

INSTRUCTION MANUAL

SW-5B AUDIO SWITCHER



BROADCAST ELECTRONICS INC. *Spotmaster*[®] TAPE CARTRIDGE SYSTEMS

a **FILMWAY** company

IMPORTANT INFORMATION

EQUIPMENT LOST OR DAMAGED IN TRANSIT

When delivering the equipment to you, the truck driver or carrier's agent will present a receipt for your signature. Do not sign it until you have (a) inspected the containers for visible signs of damage and (b) counted the containers and compared with the amount shown on the shipping papers. If a shortage or if evidence of damage is noted, insist that notation to that effect be made on the shipping papers before you sign them.

Further, after receiving the equipment, unpack it and inspect thoroughly for concealed damage. If concealed damage is discovered, immediately notify the carrier, confirming the notification in writing, and secure an inspection report. This item should be unpacked and inspected for damage WITHIN 15 DAYS after receipt. Claims for loss of damage will not be honored without proper notification of inspection by the carrier.

TECHNICAL ASSISTANCE AND REPAIR SERVICE

Broadcast Electronics, Inc. has supported its products with factory technical service since 1959. In addition to a technically qualified Customer Service Department at its factory, a coast to coast network of "Spotmaster Parts and Repair Service Centers are available to assist you.

SERVICE CENTERS

Technical assistance is available by letter or prepaid telephone or telegram from Broadcast Electronics or the franchised parts and repair Service Centers shown on the outside back cover of this manual. Equipment requiring repair or overhaul should be sent by common carrier, prepaid, insured and well protected. Do not mail equipment. We can assume no liability for inbound damage, and necessary repairs become the obligation of the shipper. Prior arrangement is necessary. Contact Customer Service Department or the nearest repair depot for a Return Authorization.

FOR TECHNICAL ASSISTANCE

Phone (217) 224-9600 Customer Service

or

Your Nearest Service Center

as shown on the rear cover of this manual

WARRANTY ADJUSTMENT

Broadcast Electronics, Inc. warranty is included in the Terms and Conditions of Sale. In the event of a warranty claim, replacement or repair parts will be supplied F.O.B. factory. At the discretion of Broadcast Electronics, the customer may be required to return the defective part or equipment to Broadcast Electronics, Inc. F.O.B. Quincy, Illinois or F.O.B. as designated repair depot. Warranty replacements of defective merchandise will be billed to your account. This billing will be cleared by a credit issued upon return of the defective item.

RETURN, REPAIR AND EXCHANGES

Do not return any merchandise without our written approval and Return Authorization. We will provide special shipping instructions and a code number that will assure proper handling and prompt issuance of credit. Please furnish complete details as to circumstances and reasons when requesting return of merchandise. All returned merchandise must be sent freight prepaid and properly insured by the customer.

REPLACEMENT PARTS

Replacement and Warranty Parts may be ordered from the address below. Be sure to include equipment model and serial number and part description and part number.

Broadcast Electronics, Inc.
4100 N. 24th St., P. O. Box 3606
Quincy, Illinois 62301
Tel: (217) 224-9600
Telex: 25-0142 CABLE: "SPOTMASTER"

PROPRIETARY NOTICE

This document contains proprietary data of Broadcast Electronics, Inc. No disclosure, reproduction, or use of any part thereof may be made except by prior written permission.

MODIFICATIONS

Broadcast Electronics, Inc. reserves the right to modify the design and specifications of the equipment in this manual without notice. Any modifications shall not adversely affect performance of the equipment so modified.

INSTRUCTION MANUAL

SPOTMASTER AUDIO SWITCHER

Model SW-5B

SECTION I.

GENERAL DESCRIPTION

The Model SW-5B Audio Switcher is intended for use with SPOTMASTER FIVE SPOT or TEN SPOT multiple channel tape cartridge equipment. It is designed to automatically switch the several audio output channels, one at a time, to a single outgoing program line, thereby eliminating the loading effect caused by connecting all channels in parallel.

The switcher operates on a completely random basis and is activated by switching signals transmitted from the SPOTMASTER reproducing equipment. The switcher is equipped with cables and plugs for connection to the FIVE SPOT or TEN SPOT. Two SW-5B switchers are required for use with the TEN SPOT, one for each five-channel module. The switcher is equipped with an output transformer which eliminates the need for output transformers on the individual output channels of the FIVE or TEN SPOT.

