MusicParts.Com

Technical Document Distribution

Brand: Model Product:	Cordovox CG-1, CG-2, CG-3 Tube Cordovox Accordian 3-piece		
Description:	Service Manual Dated: none		
Musicparts Document Number: 39685TechTips: 0Pages: 32			Pages: 32

Hello,

Welcome to MusicParts.Com, Inc. your online resource for technical documents and service information. This PDF package may contain information, schematics, parts lists, images, engineering changes, previous versions, circuit descriptions, and many other unique features about the product you have chosen. This document was assembled from a variety of sources and is the result of our many years in the music repair business.

TECHTIPS: Unique to Musicparts documents are **TECHTIPS** located in critical areas on the schematics. They contain useful information about that area of the schematic such as common problems that we have found and recommended changes. Not all documents will have TechTips.

NOTE: Large original over-sized drawings will need to be taped together. We feel this is better than reducing them and losing fine details.

VIEWING: This document is utilizing PAGE-ON-DEMAND downloading. This will let you navigate to any page without waiting for the entire file to download.

PRINTING: For the best quality, we highly recommend that when the print dialog appears, please **make sure** " **shrink oversized pages** " **is CHECKED**., otherwise you may cut off the edge of the page. Also please stay online while printing this document to make sure you get all the pages.

Visit us on the web at: <u>http://www.musicparts.com/</u> Email us at: <u>customerservice@musicparts.com</u>



CORDOVOX CG2 & CG3 BEFORE & AFTER SERIAL #2000

TABLE OF CONTENTS

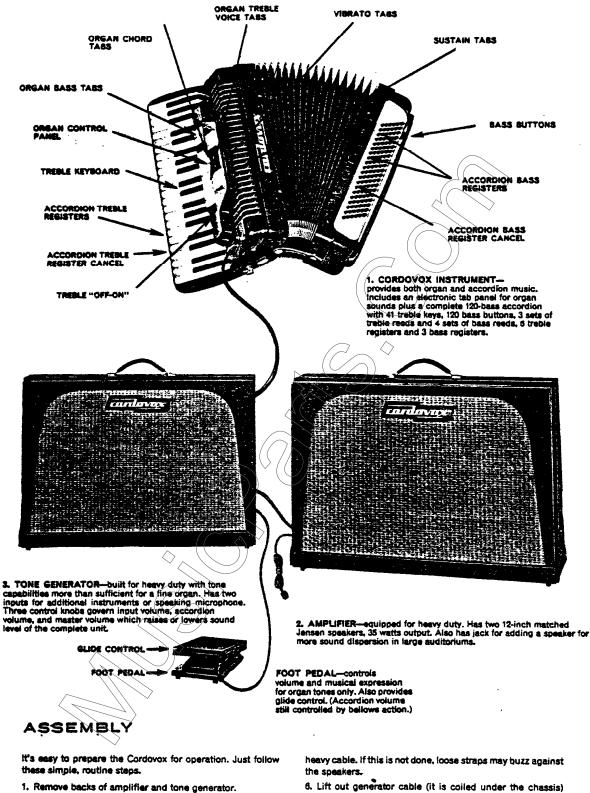
SCHEMATIC

TONAL FLOW & TUBE LOCATION DWG.1 PLUG & SOCKET LAYOUT DWG. 1A TONE GENERATORS DWG. 2 KEYSWITCH WIRING DIAGRAM DWGS. 2A-2B MECHANICAL/FIRING CHORD FUNCTION DWGS. 3-3A VOICING SCHEMATIC DWGS. 4-4A AMPLIFIER/POWER SUPLLY DWG. 5A QUALITY CONTROL SCHEMATIC DWGS. 5B-6A TABSWITCH SCHEMATIC DWGS. 7-7A TRKELE & BASS SUSTAIN CIRCUIT DWG. 8

 $\langle \rangle$

TUBE REPLACEMENT INFORMATION

PARTS LIST



2. Lift foot pedal from amplifier and plug into matching receptacle in generator.

3. Take amplifier cable and plug into matching receptacle in generator, thus connecting amplifier and generator.

4. Lift AC line cord from amplifier (do not plug into outlet until later).

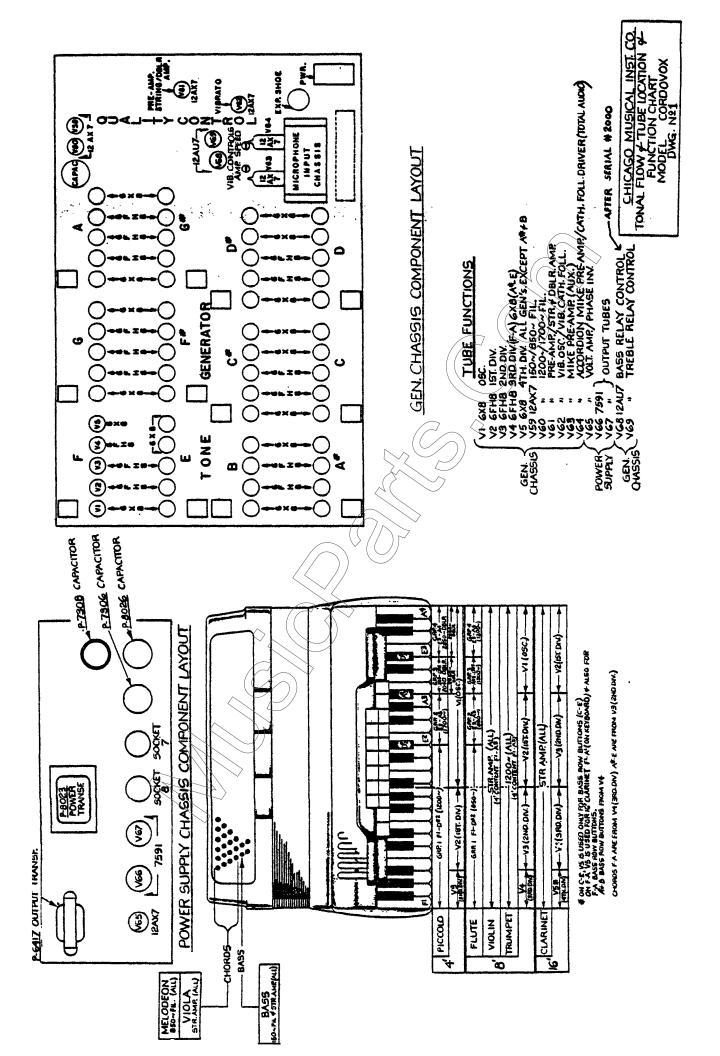
5. Close amplifier back with cable and line cord through hole provided. But first fasten straps which were holding the 6. Lift out generator cable (it is coiled under the chassis) and plug into the accordion.

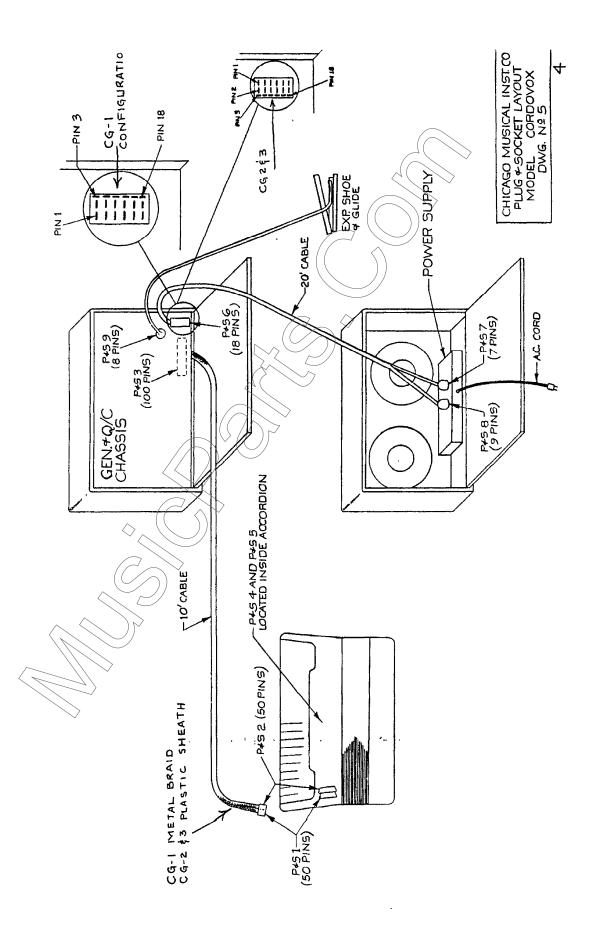
7. Close generator back with two cables and foot pedal cord through hole provided,

