

K-700 SERIES DESK TYPE TELEPHONES

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1 GENERAL DESCRIPTION

1.1 The K-700 series provides a group of compact, anti-sidetone type desk telephones which operate efficiently over a wide range of loop resistance and line impedance. The instruments are intended for use in special locations, such as bedrooms, or where desk space is at a premium. Each instrument consists of an oval pressed aluminum baseplate, with a non-skid rubber mat underneath, on which all internal parts are mounted. A molded plastic housing covers the assembly and provides a cradle for the handset, which is connected to the internal components by a flexible plastic covered cord. A second plastic covered cord connects the instrument to a molded terminal block or wall-mounted ringer unit. A separate ringer unit must always be fitted with these instruments, except when they are used as extension units, as the extremely compact design does not include an internal ringer.

1.2 The K-700 telephone instrument is available for use on any class of service on any type of automatic or manual telephone system. It may be connected to its associated ringer to provide all necessary circuitry. Some special features may be provided with the instrument: specific details for each combination are given in individual sub-sections, each indexed by the instrument/special feature code (e.g. 701/30).

1.3 Although any of the ringer units described in section M2C may be used with the K-700 telephone, types 136, 137, 138 and 139 have been designed with the requirements of this series of telephones in view. Each of these ringers provides adequate terminal block facilities for the external circuits of the instrument.

1.4 Instruments in the K-700 series can be supplied in colors of rose pink, aqua blue, light beige, light grey, sea green or white only.

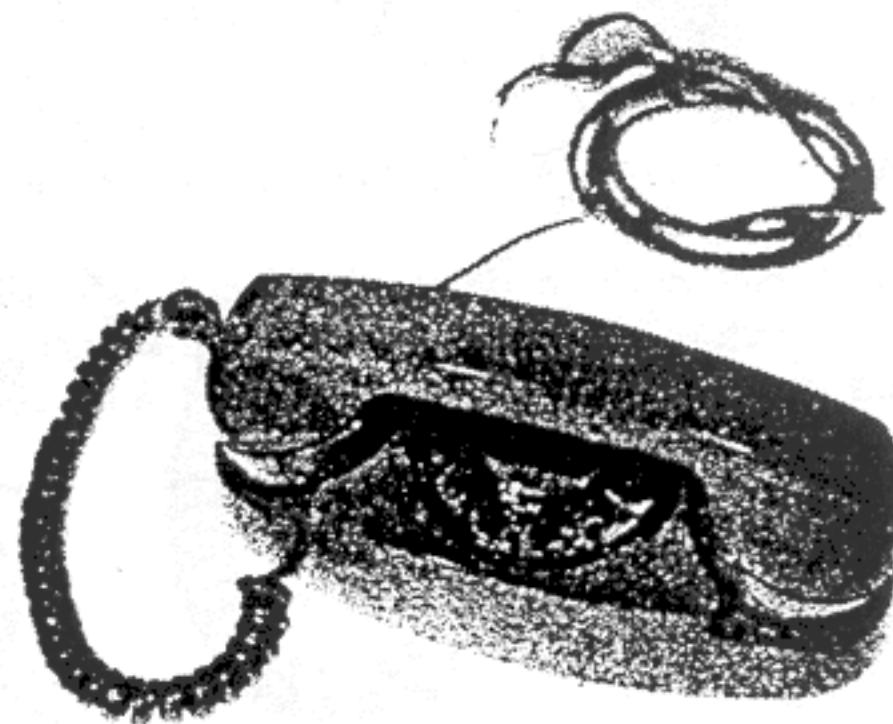


Fig. 1-1 K-700 SERIES TELEPHONE

2 ASSOCIATED PUBLICATIONS

2.1 General information on ordering, installation and maintenance is given in part 1 of the manual.

2.2 The various components and sub-assemblies used in each instrument are described in part 2 of the manual.

2.3 Specific descriptions, parts lists, wiring diagrams and circuit diagrams for each of the different assemblies in the K-700 series are given in individual sub-sections in part 3 of the manual. Each sub-section is indexed by the instrument and special feature code numbers.

3 DISASSEMBLY AND ASSEMBLY

3.1 The exploded view of Fig. 3-1 shows all the component parts and sub-assemblies of the K-700 basic instrument. Procedures for disassembly and assembly are given below. Additional parts which are included to provide special features should be removed and replaced in any convenient order. Note

that the lamp of the message waiting light may be replaced by unscrewing the lamp cap. The lamp of the dial light may be replaced by unscrewing the holder in the base of the instrument, then changing the lamp in the holder.

(Was M3A-700/SER Page 2)

3.2 DISASSEMBLY - BASIC INSTRUMENT

- a: Loosen the lockwasher screws (18) and remove the housing (29).
- b: Loosen the clamping screws, lift out the dial (21a), if fitted, and disconnect the leads.
- c: Disconnect the leads and remove the handset and cord assembly (22).
- d: Disconnect the leads and remove the desk stand cord (23).
- e: Remove the lamp (27) and socket assembly (26).
- f: Remove spring (25) and cradle switch bracket assembly (24).

The remaining major components of the complete instrument are riveted to the baseplate. If it should become necessary to remove one of these components the rivets must be drilled out and the replacement component mounted with new rivets, if riveting equipment is available, or with suitable machine screws, spring washers and hexagonal nuts.

3.3 ASSEMBLY - BASIC INSTRUMENT

Reassemble the instrument in the reverse order to that given for disassembly, noting the points listed below.

- a: Refer to the appropriate wiring diagram to reconnect the various leads.
- b: Make certain that the leads of the handset and mounting cords do not interfere with the operation of the cradle switch.
- c: Make sure that the locating pins and holes mate correctly to locate the dial squarely in its mounting bracket.
- d: The housing must fit freely without binding on any part. Make sure that the dial gasket is in its correct position.
- e: Check that any screws, washers and nuts, used to replace rivets, do not interfere with any other parts of the instrument.
- f: Check the assembled unit as detailed in Section 4.

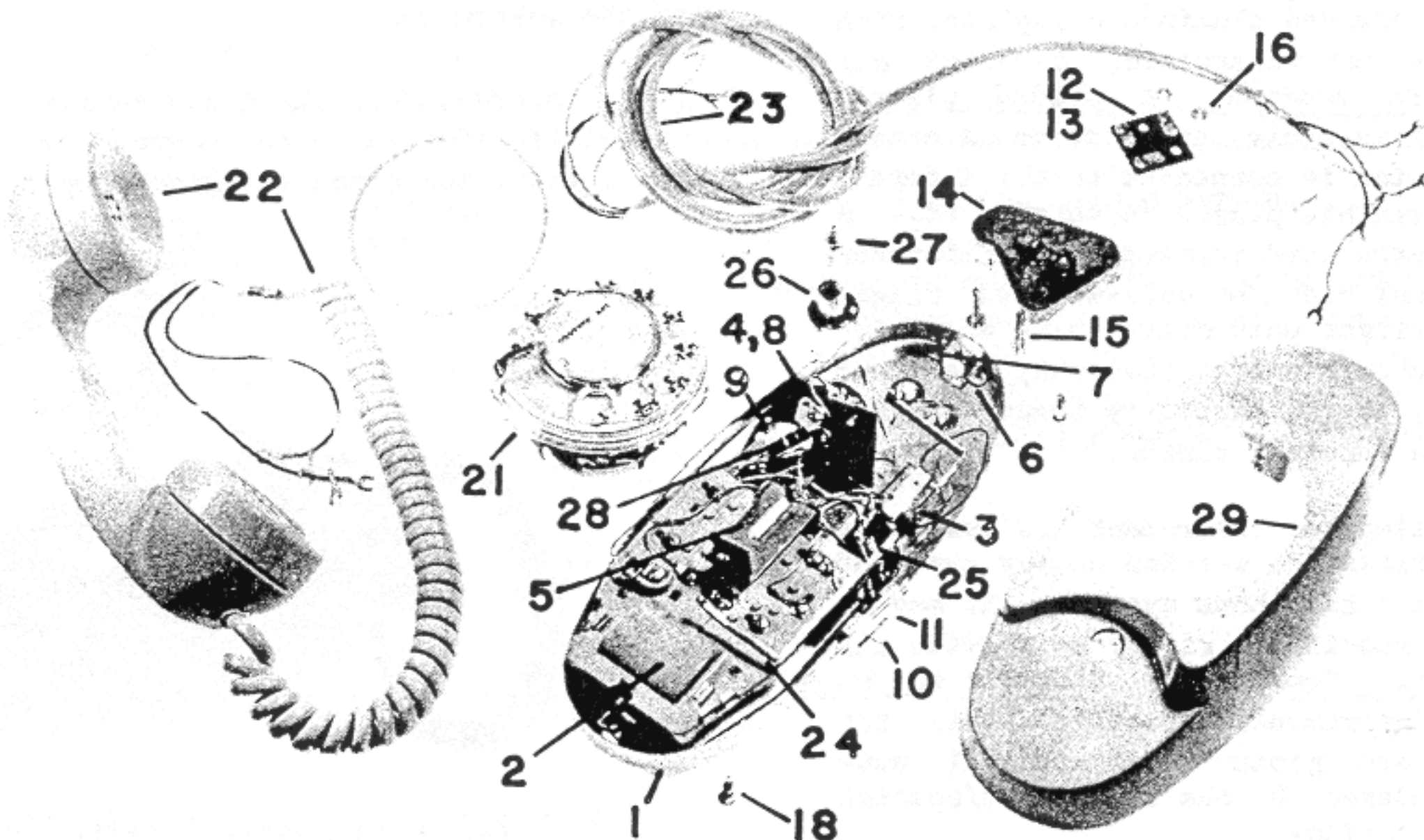


Fig. 3-1 COMPONENT PARTS - EXPLODED VIEW

4 TEST AND ADJUSTMENT

4.1 Tests and adjustments on the sub-assemblies are detailed in their respective sub-sections. The following checks must be made on the completely assembled instrument.

