*Everett*

# ORGATRON

INSTRUCTIONS *for*

*Installation*
*Operation and*
*Maintenance of*
**Model Five**

# Installation, Operation and Maintenance Instructions

*for the*

## MODEL FIVE

## Everett

## ORGATRON

*Trade Mark Registered*

EVERETT PIANO COMPANY

*Orgatron Division*

SOUTH HAVEN, MICHIGAN, U. S. A.

Printed in U. S. A.

# FOREWORD

THE purpose of this manual is to place before the owner and service technician, in readily accessible form, sufficient information regarding the installation, operation and maintenance of the Model Five Everett Orgatron.

The data accumulated in this manual is so comprehensive that owner and service technician, alike, can grasp fully the principles of operation, and be qualified to make any adjustments, should they ever be necessary, for the efficient performance of the instrument.

**EVERETT PIANO COMPANY**
***Orgatron Division***
**SOUTH HAVEN, MICHIGAN** **U. S. A.**

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8. Tremolo
9. Expression Pedal

Width ..... 47¾″
Height ..... 37¾″
Depth ..... 26″

Weight (unboxed) ..... 325 lbs.
Weight of Bench (unboxed) ..... 25 lbs.

# Instructions for Installing Model 5 Everett Orgatron

## *Electric Current Requirements*

The Model 5 Everett Orgatron has been designed to operate on 110 Volt, 60 Cycle Alternating Current, unless otherwise provided for.

The Model 5 Orgatron can be built to operate from 110 Volt, 50 Cycle Alternating Current, and 220-240 Volts, 50 Cycle Alternating Current.

Other special current sources must be converted by means of electrical equipment designed for applications of this nature. Janette, General Electric, Westinghouse and other manufacturers build dependable rotary converters for applications where non-standard current is available. Additional information pertaining to the Converters mentioned will be sent to you upon request.

## *Preparing Orgatron for Use*

After Orgatron has been unpacked, the following steps should be taken in the order given below to prepare it for use.

**1** The Music Panel (No. 1 on Fig. 8) for the Model 5 Orgatron has been carefully packed inside of the Orgatron Bench. Fastened to the Music Panel are the screws for the cleat that holds it to the Orgatron. Care should be exercised in attaching this Music Panel to avoid marring of the woodwork.

NOTE: Where no Bench is shipped with the Orgatron, the Music Panel will be fastened to the bottom of the packing box.

**2** Remove the lower section of the Orgatron Back.

**3** Remove Vacuum Unit Housing Cover (No. 31 on Fig. 9). When the cover is removed you will notice cardboard packing between the Vacuum Fan Rotor (No. 26) and Motor Suspension Board (No. 25). Carefully remove packing, and replace Cover.

**Never under any circumstances start Orgatron before removing the packing.**

**4** Insert Amplifier Tubes into their respective sockets (see Fig. 7). Tubes are contained in the cardboard carton fastened to the bottom of the Orgatron packing case. Each tube is stamped with its number on the glass wall of the tube, or on the bakelite base.

Be sure to connect the Grid Clips to the two 6F5G tubes located at the left-hand end of the amplifier under the rectangular metal tube shield.





**5** Adjacent to the Orgatron Terminal Box (No. 46 on Fig. 9) inside of the Console you will notice a hole in the bottom through which the Ground (No. 47) and A.C. Power Cord (No. 45) must pass. The flexible Ground Wire (No. 47) connected to Ground Terminal (No. 44) should be inserted through the cable hole and fastened to a water pipe or, preferably, a metal rod driven three feet or more into the ground. It is recommended that a regular ground clamp be obtained from your Radio or Electrical Dealer for a dependable ground connection.

**6** The larger of the two cords in the back of the Orgatron is the A.C. Power Cord (No. 45), and must pass through the cable hole and be inserted in the nearest house current receptacle.

**IMPORTANT — The Orgatron will only operate on 110 volt, 60 cycle alternating current, unless otherwise provided for.**

**7** As a suggestion, it may be well to leave the lower section of the Orgatron Back off until you have had an opportunity to check all of the units that are a part of the installation.

The Gain Control shown in Fig. 7 enables the Orgatron volume to be adjusted to the specific environment, taking into account the acoustics of the building in which the instrument is installed. Turning this screw clockwise with a screw-driver will increase the volume; turning it counter-clockwise will decrease the volume.

**8** After the foregoing instructions for "Preparing Orgatron for Use" have been carefully carried out, the Orgatron is then ready to play.

The operating switch is placed behind the Treble Stop Tablets to the right of the Keyboard. To start the Orgatron, push the switch arm to the right. Allow approximately forty seconds to elapse before commencing to play. This will allow the amplifier tubes to properly heat before playing.

**9** In the event that the Reeds speak but no sound emanates from the Speaker (No. 54 on Fig. 9) examine the Amplifier Fuse shown in Fig. 7 and see that it is screwed into its receptacle securely. Also see whether you have inserted the vacuum tubes properly as instructed in Paragraph 4 as well as connecting the Grid Clips to the 6F5G tubes located under the metal rectangular tube shield, as also instructed in Paragraph 4.

**CAUTION — Do not remove tubes from the amplifier without first turning off the operating switch on the console.**

**10** The installation now being completed and tested, Orgatron Back (No. 45 on Fig. 8) can now be replaced.

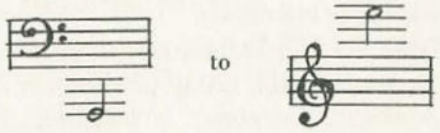
# Instructions for Operating Model 5 Everett Orgatron

## *Starting the Orgatron*

The operating switch is placed behind the Treble Stop Tablets to the right of the Keyboard. To start the Orgatron, push the switch arm to the right. Allow approximately forty seconds to elapse before commencing to play. This will allow the amplifier tubes to heat properly before playing.

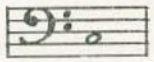
## *Description of Keyboard and Stops*

The Keyboard of the Model 5 Everett Orgatron is of the "F" scale, the compass of which is:



Five octaves, 61 notes.

The tonal resources of this model are rendered available by means of domino tilting tablets which occupy a position to the right and left of the Keyboard. Those to the left of the Keyboard control the 8′ Diapason and the 4′ Viole reeds allotted to the lower portion of the Keyboard; and those to the right affect, similarly, the upper division of the Keyboard. When the stop tablet is pressed forward, the particular set of reeds it controls will be made operative when the corresponding notes are pressed down. When the stop is returned to its normal position, the atmosphere is shut off, and the reeds are consequently deprived of "speech." The stops of the Model 5 Orgatron may be technically described as "half stops," as they are not of full compass; hence it is necessary to press forward a stop on the left and the corresponding one on the right in order that the entire Keyboard will be available for use. In the Model 5 Orgatron, the three Bass stops to the left of the Keyboard control the reeds upward to



and the Treble stops commence at

This method of division enables the organist to produce many two-manual effects on one keyboard that otherwise would be impossible. For instance,



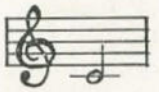
by using the soft bass stop, all of the notes below the division (F) are available for the accompaniment to a solo played on a treble stop of more powerful tone, so long as the melody does not descend below the aforesaid "F"; likewise, the accompaniment above the "E." For ordinary playing, a treble and bass stop of the same character and intensity should be selected, so that the entire scale of the Orgatron may be uniform in power and quality. Refer to Fig. 1 for the above correspondencies.

The Bass stop marked "Tremolo," when pressed forward operates a Rotating Fan (No. 48 on Fig. 8) placed immediately in front of the speaker. Its use produces a pleasing undulating effect, acting upon the sound waves after generation.

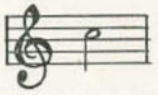
The Expression Pedal (No. 42 on Fig. 9) in the center of the Speaker Grille (No. 42 on Fig. 8) increases and decreases the volume of the Orgatron. When the pedal is pushed forward, the volume of any one or all stops is at their loudest; and, similarly, when pressed heel downward, at their softest.

