

SPENCER-KENNEDY LABS. INC.
1320 SOLDIERS FIELD ROAD
BOSTON 35, MASS.

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

MODEL 400 - 91A CONVERSION
KIT

IB-400-91-2

GENERAL DESCRIPTION

The SKL 400-91^A Conversion Kit is used to convert the 212C TV amplifier into a 212D amplifier. The two models differ in the following points:

- 1) The 212D amplifier has built-in monitors at its input and output.
- 2) The "quarter wave" cable transformers permanently attached to the panel of the 212C are replaced by internal ferrite cup-core transformers, of the same type as used in the later models of SKL TV amplifiers (211C, 222A).

The Modification Kit includes the following:

- a) A new panel and set of connectors.
- b) A set of resistors for the monitor networks.
- c) Two ferrite transformers, marked T2 and T3.
- d) Additional hardware needed for the modification.
- e) A template for the needed machining operations.

CAUTION

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The two transformers (T2 and T3) are not identical; if interchanged the amplifier will not operate properly. Do not remove them from the envelopes except for the actual installation in the amplifier.

INSTALLATION INSTRUCTIONS

- 1) Remove top tube cover of 212C amplifier. (2 thumb screws)
- 2) Remove bottom dust cover (7 screws on bottom, 3 screws on front panel). (NOTE: that screws through panel are slightly longer than those at bottom - keep them separate.)
- 3) Unsolder input and output cable connections from top of their respective stand-off terminals.
- 4) Unsolder two connections of the pilot light, at the terminals of the pilot light housing.
- 5) Dismount switch from panel: first use 9/16" wrench to loosen hexagonal nut under panel, then take off outer ring nut by hand.
- 6) Remove front panel (4 screws with lockwashers and nuts, 3 more screws through eyelets in chassis).

CAUTION

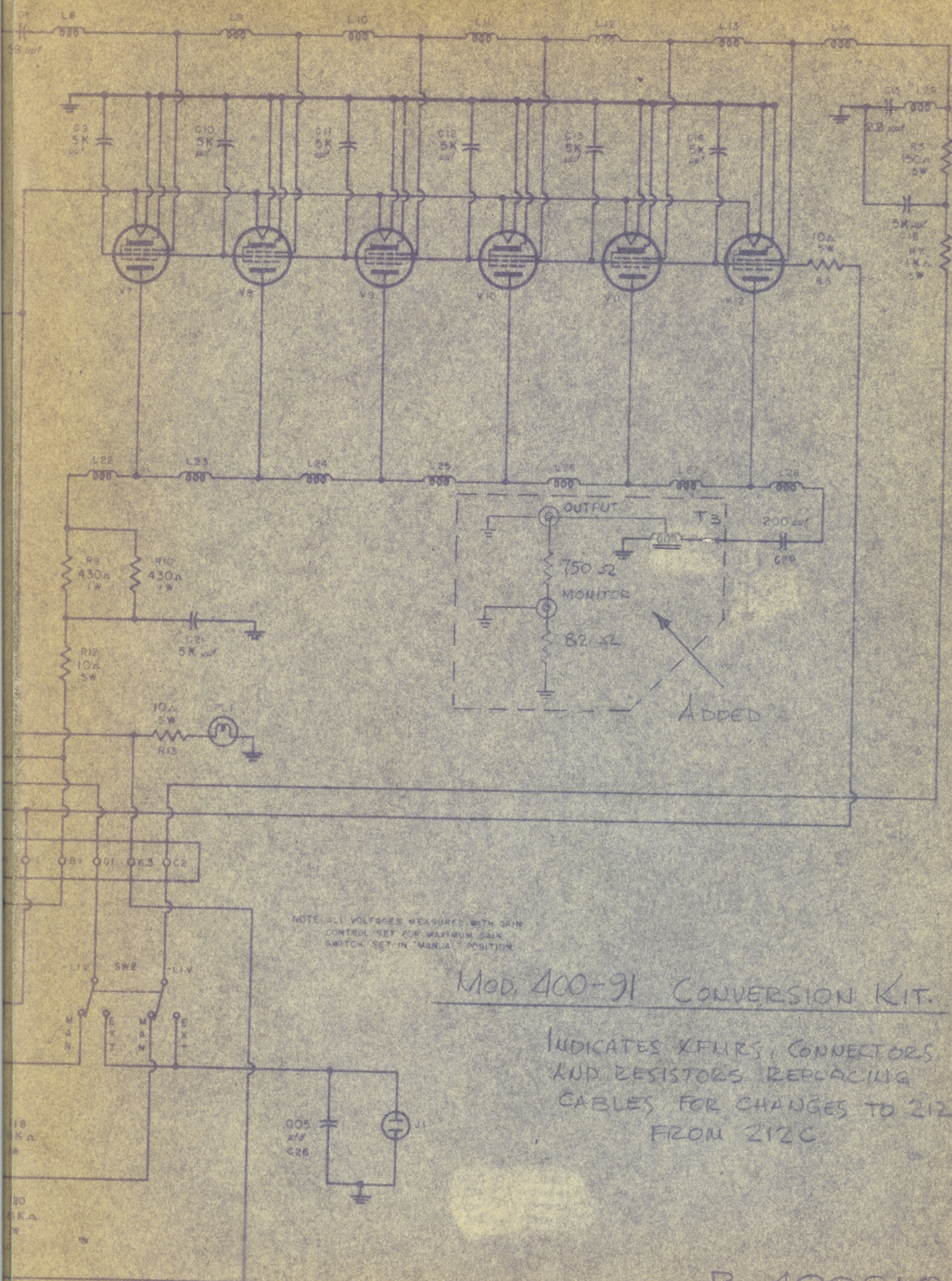
In the following steps, take extreme care not to touch or deform any of the coils in the amplifier, so as not to impair the RF alignment.