4.2 CRADLE SWITCH

Check that either plunger will fully operate the spring assembly before being depressed to a point 1/8" above the housing molding and that the plungers may be lifted slightly after the handset is removed. Bend the side arms of the actuator, using two pairs of pliers, to adjust, if necessary.

4.3 FUNCTIONAL TESTS

Connect the telephone to a working line and check for correct operation of the following:

- a: Dial, if fitted.
- b: Transmitter and receiver.
- c: Cradle switch.
- d: Adequate suppression of sidetone.
- e: Correct party identification, in conjunction with a suitable ringer, if applicable.
- f: Absence of noise due to loose contacts when the instrument is gently bumped or shaken.
- g: Special features, if fitted.

TYPE 701--(LR)30- DESK TELEPHONE

The 701--(LR)30- telephone is a very compact desk type of instrument with a built in combination dial and night light which illuminates the numeral ring. A switch, at the rear, may be set so that the light glows dimly or is off when the handset is in the cradle. With the switch in either position the light glows brightly when the handset is lifted. A separate power source of 6-8 volts AC or DC at a

current of about 1/4 amp. is required to supply the lamp. A specially designed transformer, type 31()690, is available for use on 110V AC power circuits.

The installed telephone must be provided with a separately mounted, external ringer. Types 136, 147, 138 and 139 are recommended.

Table 1 REPLACEABLE PARTS

Item	Description	Number	Qty	Item	Description	Number	Qty
1	Base Assy. c/w items 2 thru 20	190077-1	1	16	Hex Nut	70788	2
2	Network Assembly	190107	1	17	Mat	190121	1
3	Spring Assembly (Cradle)	190092	1	18	Screw	190139	2
4	Insulator	190449	1	19	Wire Assembly (WH-SL-GR)	190106-10	1
5	Bracket (Dial)	190120	1	20	Wire Assembly (WH-SL-RD)	190106-11	1
6	Bracket (Housing Mtg. Screw)	190119	1	21a	Dial Assembly	3300(Ø)450	1
7	Rivet	190137-2	11	b	Dummy Plug Assembly	190600-*	
8	Lamp Base Assembly	190076	1	22	Handset and Cord Assembly	65**(C2)410	1
9	Rivet	59581-17	2	23	Desk Stand Cord	3049**(19)650	1
10	Switch	190267	1	24	Cradle Switch Bracket Assy.	190090	1
11	Rivet	58581-11	2	25	Spring	75307	1
12	Connecting Block Assembly	190073	1	26	Lamp Socket Assembly	190088	1
13	Insulator	190071	1	27	Lamp	79802	1
14	(Lead) Weight	190580-1	1	28	Resistor	64342-161	1
15	Screw	75436-2	2	29	Housing and Plunger Assembly	190128-*	1

Note: Dial and Dummy Plug Assemblies are both supplied complete with mounting screws.

Ø Replace by class code number for type required.
 * Replace by color code suffix from series 1-16.
 ** Replace by color code number from series 00-16.

