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PROJECTOR CONTROL PANEL

MI-26256



RADIO CORPORATION OF AMERICA
ENGINEERING PRODUCTS DEPARTMENT CAMDEN, N. J.

PROJECTOR CONTROL PANEL

MI-26256

I N S T R U C T I O N S

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RADIO CORPORATION OF AMERICA
RCA VICTOR DIVISION

Manufactured by
RADIO CORPORATION OF AMERICA
ENGINEERING PRODUCTS DEPARTMENT
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IB-36095

FIRST AID

WARNING!

Operation of electronic equipment involves the use of high voltages which are dangerous to life. Operating personnel must at all times observe all safety regulations. Do not change tubes or make adjustments inside the equipment with voltage supply on. Under certain conditions dangerous potentials may exist in circuits with power controls in the off position due to charges retained by capacitors, etc. To avoid casualties, always discharge and ground circuits prior to touching them.

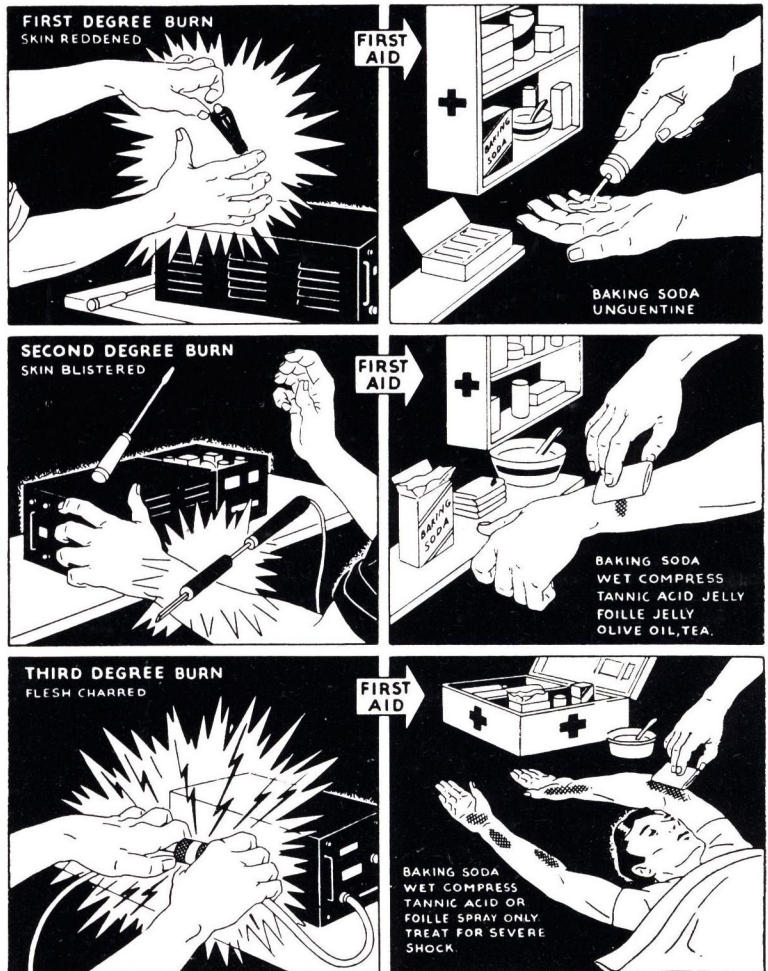
ABOUT FIRST AID

Personnel engaged in the installation, operation and maintenance of this equipment or similar equipment are urged to become familiar with the following rules both **in theory and in the practical application thereof**. It is the duty of every radioman to be prepared to give adequate First Aid and thereby prevent avoidable loss of life.

PRONE-PRESSURE METHOD OF RESUSCITATION

1. PROTECT YOURSELF with dry insulating material.
2. BREAK THE CIRCUIT by opening the power switch or by pulling the victim free of the live conductor.

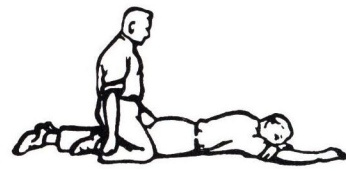
DON'T TOUCH VICTIM WITH YOUR BARE HANDS UNTIL THE CIRCUIT IS BROKEN.



(A)



(B)



(C)

3. LAY PATIENT ON STOMACH, one arm extended, the other arm bent at elbow. Turn face outward resting on hand or forearm.
4. REMOVE FALSE TEETH, TOBACCO OR GUM from patient's mouth.
5. KNEEL STRADDLING PATIENTS THIGHS. See (A).
6. PLACE PALMS OF YOUR HANDS ON PATIENT'S BACK with little fingers just touching the lowest ribs.
7. WITH ARMS STRAIGHT, SWING FORWARD gradually bringing the weight of your body to bear upon the patient. See (B).
8. SWING BACKWARD IMMEDIATELY to relieve the pressure. See (C).
9. AFTER TWO SECONDS, SWING FORWARD AGAIN. Repeat twelve to fifteen times per minute.
10. WHILE ARTIFICIAL RESPIRATION IS CONTINUED, HAVE SOMEONE ELSE:
 - (a) Loosen patient's clothing.
 - (b) Send for doctor.
 - (c) Keep patient warm.
11. IF PATIENT STOPS BREATHING, CONTINUE ARTIFICIAL RESPIRATION. Four hours or more may be required.
12. DO NOT GIVE LIQUIDS UNTIL PATIENT IS CONSCIOUS.