The stops in the Orgatron (as in the pipe organ) are of varied pitch, and described as being of 8′, 4′ and 2 2/3′ tone. This method of indication is illogical here, as it refers to the actual length of the speaking portion of an open organ pipe necessary to produce C, the lowest note of the Diapason, or any 8′ register of a pipe organ. In order to make this immediately intelligible, the actual sound obtained from Middle C of the Orgatron Keyboard by stops of varied pitch is given below:

Unison (Diapason) or 8′ normal pitch which corresponds with that of the Pianoforte.



4′ Pitch (Viole).



2 2/3′ Pitch (Flute).

It will now be apparent that increase of power and variety of tone are produced not only by reduplication of the actual note, but also by the use of the other notes speaking the octave and the octave and fifth above.

## *Registrational Possibilities With the Model 5 Everett Orgatron Specification*

The Model 5 Everett Orgatron contains three out of the four "tone families," namely Diapason, Flute and String. Even though the Reed tone has been omitted, the ensemble of this Model is rich-toned, bold and sonorous, containing that grandeur and majestic dignity so characteristic of the pipe organ. To demonstrate the registrational possibilities, we will tabulate below a list, not exhaustive by any means, of the tonal resources conveniently at hand:

**ACCOMPANIMENT**
**(Stops Left Side of Keyboard)**

4′ Viole MP
4′ Viole MP
4′ Viole MP
4′ Viole MP
4′ Viole F
4′ Viole F
4′ Viole F

**SOLO**
**(Stops Right Side of Keyboard)**

4′ Viole F
4′ Viole F, 2 2/3′ Flute and Tremolo
8′ Diapason
8′ Diapason, 2 2/3′ Flute and Tremolo
8′ Diapason, 4′ Viole MP and 2 2/3′ Flute
8′ Diapason, 4′ Viole F and 2 2/3′ Flute
8′ Diapason, 4′ Viole F and Tremolo

**ACCOMPANIMENT**
**(Stops Right Side of Keyboard)**

4′ Viole MP
4′ Viole MP
4′ Viole MP
4′ Viole MP
4′ Viole MP
4′ Viole MP and 2 2/3′ Flute
8′ Diapason
4′ Viole F
4′ Viole F

**SOLO**
**(Stops Left Side of Keyboard)**

4′ Viole MP
4′ Viole F and Tremolo
8′ Diapason
8′ Diapason, 4′ Viole MP and Tremolo
8′ Diapason, 4′ Viole F and Tremolo
8′ Diapason and 4′ Viole
8′ Diapason, 4′ Viole and Tremolo
8′ Diapason
8′ Diapason, 4′ Viole and Tremolo



## *Music Available for the Model 5 Everett Orgatron*

The selections listed below in no way indicate the profusion of music obtainable for the Model 5 Orgatron.

| | Published by |
|---|---|
| FREDERICK ARCHER — A collection of sacred and secular compositions | G. Schirmer, Inc. 3 East 43rd St., New York City |
| EDOUARD BATISTE — Opus 24, 25, 50 Voluntaries, revised and edited by John White | |
| ALEXANDER GUILMANT — A collection of pieces of medium difficulty | |
| HARKER'S HARMONIUM COLLECTION — Forty-three pieces, consisting of operatic airs, national hymns, and selections from the works of the masters | |
| SAMUEL JACKSON — Gems for the organ, 93 voluntaries and melodious movements | |
| SAMUEL JACKSON — 38 voluntaries | |
| HARRY ROWE SHELLEY — Gems for the organ | |
| HARRY ROWE SHELLEY — 101 interludes for the organ | |
| HARRY ROWE SHELLEY — Melodies for the organ, consisting of thirty-six pieces | |
| THOS. G. SHEPARD — A collection of favorite movements from the works of old and modern classical composers | |
| RICHARD WAGNER ALBUM — A collection of twenty-three pieces from the master's works arranged for harmonium. Compiled and edited by F. Flaxington Harker. (Library 1283) | |
| JAMES R. MURRAY — 100 Voluntaries | Theodore Presser, Philadelphia, Penna. |
| WALTER LEWIS — Reed Organ Player | |
| CLASSIC AND MODERN GEMS for one and two-manual organs with or without pedals | |
| REED ORGAN SELECTIONS — The Oliver Ditson Music Series | Oliver Ditson Co. Boston, Mass. |
| FOLIO OF ORGAN MUSIC | |
| J. W. SIMPSON — The Organ. At church and in concert | |
| J. W. SIMPSON — Parish Harmonies | |
| ARTHUR DAVIS — Nine compositions for reed organ. Schmidt's Series No. 285 | The Arthur P. Schmidt Co. New York City |

# Principles of Orgatron

## *How Orgatron Tones Are Produced*

Brass Vibrators (organ reeds) are utilized in the Orgatron to supply the fundamental and harmonic frequencies. These harmonics are obviously natural ones, inextricably bound up with their corresponding fundamentals. The tones produced are governed by precisely the same immutable laws of nature that control the making of tone in any wind-blown instrument: the combination of tempered fundamentals with natural harmonics.

The reeds are agitated in precisely the same manner as are ordinary reed organ reeds; namely, by the use of Vacuum.

## *Operation of the Reed*

Fig. 3 illustrates the basic tone-producing principle of the Orgatron, and the relationship of the Reed (No. 8) to the Electrostatic Tone Screw (No. 4). Other assemblages are shown to illustrate the various components that operate in conjunction with the Reed and Tone Screw.

Above the Wind Chest (No. 16) is the Pallet Board (No. 10) holding the reeds together with the pallets, stop action, etc. Each row of reeds constitutes a stop, wherein the reeds lie in chromatic order, each in a separate cell on the Pallet Board.

The Cell (No. 9) in which the reed is inserted, has a definite influence on the speech of the vibrator, also having a tendency to amplify the tone of the vibrator. The Orgatron system of tone-production is not concerned about the tone of the Reed itself, so a method of muffling (Nos. 1, 2 and 3 on Fig. 3) is applied to render the tone as inaudible as possible, so as not to disturb the soft, delicate tones emanating from the tone chamber encased within the console.

Each Reed Cell is exactly over a narrow, oblong aperture morticed through the Pallet Board, and sealed by a movable Pallet (No. 11) working on Guide Pins (No. 12) upon the underside by means of short perpendicular Lifters (No. 13) connected with the Keys. The open ends of the Reed Cells are closed by long, narrow valves, termed Mutes (No. 17), which are connected with the stop tablets located to the right and left sides of the Keyboard, so that, until one or more stops are pressed forward, no air current can pass through the Reeds.



When a stop tablet is pressed forward, and a key pressed down, the Pallet opens, and direct communication is thereby established between the Wind Chest through the Reed Cell to the atmosphere, which by reason of its greater pressure rushes in to fill the vacuum in the Wind Chest and sounds the Reed for as long as the key is depressed and the vacuum maintained.

## *Electrical Principle of Orgatron*

The Reeds of the different tonalities are connected in parallel to Adjustable Polarizing Voltages (No. 25 on Fig. 3), and, when set into periodic motion, they constitute one side of a condenser microphone. The electrostatic tone screws of the various stops are also connected in parallel, and lead to different input channels in the Pre-Amplifier (No. 26 on Fig. 3). The tone screws constitute the other side of a condenser microphone.

Between the tone screws and reeds, that always escape touching each other, exists what is known as an electrostatic charge. The movement of the Reed Tongue varies this charge, thus setting up an alternating current that is impinged upon the grid of the first amplifier tube (No. 26).

The tone screws are placed over a predetermined part of the Reed Tongue, according to the extent of dissonant harmonic elimination desired. Amplitude, or tone regulation, is obtained by raising or lowering the tone screws.

Differently shaped and voiced reeds and variously designed reed cells, characteristics of amplifier, polarizing voltages, etc., have their effect upon the nature of the electrostatic impulses that are conveyed to the amplifier and to the speaker where they are converted into sound.

# Instructions for Maintaining Model 5 Everett Orgatron

The Model 5 Everett Orgatron requires little maintenance, and if the following instructions are duly carried out, the instrument will give dependable and satisfactory service at a negligible upkeep cost for many years.

### *Oiling Instructions*

The oilwells of the Vacuum and Tremolo Motors used in the Model 5 Orgatron are packed with wool yarn lubricated sleeve bearings, which have the property of holding in suspense a large quantity of oil, delivering it, as required, to the shaft and bearings by capillary attraction.

