

**INSTRUCTION MANUAL  
MODEL 3000P-14  
AUDIO-VIDEO SWITCHING PANEL**

IF FOR SOME REASON YOU HAVE TO  
RETURN THIS ITEM TO THE FACTORY  
FOR ANY SERVICE OR REPAIR, YOU  
MUST CONTACT CUSTOMER SERVICE  
FOR A RMA NUMBER 716 765 2254

P/N 1340087

MANUAL REVISION B

**ME** **MONROE**  
**ELECTRONICS**

100 HOUSEL AVENUE  
P.O. BOX 100  
LYNDONVILLE NY 14098

800 821 6001  
716 765 2254  
FAX 716 765 9330

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## GENERAL DESCRIPTION

The Model 3000P-14 Audio/Video Switching Panel provides four independent 2 X 1 audio follow video relay switches permitting AB switching functions such as non-duplication switching, blackout switching and routing switching.

It can be controlled by Monroe Electronics program timers, remote controls, or CATV Cue Tone receivers.

Each relay switch will respond to a contact closures or a transistor switch to ground or a compatible logic level. The control inputs are buffered to eliminate high output current driver requirements of the controlling device.

Front panel indicators show ON-OFF status for each of the four audio-video switches.

An integral power supply provides power to operate the output relays.

## SPECIFICATIONS

### VIDEO RELAYS:

Switching Configuration: SPDT

Isolation:

At 65 MHz.	Greater than 65 dB
At 250 MHz.	Greater than 55 dB
At 450 MHz.	Greater than 40 dB

Return Loss: Less than 26 dB to 50 MHz typical

Frequency Response: Within 0.25 dB to 500 MHz typical

Contact Rating: 1 Watt maximum; Contacts are gold plated bifurcated

Operating Time: 15 Milliseconds maximum

Release Time: 5 Milliseconds maximum

Connectors: BNC

### AUDIO RELAYS:

Switching Configuration: DPDT

Contact Rating: 2.0A at 28 VDC; 0.5A at 120 VAC  
Contacts are gold overlay silver

Operating Time: 10 Milliseconds maximum

Release Time: 7 Milliseconds maximum

Connectors: Barrier strip terminals

### CONTROL INPUTS:

Absolute Maximum  
Input Voltage: 5 Volts DC

Logic High  
Input Voltage: 3.5 VDC Minimum

Logic Low  
Input Voltage: 1.5 VDC Maximum

Sink Capability: -2.4 mA Maximum

POWER REQUIREMENT: 117 VAC  $\pm 10\%$ , 60 Hz. 1/8A

MECHANICAL: 3.5 in.H X 19.0 in.W X 2.7 in.D  
8.9 cm H X 48.3 cm W X 6.9 cm D

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

## INSTALLATION

All interconnections are made at rear panel barrier strip screw terminals and BNC connectors. The audio and video connectors for each relay switch are located together and the rear panel legends should be self-explanatory.

Figure 1 illustrates the relay contact configuration for each of the relay switches and it shows examples for (control) connections from relay or switch contacts, open collector transistors and TTL logic outputs.

