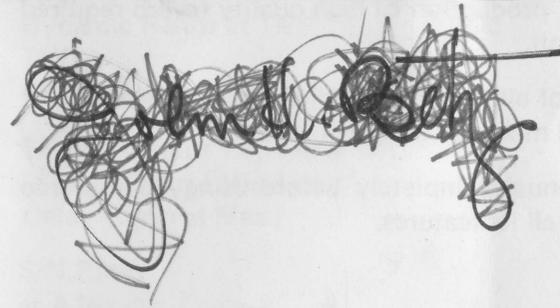


# STEREO REVERB



## OWNER'S MANUAL

PLEASE READ BEFORE  
USING THIS EQUIPMENT

**REALISTIC**<sup>®</sup>

Cat.No.  
42-2108

CUSTOM MANUFACTURED FOR RADIO SHACK, A DIVISION OF TANDY CORPORATION

### RADIO SHACK LIMITED WARRANTY

This product is warranted against defects for 90 days from date of purchase from Radio Shack company-owned stores and authorized Radio Shack franchisees and dealers. Within this period, we will repair it without charge for parts and labor. Simply **bring your Radio Shack sales slip** as proof of purchase date to any Radio Shack store. Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage.

EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

*We Service What We Sell*

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**TANDY CORPORATION**

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**Printed in Korea**  
811013290 B

Your REALISTIC Reverb is a sophisticated unit that adds a live quality and dimension to your stereo system or to musical instruments and voice in live performance. It can be used with tape decks, PA systems, or electronic instruments such as synthesizers and electric guitars.

The Stereo Reverb uses the newly developed BBD (Bucket Brigade Device) IC to produce its effects. This special circuit has low power consumption and gives you excellent performance in any application. Before the creation of this special IC, production of high quality reverb required a large, bulky, and expensive unit.

The microphone mixing control allows you to adjust the relative level of the microphone for the desired mix with the main input.

We urge you to read this manual completely before using your Stereo Reverb, so you can fully enjoy all its features.

**WARNING:** To prevent fire or shock hazard, do not expose this appliance to rain or moisture.



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure.

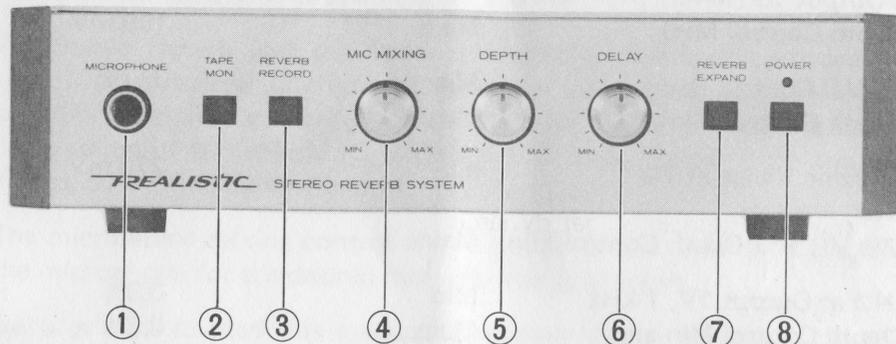


The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## SPECIFICATIONS(Typical)

Input Sensitivity at Output 150 mV (Depth Control Min)	Mic	0.35 mV
	Main	150 mV
Mic VR Control Range (Depth Control Min)	Mic	35 dB
Dynamic Range at 1% THD, (Mic VR and Depth Control Min)	Mic	270 mV
	Main	1.4V
THD at Output 1V, 1 kHz (Depth Control Min and Delay Control Max)	Mic	0.3%
	Main	0.3%
S/N Ratio at A Weight, Output 150 mV (Depth Control Min)	Mic	48 dB
	Main	75 dB
Frequency Response 20 Hz - 20 kHz (Depth Control Min)	Mic	±1 dB
	Main	±1 dB
Input Impedance	Mic	10 kohm
	Main	50 kohm
Output Impedance		3.3 kohm
Delay Time		5-100m/sec
Echo Time (Delay Control Max)		2 sec
Dimensions (Width x Depth x Height)		8 x 5 1/2 x 2 (in) 202 x 144 x 45 (mm)
Power Requirements		120 V AC, 60 Hz (240 V AC, 50 Hz for the units purchased in U.K. and Australia)
For your protection, we urge you to record the serial number of this unit in the space provided. You'll find the serial number on the back panel of the unit.		
Serial Number	_____	

## CONTROLS AND FUNCTIONS



Front Panel

### ① MICrophone Jack

Connect any microphone (high or low impedance) with a 1/4" (6.35mm) plug here.

