



RMI Electra Piano and Harpsichord 368X

The 368X is another out-of-this world innovation from RMI. The far out sounds you can produce with this instrument are limited only by your imagination. Try the harpsichord, the organ mode, and the most unearthly true piano tone you've ever heard. Helping you to blast off will be those seven additional notes at the top and a powerful first-stage bass boost. The whole capsule only weighs 85 pounds, and since you're planning to travel, solid state reliability added to portability will mean a lot.

Hear the 368X at your space age music dealer and expand into new worlds of sound.

RMI

Rocky Mount Instruments, Inc.
Macungie, Pa. 18062

SOUND — The RMI Electra-Piano 368X produces a piano sound which is remarkably authentic. It is a properly scaled piano — the quality and intensity of the notes over the entire keyboard are unusually accurate and in proper relationship.

VERSATILITY — In addition to the true piano sound, this instrument has a fine Harpsichord sound and an excellent Lute sound. It is really three instruments in one.

PORTABILITY — The RMI Electra-Piano is truly portable. Its chrome legs are self-contained. They fold out for fast set-ups, fold flat for easy carrying. Total weight about 85 pounds.

DESIGN — Completely solid state (all transistors — no tubes), using 68 separate tone generators, one for each note on the 68 note keyboard. There are no strings or bars which can get out of tune. The use of individual tone generators for each note is more expensive than other methods, but does three things: 1. Provides true piano tone; 2. Permits performance unmatched by any other system; 3. Provides a high degree of reliability.

KEYBOARD CONSTRUCTION — The individual note keys are completely interchangeable and individually adjustable. The action is quiet — it has all the excellent characteristics and quality associated with a wood action.

CONTROLS — Foot control unit is standard equipment; a pedal provides full range expression from silence to full output; a separate pedal produces piano sustain. Rocker type on/off switch has built-in pilot light.

TONE SELECTORS —

Piano	Lute
Piano PP	Organ Mode
Harpsi	Accenter
Harpsi PP	

The Accenter gives a percussive attack to the harpsichord or lute sound, as desired. The Organ Mode permits all stops to be played as an organ, without the normal percussive decay.

SAMPLE TONE POSSIBILITIES —

Electronic Bass — The keyboard is a full 68 notes extended to low F, thereby providing the useful range of an electronic bass. With the Lute stop depressed, the RMI Electra-Piano can be used to provide an excellent electronic string bass accompaniment.

"Honky-Tonk" Piano — By depressing the Piano and Harpsi stops an authentic "rinky-tink" sound can be achieved.

These are a few. There are many other unique and interesting combinations possible.

"BASS BOOST" CONTROL — Mounted on the stop panel is an additional sliding control for the bass section. This makes it possible to increase or vary the amount of bass power at will. A startling effect of sudden waves of bass tones can be achieved.

CONNECTIONS — Foot control has two plugs at the end of suitable cables — they are easily plugged into jacks under the piano — and since one is larger than the other, you cannot make an error in plugging them in.

7' line cord and a 10' shielded cable with jack for plugging the piano into the amplifier. Both are permanently attached. An AC outlet located under the instrument permits switching amplifier on and off with the RMI Electra-Piano.

AMPLIFICATION — The RMI Electra-Piano & Harpsichord 368X can be plugged into any high quality music amplifier with good results. For the best results, it should be used with the RMI-140A amplifier. This is a special purpose amplifier, with its own separate treble system, designed to bring out the fantastic upper range sound capabilities of RMI portable keyboard instruments.

MATERIALS & COLORS — The RMI Electra-Piano is covered with rich black, tough material which resists abrasion and stains. The tone selector panel is chrome steel, and the legs chrome. The appearance is highly distinctive and pleasing; it complements the great sound.

DIMENSIONS —

	Height	Width	Depth
Open	35 3/4"	42 5/8"	23 3/8"
Closed	9 3/8"	42 5/8"	23 3/8"

POWER — 105-125 volts, 60 cycles, only 10 watts.

ACCESSORIES — Optional accessories include extensions for the legs which raise the unit for convenient stand-up playing.



Rocky Mount Instruments, Inc.,
 Sales Office: Macungie, Pa. 18062,
 Phone: 215/965-9801
 Subsidiary of Allen Organ Company



RMI ELECTRA PIANO and harpsichord

... for sound thinking combos

The RMI ELECTRA-PIANO and harpsichord is the all new instrument for sound-thinking combos who are bothered by the problems of piano availability, tone, tuning, and transportation that limit and hamper the jobs they play. These problems are solved by the RMI ELECTRA-PIANO and harpsichord — the all-electronic piano that delivers the truest portable piano tone available. It's the one with no strings or struck bars to get out of tune. The one with harpsichord and various novelty-effect stops that allow you to change your sound at will. And the littlest big feature of all: its weight — here is a piano that only weighs about 80 pounds including its slim, modern, self-contained legs. All

of these features, plus a 61 note keyboard and expression-sustain pedal, clearly make the RMI ELECTRA-PIANO and harpsichord a real sound investment for small combos on the move.

The RMI ELECTRA-PIANO and harpsichord is another of the unique sound ideas from RMI instruments. Plug into one at your nearest progressive music store.

R M I

ROCKY MOUNT INSTRUMENTS, INC.

Subsidiary of Allen Organ Company
MACUNGIE, PA. 18062

SPECIFICATIONS

RMI ELECTRA-PIANO & harpsichord

SOUND — The RMI Electra-Piano produces an acoustical piano sound which is remarkably authentic. It is a properly scaled piano — the quality and intensity of the notes over the entire keyboard are unusually accurate and in proper relationship.

VERSATILITY — In addition to the true piano sound, this instrument has a marvelous Harpsichord sound and an excellent Lute sound. It is really three instruments in one.

PORTABILITY — The RMI Electra-Piano is truly portable. Its chrome legs are self-contained. They fold out for fast set-ups, fold flat for easy carrying. Total weight under 80 pounds.

DESIGN — Completely solid state (all transistors — no tubes), using 61 separate tone generators, one for each note on the 61 note keyboard. There are no strings or bars which can get out of tune. The use of individual tone generators for each note is more expensive than other methods, but does three things: 1. Provides true piano tone; 2. Permits the instrument to be quickly switched from Piano to Harpsichord, to Lute, or any combination of these sounds; 3. Provides a high degree of reliability.

CONSTRUCTION — The keys are completely interchangeable and individually adjustable. The action is quiet — it has all the excellent characteristics and quality associated with a wood action.

CONTROLS — Foot control unit is standard equipment; a pedal provides full range expression from silence to full output; a separate pedal produces piano sustain. Rocker type on/off switch has built-in pilot light.

TONE SELECTORS —

Piano	Lute
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Harpsi	Accenter
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The Accenter gives a percussive attack to the harpsichord or lute sound, as desired. The Organ Mode permits all stops to be played as an organ, without the normal percussive decay.

SAMPLE TONE POSSIBILITIES —

Electronic Bass — The keyboard is a full 61 notes and is extended to include additional notes at both the bass and treble ends. When the Lute stop is depressed, the RMI Electra-Piano can be used to provide an excellent electronic string bass accompaniment.

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MATERIALS & COLORS — The RMI Electra-Piano is covered with rich blue and black, tough vinyl material which resists abrasion and stains. The tone selector panel is brushed aluminum, and the legs chrome. The appearance is highly distinctive and pleasing; it complements the great sound.

DIMENSIONS —

	<u>Height</u>	<u>Width</u>	<u>Depth</u>
Open	35-3/4"	42-5/8"	23-3/8"
Closed	9-3/8"	42-5/8"	23-3/8"

POWER — 105-125 volts, 60 cycles, only 5 watts.

ACCESSORIES — Optional accessories include a removable music rack, and extensions for the legs which raise the unit for convenience in stand-up playing.

RMI

ROCKY MOUNT INSTRUMENTS, INC., Sales Office: Macungie, Pa. 18062, Phone: 215/965-9801

RMI

OPERATING INSTRUCTIONS

ELECTRA PIANO & HARPSICHORD - MODEL 368 **

The Model 368 ELECTRA PIANO & HARPSICHORD represents the second generation of the now famous RMI 300 series portable keyboards. This 68 note instrument is equipped with seven stop tablets as follows: Piano, Piano PP, Harpsichord, Harpsichord PP, Lute, Organ Mode, and Accenter. Two additional controls appear on the stop board, namely, BASS and VOLUME controls. In addition, there are combination foot controlled volume and sustain pedals.