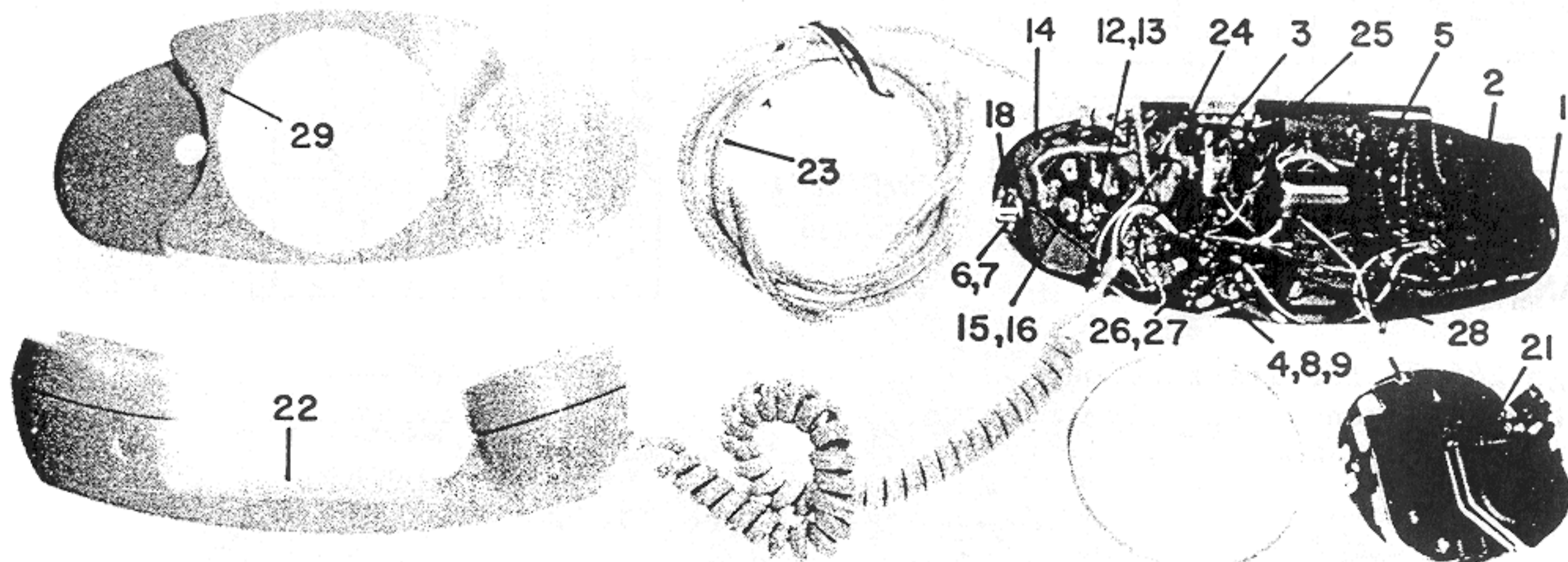


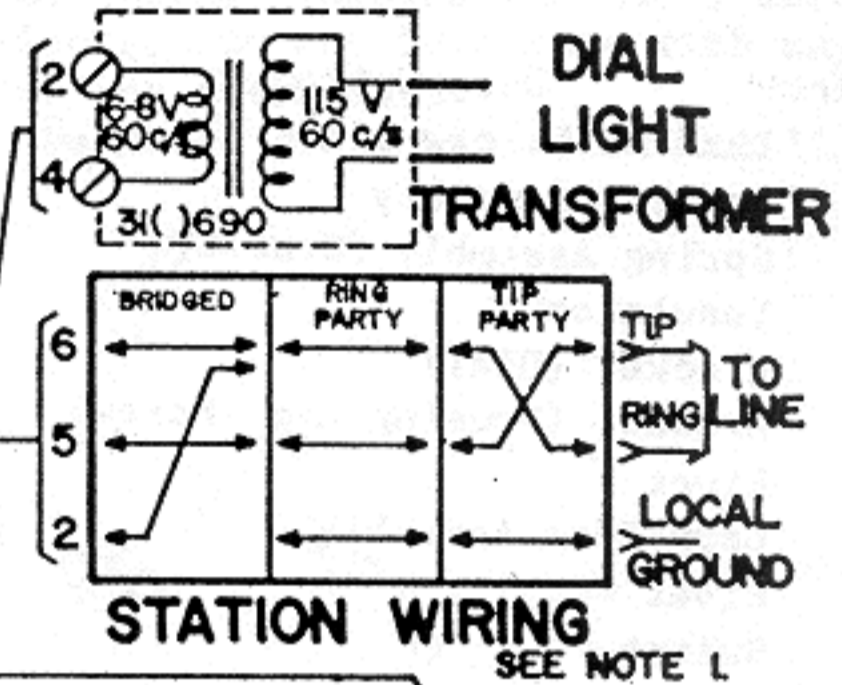
Fig. 1 TOP VIEW - HOUSING REMOVED

RINGER OPTIONS

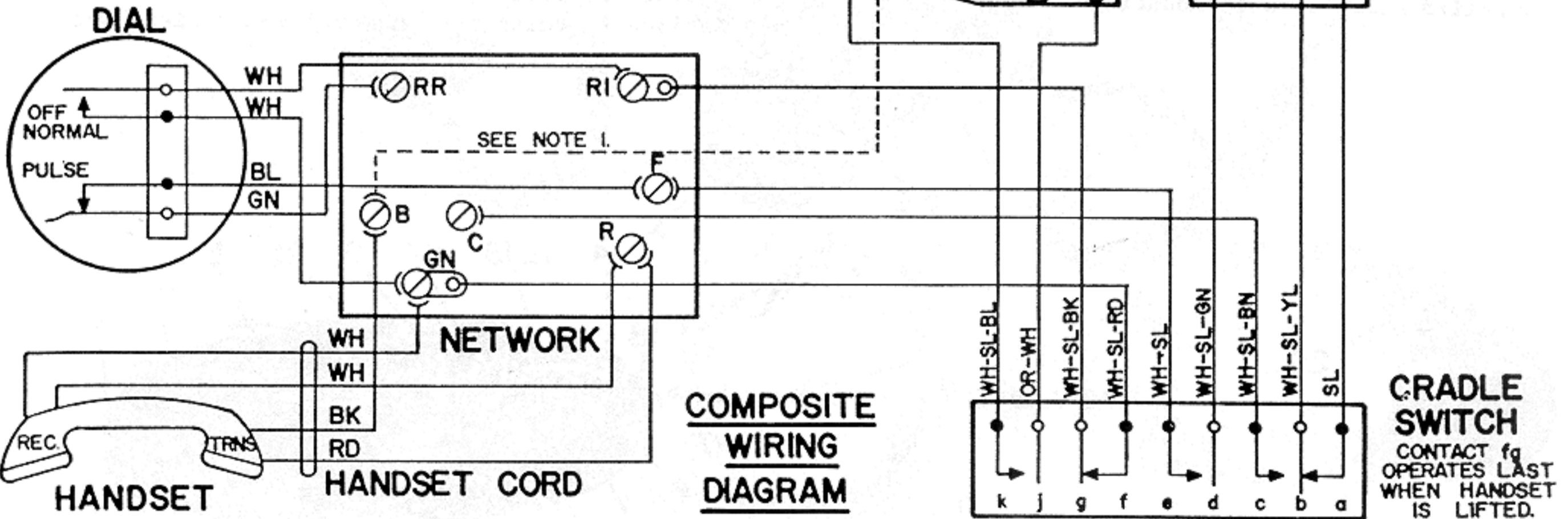
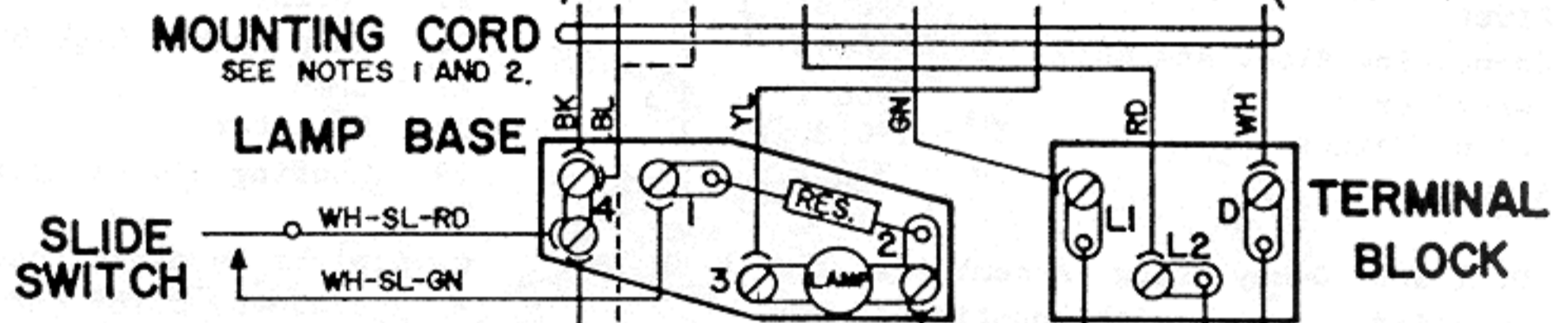
BIASED	GAS TUBE	FREQ. SELECTIVE	PARTY IDENTIFICATION
136(BA) 470 BRIDGED RINGING 	136(TBA) 470 -BIAS 	137(--)-470 BRIDGED RINGING 	--- 1000 OHM GROUND ---BIASED RINGER ---F.S. RINGER SEE NOTE
DIVIDED RINGING 	+BIAS 	DIVIDED RINGING 	2600 OHM GROUND ---BIASED RINGER ---F.S. RINGER SEE NOTE
4 1 5 6 2 7 3	4 1 5 6 2 7 3	4 1 5 6 2 7 3	4 1 5 6 2 7 3
4 L2 LI 3 D	4 L2 LI 3 D	4 L2 LI 3 D	4 B L2 LI 3 D

RINGER NOTES

1. Party Identification: Connect blue mounting cord lead as shown by dashed lines. Mounting cord connections shown for ring party. For tip party reverse red and green cord conductors on ringer terminal board and use ring party station wiring.
2. 6-Conductor Mounting Cord: Blue and black leads connected in parallel except for party identification - see note 1.



For Manual Service:
 Replace dial with dummy plug and transfer WH-SL cradle switch lead from F to RR on network.



See page 245.05 for instructions on connecting frequency selective ringers.

CIRCUIT DIAGRAM
 (INSTRUMENT ONLY)

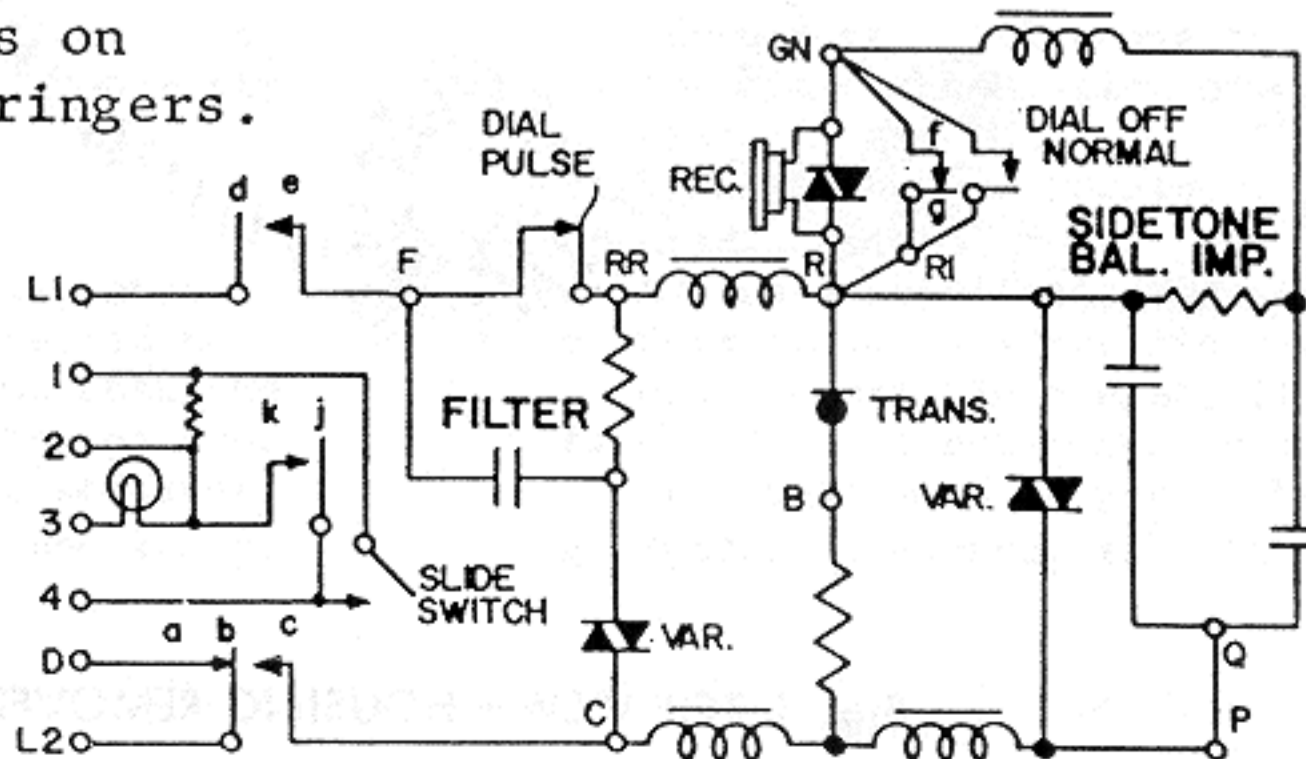


Fig. 2 DIAGRAMS 701--(LR)30- TELEPHONE

TYPE 701--(LR)37- AND TYPE 701--(LR)38- DESK TELEPHONES

The 701--(LR)37- and 701--(LR)38- telephones are very compact desk types of instruments with built in combination dial and night lights, which illuminate the numeral rings, and separate indicator lamps. A small neon lamp, located in front of the handset, may be caused to glow by applying a DC potential of 90 volts across the line conductors at a remote point. The instruments are intended for use on PBX installations where the glowing lamp is used to indicate that a message has been left at the switchboard in the absence of the called party.

A switch at the rear of the instrument may be set so that the dial light glows dimly, for use as a night light, or is off when the handset is on the cradle. With the switch in either position the

light glows brightly when the handset is lifted. A separate power source of 6-8 volts AC or DC at a current of about 1/4 amp. is required to supply the dial lamp. A specially designed transformer, type 31()690, is available for use on 110V AC power circuits.

The 701--(LR)37- instrument is provided with a 1/5 watt neon indicator lamp while the 701--(LR)38- is provided with a lower power 1/15 watt indicator lamp. The lamps must not be interchanged as the sockets have different built-in series resistors.