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TECHNICAL SUMMARY

ELECTRICAL SPECIFICATIONS

Control Provided For:

- a. Two Motion Picture Film Projectors
- b. One Slide Projector
- c. One Audio Switching Relay

Pilot Light Voltage12 or 24 volts

MECHANICAL SPECIFICATIONS

Length.....11 $\frac{1}{16}$ inches
Height..... 2 $\frac{5}{8}$ inches
Depth10 $\frac{1}{8}$ inches
Weight..... 4 $\frac{1}{2}$ pounds

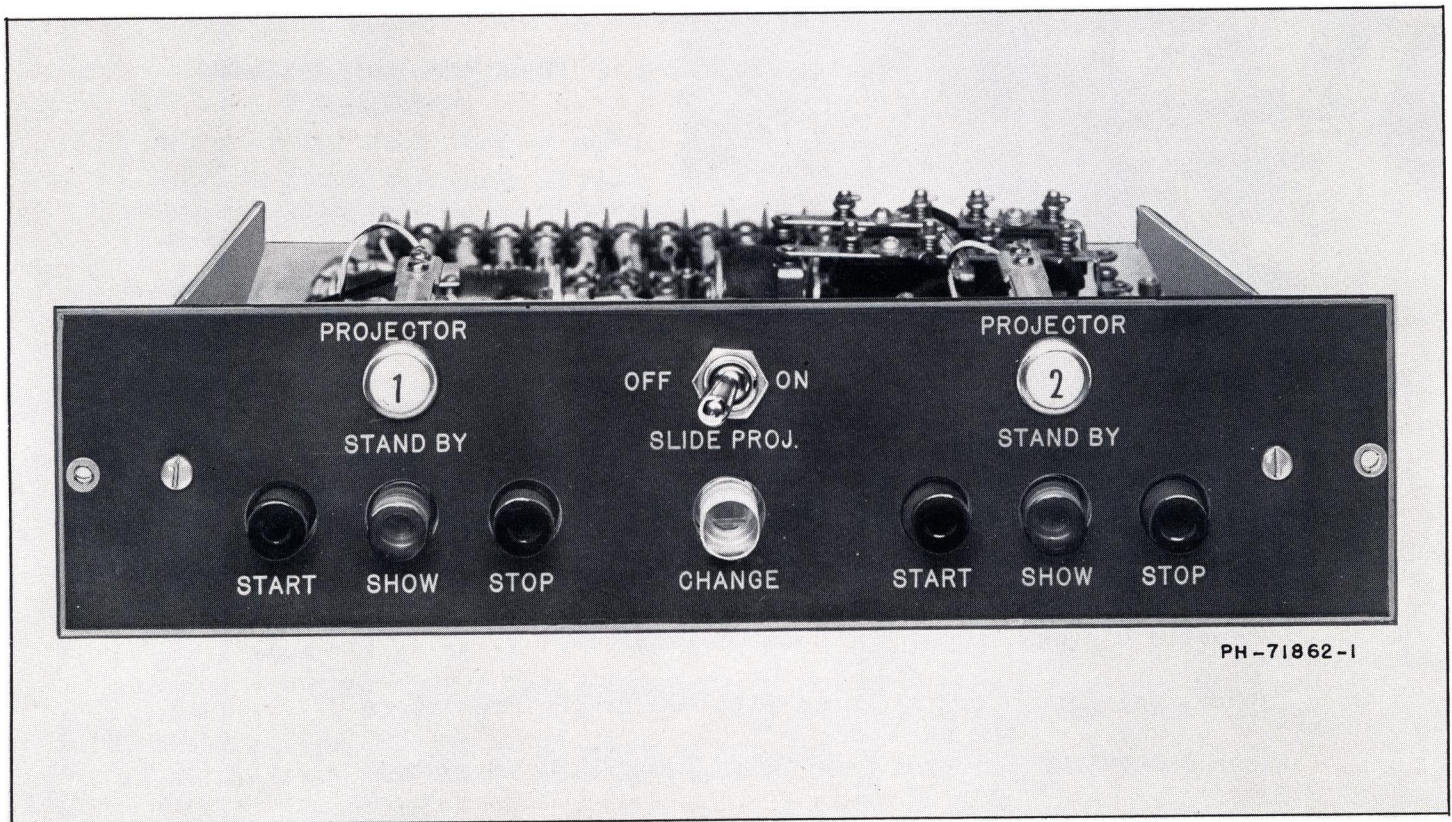


FIGURE 1- PROJECTOR CONTROL PANEL, FRONT VIEW

DESCRIPTION

The RCA MI-26256 Projector Remote Control Panel, Figure 1, is designed to provide remote control for two RCA television motion picture projectors, one RCA automatic slide projector, and audio control during changeover of the motion picture projectors. In some cases, the remote control panel can be adapted for other than RCA equipment. The control panel is adaptable for mounting in a console or standard rack.

Any combination of two RCA television motion picture projectors listed below can be operated remotely from the control unit:

TP-6 series
TP-16 series
TP-35 series

In addition to the motion picture projectors, an RCA TP-2A Automatic Slide Projector, or similar type, can be operated at the control panel.

As shown on Figures 1, 2, and 4, the remote control unit contains three groups of switches and indicator lamps, a relay, an adjustable resistor, and two terminal boards.

The center group of controls consists of a toggle switch for turning the slide-projector lamp on and off, and a momentary contact pushbutton switch for changing slides. A pilot lamp behind the translucent CHANGE pushbutton, when lit, indicates that the projector-lamp switch is in the ON position.