SECTION II.

INSTALLATION

The switcher may be located at any convenient point near the SPOTMASTER reproducing equipment. The audio input cables terminate into standard phone plug connectors which should be inserted into the matching output jacks located on the rear panel of the SPOTMASTER marked OUTPUT. The switcher impulse cable terminates into an octal plug which should be inserted into the octal socket on the SPOTMASTER rear panel marked SWITCHER.

The audio output of the switcher terminates into a four-terminal barrier strip located on the rear panel of the switcher. The program line should be connected to terminals 1 and 2. The shield may be connected to terminal 4 which is chassis ground.

The output transformer in the switcher is connected for operation into a 600 ohm line, as shipped. If desired, it may be re-strapped for 150 ohm operation. See circuit diagram for instructions.

SPOTMASTER AUDIO SWITCHER

SECTION II. INSTALLATION (cont.)

When connecting the output of two switchers to a single program line (as may be the case when installing a TEN SPOT), it is recommended that the switcher output be isolated from each other by connecting 270 ohm resistors in each leg of the output line from each switcher before connecting it to the program line. (If the output transformer is strapped for 150 ohm output, use 68 ohm resistors).

SECTION III CIRCUIT DESCRIPTION

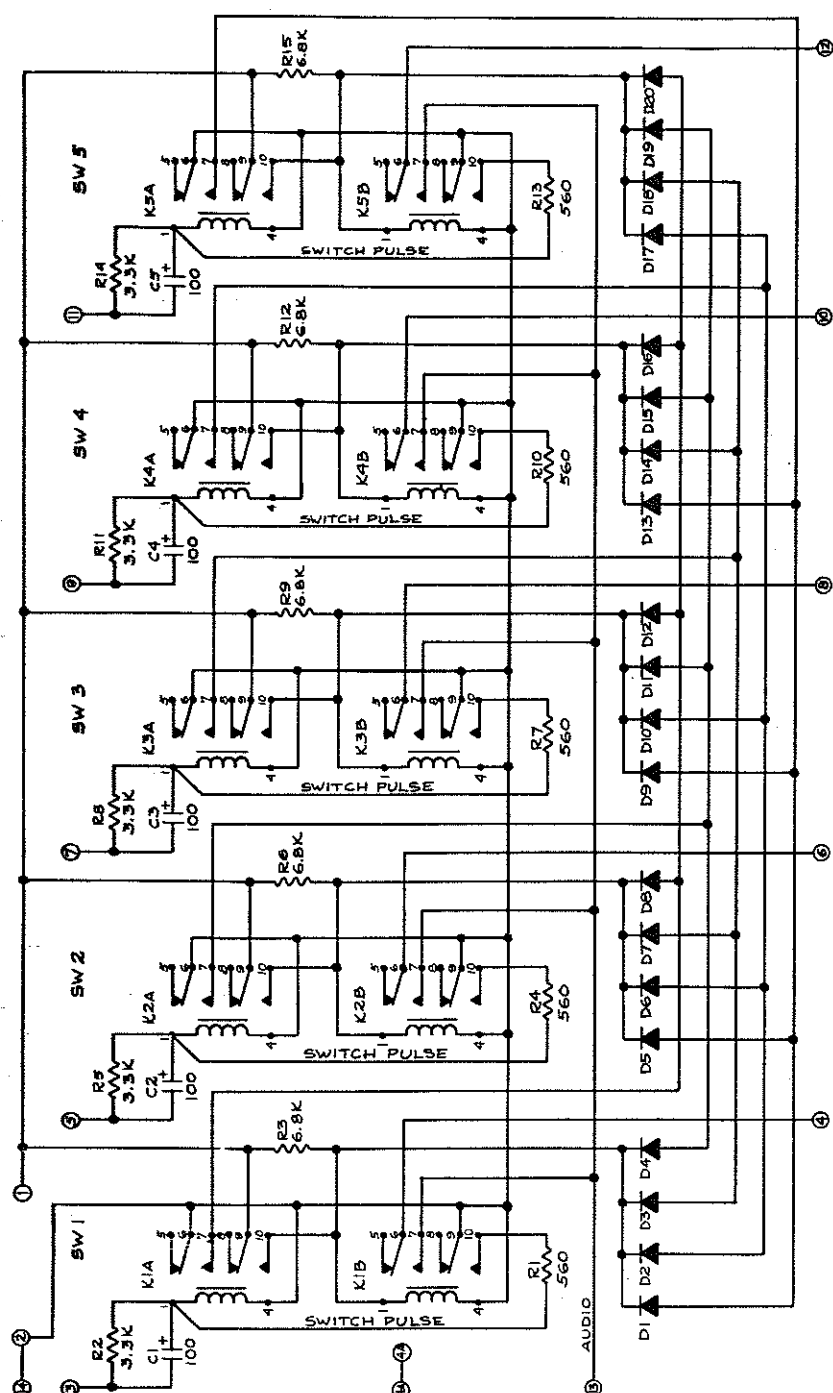
The SW-5B switcher contains five identical switch sections consisting of two relays, four diodes and interconnecting circuitry for each section. Audio output from all switch sections is fed to the output transformer T1, which in turn is connected to the output terminals.