AUDIO

This instrument is designed to be operated with an external audio system, such as an RMI type 140 Amplifier. It should be remembered that the tone quality and power will be limited if the audio system does not have good performance characteristics. Very few amplifiers on the market today have the brilliant treble response so necessary for producing the sound of a Harpsichord, for instance. It is in this area of bright, treble response that RMI Amplifiers excel. An amplifier equipped with Reverb provides additional, pleasing effects. Do not expect satisfactory results if you connect the RMI ELECTRA PIANO & HARPSICHORD to a BASS type musical instrument amplifier. -- unless bass only is desired.

OPERATION

To make the instrument operational, first plug the AC cord into a 110 V., 60 cycle receptacle. It will be noted that there are two cords and plugs connected to the pedal unit. These plugs are inserted into the proper receptacles of the ELECTRA PIANO, and it is hardly possible to confuse these since one jack is larger than the other. Next, the audio wire should be connected to the input of the aforementioned audio system, and the amplifier tone and volume controls set for the desired effect - with the volume pedal set at maximum.

Set the instrument's Bass control at the mid point and set the instrument's VOLUME control at maximum. The instrument VOLUME CONTROL is a convenience feature and will save you the trouble of having to manipulate the amplifier control, depending on the musical effect that is to be produced. Now, you may increase or decrease the bass according to your taste and the type of effect that you desire to create.

PIANO

The first stop, moving from left to right, is, of course, the PIANO. Depress this stop and set the volume pedal to its maximum. Set the bass control at the desired level. Also set the instrument's volume control to the desired point. This instrument can then be played like a regular piano with standard sustain pedal techniques. The next stop, called PIANO PP, is essentially the same but softer.

**Also Model 368X

5/78

RMI

Dear Customer:

Thank you for asking about our portable electronic keyboard instruments. These instruments are unique -- there is nothing else quite like them anywhere. Brochures are enclosed, along with a price list.

Since the introduction of our first keyboard over nine years ago, RMI has gained the reputation of building unique instruments with unmatched reliability. The current Model 368X Electra Piano & Harpsichord helped further this reputation. It mixes the tone of an acoustic piano with the reliability of solid state electronics.

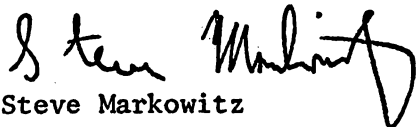
Our most recently introduced keyboard, the Keyboard Computer, is truly in a class by itself. Inside this instrument is a specialized digital computer plotting waveforms and reading them out at many frequencies simultaneously. If the enclosed brochure of the Keyboard Computer interests you, order the record. It will knock you out!

We are now introducing our new 360 line of amplifiers. There are three models: a high efficiency JBL model; a bass model; and a flat response model. Packed with 180 watts RMS, these amplifiers have the wide tonal range that makes any instrument perform at its optimum.

Why not visit your nearest RMI dealer soon for a demonstration! After you've seen and heard these instruments, we'd appreciate your comments. You are the one we want to please.

Again, thanks for asking.

Sincerely,



Steve Markowitz

Enclosures

RETAIL PRICE LIST

July 1, 1977

Suggested List Price

KEYBOARDS

Keyboard Computer KC-II	\$4750.00
Electra Piano & Harpsichord, Model 368X	1195.00

AUDIO SYSTEMS

Important Note: The RMI 360 Amplifier Line is designed to be used with a wide variety of instruments. Be sure to select the proper model for each specific instrument.

Model 360-G High Efficiency Audio System (Includes 360 Amp & G180 Cabinet) Designed for the RMI Electra Piano, guitars, etc.	895.00
Model 360-B Bass Audio System (Includes 360 Amp & B 180 Cabinet) For applications such as electric bass, etc.	825.00
Model 360-K Flat Response Audio System (Includes 360 Amp & K180 Cabinet) Suggested for use when there is a specific need for "flat response", such as the RMI Keyboard Computer or synthesizers.	895.00
360 Amp Head only	475.00
G180 Cabinet only	500.00
B180 Cabinet only	430.00
K180 Cabinet only - flat response cabinet - for high volume requirements, use G180 cabinet	500.00
Amp Cover - fits all three Amps (2 pieces)	25.00

All prices and specifications subject to change without notice

RMI

SERVICE INFORMATION

FOR

ELECTRA PIANO & HARPSICHORD

MODEL 368 & MODEL 368X

AND

ELECTRA PIANOS & ROCK-SI-CHORD

MODEL 668 & MODEL 668X

SUBJECT 1: FIXING A "DEAD NOTE" IN THE ELECTRA PIANO

SUBJECT 2: CRACKLING NOISE WHEN PLAYING AN INSTRUMENT ACCOMPANIED BY RISE OR FALL IN VOLUME OF CERTAIN NOTES

SUBJECT 3: ORGAN MODE CIPHER

SUBJECT 4: CIPHER WITH "SUSTAIN" PEDAL

SUBJECT 5: A SINGLE NOTE HAVING A "SNUBBED" OR SHORT SUSTAIN

SUBJECT 6: INSTRUCTIONS FOR TUNING RMI GENERATORS

SUBJECT 7: INSTRUCTIONS FOR CURING PROBLEM OF STICKING AND/OR CLICKING KEYS ON ELECTRA PIANO

SCHEMATICS AND PICTORMATIC LAYOUT

SUBJECT 1: FIXING A "DEAD NOTE" IN THE ELECTRA PIANO

Before doing any testing, make a thorough visual check to make sure that all components are in proper physical location without shorted leads, etc. All components for one pitch are in a straight line from front to back, as shown on the pictomatic layout. The circuit shown is repeated for each pitch.

Trouble Shooting a Dead Key

1. Depress Piano stop.
2. Make sure key contact is clean and "making".
3. Attach a clip lead in series with a 220 ohm resistor to the B+ terminal at the right end of the generator board. Touch the other end of the clip lead to point "D". If the oscillator plays, you have isolated the problem to the keying circuit (proceed to "8" below). But, if the oscillator is still dead when keyed at point "D", proceed as follows:
4. With B+ applied to point "D" through a 220 ohm resistor, measure the DC voltage at point "D". A zero reading indicates a shorted keying capacitor C7. A very low reading indicates a shorted blocking capacitor C8.
5. Take a low ohms scale resistance reading across points "A" to "B". A zero reading indicates a shorted tuning capacitor - C9.
6. Take a low ohms scale resistance reading between points "C" and "A" and then "C" and "B". This measures each side of the oscillator coil. Both readings should be identical. If they are not, a defective coil is indicated.
7. Take a resistance reading across resistor R17. Reverse the leads and measure again. The one reading should be approximately ten times higher than the other. If both readings are similar, this indicates a defective transistor.
8. If in 3 above, the oscillator operates when keyed at "D", then proceed as follows:
9. With a clip lead, short across capacitor C5, and depress the key. If the oscillator now plays, this indicates an open capacitor.

SUBJECT 1: FIXING A "DEAD NOTE" IN THE ELECTRA PIANO

(continued)

10. Short across CR5 and depress key. If the oscillator now keys (although it will snub quickly), this indicates an open diode CR5.
11. Take a resistance reading across diode CR5. Reverse leads and measure again. A zero reading both directions indicates a shorted diode which would cause a dead note.
12. Take a resistance reading across capacitor C6. A zero reading would indicate a short.
13. If all the above check out normally, replace the transistor Q2.

SUBJECT 2: CRACKLING NOISE WHEN PLAYING AN INSTRUMENT ACCOMPANIED BY RISE OR FALL IN VOLUME OF CERTAIN NOTES

This condition can be caused by a cold solder joint in the audio buss bar line which runs the length of the tone generator, and is located just behind the oscillator coils. On the schematic, this is called the SPLIT GROUND RESISTOR SCALE.

Please note that there are resistors soldered in at various points along this line. If the above condition occurs, carefully check each solder connection along this line and resolder where necessary.

Of course, the above procedure assumes that the amplifier-speaker system has been checked and found normal.

SUBJECT 3: ORGAN MODE CIPHER

If a certain pitch sounds continuously when the Organ Mode stop is used, the trouble is usually caused by a defective diode, CR7. The location of this diode is shown on the pictomatic layout drawing. When replacing this diode, be sure to observe the correct polarity.

