American Telephone and Telegraph Company

BELL SYSTEM PRACTICES
Teletypewriter and Manual
Telegraph Station and PBX
Installation and Maintenance

SECTION P65.902
Appendix 1
Issue C, 10-15-43
Long Lines Department
Dist. Class. 400AC-600AC

APPLIQUE CIRCUIT PER

BSP SECTION P90.990

TO BE USED IN CONJUNCTION WITH THE

SELECTIVE RECEIVING CIRCUIT

PER BSP SECTION P90.982

1. GENERAL

1.01 This appendix contains a description of an applique circuit to be used in conjunction with the selective receiving circuit shown in Section P90.982. The schematic drawing of this applique circuit is covered by Section P90.990.

1.02 This appendix supersedes Issue B. It is reissued to make various minor changes and bring it up to date.

1.03 The power for the operation of this applique circuit is obtained from the selective receiving circuit covered by Section P90.982.

1.04 Teletypewriters used in conjunction with this applique must be arranged per Sections P90.992 or P90.998.

2. FUNCTIONS

2.01 The functions provided by this applique circuit, when used in conjunction with the selective receiving circuit, are as follows:

(a) Upon receipt of the 22 impulse master disconnect code at stations equipped with this applique circuit, all teletypewriter equipment associated with this applique

circuit is deactivated so it can neither transmit teletypewriter signals to nor receive them from the line. In addition, a 15D-3 indicator is lighted at all such points to indicate this condition.

Note: This 15D-3 indicator should not be confused with the busy lamp (21A-3) shown in Section P90.982, which is used to indicate the circuit condition; i.e., circuit idle or busy.

(b) By means of various 20 impulse station codes, the calling office can select one station at a time. Upon receipt of its 20 impulse station code a station is connected to the teletypewriter circuit and the 15D-3 indicator at that point is extinguished. At the same time a buzzer is operated. This buzzer may be stopped by the operation of a nonlocking key.

(c) Upon receipt of the 24 impulse master connect code all stations are connected to the teletypewriter circuit and the 15D-3 indicators at all points are extinguished. In this condition the buzzer is not operated at any station.

3. EQUIPMENT ARRANGEMENT

3.01 This applique circuit, with the exception of the indicator, buzzer and key, is mounted in a Columbia Type "A" surface cabinet 6" x 6" with a walnut finish. The indicator, buzzer and key should be installed in a location suitable to the customer and usually on the teletypewriter table. (See Paragraph 5.01.)

4. CIRCUIT DESCRIPTION

4.01 The drawing in Section P90.990, shows all relays released. As a result the customer's teletypewriter equipment associated with this applique circuit is deactivated so that it can neither transmit teletypewriter signals to, nor receive them from the line, and the 15D-3 indicator will be lighted, indicating this condition:

The teletypewriter apparatus is deactivated in the following manner, assuming the external line-test key, where one is provided, to be in the "line" position:

(a) The transmitting mechanism is short circuited at top Contacts 1-2 of the (A) relay.

(b) The receiving mechanism is disabled by top Contacts 4-5 of the (A) relay short circuiting the armature and marking contact of the teletypewriter line relay, causing the receiving mechanism to receive a continuous marking signal.

4.02 Receipt of Station Code

(a) Upon receipt of the assigned 20 impulse station code by the selective receiving circuit, relay (B) will be operated due to the closure of the (A) selector Contacts 1-2 (P90.982), the path being from the negative side of the power supply on Terminal 22 of the (A) terminal strip, to Terminal 1 of the (A) terminal strip, through Contacts 1-2 of the (A) selector to Terminal 2 of the (A) terminal strip, the winding of the (B) relay, the (B) resistance to the positive side of the power supply on Terminal 23 of the (A) terminal strip.

(b) Relay (B) operated provides an operating path for the (A) relay from the negative side of the power supply on Terminal 22 of the (A) terminal strip through bottom Contacts 2-1 of the (B) relay, winding of the (A) relay, the (A) resistance to the positive side of the power supply on Terminal 23 of the (A) terminal strip.