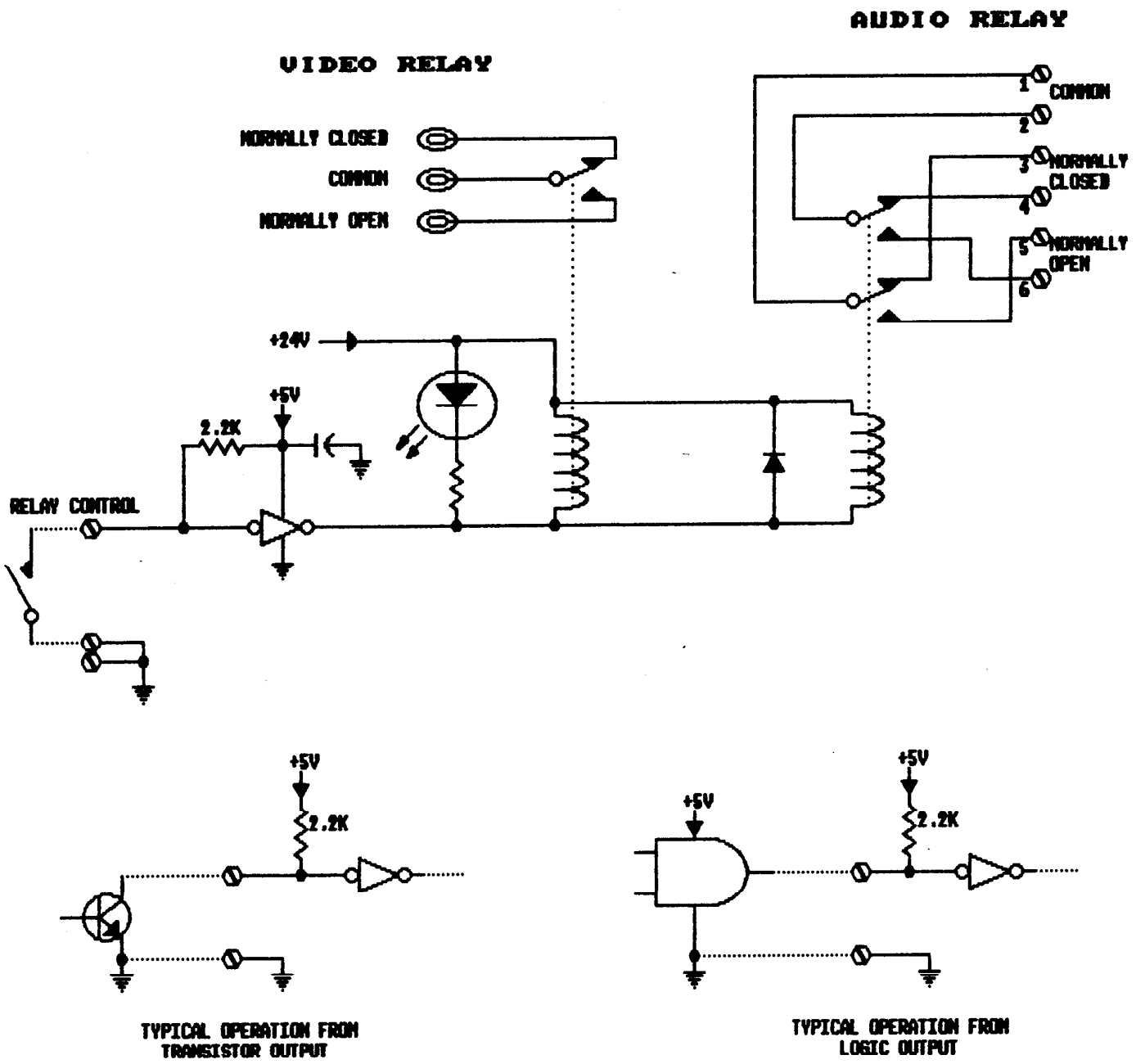
It is preferred that the Model 3000P-14 be operated from open collector transistors and not from transistors that are (internally) pulled up to +5 Volts.

DO NOT attempt to operate the Model 3000P-14 from transistor outputs which are (internally) pulled up to voltages other than +5 Volts.

The Model 3000P-14 is intended for operation from TTL logic outputs. DO NOT attempt to operate the 3000P-14 from other logic outputs.

The relay control terminal numbers on the back panel of the 3000P-14 are as follows:

RELAY CONTROL	TERMINAL NUMBER
1	1
2	3
3	4
4	6
GND	2 & 5



**FIGURE 1**  
**EXAMPLES OF CONTROL CONNECTIONS TO 3000P-14**

## OPERATION

Operation of the Model 3000P-14 Audio-Video Switching Panel is normally accomplished automatically by the logic or relay outputs of the attached (controlling) equipment.