### ② TAPE MONitor Button

Push in to activate the signal from your tape recorder when connected to the TAPE MON input.

### ③ REVERB RECORD Button

Push in to record the signal processed through the Reverb onto the tape deck when connections are made to the TAPE OUT jack.

### ④ MIC MIXING Control

Rotate to adjust the microphone input level.

### ⑤ DEPTH Control

Rotate to change the level of the reverb (echo) signal in relation to the original signal.

### ⑥ DELAY Control

Rotate to the set length of time between the original signal and the electronically delayed signal(s).

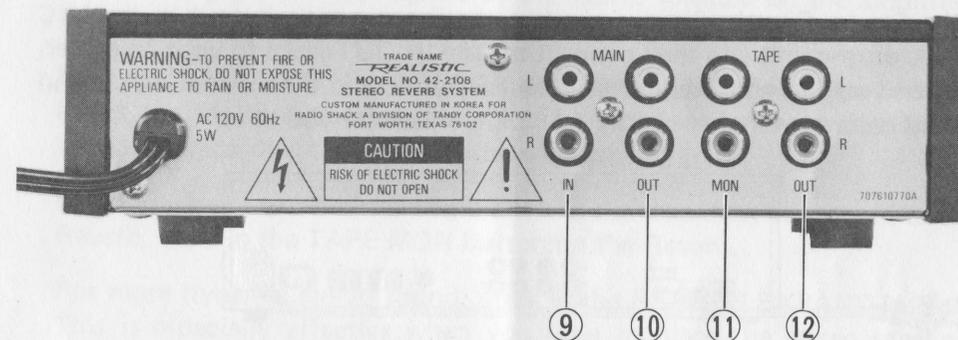
### ⑦ REVERB EXPANDer Button

Push in to expand the stereo effect range without moving your speakers. Press again to cancel the effect.

With normal stereo, sound is concentrated between the two speakers. The expander circuit creates the illusion that sounds are coming from outside this area. The overall effect is "live" sound, comparable to that in a theater or concert hall. You can even use this feature with monaural signals to get dynamic sounds by expanding your listening angle.

### ⑧ POWER Button

Press in to turn the unit on. The red LED will light up. Press again to turn off.



Rear Panel

### ⑨ MAIN IN Jacks

Connect to the tape output of your amplifier/receiver.

### ⑩ MAIN Out Jacks

Connect to the aux or tape input of the amplifier/receiver or PA amplifier.

### ⑪ TAPE MONitor Jacks

Connect to the output of your tape deck.

### ⑫ TAPE OUT Jacks

Connect to the input of your tape deck.