(c) Relay (A) operates and locks up through its top Contacts 6-7 to the negative side of the power supply.

(d) Relay (B) now has a locking path through its top Contacts 1-2, bottom Contacts 6-7 of the (A) relay, break Contacts of the (A) nonlocking key to the negative side of the power supply.

(e) Relay (B) operated also provides an operating path for the (A) buzzer from one side of the low voltage supply on Terminal 19 of the (A) terminal strip, through top Contacts 3-4 of the (B) relay, operating winding of the (A) buzzer to the other side of the low voltage power supply on Terminal 20 of the (A) terminal strip.

(f) Relay (A) operated also extinguishes the (A) indicator when Contacts 2-3 bottom of (A) relay open, and removes short circuits from the sending and receiving units of the teletypewriter equipment by the operation of its top break Contacts 4-5 and 1-2.

(g) The (A) buzzer may be stopped by operating the nonlocking key (A) since this opens the locking path of the (B) relay, permitting this relay to release and open the buzzer circuit.

(h) The customer may now send and receive traffic over the teletypewriter circuit.

4.03 Receipt of Master Connect Code

(a) Assume the circuit is again in the condition described in Paragraph 4.01; i.e., all relays released. Upon receipt of the assigned 24 impulse master connect code by the receiving selector, Contacts 1-4 of the (A) selector (P90.982) close at all stations, thus providing an operating path for the (C) relay from the negative side of the power supply on Terminal 22 of the (A) terminal strip, to Terminal 1 of the (A) terminal strip through Contacts 1-4 of the (A) selector, to Terminal 4 of the (A) terminal strip, the winding of the (C) relay, the (C) resistance to the positive side of the power supply on Terminal 23 of the (A) terminal strip.

(b) The (C) relay operates and provides an operating path for the (A) relay from the negative side of the power supply on Terminal 22, through bottom Contacts 1-2 of the (C) relay, winding of the (A) relay, the (A) resistance to the positive side of the power supply on Terminal 23 of the (A) terminal strip.

(c) Relay (A) operates and locks up as described in Paragraph 4.02 (c) and performs the functions described in Paragraph 4.02 (f). Since in this case the master connect code was employed the teletypewriter equipment at all points is now connected to the teletypewriter circuit.

(d) Since relay (C) does not have a locking circuit, it will release when Contacts 1-4 of selector (A) open, which occurs when the final digit of the calling code is received.

4.04 Receipt of Master Disconnect Code

(a) Upon receipt of the assigned 22 impulse master disconnect code by the selective receiving circuit, Contacts 1-3 of the (A) selector (P90.982) close at all stations, shorting the winding of the (A) relay, permitting it to release, thus disconnecting all teletypewriter equipment that is associated with this applique circuit, from the teletypewriter circuit.

(b) Release of the (A) relay causes the (A) indicator to light again.

(c) Release of the (A) relay will also release relay (B) which in turn will silence the buzzer operated in 4.02 (e) if this was not done manually with the nonlocking key (A).

5. INSTALLATION

5.01 The equipment comprising this applique circuit shall be installed in a location suitable to the customer in the same room with the teletypewriter equipment and adjacent to the cabinet housing the selective receiving circuit. The selective receiving circuit equipment and the applique equipment shall be mounted on the wall wherever practicable. One mounting board should be made up locally for this purpose. Refer to the installation information in Section P65.902. The key, buzzer and lamp shall be mounted at the teletypewriter position. The mounting and wiring of the equipment are shown on BSP's in the P90 series. Mounting screws are not furnished with the Columbia cabinet.

5.02 The teletypewriter associated with this applique circuit must be equipped with a line relay.

6. MAINTENANCE

6.01 All equipment associated with this circuit shall be maintained in accordance with the instructions contained in Bell System Practices.

6.02 When the instructions received from the testroom require that the customer's teletypewriter shall be connected direct to the line circuit during periods of selector trouble, proceed as follows:

(a) When an external line-test key is provided.