CAUTION!!! The bass boost control, generally speaking, provides more bass than some amplifiers can handle. This means that at maximum bass setting some amplifiers will distort. This is not a flaw in the instrument but rather a limitation of the amplifier. Consequently, when such an effect is observed, it is necessary to lower the setting of the bass control to the point where no distortion occurs.

SUBJECT 4:

CIPHER WITH "SUSTAIN" PEDAL

If a certain note sounds continuously only while the Sustain pedal is depressed, the trouble is probably caused by a leakage condition on the 2N3391 transistor, the location of which is indicated on the pictomatic layout drawing. Apparently in some environments a conductive contamination appears on the surface of the transistor where the leads come out of the plastic. Use a small screwdriver, or similar pointed object, and scrape along the surface of the plastic, between the center and side leads. However, make sure that the instrument is turned off when you do this; otherwise, the transistor can be burned out by accidentally connecting two leads together. If this does not cure the condition, only then replace the transistor.

Another cause for this condition is the 2 mfd. electrolytic capacitor, C6, the location of which is also shown on the pictomatic diagram. Observe the correct polarity markings in replacing this component. Ask for Electra Piano Capacitor C6. The circuit shown on the pictomatic layout is duplicated for each pitch.

This same capacitor in a shorted condition will cause a dead note. To verify a shorted condition, measure across the capacitor with an ohmmeter.

SUBJECT 5: A SINGLE NOTE HAVING A "SNUBBED" OR SHORT SUSTAIN

If the sustain seems to be "snubbed" or extra short over the entire keyboard, the problem is most probably due to leakage in one of the CR3 diodes.

The following procedure will help you to locate which of the CR3 diodes is at fault:

1. Put one of the tone stops down; for example, Lute.
2. Put the Organ Mode stop down.
3. Wedge the lowest note on the keyboard so it will stay on indefinitely, even after the sound of the note dies away.
4. Hold the sustain pedal on.
5. Start at the high end of the keyboard and play one note at a time, listening for the length of the sustain. The note with a defective CR3 diode will have a sustain much shorter than the other notes.

SUBJECT 6:

INSTRUCTIONS FOR TUNING RMI GENERATORS

The tuning of an RMI instrument can be accomplished in less than an hour by someone with previous experience in tuning such instruments. We recommend that you enlist the aid of someone who is qualified. However, if you are technically minded, the following should be of help to you.

SUBJECT 6: INSTRUCTIONS FOR TUNING RMI GENERATORS
(continued)

Actually, there is no mystery about tuning, and it does not require a musical ear, as that term is understood. It does require, however, an ear which can hear the wave beats between two frequencies of very nearly the same pitch.

Use the "Organ Mode" and "Piano" stops for tuning purposes.

To make a change in frequency (tuning), turn the potentiometer type tuning control either clockwise (sharp) or counterclockwise (flat), depending upon which way it is desired to shift the pitch. If a given note cannot be brought into proper pitch by adjustment of the tuning control, it is necessary to carry out the following procedure:

Adding capacity to any given tuned circuit will lower the frequency; conversely removing capacity from any given tuned circuit will raise its frequency. The smallest of the tuning capacitors, C9, should be chosen as the one to change. In other words, if a generator cannot be made sharp enough with the control, it will be necessary to reduce the capacity -- remove one of the small value tuning capacitors and replace it with the next smaller size.

It is necessary to have some type of pitch standard or reference -- an "in tune" piano, electronic device such as the Conn Strobotuner or Peterson Tuner, or "A" tuning fork for those who can set a temperament by ear. Several models of audio oscillator reference devices for tuning purposes are available from Peterson Electro-Musical Products, Worth, Illinois 60482. To use these you simply zero beat the RMI oscillators with the reference unit.

Suggested Method for Using the Tuner

Place the tuner conveniently so you have easy access to the selector switch. The microphone is placed, for best results, directly in front of the speakers. In some cases it may be desirable to use a direct connection, in which case a patch cord between the tuner and the output of the amplifier is made. If you wish to listen to the sound as well as see the stroboscopic pattern, use an RCA audio "Y" connector at the generator output.

First set the tuner gain control to produce the best pattern contrast. The generator can then be tuned in the usual way changing the tuning adjustment to produce a stationary pattern on the stroboscopic disc. The tone selector knob is reset, of course, for each different tone measured.

SUBJECT 6: INSTRUCTIONS FOR TUNING RMI GENERATORS (continued)

If using a Strobotuner, during the tuning operation the tuner should be checked for calibration by reference back to the first note tuned, resetting the pointer to stop the pattern in case movement is noted.

Instead of tuning successive notes in each octave, some tuners prefer to use this method. First tune the "C's" in all octaves with your selector switch set at "C" and then proceed with all the "C#'s", etc. This method reduces the number of tone selector switch settings and speeds the tuning operation.

Method of Setting Temperament Without Tuning Devices

One note, say A3 (A above middle C) is chosen to be the foundation. This note is tuned to a standard source, usually 440 cycles, which might come from a tuning fork, another instrument, or an electronic standard. The next step is to sound the A3 and E3. This interval is known musically as a fourth. To tune the E3, the beat frequency must be heard. The beat occurs between the third harmonic of the A3 and the fourth harmonic of the E3. For correct tuning, this beat frequency should be about one and one-quarter beats per second or 20 beats in 15 seconds. The actual frequency of the third harmonic of A3 is 1320 cycles. A beat frequency of one and one-quarter beats per second can be heard when the fourth harmonic of E3 is 1321 cycles or 1319 cycles. The correct tuning is the latter frequency. In other words, E3 should be tuned slightly flat of zero beat.

The E3 is then sounded with the B3. This interval is a musical fifth. The beat note occurs between the third harmonic of the E3 and the second harmonic of the B3, and is about one and one-quarter beats per second. Again, two different frequencies of B3 will give the correct beat. As before, the lower or flattest of the two must be used. This procedure is continued until finally on the 12th step, a check is again made on A3, this time with D3. A list of the steps that should be taken is given. If the last step between D3 and A3 results in a beat that is slow enough to be counted, the tuning temperament is set. To tune the rest of the generator, octaves are then tuned to zero beat with the third octave.

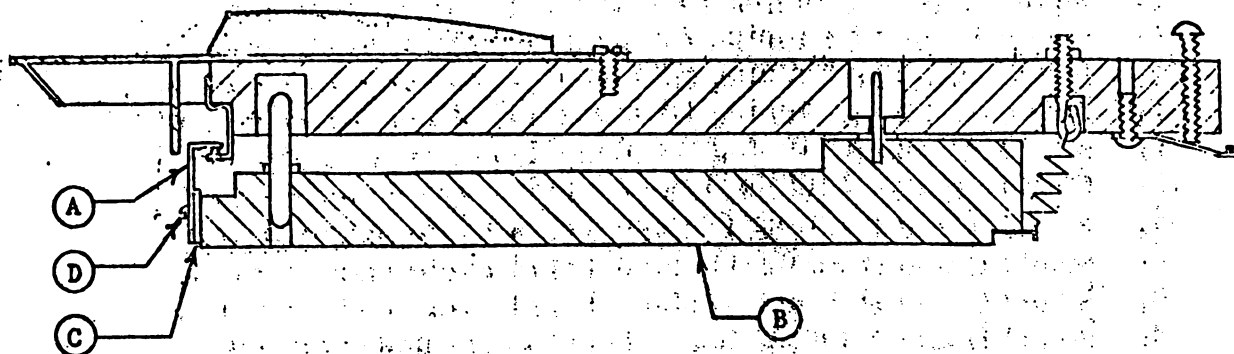
All of the following notes are to be taken from the third octave (from middle C to B above).

SUBJECT 6: INSTRUCTIONS FOR TUNING RMI GENERATORS
(continued)

1. Use Piano and Organ Mode Stops.
2. Set A to tuning fork or other standard (440 cycles).
3. Sound A and E tuning E about 1-1/4 cycle under or flat.
4. Sound E and B tuning B about 1-1/4 cycle under or flat.
5. Sound B and F# tuning F# about 1-1/4 cycle under or flat.
6. Sound F# and C# tuning C# about 1-1/4 cycle under or flat.
7. Sound C# and G# tuning G# about 1-1/4 cycle under or flat.
8. Sound G# and D# tuning D# about 1-1/4 cycle under or flat.
9. Sound D# and A# tuning A# about 1-1/4 cycle under or flat.
10. Sound A# and F tuning F about 1-1/4 cycle under or flat.
11. Sound F and C tuning C about 1-1/4 cycle under or flat.
12. Sound C and G tuning G about 1-1/4 cycle under or flat.
13. Sound G and D tuning D about 1-1/4 cycle under or flat.
14. Sound D and A tuning about 1-1/4 cycle under or flat.

