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Technical Document Distribution

Brand:	Mu-Tron
Model	C-200 Vol-Wah
Product:	Pedal
Description:	Schematic

Musicparts Document Number: 38353 TechTips: No Pages: 7 Dated: 1979

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MU-TRON VOL-WAH



OPERATING INSTRUCTIONS

The Mu-tron C-200 Volume-Wah Pedal represents a new standard in musical effects pedals in mechanical and electrical performance. It provides a level of quality and reliability unmatched in the music industry, and is designed to give you many years of trouble-free service and flawless performance.

DURABILITY

The C-200 makes use of technical advances in the electro-optical and electro-mechanical field. The pedal action is a specially designed, spring loaded device which provides a smooth and consistent action that will never need adjustment. The electro-optical system (which replaces the potentiometer usually found in pedals) is controlled by a special stabilization circuit which assures consistent performance under all external light, temperature and environmental conditions. No other pedal available has these features.

OTHER UNIQUE FEATURES

For the first time in the industry, both volume and wah effects are available separately or as a combined function (both at once) on the C-200. LEDs (light emitting diodes) tell at a glance what's on and what's not.

The Mu-tron C-200 also features the option to change the overall gain of the pedal output in both effect and by-pass modes. A small slotted shaft located on the side of the pedal allows the player to choose any degree of gain from unity (as is from instrument) to a minimum boost of 6db. The gain level is set by the player with a screwdriver. These significant advances in concept and design, together with the clean, wide range of the WAH effect itself, are making the C-200 the only choice for many professional players.

CONTROLS

Designed for the working musician, the C-200 is easy to use and understand.

POWER SWITCH: The on-off switch, located on the back panel, will cause the LEDs on the front panel to light up when the functions have been selected.

PEDAL POSITION: For the pedal mechanism itself, the heel-down position creates essentially "zero" volume, and/or the "wah" at the "closed" portion of the cycle. As the pedal is pressed towards the toe-down position, the volume increases towards a maximum, and/or the WAH increases towards the "AHH" or "open" part of the effect. Because the tension on the foot pedal is scientifically applied, the pedal will "stay put." The C-200 will not slip or snap back into an arbitrary rest position.

GAIN BOOST POTENTIOMETER

After plugging the C-200 into the wall socket (110–120V AC), check the unit's gain. If more signal is desired, adjust the gain control potentiometer clockwise. If the pedal is over-boosting your instrument's signal, causing undesired distortion, adjust the control counterclockwise. This master gain control varies the gain of the internal preamplifier from unity to the maximum available. The boost control is not affected by the footswitch or pedal positions.

SPECIFICATIONS

Input Impedance: 395k ohms
Output Impedance: 556 ohms
Output Levels: Adjustable
Power Requirements: 110VAC, 60Hz



SN 034

SERVICE NOTES

Mu-tron

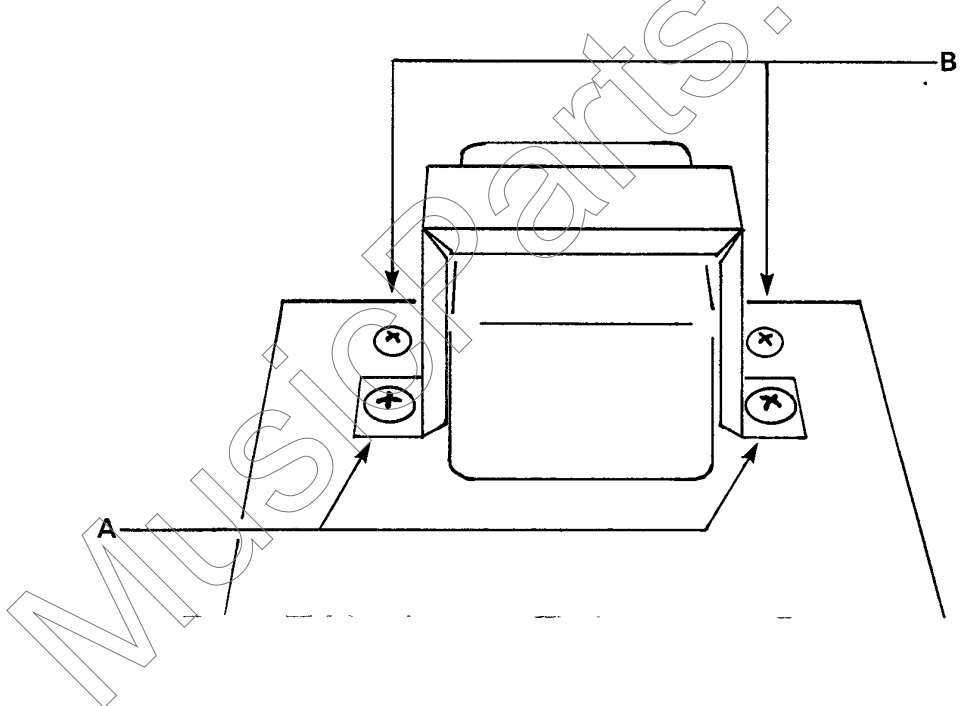
MODEL: VOL-WAH Pedal DATE: November 7, 1979