The Model 3000P-14 may also be operated manually (locally) by wiring a switch in the same fashion as for control from a contact closure. Applying a contact closure from a relay control to relay control ground will energize the corresponding audio/video relay on the 3000P-14. The audio/video relay will remain energized for the duration that the closure is present.

## RETURN POLICIES AND PROCEDURES

### FACTORY REPAIR:

Return authorizations are not required for factory repair work.

Material returned to the factory for repair should be accompanied by a description of the problem as well as the name and telephone number of a person to contact in case we wish to consult with the customer about the repair. Legible billing and shipping addresses should also be included.

Material returned to the factory for warranty repair must be accompanied by a copy of a dated invoice or bill of sale which serves as a proof of purchase for the material.

Repairs will be returned promptly. Repairs are normally returned to the customer by UPS within ten working days after they are received by Monroe Electronics, Inc. Return (to the customer) UPS charges will be paid by Monroe Electronics on warranty work. Return (to the customer) UPS charges will be prepaid and added to invoice for out-of-warranty repair work.

### EXPEDITED FACTORY REPAIR:

All material returned to the factory by air or by an overnight service will be expedited.

Expedited factory repairs will be returned to the customer by the same mode of transportation by which the material was returned to the factory for repair (i.e. material returned to the factory by an overnight service will be returned to the customer by an overnight service).

NOTE: Return (to the customer) transportation expenses for expedited factory repairs will always be at the expense of the customer regardless of the warranty status of the equipment.

### FACTORY REPAIRS TO MODIFIED EQUIPMENT:

Material returned to the factory for repair which has been modified will be not tested unless the nature and purpose of the modification is understood by us and does not render the

equipment untestable at our repair facility.

We will reserve the right to deny service to any modified equipment which is returned to the factory for repair regardless of the warranty status of the equipment.

#### WARRANTY

Monroe Electronics, Inc. warrants to the Owners, each instrument and sub-assembly manufactured by them to be free from defects in material and workmanship for a period of one year after shipment from factory. This warranty is applicable to the original purchaser only.

Liability under this warranty is limited to service, adjustment or replacement of defective parts (other than tubes, fuses, or batteries) on any instrument or sub-assembly returned to the factory for this purpose, transportation charges prepaid.

This warranty does not apply to instruments or sub-assemblies subjected to abuse, abnormal operating conditions, or unauthorized repair or modification.

Since Monroe Electronics, Inc. has no control over conditions of use, no warranty is made or implied as to the suitability of our product for the customer's intended use.

THE WARRANTY SET FORTH IN THIS ARTICLE IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS, IMPLIED OR STATUTORY INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. Except for obligations expressly undertaken by Monroe Electronics, in this Warranty, Owner hereby waives and releases all rights, claims and remedies with respect to any and all warranties, express, implied or statutory (including without limitation, the implied warranties of merchantability and fitness), and including but without being limited to any obligation of Monroe Electronics with respect to incidental or consequential damages, or damages for loss of use. No agreement or understanding varying or extending the warranty will be binding upon Monroe Electronics unless in writing signed by a duly authorized representative of Monroe Electronics.

In the event of a breach of the foregoing warranty, the liability of Monroe Electronics shall be limited to repairing or replacing the non-conforming goods and/or defective work, and in accordance with the foregoing, Monroe Electronics shall not be liable for any other damages, either direct or consequential.



## APPENDIX A

### INTERCONNECTING THE MODEL 3000P-14 AUDIO/VIDEO SWITCHING PANEL TO MONROE'S MODELS:

MODEL 3000P-9: PROGRAM TIMER  
MODEL 3000R-105: CUE TONE RECEIVER  
MODEL 6002/6003: REMOTE CONTROL UNIT

#### MODEL 3000P-9 PROGRAM TIMER:

The Model 3000P-9 Program Timer provides four independent SPST relay outputs controlled by the internal timer circuitry.

Refer to FIGURE 2 for installation details. Installation requires wiring the 3000P-9 rear panel barrier strip terminals to the 3000P-14 rear panel barrier strip terminals.

