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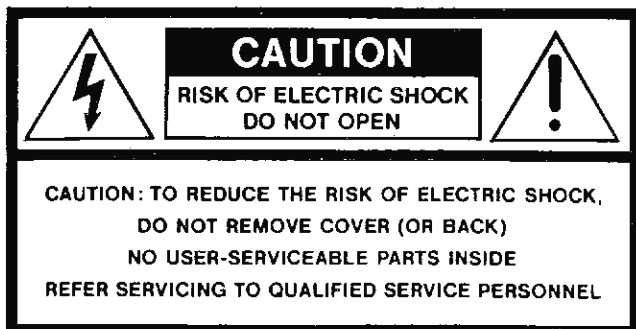
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# CARVER

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Silver Seven-t  
Monophonic  
Magnetic Field  
Power Amplifier  
Owner's Manual

CARVER



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.

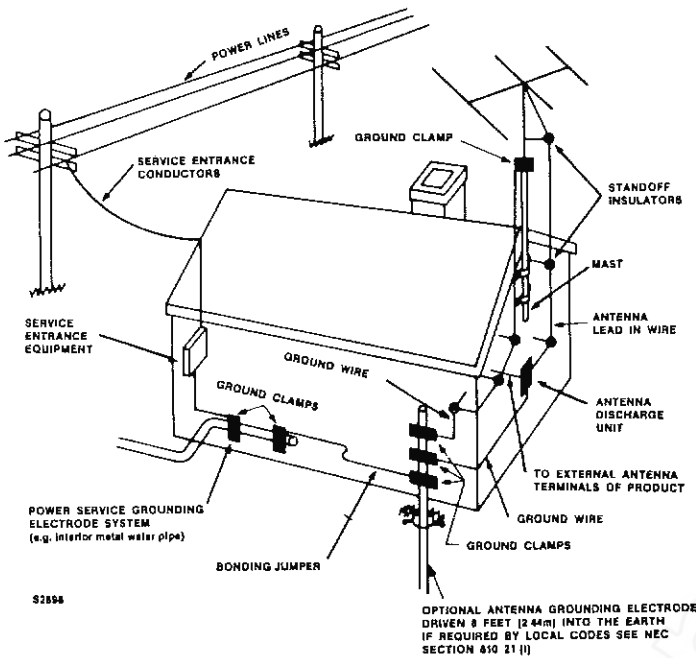


The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## Safety Instructions

- 1 Read Instructions - All the safety and operating instructions should be read before the component is operated.
- 2 Retain Instructions - The safety and operating instructions should be retained for future reference.
- 3 Heed Warnings - All warnings on the component and in the operating instructions should be adhered to.
- 4 Follow Instructions - All operating and other instructions should be followed.
- 5 Water and Moisture - The component should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
- 6 Ventilation - The component should be situated so that its location or position does not interfere with proper ventilation. For example, the component should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- 7 Heat - The component should be situated away from heat sources such as radiators, or other devices that produce heat.
- 8 Power Sources - The component should be connected to a power supply only of the type described in the operating instructions or as marked on the component.
- 9 Power-Cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the component.
- 10 Cleaning - The component should be cleaned only as recommended in this manual.
- 11 Non-use Periods - The power cord of the component should be unplugged from the outlet when left unused for a long period of time.
- 12 Object and Liquid Entry - Care should be taken so that objects do not fall into and liquids not spilled into the inside of the component.
- 13 Damage Requiring Service - The component should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled into the component; or
  - C. The component has been exposed to rain; or
  - D. The component does not appear to operate normally or exhibits a marked change in performance; or
  - E. The component has been dropped, or the cabinet damaged.
- 14 Servicing - The user should not attempt to service the component beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.
- 15 Power lines - An outdoor antenna should be located away from power lines.
- 16 To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

**EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 - "RADIO AND TELEVISION EQUIPMENT"**



- a Use No 10 AWG (5.3 mm<sup>2</sup>) copper No 8 AWG (8.4 mm<sup>2</sup>) aluminum No 17 AWG (1.0 mm<sup>2</sup>) copper-clad steel or bronze wire or larger as a ground wire
- b Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4-6 feet (1.22-1.83 m) apart
- c Mount antenna discharge unit as close as possible to where lead-in enters house
- d Use jumper wire not smaller than No 6 AWG (13.3 mm<sup>2</sup>) copper or the equivalent when a separate antenna-grounding electrode is used See NEC Section 810-21 (j)

Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

**PORTABLE CART WARNING**



Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans laisser aucune partie à découvert.