(1) Block relay (A) of the applique circuit to its operated position. This will remove the short circuits placed on the customer's teletypewriter equipment by Contacts 1-2 and 4-5 of the (A) relay. (See P90.990).

(2) Operate the line-test key to the "Line" position and the teletypewriter is connected to the line circuit.

(3) If it is found necessary to observe the operation of relay (A) to clear the trouble, open Leads "X" or "Y" and "U" or "V" to the applique circuit at the table terminal strip and remove the blocking tool. (See P90.992.)

(b) When the external line-test key is not provided.

(1) Disconnect the H. B. Jones plugs and sockets shown on Section P90.998. This will remove the short circuits placed on the teletypewriter equipment by the (A) relay in the applique circuit and connect the teletypewriter to the line circuit.

7. TESTING

7.01 Before placing this circuit in service, its correct operation, as described in this section, shall be checked in conjunction with the selective receiving circuit.

8. REFERENCES

8.01 This applique circuit is covered by the following BSP sections and drawings:

Section P90.990	(Drawing 20824-SD-124)	Schematic
Section P90.991	(Drawing 20824-T-131)	Wiring
No Section	(Drawing 20824-ED-131)	Equipment

8.02 A complete list of BSP sections and drawings concerning the 64C1 selector system will be found in Section P65.902.

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SECTION P65.902
Appendix 2
Issue A, 10-15-43
Long Lines Department
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APPLIQUE CIRCUIT PER

BSP SECTION P90.984

TO BE USED IN CONJUNCTION WITH THE

SELECTIVE RECEIVING CIRCUIT

PER BSP SECTION P90.982

1. GENERAL

1.01 This appendix contains a description of an applique circuit to be used in conjunction with the selective receiving circuit shown in Section P90.982. The schematic of this applique circuit is covered by Section P90.984.

1.02 The power for the operation of this applique circuit is obtained from the selective receiving circuit covered by Section P90.982.

2. FUNCTIONS

2.01 The functions provided by this applique circuit, when used in conjunction with the selective receiving circuit, are as follows:

(a) Receipt of the assigned 20 impulse station code will operate a buzzer and turn "ON" the power of a teletypewriter at the called station. The buzzer will continue to operate until silenced by operation of the nonlocking key (A) or until the 22 impulse master disconnect code for turning "OFF" the power, is received.

(b) Receipt of the 20 impulse master connect code will perform simultaneously at all stations the same functions as in (a) above.

(c) Receipt of the 22 impulse master disconnect code will turn "OFF" the power of the teletypewriter at each station. The buzzer will be silenced if it is operating.

Note: The contacts of the power control relay are connected in parallel with the teletypewriter table power switch. The teletypewriter power, therefore, is not under control of the applique circuit when the teletypewriter table power switch is in the "ON" position. In order that the attendant may shut off the teletypewriter motor to change paper, ribbons, etc., the power switch on the teletypewriter base is left operative.

3. EQUIPMENT ARRANGEMENT

3.01 This applique circuit is comprised of the equipment shown as Figure 2 in Section P90.982 which is furnished and installed in the selective receiving circuit cabinet; it also includes a power control relay, a buzzer and a nonlocking key.

4. CIRCUIT DESCRIPTION

4.01 The drawing, as shown in Section P90.984, shows all relays released. In this condition, the buzzer circuit stands open and the teletypewriter power is not under control of the applique circuit.

4.02 Receipt of Station Code

(a) Upon receipt of the assigned 20 impulse station code by the selective receiving circuit (Figure 1, P90.982), relay (G) of the applique circuit will be operated due to the closure of the (A) selector Contacts 1-2 (P90.982). The operating path is from the negative side of the power supply on Terminal 22 of the (A) terminal strip to Terminal 1 of the (A) terminal strip, through the (A) selector Contacts 1-2, Terminal 2 of the (A) terminal strip to Terminal 4 of the (B) terminal strip, the winding of the (G) relay, the (P) resistance, to the positive side of the power supply on Terminal 23 of the (B) terminal strip.

