed incorrectly (Polarity).	2aa. Install diode correctly (reverse leads). See diagram found later in this guide.
	2b. Defective open (circuit) diode.	2bb. Replace diode. NuTone part #36723-000.
3. Chime operates intermittently when operated by calling guests.	3a. Dirty and/or corrosive contacts on pushbutton.	3aa. Clean or replace pushbutton.
	3b. Poor Diode connection.	3bb. Check Diode connection.
	3c. Defective (intermittent) transformer—possibly located in high temperature attic area.	3cc. Replace defective transformer—located in non-high temperature area or use high temperature transformer/NuTone part #42069-000.

TROUBLE	POSSIBLE CAUSE	POSSIBLE REMEDY
4. Chime operates unwanted intermittently.	4a. Intermittently shorting diode.	4aa. Replace diode. NuTone part #36723-000.
	4b. Intermittent short at pushbutton and/or in wiring possibly by wire collars or staples.	4bb. Check pushbutton and/or wiring for short.
	4c. Defective chime printed circuit board.	4cc. Replace defective printed circuit board.
5. Low/weak volume from extension speaker (after adjusting volume controls behind chime front door).	5a. Incorrect transformer when extension speaker is used, more than one extension speaker used.	5aa. While the LA-52 may be used with a 10 or 16 volt ac (Secondary) transformer, if an extension speaker is used a 16 V ac, 15 watt NuTone Model 105-N transformer should be used. This chime is not designed nor has the power to drive multiple extension speakers.
6. Hum in extension speaker.	6a. Non-use of twisted pair wire, NuTone Model part #1W-2.	6aa. Use only in NuTone 1W-2 twisted pair wire.
	6b. Extension speaker wiring paralleling AC house wiring within 12 inches.	6bb. Do not parallel this speaker wire with any AC wiring. You may cross AC wiring at 90 degrees.
	6c. Defective speaker or wrong value speaker (in ohms).	6cc. Replace with correct speaker.
	6d. Defective chime printed circuit board.	6dd. Replace defective printed circuit board.

REPLACEMENT PARTS

Capacitors: Value In Micro (10⁻⁶) Farads, Except As Noted.
 Resistors: Value In Ohms ±5%, ¼ Watt, Carbon Film Except as Noted.
 K=Kilo=1,000 M=Mega=1,000,000

Schematic Symbol	NuTone Part No.	Description
	(*) Used in LA-52 Maple Only (**) Used in LA 52 Teak Only	
	42601-000	(*) Chime Assy., Complete
	42602-000	(**) Chime Assy., Complete
	35246-000	(*) Cover
	35247-000	(**) Cover
	35248-000	(*) Door
	35249-000	(**) Door
	35307-000	(*) Pushbutton Test (maple finish)
	35308-000	(**) Pushbutton Test (teak finish)
	67274-000	Rubber Bumper—needed for test Pushbuttons
	42605-000	P.C. Board Assembly Complete
		DIODES
D101, D105 D106	36549-000	Silicon Rectifier .1 Amp. DC; 100 PIV Type IN4002
D102-D104 D107-D109 D111	36617-000	Silicon Switching, 50MA D.C.; 75 PIV IN1914 Texas Inst. IN4148
D110	36693-000	Silicon Zener, 49MA, D.C. Motorola IN4733
D112, D113,	36690-000	Silicon Zener, 25MA D.C. Motorola IN4740A
		RESISTORS
R101, R110	33082-152	1.5K
R102, R111	33039-680	68, 2W Wire Wound
R103	Not Used	
R104, R113	33082-274	270K
R105	33082-103	10K
R106	33101-101	100, ½W
R107, R108 R122, R125	33082-332	3.3K
R109	33082-333	33K
R112	33082-331	330
R114	34066-000	5K ± 30%, 1/10 watt, 255° Rotation, CTS Corp. Type U201R502B
R115, R116	33082-122	1.2K
R117	33082-027	2.7
R118	33082-104	100K
R119, R129 R130	33082-103	10K
R120	33082-564	560K
R121	33082-153	15K
R123	33082-472	4.7K
R124	33082-473	47K
R128	34085-000	10K ± 20%, Panasonic EVLV3A15RB14
R127	34084-000	1M ± 20%, Panasonic EVLV3AS15
R126	34083-000	20K ± 20%, Panasonic EVLV3A15GB24
R131	33082-154	150K
R132	33206-821	820, Metal Film
R133	33206-562	5.6K, Metal Film