8. Plug AC line cord from amplifier into wall cutlet.

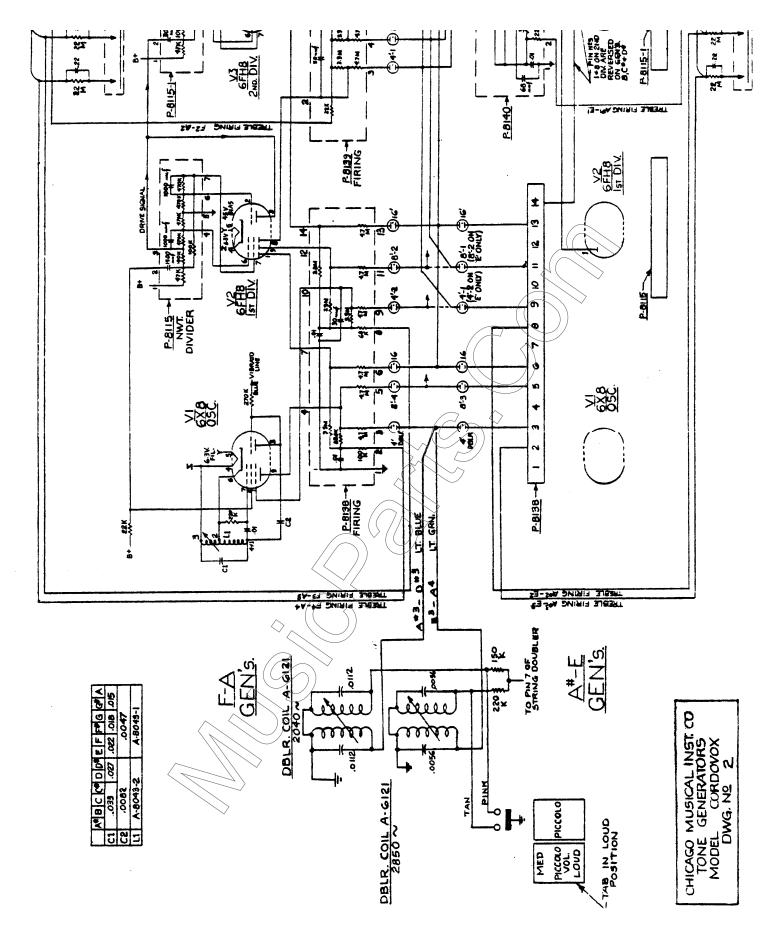
9. On generator control panel (a) Turn on "On-Off" switch: (b) Turn Master Volume control to ½ volume; (c) Turn Accordion Volume control to about ¼ full.

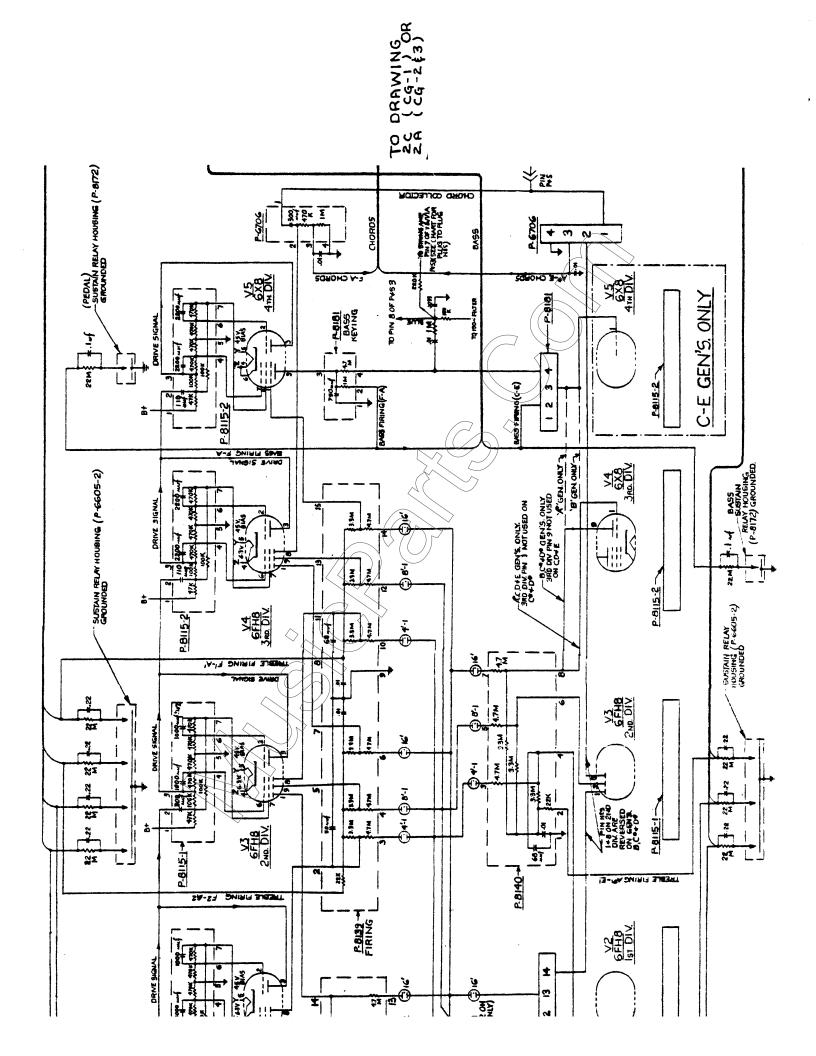
Now, prepare yourself for a new experience in musical expression.