(b) Relay (G) operated provides operating paths for the (A) and (B) relays (Figure 1, P90.982). The path for relay (A) is from the negative side of the power supply on Terminal

22 of the (B) terminal strip through the bottom Contacts 1-2 of the (C) relay, Terminal 10 of the (B) terminal strip to Terminal 6 of the (A) terminal strip, winding of the (A) relay, the (A) resistance to the positive side of the power supply. The path for operation of relay (B) is from the negative side of the power supply on Terminal 22 of the (B) terminal strip through the top Contacts 1-2 of the (C) relay, Terminal 15 of the (B) terminal strip to Terminal 11 of terminal strip (A), the winding of relay (B), the (B) resistance to the positive side of the power supply.

(c) Relay (A) (Figure 1, P90.982) operates and locks up through its bottom Contacts 2-1 to Terminal 9 of the (A) terminal strip to the negative side of the power supply on Terminal 22 of the (A) terminal strip.

(d) Relay (B) (Figure 1, P90.982) operates and locks up through its bottom Contacts 2-1 to Terminal 14 of the (A) terminal strip, through the contacts of the nonlocking key (A) to Terminal 1 of the (A) terminal strip, to the negative side of the power supply on Terminal 22 of the (A) terminal strip.

(e) Relay (A) operated provides an operating path for the S.E.M. power control relay (A) from the negative side of the power supply on Terminal 22 of the (A) terminal strip to Terminal 8 of the (A) terminal strip, through top Contacts 1-2 of the (A) relay, Terminal 7 of the (A) terminal strip, the S.E.M. power control relay winding to the positive side of the power supply on Terminal 23 of the (A) terminal strip.

(f) The power control relay operated will close a source of power to the teletypewriter.

(g) Relay (B) operated in Paragraph (d) provides an operating path for the buzzer from one side of the low voltage power supply on Terminal 19 of the (A) terminal strip to Terminal 13 of the (A) terminal strip, through top Contacts 1-2 of the (B) relay to Terminal 12 of the (A) terminal strip, through the buzzer to the other side of the low voltage power supply on Terminal 20 of the (A) terminal strip.

(h) The buzzer may be silenced by operating the nonlocking key (A), thus releasing relay (B).

4.03 Receipt of Master Connect Code

Assuming the circuit is again in the condition described in Paragraph 4.01; i.e., all relays released. Upon receipt of the 20 impulse master connect code by the selective receiving circuit, Contacts 1-2 of the (A) selector (Figure 1, P90.982) close at all stations and will perform the same functions as in Paragraph 4.02.

4.04 Receipt of Master Disconnect Code

(a) Upon receipt of the 22 impulse master disconnect code by selective receiving circuit, (Figure 1, P90.982), Contacts 1-3 of the (A) selector at all stations will close. This closure places a short circuit across the winding of the (A) and (B) relays, and releases them. The short circuit is caused by Contacts 1-3 of the (A) selector connecting the negative side of the power supply from Terminal 22 of terminal strip (A) to Terminals 10 and 15 of terminal strip (A).

(b) Relay (A) released will open the circuit to the winding of the S.E.M. power control relay (A). The power control relay will release and open the source of power to the teletypewriter providing the teletypewriter table power switch is not in the "ON" position.

(c) Relay (B) released will silence the buzzer if it is operating.

5. INSTALLATION

5.01 The mounting and wiring of the equipment are shown on BSP's in the P90 series.

6. MAINTENANCE

6.01 . All equipment associated with this circuit shall be maintained in accordance with the instructions contained in Bell System Practices.

7. TESTING

7.01 Before placing this circuit in service, its correct operation, as described in this appendix, shall be checked in conjunction with the selective receiving circuit.

8. REFERENCES

8.01 This applique circuit is covered by BSP Section P90.984.

8.02 A complete list of BSP sections and drawings concerning the 64C1 selector system will be found in Section P65.902.

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SECTION P65.902
Appendix 3
Issue A, 10-15-43
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APPLIQUE CIRCUIT PER DRAWING 21045-124 TO BE USED IN CONJUNCTION WITH THE SELECTIVE RECEIVING CIRCUIT PER BSP SECTION P90.982

1. GENERAL

1.01 This appendix contains a description of an applique circuit to be used in conjunction with the selective receiving circuit shown in BSP Section P90.982. The schematic of this applique circuit is covered by Drawing 21045-124.