If the A does not automatically seem approximately right in relation to the D, then it is necessary to back up so as to even out the temperament. If the A is too flat, it shows that the previous notes have been tuned too flat, and it is necessary to "slow" their beat. In listening, care must be taken that one is listening to the slowest of the harmonic beats and not that due to the higher harmonics. Otherwise, a "false" effect will be obtained due to the progressively quicker beats of the upper harmonics.

SUBJECT 7: INSTRUCTIONS FOR CURING PROBLEM OF STICKING AND/OR CLICKING KEYS ON ELECTRA PIANO

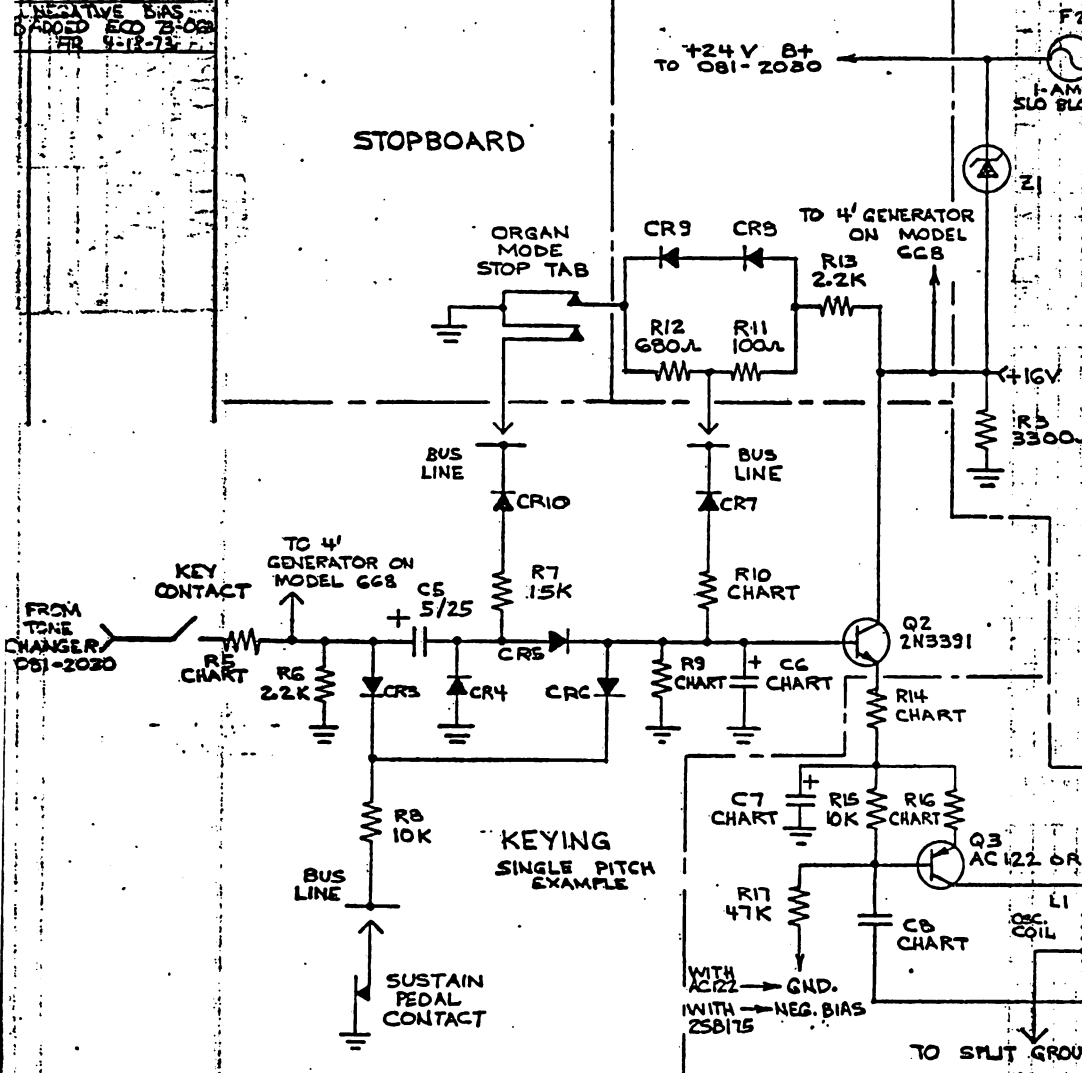


1. Open lid by removing two thumb screws on bottom of instrument.
2. Remove black keyboard facer strip by removing the two round head slotted screws from front bottom of instrument.
3. Remove keybed by removing the ten phillips head screws from bottom of instrument.
4. Install metal washers as shims between metal limiting rail (A) and wood keybed (B), using one washer (C) behind each screw (D). Caution - remove one screw and shim one portion of keybed at a time.
5. Reinstall keybed and check contact adjustment.
6. Reinstall facer strip.
7. Install thumb screws.

