Appendix A

MODIFICATIONS
1. Tape Transport Control System

A1.1 GENERAL

Certain customers have indicated to the Ampex Audio Engineering Department that they had requirements which necessitated defeating some of the features provided on the Model AG440 and AG 445 tape transport. Modifications of the equipment to meet such requirements are fairly simple. The following instructions can be followed most easily by referring to the simplified schematic diagram of the tape transport control system which is provided herewith. All parts referenced are called out on the inner view of the control box assembly, also provided.

A1.2 MODIFICATION PROCEDURES

PROCEDURE 1. TO ALLOW THE EQUIPMENT TO ENTER ANY OTHER MODE FROM THE RECORD MODE. This defeats the safety feature which makes it impossible to enter any other mode from record without first stopping operation.

(a) Connect a jumper wire from the emitter of Q601 to the negative side of diode CR605.

(b) Open the base lead of Q601 to protect the transistor.

PROCEDURE 2. TO DEFEAT ALL OR ANY OF THE EDIT FUNCTIONS. There are three edit modes provided on the AG440/AG445--a stop/edit, a play/edit, and a fastwinding/edit.

(a) To defeat the stop/edit mode simply disconnect the lead which is connected to pin 6 of edit relay K603.

(b) To defeat the play/edit mode, connect two jumper wires across pin 4 and pin 12, and across pin 2 and pin 10, of edit relay K603.

(c) To defeat the fastwinding/edit mode, connect a jumper wire across the normally closed section of EDIT switch S611.

(d) To defeat all edit modes, disconnect the wire from either side (pin 13 or pin 14) of edit relay coil K603 and install the jumper wire as described in (c).

PROCEDURE 3. TO ENABLE ENTRANCE INTO THE PLAY/EDIT MODE SIMPLY BY PRESSING THE EDIT PUSHBUTTON WHEN TAPE IS STOPPED, EVEN IF THE SAFETY SWITCH IS OPEN.

(a) Disconnect the four wires from the

EDIT pushbutton switch S611, and remove that switch. Replace it with a DPDT momentary pushbutton-controlled microswitch with two normally open contacts (Licon 79-2920 or equivalent).

(1) Connect the two wires disconnected from the normally open contacts of the original switch to either open contact of the new switch. Solder the ends of the other two disconnected wires together, and tape the connection. Note that this forms the same circuit as the jumper wire connected in 2(c).

(2) Connect the other open contacts on the new switch to pin 8 and pin 12 of edit relay K603.

b. Connect a jumper wire across pin 7 and pin 9 of edit relay K603.