1.02 The power for Figure "B" of this applique circuit is obtained from the selective receiving circuit covered by Section P90.982. The power for Figure "A" of this applique circuit is obtained by use of central office battery tape.

2. FUNCTIONS

2.01 The functions provided by this applique circuit, when used in conjunction with the selective receiving circuit installed at a central office are as follows:

(a) Receipt of the assigned 22 impulse disconnect code, will disconnect a customer's loop from the teletypewriter line circuit at the central office, terminate the loop to battery and light a lamp at the customer's station indicating that the station has been disconnected.

(b) Receipt of the assigned 24 impulse connect code, will connect the customer's loop to the teletypewriter line circuit at the central office, and extinguish the lamp at the customer's station, indicating that the station has been connected.

3. EQUIPMENT ARRANGEMENT

3.01 The equipment for this applique circuit, with the exception of the indicator lamp, is installed at the central office. As indicated on the drawing, the equipment for Figure (B) is furnished with the selective receiving circuit and is installed in the selective receiving circuit cabinet.

3.02 The indicator lamp is installed at the customer's office and consists of a 15A-3 indicator with B-2 lamp.

4. CIRCUIT DESCRIPTION

4.01 Drawing 21045-124 covering this circuit shows the relays released. As a result the customer's loop is connected to the line circuit through leads (A), (B) and (C), (D). The indicating lamp circuit leads (E) and (F) extended to the customer's station over a separate loop are open, thus the lamp at the customer's station is extinguished.

4.02 Receipt of Disconnect Code

(a) Upon receipt of the assigned 22 impulse disconnect code by the selective receiving circuit, (Figure 1, P90.982), Relay (B) of that figure will be operated due to the closure of (A) Selector Contacts 1-3. The operating path is from the negative side of the power supply on Terminal 22 of the (B) terminal strip to Terminal 1 of the (B) terminal strip, through the (A) selector Contacts 1-3, Terminal 3 of the (B) terminal strip, to Terminal 11 of the (B) terminal strip, the winding of Relay (B), the (B) resistance to the positive side of the power supply.

(b) Relay (B) operates and locks up through its bottom Contacts 2-1 to Terminal 14 of the (B) terminal strip to the negative side of the power supply on Terminal 22 of the (B) terminal strip.

(c) Relay (B) operated also provides an operating path for Relay (A) of the applique circuit, through closure of the top Contacts 1-2 of Relay (B). The path is from negative 24-volt supply through winding of Relay (A), Terminal 12 of the (B) terminal strip, top Contacts 2-1 of the (B) relay, Terminal 13 of the (B) terminal strip to ground.

(d) Relay (A) operates and its top Contacts 6-7 close the indicating lamp leads (E) and (F) and lights the lamp at the customer's station. Also, through leads (C) and (D) the customer's loop is terminated to negative and positive battery through the top and bottom Contacts 4-5 of the relay and potentiometers (A) and (B) respectively. The teletypewriter line circuit leads (A) and (B) are connected together through the top and bottom Contacts 1-2 of relay (A), and potentiometer (C) which acts as a loop compensating resistance.

4.03 Receipt of Connect Code

(a) Upon receipt of the assigned 24 impulse connect code by the selective receiving circuit, (Figure 1, P90.982), relay (G) will be operated due to the closure of (A) selector Contacts 1-4. The operating path is from the negative side of the power supply on Terminal 22 of the (B) terminal strip to Terminal 1 of the (B) terminal strip, through Contacts 1-4 of the (A) selector, Terminal 4 of the (B) terminal strip, the winding of the (G) relay, the (P) resistance to the positive side of the power supply on Terminal 23 of the (B) terminal strip.