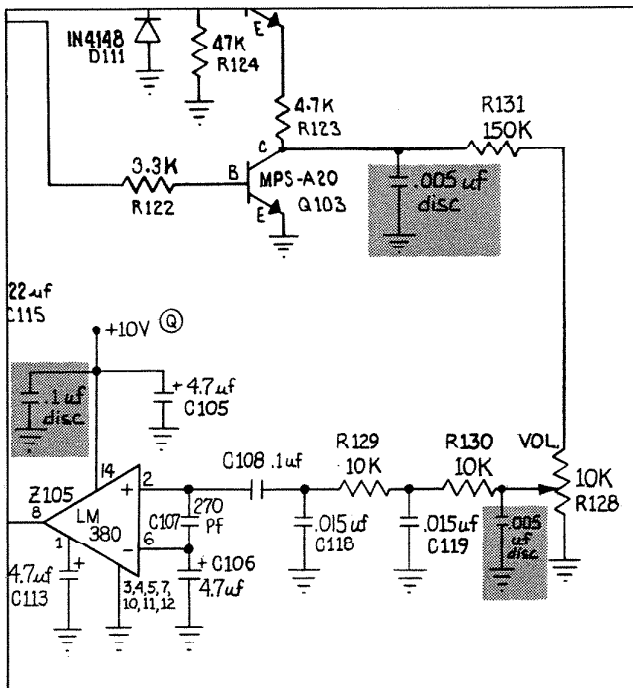
Schematic Symbol	NuTone Part No.	Description
		TRANSISTORS
Q101	36606-000	PNP Silicon, Motorola Inc. MPS-K71 (Yellow) MPS-A70 (B=150-300)
Q102-Q104	36613-000	NPN Silicon, Texas Inst. TIS98, Motorola MPS-A20
		CAPACITORS
C101, C102, C104, C109 C110	35091-120	2.2 ± 20%, 50 WVDC Electrolytic
C101, C102, C104, C109 C110	(Alternate) 35091-111	2.2 + 100% - 10%, 25WVDC Electrolytic
C103	35091-121	1000 + 30% - 10%, 35WVDC Electrolytic
C103	35130-101 (Alternate)	1000 ± 20%, 35WVDC Electrolytic
C105, C106 C113	35091-119	4.7 ± 20%, 35WVDC Electrolytic
C105, C106 C113	(Alternate) 35091-103	4.7 ± 100% - 10%, 25WVDC Electrolytic
C107	35100-124	270pf ± 10%, 500 WVDC Ceramic
C108, C112 C114	35076-110 35076-110	.1 ± 20%, 12WVDC Ceramic .1 ± 20%, 12WVDC Ceramic
C111	35091-108	100 + 100% - 10%, Electrolytic
C115	35055-104	.22 ± 20%, 100WVDC Polyester Film
C116	35100 180	47pf ± 10%, 50WVDC Ceramic
C117	35091-102	10 + 100% - 10%, Electrolytic
C118, C119	35055-108	.015 ± 10%, 100WVDC Polyester Film
		INTEGRATED CIRCUITS
Z101	36677-000	Hex Inverter Motorola MC14584 BCP
Z102	36658-000	Quad Analog RCA CD4066AE or CD4066BE Motorola MC14066BCP
Z103	36724-000	Voltage Regulator National Semiconductor LM317T
Z104	36721 000	Synthesizer General Instruments AY-3-1350
Z105	36641-000	Audio Amp National Semiconductor LM-380N

Schematic Symbol	NuTone Part No.	Description
SWITCHES		
SW1, SW2	34681-000	5 Position Slide Alcoa Switch SL-550
SW3	34683-000	Pushbutton — ALPS No. HC10902
I.C. SOCKET		
	39747-000	28 Pin
CHIME BASE		
	42763-000	Base Complete
	42764-000	Base Assy.
	39905-000	Terminal Block

Schematic Symbol	NuTone Part No.	Description
GENERAL PARTS		
	36076-000	Speaker — 16 OHM
	52789-015	Screw - #6 - 20 x 3/8 Ph. & Slt. #25 Speaker Mounting and P.C. Board (Chime) Mounting
	42608-000	Envelope Assembly
	36723-000	Diode — Silicon Rectifier Motorola #IN4002
	48698-000	Instruction Sheet
	48689-000	Label — Mode No. & Tune List
	48788-000	Homeowners Manual
	65364-000	Envelope Assembly — Contains (2) #8x1 1/4 Ph. Slt. pan head screws used to Instruction Sheet Supplement
	53939-000	

ADDENDUM

Optional Components For R.F.I. And Transient Filtering



Schematic Symbol	NuTone Part No.	Description
	35100-138	.005µf 100V Disc
	35100-127	.1µf 50V Disc