STATION TRANSFORMERS

1.00 INTRODUCTION

This section identifies and tells where to use station transformers.

2.00 GENERAL

2.01 Locate transformers where they will be accessible for inspection and maintenance.

2.02 Transformers discussed in this section require a 110- to 125-volt ac power service outlet.

Make sure that the 110- to 125-volt power service outlet is not under control of a switch.

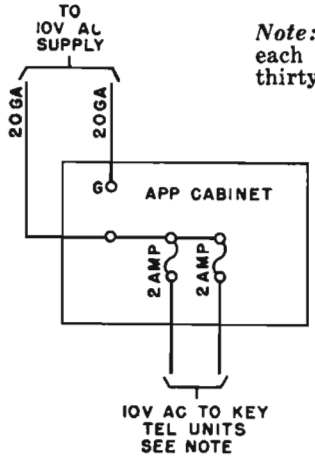
2.03 To prevent accidental removal, fasten power cords to the 110- to 125-volt ac outlet with a power-cord plug-retainer assembly. Use a 2A clamp to prevent a 2012-type transformer from being accidentally dislodged from the 110- to 125-volt service outlet.

3.00 393B TRANSFORMER

3.01 This transformer is used primarily as a power supply for 10-volt lamps in 1A and 1A1 key telephone systems. It is furnished in a metal box with a removable cover. The box is approximately 8-3/4 inches long, 4-1/4 inches high, and 4 inches deep.

3.02 The 393B transformer is equipped with two 2-amp fuses in parallel and furnishes 9 to 11 volts 2.8 amp ac. It will handle the load of seventy-two 51A lamps or equivalent.

3.03 When more than 36 lamps are supplied by the 393B transformer, the leads from the transformer to the key equipment must be 20 gauge or larger. The battery lead must be fused again at the key equipment as shown in Fig. 1.



Note: The maximum of each fuse is 1.6 amps or thirty-six 51A lamps.

Fig. 1 — Fusing for More Than 36 Lamps

3.04 Connect the leads from the 393B transformer to the key equipment as shown in Table A.

TABLE A

If ac supply voltage is	Connect the leads to the key equip. to term.
110	A and D
115	A and C
120	B and D
125	B and C

4.00 KS-5714 TRANSFORMER

4.01 The KS-5714 transformer is used primarily to operate bells, buzzers, and lamps on station system when the circuits are arranged to supply this load separately. It is furnished in a metal box with a removable cover. The box is approximately 8-3/4 inches long, 4-3/8 inches high, and 4 inches deep, and is arranged for wall mounting. This transformer is self-protecting and has no fuses.

4.02 The KS-5714, List 2 transformer supplies 15 volts 2.2 amp ac.

4.03 The KS-5714, List 3 transformer supplies 15 volts 1.1 amp ac.

5.00 2012A TRANSFORMER

5.01 The 2012A transformer (Fig. 2) supersedes KS-16184, List 3 transformer.

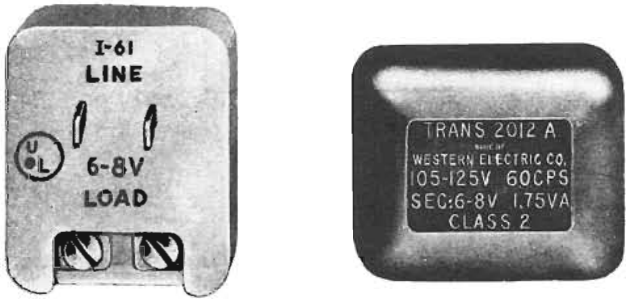


Fig. 2 — 2012A Transformer

5.02 Primarily intended for use with telephone sets requiring power for dial-light or night-light feature, it also supplies power to 51A control unit in 1A home interphone.

Do not use to power 3A speakerphone systems.

5.03 This transformer is self-protecting. A pair of prongs for the primary terminals is provided so that the transformer can be mounted in a standard parallel-blade convenience receptacle. Screw terminals are provided for secondary winding in a recess on the same side of apparatus as the prongs.

5.04 With 115 volts 60 cps applied to the primary winding, the secondary delivers approximately 6.7 volts at 0.250 amp.

5.05 Only one dial light or night light may be connected to a 2012A transformer. See Table B for loop limits.

- Do not use a 25-foot mounting cord because of added resistance, which will result in decreased illumination.

5.06 Select a permanent power receptacle (integral part of building) as close as possible to telephone set and not under control of a switch.

When installing a dial-light transformer, check that telephone protector and/or signaling ground conductor is connected to the best ground available as outlined in C Section entitled Protector and Signaling Grounds.

6.00 2012B TRANSFORMER

6.01 The 2012B transformer (Fig. 3) is primarily intended to supply power to 55A control unit in 3A speakerphone system. The length of wire between the transformer and the control unit should not exceed 100 feet of standard inside wire.