**17 Grounding or Polarization** - Precautions should be taken so the grounding or polarization means of the component are not defeated.

This digital apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites

applicables aux appareils numériques de classe A/de classe B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par le ministère des communications du Canada.

Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

\* Internal line voltage selector switches should only be reset by qualified service technicians for proper attachment plug for alternate voltage. See an authorized dealer for more information.



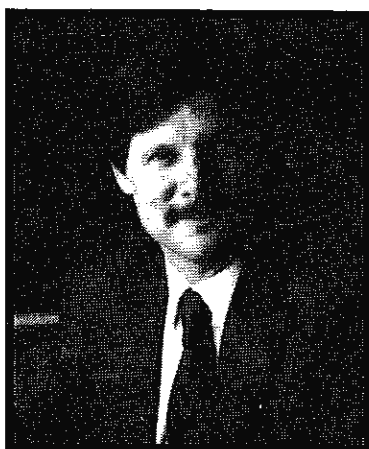
**DANGER** - Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM.

# 1. Table of Contents

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## 2. Introduction

### A Message from Bob Carver Front Panel



Dear Silver Seven-t Owner,

Thank you for choosing this remarkable design. The Silver Seven-t creates performance unmatched by any other solid state amplifier. You will hear fully separated stereo with space, depth and ambience.

In "real world" terms, this may very well be the most powerful solid state production amplifier available. Conservatively rated at 575 watts into 8 ohms, it is capable of driving very low impedances, and will deliver a whopping 1000 watts RMS per channel into 2 ohms!

I am especially proud of the fact that the Silver Seven-t virtually replicates the sonic signature of my admittedly money-is-no-object Silver Seven Vacuum Tube Power Amplifier. My design objective with that model was simply to create the world's best amplifier.

I also feel that I have been successful in recreating its transfer function in the Silver Seven-t.

Let me explain a bit more on the subject of transfer function. Each power amplifier design exhibits a unique relationship between its input and output signals. Like human fingerprints, this transfer function is subtly distinct, defining much of the sonic character of the amplifier. I have perfected the art of measuring an amplifier's transfer function and duplicating it in a completely dissimilar amplifier design. That is how the Silver Seven-t can have the same sonic characteristics as its namesake the Silver Seven.

The important thing to remember is that the success of transfer function replication is totally dependent on the intrinsic capabilities of the amplifier receiving the "t-modification".

In other words, the design being modified must, in many ways, be equal to or better than the design whose transfer function is being copied.

In the case of your Silver Seven-t, that means I started with a basic design that has current and voltage output specifications equal to the original vacuum tube Silver Seven. The Seven-t has the same frequency response, slew rate, noise floor and intrinsic output impedance specs right down to 2-ohm loads. Its instantaneous current rise time matches the Silver Seven. Only when I had satisfied these criteria did I begin layering in the specific sonic signature of the Silver Seven through the t-mod transfer function technique.

The Silver Seven-t transfer function matches the transfer function of the Silver Seven to within better than 40dB.

Once again, let me personally thank you for choosing the Carver Silver Seven-t. I am sure you will be rewarded with a lifetime of flawless music reproduction.

Sincerely,

Bob Carver

President — CARVER CORPORATION

### 3. Unpacking and Paperwork

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**Remember to save all packaging material.** Should you need to transport the Silver Seven-t, it must be properly re-cartoned for shipment.

Upon opening the box, please check for any visible sign of damage that does not appear on the outside of the box. If you do encounter what appears to be concealed damage, please consult your Dealer before proceeding to further unpack the unit.

If no damage is found, gently lift out the unit by grasping the handles. After lifting the Amplifier out of the box, gently lift first one side, then the other and remove the molded side packing material.

Before you begin set up, fill out and mail the Warranty Card(s) included with your Silver Seven-t(s). It is necessary for validation during the warranty period. Also save your sales receipt for verification and insurance purposes.

Finally, record the Serial Number of the amplifier (or pair if you have purchased two for stereo operation) in the space provided:  
Model: **Silver Seven-t**

Serial Numbers: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Dealer: \_\_\_\_\_

### 4. Description and Features

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The Silver Seven-t is a monophonic Magnetic Field Power Amplifier. Two are required for stereo operation.