NOT APPLICABLE TO MODEL 368X OR MODEL 668X

REVISIONS:
 1. 4' GENERATOR WAS LOCATED AT R5 1-12-72
 2. NEGATIVE BIAS 5000Ω EO 2-08
 3. R5 4-12-73

STOPBOARD



+24V B+ TO OBI-2020

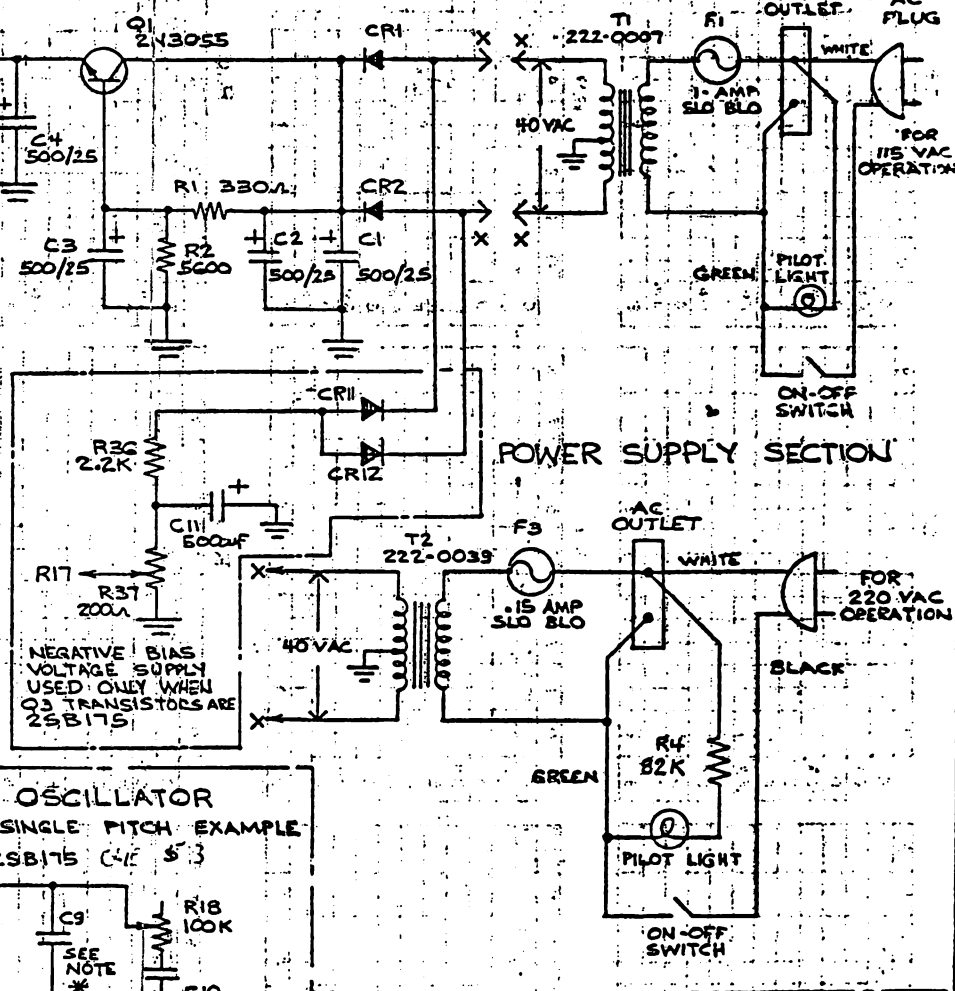
TO 4' GENERATOR ON MODEL GCB

TO 4' GENERATOR ON MODEL GCB

OSCILLATOR
 SINGLE PITCH EXAMPLE

TO SPLIT GROUND RESISTOR LINE

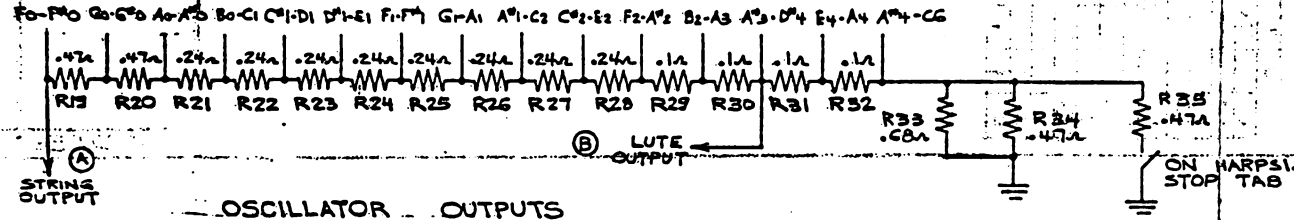
POWER SUPPLY SECTION



NEGATIVE BIAS VOLTAGE SUPPLY USED ONLY WHEN Q3 TRANSISTORS ARE 2SB175

* NOTE: FACTORY SELECTED FOR PROPER TUNING.

SPLIT GROUND RESISTOR SCALE



SHEET L of 2

ALLEN ORGAN CO.
 MACUNGIE, PENNA.

RMS ELECTRICALS
 MODELS 302, 304, 305
 KEYING

BY	SCALE	MATERIAL
AR		
DATE	NO.	
3-17-72		
APPRO		
7hE		CS1-2622

CG

C	0	1	2	3	4	5	6	7	8
C		3.3	3.3	3.3	3.3	3.3	3.3		
C#									
D									
D#									
E									
F	30								
F#									
G									
G#									
A									
A#									
B									

C7

C	0	1	2	3	4	5	6	7	8
C		20	15	10	5	5	5		
C#				B					
D									
D#			10						
E									
F	30								
F#									
G									
G#									
A									
A#									
B									

CB

C	0	1	2	3	4	5	6	7	8
C		1.0	.47	.33	.15	.1	.1		
C#									
D									
D#									
E									
F	1.0								
F#									
G									
G#									
A									
A#									
B									

C10

C	0	1	2	3	4	5	6	7	8
C		.15	.06	.04	.02	.01	.01		
C#									
D									
D#									
E		.1		.02	.015				
F	.15								
F#			.05						
G									
G#		.03		.025	.01				
A									
A#									
B									

R5

C	0	1	2	3	4	5	6	7	8
C		150	100	100	63	63	63		
C#									
D									
D#									
E									
F	150								
F#									
G				63					
G#									
A									
A#									
B									

R9

C	0	1	2	3	4	5	6	7	8
C			2.2M	2.2M	1.0M	1.0M			
C#									
D									
D#									
E									
F					1.0M				
F#									
G				2.2M					
G#									
A									
A#									
B									

R10

C	0	1	2	3	4	5	6	7	8
C		100K	100K	100K	63K	51K	39K		
C#									
D									
D#									
E									
F	100K								
F#			52K	47K					
G									
G#									
A									
A#									
B									

R14

C	0	1	2	3	4	5	6	7	8
C		82	82	82	15	15	15		
C#									
D									
D#									
E									
F	82			15					
F#									
G									
G#									
A									
A#									
B									

R18

C	0	1	2	3	4	5	6	7	8
C		220	220	220	270	270	270		
C#									
D									
D#									
E									
F	270			270					
F#									
G									
G#									
A									
A#									
B									

REVISIONS

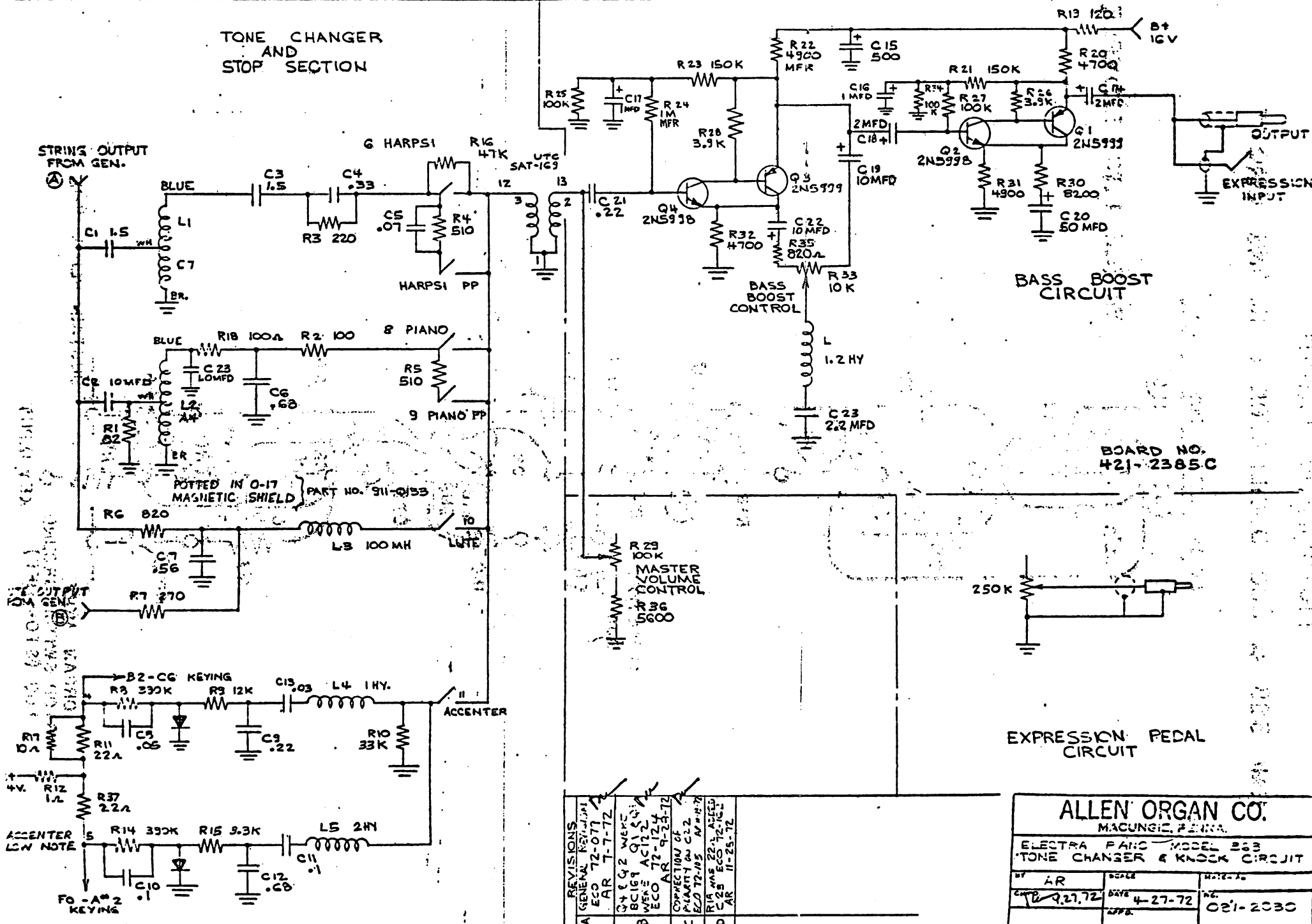
SHEET 2 OF 2

ALLEN ORGAN CO.
MAGUNGIE, PENNA.