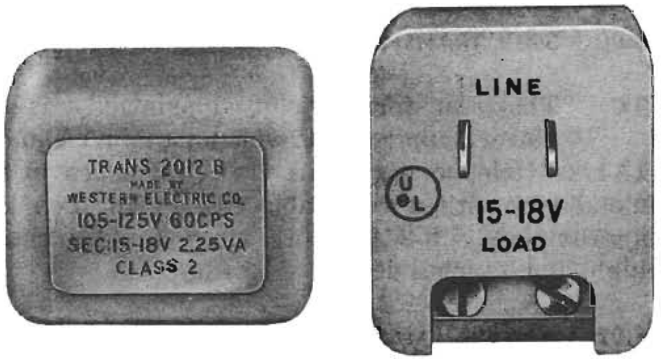


Fig. 3 — 2012B Transformer

Do not use as a 2012A transformer.

6.02 This transformer is self-protecting. A pair of prongs for the primary terminals is provided so that the transformer can be mounted in a standard parallel-blade convenience receptacle. Screw terminals are provided for secondary winding in a recess on the same side of apparatus as the prongs.

6.03 With 115 volts 60 cps applied to the primary winding, the secondary delivers approximately 16.2 volts at 0.132 amp.

6.04 The 2A clamp shown in Fig. 4 is used with 2012-type transformers for securing them to service outlets.

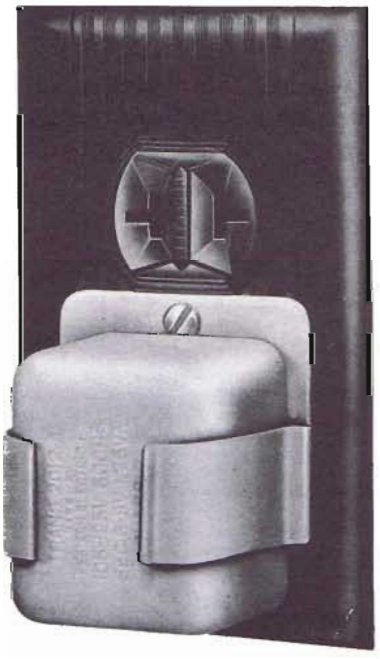


Fig. 4 — 2A Clamp

7.00 KS-16886, LIST 2 TRANSFORMER

7.01 The KS-16886, List 2 transformer (Fig. 5) is primarily intended as the centralized power supply for multiphone dial-light installations and home interphone systems requiring approximately 6 volts. It is capable of handling up to 10 dial-light stations. See Table B for loop limits. Additional taps at 10.5, 24, and 25.5 volts are also provided for other possible uses. This transformer is self-protecting and has no fuses.

7.02 Over-all dimensions of the transformer are 2-3/4 by 3-3/4 by 2-3/4 inches. Power cord is 18 inches long and terminates in a 2-pronged plug. Weight is approximately 1-1/2 pounds.

7.03 Keyhole slots are provided for easy installation. Use a suitable backboard when mounting on surfaces usually requiring a backboard.