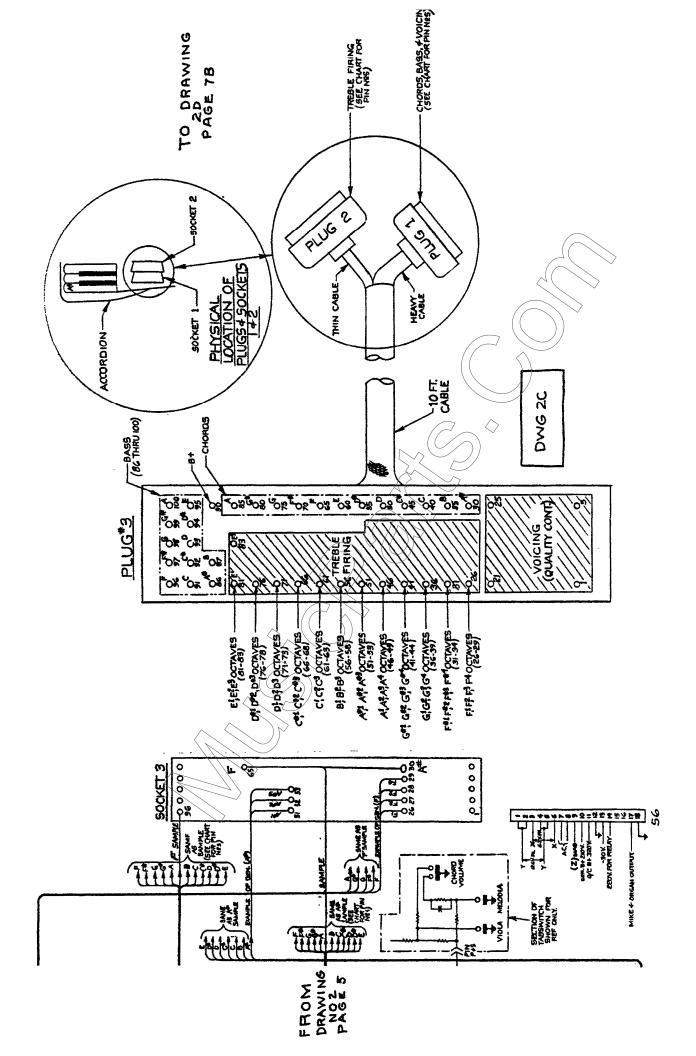


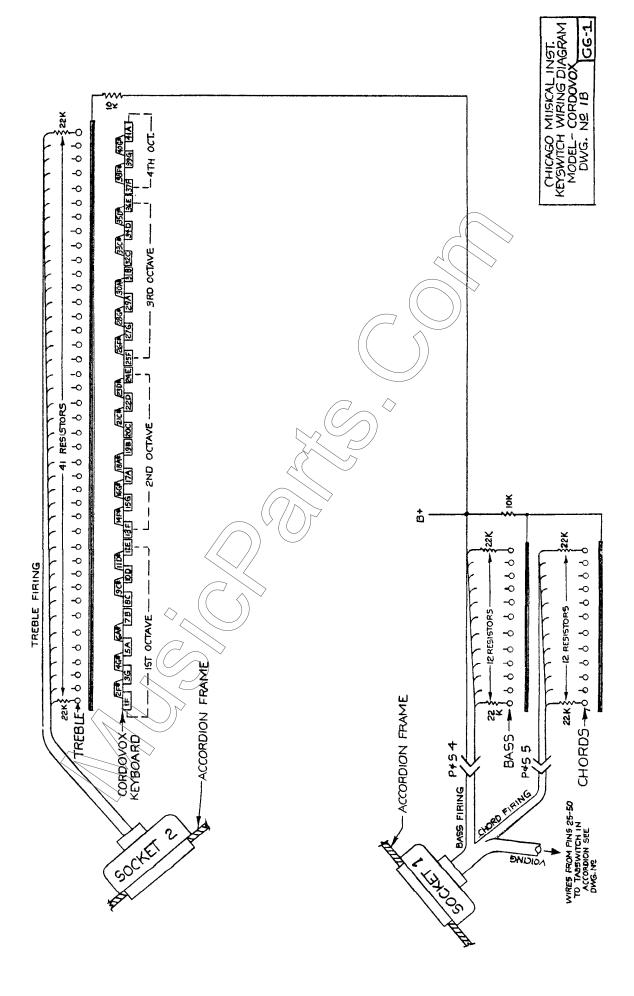


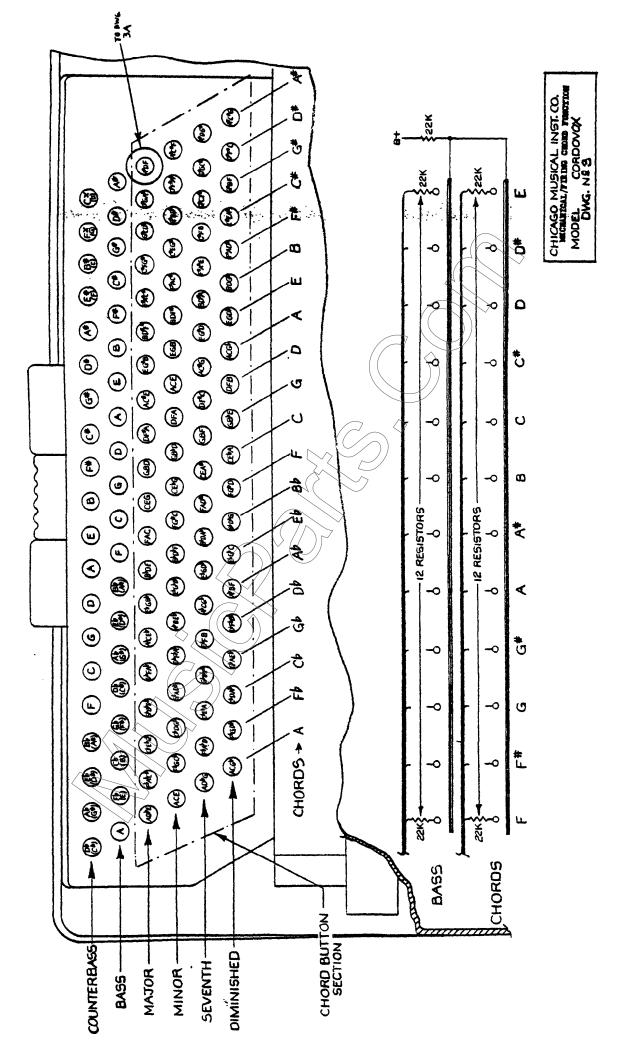
.

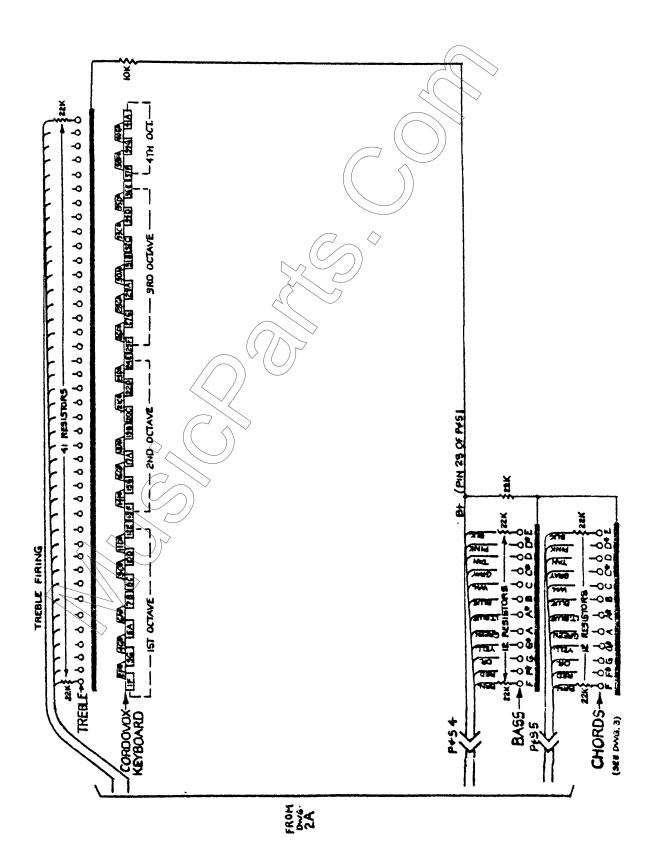












CG-1

PL	IG TO PLUG CONNE	TIONS	1
PLUG	Charles	PLUG#2 PIN NA	PLUG#]
-1	FUNCTION GND.	PIN NA	
-2	GND. - 22 YOUTS GND SIDE OF REAY		10 14
-4	+22 0005		31
6	DOLA.		34
-7	BH DROPPING RESISTOR		25
-8	STRING BASS (PEDAL) PED. SUSTAIN (SHLD) GRO FOR SUSTAIN VIE. DEPTH VIE. SPEED SUSTAIN LENGTH WILLIGHT		45
-19	GND FOR SUSTAIN		44
~12	VIB. DEPTH		
	SUSTAIN LENGTH		37
-15	STRING		- 33
17	CLARINET PICCOLO GRP	<u> </u>	1 16 1
-18			47
-20	B'FLUTE GRP 2 B'FLUTE GRP 4 B'FLUTE GRP 5		40
19 19 19 19 19 19 19 19 19 19 19 19 19 1	B'FLUTE GAP 2		38
	MELODEON	1	721
N.C.	ACCORDION MIKE	1	43
-26	F1 TREBLE	19	<u> </u>
-28	F3 11	26	
-29 -30 -31	F4 11 An CHORD F01 TREBLE	38	12
-31	AR CHORD FRI TREBLE	5	
- 92 - 93	F#3 11	14 27 39	
- 34	64 11 B CHORD G1 TREBLE G2 11 G3 11 G4 11	59	
35	GI TREBLE	3	
30	ç <u>ş</u> ,,	28	
-39	GA "	40	
		4	
-13	GAB "	27	
-45		5	3
-19	A2 11	17	<u>-</u> r <u>-</u> -
-48	A4 11	30 42	
-39	A CHORD		4
-52	A 2 21 A 2 3 32	3	
- 55			
-56	DE CHORD BI TREBLE	7	5
-57	82. ** 83. **	12	
-50			
-40 -61	E CHORD CI TREBLE CE 33 C3 11	0	
L-45.	C2 11	10	
10100 1010	1		7
-66	F CHORD CAI TREBLE	1	
-68		34	
-76	DI TREBLE		8
-71	DI TREBLE	22	R
-72 -73 -73 -74 -75	b) ii	35	$\overline{\frown}$
岁	G CHORD	1	2
-76 -76	1 7 7 7 7 1 1		
- 79	D*3 ;;	7.	\sim
-80	GI CHORD	A BE	10
-82	E E	-	\diamond
-82 -83 -84 -85		144	- 1
- 96	A CHORD AL STR. BASS/PEDAL B STR. BASS (PEDAL	1 Ž	24
-87 -88	B STH. BASS (PEDA)		1-13-1
-89	8+	1 50	
-21	C STR. BASS (PEDAL	1	14
-35	C 11 12 11 D 11 12 12	1	
-91 -92 -93 -94 -95	D n n 11 D n n 11		1 14
-25	F P A V		20
-96 -96 -97 -98 -99	G / 11 1/		
-100	Gar 10 10 11 A 22 17 15	<u> </u>	1 2
<u> </u>			

	D FILLE CONNECTIONS	*****	
huste		PLUC Z	PLUGPI
	CTION	PNN	
	CTON VICE LI ALLY TON CONTONIO LASS -ALL-PER LOTON CONDION MIKE		
			-
	A Als-Per Joren		
-7 40	ONDION MIKE		50
		-12-	
	PICAN THE CONTAINS		
	A VERIER		
	COLO GAPI PI-DEA		-11-
	COLO GRE & MA -A3		
		H	
			5.1
	W	1	_/!
	10	(Å
	YASHI		
		ZX	
1 1.21.1.0	9		
		- 2 - 2	-2-
	CHOAD		
		- 71	
		1	
	HAN		-#
			10
		H	
	<u></u>	tac	
			<u> </u>
	TELE	1	11
		M	
	Month-	FIE	
	<u> </u>	-11	1
		4	
	CHOMO MARIX		36
╡╱╴╎╎ ╞┉ ┟╏╌┝╍╸╿		- 44	
	1	E HE	
		-	-
	Children and Child	In	1
		目	1
	ر د و مو	10	
	THE BAR (PROAL)		1
	<u>26 27 77</u>	H	
	40 41 51 42 51 52	1 4	
		1	R
		1	
	THE ACCOUNTS NON THE		+ N
-1			