RMI ELECTRA
MODEL 3
KEYING & OSCILLATOR

BY **AR.** DATE **11-17-52**
 CHECKED **11-17-52** NO. **0712522**

TONE CHANGER AND STOP SECTION



BOARD NO. 421-2385C

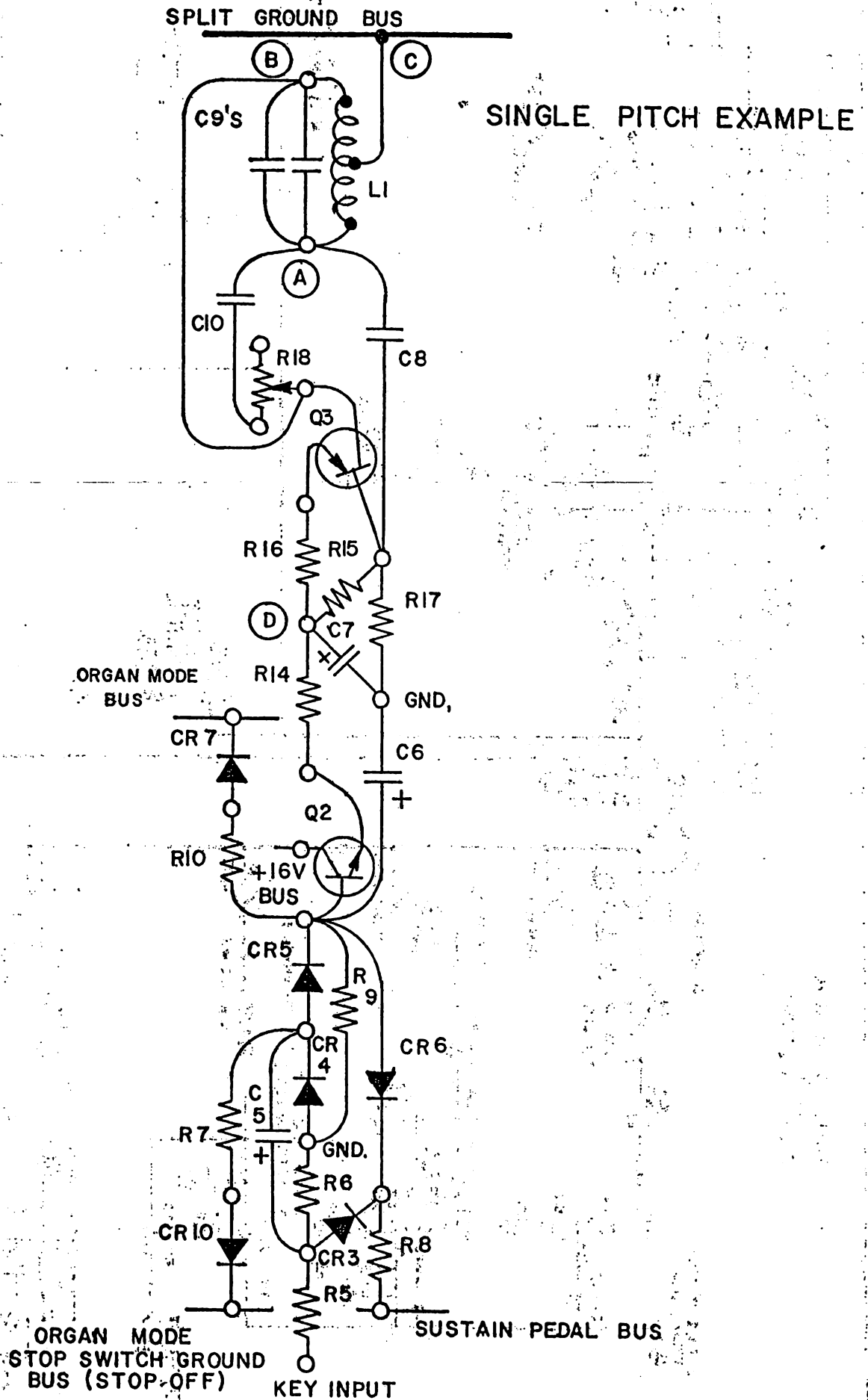
REVISIONS

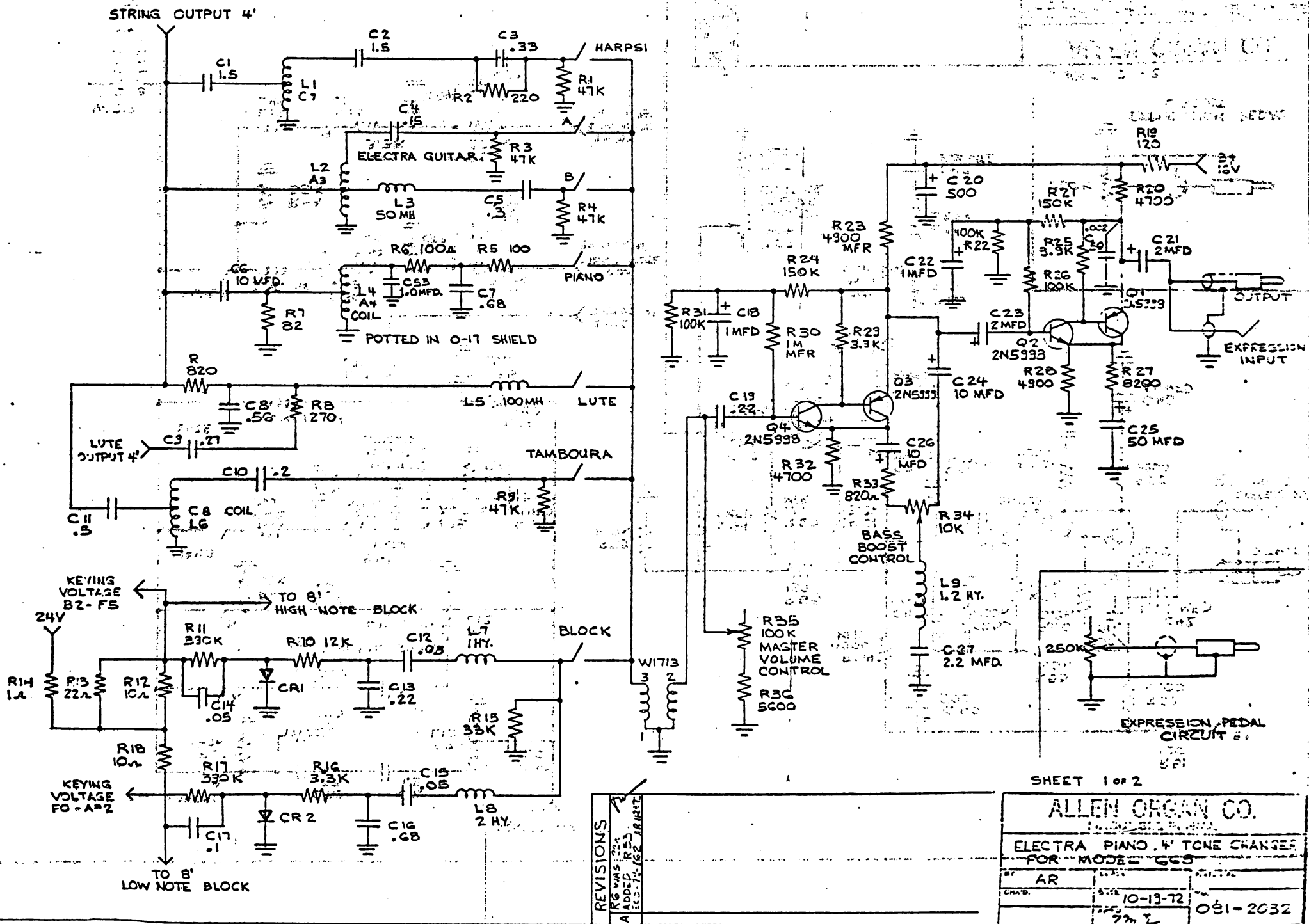
A	GENERAL REVISION	ECO 72-077	AR 7-7-72
B	Q4 & Q2 WERE BC169 Q1 & Q3 WERE AC172	ECO 72-124	AR 7-12-72
C	CORRECTION OF PART NUMBER	ECO 72-185	AR 7-25-72
D	R14 WAS 22K, R15 WAS 33K, R25 ECO 72-161	ECO 72-161	AR 7-25-72

