FILTERS

KS-20161 AND KS-20162

IDENTIFICATION, INSTALLATION, CONNECTIONS, AND MAINTENANCE

1. IDENTIFICATION

Do not attempt any installation or connection of this equipment unless the practice has been read and thoroughly understood.

(a) ***Purpose:*** The KS-type filters are designed to be used where the treatment of signal energy is required on transmission and signal leads other than audio frequencies. These filters are intended to be used with the 270-, 271-, and 272-type switches and are to be installed only in approved enclosures—***intended solely for use on specially engineered lines, not for general telephone use.***

(b) ***Ordering Guide:***

- Filter, KS-20161L1—has single input and output (Fig. 1). One required for each signal or control lead to be treated.

- Filter, KS-20162L1—has two inputs and outputs (Fig. 1). One required for each ***pair*** of transmission leads

(c) ***Associated Apparatus:***

- Filter, KS-20337 (List 1 through List 25)—a shielded metal cabinet with removable sides and wired with KS-20162 filters as specified by the list number, i.e., List 10 consists of the cabinet equipped with ten filters. Orders should be worded:

  (quantity) Filter, KS-20337L( )

- Filter, KS-20339 (List 1 through List 50)—same shielded cabinet except equipped with and wired for a maximum of fifty KS-20161 filters. Orders should be worded:

  (quantity) Filter, KS-20339L( )

(d) ***Design Features:***

- The KS-20161 filter is a low-pass, unbalanced to ground filter, passing telephone signal frequencies with minimum loss and strongly attenuating all others. Working limits are:

  (1) Maximum resistance (1 to 2)—4 ohms

  (2) Maximum dc current (1 to 2)—350 ma

  (3) DC breakdown voltage—600 volts

- The KS-20162 filter is a low-pass, balanced to ground filter, passing telephone voice frequencies and attenuating all others. Working limits are:

  (1) Maximum resistance (1 to 2 or 3 to 4)—12 ohms

  (2) Maximum dc voltage (1 to 2 or 3 to 4)—160 ma

  (3) DC breakdown voltage—600 volts

- The KS-20337 type and KS-20339 type filters are designed for surface mounting and have removable front and side panels. They are equipped with conduit fittings and clip-type connecting blocks for the incoming feeder cable and outgoing cable(s) to the key system or telephone sets.

2. INSTALLATION

(a) The KS-type filters must be installed in an enclosure provided and approved by the customer or in the filters listed in the Ordering Guide.

(b) Filter enclosures should be mounted to the customer ground plane and at the point of entrance to the secure area.

(c) Whenever possible the filters should be connected on the line side of any key equipment used, to reduce the number of filters required.

(d) All grounding must be made to the ground plane established by the customer.

(e) When KS-20337 type or KS-20339 type filters are used instead of customer supplied enclosures, all cabling must be brought into the filters through conduit. The conduit for incoming cable is connected to the single fitting on the left hand side (facing the assembly) and the cable terminated on the corresponding left hand connecting block. Up to five outgoing cables can be connected to the fittings on the right hand side and their cables are terminated on the corresponding block.

(f) Choice of mounting fasterners should be determined by the type of surface used and on the basis of supporting 113 lbs for a fully equipped KS-20337 type filter or 125 lbs for a KS-20339 type filter.

(g) When required, additional filters can be installed subsequent to the initial installation. To install filters in the KS-20337 type or KS-20339 type filters:

(1) Remove plug assembly in first vacant filter position by loosening the one screw in the case of the KS-20339 type filter or two in the case of the KS-20337 type filter.

(2) Install filter in same relative position as those already in place.

(3) Use nut and washer supplied with filter to mount, with washer on same side of partition as nut. Tighten nut sufficiently to make good contact between surfaces—***do not overtighten.***

(4) Wire filters to the connecting blocks, soldering the wire to the filters and using a 714-type tool at the connecting blocks. Use wire of at least 24 gauge, ie, F cross-connect wire or equivalent. Filter numbers are stenciled and should be wired to the proper terminals on the connecting blocks. Route and fasten the wire in the same manner as that in place.

