

## PRIVATE LINE EQUIPMENT NO. 51

### DESCRIPTION AND LIMITATIONS

#### 1. GENERAL

1.01 This section describes the No. 51 private line equipment which is designed to permit one or two attendants per cabinet to answer, originate, or hold calls on a group of lines which may include individual central office lines, PBX station lines, and private lines arranged for automatic signaling. The central office lines may be common battery, manual or dial. The turret is available in ten or twenty-line capacities.

1.02 The No. 51 private line equipment may also be furnished as order turret equipment, but in the ten-line capacity only. Central office lines and PBX station lines can be terminated on the order turret. The central office lines and the PBX station lines are referred to as central office trunks and PBX turret lines.

#### 2. KEY CABINET EQUIPMENT

2.01 The key cabinet is a black wooden cabinet 6-5/16 inches high by 25-1/4 inches wide by 10 inches deep arranged to mount flush on a table or desk.

2.02 Each key cabinet provides two operating positions for attendants (one on each side) and is arranged for termination of any number of lines up to twenty. The keys are three-position black lever-type keys arranged in two horizontal rows. Associated with each key unit is a line and a busy lamp for the lines terminating on the keys. The line lamps are equipped with white lamp caps for indicating incoming calls. The busy lamps are equipped with red lamp caps for indicating a busy or held condition on the line.

2.03 Associated with each row of keys is a designation strip. One is located on the top of the cover on the side toward the hinges. The line designations on this designation card shall read from left to right. The row of line lamps is located in the cover between this designation card and the keys. The other designation card is located on the opposite side of the cover and shall read from right to left. The row of busy lamps is located between this designation strip and the keys.

2.04 The top of the key cabinet, in which are located the keys and lamps, is hinged to provide easy access to the interior of the key cabinet.

2.05 The key cabinet houses the induction coils and condensers required for the two telephone circuits, the buzzer, and the terminal punchings necessary for terminating a maximum of twenty lines.

2.06 Wiring from the keys and lamps terminates on the terminals in the bottom of the cabinet. The terminals are accessible when the hinged cover is raised. There are terminals for each line, plus additional terminals for telephone circuits, ground, spares, etc.

#### Telephone Equipment

2.07 An operator's telephone set or a handset with or without a plug ended cord may be used for the attendant's telephone equipment.

2.08 If an operator's telephone set or a handset with a plug ended cord is furnished for the attendant's telephone set, the jacks are located on the apron of the table. A suitable

hanger is installed on the apron of the table when the handset is furnished, upon which the handset is placed when not in use.

### 3. APPARATUS CABINET EQUIPMENT

#### Apparatus Cabinets

3.01 Apparatus cabinets are furnished as follows:

<u>Type</u>	<u>Finish</u>	<u>Width</u>	<u>Height</u>	<u>Depth</u>
Metal	Walnut	1'9-3/16"	11"	11"

The metal cabinets have hinged gates with capacity for four 19-inch mounting plates or by adding details per Dwg. ED-91472-01, G1, four 14-1/8 inch mounting plates and four 195-type terminal strips. With the use of mounting assemblies per Dwg. ED-69143-01, G1, key telephone units may be mounted in the metal cabinet. The cabinet may be mounted either on the wall or by means of mounting base on the floor. The mounting space required for one or two apparatus cabinets is approximately 30 inches by 30 inches by 30 inches.

#### Line Relay Units

3.02 Each line relay unit is complete with mounting plate, relay equipment, wiring and terminal strips or terminal panels, as required. The units are of two types; one with 19-inch mounting plates, terminal panels and surface wiring, the other with 14-1/8 inch mounting plates, terminal strips, and local cable form.

3.03 Apparatus cabinets are available equipped as follows:

One ES-10411, List 13A line relay unit consisting of 19-inch mounting plate, five line circuits, auxiliary signal circuit, automatic battery cut-off circuit, and surface wired screw type terminal panel.

One ES-10411, List 3A, line relay unit consisting of 14-1/8 inch mounting plate five line circuits, auxiliary signal circuit, and local cable form with solder type terminal strip.

The other line units may be added or removed from apparatus cabinets, as required in the field.

3.04 The following relay units are available:

Line Relay Unit - 19-inch mounting plate with equipment and surface wiring for five line circuits. Connected to a screw type terminal panel by a pigtail.

Line Relay Unit - 14-1/8 inch mounting plate with equipment and cabling for five line circuits. Connected to a solder type terminal strip by a pigtail.

3.05 For all private lines served by local cable, the modified 13B key telephone unit is required. These units are mounted in the apparatus cabinets with the use of mounting assemblies per Dwg. ED-69143-01, G1. Six units can be mounted on one assembly, using two mounting plate spaces. For all installations of this type, the apparatus cabinet equipped with the five line circuits, automatic battery cutoff, and common audible signal control circuit, on the 19-inch mounting plate, shall be ordered and installed to furnish the common audible signal control circuit for the system. The five-line circuits and automatic battery cut-off circuit are used for lines not served by local cable. The 13B key telephone units are mounted with the use of the mounting assemblies in the bottom two mounting plate spaces of the apparatus cabinet. An additional apparatus cabinet shall be installed to mount the key telephone units for the additional lines. Battery and ringing supply shall be obtained from the fuses in the original apparatus cabinet.

**4. BATTERY AND RINGING CURRENT SUPPLY**

4.01 Battery supply is obtained from a PBX battery, centralized building battery, an individual battery or by direct feeders.

4.02 Ringing current is obtained from the central office over a cable pair.

**5. WIRING**

5.01 Cable between the apparatus cabinet and the building terminal shall be 16-pair cable for a ten-line system, and 26-pair cable for a twenty-line system. When line relay units on 14-1/8 inch mounting plates are used, cable between the apparatus cabinet and key cabinet shall be 41-pair cable for a ten-line key cabinet and 76-pair cable for a twenty-line key cabinet. Because of the automatic battery cut-off circuit on the line relay units on 19-inch mounting plates, a 21-pair cable for a ten line key cabinet and a 41-pair cable for a twenty-line key cabinet may be used. The 13B key telephone unit requires 2 pair to the station and 1-1/2 pairs to the key cabinet for each line.

**6. LIMITATIONS**

6.01 If the requirements of the customer cannot be met, the office of the station equipment engineer shall be consulted.

6.02 The private line equipment is required to have a minimum of one local private line terminating on it. The equipment, when used as order turret equipment with trunks terminating on it, is required to have a minimum of two trunks.

6.03 Lamp appearances shall be limited to six per line when the number of lines per cabinet does not exceed ten. Lamp appearances shall be limited to three per line when the number of lines per cabinet are eleven to twenty.

6.04 A common buzzer is provided for each group of twenty lines. A maximum of seven buzzers may be connected to one generator resistance lamp.

6.05 When lines are multiplied between key cabinets, all lines terminating must be multiplied because of the common signal arrangements of the private line equipment.

6.06 All key cabinets on which lines multiple shall be located on premises, off premises in the same building, or off premises in another building on the subscriber's continuous property, connected by conduit furnished by the subscriber and within a 300-foot route measurement of the apparatus cabinet.