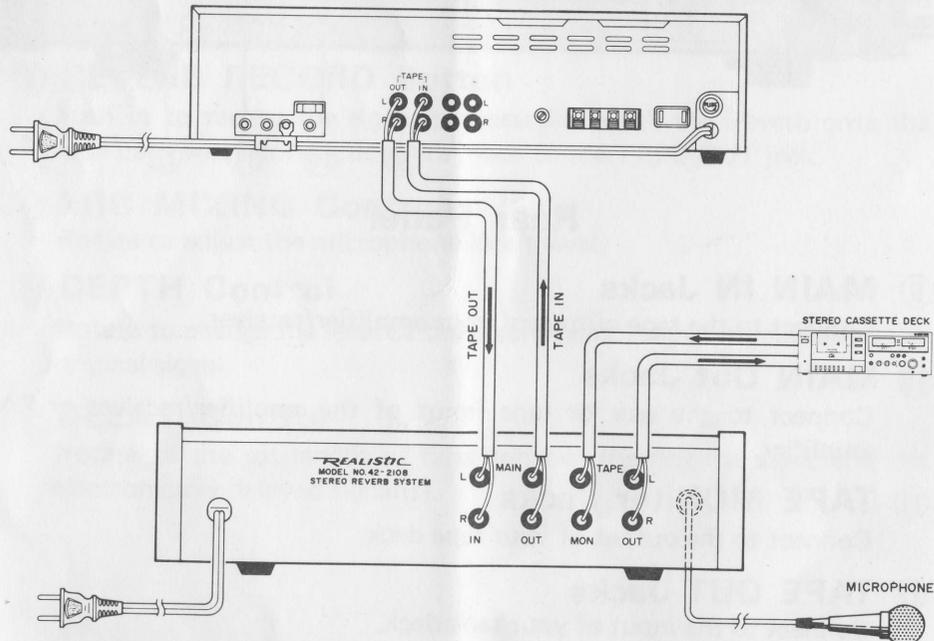
## PREPARATION FOR USE

### Connections

There are numerous possibilities for connecting the Stereo Reverb to your system. We will show only the very basic connections here. The rest is up to you!

- Be sure all the equipment power is off.
- Connect a microphone to the MIC jack on the Reverb.
- Disconnect the tape deck connection on your amplifier/receiver.
- Connect the MAIN OUT jacks on the Reverb to the tape input jacks, and the MAIN IN jacks to the tape out jacks on your amplifier/receiver.
- Connect the TAPE MON jacks on the Reverb to the line out jacks, and the TAPE OUT jacks to the line in jacks on your tape deck.

You can connect any high level signal source to the MAIN IN jacks; connect low level signal source to the MIC jack. For example, you can play an electric instrument (such as a synthesizer or an electric guitar) through the Stereo Reverb. Simply connect the instrument's output to the MIC jack on the unit and then connect the MAIN OUT jacks to your amplifier. Then you can add Stereo Reverb special effects to the instrument's sound (and record it directly via the TAPE OUT jacks, if you like).



## OPERATING THE STEREO REVERB

- 1) Double-check all connections of the whole system.
- 2) Turn on your amplifier/receiver first, and then switch on the Stereo Reverb.
- 3) All the buttons on the Stereo Reverb except POWER should be out.
- 4) Set the controls on the Stereo Reverb to minimum position (fully counterclockwise).

### Processing Signals on the Stereo Reverb

Select the signal source on your amplifier/receiver and activate the tape monitor control on your amplifier/receiver. This connects the Stereo Reverb into the system.

Set the volume control on your amplifier/receiver to normal position. You will be hearing the "flat" signals of the source selected on the amplifier/receiver.

Now rotate the DEPTH and DELAY controls and note how these controls affect the sound. See later sections of this manual for more detailed information regarding the effect of these controls.

When you want to listen to programs from the tape deck connected to the Reverb, press in the TAPE MON button on the Reverb.

For more dynamic stereo sound, press in the REVERB EXPAND button. This is especially effective when you have to place the stereo speakers close to each other. As noted, this button also adds new dimensions to monaural signals. Experiment with monaural signals . . . you'll be pleasantly surprised.

Note that the expander effect is dependent on the DEPTH control setting. As you increase the depth, more expand effect will be obtained.

## Introducing a Mic to the System

You can use the Stereo Reverb with either the MAIN INput or the MICrophone alone. Or, by activating both inputs, you can mix up signals from your amplifier/receiver and from the microphone. You can sing along with the background music from the main input and also add special effects to your voice and the music.

For microphone alone, set your amplifier/receiver to the function with no signal (e.g. to aux when you have connected nothing to the aux jacks, etc.). Rotate the MIC MIXING control to the appropriate level. Adjust the DEPTH/DELAY controls as desired.

For mixing, adjust MIC MIXING to control the microphone signal level for the best match with the line signal source.

Note that the signal from the mic input is monaural: the signal is equally applied to both left and right channels.