SUBJECT: 60 Hz HUM

SYMPTOM: 60 Hz hum in output of Vol-Wah Pedal.

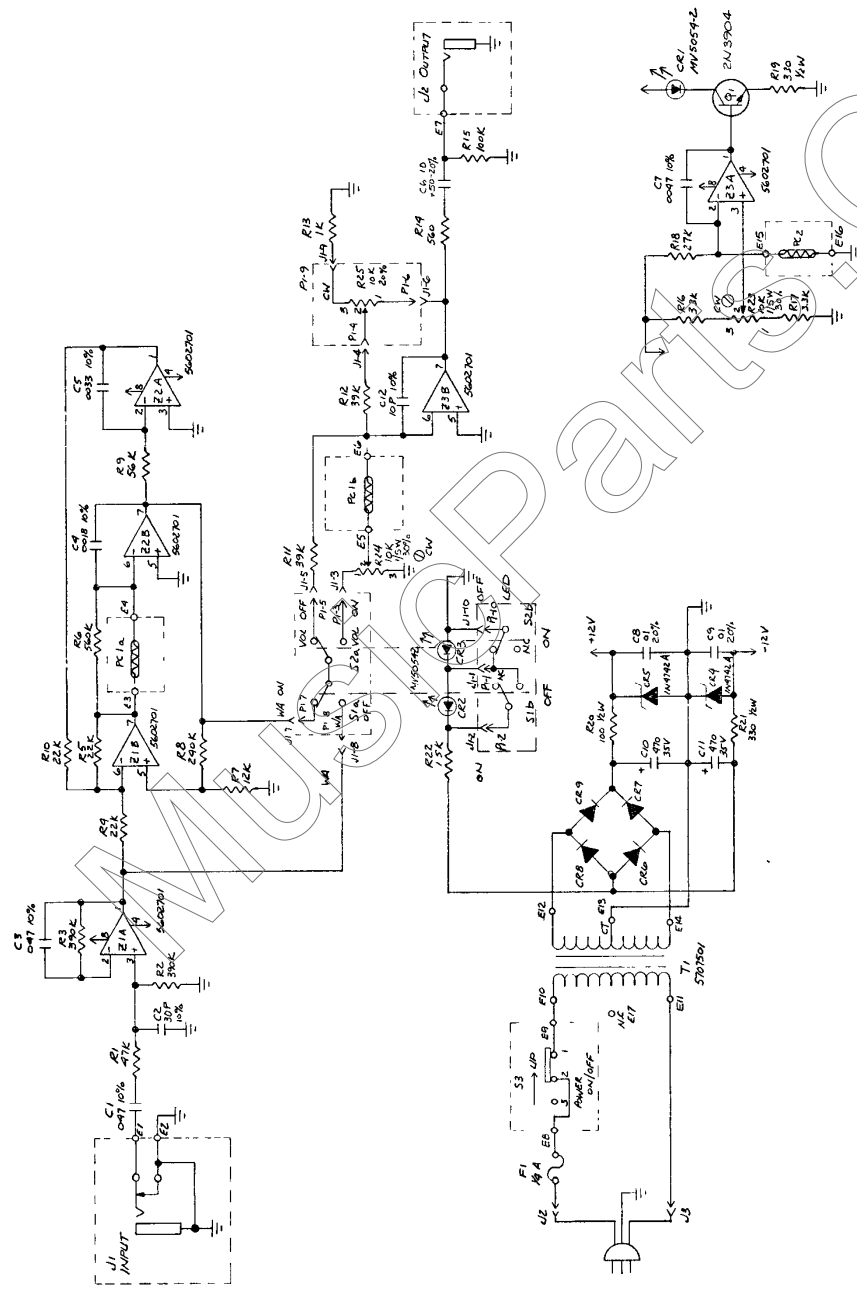
CAUSE: Transformer mounting screws long enough to contact chassis, eventually wearing through the paint and setting up a ground loop.