Lubricate the motors four times a year, and use only the best grade of Dynamo or light machine oil. Six drops of oil are sufficient for each oilwell at every periodic oiling.

### *How to Lubricate Vacuum Unit Motor*

To lubricate the Vacuum Unit Motor, the lower section of the Orgatron Back (No. 45 on Fig. 8) must first be removed. The Vacuum Unit Motor (No. 28 on Fig. 9) is enclosed in a wooden housing (No. 24) and is made accessible by removing the eight flat head screws in the housing cover (No. 31). After the cover is removed, two Oil Cups (No. 29) will be visible.

### *How to Lubricate Tremolo Motor*

The Tremolo Motor (No. 48 on Fig. 9) that propels the fan in front of the Orgatron speaker at the lower right-hand end of the Orgatron console is made accessible by removing the lower section of Console Back (No. 45 on Fig. 8). The Tremolo Motor has two coverless oilwells (No. 50 on Fig. 9).

### *How to Lubricate Expression Control*

The Expression Control (No. 40 on Fig. 9) on the Model 5 Orgatron will demand little attention. To assure smooth and quiet operation, it is recommended that at each periodic oiling of the electric motors you also apply a generous amount of white vaseline to Rack and Pinion Assembly (No. 41) on the Expression Control. (Refer to Figs. 5 and 6 for further identification.)





# Tools and Their Use

Accompanying each Orgatron is a tool kit containing a Reed-Hook, a Tone Screw Wrench, and a Tone Screw Nut Wrench. These tools are enclosed in the brown envelope (No. 13 on Fig. 9) fastened to the left-hand end of Console, and are made accessible by removing the Console Top (No. 18 on Fig. 8).

The Reed-Hook is used to draw out silent reeds, each of whose frames is provided with a small notch at the heel.

The Tone Screw Wrench is used in connection with regulating the intensity or amplitude of any uneven notes. Should a soft note appear on any of the Orgatron tonalities, cautiously turn the Tone Screw (No. 4 on Fig. 3) slightly clockwise, which brings the Tone Screw in closer relationship with the Reed Tongue (No. 8 on Fig. 3). To decrease the volume of any loud note, cautiously turn the Tone Screw counter-clockwise. After making such an adjustment, be sure that the Tone Screw Lock Nut (No. 5 on Fig. 3) is securely tightened with Tone Screw Nut Wrench, insuring positive contact between the Tone Screw (No. 4) and Tone Screw Connecting Strip (No. 6).

***IMPORTANT — Never turn the tone screws far enough clockwise to cause them to come in contact with their reeds while they are swinging, as this would cause an intermittent short circuit and result in a very loud popping noise.***

It should hardly ever be necessary to make changes as mentioned above, and the practice of doing so, to gain the satisfaction of this or that organist, should be discouraged. The danger of throwing the Orgatron tonally out of balance is ever present when changes are continually made.

# Voltage Divider Panel

The Voltage Divider Panel, as illustrated in Fig. 4, provides a convenient means for balancing the various Orgatron tonalities, lowering or raising the polarizing voltage on the reeds. This Unit is fastened on the rear of the Orgatron Wind Chest (No. 17 on Fig. 9), and is easily identified by referring to No. 61.

Protruding from four holes in this panel are four sets of wires: Diapason, Bass Viole, Treble Viole and Flute, respectively. The location of these wires

on the binding posts numbered from 1 to 10 determines the voltage applied to the respective sets of reeds, which in turn will determine the intensity of the tone emanating from the Orgatron speaker.

It is not advisable to alter the settings of these wires, without first making a notation of the original settings as shown in Fig. 4, because the voltage combinations on the Orgatron as you receive it were selected at the factory to give the most satisfactory proportion and relation between the different tonalities.

# Microphone Connection

A Microphone may be operated through the Orgatron amplification system, simply by connecting the Microphone Cord to the Amplifier Jack (Fig. 7). It is possible to play the Orgatron simultaneously with voice amplification. The volume either can be controlled by the Orgatron Expression Control, or the Microphone purchased can have a volume control incorporated in it.

### *Microphone Specifications*

In ordering the following equipment, and for additional information, write to the Webster Electric Company, Racine, Wisconsin.

S-4625 Twin Sound Cell Microphone (containing 20 ft. Cord and Plug).

S-4549 Adjustable Floor Stand for S-4625 Microphone.

S-4552 Banquet Table Stand for S-4625 Microphone.

The above Microphone and Stand Equipment in no way indicates the selection of equipment available for voice amplification, but is recommended because of price and quality.



# General Information

### 1 *Power Line Voltage*

It is advisable to have your Power Company check the power line voltage in the building where the Orgatron is installed, at the time of day or night when the instrument is most frequently used, to ascertain if the voltage is normal. The current should be 110 volts to insure the maximum efficiency of the Orgatron.

### 2 *Power Fuse in Amplifier*

The Power Fuse in the Amplifier is of two amperes, and when the supply of extra ones sent with each instrument is exhausted, others can be obtained from your Radio Dealer.

### 3 *Amplifier Tube Replacements*

The Amplifier Tubes used in the Orgatron are standard. The Model 5 Orgatron uses seven tubes (Fig. 7), and in case replacement tubes are necessary they can be procured from any Radio Dealer or Supply House.

When purchasing tubes for replacement, a reputable make should be purchased, and in replacing the two 6F5G and the 6C5G placed under the metal rectangular tube shield, ask for tubes that have been particularly tested for being non-microphonic.

The tubes shipped with the Orgatron are covered by a guarantee from the manufacturer and have a life expectancy of many hundreds of hours.

### 4 *Silent Notes*

If a silent note appears on any of the Orgatron stops, it is probably because of dirt in the reed or extreme dampness; therefore, owners are particularly cautioned not to allow the Orgatron to be exposed to these conditions.

Before the Reed (No. 8 on Fig. 3) can be examined with any certainty as to why it is silent, it must first be removed from the Reed Cell (No. 9). The Reeds are withdrawn from the Reed Cell by raising the Mute (No. 17) and drawing out the silent Reed with the Reed-Hook that accompanies each instrument, for the use of which the frames are provided with a small notch at the heel. Upon holding the Reed up to the light it will

probably be noticed that very small particles of dirt adhere between the sides of the tongue and frame. This obstruction prevents the tongue from vibrating, and to get rid of it either lightly tap the edge of the frame with the Reed-Hook, or pass a thin edge of a piece of paper between the tongue and frame, taking care not to disturb the set of the tongue in any way.

## 5 *Ciphering*

A disturbance which may occur during the life of the Orgatron or through severe handling in transit is termed "ciphering," or the continual sounding of a particular note or notes arising from one of the following causes:

(a) Dust or dirt on the face of the Pallet (No. 29 on Fig. 8) preventing it from covering the aperture properly.

(b) The Pallet may have jumped its Guide Pins (No. 28 on Fig. 8) due to a severe jar in shipping.

(c) The Pallet Spring (No. 30 on Fig. 8) may bear unevenly on the Pallet, or the Spring may have lost some of its tension.

(d) Adjustment of Regulating Screw (No. 39 on Fig. 8) in the end of Key too close to the Pallet Lifter (No. 38 on Fig. 8), thereby partially opening the Pallet.

## 6 *When Writing Regarding Orgatron*

When writing the factory regarding your Orgatron, or in reference to replacement units, mention significant specifications in addition to the serial number, as protection against misunderstanding.

The serial number is printed on the Orgatron License Plate that is fastened to the left-hand side of the Orgatron (No. 68 on Fig. 9), and can be easily seen by removing the Console Top (No. 18 on Fig. 8).

## 7 *Service*

The Orgatron Dealer in your vicinity maintains a capable Service Department, and if your instrument demands attention it is suggested that you call upon him, or write direct to the Orgatron Division of the Everett Piano Company, South Haven, Michigan.