The remaining two groups of controls are for remote operation of two motion picture projectors. Each group consists of three momentary-contact switches actuated by differently colored translucent pushbuttons. A pilot lamp behind each START and SHOW pushbutton, when lit, indicates the function in progress. Two pushbuttons are for starting and stopping the projector. The center pushbutton (marked SHOW), when depressed, "douses" the projector in operation, "undouses" the projector to be operated, and actuates relay K1 which switches the sound system. Relay K1 provides two optional methods for sound switching. One method involves the use of an MI-11729 relay in the audio line. The d-c control voltage for this relay is actuated by K1 as shown on Figure 5. The second method, illustrated on Figure 6, utilizes K1 for switching the exciter lamp voltage from one projector to the other. When this system is used, a second set of contacts on K1 switches adjustable resistor R1 from the exciter lamp circuit of the undoused projector to the doused projector. Thus the exciter lamp of the non-operating projector is kept warm, resulting in instantaneous sound when that projector is ready for SHOW.

Above each group of three pushbuttons is a numbered STANDBY indicator lamp. This lamp lights when the local-remote switch of the projector is in the remote position, thus indicating that the projector is ready for remote operation.

INSTALLATION

MOUNTING

The MI-26256 Projector Remote Control Panel may be mounted in the basic panel (MI-26252) of an MI-26266 series console, or, by using an MI-26254 Panel Adapter, the control unit can be mounted in a standard rack.

Console Mounting

To mount the remote control panel in the upper turret section of an MI-26266 series console, proceed as follows:

1. In an existing installation, remove a blank panel, then using the same screws, mount the projector remote control panel in its place.
2. For a new installation, mount an MI-26252 basic panel in the console, then using two of the screws provided with the basic panel, mount the projector remote control unit at the desired location.

Mount all other panels according to the station plan. Fill blank spaces in the console frame with RCA MI-26253 Blank Panels.

Rack Mounting

To mount the projector remote control panel in a standard rack, install an RCA MI-26254 Panel Adapter in the rack (order separately); then, using two of the screws supplied with the adapter, mount the projector panel.

STANDBY INDICATOR NUMERALS

As shipped from the factory, the jewels for the standby indicator lights are marked 1 and 2. Jewels with numerals 3 and 4 are also supplied (in a separate container) with the control panel. If numerals 3 and 4 are desired, remove the existing jewels from the panel with a sharp instrument, BEING CAREFUL not to mar the panel, then insert the numeral 3 and 4 jewels.

INTERCONNECTIONS

When the remote control panel is mounted in a console, be certain to allow enough slack in the cable so that the panel can be removed for servicing.

Figure 5 shows interconnections for two RCA 16 mm projectors. Note that the JUMPER between terminal A and ground on each terminal board of the remote control panel MUST be removed for this application, see Figure 4. Interconnections for two RCA 35 mm projectors are shown on Figure 6. To interconnect the MI-26256 Remote Control Panel with RCA models other than those shown on Figures 5 and 6, refer to the instruction book supplied with the projector. The two interconnection diagrams are typical, and may be used as a guide for connecting different makes of projectors to the RCA remote control panel.

A schematic diagram for the TP-2A Slide Projector, connected to the remote control panel, is shown on Figure 3.

INITIAL ADJUSTMENT

When using the remote control panel for operation of two projectors, utilizing exciter-lamp switching as shown on Figure 6 (or similar), adjust R1 as follows:

1. Place the system in normal operation, i.e. one projector running and the other in standby condition (doused).
2. Adjust R1 so that the exciter lamp on the doused projector glows with sufficient brilliance to keep the filament warm, but not enough brilliance to cause sound pick-up.

OPERATION

PREPARATION

A. Slide Projector

Load the slide projector with the slides in the desired sequence. Operate all applicable switches to place the projector in standby condition.

B. Slide Projector

Prepare the motion picture projectors for remote control operation as follows:

1. Operate the LOCAL-REMOTE switches on both projectors to the LOCAL position.
2. Thread the desired film in each projector and place each "douser" in the doused position.
3. Operate all the applicable switches to place the projectors in the standby position, then operate the LOCAL-REMOTE switches to the REMOTE position.

The STANDBY pilot lights on the remote control panel should light, indicating that the motion picture projectors can be operated

OPERATION AT REMOTE CONTROL PANEL

Requirements for remote control of projectors may vary somewhat in accordance with the individual needs of the station. This remote control panel has been designed to handle the most complex installation, consisting of two motion picture projectors and a slide projector operating with a multiplexer into a film camera.

Procedures A and B are basic and may vary according to the individual installation. Procedures C and D are for installations similar to those shown in Figures 3, 5, and 6.