3. CONNECTIONS

(a) Connections to the filters are shown in Fig. 2. If filters are mounted in a customer provided enclosure, terminating facilities may differ but filters should be wired as shown in Fig. 2.

(b) Depending on the location of the filters and key equipment, if used, incoming wiring could come from the CO or PBX, or the key equipment. Outgoing wiring could go to the stations or key equipment.

4. MAINTENANCE

(a) No maintenance of the KS-type filters is to be attempted. If found defective, replace filter.

(b) The filters are sealed units and no attempt should be made to disassemble, alter, repair, or adjust the unit. No wiring changes or connections other than those specified in this section are to be made.

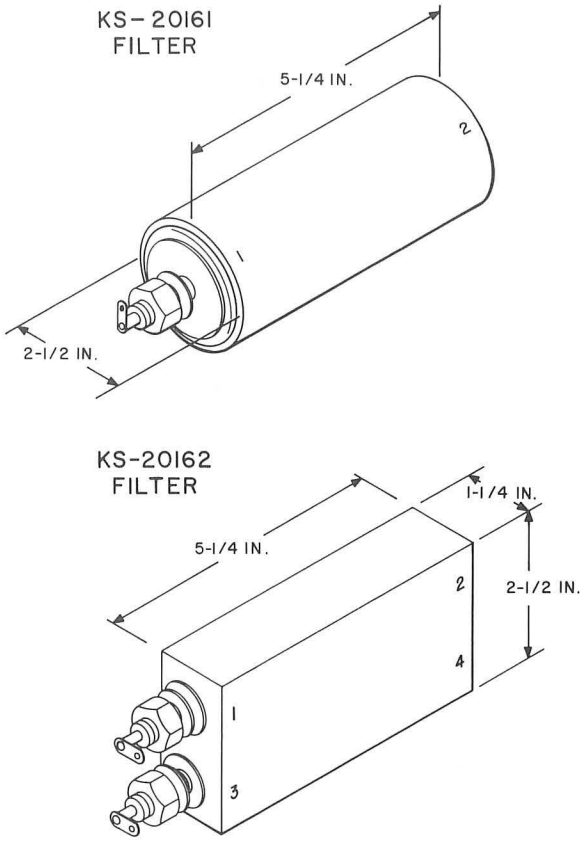
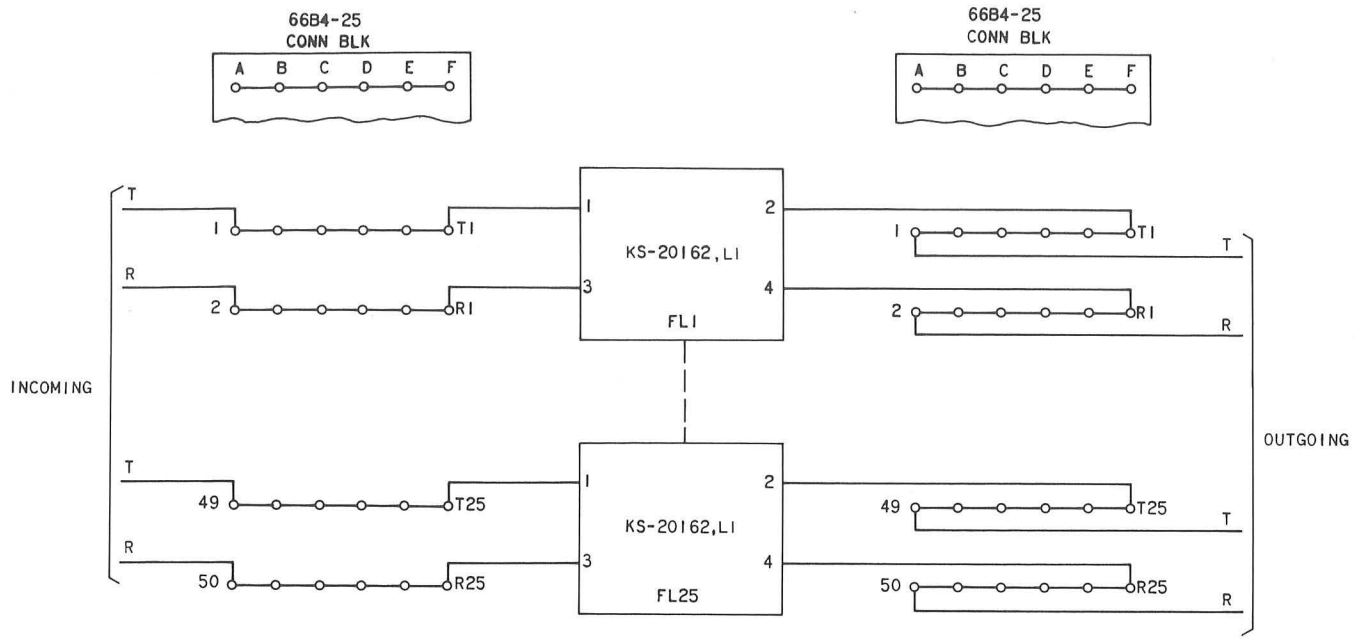
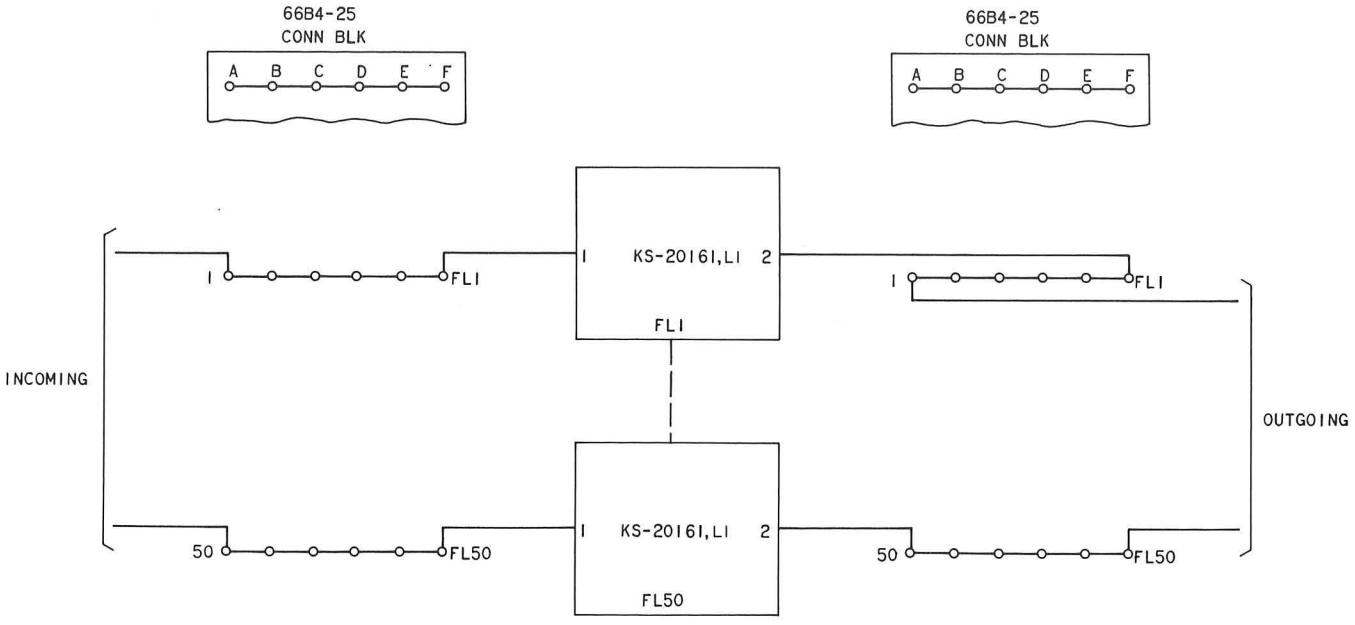


Fig. 1—KS-Type Filters



A. KS-20337,LI FILTER, CONNECTIONS



B. KS-20339,LI FILTER, CONNECTIONS

Fig. 2—Filter Connections