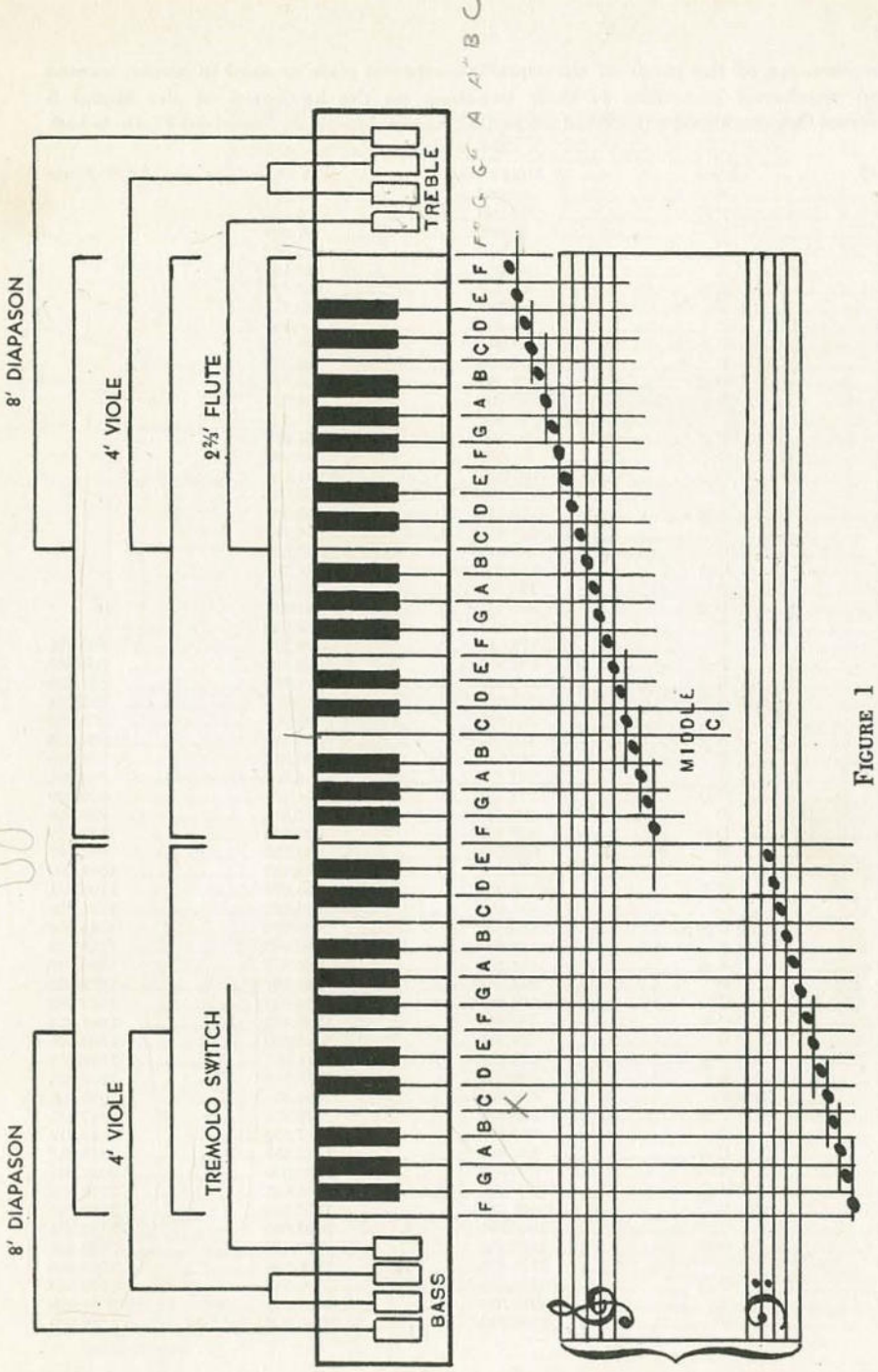


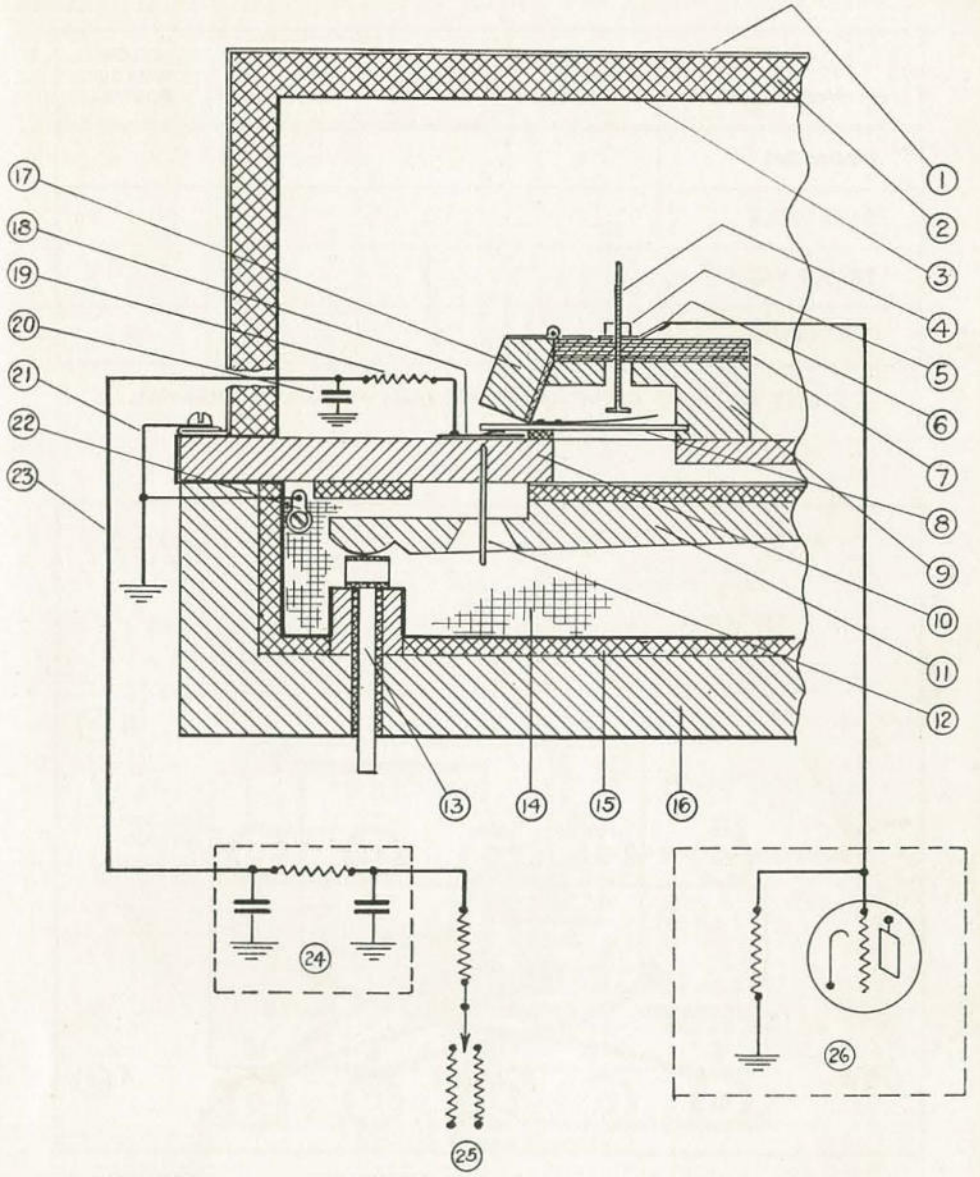

FIGURE 1
*Keyboard of Model 5 Everett Orgatron Containing 5 Octaves, Scale FFF-F³, 61 Notes, with the Notes by Which the Keys and Stops are Represented*