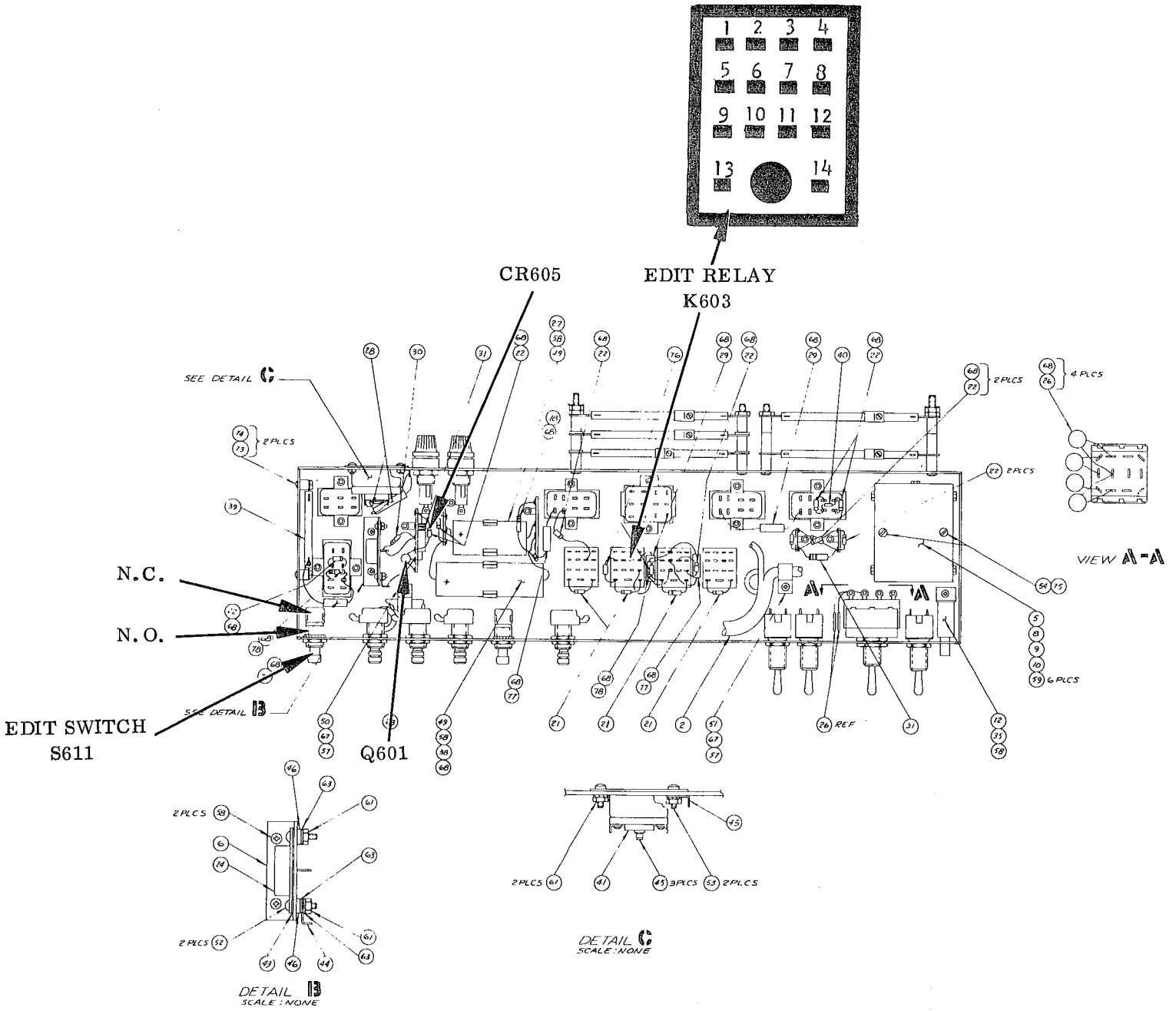

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Fig. A1—2. Control Box Assembly, Showing Component Location

MODIFICATIONS

2. Wiring For External Motor Drive Amplifier

A2.1 GENERAL

In order to continue having the Ampex Models AG440 and AG445 approved by Underwriters' Laboratory, it has been necessary to remove the facility for connecting an external motor drive amplifier. Receptacle J604S (immediately to the left of the REMOTE CONTROL connector) on the tape transport control panel is therefore not internally connected, although the receptacle itself is still mounted on the control panel.

This appendix provides instructions for wiring that receptacle so that an external frequency source can be used. Note that all internal wiring, and the motor drive amplifier itself, must meet U.L. requirements if the installation must be approved by Underwriters' Laboratory.

CAUTION

The output of the motor drive amplifier must be isolated from the normal a-c mains.

The wiring required is shown on Fig. A2-1, the effect of the wiring is depicted on the schematic diagram, Fig. A2-2.

A2.2 INTERNAL WIRING REQUIRED

Step 1: Remove the control box from the tape transport (refer to instruction manual, paragraph 4E.11.2).

Step 2: Check at pin 3, receptacle J607S (REWIND MOTOR). The only wires connected to that pin should be a jumper wire and a white/violet wire. Remove the jumper. If any other leads except the white/violet are connected to pin 3, move them to pin 4 (leave the white/violet lead connected to pin 3).