## Recording via the Stereo Reverb

For recording with the tape deck connected to the Reverb, you have the option to record either the signals processed through the Reverb or original, non-processed signals. This is ultra-convenient when, for example, you are using a PA amp at a party while, at the same time, recording the signal.

To record a non-processed signal, leave the REVERB RECORD button out. The same signal as on the MAIN IN jacks will appear at the TAPE OUT jacks.

To record the processed signal, press in the REVERB RECORD button. Now the signals at the TAPE OUT jacks are same as that of MAIN OUT signal.

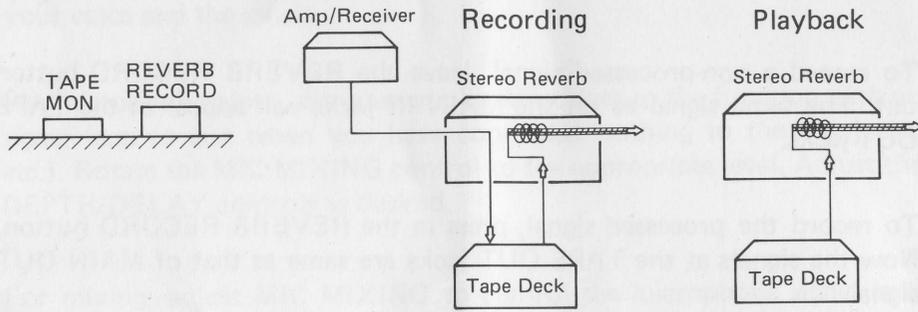
The mic signal will appear at the MAIN OUT jacks anytime the MIC MIXING control is turned up. However, note that the mic signal will appear at TAPE OUT only when the REVERB RECORD button is pressed in. So when you want to record the mic signal or mixed signal, i.e. when you want to record your performance accompanied by the live signal, press REVERB RECORD. If you do not want reverb processing on the recorded signal, set the DEPTH/DELAY controls to minimum (fully counterclockwise).

Note: When you monitor the recording (TAPE MON button in), you will hear the reverb effect anytime the reverb DEPTH is not set to minimum, regardless of the setting of the REVERB RECORD switch. This is because in either case the signal passes through the Reverb, either during recording or playback.

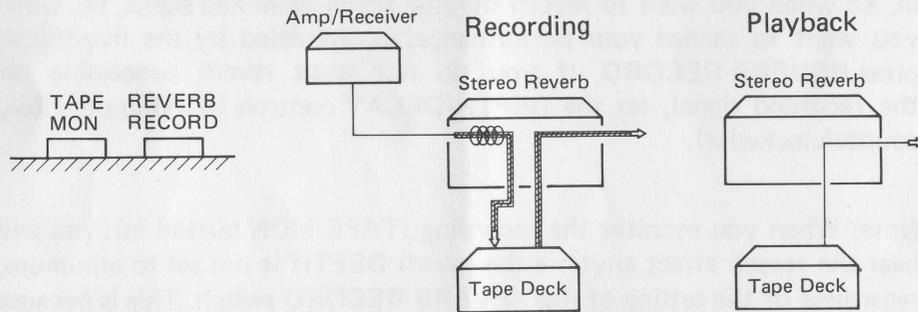
However, remember that when the REVERB RECORD button is pressed in, the signal going onto the tape is reverb processed, and that tape recording will have reverb sound whenever it is played back. When REVERB RECORD is out, the signal going onto the tape is normal (no reverb), but the monitored signal is being reverb-processed after leaving the tape deck. (The tape recording itself will not be reverb-processed.)

It is important to note this because when you are recording and monitoring through the tape deck at the same time, you can hear no apparent difference when pressing or releasing the REVERB RECORD button.