(b) Relay (G) operates and its top Contacts 1-2 provide a short circuit across the winding of relay (B), (Figure 1, P90.982), thus releasing relay (B). The path being from Terminal 15 of the (B) terminal strip, through Contacts 2-1 of relay (G), to Terminal 14 of the (B) terminal strip.

(c) Relay (B) released, also releases relay (A) of the applique circuit and places the circuit in the condition described in Paragraph 4.01.

5. INSTALLATION

5.01 The selective receiving circuit equipment and the equipment comprising the applique circuit shall be installed in the central office designated by the Private Line Service Order.

5.02 The location of the selective receiving circuit equipment and the applique circuit equipment in the central office, shall be determined locally. In this connection, the above equipment shall be rack mounted. The cabinet, from which

the receiving circuit equipment is removed to permit relay rack mounting, should be retained for possible future use with this equipment.

5.03 The indicating lamp at the customer's station shall be mounted in a location suitable to the customer, and connected to the loop provided for this purpose. The current in this loop should be adjusted in the testroom to a value of .040 to .045 amperes.

6. MAINTENANCE

6.01 All equipment associated with this circuit shall be maintained in accordance with the instructions contained in Bell System Practices.

7. TESTING

7.01 Before placing this circuit in service, its correct operation, as described in this appendix, shall be checked in conjunction with the selective receiving circuit.

8. REFERENCES

8.01 This applique circuit is covered by the following drawings:

(Drawing 21045-124) Schematic
(Drawing 21045-T-) Wiring

8.02 A complete list of BSP Sections and drawings pertaining to the 64C1 selector system will be found in Section P65.902.

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SECTION P65.902
Appendix 4
Issue A, 10-15-43
Long Lines Department
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APPLIQUE CIRCUIT PER BSP SECTION P90.978

TO BE USED IN CONJUNCTION WITH THE

SELECTIVE RECEIVING CIRCUIT

PER BSP SECTION P90.982

1. GENERAL

1.01 This Appendix contains a description of an applique circuit to be used in conjunction with the selective receiving circuit shown in Section P90.982. The schematic drawing of this applique is covered by Section P90.978.

1.02 The power for the operation of this applique circuit is obtained from the selective receiving circuit covered by Section P90.982.

2. FUNCTIONS

2.01 The functions provided by this applique circuit, when used in conjunction with the selective receiving circuit, are described below. As described, the functions apply to the use of this applique arrangement with a regular and spare teletypewriter set. However, the same functions can be provided where only one teletypewriter set is involved, in which case the manual power transfer switch and one set of manual control keys are omitted.

(a) Receipt of the assigned 20 impulse station code will turn "ON" the power for a regular or spare teletypewriter set depending on the position of a manual power transfer switch and at the same time will close the external signal circuit. The signal circuit will remain closed until released by a nonlocking key. (The external signal arrangement may be provided by either the customer or the Telephone Company.)

(b) Receipt of the 20 impulse master connect code will perform simultaneously at all stations, the same functions as in (a) above.

(c) By operating a nonlocking key at either the regular or spare teletypewriter position, the attendant may turn "ON" the power for the regular or spare teletypewriter set (depending on the position of the manual power transfer switch) without closing the external signal circuit.

(d) When the power for the regular or spare teletypewriter set has been turned "ON" manually and a 20 impulse station code or a 20 impulse master connect code is received, the external signal circuit will be closed. The signal circuit will remain closed until opened by operation of a nonlocking key.

(e) When the power for a teletypewriter set is to be turned "OFF" it must be done manually.

2.02 In order that the attendant may shut off the teletypewriter motor to change paper, ribbons, etc., the power switch on the teletypewriter base is left operative.

3. EQUIPMENT ARRANGEMENT

3.01 Where a regular and a spare teletypewriter set are to be controlled, this applique circuit consists of a power transfer switch, a power control relay, a signal control relay, and 6 nonlocking keys for local manual control of the teletypewriter power and the signal. Where only one teletypewriter is to be controlled, the power transfer switch and 3 of the nonlocking keys are omitted.