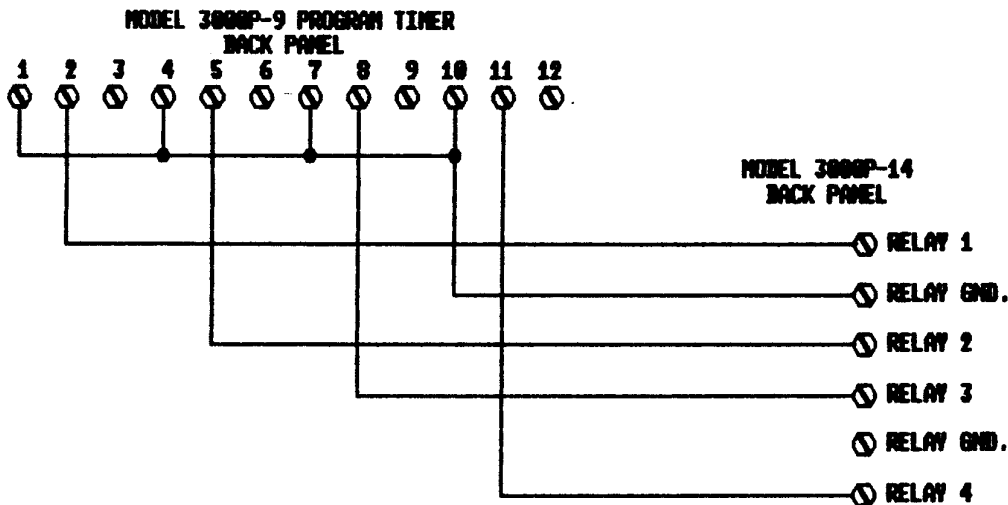


FIGURE 2

If installed as shown in FIGURE 2, switch 1 of the 3000P-9 corresponds to the 3000P-14's audio/video relay number 1, switch 2 of the 3000P-9 corresponds to the 3000P-14's audio/video relay number 2, and etc. When the 3000P-9's switch 1 is energized the 3000P-14's audio/video relay number 1 energizes and remains in that state until switch 1 of the 3000P-9 is de-energized, etc.

#### MODEL 3000R-105 CUE TONE RECEIVER:

The Model 3000R-105 Cue Tone Receiver provides independent SPDT relay outputs for each decoder card installed. The receiver continuously monitors satellite receiver audio for Cue Tone signals responding by energizing and de-energizing the appropriate decoder's card output relay.

Refer to FIGURE 3 for installation details. Installation requires wiring the 300OR-105 rear panel barrier strip terminals to the 300OP-14 rear panel barrier strip terminals.