CG-2

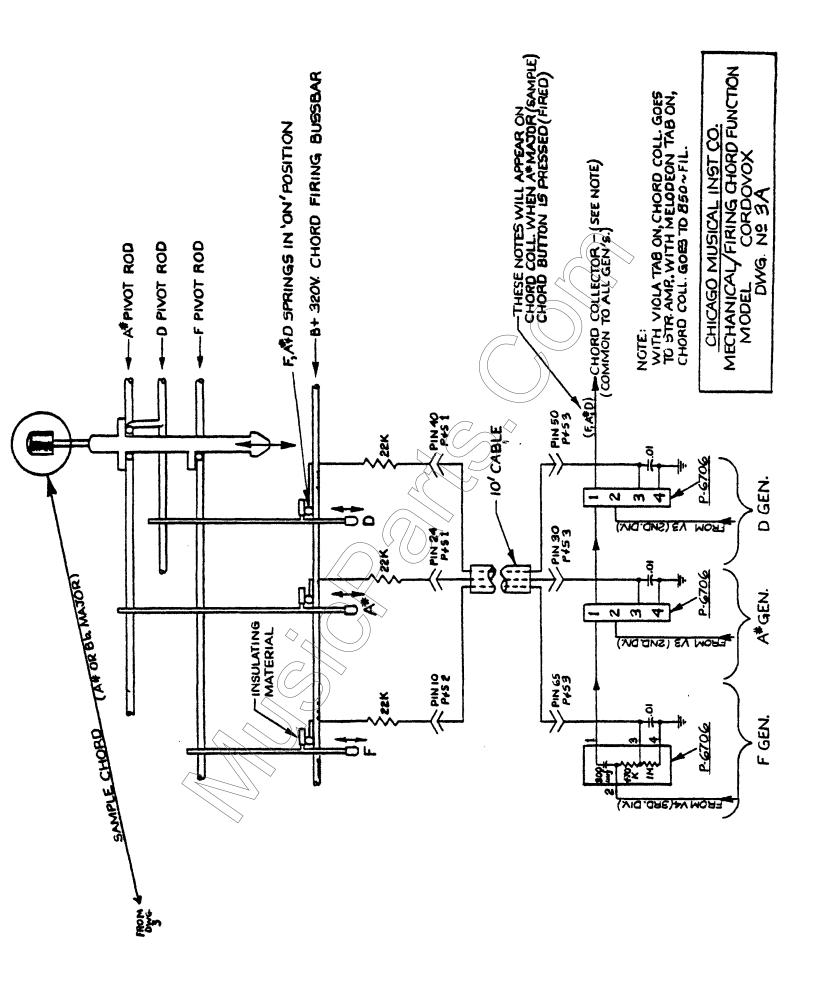
CHICAGO MIJSKAL INST. KEYSWITCH WIRING DIAGRAM MODEL- CORDOVOX

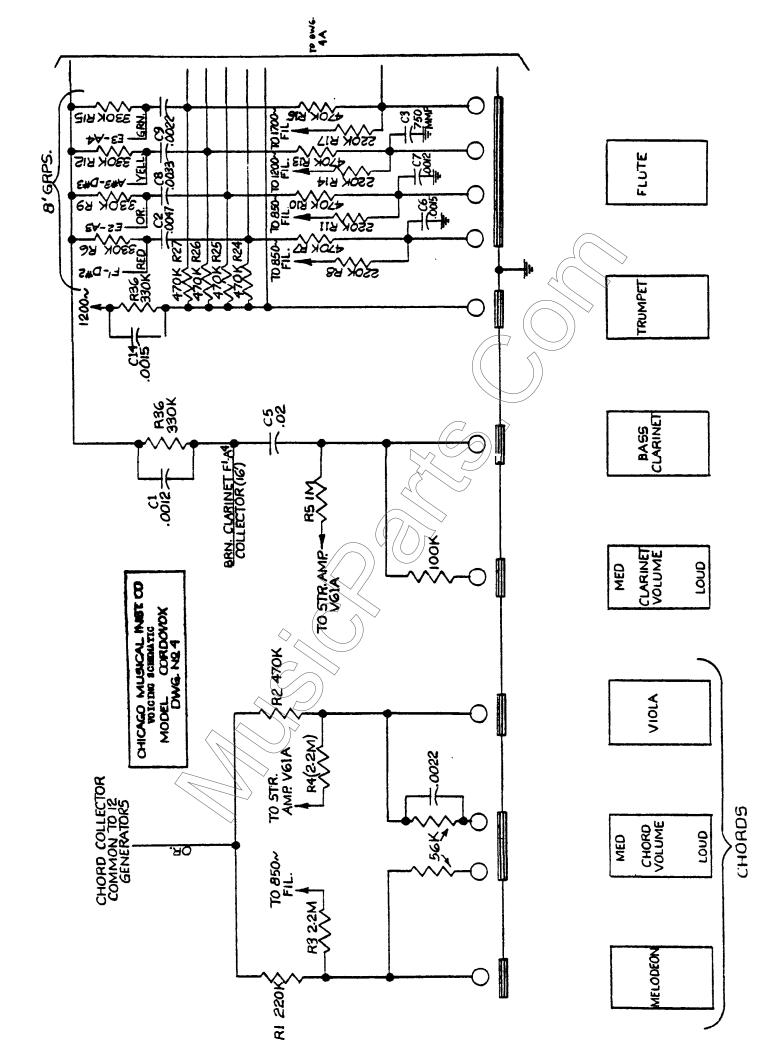
U	U	-3

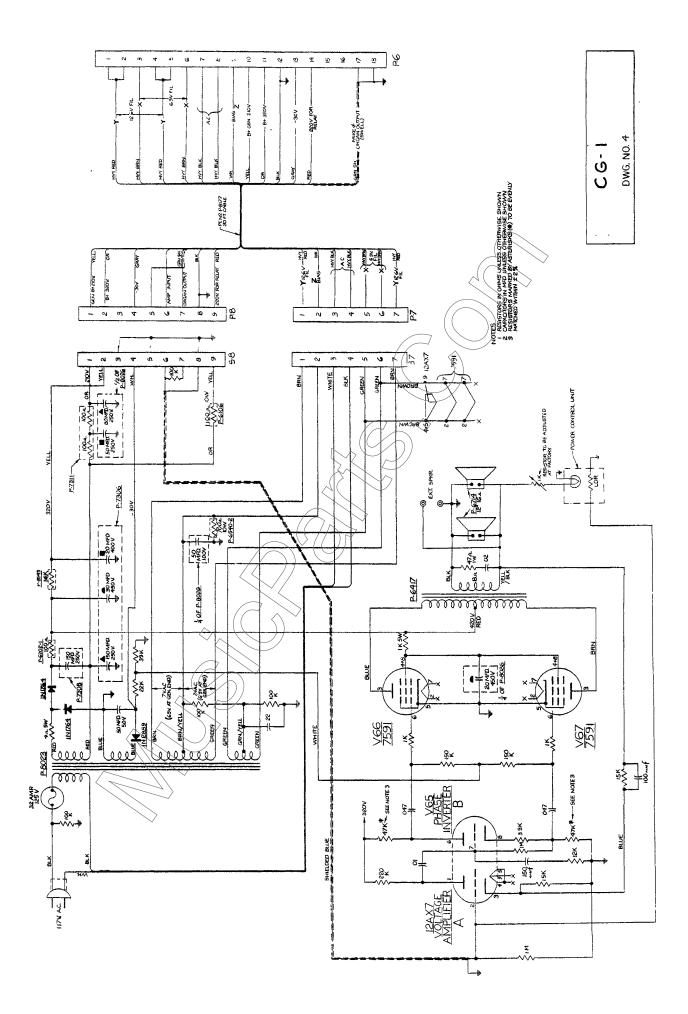
BEFORE SERIAL No. 2000

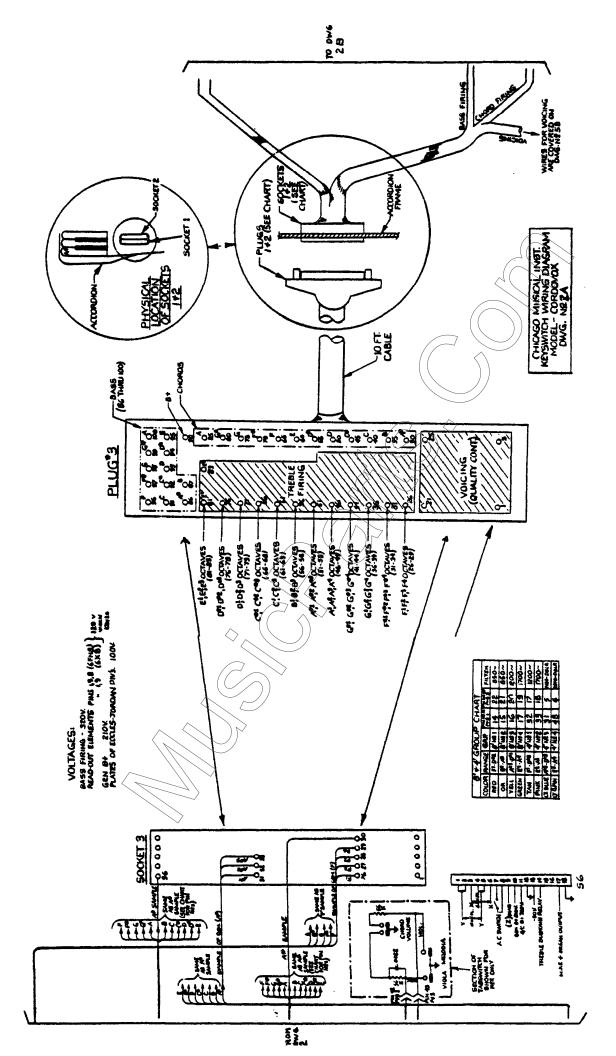
BEFORE SERIAL No. LOOD					
]			IG TO FLUE CONNE		
		THE RE	PUNCTION	AUC Z	PRINT
-		ĒĒ	CONC. TELEVI CONC. - BE VOCE CONC. HAR OF MENT. - BAN VOCE		
-			CHE BUN OF MEN		
-		EL.			
					<u>8</u>
7			Tel Age		-
			STRACT BASE (TOPAL)		-11-
-					
-		EA-			
	(
-	(F\$P	ALLEND GAN		-11-
7			PICCOLO ANY P		
7	\frown	69			間
7					日日
7					
1	\sim		MILDBIOH Acconcion musit		Li
4	$\langle \rangle$		P1 H		
-		-4	75 4	×.	
2					
		FJH		F	
			24		
-			CHORD		
_					
			E	-	
1					
-				4	
-			CN DOM	- 31-	
-					
				6	
-					
-					
-					
		1	FRANCE		
-		-12		R	
-		ł	T		
-		E P	CHORD CHORD	Er	
_		⊢:Į	<u> 8 - 11 </u>		
_		H			
				F	
-		口体	1 211 li	E	
-	1		ST WAR	1	
-	1			1 Ö	
	ł	131			
_	}	14			
	}	谋	834 #	1	
-	1			1	-10
-]	1 II	Ge CHORD		
]	日	- B		
	}	1	A 01010	1	
_	}	137	A CHOND A STA BASS (MOAL STA AAS (ABAS		
F	}				+1
_	1		C ATR BARSTPHOPA		1-1-1
				1	Ħ
			Re H H		1 17 1
	ר	L¥		1	
,	1			1	
1	1	-33		-	
	ĩ	S. SEL			

.