When one of the SPOTMASTER channels is activated, a 33 volt dc signal is transmitted to the audio switcher via SPOTMASTER relay K1 contacts 9 and 10, appearing at SPOTMASTER relay board terminal 19. This is conveyed through the switcher cable to switcher terminal 3, 5, 7, 9 or 11, as the case may be, depending upon which of the SPOTMASTER channels is activated. If appearing at terminal 3, for example, the dc voltage is converted to a pulse by means of capacitor C1. This energizes relay K1A for approximately 1 second. During this period, all other switcher sections are neutralized due to the momentary closure of K1A contacts 6 and 7. At the same time, K1A contacts 9 and 10 close momentarily which energizes audio relay K1B. Holding current is applied to K1B through resistor R3. Audio is thereby switched from audio input terminal 4 through K1B relay contacts 6 and 7 to the output transformer. The switch section is neutralized when another SPOTMASTER channel is activated.

SECTION IV. MAINTENANCE

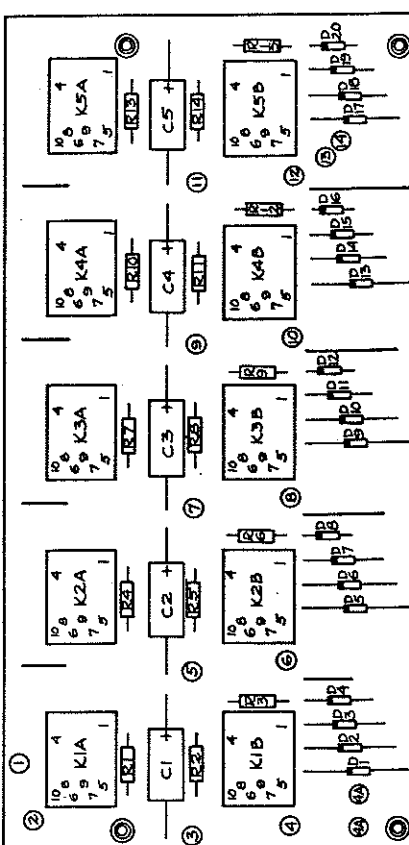
No routine maintenance is required.