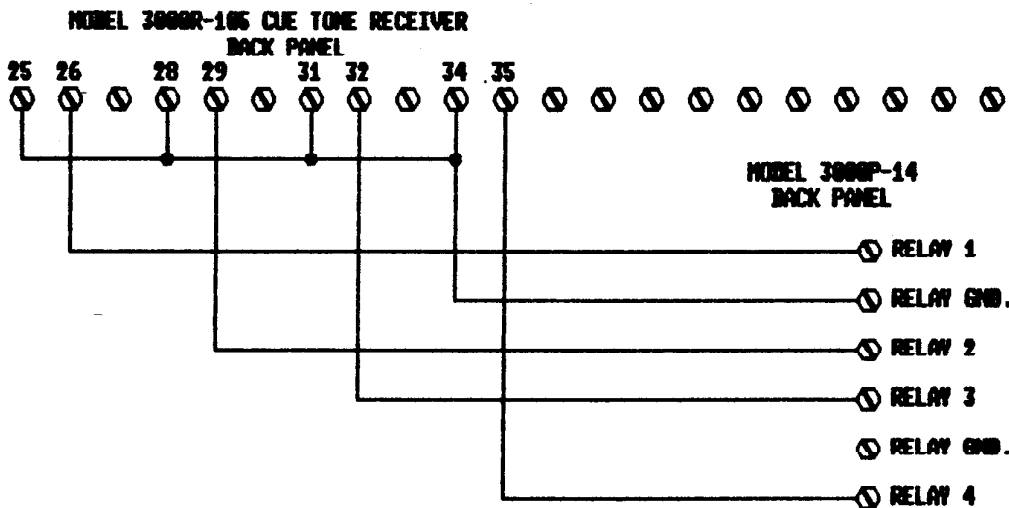


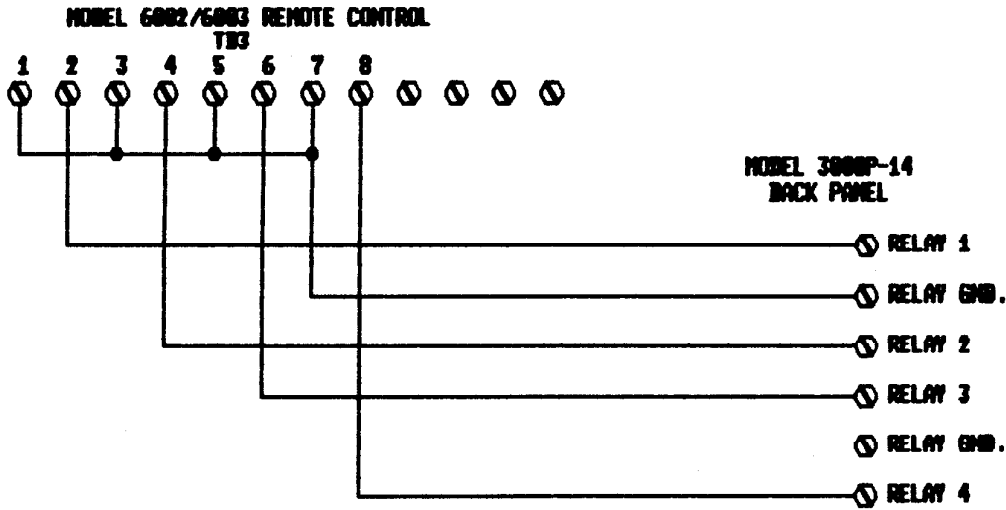
FIGURE 3

If installed as shown decoder card A3 (in 300OR-105) corresponds to the 300OP-14's audio/video relay number 1, decoder card A4 (in 300OR-105) corresponds to the 300OP-14's audio/video relay number 2, and etc. When A3 receives its programmed "ON" Cue Tone it energizes the 300OP-14's audio/video relay number 1 and remains in the energized state until A3 receives its programmed "OFF" Cue Tone de-energizing the 300OP-14's audio/video relay number 1, etc.