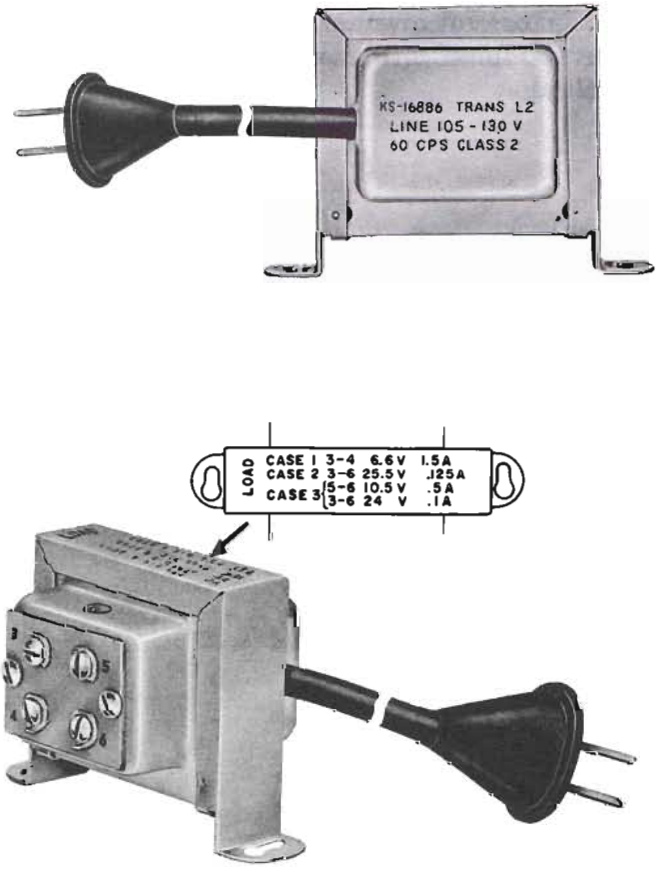


Fig. 5 — KS-16886, List 2 Transformer

8.00 KS-16940, LIST 1 V.R. TRANSFORMER

8.01 The KS-16940, List 1 V.R. transformer (Fig. 6) is primarily intended for use as centralized dial-light power source to provide regulated power for dial lights and night lights on telephones in motels and small hotels. It will power 30 dial-light telephone sets. This transformer is self-protecting. See Table B for loop limits.

8.02 Input is provided with a 2-foot 3-conductor power cord and plug. The ground prong of the plug is connected internally to the transformer case. The output is isolated from the input and case and is terminated in two low-voltage terminals on the case.

8.03 Output taps of 6.3 and 8.0 volts are located on back of cover as shown in Fig. 7. Transformer is shipped with moveable lead connected to 6.3-volt tap.

8.04 To change connection to 8.0-volt tap:

- Remove two screws holding cover to case.
- Remove cover.
- Change movable lead from 6.3-volt tap to 8-volt tap.

8.05 Over-all dimensions of the transformer are 7-5/8 by 2-15/16 by 3-5/8 inches. The weight is approximately 5-1/2 pounds.

8.06 Four 1/4-inch holes are provided on the case for mounting. Use a suitable backboard for mounting on surfaces requiring a backboard.

Use a suitable adapter to plug power cord in a standard parallel-blade ac outlet.

Fig. 6 — KS-16940, List 1 V.R. Transformer

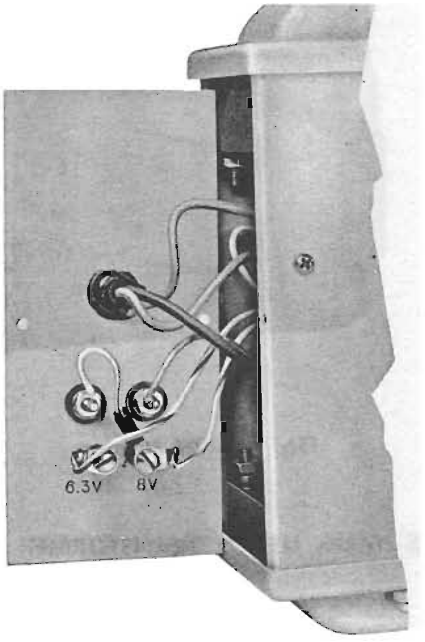


Fig. 7 — Movable Lead Connected to 8-Volt Tap

9.00 LOOP LENGTHS OF FEEDER PAIRS

Table B is to be used as a guide only. After the installation is made, if illumination is frequently reported as being inadequate, then it must be assumed that the loop lengths have been exceeded, or too many stations have been off hook at one time. To remedy this situation:

- Double up on the transformer feeder pairs.
- Split the lamp load and add a second transformer.

TABLE B

MAXIMUM LOOP LENGTHS OF DIAL LIGHTING PAIRS (INSIDE WIRING CABLE OR JKT WIRE)

Feature	Type Telephone Set	Transformer			
		KS-16940 L1		KS-16886 L2	
		8V (Note 1)	6.3V (Note 1)	6.6V (Note 2)	2012A (Note 3)
		Maximum Loop Lengths in Feet (Note 4)			
Single Dial-Light Tel Set	500	350	150	300	150
	701	350	175	350	250
	711	450	250	450	250
Common Feeder 2 Tel Sets — 1 Tel Line 1 Dial Light 1 Night Light	500	130	50	100	*
	701	200	100	150	
	711	220	100	175	
Common Feeder 3 Tel Sets — 1 Tel Line 1 Dial Light 2 Night Lights	500	90	40	60	*
	701	160	85	130	
	711	175	100	160	
Common Feeder 2 Tel Sets — 2 Tel Lines 2 Dial Lights	500	120	*	*	*
	701	150			
	711	175			

* Not to be used.

Note 1: Transformer KS-16940, List 1 is designed to power 30 dial-light telephone sets. Do not use common feeder to more than two sets which may be off hook at the same time. Home runs from each set to the transformer will provide best illumination.

Note 2: Transformer KS-16886, List 2 is designed to power 10 dial-light telephone sets. The use of a common feeder, where more than one set may be off hook at the same time, is not recommended. Home runs from each set to the transformer will provide best illumination.

Note 3: Transformer 2012A is designed to power only one dial-light telephone set.

Note 4: Loop lengths may be doubled if pairs for feeder are paralleled.