SOLUTION: Reverse the transformer mounting screws (A) with the shorter board mounting screws (B).



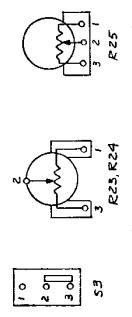
REV	DESCRIPTION	DATE	APPROVED
1	DESIGN	2-7-78	L.M.

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NOTES
 1 UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.
 2 ALL DIMENSIONS ARE IN INCHES.
 3 CONVENTIONAL USED FOR SUPPLY TOLERANCE.

↑	IMPRES + 12V
↓	IMPRES - 12V



BASE VIEW LOOKING TOWARD TERMINALS

REV	DATE	BY	CHKD	APPV
1	2-7-78	L.M.		

DATE	SCALE	SHEET	OF
2-7-78	1:1	1	1

BARR INSTRUMENTS, INC.

SCHAUMBERG, ILL. 60196

MODEL: 77203

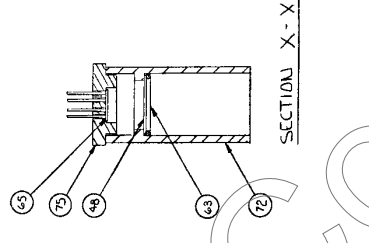
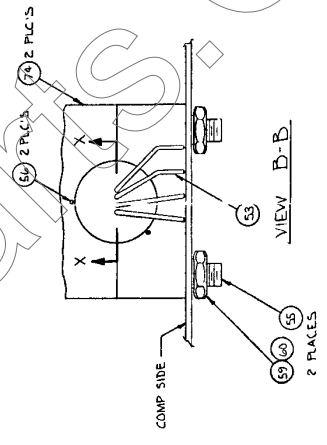
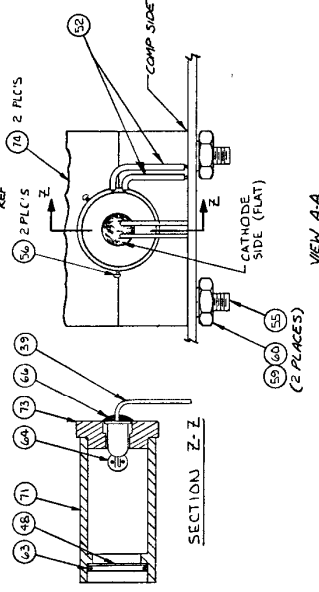
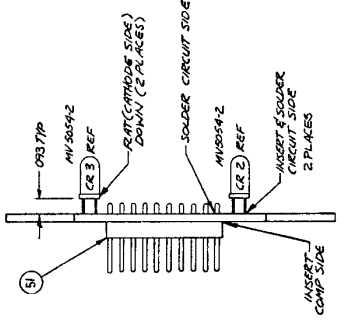
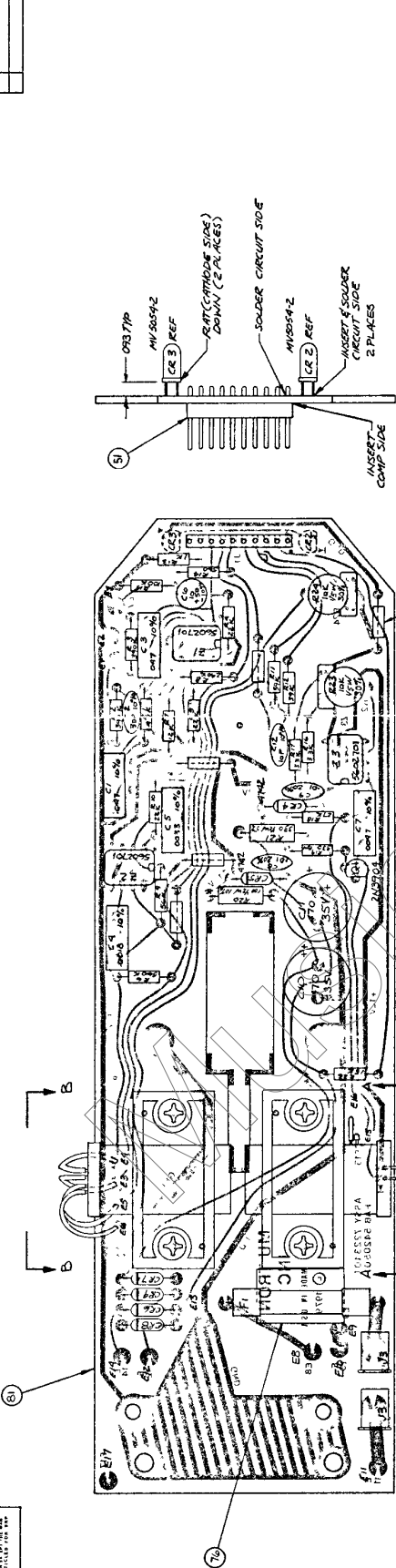
TITLE: SCHEMATIC, P.C. 810