CAUTION

- 7) Remove 0.36 pf capacitor from output stand-off terminal (see sketch).
- 8) Add grounding lug under stand-off terminal at input (see sketch).
- 9) Mount new connectors on new panel. The male connector (SKL 400-25A) at the hole marked INPUT, and the female connectors (SKL 200-1A) at OUTPUT and two MINOTORS. Connectors are to be mounted with the flange at the back of the panel, and with the Philips head screws inserted from the front. Note that 2 of the 16 screws are slightly longer than the others. Use one of these at each Monitor connector. With the #4 nuts, install a ground lug at the back of each monitor connector, on the longer screw.
- 10) Transfer nameplate from old panel to new panel.
- 11) Transfer pilot light from old panel to new panel. Install pilot light housing with the two solder lugs horizontal.
- 12) Discard old panel, with the cables and connectors attached to it.
CAUTION: Do not use these cables and connectors to make up jumpers or in any other way, because they are not 75 ohm cables.
- 13) Notch out a 1 x 1/4" section of each front corner of the tube cover and bottom dust cover. (See sketch) The template can be used as shown in the sketch to mark off the part to be cut out.
- 14) Drill 4 holes in tube chassis, as shown in sketch. Use template to locate holes. Place template against the folded up corner of the tube chassis, and make sure it slides under the eyelets before marking the hole centers. Clean burrs, and check that no aluminum shavings are left anywhere within the amplifier.
- 15) Turn the amplifier upside-down, with the tubes under the chassis. Facing from the panel side, the input side is to the right and the output side to the left.
- 16) Mount output transformer T3 in the "B" hole on the left, with cover to the chassis, and the wires coming out of the cupcore (see sketch). Do not tighten the nut too much, for the ferrite cupcore may crack under excessive pressure. Position it so that the hole through which the wires come out is close to the stand-off terminal.
- 17) Mount input transformer T2 in the "B" hole on the right with cupcore to chassis, and the wires coming out of a hole in the cover (see sketch). Position it so that the hole through which the wires come out is close to the stand-off terminal.