NOTE

All wiring described in Steps 3 through 6 is to be accomplished using 22 gauge wire or larger.

Step 3: There is a terminal strip adjacent to J604S receptacle (see Fig. A2-1). Connect a wire from any terminal with a white/yellow lead to pin 5 of J604S.

Step 4: Connect a jumper wire from pin 5 to pin 8 of J604S.

Step 5: Connect a wire from pin 7 of J604S to pin 3 of J607S.

Step 6: Connect a wire from pin 1 of J604S to pin 4 of J607S.

A2.3 CONNECTING MOTOR DRIVE AMPLIFIER

Mating plugs for J604S are available from Ampex under part number 145-013 (H. B. Jones number P-308-CCT-L).

Power input to the motor drive amplifier is connected from pins 1 and 5 ("low side" of a-c line) of this mating plug (this results in the power being controlled by the tape transport POWER switch, and safety switch). The precision frequency power output is routed back to the tape transport through pins 7 ("low side") and 8 of the mating plug.

A2.4 PREPARING DUMMY PLUG

If it is anticipated that the equipment will employ the motor drive amplifier only part time, and will sometimes be powered directly from the power mains, a dummy plug must be prepared. Use the same mating plug described in paragraph A2-3.

Use a bare 20 gauge wire to jumper pins 7 and 1 of this mating plug (see Fig. A2-2). To change operation from the motor drive amplifier to the power line, simply unplug the connector from the amplifier and insert the dummy plug in J604S.