### Tape Button Position and Signal Flow



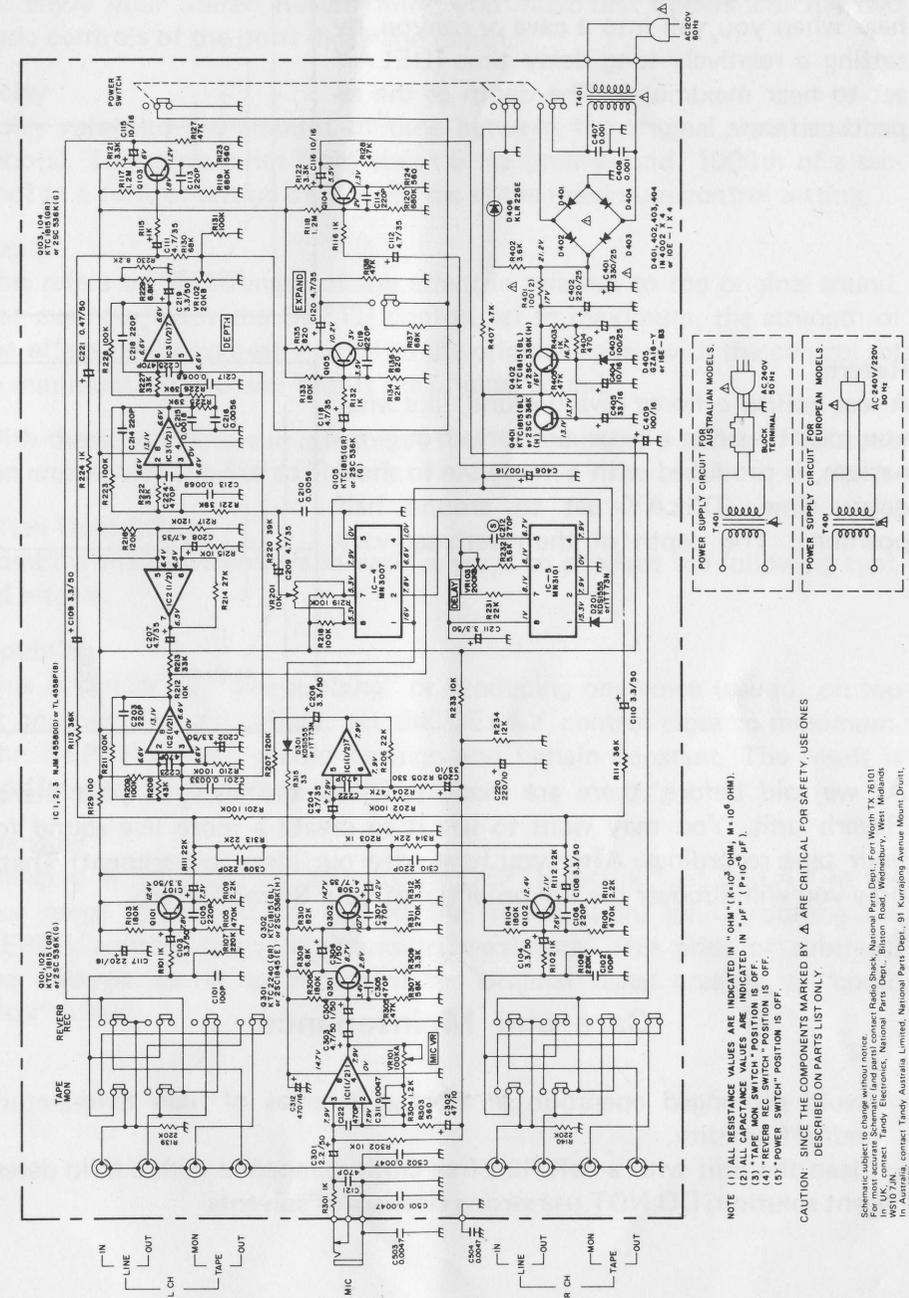
With TAPE MON pressed in and REVERB RECORD out the playback signal is reverb processed.



With both TAPE MON and REVERB RECORD pressed in, the record signal is reverb processed.

Note: To defeat reverb for playback, press the REVERB RECORD button in. This disconnects the reverb from the playback circuit. Or if you want to completely defeat reverb for recording and playback, set the DEPTH control to minimum. (As long as DEPTH is set to minimum, the reverb will be totally defeated, regardless of the REVERB RECORD button position.)