**Frequencies of the tones of the equally tempered scale as used in music, named and numbered according to their positions on the keyboard of the Model 5 Everett Orgatron and calculated according to the American Standard Pitch A-440.**

| Key | Note | 8′ Diapason | 4′ Viole | 2 2/3′ Flute |
|---|---|---|---|---|
| 1 | F | 43.654 | 87.307 | |
| 2 | F# | 46.249 | 92.499 | |
| 3 | G | 48.999 | 97.999 | |
| 4 | G# | 51.913 | 103.826 | |
| 5 | A | 55.000 | 110.000 | |
| 6 | A# | 58.220 | 116.541 | |
| 7 | B | 61.735 | 123.471 | |
| 8 | C | 65.406 | 130.813 | |
| 9 | C# | 69.296 | 138.591 | |
| 10 | D | 73.416 | 146.832 | |
| 11 | D# | 77.782 | 155.563 | |
| 12 | E | 82.407 | 164.814 | |
| 13 | F | 87.307 | 174.614 | |
| 14 | F# | 92.499 | 184.997 | |
| 15 | G | 97.999 | 195.998 | |
| 16 | G# | 103.826 | 207.652 | |
| 17 | A | 110.000 | 220.000 | |
| 18 | A# | 116.541 | 233.082 | |
| 19 | B | 123.471 | 246.942 | |
| 20 | C | 130.813 | 261.626 | |
| 21 | C# | 138.591 | 277.183 | |
| 22 | D | 146.832 | 293.665 | |
| 23 | D# | 155.563 | 311.127 | |
| 24 | E | 164.814 | 329.628 | |
| 25 | F | 174.614 | 349.228 | 523.251 |
| 26 | F# | 184.997 | 369.994 | 554.365 |
| 27 | G | 195.998 | 391.995 | 587.330 |
| 28 | G# | 207.652 | 415.305 | 622.254 |
| 29 | A | 220.000 | 440.000 | 659.255 |
| 30 | A# | 233.082 | 466.164 | 698.456 |
| 31 | B | 246.942 | 493.883 | 739.989 |
| 32 | C | 261.626 | 523.251 | 783.991 |
| 33 | C# | 277.183 | 554.365 | 830.609 |
| 34 | D | 293.665 | 587.330 | 880.000 |
| 35 | D# | 311.127 | 622.254 | 932.328 |
| 36 | E | 329.628 | 659.255 | 987.767 |
| 37 | F | 349.228 | 698.456 | 1046.502 |
| 38 | F# | 369.994 | 739.989 | 1108.731 |
| 39 | G | 391.995 | 783.991 | 1174.659 |
| 40 | G# | 415.305 | 830.609 | 1244.508 |
| 41 | A | 440.000 | 880.000 | 1318.510 |
| 42 | A# | 466.164 | 932.328 | 1396.913 |
| 43 | B | 493.883 | 987.767 | 1479.978 |
| 44 | C | 523.251 | 1046.502 | 1567.982 |
| 45 | C# | 554.365 | 1108.731 | 1661.219 |
| 46 | D | 587.330 | 1174.659 | 1760.000 |
| 47 | D# | 622.254 | 1244.508 | 1864.655 |
| 48 | E | 659.255 | 1318.510 | 1975.533 |
| 49 | F | 698.456 | 1396.913 | 2093.005 |
| 50 | F# | 739.989 | 1479.978 | 2217.461 |
| 51 | G | 783.991 | 1567.982 | 2349.318 |
| 52 | G# | 830.609 | 1661.219 | 2489.016 |
| 53 | A | 880.000 | 1760.000 | 2637.021 |
| 54 | A# | 932.328 | 1864.655 | 2793.826 |
| 55 | B | 987.767 | 1975.533 | 2959.955 |
| 56 | C | 1046.502 | 2093.005 | 3135.964 |
| 57 | C# | 1108.731 | 2217.461 | 3322.438 |
| 58 | D | 1174.659 | 2349.318 | 3520.000 |
| 59 | D# | 1244.508 | 2489.016 | 3729.310 |
| 60 | E | 1318.510 | 2637.021 | 3951.066 |
| 61 | F | 1396.913 | 2793.826 | 4186.009 |

FIGURE 2

*Frequency Chart*




1. Shield Box
2. Muffler Felt
3. Insulation Cloth
4. Adjustable Tone Screw
5. Tone Screw Lock Nut
6. Soldering Lug
7. Hard Rubber Cell Top
8. Reed
9. Cell Board
10. Pallet Board
11. Pallet
12. Pallet Guide Pin
13. Pallet Lifter
14. Screen Shielding
15. Muffler Felt
16. Wind Chest
17. Mute
18. B + Strip
19. Resistor
20. By Pass Condenser
21. Grounded Shielding
22. Internal-External Ground Lug
23. Wire to Noise Filter Unit
24. B + Filter Unit
25. Intensity Switches
26. Pre-Amplifier

FIGURE 3

*Basic Tone-Producing Principle Model 5 Everett Orgatron*

| NAME OF STOP TABLET | BROWN WIRE TO POST No. | GREEN WIRE TO POST No. | BLUE WIRE TO POST No. | YELLOW WIRE TO POST No. |
|---|---|---|---|---|
| DIAPASON | 9 | | | |
| BASS VIOLE | | 3 | 10 | |
| TREBLE VIOLE | | 3 | 10 | |
| 2-⅔' FLUTE | | | | 6 |

CHART SHOWING APPROXIMATE VOLTAGE FOR EACH CHANNEL.

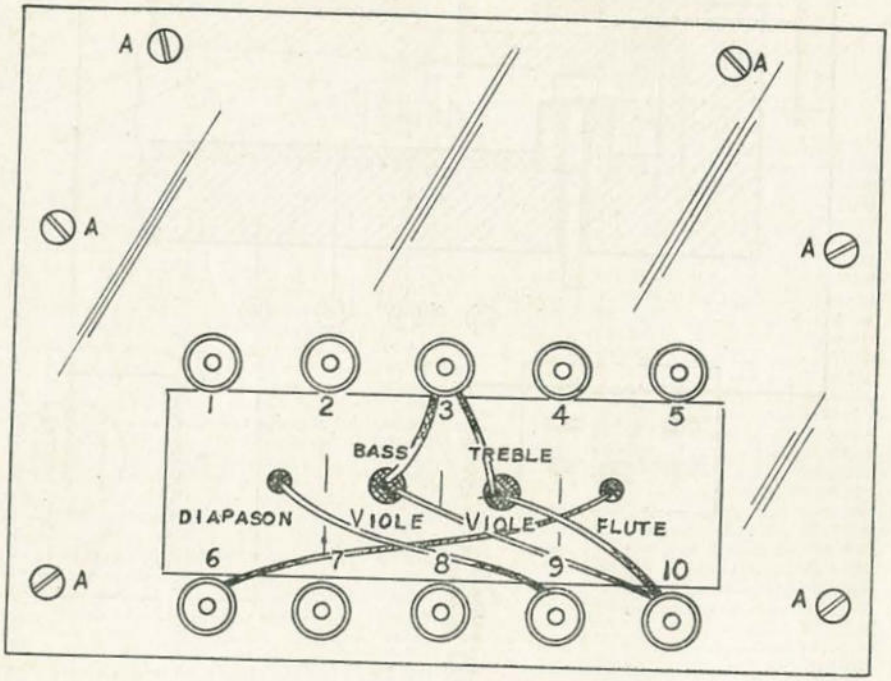



FIGURE 4

*Voltage Divider Panel*
*Post No. 1 Lowest Voltage — Post No. 10 Highest Voltage*
*Green Wire, Viole — Soft Intensity*
*Blue Wire, Viole — Loud Intensity*