Table 1 REPLACEABLE PARTS

Item	Description	Number	Qty	Item	Description	Number	Qty
1	Base Assy. c/w items 2 thru 20	190077-1	1	18	Screw	190139	2
2	Network Assembly	190107	1	19	Wire Assembly (WH-SL-GR)	190106-10	1
3	Spring Assembly (Cradle)	190092	1	20	Wire Assembly (WH-SL-RD)	190106-11	1
4	Insulator	190449	1	21a	Dial Assembly	3300(Ø)450]1
5	Bracket (Dial)	190120	1	b	Dummy Plug Assembly	190600-*	
6	Bracket (Housing Mtg. Screw)	190119	1	22	Handset and Cord Assembly	65**(C2)410	1
7	Rivet	190137-2	11	23	Desk Stand Cord	3049**(19)650	1
8	Lamp Base Assembly	190076	1	24	Cradle Switch Bracket Assy.	190090	1
9	Rivet	59581-17	2	25	Spring	75307	1
10	Switch	190267	1	26	Lamp Socket Assembly	190088	1
11	Rivet	59581-11	2	27	Lamp	79802	1
12	Connecting Block Assembly	190073	1	28	Resistor	64342-161	1
13	Insulator	190071	1	29	Housing and Plunger Assembly	190603-*	1
14	(Lead) Weight	190580-1	1	30a	Indicator Light - Code 37 inst.	95180-2]1
15	Screw	75436-2	2	b	Indicator Light - Code 38 inst.	95180-1	
16	Hex Nut	70788	2	31a	Neon Lamp - Code 37 instruments	95181-2]1
17	Mat	190121	1	b	Neon Lamp - Code 38 instruments	95181-1	

Note: Dial and Dummy Plug Assemblies are both supplied complete with mounting screws.

Ø Replace by class code number for type required.
 * Replace by color code suffix from series 1-16.
 ** Replace by color code number from series 00-16.

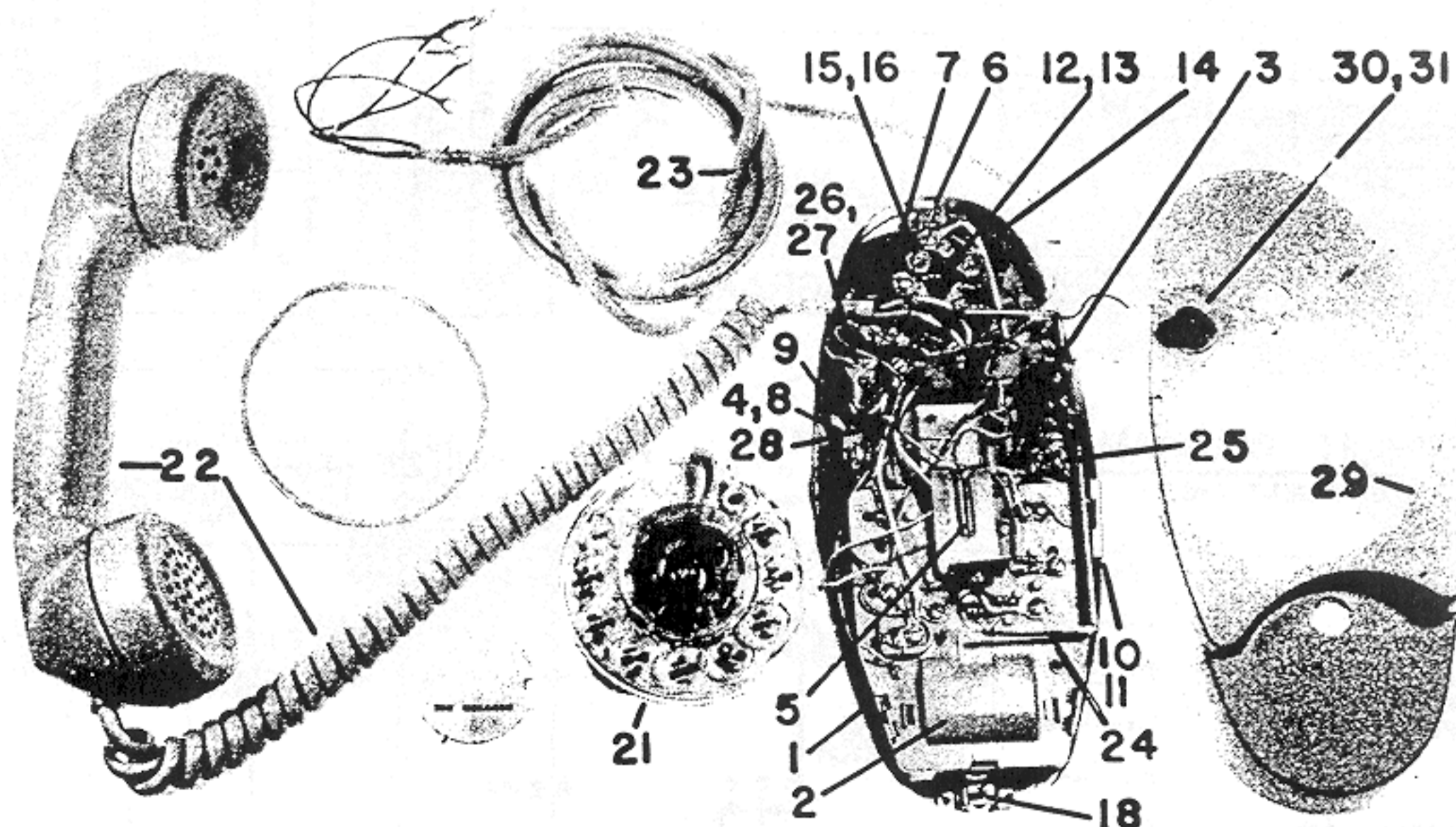
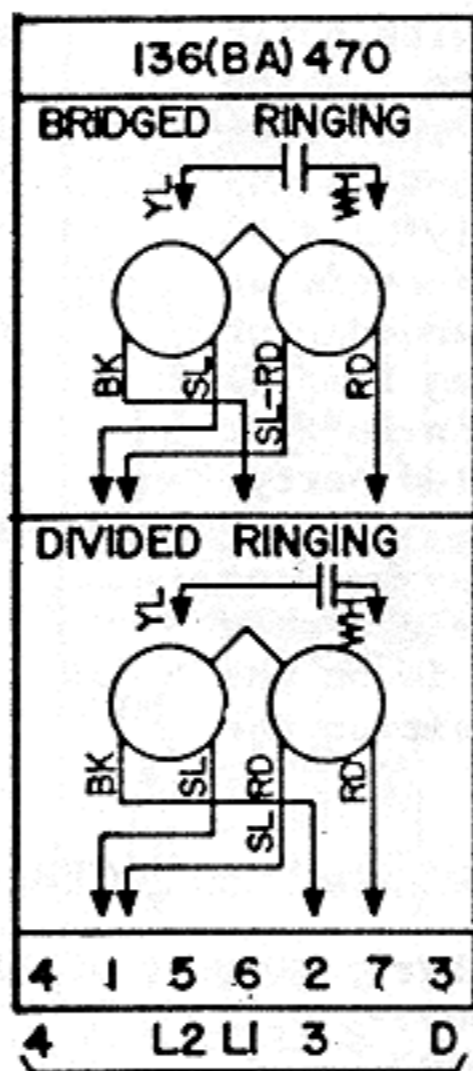
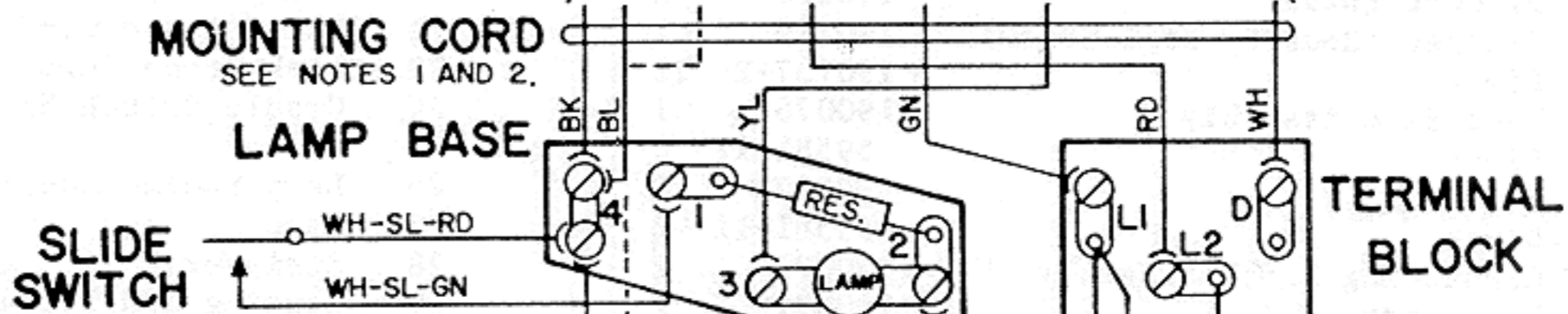
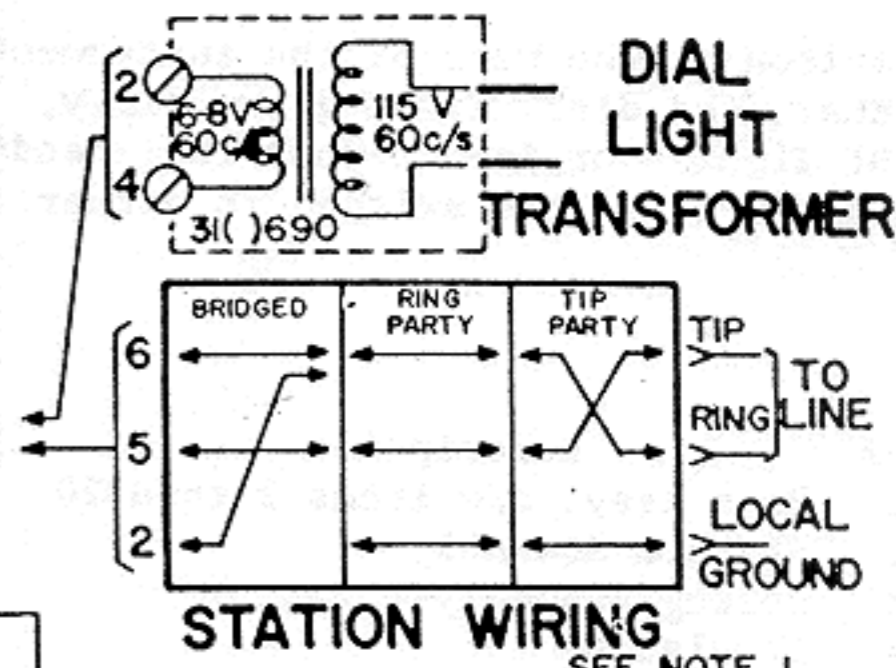