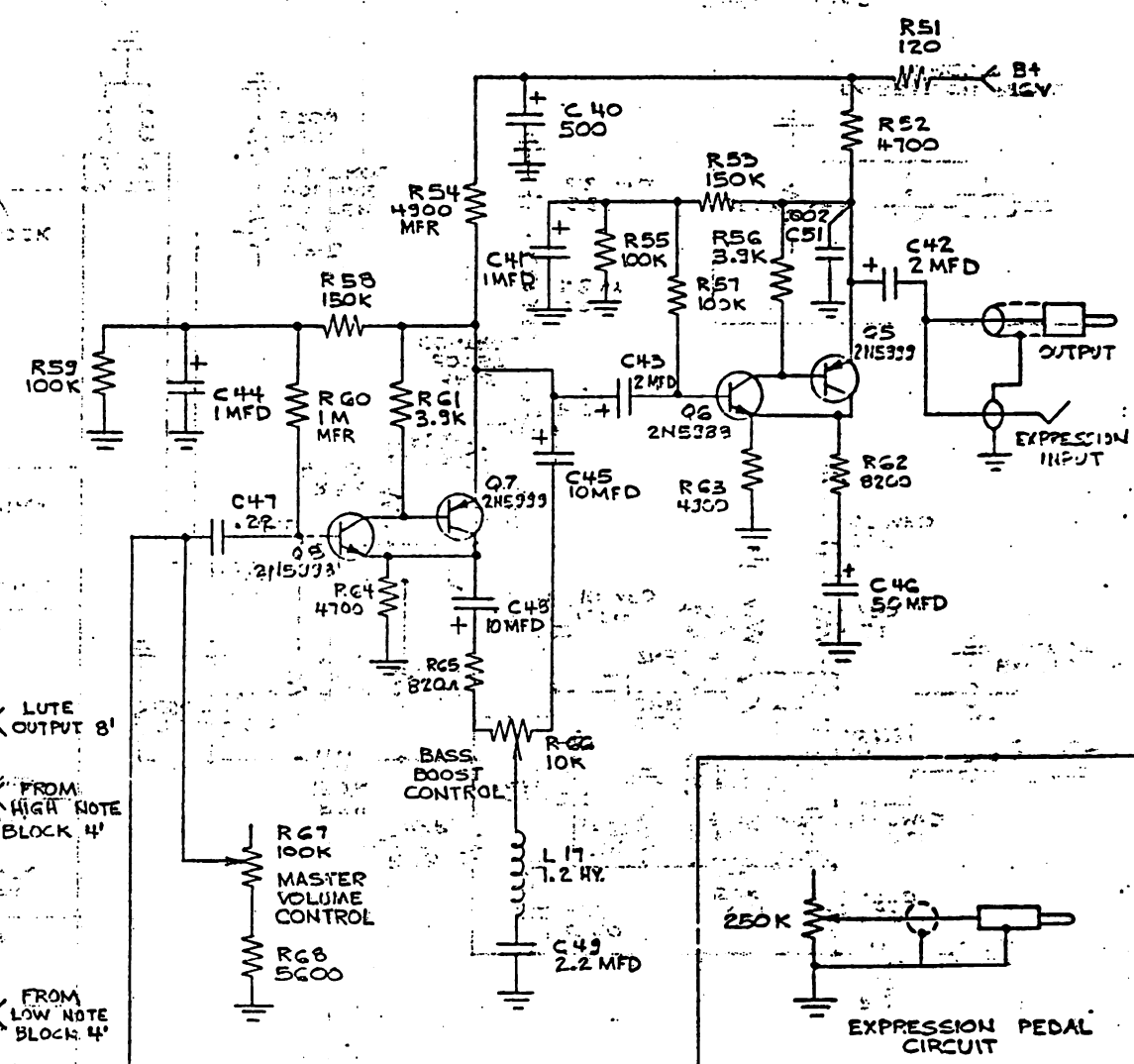
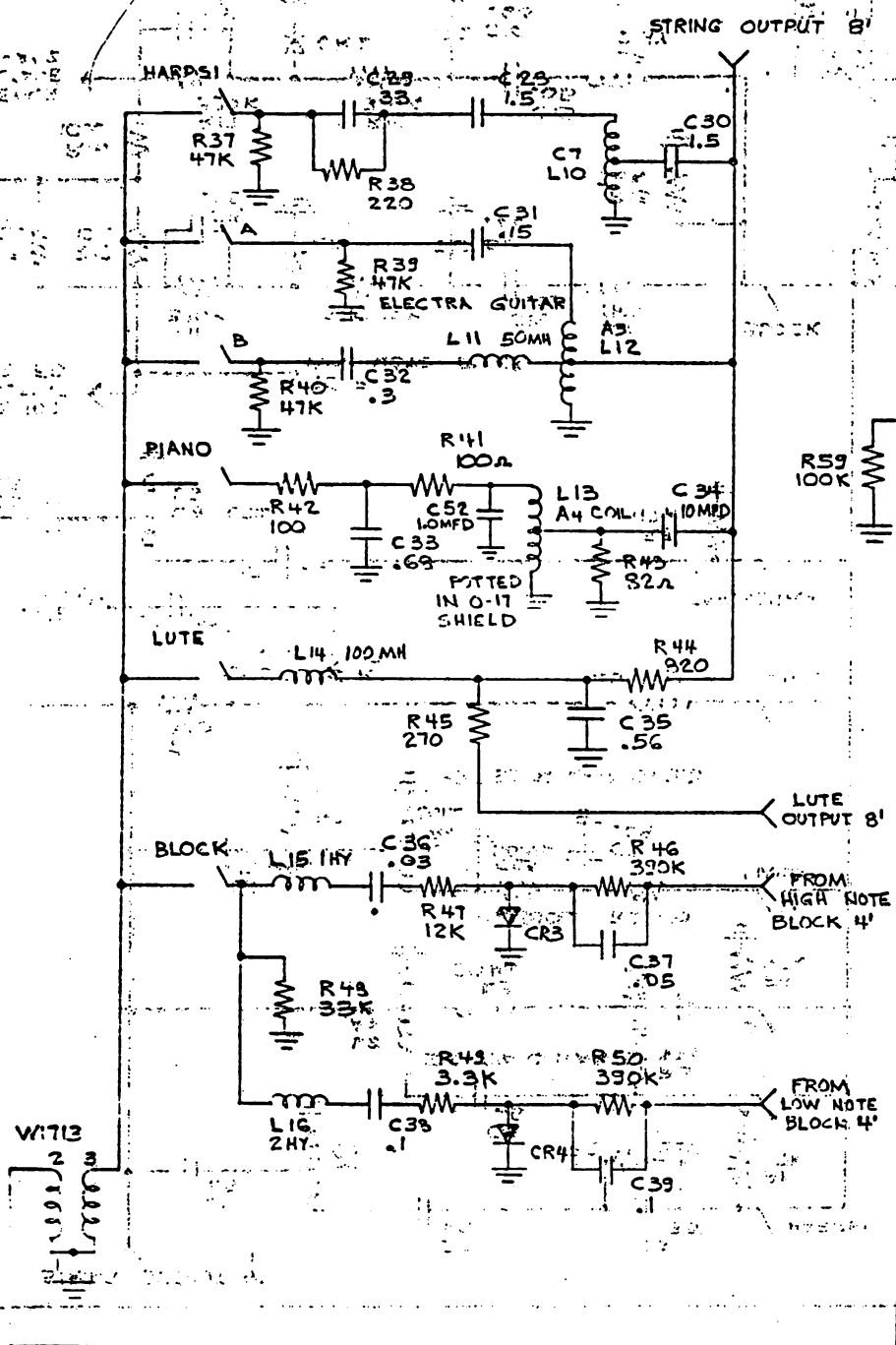
ALLEN ORGAN CO. MACUNGIE, PENNA.		
ELECTRA PIANO MODEL 263 TONE CHANGER & KNOCK CIRCUIT		
BY AR	DATE 4-27-72	NO. 021-2030
CHKD 9-27-72	APPD.	

PICTORMATIC LAYOUT

RMI 368 & 668 OSCILLATOR & KEYING CIRCUIT







SHEET 2 of 2

ALLEN ORGAN CO.