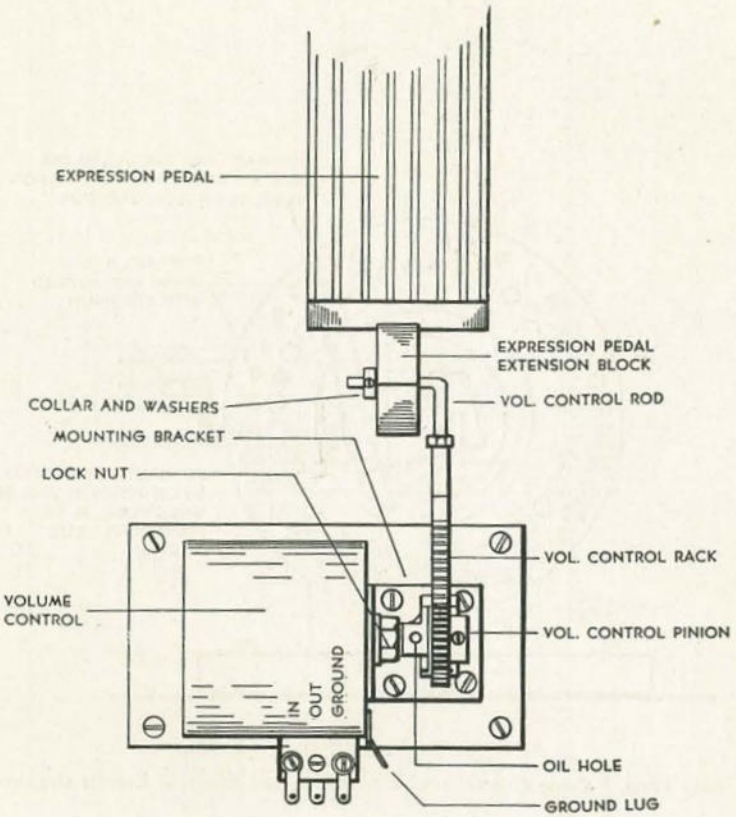



FIGURE 5

*Top View, Expression Pedal and Volume Control Assembly*
*Model 5 Everett Orgatron*

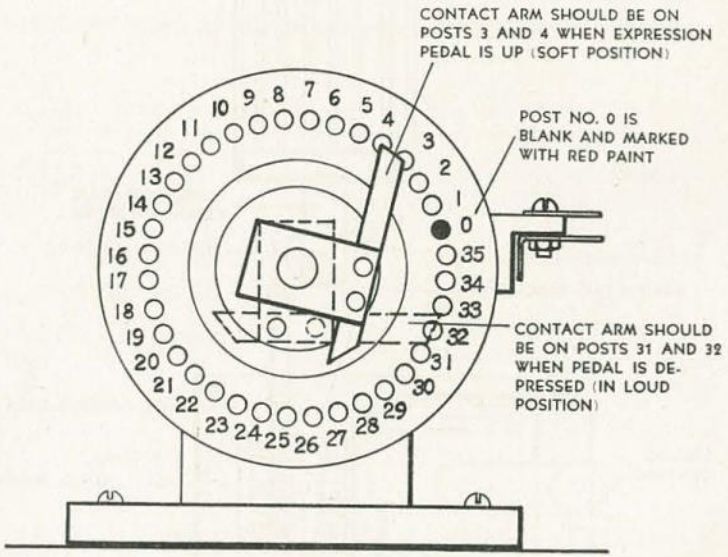



FIGURE 6

*Side View, Volume Control with Cover Removed Model 5 Everett Orgatron*

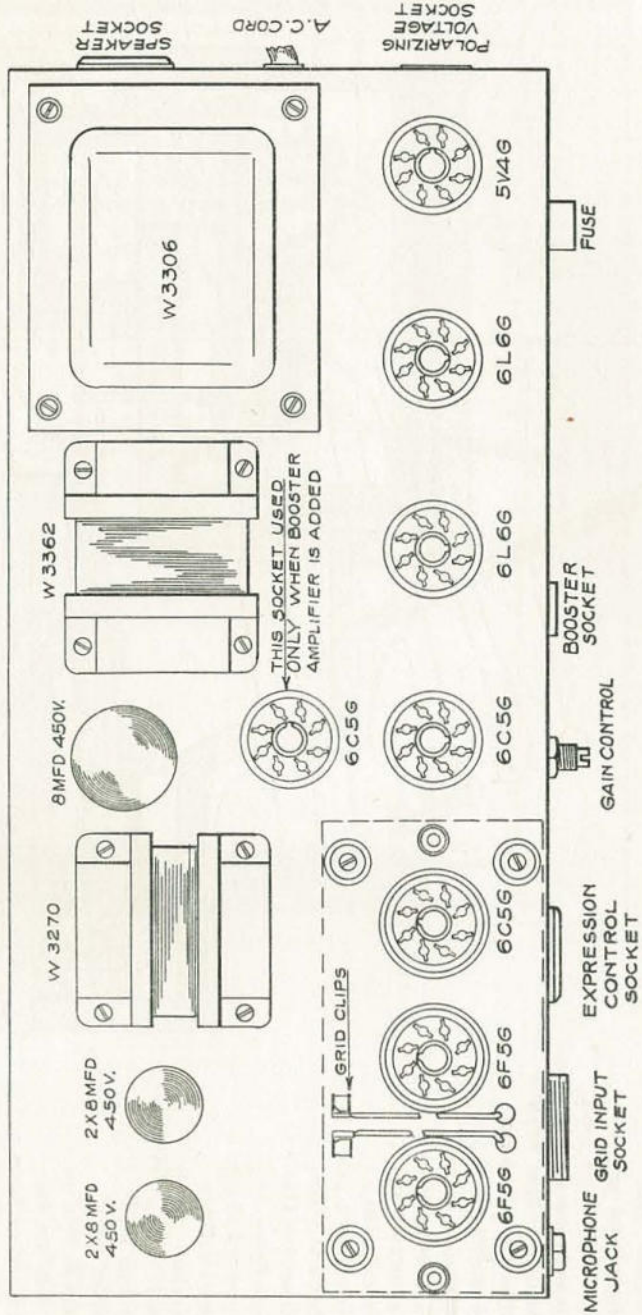



FIGURE 7

*Top View Amplifier, Showing Location of Tube Sockets and Cable Sockets Model 5 Everett Orgatron*

1. Music Panel
2. 4′ Viole Reed
3. Hard Rubber Cell Top
4. Adjustable Tone Screw
5. Tone Screw Lock Nut
6. Mute Rod
7. Mute
8. 8′ Diapason Reed
9. Insulation Cloth
10. Stop Tablets
11. Key
12. Felt Punchings
13. Front Rail Pins
14. Key Frame
15. Balance Rail
16. Balance Pin
17. Keybed
18. Top
19. Muffler Felt
20. Shield Box
21. Muffler Felt
22. Upper Tie Rail
23. Viole-Flute Divider
24. 2 2/3′ Flute Reed
25. Upper Back Panel
26. Pallet Board
27. Pallet Felt and Skin
28. Pallet Guide Pin
29. Pallet
30. Pallet Spring
31. Viole Intensity Switch
32. Intensity Switch Rod
33. Center Tie Rail
34. Wind Chest
35. Muffler Felt
36. Wind Trunk
37. Muffler Felt
38. Pallet Lifter
39. Key-Lifter Adjusting Screw
40. Key Weights
41. B + Filter Unit
42. Speaker Grille
43. Speaker Baffle
44. 12-inch Concert Speaker
45. Lower Back Panel
46. Tremolo Pulley
47. Tremolo Crank
48. Tremolo Fan
49. Tremolo Fan Belt
50. Tremolo Stop Spring
51. Tremolo Motor
52. Motor Mounting Rubbers
53. Motor Adjusting Screw
54. Motor Mounting Block
55. Bottom Tie Rail
56. Bottom Board