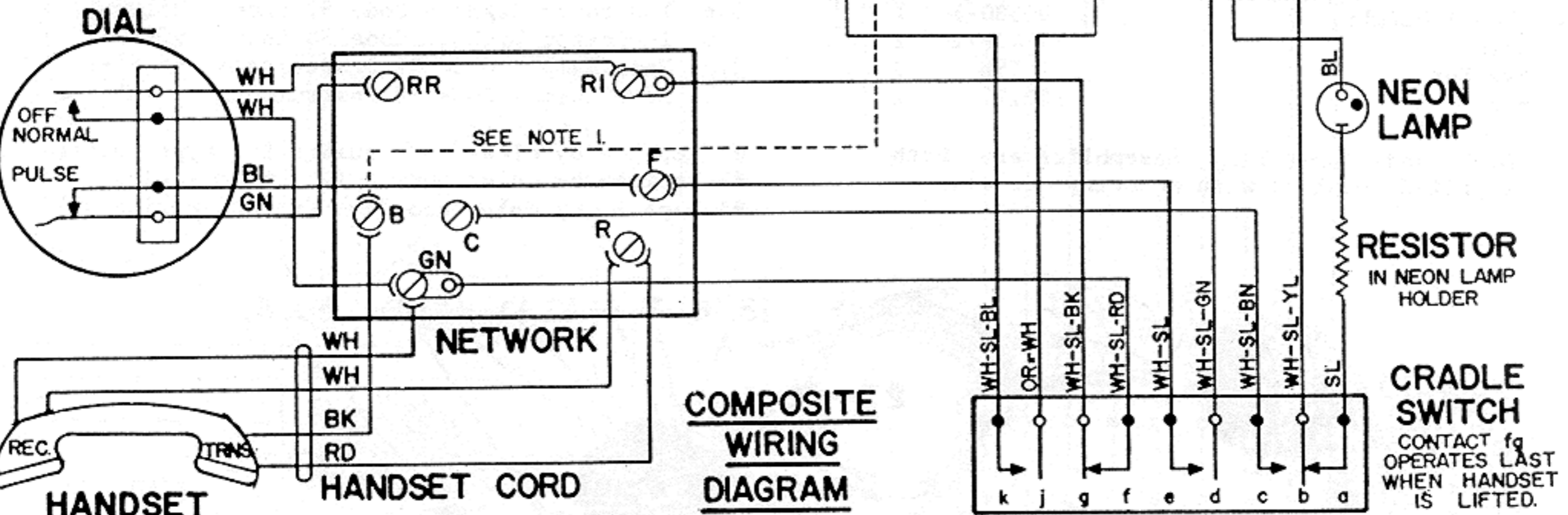
Fig. 1 TOP VIEW - HOUSING REMOVED



6-Conductor Mounting Cord:
 Blue and black leads connected
 in parallel



For Manual Service:
 Replace dial with dummy
 plug and transfer WH-SL
 cradle switch lead from
 F to RR on network.



CIRCUIT DIAGRAM
 (INSTRUMENT ONLY)

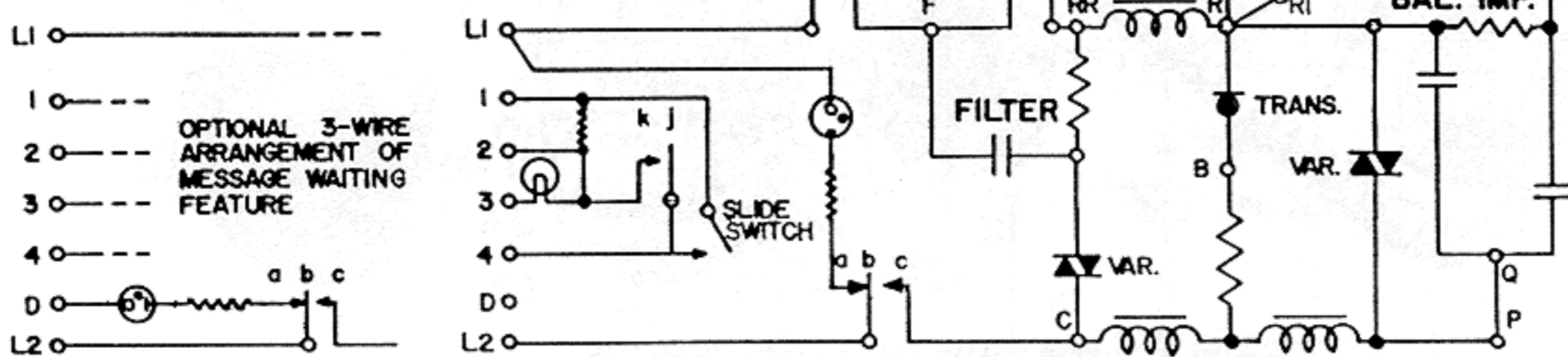


Fig. 2 DIAGRAMS 701--(LR)37- TELEPHONE AND 701--(LR)38- TELEPHONE

TYPE 703--(LR)30- DESK TELEPHONE

The 703--(LR)30- telephone is a very compact desk type of instrument. It is identical with the type 701--(LR)30- telephone except that the built in combination dial light/night light is omitted.

The installed telephone must be provided with a separately mounted, external ringer. Types 136, 147, 138 and 139 are recommended. The wiring for these ringers is included in the diagrams of Fig. 2.

Table 1 REPLACEABLE PARTS

Item	Description	Number	Qty	Item	Description	Number	Qty
1	Base Assy. c/w items 2 thru 15	190077-2	1	12	Screw	75436-2	2
2	Network Assembly	190107	1	13	Hex Nut	70788	2
3	Spring Assembly (Cradle)	190092	1	14	Mat	190121	1
4	Gasket	190261-1	1	15	Screw	190139	2
5	Bracket (Dial)	190120	1	16a	Dial Assembly	3300(Ø)450	1
6	Bracket (Housing Mtg. Screw)	190119	1	b	Dummy Plug Assembly	190600-*	
7	Rivet	190137-2	11	17	Handset and Cord Assembly	65**(C2)410	1
8	Slug (Plugs Lamp Mtg. Hole)	95250	1	18	Desk Stand Cord	3051**(19)650	1
9	Connecting Block Assembly	190073	1	19	Cradle Switch Bracket Assy.	190090	1
10	Insulator	190071	1	20	Spring	75307	1
11	(Lead) Weight	190580-1	1	21	Housing and Plunger Assembly	190128-*	1

Note: Dial and Dummy Plug Assemblies are both supplied complete mounting screws.

Ø Replace by class code number for type required.
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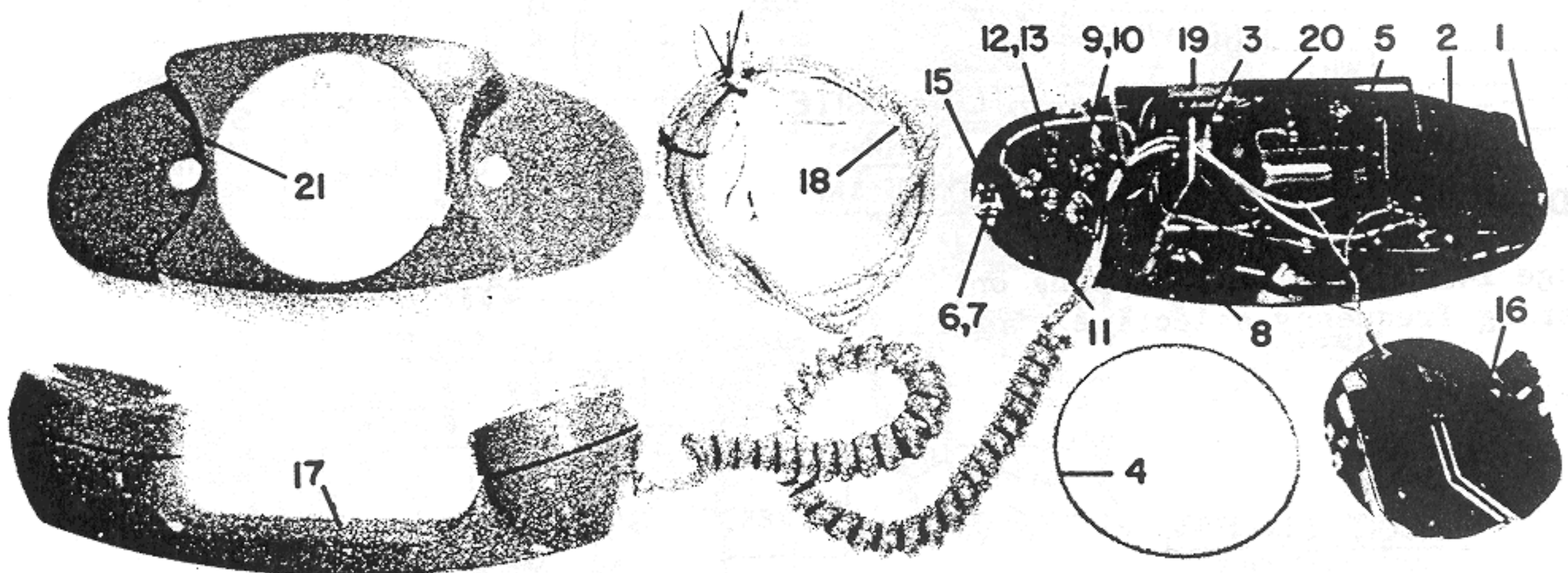