STEP NO.	PROCEDURE	RESULTS AND REMARKS
A. SLIDE PROJECTOR		
1	Operate ON-OFF switch to ON position	CHANGE button should become illuminated. Projector lamp is on. Slide in front of lens is now being projected
2	To change slide, press and release CHANGE button	Next slide is being projected. Projection Lamp is automatically turned off, slide is changed and lamp is automatically turned on again. On television screen this appears as a slide (1 second) fade-out and fade-in of new slide. (See Figure 3 for possible variations of this function)
3	To stop projection of slide, operate ON-OFF switch to OFF position	Projection lamp is extinguished, CHANGE button no longer illuminated
B. MOTION PICTURE PROJECTOR		
1	Press and release the following buttons: START	Film transport mechanism is set in motion. This operation requires a pre-determined interval before projection of actual film program in order to provide for stabilization of film motion
2	SHOW	Projector undoused, other doused Sound switched
3	STOP	Projector stopped

STEP NO.	PROCEDURE	RESULTS AND REMARKS
C. TWO MOTION PICTURE PROJECTORS OPERATING INTO ONE FILM CAMERA (Including switching from one projector to the other)		
1	Press and release the following buttons: START first projector	First projector running
2	After predetermined stabilization time, SHOW first projector	First projector undoused, second projector doused First projector showing and first projector audio switched to common channel
3	START second projector when first cue mark appears (stabilization time markers)	Second projector running. First projector still showing
4	SHOW second projector when second cue mark appears	First projector doused, second undoused Second projector showing and second projector audio switched to common channel
5	STOP first projector	New film can now be threaded in first projector. To prevent inadvertent starting of the projector from the remote panel, place the LOCAL-REMOTE switch in the LOCAL position Return switch to REMOTE position when film is threaded

STEP NO.	PROCEDURE	RESULTS AND REMARKS
D. MOTION PICTURE TO SLIDE AND BACK TO MOTION PICTURE (All operating into one film camera)		
1	Press and release SHOW button of non-operating motion picture projector	Previously showing Film Projector is doused
2	Operate SLIDE PROJ. switch to the ON position	Slide projector lamp is ON and slide in lamp position is projected
3	STOP motion picture projector which is in operation	Slide showing
4	Press and release SHOW button of projector stopped in step 3	Stopped film projector is undoused Second film projector is doused Slide still showing
5	Start second film projector	This projector getting up to speed Slide still showing
6	Turn slide projector switch off	Slide projection discontinued
7	Press and release SHOW button on second film projector	Second film projector showing

MAINTENANCE

GENERAL

The projector remote control panel requires very little maintenance. Periodically remove dust and dirt from the unit and clean the relay contacts.

REPLACING A PILOT LAMP

A. To replace a STANDBY lamp, proceed as follows:

1. Remove the jewel with a sharp instrument, being careful not to mar the panel. A piece of paper against the panel at the point where the sharp instrument is inserted, should prevent marring the panel.
2. Force a short length of 1/4 ID insulating tubing over end of pilot lamp and withdraw. In case of a very tight fitting lamp, it may be necessary to use screwdriver and push lamp from behind.
3. When inserting new lamp, align contacts on lamp with those on switch. Misalignment of contacts may give an intermittent or open circuit. Make sure lamps are pushed all the way in. The old lamp may be used as a pusher for this operation.

B. To replace a pushbutton pilot lamp, proceed as follows:

1. Remove the button by pulling it in a direction away from the panel. If the button is exceptionally tight, jiggle it from side to side when pulling.
2. Perform steps A2 and A3.
3. To replace the button, align the two "flats" on the button with the springs on the switch, then push the button in as far as it will go.

REPLACEMENT PARTS AND ENGINEERING SERVICE

When ordering replacement parts, please give symbol, description, and stock number of each item ordered.

The part which will be supplied against an order for a replacement item may not be an exact duplicate of the original part. However, it will be a satisfactory replacement differing only in minor

mechanical or electrical characteristics. Such differences will in no way impair the operation of the equipment.

The following tabulations list service parts, electron tube, and field engineering service ordering instructions according to the geographical location of the station.

SERVICE PARTS

STATION LOCATION	OBTAIN SERVICE PARTS FROM
Continental United States or Alaska	Local Broadcast Equipment Sales Representative, his office, or directly from the Service Parts Order Service, Bldg.60, 19th and Federal Streets, Camden 5, N. J. Emergency orders may be telephoned, telegraphed, or teletyped to RCA Emergency Service, Bldg.60, Camden, N.J. (Telephone: Woodlawn 3-8000).
Dominion of Canada	Local Broadcast Equipment Sales Representative, his office, or directly from RCA Victor Company Limited, 1001 Lenoir Street, Montreal, Quebec.
Outside of Continental United States, Alaska, and the Dominion of Canada	Local Broadcast Equipment Sales Representative, or Service Parts Order Service, RCA International Division, Gloucester, New Jersey. U.S.A.

ELECTRON TUBES

STATION LOCATION	OBTAIN ELECTRON TUBES FROM
Continental United States or Alaska	Local Distributor or nearest of the following warehouses: 34 Exchange Place Jersey City 2, New Jersey 589 E. Illinois Street Chicago 11, Illinois 420 S. San Pedro Street Los Angeles 13, California
Dominion of Canada	Local Broadcast Equipment Sales Representative, his office, or directly from RCA Victor Company Limited, 1001 Lenoir Street, Montreal, Quebec.
Outside of Continental United States, Alaska, and the Dominion of Canada	Local Distributor or from: Tube Department RCA International Division 30 Rockefeller Plaza New York 20, New York. U.S.A.
<p>If for any reason, it is desired to return tubes, please return them to the place of purchase. If this is not convenient, please notify your RCA serving warehouse so that Return Authorization may be forwarded to you.</p> <p>PLEASE DO NOT RETURN TUBES DIRECTLY TO RCA WITHOUT AUTHORIZATION AND SHIPPING INSTRUCTIONS.</p> <p>It is important that complete information regarding each tube (including type, serial number, hours of service and reason for its return) be given.</p> <p>When tubes are returned, they should be shipped to the address specified on the Return Authorization form. A copy of the Return Authorization and also a Service Report for each tube should be packed with the tubes.</p>	