4. CIRCUIT DESCRIPTION

4.01 Section P90.978, Figures 1, 2, B and C, are used where the regular and spare teletypewriter sets are to be controlled by this applique arrangement. Such an arrangement is described in the following paragraphs. Where only one teletypewriter set is to be controlled, Figures 1, 2 and A are used. The operation of the one set arrangement is not described herein because it is fundamentally the same as for the two set arrangement

4.02 Figure C shows the manual power transfer switch so operated as to permit control of power to the regular teletypewriter set, and Figure 1 shows the S.E.M. relays (A) and (B) released thereby disconnecting power from the teletypewriter set and external signal circuit.

4.03 Receipt of Station Code

(a) Upon receipt of the assigned 20 impulse station code by the selective receiving circuit (Fig. 1, P90.982), the (A) and (B) relays of that Figure will be operated due to the closure of Contacts 1-2 of the (A) selector.

The operating path for relay (A) is from the negative side of the power supply on Terminal 22 of the (A) terminal strip, to Terminal 1 of the (A) terminal strip, through Contacts 1-2 of the (A) selector, Terminal 2 of the (A) terminal strip, to Terminal 6 of the (A) terminal strip, winding of relay (A), the (A) resistance, to the positive side of the power supply.

The operating path for relay (B) is from the negative side of the power supply on Terminal 22 of the (A) terminal strip, to Terminal 1 of the (A) terminal strip, through Contacts 1-2 of the (A) selector, to Terminals 2, 6 and 11 of the (A) terminal strip, winding of relay (B), the (B) resistance, to the positive side of the power supply.

(b) Relay (A) (Fig. 1, P90.982) operated, provides an operating path for the S.E.M. (A) relay. The operating path is from one side of the low voltage power supply on Terminal 20 of the (A) terminal strip, through the winding of the S.E.M. (A) relay, to Terminal 7 of the (A) terminal strip, through top Contacts 2-1 of relay (A) (P90.982, Fig. 1), to Terminals 8 and 13 of the (A) terminal strip, to the opposite side of the low voltage power supply on Terminal 19 of the (A) terminal strip. S.E.M. (A) relay operates.

(c) The S.E.M. (A) relay operated, will close a signal circuit with one set of its contacts. The relay locks up through its other set of contacts, the closed contacts of the (A) and (A') nonlocking keys in series, to Terminals 8 and 13 of the (A) terminal strip, to the low voltage power supply on Terminal 19 of the (A) terminal strip. Operation

of either the (A) or (A') nonlocking key will cause the S.E.M. (A) relay to release, thereby opening the signal circuit and stopping the signal.

(d) Relay (B) (Fig. 1, P90.982) operated, provides an operating path for the S.E.M. (B) relay. The operating path is from one side of the low voltage power supply on Terminal 20 of the (A) terminal strip, through the winding of the S.E.M. (B) relay, to Terminal 12 of the (A) terminal strip, through top Contacts 2-1 of relay (B) (P90.982, Fig. 1), Terminal 13 of the (A) terminal strip, to the opposite side of the low voltage power supply on Terminal 19 of the (A) terminal strip. S.E.M. (B) relay operates.

(e) The S.E.M. (B) relay operated, will turn "ON," with one set of its contacts, the power for either the regular or spare teletypewriter set, depending on the position of the manual power transfer switch. The relay locks up through its other set of contacts, the closed contacts of the (C) and (C') nonlocking keys in series, to Terminals 8 and 13 of the (A) terminal strip, to the low voltage power supply on Terminal 19 of the (A) terminal strip. When the power for either the regular or spare teletypewriter set is to be turned "OFF" the (C) or (C') nonlocking key must be operated to release the S.E.M. (B) relay.

4.04 Receipt of Master Connect Code

Assume the circuit is again in the condition described in Paragraph 4.02; i.e., all relays released. Upon receipt of the 20 impulse master connect code by the selective receiving circuit, Contacts1-2 of the (A) selector (Fig. 1, P90.982) close at all stations and will perform the same functions as in Paragraph 4.03.