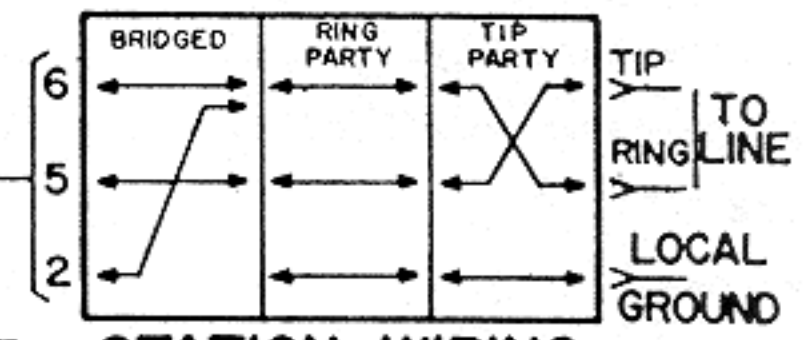
Fig. 1 TOP VIEW - HOUSING REMOVED

RINGER OPTIONS

RINGER NOTES

BIASED	GAS TUBE	FREQ SELECTIVE	PARTY IDENTIFICATION
136(BA) 470	136(TBA) 470	137(--)-470	--
BRIDGED RINGING	-BIAS	BRIDGED RINGING	1000 OHM GROUND BIASED RINGER
DIVIDED RINGING	+BIAS	DIVIDED RINGING	2600 OHM GROUND BIASED RINGER
4 1 5 6 2 7 3	4 1 5 6 2 7 3	4 1 5 6 2 7 3	4 1 5 6 2 7 3
L2 LI D	L2 LI D	L2 LI D	B L2 LI D

1. Party Identification: Connect yellow mounting cord lead as shown by dashed lines. Mounting cord connections shown for ring party. For tip party reverse red and green cord conductors on ringer terminal board and use ring party station wiring.
2. 6-Conductor Mounting Cord: Yellow and black leads connected in parallel except for party identification - see note 1.

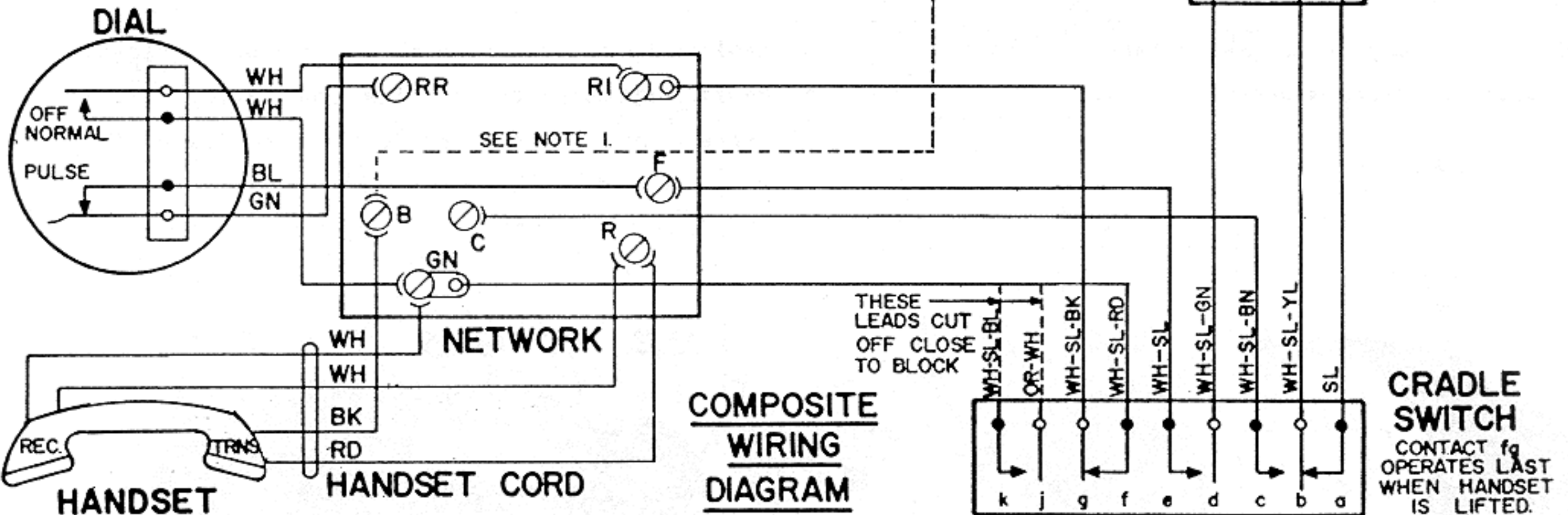


STATION WIRING

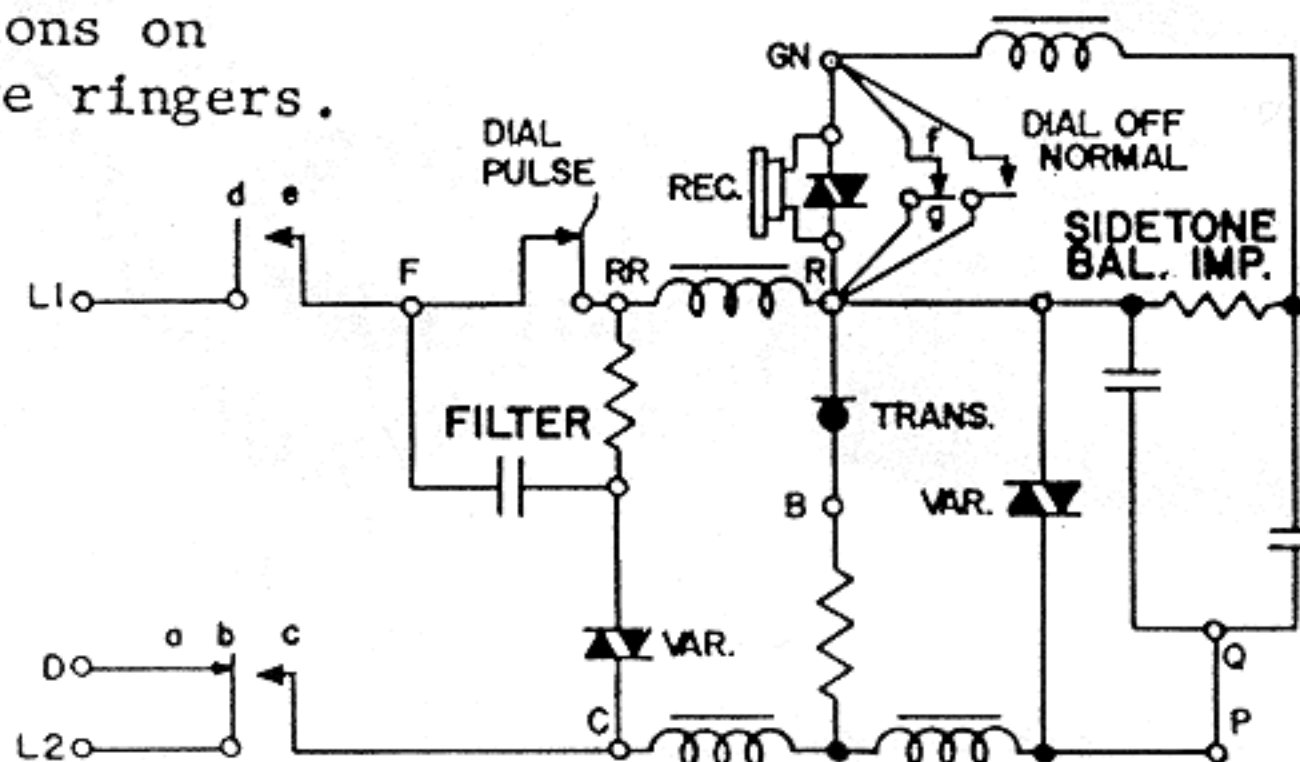
SEE NOTE 1.

MOUNTING CORD
SEE NOTES 1 AND 2

For Manual Service:
 Replace dial with dummy plug and transfer WH-SL cradle switch lead from F to RR on network.



CIRCUIT DIAGRAM
(INSTRUMENT ONLY)



See page 245.05 for instructions on connecting frequency selective ringers.

Fig. 2 DIAGRAMS 703--(LR)30- TELEPHONE

TYPE 703--(LR)37- AND TYPE 703--(LR)38- DESK TELEPHONES

The 703--(LR)37- and 703--(LR)38- telephones are very compact desk types of instruments with the addition of indicator lamps. A small neon lamp, located in front of the handset, may be caused to glow by applying a DC potential of 90 volts across the line at a remote point. The instruments are intended for use on PBX installations where the glowing lamp is used to indicate that a message has been left at the switchboard in the absence of the called party.