## SCHEMATIC DIAGRAM



NOTE (1) ALL RESISTANCE VALUES ARE INDICATED IN "OHMS" (K=10<sup>3</sup> OHMS, M=10<sup>6</sup> OHMS).  
 (2) ALL CAPACITANCE VALUES ARE INDICATED IN "µF" (P=10<sup>-6</sup> µF).  
 (3) REVERB REC SWITCH POSITION IS OFF.  
 (4) POWER SWITCH POSITION IS OFF.

CAUTION: SINCE THE COMPONENTS MARKED BY Δ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

Schematic subject to change without notice.  
 For most accurate Schematic (and parts) contact: Radio Shack, National Parts Dept., Fort Worth, TX 76101  
 WSTG 74N. Contact: Tandy Electronics, National Parts Dept., Shiloh Road, Midland, TX 79701  
 For more information contact: Tandy Australia Limited, National Parts Dept., 91 Kurling Avenue, Mount Druitt, N.S.W. 2770.

## Hints For Getting Full Benefits From Your Stereo Reverb

To enjoy your Stereo Reverb fully, you must first understand the two basic controls of the unit: delay and depth.

### Delay

Delay refers to the amount of time between the original signal and the echo(s). This time varies from about 5 ms (millisecond: 1000th of a second) at a control setting of 0, to 95 ms at the maximum control setting.

### Depth

This refers to the strength of the effect in relation to the original sound. For example, with the DEPTH control set to maximum, the strength of the effect might be nearly equal to the original signal; with the control set to minimum, all you will hear is the original sound.

With these two factors in mind, let's look at the many possible effects you can create with the Stereo Reverb.

### Often-Used Effects

Combine the two controls in various ways to produce the following typical effects:

#### Doubling

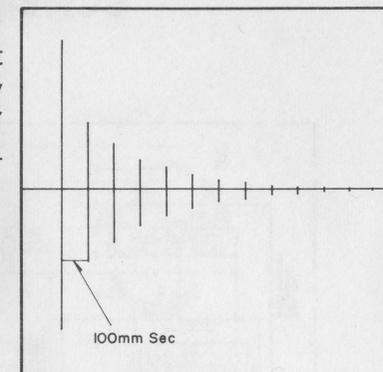
This is similar to "overdubbing" or producing one voice (sound) on top of another. For this effect, set the DELAY control close to maximum. The DEPTH setting should be high and remain constant. The result is a different kind of "comb filter" effect.

#### Flanging

Flanging is produced by varying the DEPTH setting. Set DELAY in the low range (minimum to around the mid-position) while rotating the DEPTH control from minimum to maximum. This adds or subtracts the delayed sound to and from the original signal creating a "comb filter" effect.

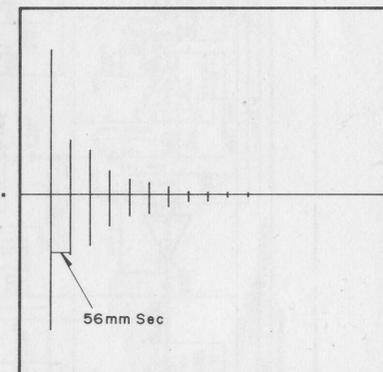
### Echo

Create an echo effect, like the one you might hear when you yell into a cave or canyon, by setting a relatively long delay time (DELAY set to near maximum). The depth of the repeats can vary.



### Reverb

A less hollow echo or reverb sound, like what you might hear in a large auditorium or gymnasium, is produced with a moderate to short delay time (DELAY set to around half position). The depth of the reverb can vary.



As we said before, there are many possible settings with your Stereo Reverb unit. You may want to use it to create a more live sound for your tape recordings. After you have tried our ideas, experiment! That's how you will discover the full potential of your Stereo Reverb.

## Care and Maintenance

- Avoid prolonged operation or storage in areas of high temperature and/or humidity.
- Clean the unit with a soft, lint-free cloth dampened with a mild detergent solution. DO NOT use strong cleaners or solvents.