**MODEL 6002/6003 REMOTE CONTROL:**

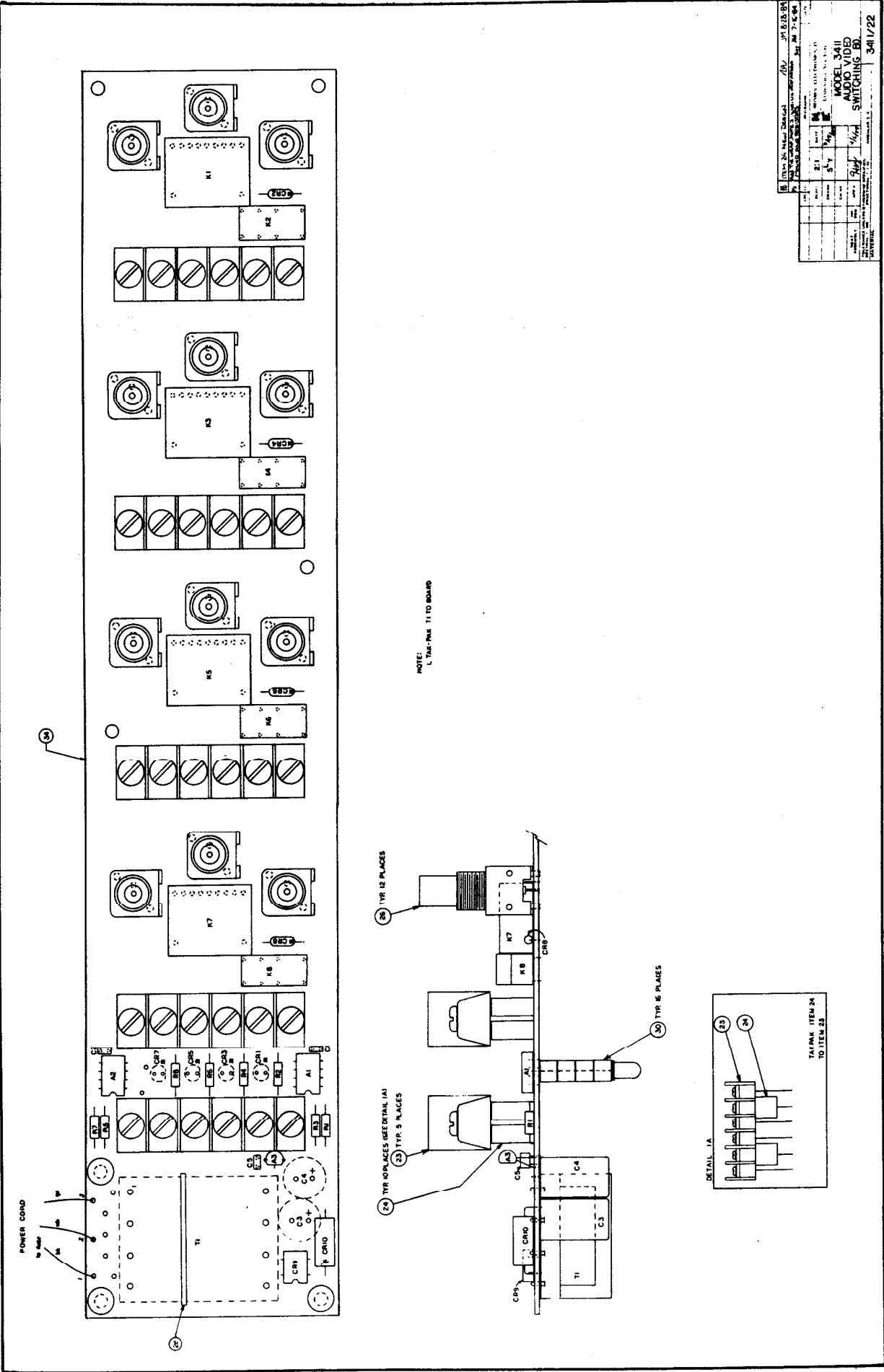
The Model 6002/6003 Remote Control provides independent relay outputs controlled by DTMF commands via a standard telephone line or 2/4 wire.

Refer to FIGURE 4 for installation details. Installation requires wiring the 6002/6003 TB3 barrier strip terminals to the 300OP-14 rear panel barrier strip terminals.