The 703--(LR)37- instrument is provided with a 1/5 watt neon indicator lamp while the 703--(LR)38- is provided with a lower power 1/15 watt indicator lamp. The lamps must not be interchanged as the sockets have different built in series resistors.

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Item	Description	Number	Qty	Item	Description	Number	Qty
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4	Gasket	190261-1	1	b	Dummy Plug Assembly	190600-*	
5	Bracket (Dial)	190120	1	17	Handset and Cord Assembly	65**(C2)410	1
6	Bracket (Housing Mtg. Screw)	190119	1	18	Desk Stand Cord	3051**(19)650	1
7	Rivet	190137-2	11	19	Cradle Switch Bracket Assy.	190090	1
8	Slug (Plugs Lamp Mtg. Hole)	95250	1	20	Spring	75307	1
9	Connecting Block Assembly	190073	1	21	Housing and Plunger Assembly	190603-*	1
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12	Screw	75436-2	2	23a	Neon Lamp - Code 37 instruments	95181-2]1
13	Hex Nut	70788	2	b	Neon Lamp - Code 38 instruments	95181-1	

Note: Dial and Dummy Plug Assemblies are both supplied complete with mounting screws.

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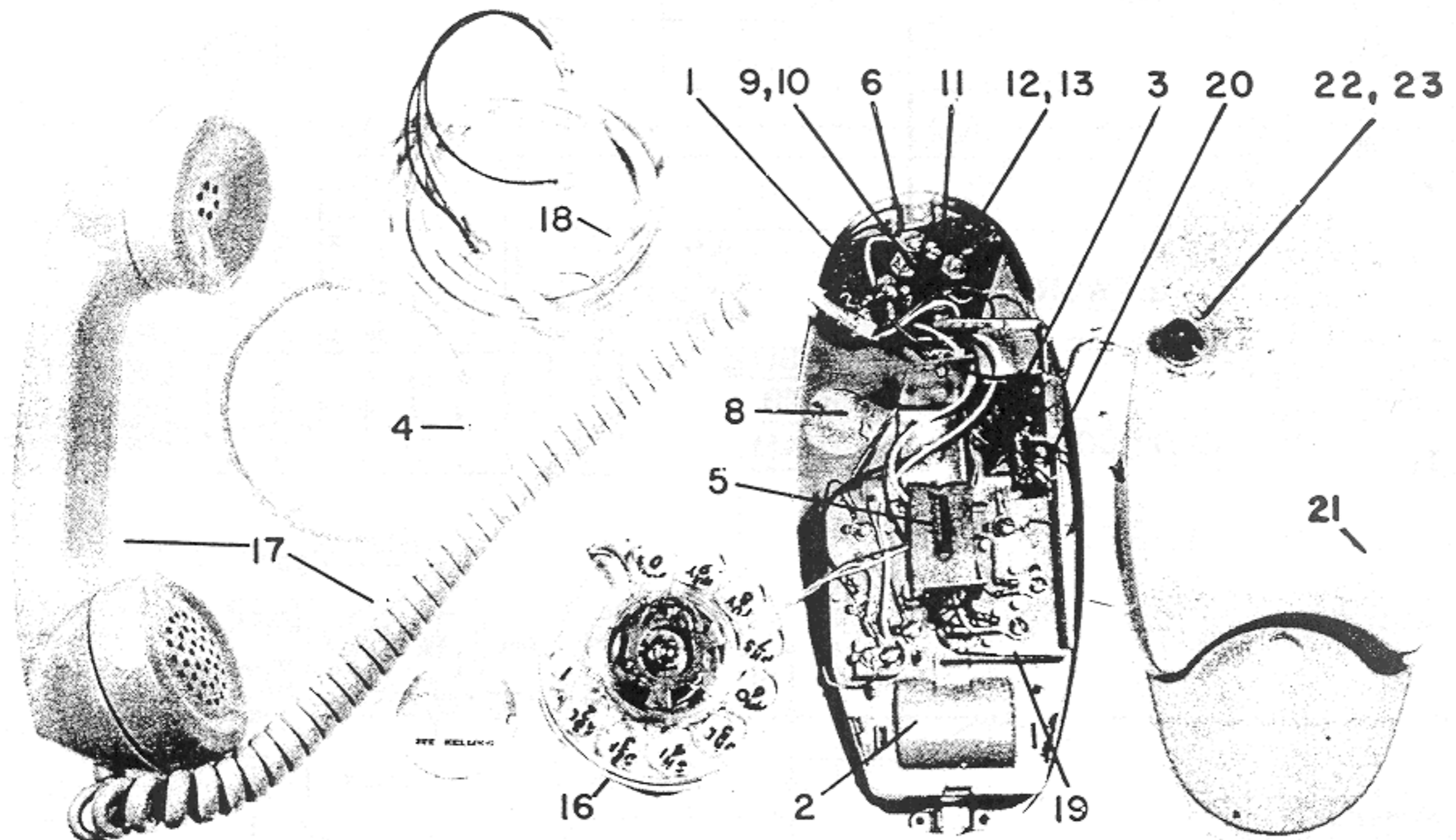
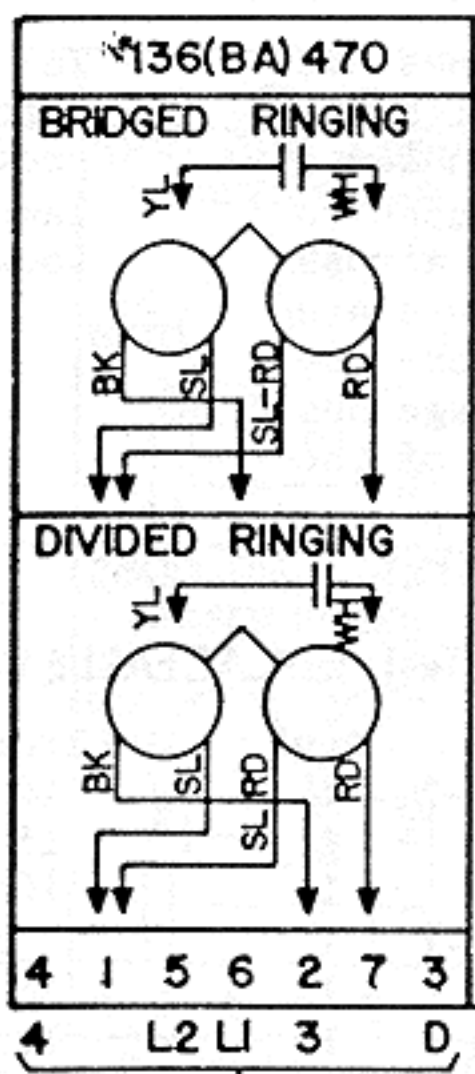
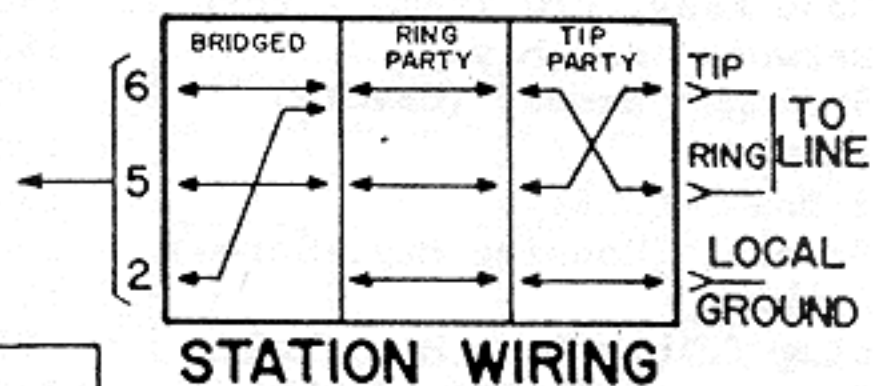