FIELD ENGINEERING SERVICE*

STATION LOCATION	REQUEST FIELD ENGINEERING SERVICE FROM
Continental United States or Alaska	Local Broadcast Equipment Sales Representative or the RCA Service Company, Inc., Communications Service Division, Camden, N.J. Telephone: Gloucester 3-4560; emergency service is provided through Woodlawn 3-8000.
Dominion of Canada	Local Broadcast Equipment Sales Representative, his office, or directly from RCA Victor Company Limited, 1001 Lenoir Street, Montreal, Quebec.
Outside of Continental United States, Alaska, and the Dominion of Canada	Chief Engineer RCA International Division 30 Rockefeller Plaza New York 20, New York, U.S.A.

*Charges for field engineering service will be made at current rates.

PARTS LIST

MI-26256 PROJECTOR CONTROL PANEL

SYMBOL NO.	DESCRIPTION	DRAWING NO.	STOCK NO.
I1	Not Used		
I2 to I8	Lamp, switchboard type: 24 V, 60 ma minimum, 85 ma max.; 33 ohms resistance	145709-6	44355
	Socket, lamp socket only, less lamp and jewel (for I4 and I6)		26562
K1	Relay, AC: coil 115 V; D P D T contacts; 3 amps, 230 V AC, 6 amps, 115 V AC, 1.0 amp, 115 V DC	450046-1	56105
R1	Resistor, adjustable: wire wound; 0.3 ohms \pm 10%, 25 watts	182122-1	45769
S1	Switch, toggle: D P D T; 3 amps, 250 V, 6 amps, 125 V; bat bundle type	95559-6	52133
S2 to S8	Switch, push: D P D T contacts; illuminated type; incl lamp socket, less lamp and translucent button		95744
	Button only, round; green translucent material (for S2, S3)		95745
	Button only, round; red translucent material (for S4, S6)		95746
	Button only, round; amber translucent material (for S5, S7)		95747
	Button only, round; clear translucent material (for S8)		95748
	Jewel, white opal; jewel only, with numeral "3" in black ...		57350
	Jewel, white opal; jewel only, with numeral "4" in black		57351
	Jewel, white opal; jewel only, with numeral "1" in black		57348
	Jewel, white opal; jewel only, with numeral "2" in black		57349