It is not only capable of driving 2-ohm loads but is one of the few amplifiers actually designed to provide optimum output and performance with low-impedance speakers. Naturally, it also provides substantial output for more conventional 8- and 4-ohm loads as well. Its low noise floor means that the Silver Seven-t can deliver all the dynamic range recorded on the best Compact Discs and other digital sources. The mono design maximizes channel separation and minimizes distortion.

#### Front Panel Power Switch

The Silver Seven-t employs a turn-on transient delay circuit to prevent speaker-damaging THUMP's while powering up. However, because we cannot vouch for the rest of your signal chain, it is suggested that you turn on your Silver Seven-t's *after* your preamplifier and compact disc player.

#### Front Panel Meter

The Silver Seven-t's meter is calibrated in volume unit (VU) dB, and two logging scales extending from 1 to 9 and 1 to 3. The logging scales are meant to be used as relative indications of amplifier output voltage. The primary volume unit scale which indicates +2 dB as its top value shows 0 dB equal to 575 watts for sine waves. Meter ballistics include a specified amount of over-shoot which is the standard for volume units. Therefore, on much musical material, the meter

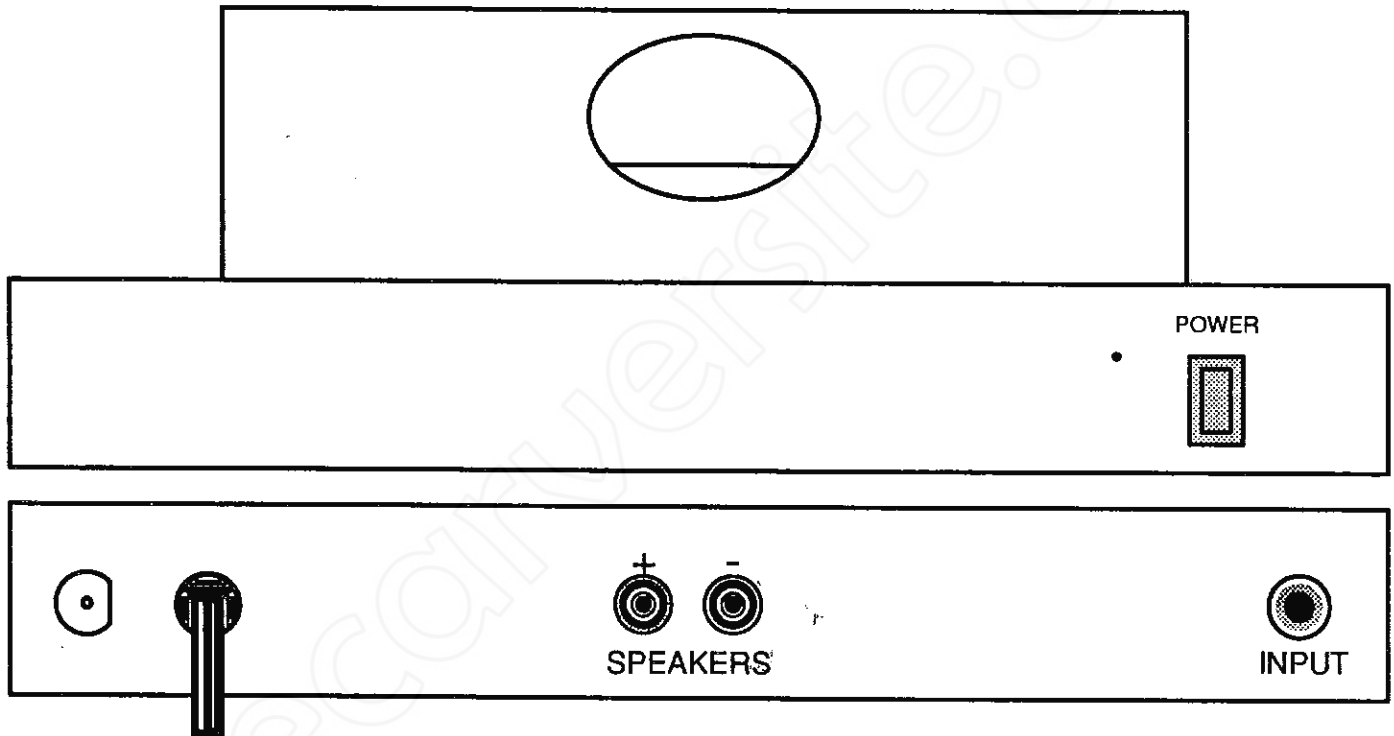
will often go past 0 dB and all the way up to 0 dBW. At this point, the amplifier headroom will be exhausted. Because different musical material interacts differently with the ballistics of the meter, the best way to tell if the amplifier is overloaded is to simply listen. If you hear distortion at the same time the meter is "pegging", you have probably exhausted the power reserves of the amplifier.