PARTS LIST	
PART NUMBER	SYM DESCRIPTION
110-5633	R1 560 OHMS, 1/2W, 10% RESISTOR
110-3343	R2 3.3K " " "
110-6843	R3 6.8K " " "
110-5633	R4 560 " " "
110-3343	R5 3.3K " " "
110-6843	R6 6.8K " " "
110-5633	R7 560 " " "
110-3343	R8 3.3K " " "
110-6843	R9 6.8K " " "
110-5633	R10 560 " " "
110-3343	R11 3.3K " " "
110-6843	R12 6.8K " " "
110-5633	R13 560 " " "
110-3343	R14 3.3K " " "
110-6843	R15 6.8K " " "
014-1084	C1 100 MFD, 40V, ELECTROLYTIC CAPACITOR
014-1084	C2 100 " " "
014-1084	C3 100 " " "
014-1084	C4 100 " " "
014-1084	C5 100 " " "
203-4005	D1 IN4005 DIODE
203-4005	D2 IN4005 " "
203-4005	D3 IN4005 " "
203-4005	D4 IN4005 " "
203-4005	D5 IN4005 " "
203-4005	D6 IN4005 " "
203-4005	D7 IN4005 " "
203-4005	D8 IN4005 " "
203-4005	D9 IN4005 " "
203-4005	D10 IN4005 " "
203-4005	D11 IN4005 " "
203-4005	D12 IN4005 " "
203-4005	D13 IN4005 " "
203-4005	D14 IN4005 " "
203-4005	D15 IN4005 " "
203-4005	D16 IN4005 " "
203-4005	D17 IN4005 " "
203-4005	D18 IN4005 " "
203-4005	D19 IN4005 " "
203-4005	D20 IN4005 " "
271-0154	K1A RELAY, DPDT *
271-0154	K2A RELAY, " *
271-0154	K3A RELAY, " *
271-0154	K4A RELAY, " *
271-0154	K5A RELAY, " *
271-0154	K1B RELAY, " *
271-0154	K2B RELAY, " *
271-0154	K3B RELAY, " *
271-0154	K4B RELAY, " *
271-0154	K5B RELAY, " *
417-1230	— SOCKET, RELAY



PARTS LIST CONTINUED	
PART NUMBER	SYM DESCRIPTION
413-0315	— TERMINAL, TURRET (16)
440-0803	— STANDOFF, SWAGE (4)
515-0050	— P. C. BOARD (SW-5)

FUNCTIONS	
PIN	SW5 B SW5 C SW5 D
1	-27V -27V GND
2	GND GND +24V
3	-27V RUN -27V AT -27V START
4	AUDIO INPUT #1
4A	GND & SHIELD GND & SHIELD +24V
5	— SWITCH IMPULSE INPUT
6	— AUDIO INPUT
7	— SWITCH IMPULSE INPUT
8	— AUDIO INPUT
9	— SWITCH IMPULSE INPUT
10	— AUDIO INPUT
11	— SWITCH IMPULSE INPUT
12	— AUDIO INPUT
13	— SWITCH IMPULSE INPUT
14	GND & SHIELD GND & SHIELD +24V