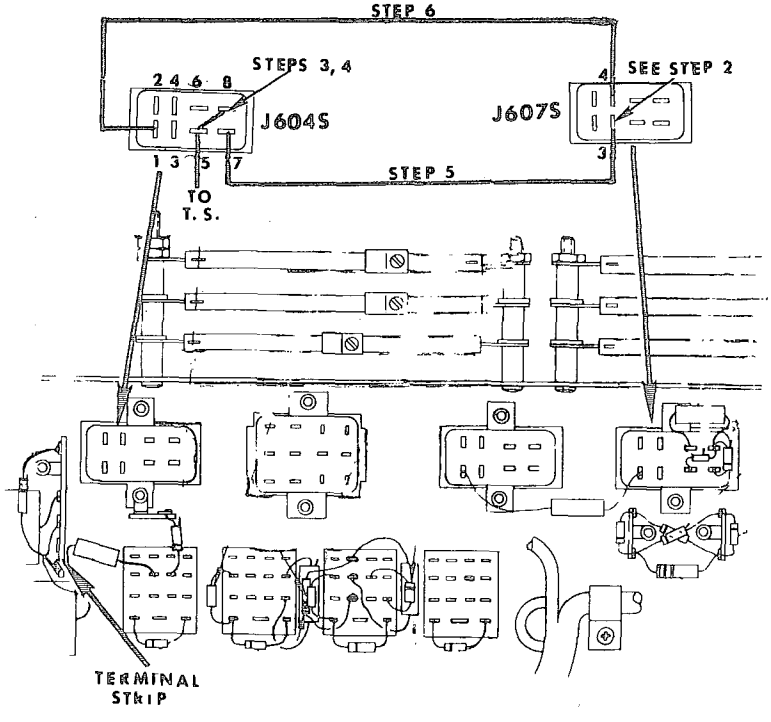
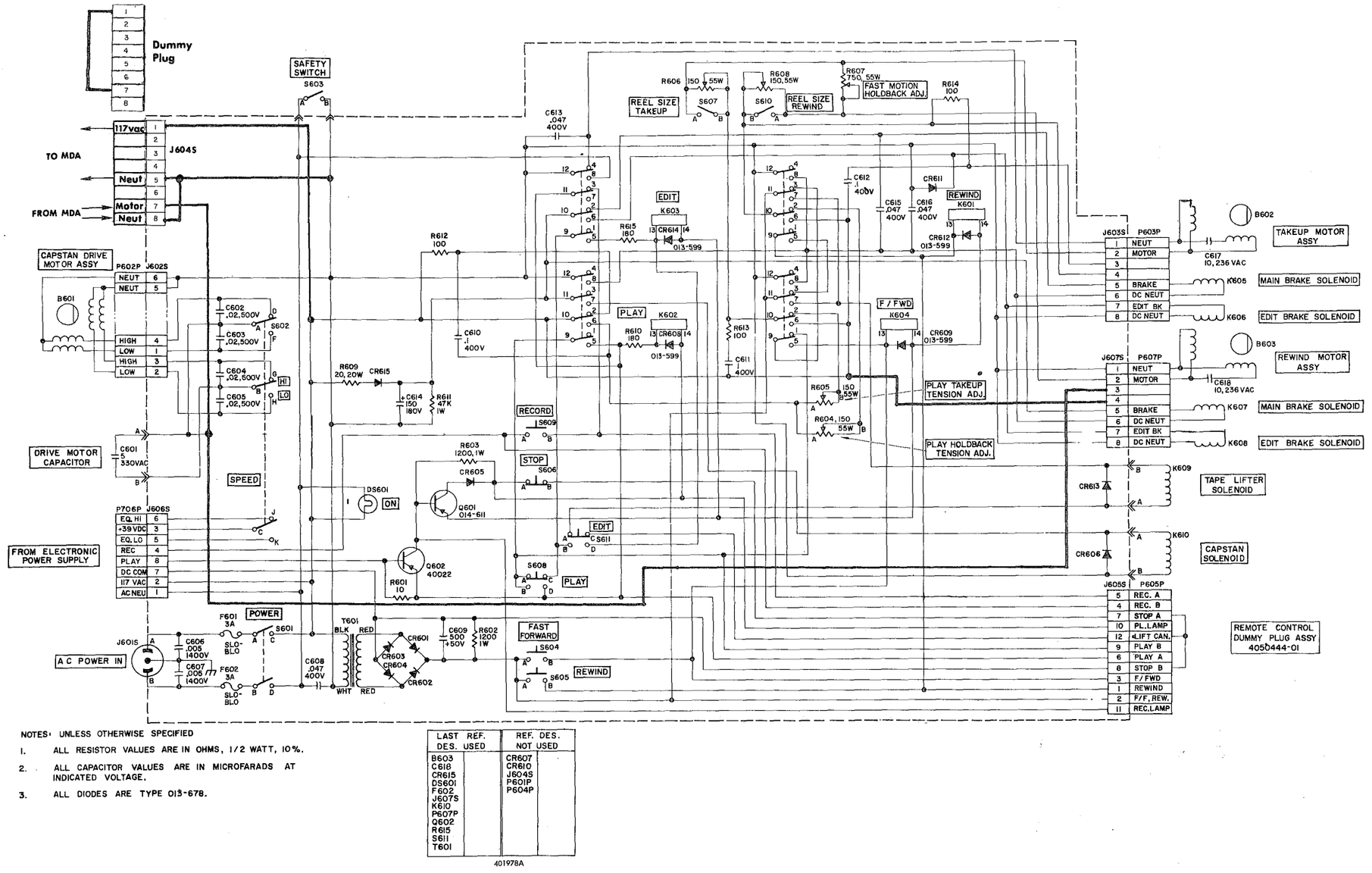


Fig. A2—1. Wiring Required



NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTOR VALUES ARE IN OHMS, 1/2 WATT, 10%.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS AT INDICATED VOLTAGE.
3. ALL DIODES ARE TYPE 013-678.

LAST REF. DES. USED		REF. DES. NOT USED	
B603		CR607	
C618		CR610	
CR615		J604S	
DS601		P601P	
F602		P604P	
J607S			
K610			
P607P			
Q602			
R615			
S611			
T601			

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Fig. A2—2. Schematic Diagram
Changes Shown By Heavy Lines