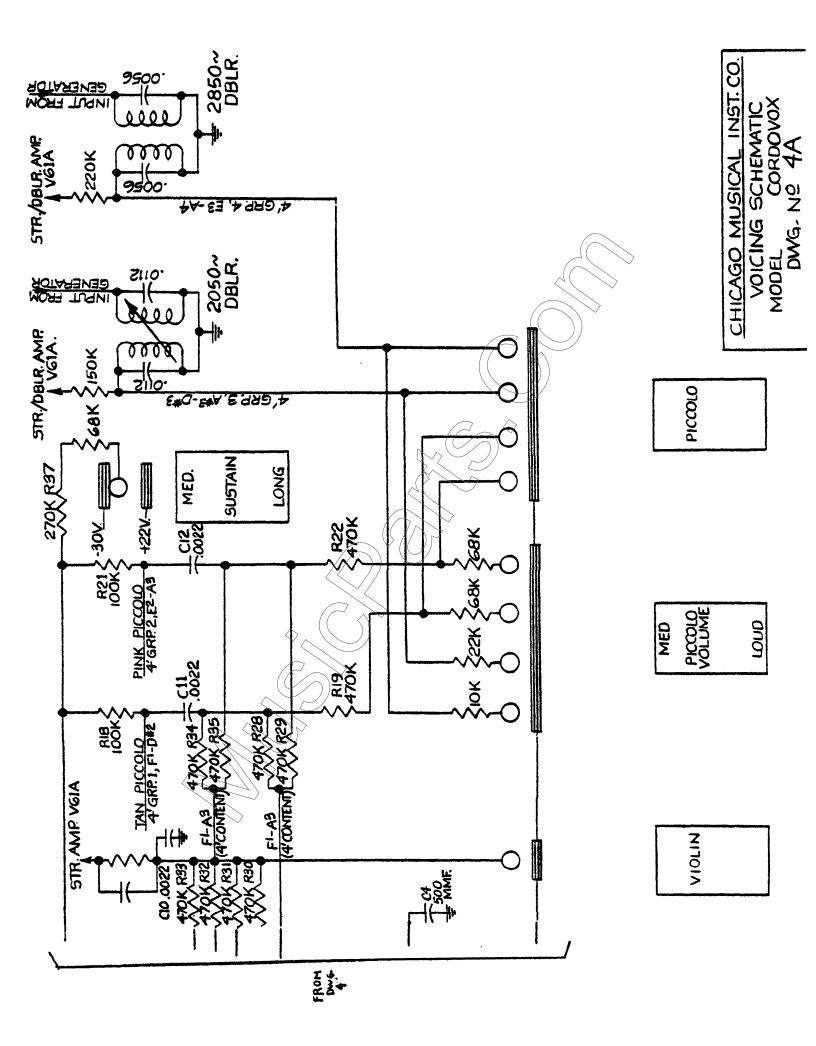


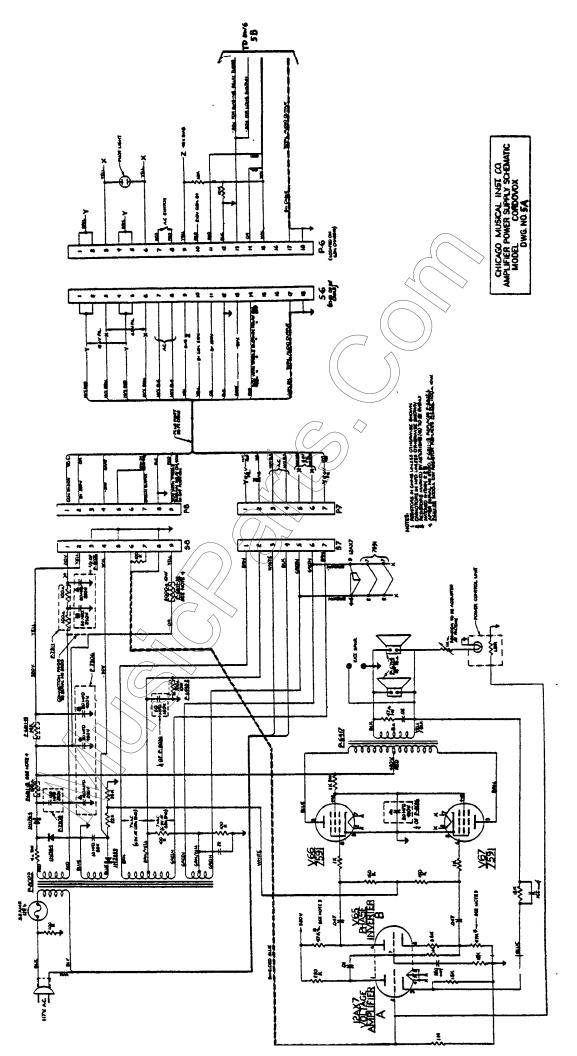


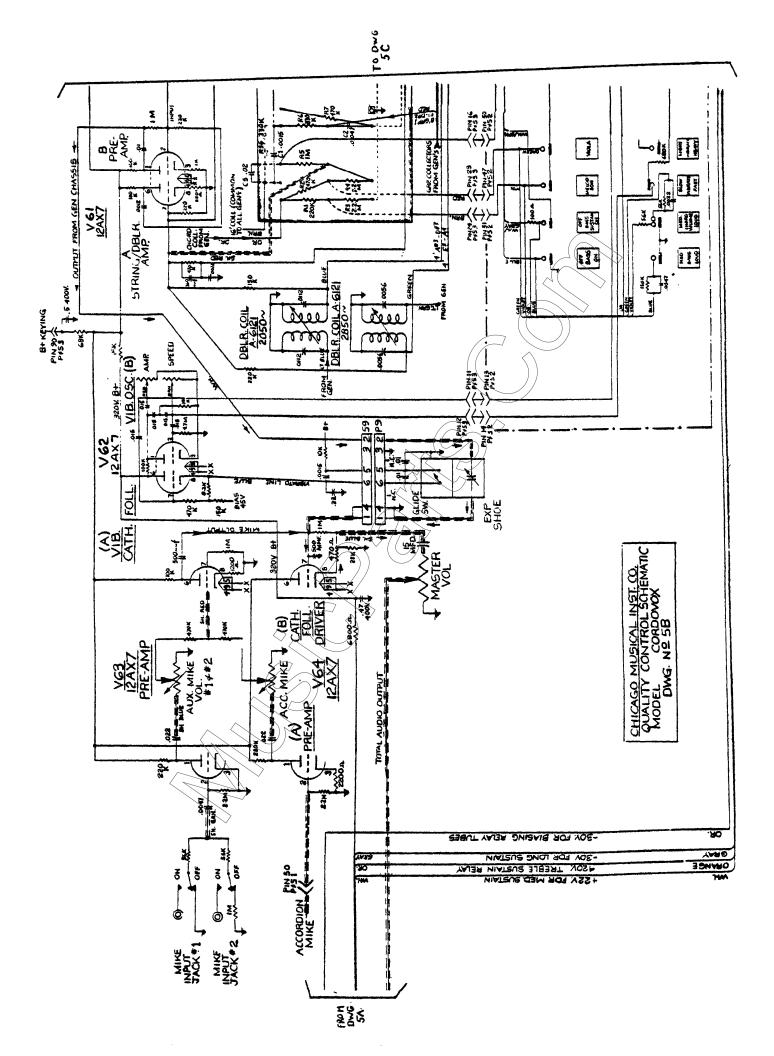


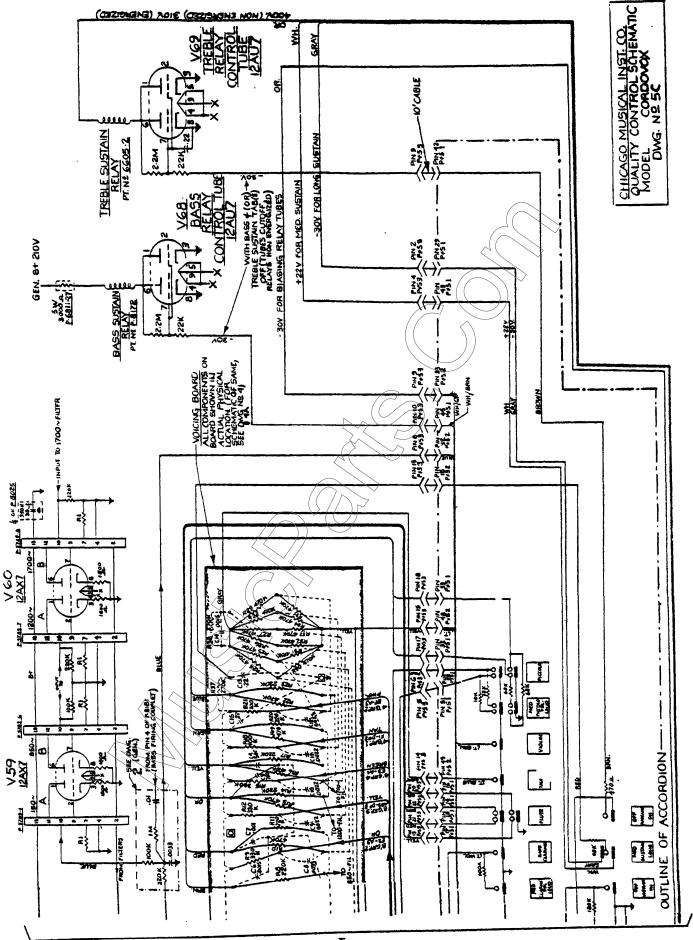


0 6 ' C 0 6 ' C

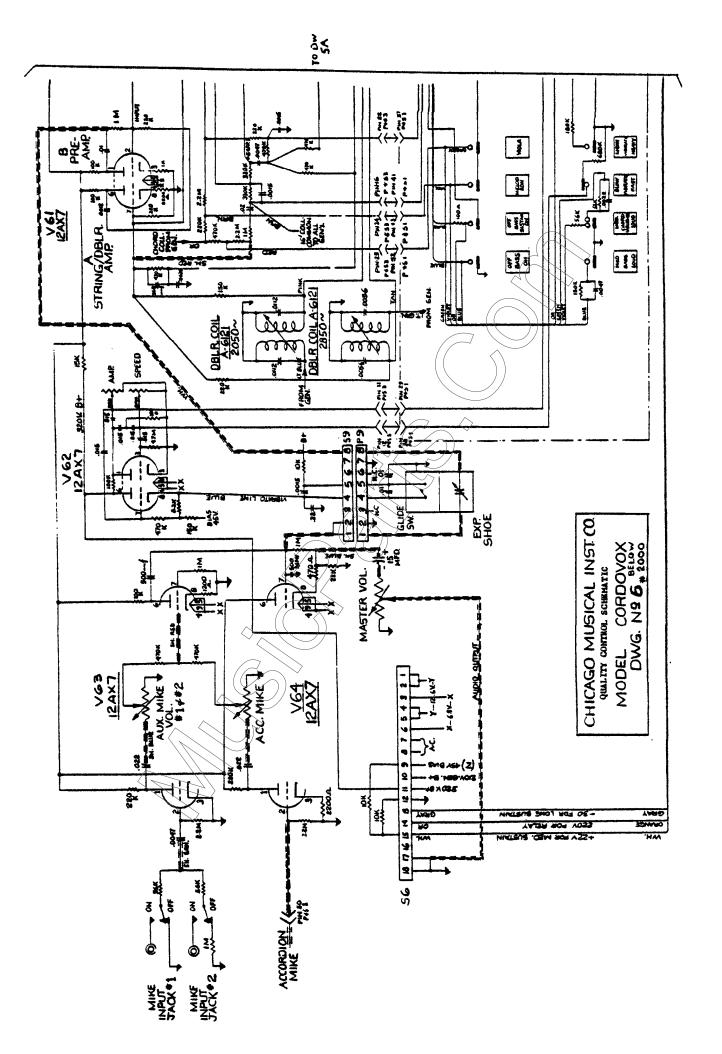


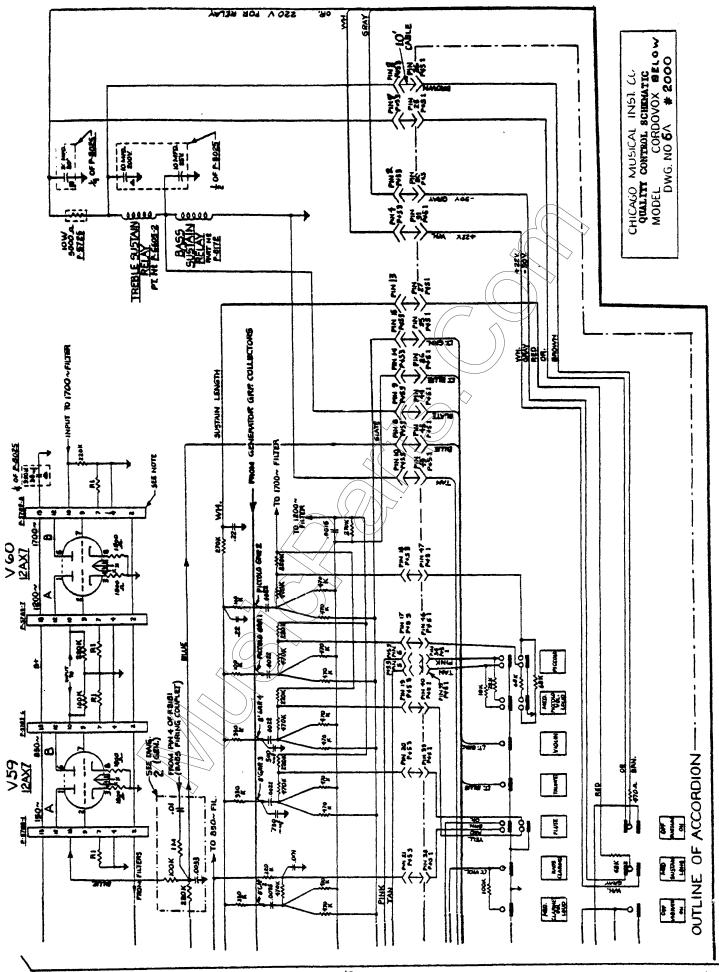




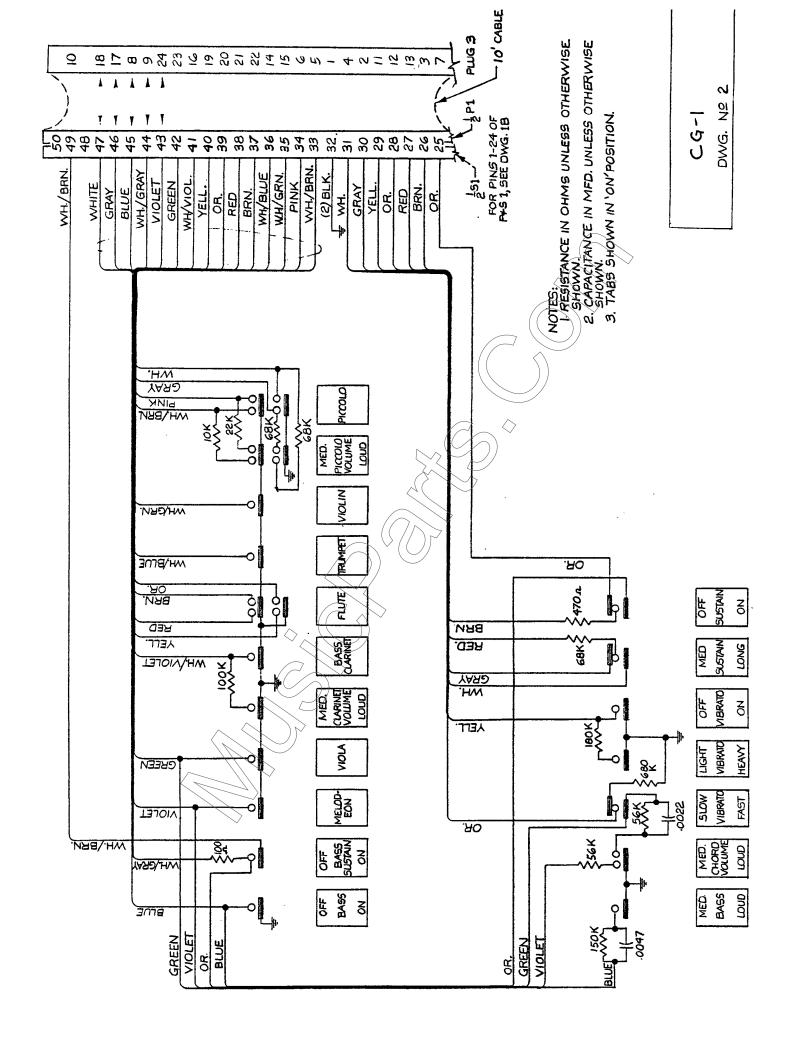


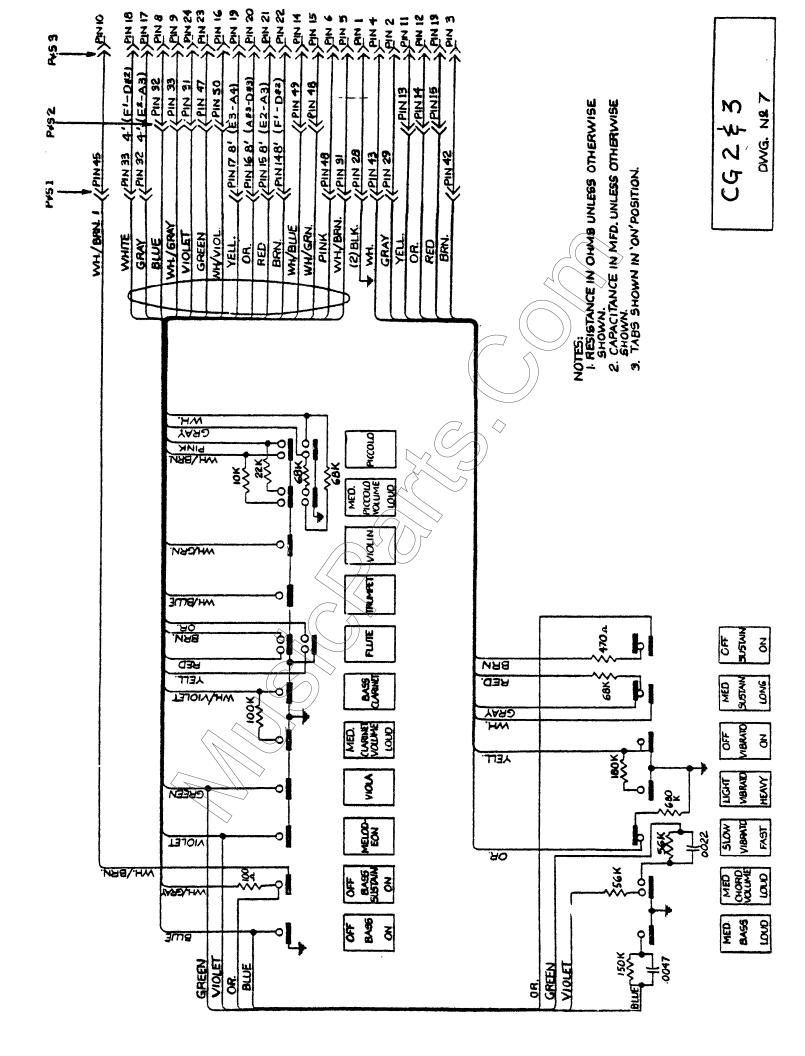
FROH Dwe. 5B

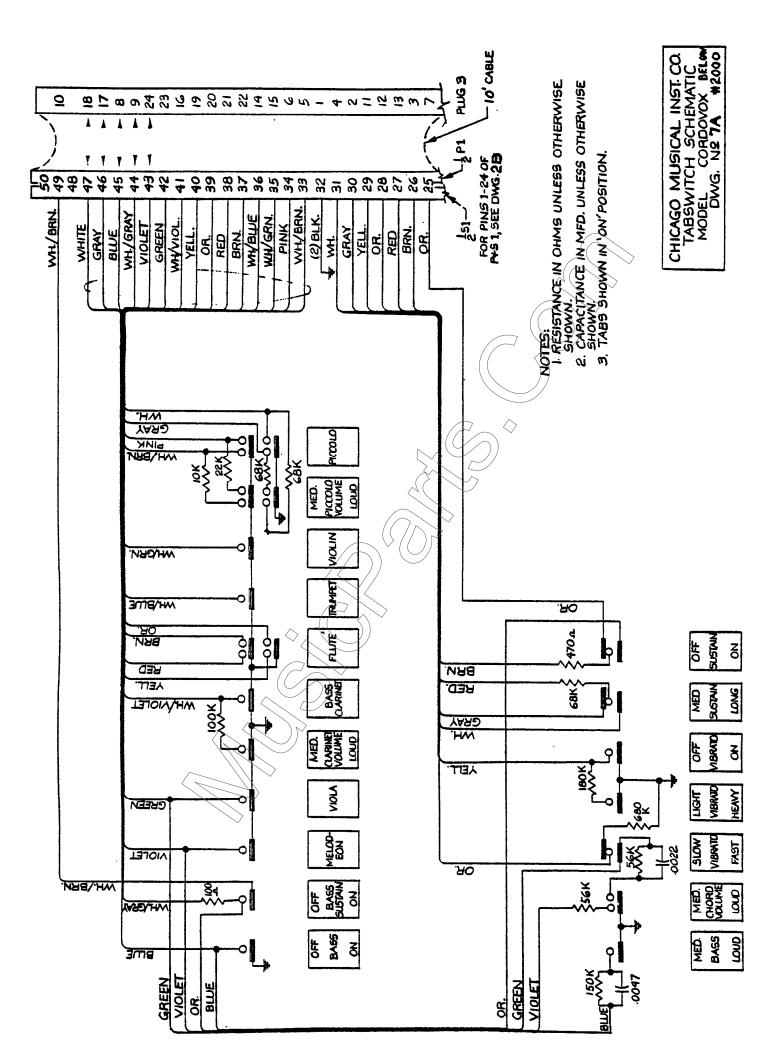


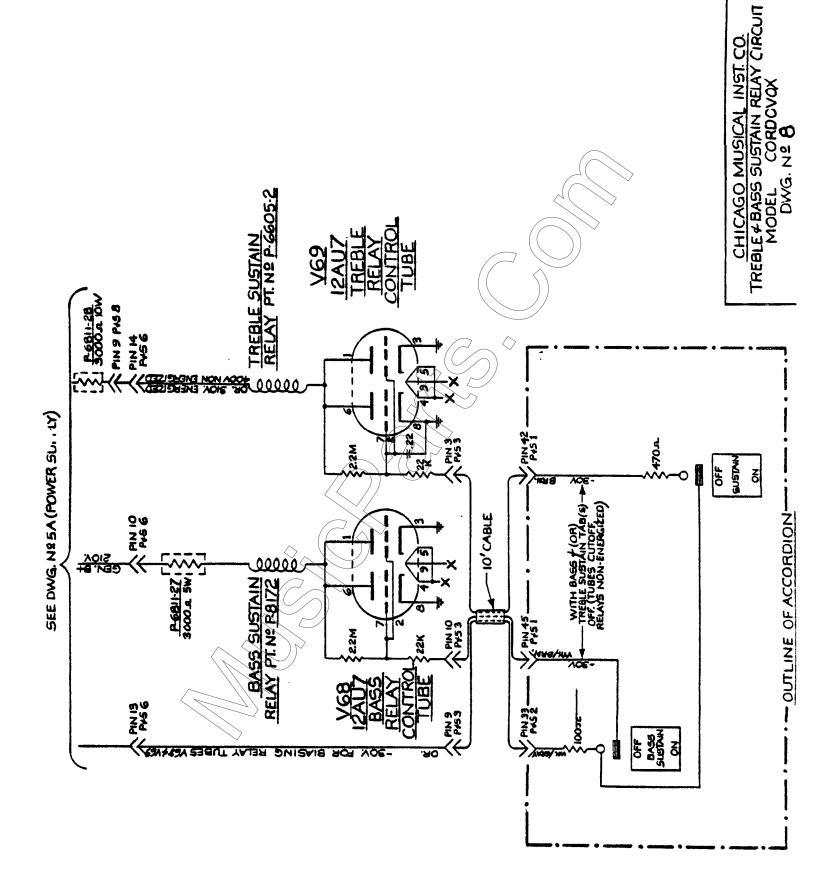


PROM DVG.5









ELECTRICAL INFORMATION

CHECK LIST

for proper operation of your cordovox

from Cordovox becomes inoperative or does not function properly, first follow this simply step-bystep Check List before calling for service.

1. Make certain that the line cord is plugged into a live AC outlet. Make sure the walt receptacle is not faulty: Hum from the speaker may be reduced by reversing the line-cord plug in the walt outlet. Generator should be plugged into accordior. Make sure that amplifier is plugged into generator chassis. Expression shoe should be plugged into generator chassis.

2: Be sure the "Off-On" switch is on. Pilot light will indicate this, but as pilot lights occasionally burn out, look in back to make certain tubes are lighted.

3: FUSE: There is one fuse for the entire Cordovox. If neither pilot light nor any of the tubes is lighted, check for blown fuse in back of speaker-amp cabinet. Fuse is easily removed. Turn fuse insert counter-clockwise until it comes out; it can then be pulled from the insert and a new one installed. CALIFION: Use only 3.2 Amp "Slow-blo," Type 3 AG fuse.