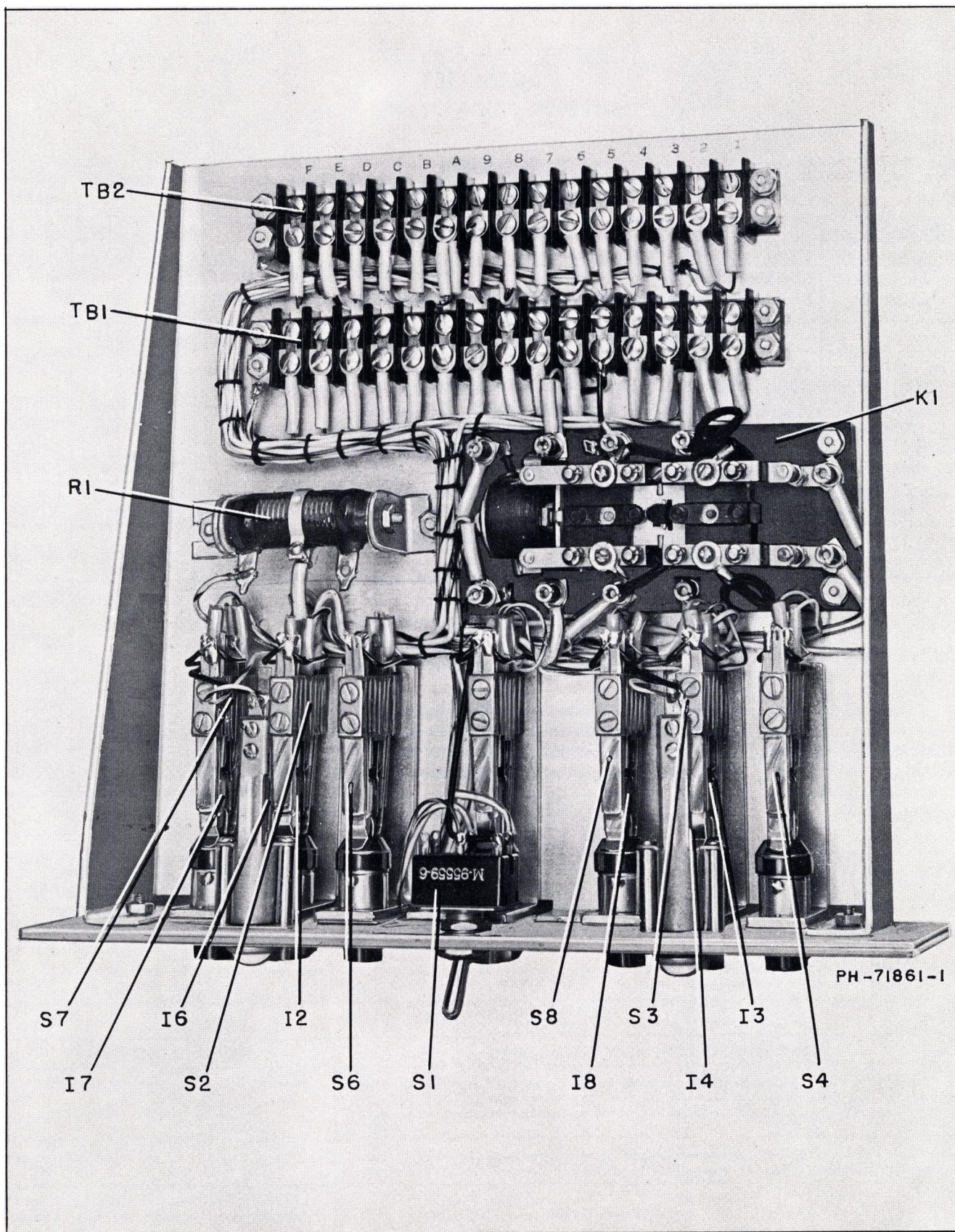


FIGURE 2- PROJECTOR CONTROL PANEL, REAR VIEW

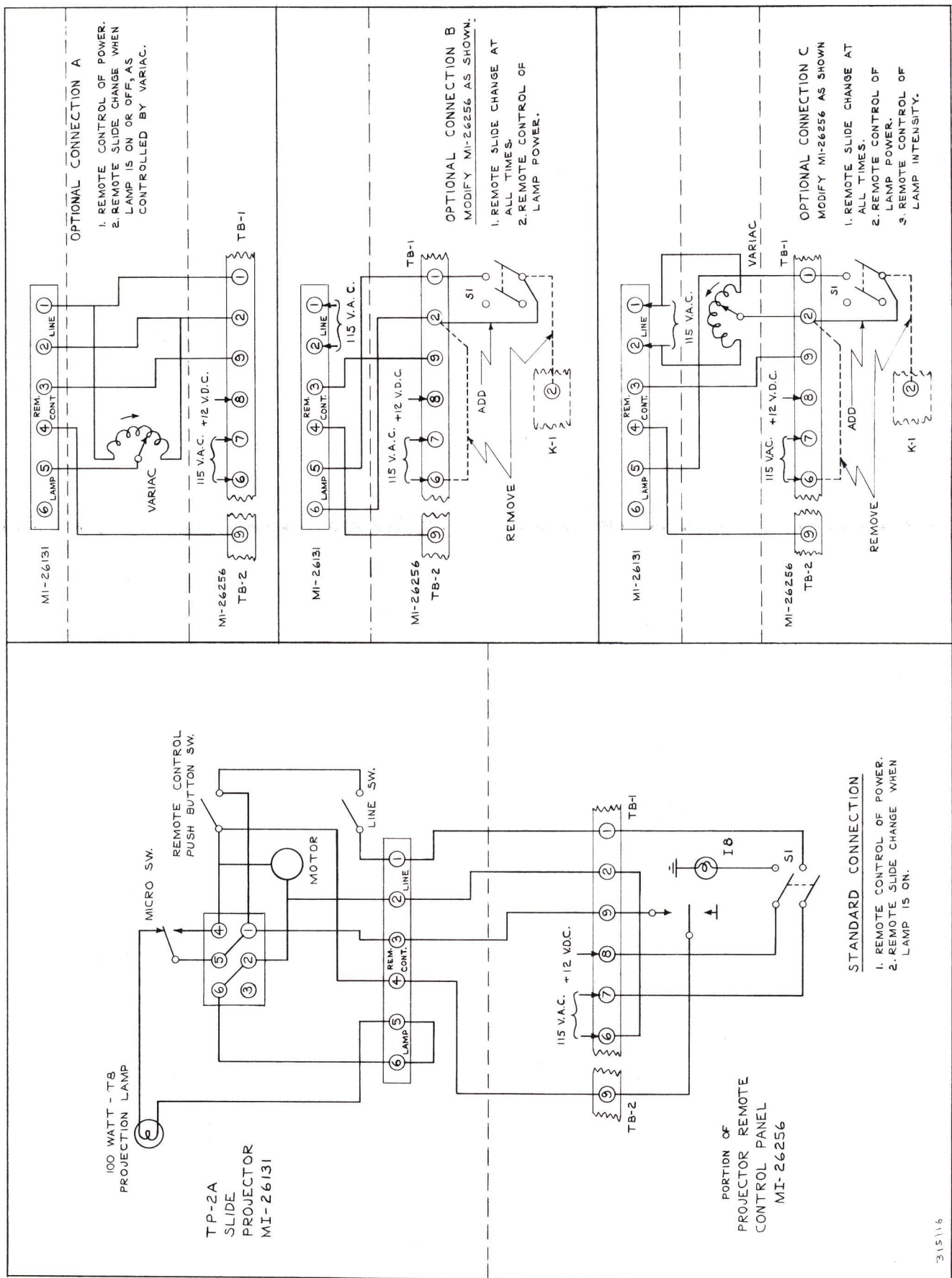


FIGURE 3- INTERCONNECTIONS, TP-2A SLIDE PROJECTOR AND CONTROL PANEL

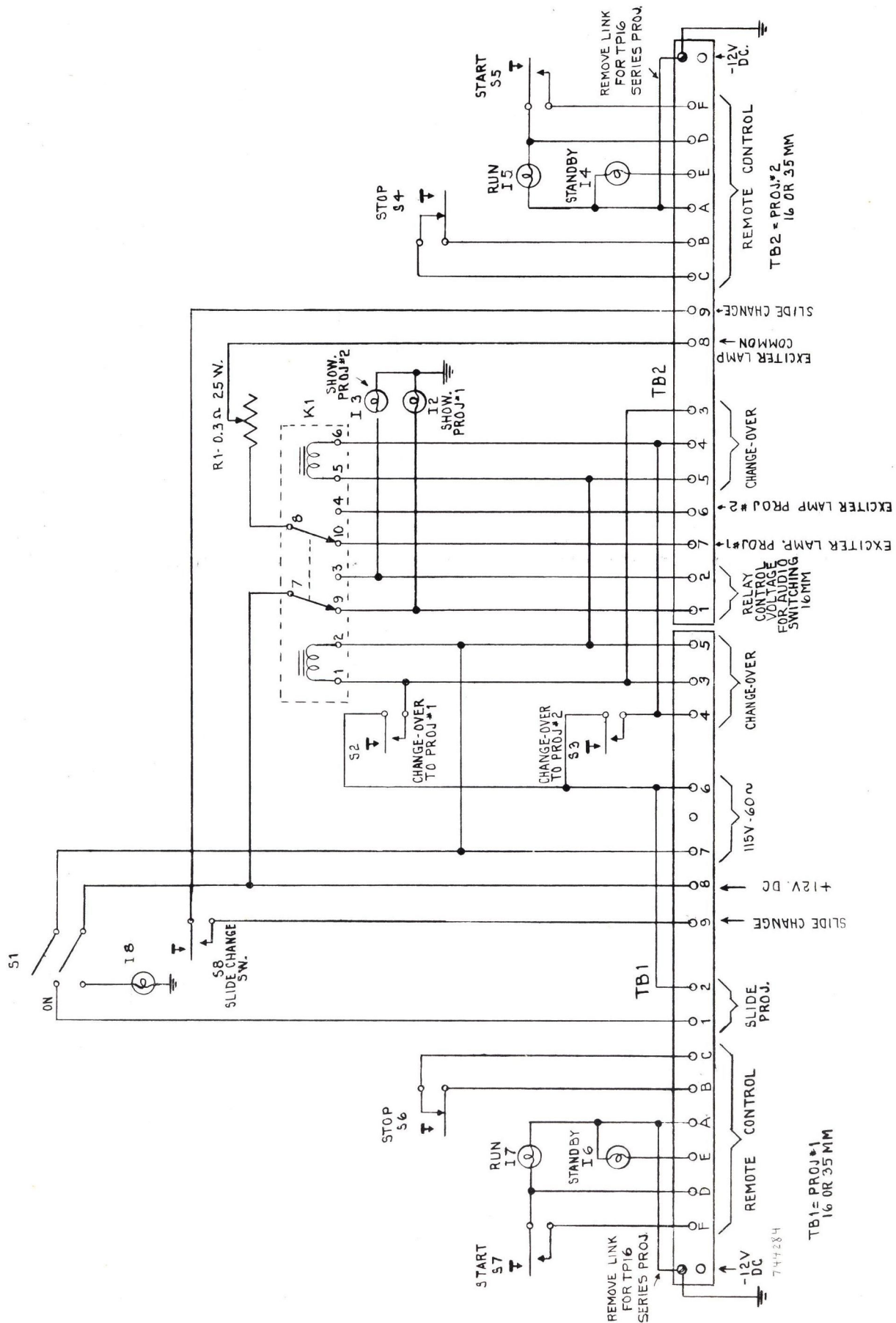