**Rear Panel Line Level Input**

The Silver Seven-t is designed to be compatible with virtually any quality preamplifier or CD player direct output.

**Rear Panel Speaker Terminals**

These multi-way binding posts are designed for banana plugs, spade terminals or direct wire connections. Consult your Carver dealer for recommendations on termination methods and appropriate cables for your speakers.



## 5. Placement and Connections

Due to their distinctive design, Silver Seven-t's should be placed side-by-side in a well ventilated area during operation. (Rack mount "ears" are NOT available!)

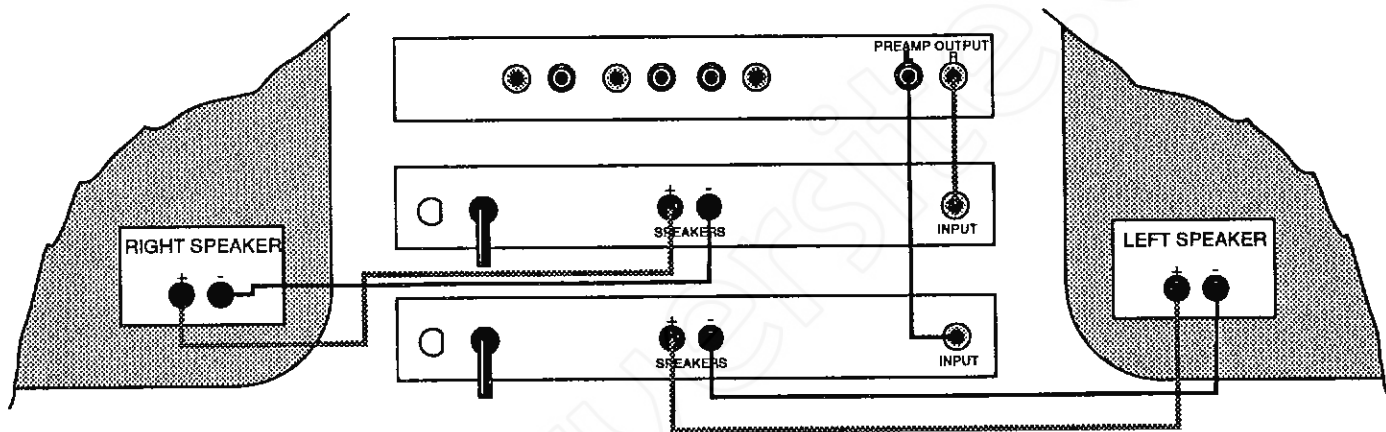
Bob Carver's preference is to place the Silver Seven-t's on the floor next to each speaker. He places them one inch from the inside wall of the speaker and with the amplifier's front surface one to four inches from the front of the speaker. This forms a "sandwich" consisting of floor, base, rubber feet and amplifier. Besides being aesthetically beautiful, such a placement allows use of the shortest possible (and highest quality) speaker cables.

## Speaker Connections

Any standard size wire may be used with good results. The only precaution is to use extremely heavy gauge wire (16 gauge or heavier) for very, very long speaker runs of up to 60 feet.

Whatever you use, make sure that the conductors and/or connectors are clearly differentiated for ease in matching "+" and "-" terminals at the amplifiers and speakers.

Depending on your loudspeakers and living room, you may wish to use cables of very low impedance, or cables of moderately high impedance -- up to 1 ohm or more. The low impedance cables are characterized by being extremely heavy and thick, usually composed of solid core speaker wire. Thin, low impedance wire will ordinarily give a warmer, more rolling bass line, floating midrange and a soft high end. Thick cables tend to produce a "laid back" midrange, tighter bass and a very distinct treble range.



### Line Level Input

Make sure that the Silver Seven-t is turned off before making line level connections.

Because these mono amplifiers have just one input each (marked neither left or right), take special care to make sure that left/right polarity is correct for each preamplifier-to-Silver Seven-t connection.

### Power Connections

The Silver Seven-t has a soft start power supply and therefore, in spite of its awesome output, may be successfully plugged into an extension cord, a splitter or a properly rated preamplifier convenience outlet. However, we recommend avoiding thin, lightweight extension cords.