* At least one white voice tab must be "on" be fore the trable keyboard or chord buttons will play.

5. The Foot Pedal must be depressed to bring up volume. (Master volume should be turned up.)

6. If all of the above have been checked and operation is still not normal (and you are sure all the tubes are in tight), there may be a faulty tube. Read the following pages which contain information on tube replacement or call your dealer for service.

75 The name plate containing serial number of your Cordovox is located on the back side of each case. Include serial number in any correspondence.

tuning

Cordovox electronic circuits are very stable and the positively locked oscillator system was carefully tuned at the factory. However, if a special use requires a change in pitch of the entire organ, such as playing with a piano or other instrument not using the standard A-440 pitch, this can be accomplished in a few minutes with the Cordovox. We recommend that you contact your Cordovox dealer for this service.

Master Volume Control located on the tone generator chassis (see Figure 1, last page) is used to set the volume to suit the room playing conditions. (i.e. size, absorption, etc.) To reduce volume turn clockwise.

Never plug the Cordovox into a DC Outlet—Damage May Result. The line cord from the rear of the Amplifier MUST BE PLUGGED INTO STANDARD 110-120 Volt AC LINE. (If the power supplied in your area is other than 110-120 Volt AC, 50-60 cycles, be sure there is a notice on the back of the Generator that corresponds to your special power requirements.) Normal voltage fluctuations won't affect your Cordovox, although regulation by your electrician may be required if voltage goes above 125 or below 100 volts.

The power amplifier consists of two push-pull 7591 tubes. Two 12⁴ heavy duty speakers are used.

tube replacement

Past experience has shown us that although many purchasers of Cordovox have no technical understanding of the vast field of electronics, they are able to replace a defective tube. So, this material has been prepared for those who know something of the subject.

There are only four different types of tubes in the Cordovox. They are standard tubes which can be purchased from any radio or TV repair shop.

tone generators

After opening the back of the Generator Cabinet, you will see a large chassis containing the 58 tone generator tubes. (See Figure 1.) This chassis is divided into twelve sections, each of which produces the family of tones indicated by the stamping next to the square metal can. Since, for the purpose of this discussion these twelve sections are all the same, we will consider only one.

The tube which produces the highest tone for a family of notes is in the V-1 socket closest to the metal can. (Note: Although type 6X8 is used in V-1 sockets, type 6FA7 can be used as a replacement.) The next tube in the V-1 socket is locked to it and produces the tone exactly one octave lower.