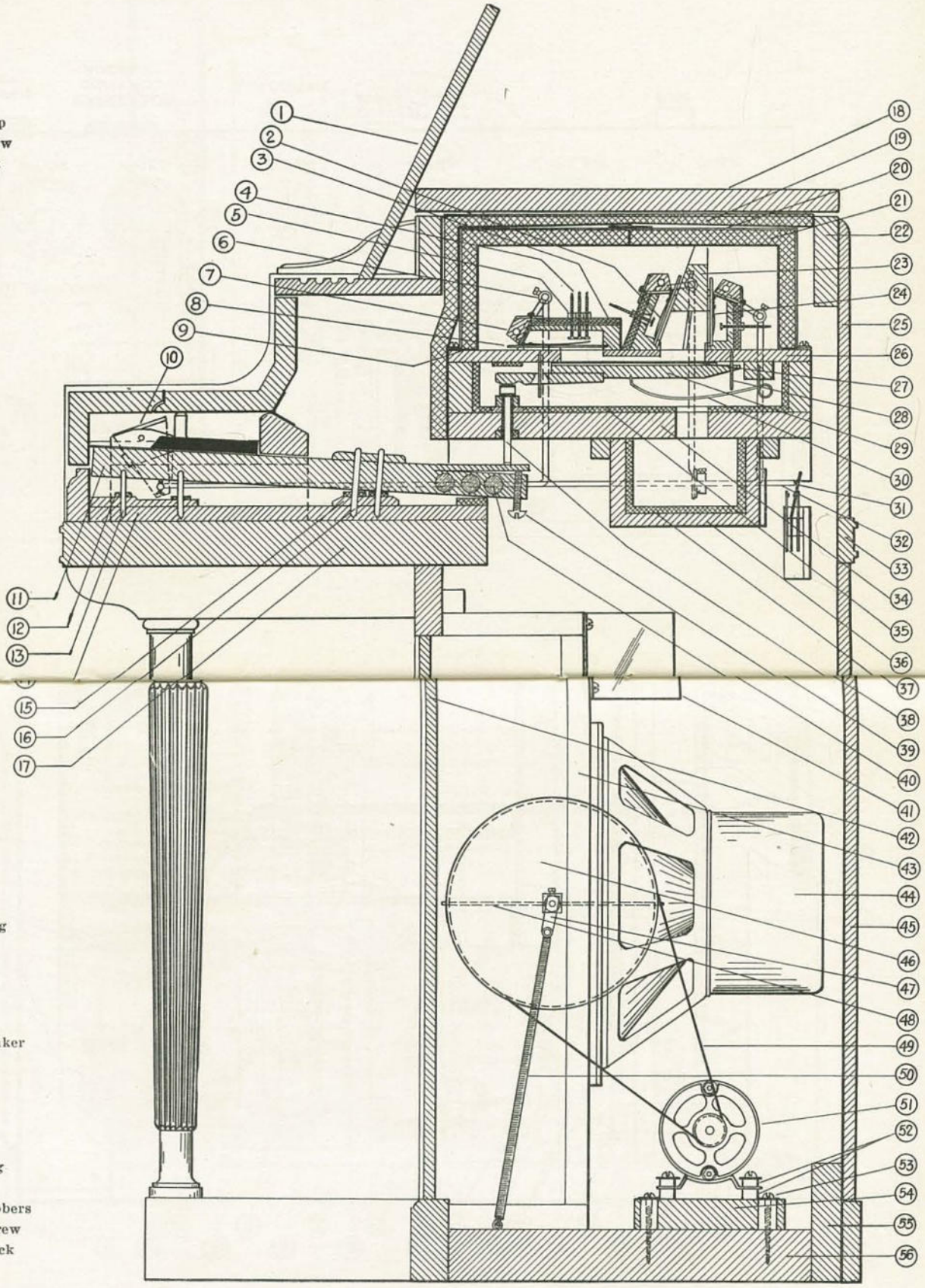


FIGURE 8

*Cross Section, Model 5 Everett Orgatron*

1. Muffler Felt
2. Shield Box
3. Muffler Felt
4. Insulation Cloth
5. Adjustable Tone Screw
6. Tone Screw Lock Nut
7. Hard Rubber Cell Top
8. Cell Board
9. Reed
10. Mute
11. Pallet Board
12. Main Orgatron Switch Cords
13. Envelope Containing Tools
14. Diapason Mute Rod, Treble
15. Viole Mute Rod, Treble
16. Flute Mute Rod, Treble
17. Wind Chest
18. Wind Chest Ground Wire
19. Viole Intensity Switches, Treble
20. Wind Trunk
21. Viole Intensity Switch Cable, Treble
22. Vacuum Unit Safety Valve
23. Wind Channel
24. Vacuum Unit Housing
25. Vacuum Motor Hanger
26. Vacuum Fan
27. Vacuum Motor Spring
28. Vacuum Motor
29. Vacuum Motor Oilwells
30. Vacuum Unit Muffler Felt
31. Vacuum Unit Housing Cover
32. Bottom Board
33. Vacuum Motor Cord
34. Vacuum Motor Ground Wire
35. Amplifier
36. Microphone Jack
37. Tube Shield Box
38. Grid Input Cable
39. Expression Control Cable
40. Expression Control
41. Expression Control Rack and Pinion
42. Expression Control Pedal
43. Tremolo Stop and Spring
44. Ground Terminal
45. A. C. Cord
46. Terminal Box
47. External Ground Wire, 50 feet
48. Tremolo Motor
49. Tremolo Motor Mounting Base
50. Tremolo Motor Oilwells
51. Tremolo Motor Pulley
52. Tremolo Belt
53. Tremolo Pulley
54. 12-inch Concert Speaker
55. Baffle Board
56. B + Filter Unit
57. B + Cable
58. Tremolo Switch Cable
59. Reed Polarizing Cable No. 1
60. Reed Polarizing Cable No. 2
61. Voltage Divider Panel
62. Viole Intensity Switches, Bass
63. Viole Intensity Switch Cable, Bass
64. Tremolo Switch Box
65. Viole Mute Rod, Bass
66. Diapason Mute Rod, Bass
67. Upper Tie Rail
68. License Plate and Serial Number