ELECTRA PIANO 8' TONE CHANGER
 FCP MODEL 663

REVISIONS
 R41 WAS 22K - 7/2
 C39 WAS 10MFD - 7/2
 C38 WAS 10MFD - 7/2

REV.	DATE	BY
AR	12-19-72	
C31-20 3C		

C2

	0	1	2	3	4	5	6	7	8
C	/	3.3	3.3	3.3	3.3	3.3	3.3	3.3	/
C#	/	/	/	/	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	4.7	/	/	/	/	/	/	/	/
F#	/	/	/	/	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

C3

	0	1	2	3	4	5	6	7	8
C	/	20	15	15	5	5	5	5	/
C#	/	/	/	5	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	10	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	30	/	/	/	/	/	/	/	/
F#	/	/	/	/	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

C4

	0	1	2	3	4	5	6	7	8
C	/	1.0	.47	.33	.15	.1	.1	.01	/
C#	/	/	/	/	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	1.0	/	/	/	/	/	/	/	/
F#	/	/	/	/	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

C6

	0	1	2	3	4	5	6	7	8
C	/	.15	.06	.04	.02	.01	.01	.001	/
C#	/	/	/	/	/	/	.006	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	.03	.05	/	/	/	/
F	.15	/	/	/	/	/	/	/	/
F#	/	.05	/	/	/	.005	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	.08	.025	.01	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

R7

	0	1	2	3	4	5	6	7	8
C	/	/	/	3.3M	2.2M	1.0M	1.0M	1.0M	/
C#	/	/	/	/	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	/	/	/	/	1.0M	/	/	/	/
F#	/	/	/	2.2M	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

R6

	0	1	2	3	4	5	6	7	8
C	/	100K	100K	100K	68K	39K	39K	39K	/
C#	/	/	/	/	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	100K	/	/	/	/	/	/	/	/
F#	/	/	82K	47K	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

R9

	0	1	2	3	4	5	6	7	8
C	/	82	82	82	15	15	15	15	/
C#	/	/	/	/	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	82	/	/	15	/	/	/	/	/
F#	/	/	/	/	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

R11

	0	1	2	3	4	5	6	7	8
C	/	220	220	220	270	270	270	270	/
C#	/	/	/	/	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	220	/	/	270	/	/	/	/	/
F#	/	/	/	/	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

	0	1	2	3	4	5	6	7	8
C	/	/	/	/	/	/	/	/	/
C#	/	/	/	/	/	/	/	/	/
D	/	/	/	/	/	/	/	/	/
D#	/	/	/	/	/	/	/	/	/
E	/	/	/	/	/	/	/	/	/
F	/	/	/	/	/	/	/	/	/
F#	/	/	/	/	/	/	/	/	/
G	/	/	/	/	/	/	/	/	/
G#	/	/	/	/	/	/	/	/	/
A	/	/	/	/	/	/	/	/	/
A#	/	/	/	/	/	/	/	/	/
B	/	/	/	/	/	/	/	/	/

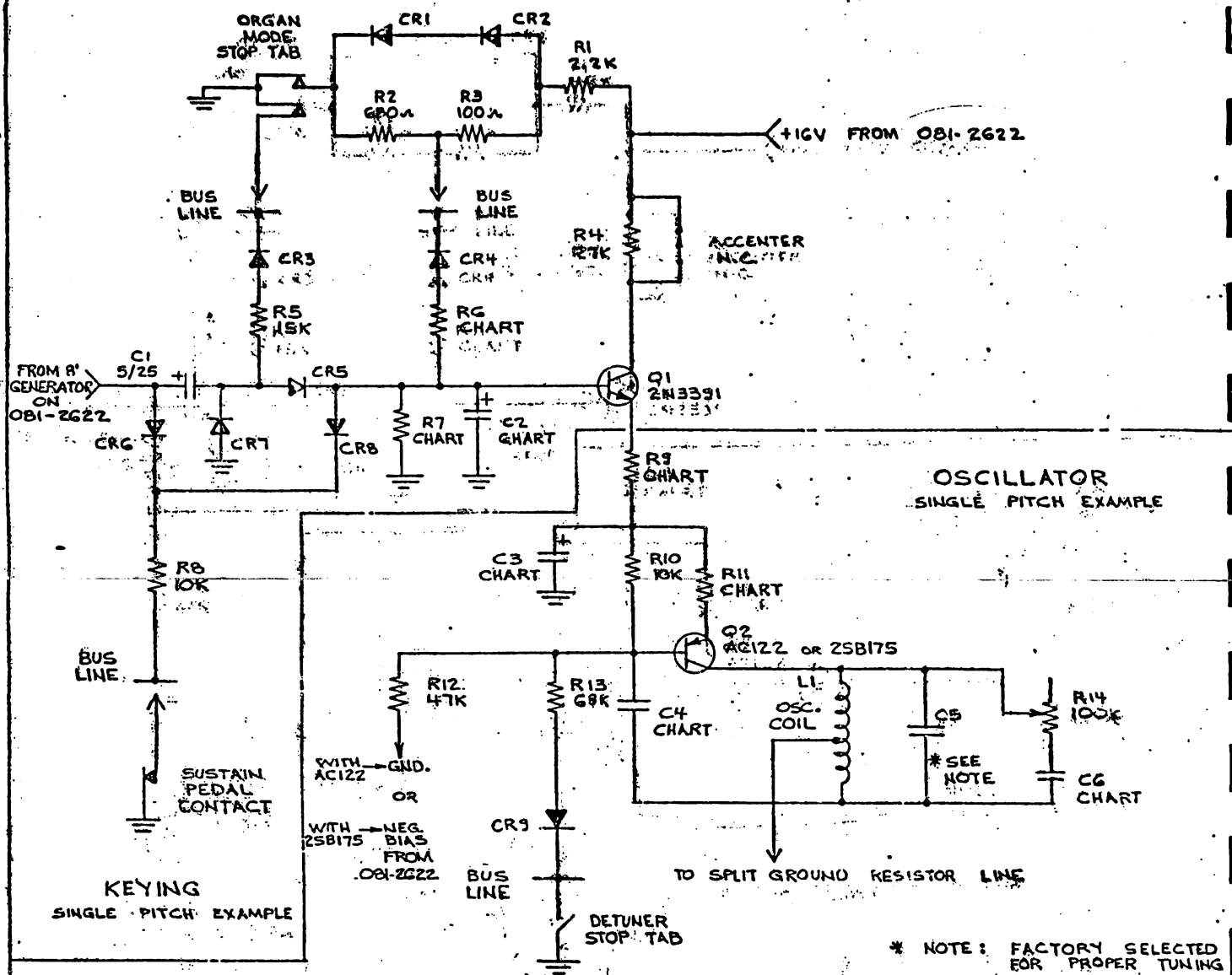
SHEET 2 of 2

ALLEN ORGAN CO.
MACUNGIE, PENNA.

RMT ELECTRA PIANO MODEL
GG8 4" KEYING AND OSCILLATOR CIRCUIT

BY	AR	DATE	10-25-72	NO. SERIAL	091-2624
REV.		APP'D	771 E		

REVISIONS

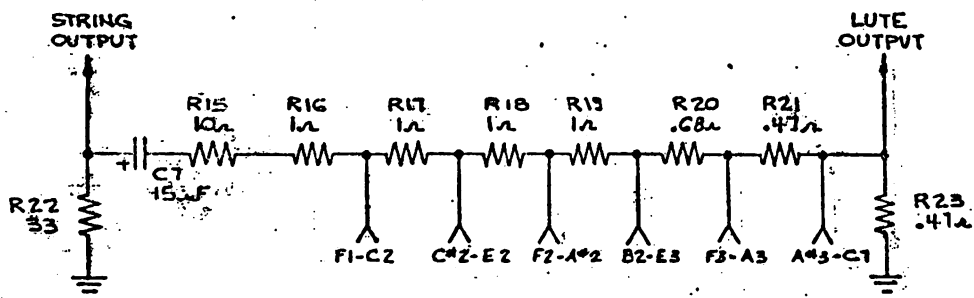


OSCILLATOR
SINGLE PITCH EXAMPLE

KEYING
SINGLE PITCH EXAMPLE

* NOTE: FACTORY SELECTED FOR PROPER TUNING

SPLIT GROUND RESISTOR SCALE



REVISIONS
 CORRECTION OF TITLES
 5' TO A
 A4 10-25-72
 NEGATIVE BIAS
 APPL. ECD 750
 AR 4-18-73

ALLEN ORGAN CO.		
MACUNGIE, PENNA.		
RMI, ELECTRA PIANO MODEL 654 4' KEYING AND OSCILLATOR CIRCUIT		
BY AR	SCALE	DATE
DATE 10-26-72	APPROVED 7.5	031-2624