Please note that one line plug prong (spade) is slightly larger than the other and will only properly insert one way into the outlet. Make sure this polarity is maintained if an extension cord is used.

Sometimes, current pulses flowing into the power amplifier can disturb a preamplifier's low level stages and cause some hum. If this occurs, discontinue using the preamplifier convenience outlet.



## 6. Operating Suggestions

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### Amplifier Loads

The Silver Seven-t is designed to be used with any speaker load from 1 to 16 ohms. The amplifier is stable into an open circuit which corresponds to a load of infinity ohms. If the amplifier is used with 1-ohm loads, be aware that this mode of operation — *if continuous and at a very loud level* — may require a slightly larger fuse to be installed. It is permissible to use a 15A slo blow fuse under such unusual circumstances. If your loudspeaker manufacturer has a fuse recommendation for speaker protection, use that fuse, value and size in the speaker leads.

### Amplifier "warm-up"

For optimal performance during each listening session, allow the Silver Seven-ts' several minutes to fully stabilize its power supply before beginning each listening session. This is not mandatory. Any discernable differences in sonic quality during the first minutes of operation will depend on your speakers, signal chain and ability to discern musical detail.

### A Word of Caution

The primary application for the Silver Seven-t's incredible power output is to recreate momentary musical transients without clipping. Even at modest listening levels, instantaneous bursts of high power are required to fully reproduce musical waveforms.

However, the headroom possible with this amplifier design can lead to liberal advancement of your preamplifier's volume control. In other words, you will have the capability to play your speakers louder than with any other amplifier and may be tempted to do so.

Needless to say, care should be taken to prevent speaker damage. By all means, consult the maximum power ratings published by the speaker manufacturer (while keeping in mind that few manufacturers have ever had access to an amplifier as powerful as the Silver Seven-t)!

## 7. Maintenance

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### Cleaning

Your Silver Seven-t requires little routine maintenance. Make every effort to keep your amplifier away from high external temperatures, moisture and airborne substances which could leave greasy deposits and dust.

Clean the chassis by sweeping it off with a soft brush or using a vacuum with brush attachment. Never use solvents or liquid cleaners on the chassis or meter face. Should you need to remove finger prints, disconnect the Silver Seven-t's power cord from the wall socket and use a soft cloth moistened with a mild, non-detergent soap and water solution. Whenever you clean the amplifier, make sure that all connections are secure before resuming operation.

### Fuse

Your Silver Seven-t is protected against short circuits and no harm will come if you accidentally short the output terminals. However, we don't advise tempting fate by carelessly touching the speaker wires together.

NEVER replace the fuse with anything other than the specified rating (except as noted above for 1-ohm operation). If you suspect a problem, troubleshoot the rest of your signal chain first. Frequently, a problem lies elsewhere in the system or even the connecting cables.

## 8. Specifications

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**Power Output:** 575 watts RMS per channel into 8 ohms, 20-20kHz both channels driven with no more than 0.5% Total Harmonic Distortion

900 watts RMS per channel into 4 ohms, 20-20kHz both channels driven with no more than 0.5% Total Harmonic Distortion

1000 watts RMS per channel into 2 ohms, 20-20kHz both channels driven with no more than 0.5% Total Harmonic Distortion

**Signal-to-Noise Ratio:** Greater than 100 dB, A-weighted into 8ohms

**IM Distortion:** 0.5%

**TIM Distortion:** Unmeasurable %

**Input Sensitivity:** 2.3 volts RMS

**Frequency Bandwidth (- 3dB):** 3 Hz-60 kHz

**Power Consumption:** 1400 watts at full power

**Dimensions:** 11.5"W x 7"H x 14.5"D

**Weight:** 16 lbs.

## 9. Service Assistance

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We suggest that you read the LIMITED WARRANTY completely to fully understand your service coverage and its duration. You MUST promptly complete and return the WARRANTY REGISTRATION CARD to validate your LIMITED WARRANTY.

If your Carver Silver Seven-t should require service, we suggest you first contact the Dealer from whom you purchased it. Should the Dealer be unable to take care of your needs, you may contact the Carver Service Department by phoning **(206) 775-6245**, or by writing **Carver Corporation, Service Department, P.O. Box 1237, Lynnwood, WA 98046**. We will then direct you to the nearest in our national network of Authorized Warranty Service Centers, or give you detailed instructions on how to return the Silver Seven-t to us for prompt action.

We wish you many hours of musical enjoyment. If you should have questions or comments, please write to us at the above address.

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Lynnwood, WA 98046