DRAWN: D.C.J. / 4-77

CHECKED: D.C.J. / 5-77

APPROVED: L.M. / 2-7-78

REVISED		DATE	APPROVED
A	PROG. REL. C100	2-2-62	J.C.



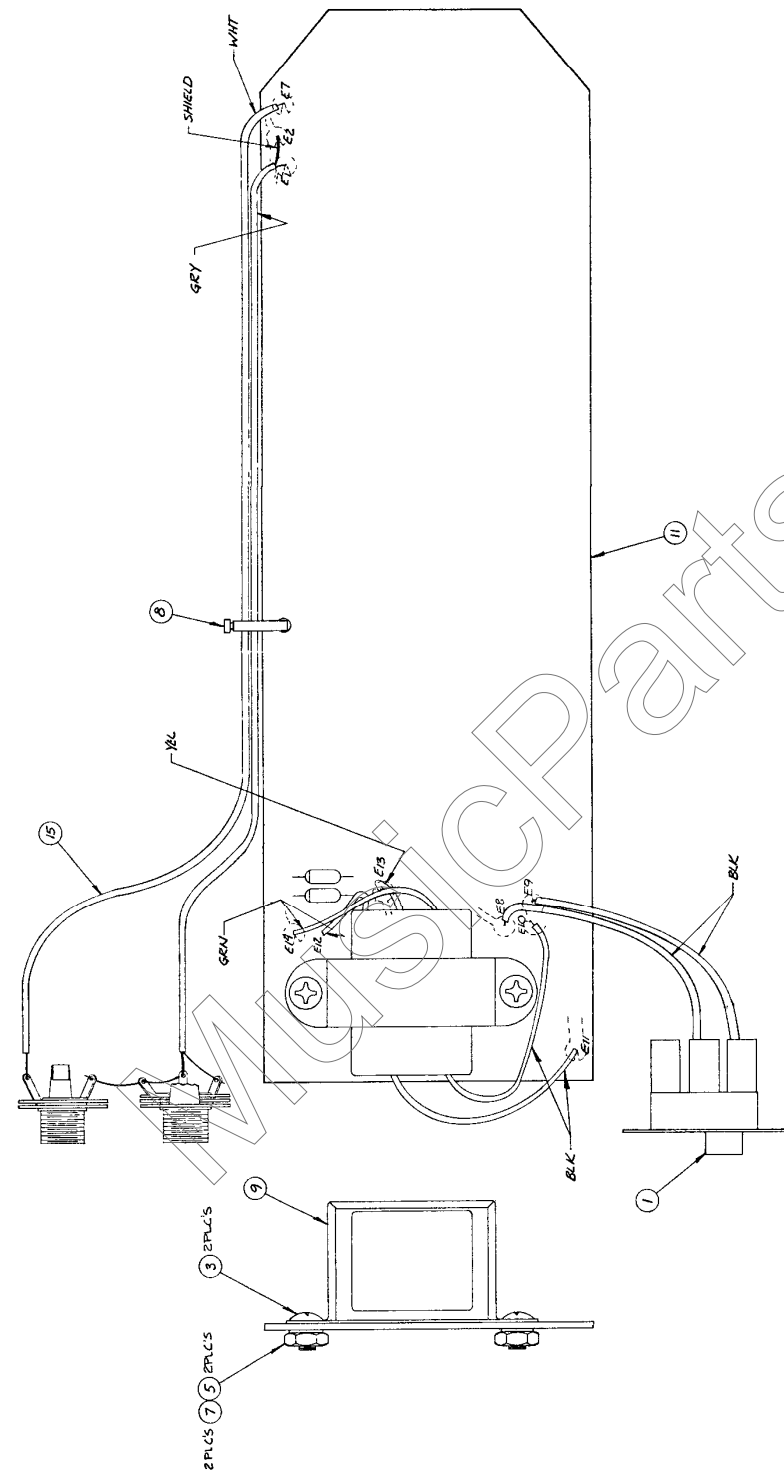
- NOTES
- 1 UNLESS OTHERWISE SPECIFIED DIMS IN INCH
 - 2 ALL DIMENSIONS ARE IN INCHES
 - 3 ALL CAPACITOR VALUES ARE $M\pm P$ (MICROFARADS)
 - 4 ALL DIODES ARE 1N4002
 - 5 BOW TIE SHAPE PIN 1 & ITS DIAGONAL COUNTER PART
 - 6 FINISHED ASSY TO BE FREE OF EXCESS FLUX
 - 7 FOR LIST OF PARTS, SEE PL 7223401