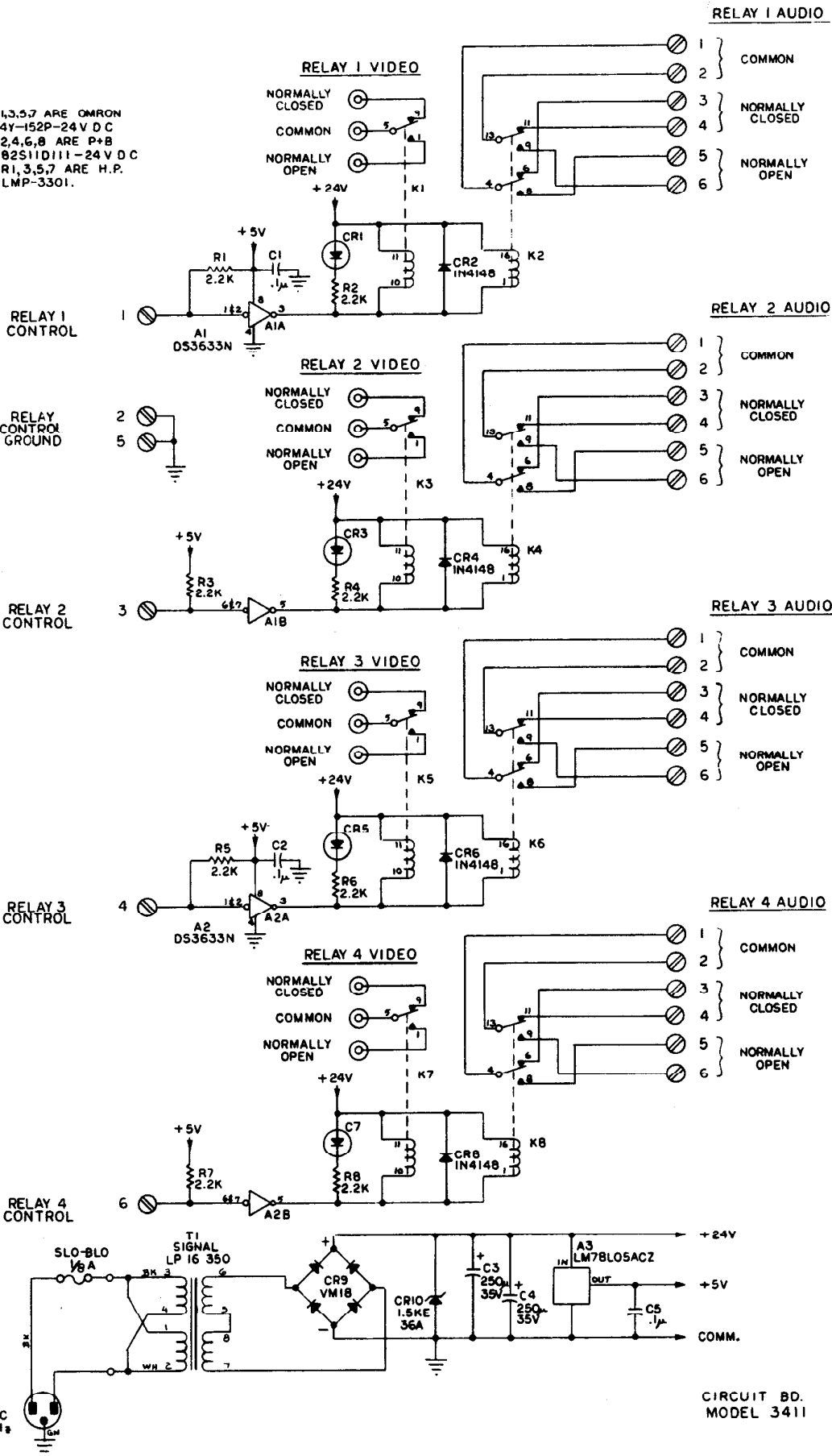
**FIGURE 4**

When installed as shown in FIGURE 4 relay 1 on the 6002/6003 corresponds to the 3000P-14's audio/video relay number 1, relay 2 on the 6002/6003 corresponds to the 3000P-14's audio/video relay number 2, and etc. When the 6002/6003's relay 1 is energized by DTMF commands the 3000P-14's audio/video relay number 1 will energize and remain energized until the 6002/6003 receives the "OFF" DTMF command for its relay 1 de-energizing both the 6002/6003's relay 1 and the 3000P-14's audio/video relay number 1.



NOTES:

1. K1,3,5,7 ARE OMRON G4Y-152P-24V DC K2,4,6,8 ARE P+B T82S11D111-24V DC
2. CR1,3,5,7 ARE H.P. HLMP-3301.



CIRCUIT BD.  
MODEL 3411

REV	DATE	BY	CHKD	APP'D	DESCRIPTION
1	2/1	SLY			INITIAL
2	3/19/64				REVISION
3	1/24/64				REVISION
4	1/17/64				REVISION
5	1/17/64				REVISION

MODEL 3000P-14  
 AUDIO-VIDEO  
 SWITCHING PANEL  
 3000P-14/1

1/19-3000S