- 18) Check the required length of transformer wire, with the red wire of each transformer connected to the capacitor at the top of its respective stand off terminal, and the green wire to the ground lug under that terminal. Tin only that portion of each wire which is to be soldered to the terminal - be careful not to tin any closer to the core than is absolutely necessary. Solder wires to terminals, and trim.
- 19) On the new panel, mount a 82 ohm resistor between each monitor connector and its grounding lug. Solder at grounding lug only.
- 20) Mount new panel on amplifier.
- 21) Mount switch on new panel, with the two wires dressed close to the corner of the chassis; pass wires between cupcore transformer and panel. Final tightening of switch to panel should be done with hexagonal nut behind panel.
- 22) Solder the two wires to terminals of pilot light.
- 23) Mount a 750 ohm resistor between INPUT connector and its monitor, and another one between OUTPUT connector and its monitor. Pass resistor through 3/8" hole in chassis, and cut leads so that resistor body positions in hole, and does not touch the chassis. Solder connections at MONITOR connectors.
- 24) Connect the twisted pair of wires coming out of the ferrite transformers to the INPUT and OUTPUT connectors respectively. Solder connections at INPUT and OUTPUT connectors and trim leads.
- 25) Replace bottom dust cover and tube cover.

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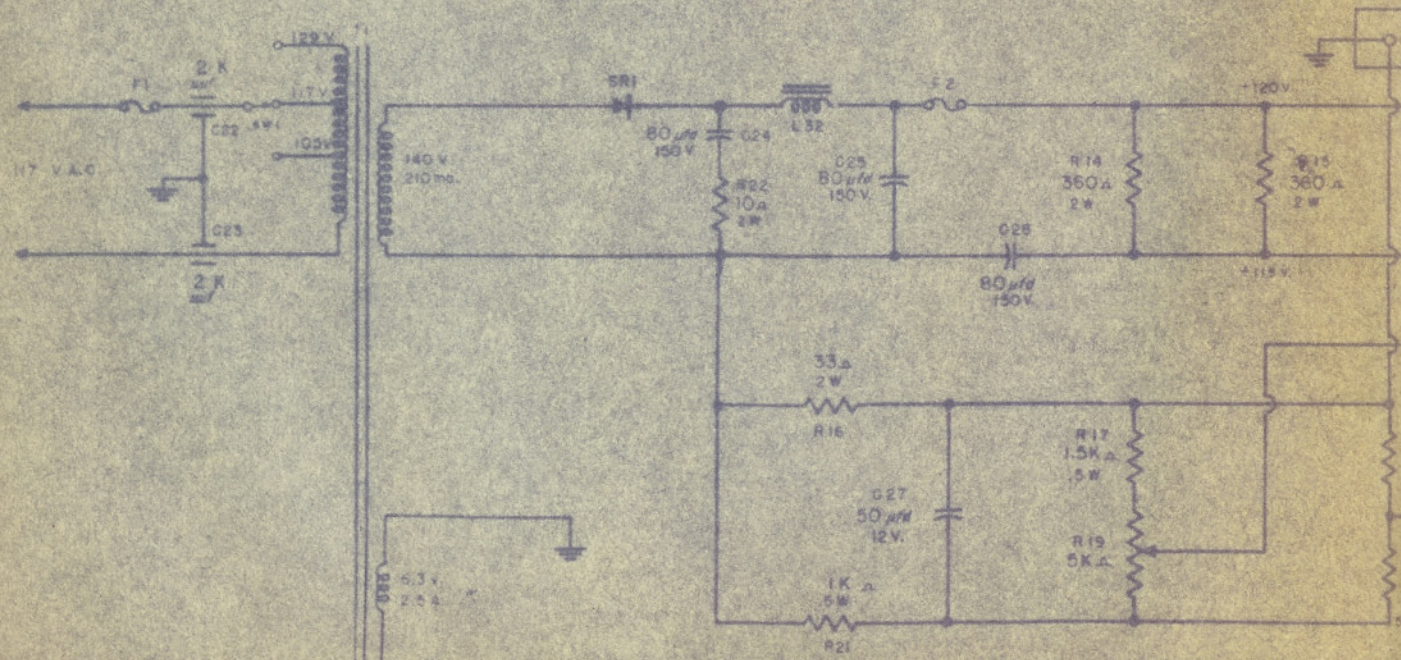
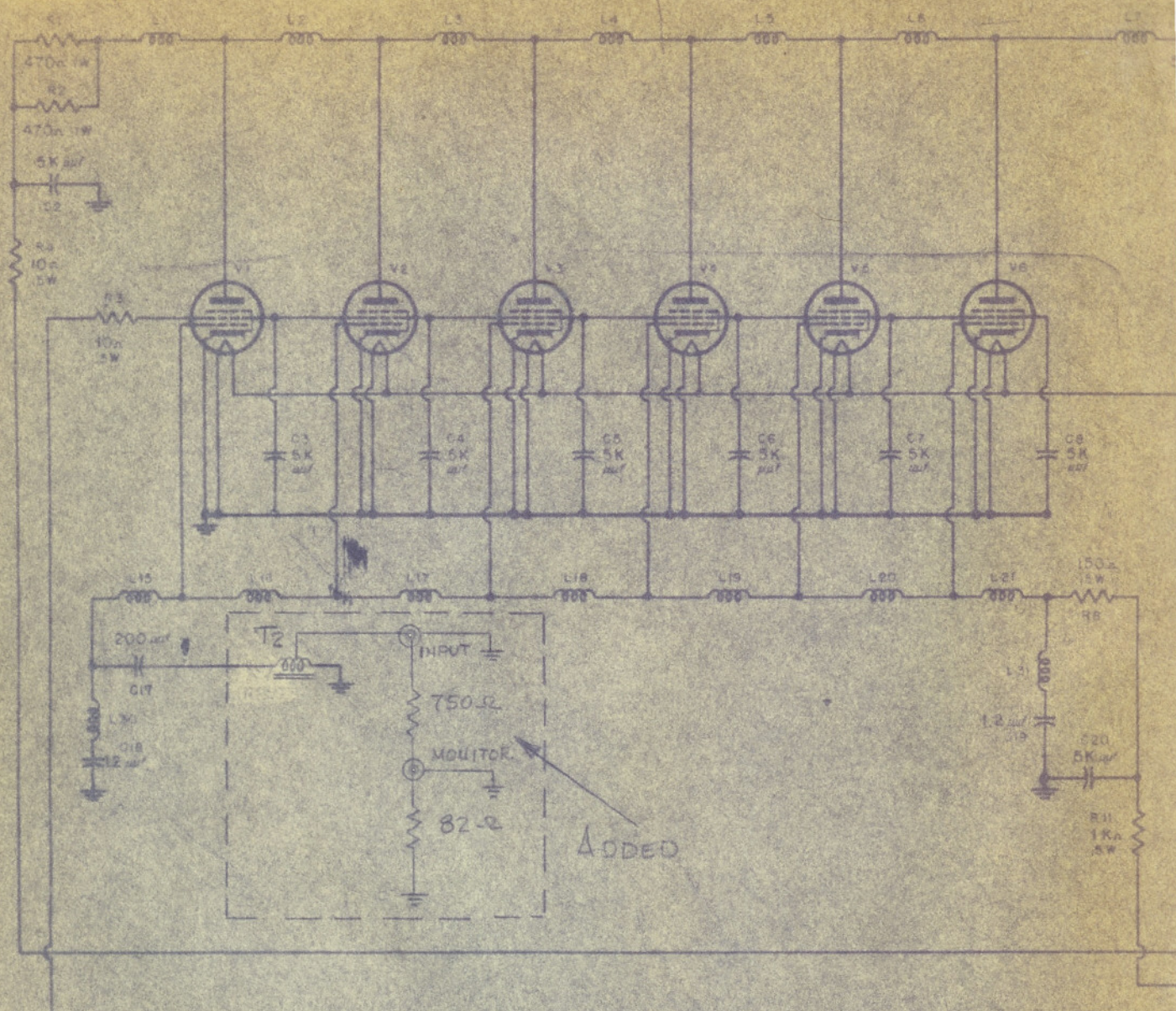


Mod. 400-91 CONVERSION KIT.

INDICATES XFLURS, CONNECTORS
AND RESISTORS REPLACING
CABLES FOR CHANGES TO 212D
FROM 212C

B-400910 S

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