Fig. 1 TOP VIEW - HOUSING REMOVED

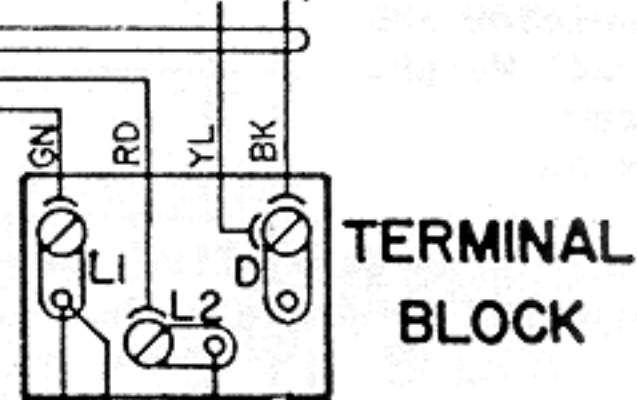


6-Conductor Mounting Cord:
 Yellow and black leads connected
 in parallel

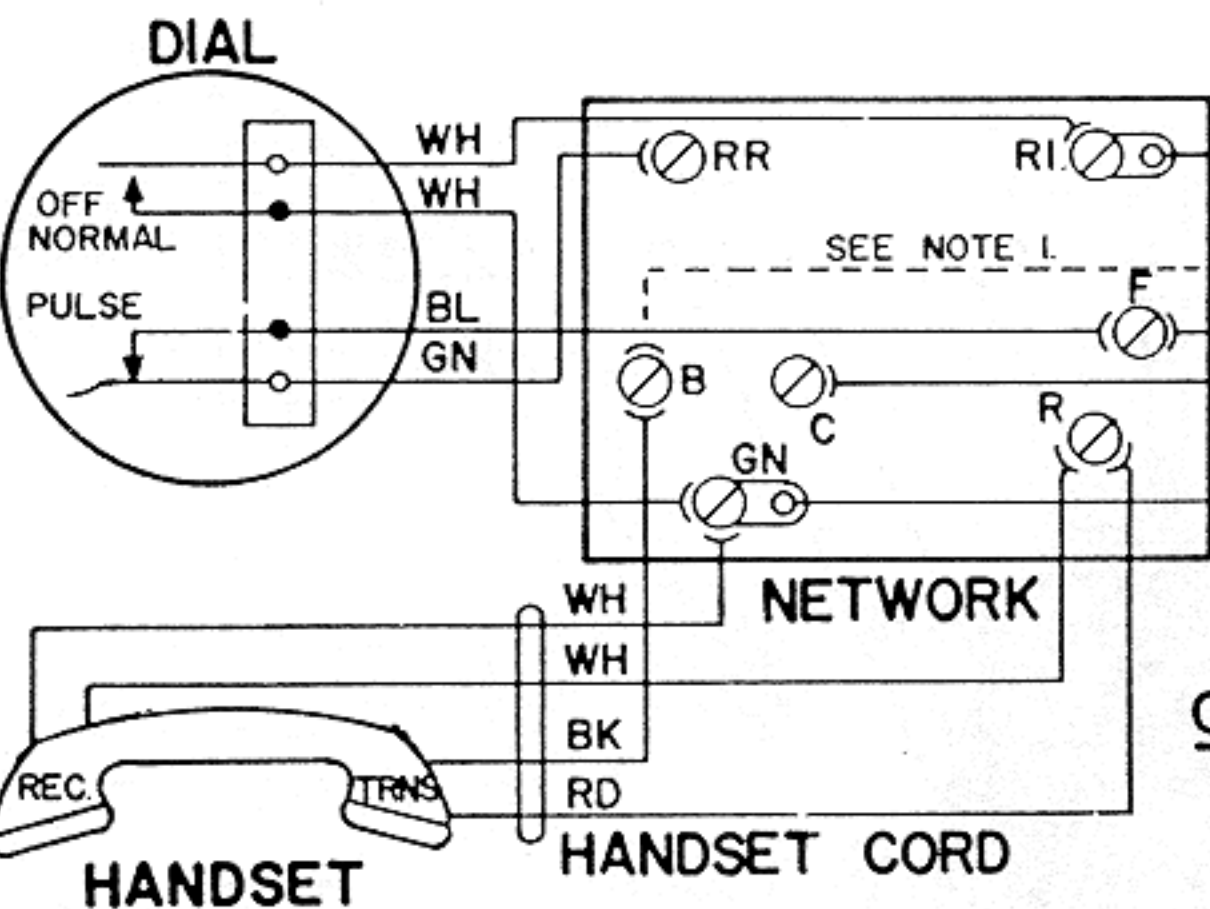


SEE NOTE 1.

MOUNTING CORD
 SEE NOTES 1 AND 2

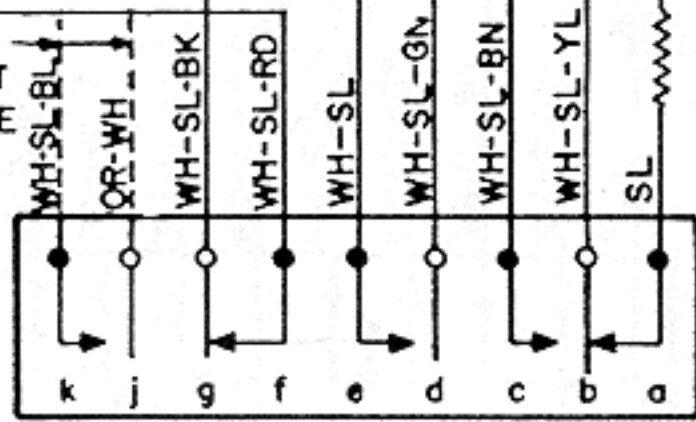


For Manual Service:
 Replace dial with dummy
 plug and transfer WH-SL
 cradle switch lead from
 F to RR on network.



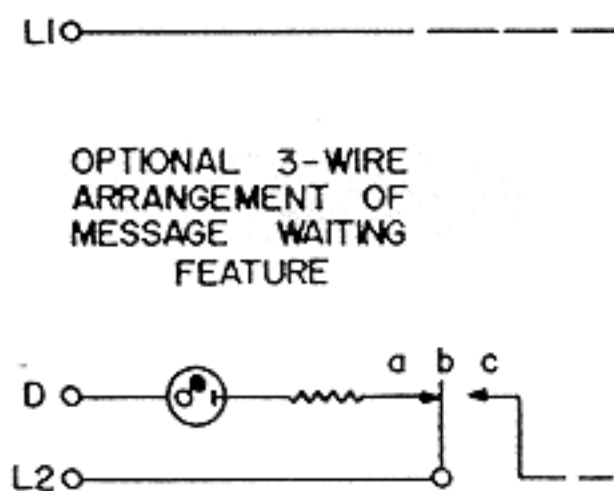
THESE
 LEADS CUT
 OFF CLOSE
 TO BLOCK

**COMPOSITE
 WIRING
 DIAGRAM**



**CRADLE
 SWITCH**
 CONTACT fg
 OPERATES LAST
 WHEN HANDSET
 IS LIFTED.

CIRCUIT DIAGRAM
 (INSTRUMENT ONLY)



OPTIONAL 3-WIRE
 ARRANGEMENT OF
 MESSAGE WAITING
 FEATURE

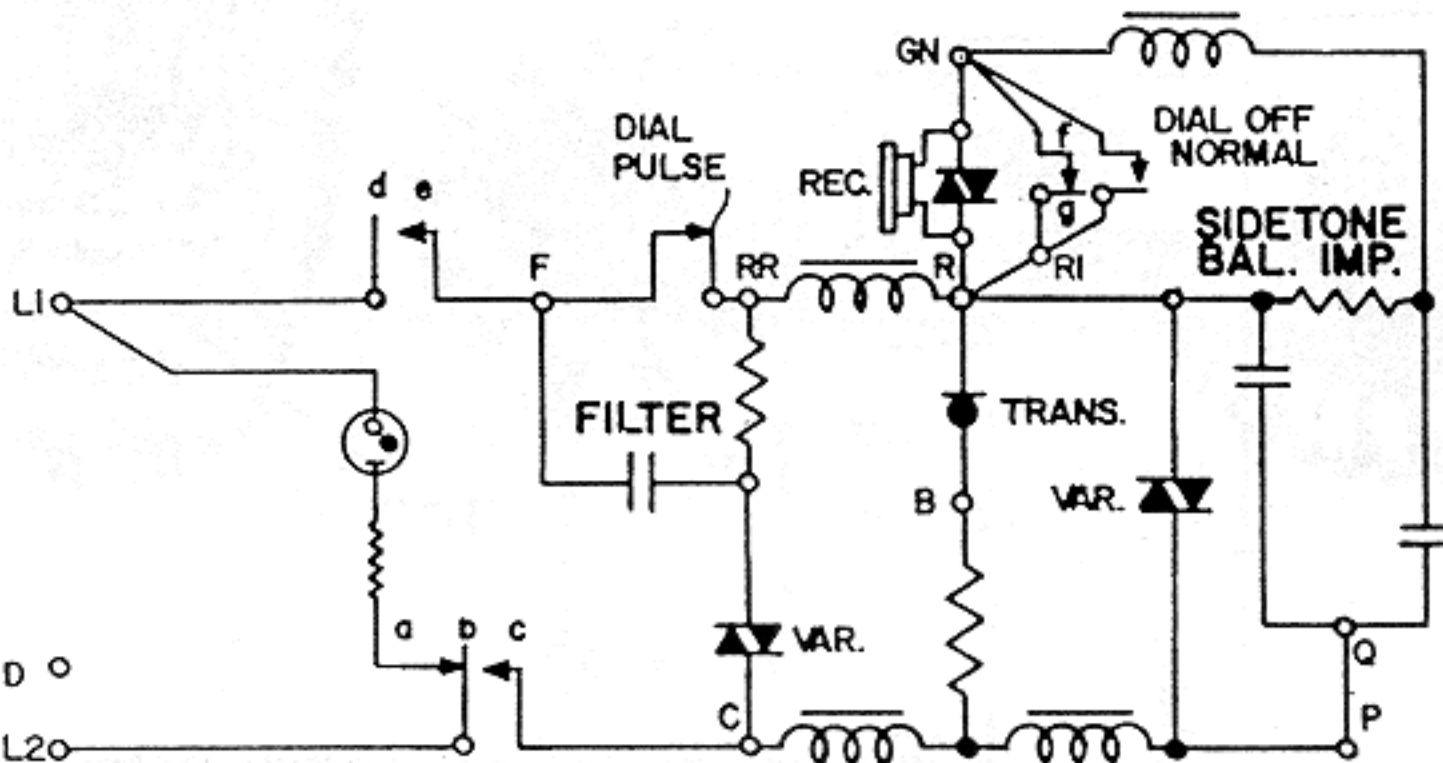


Fig. 2 DIAGRAMS 703--(LR)37- TELEPHONE AND
 703--(LR)38- TELEPHONE