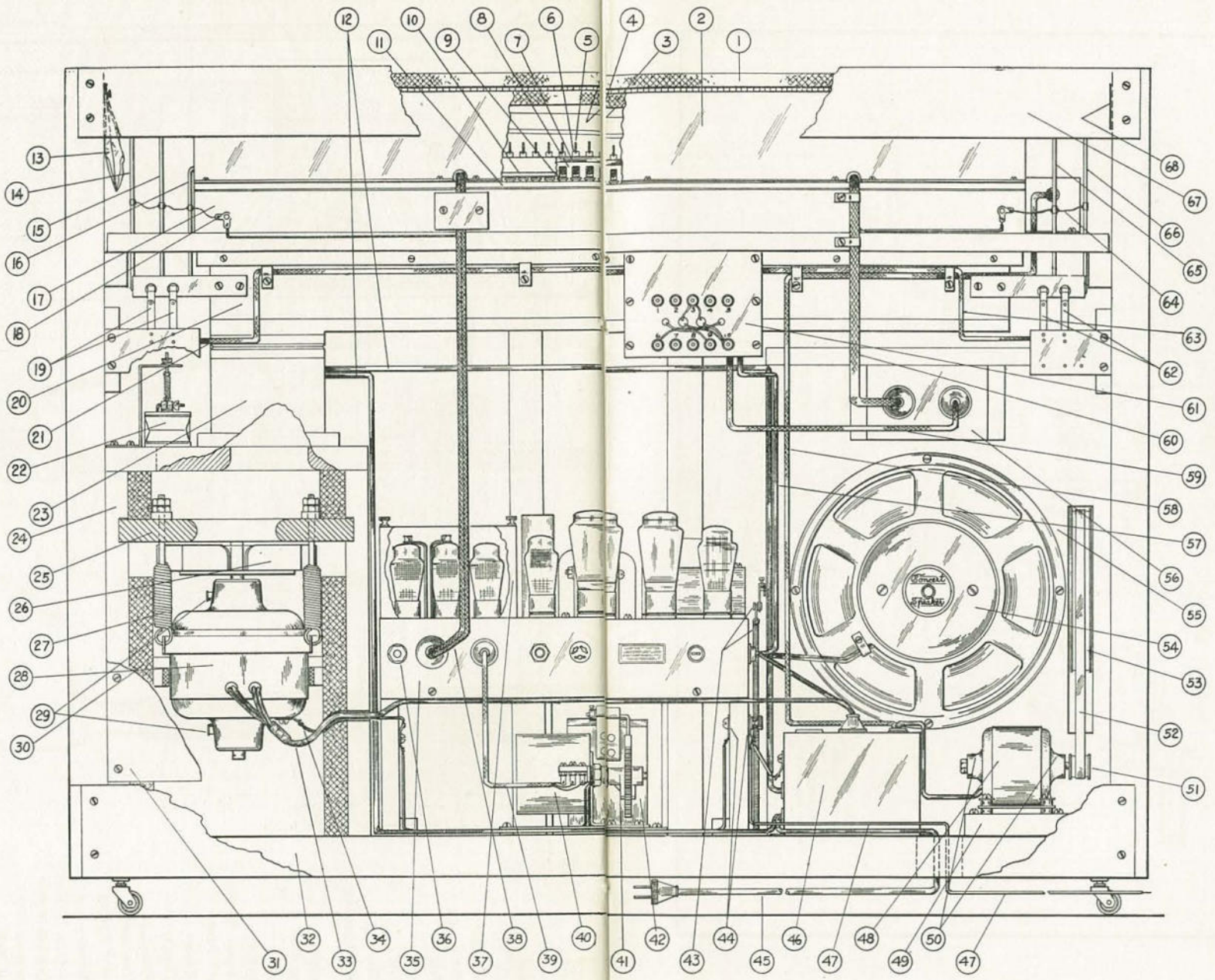


FIGURE 9

*Rear View, Model 5 Everett Orgatron*

FIGURE 9

*Rear View, Model 5 Everett Orgatron*

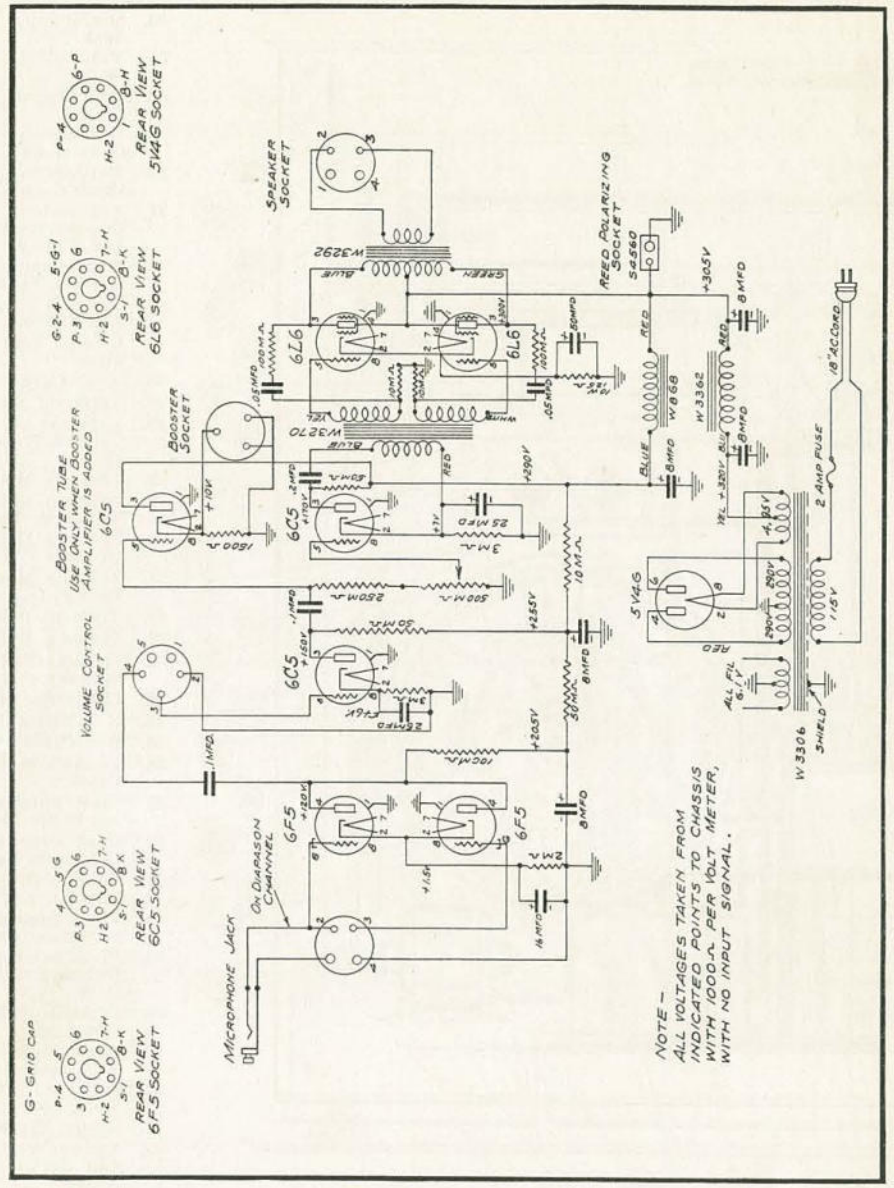



FIGURE 10

*Amplifier Schematic, Model 5 Everett Orgatron*

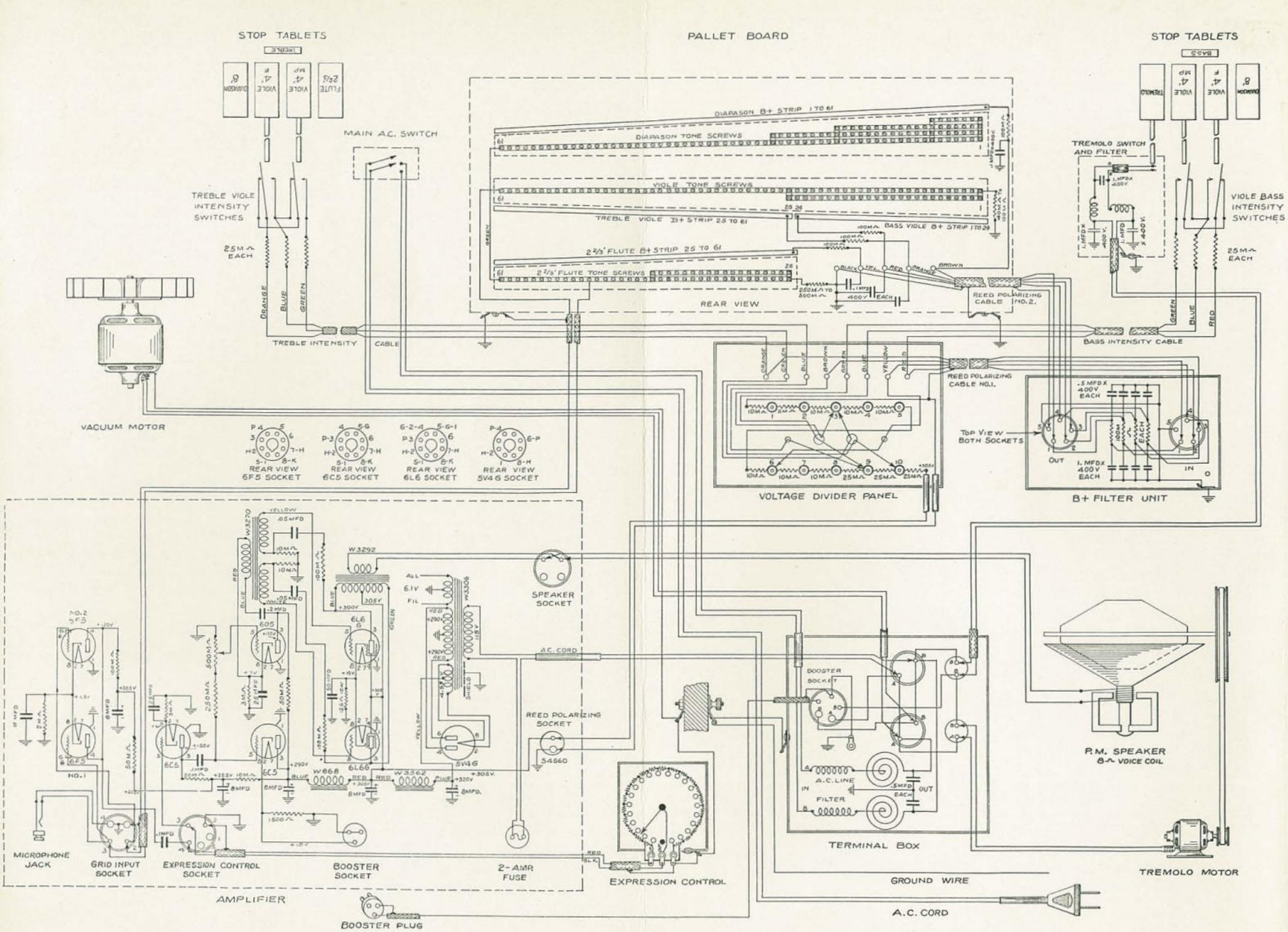



FIGURE 11

*Master Schematic, Model 5 Everett Orgatron*