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REVISED		DATE	APPROVED
A	PROG. REL. C100	2-2-62	J.C.

ART. PART NO.	7223401	INSTRUMENTS	ARP INSTRUMENTS INC
DATE	PL 751530Y	TITLE	PC BOARD ASSY SEMI-FINISHED C-200
MATERIAL		DATE	
FINISH		BY	
		DRWING NO.	72234
		SCALE	2 X
		SHEET	1 OF 1

REV	DESCRIPTION	DATE	APPROVED
A	PROD. REL. 500	3-1-77	ZC



APP. PART NO.	DESCRIPTION	WHERE USED
7235801	220V TERMINATED	PC 7235803
7235803	120V CSA CA	PC 7235803

NOTES:
 1. ALL WIRES SHALL BE INSERTED COMPONENT SIDE OF SOLDER CIRCUIT SIDE.
 2. FOR PARTS LIST, SEE TABULATION.

UNIT OF MEASUREMENT	QUANTITY	DESCRIPTION	DATE	BY
PC	1	PC 7235803		
PC	1	PC 7235801		
PC	1	PC 7235802		
PC	1	PC 7235804		
PC	1	PC 7235805		
PC	1	PC 7235806		
PC	1	PC 7235807		
PC	1	PC 7235808		
PC	1	PC 7235809		
PC	1	PC 7235810		
PC	1	PC 7235811		
PC	1	PC 7235812		
PC	1	PC 7235813		
PC	1	PC 7235814		
PC	1	PC 7235815		
PC	1	PC 7235816		
PC	1	PC 7235817		
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PC	1	PC 7235897		
PC	1	PC 7235898		
PC	1	PC 7235899		
PC	1	PC 7235900		



MU-TRON, Incorporated
45 Hartwell Avenue
Lexington, Massachusetts, 02173
Telephone: 617/861-6000

C-200 PEDAL

REFERENCE	ARP PART NUMBER	ARP/MFG NUMBER	DESCRIPTION
R23,24	1001602	U260R103B	Pot, Rotary Trimmer 10K
CR4,5	1201901	1N4742A	Diode, Zener 12V
CR1,2,3	1202002	MV5054-2	Diode, Light Emitting, Red
CR6,7,8,9	1202101	1N4002	Rectifier, 100V
Q1	1302901	2N3904	Transistor, NPN
F1	1701101	GJV-1/4	Fuse, Pigtail, Normal Blow, 1/4A
-	1800801	H-1	Bi-convex lens
PC2	2602601	P201-14	Photo Resistor, single
PC1	2602701	P1109	Photo Resistor, dual
Z1,2,3	5602701	1406401	Dual Op Amp, Sel. (RC4558NB)
-	1904301	GF-323	Slide Switch, SPST
-	5707301		Power Transformer, 117 VAC

Please order parts by ARP part number.