The tube farthest from the tuning coil (in the V-3 socket in the case of the F generator only) is locked to the second and produces the lowest tone of the keyboard. Thus, if the tube nearest the can (V-1) becomes faulty, not only the tones produced by it but also the lower octavely related tones will be faulty too.

Here's how to find a faulty generator tube. Turn on the Clarinet and the Foot Pedal to full volume. Play all the keys in succession starting at the lowest note on the keyboard proceed upward listening carefully for the first defective tone. Be sure this is the highest defective tone on the keyboard.

To locate the faulty tube, refer to the keyboard chart (Figure 1) and determine in which of the three groups of keys the highest faulty tone is produced. If it is V-1, the tube is nearest to the metal can in that generator section. V-2 is in the middle of the group and V-3 (in the case of the F generator only) is farthest from the metal can.

NOTE: It is impossible to catalogue the many various effects which can result from a "defective" tube. The word "defective" merely indicates no sound at all or some sound other than that which should be obtained. For example, the tone could be off pitch or could even be an octave too high.

For example, let us assume that you have determined that the tube (V-2 socket) in the G generator is faulty. To check this, remove this tube and exchange it with the (V-2) tube. If the adjacent generator is operating properly, it can be used for testing. Now all G notes should operate properly, but the highest faulty tone will be in the generator section where the previously determined faulty tube has been placed. Remember, use either 6FA7 or 6X8 in V-1, and 6FH8 only in V-2 and V-3. 6X8 in V-4.

Hint: Sometimes a tube may produce a tone which plays quietly at all times even when no key is depressed. Determine the family of the "leaky" tone and pull out the generator tubes from this section one at a time, starting with the one farthest from the tuning coil. The first tube which silences the tone when removed, is the one that requires replacement.

You have now learned how to locate a faulty tube anywhere in the group of fifty-eight tubes in the tone generator chassis. If this method does not disclose a faulty tube in the generators, contact your dealer for service.

quality control section

Next, let us consider the Quality Control. This is to the right of the tone generators and to the right as you face the rear of the Cordovox. It contains six (6) tubes. The six tubes have a variety of functions. When one of these fails, substitutions can be made to locate the faulty tube. Several types of faults are covered below to help you find the defective tube.

group of notes

Depending upon the tabs used, if an entire keyboard does not respond or if a group of consecutive keys produces no tone or a defective tone, the faulty tube in all probability is in the sockets V-61, V-63, or V-64.

Temporarily substitute a new 12AX7 tube in V-61, V-63 or V-64 until the fault is corrected. The tube last removed is probably defective.

vibrato

If the vibrato becomes defective on all notes of the Cordovox, the offending tube could be V-62. It may be exchanged with V-61 for testing. Then, if faulty, it will produce certain defects on the keyboard and should be replaced.

If the vibrate is defective on only one family of tones (all F's or all G's), the tube in V-1 of that generator may be faulty. Exchange it with the tube in V-1 of another generator for testing. If the vibrato is still faulty, replace the tube.

noises, dead or weak (all tabs)

V-61 tube in the Quality Control is an amplifier for string tones but also is an amplifier for all treble and bass tones. Exchange this tube with V-62 and if the keyboard plays connectly, except for vibrato, the tube now in V-62 is defective.

amplifier-power supply chassis

The Amplifier-Power Supply Sections are incorporated in the tone cabinet; the tubes for these circuits are 7591 and 12AX7. A defective tube here will affect the entire Cordovox rather than any particular group or group of keys.

noises, dead or weak

To check 12AX7 replace it with a new 12AX7 tube. 7591's are the power output tubes. Since they work together, test these tubes by trying a new tube in each of these sockets.

1N1764 Diodes are used as a rectifier and since two of these are used in the instrument a test would have to be made with new diodes.

fuses blown

If the fuse blows, in all probability a diode is at fault. However, there is always the lesser possibility that either 7591 tube in the amplifier section could be causing the trouble.

PARTS LIST

This parts list contains a list of the commonly used parts found in all CORDOVOX instruments, tube type only.

This list does not contain such standard items as hardware that may be purchased locally.

PARTS ORDERING INSTRUCTIONS

All parts orders should include the following informations

- 1. Model and Serial Number
- 2. Part Number
- 3. A description of the part
- 4. Specify how you want the part shipped

In the event that you are unable to locate a part number, your order should include a complete description of the part together with the physical location of the part in the Instrument in order to avoid delays.

IMPORTANT					
USE	PART	NU	BERS	TO	ENSURE
THE	FAST	kst	POSS	THIN	i Pro-
CESS	ING	OF	TOUR	ORDE	R.

MOOG MUSIC INC.

2500 WALDEN AVENUE BUFFALO, NEW YORK 14225 (716) 681-7242

- - ---

TABLE OF CONTENTS	PACE
GENERATOR ASSEMBLY	
KEYSWITCH ASSEMBLY	
TABSWITCH ASSEMBLY	
AMPLIFIER CHASSIS	
EWELL PEDAL ASSEMBLY	

•

GENERATOR ASSEMBLY

0		
Capacitor	Disc Ceramic .0047 mfd. 500v 10%	
Capacitor	Disc Ceramic .0068 mfd. 500v 10%	
Capacitor	Disc Ceramic .01 mfd. 500v 10&	
Capacitor	Disc Ceramic 360 mmfd. 500v 10%	
Capacitor	Disc Ceramic 750 mmfd. 500v 10%	
Capacitor	Disc Ceramic .0012 mfd	
Capacitor	Disc Ceramic .0015 mfd	
Capacitor	Disc Ceramic .0022 mfd	.947-008119-22
Capacitor	Electolytic 15 mfd. 50v	.945-008114
Capacitor	Mylar .22 mfd. 400v 10%	.946-005409
Capacitor	Mylar .015 mfd. 400v 10%	
Capacitor	Mylar .015 mfd. 400v 10%	.946-005872-4
Capacitor	Polystyrene .015 mfd. 200v 10%	.946-008492-3
Capacitor	Polystyrene .018 mfd. 200v 10%	
Capacitor	Polystyrene .022 mfd. 200v 10%	
Capacitor	Polystyrene .027 mfd. 200v 10%	
Capacitor	Polystyrene .033 mfd. 200v 10%	.946-008492-7
Cable	Firing. Indicator Assembly. Control Volume Mike #1	.986-008144
Light	Indicator Assembly	.939-008182
Knob	Control Volume Mike #1	.915-008089
Knob	Control Volume Mike #2	.915-008089-1
Knob	CONFLOT AOTOME	-313-000003-2
Coil	Doubler	.953-006121
Network	Firing (A# to A) Firing (F to A)	.949-0081 38
Network	Firing (F to A)	.949-008139
Network	Firing (A# to E)	.949-008140
Network	(Bass Keying).,	.949-008181
Network	Filter 150 cycle	.949-005789-1
Network	Filter 850 cycle	.949-005789-6
Network	Filter 1200 cycle	.949-005789-7
Network	Filter 1700 cycle	.949-005789-8
Network	Divider	
Network	Divider	.949-008115-1
Network	Divider	
Network	Solo Firing	
Lamp.	<i>\$</i> 50 (3 ,,,,.,.,.,.,.,.,.,.,.,.,.,.,.,	
Lamp 🔨	Neon GE #NE23	
Potentiometer	20K	.925-008171
Potentiometer		
Resistor	Variable Dual	
Socket	6 Pin	
Socket	Standoff (100) contact	
Sustain	√ Bass Relay	
Sustain	Relay	
Switch	A.C	
Resistor	1500 Ohms 5W 10%	.924-006811

PART DESCRIPTION

GENERATOR ASSEMBLY

Tubes	8
Tubes	1
Tubes	U7
Tubes	X7

KEYSWITCH ASSEMBLY

TABSWITCH ASSEMBLY

Spring	Contact
Spring	Toggle
Pusher	

AMPLIFIER CHASSIS

.

Capacitor	Electrolytic 50 mfd. 50v	.945-005501-1
Capacitor	Electrolytic 30 mfd. 450v;20 mfd 400v;150/	250v 945-007306
Capacitor	Electrolytic 150 mfd 250y	
Capacitor	Electrolytic 20/450,50/250,80/250,50/100.	
Cord	Power	
Diode		
Diode	Silicon	-919-007776
Fuse	Slo-Blo 3.2 Amp.	-939-008116
Fuse	Slo-Blo 3.2 Amp Holder	-906-008121
LDR	Light Dependent Resistor	_LDR 500
Resistor	100-100 Ohm W	.924-006811-6
Resistor	1000 Ohm 5W	
Resistor	100 Ohm 5W,	
Resistor	880 Ohm 10W	
Resistor	14K Ohm 10W	
Resistor	3K Ohm 5W	
Resistor	Mtg. Bracket	
Resistor	Mtg. Bracket	967-006814
Socket	2 Rin Speaker	
Speaker	12"	985-006714
Transformer /	Output)	
Transformer	Power	954-008023
Cable	Power & Signal Assembly	994-003653
Cable	Power & Signal	986-008177
Plug	7 Pin	
Plug	9 Pin	910-005110
Socket	7 Pin	
Socket	9 Pin	906-002116

SWELL PEDAL

Bearing	Nylon	
Bearing	Rod	••••••974-007325
Cable	Swell Pedal	
Capacitor	Strip (Copper Alloy)	
Capacitor	Ceramic Strip	
Mat	Swell Pedal	•••••••••••••••••••••••••••••••••••••••
Spring	Swell	
Socket	Cap Type (18 contacts)	
Switch	Glide	

 \bigcirc