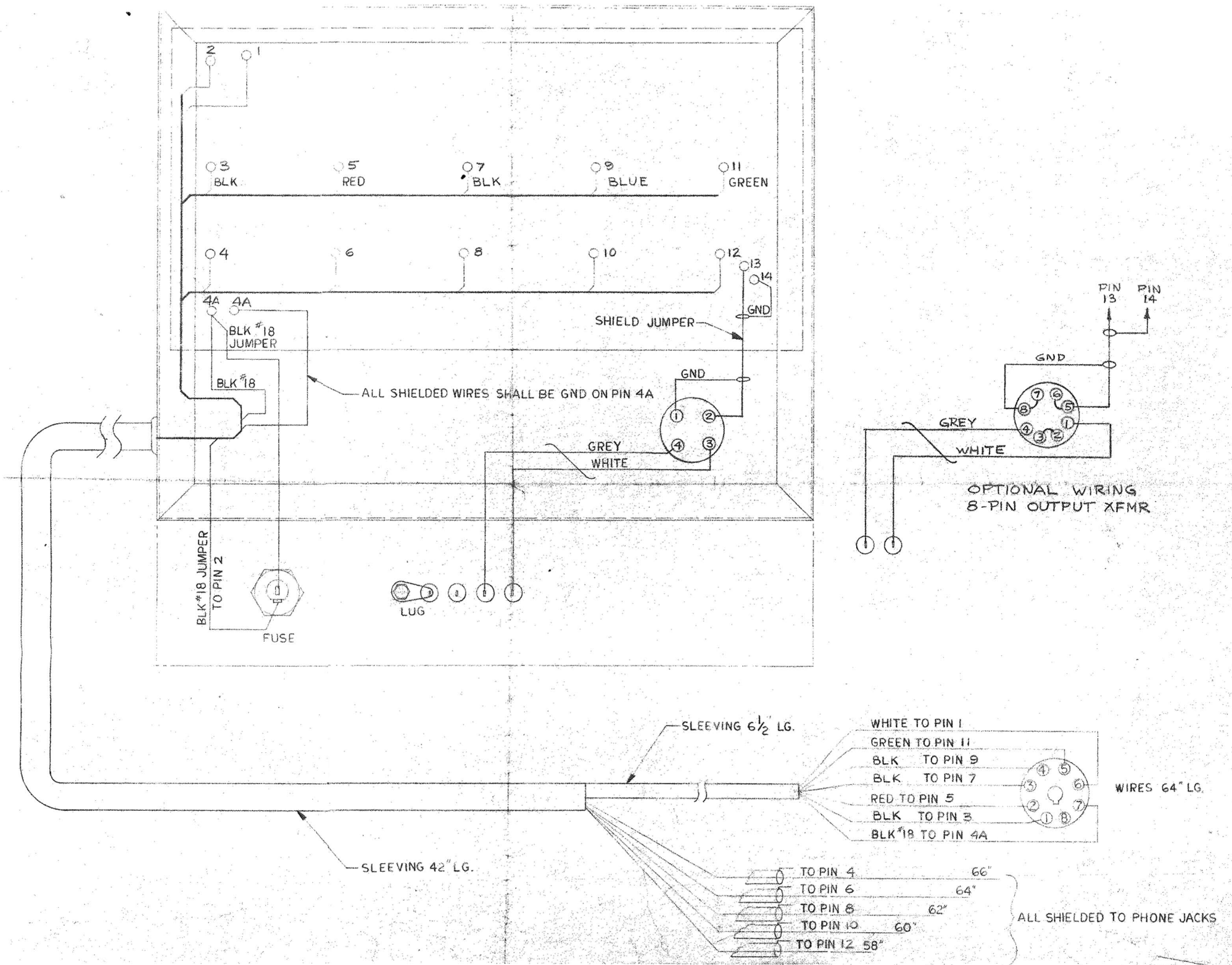
TOP VIEW

NOTES

1. LAST COMPONENT NOS. USED:
R15, C5, D20, K5A & K5B.
2. * THESE ITEMS ADDED AT
FINAL ASSEMBLY.

SW-5

DRAWN	7/14/73	BROADCAST ELECTRONICS INC.
CHECKED	4/5 7/14/73	-A FILMWAYS COMPANY-
APPROVED	85 7/14/73	AUDIO SWITCHER
		C-915-0050 REV A
		PART NO. 915-0050



PRODUCT WARRANTY

LIMITED ONE YEAR

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Broadcast Electronics, Inc. ("BEI"), 4100 North 24th Street, P.O. Box 3606, Quincy, Illinois 62301, hereby warrants cartridge machines, consoles, and other new equipment manufactured by Broadcast Electronics, Inc., against any defects in material or workmanship at the time of delivery thereof, that develop under normal use within a period of one (1) year from the date of shipment. Other manufacturers' equipment, if any, shall carry only such manufacturers' standard warranty. This warranty extends to the original user and any subsequent purchaser during the warranty period. BEI's sole responsibility with respect to any equipment or parts not conforming to this warranty is to replace such equipment or parts upon the return thereof F.O.B. BEI's factory or authorized repair depot within the period aforesaid.

In the event of replacement pursuant to the foregoing warranty, only the unexpired portion of the warranty from the time of the original purchase will remain in effect for any such replacement. However, the warranty period will be extended for the length of time that the original user is without the services of the machine due to its being serviced pursuant to this warranty. The terms of the foregoing warranty shall be null and void if the equipment has been altered or repaired without specific written authorization of BEI, or if equipment is operated under environmental conditions or circumstances other than those specifically described in BEI's product literature or instruction manual which accompany the product purchased. BEI shall not be liable for any expense of any nature whatsoever incurred by the original user without prior written consent of BEI.

BEI shall not be liable to the original user for any and all incidental or consequential damages for either express or implied warranties. However, some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. All express and implied warranties shall terminate at the conclusion of the period set forth herein.

BROADCAST ELECTRONICS, INC.

4100 North 24th Street, Quincy, Illinois 62301