FIGURE 4- SCHEMATIC DIAGRAM, PROJECTOR CONTROL PANEL

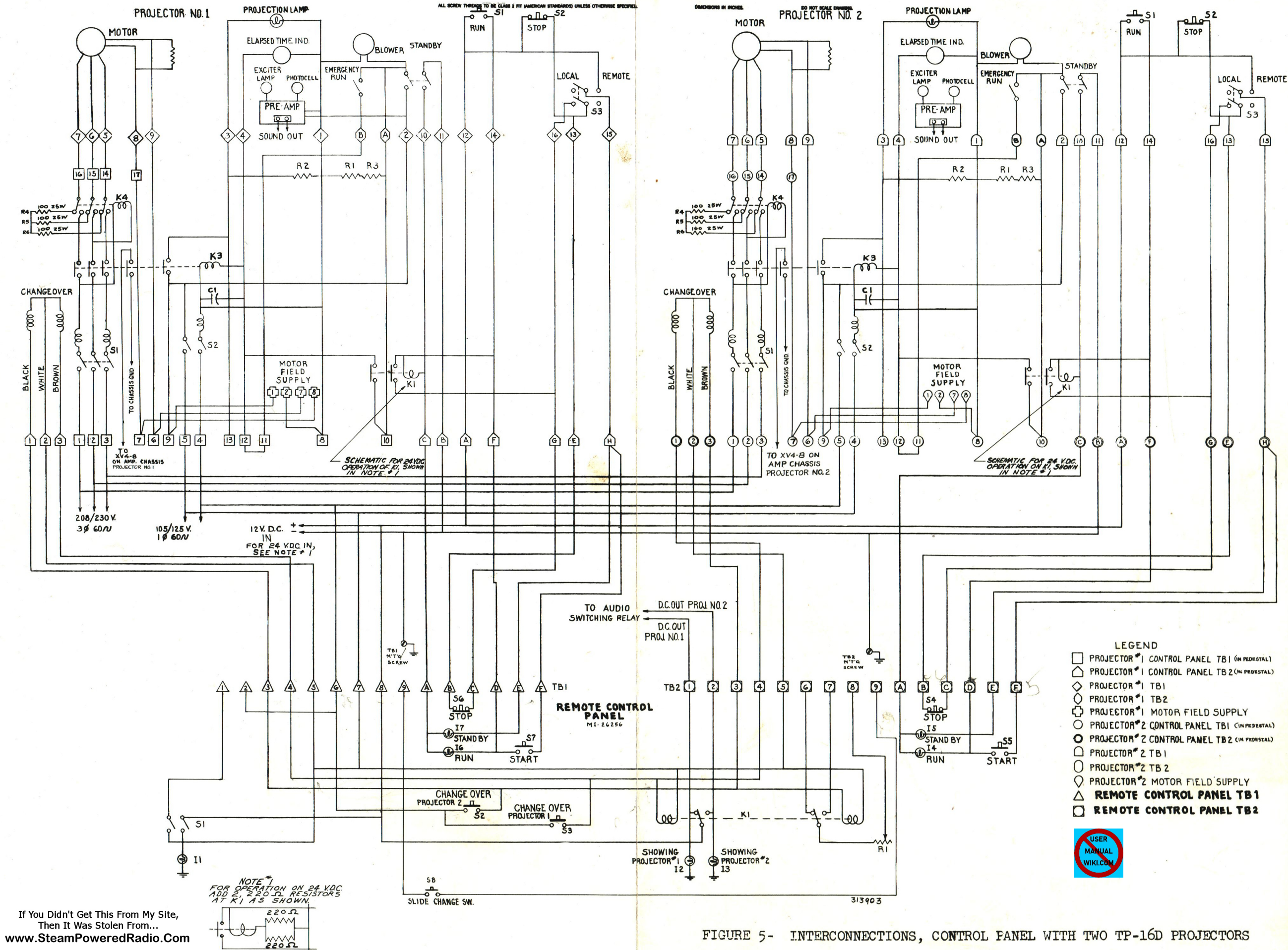
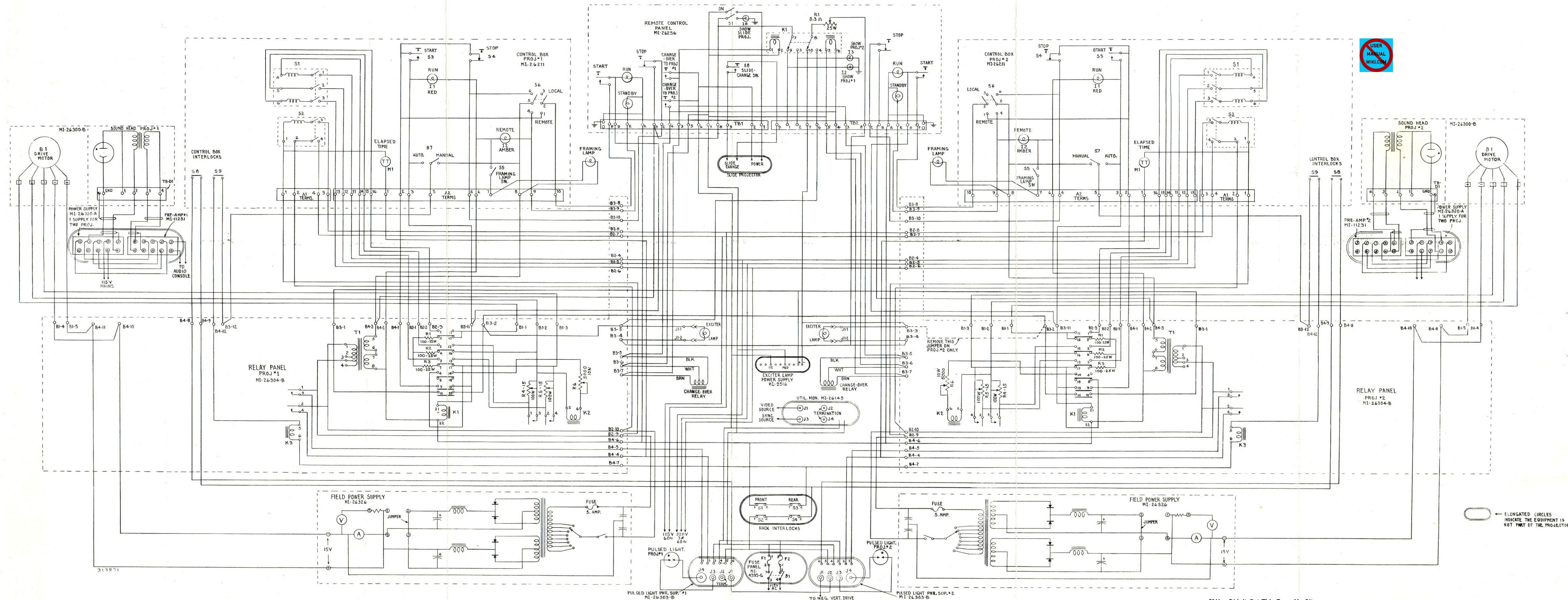


FIGURE 5- INTERCONNECTIONS, CONTROL PANEL WITH TWO TP-16D PROJECTORS



If You Didn't Get This From My Site,
Then It Was Stolen From...
www.SteamPoweredRadio.Com

FIGURE 6- INTERCONNECTIONS, CONTROL
PANEL WITH TWO TP-35C PROJECTORS



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ENGINEERING PRODUCTS DEPARTMENT CAMDEN, N. J.