4.05 Manual Power Control

Assuming the relays to be released as in Paragraph 4.02, the power for the regular or spare teletypewriter set (depending on the position of the manual power transfer switch) may be turned "ON" manually without closing the signal circuit, by operating either the (B) or (B') nonlocking key thereby causing the S.E.M. (B) relay to operate. The operating path is from one side of the low voltage power supply on Terminal 20 of the (A) terminal strip, through the winding of the S.E.M. (B) relay, the contacts of either the (B) or (B') nonlocking

key, to Terminals 8 and 13 of the (A) terminal strip, to the opposite side of the low voltage power supply on Terminal 19 of the (A) terminal strip. The S.E.M. (B) relay will lock up as in Paragraph 4.03 (e). When the power for either the regular or spare teletypewriter set is to be turned "OFF" the (C) or (C') nonlocking key must be operated to release the S.E.M. (B) relay.

5. INSTALLATION

5.01 The mounting and wiring of the equipment other than the external signal arrangement are shown in BSP sections in the P90 series. Section P31.130 covers information for installing remote signal bells in hazardous locations.

6. MAINTENANCE

6.01 All equipment associated with this circuit shall be maintained in accordance with the instructions contained in Bell System Practices. Section P31.130 covers special precautions to be observed in connection with the maintenance of remote signal bells in hazardous locations.

7. TESTING

7.01 Before placing this circuit in service, its correct operation, as described in this appendix shall be checked in conjunction with the selective receiving circuit.

8. REFERENCES

8.01 This applique circuit is covered by the following BSP sections and drawings:

Section P90.978 (Drawing 21062-SD-105) Schematic
Section P90.979 (Drawing 21062-T- 107) Wiring
Section P90.976 (Drawing 21062-ED-105) Equipment

8.02 A complete list of BSP sections and drawings concerning the 64C1 selector system will be found in Section P65.902.

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SECTION P65.902
Appendix 5
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APPLIQUE CIRCUIT PER BSP SECTION P90.975

TO BE USED IN CONJUNCTION WITH THE

SELECTIVE RECEIVING CIRCUIT

PER BSP SECTION P90.982

1. GENERAL

1.01 This appendix contains a description of an applique circuit to be used in conjunction with the selective receiving circuit shown in Section P90.982. The schematic drawing of this applique circuit is covered by Section P90.975.

1.02 The power for the operation of this applique circuit is obtained from the selective receiving circuit covered by Section P90.982.

2. FUNCTIONS

2.01 The functions provided by this applique circuit, when used in conjunction with the selective receiving circuit, are described below. As described, the functions apply to the use of this applique arrangement with a regular and spare teletypewriter set. However, the same functions can be provided where only one teletypewriter set is involved, in which case the manual power transfer switch and one set of manual control keys are omitted.

(a) Receipt of the assigned 20 impulse station code will turn "ON" the power for a regular or spare teletypewriter set depending on the position of a manual power transfer switch.

(b) Receipt of the 20 impulse master connect code will perform simultaneously at all stations, the same functions as in (a) above.

(c) By operating a nonlocking key at either the regular or spare teletypewriter position, the attendant may turn "ON" the power for the regular or spare teletypewriter set depending on the position of the manual power transfer switch.

(d) When the power for a teletypewriter set is to be turned "OFF" it must be done manually.

2.02 In order that the attendant may turn "OFF" the teletypewriter motor to change paper, ribbons, etc., the power switch on the teletypewriter base is left operative.

3. EQUIPMENT ARRANGEMENT

3.01 Where a regular and a spare teletypewriter set are to be controlled, this applique circuit consists of a power transfer switch, a power control relay, and four nonlocking keys for local manual control of the teletypewriter power. Where only one teletypewriter is to be controlled, the power transfer switch and two of the nonlocking keys are omitted.

4. CIRCUIT DESCRIPTION

4.01 Section P90.975, Figures 1, 2, B and C are used where the regular and spare teletypewriter sets are to be controlled by this applique arrangement. Such an arrangement is described in the following paragraphs. Where only one teletypewriter set is tobe controlled, Figures 1, 2 and A are used. The operation of the one set arrangement is not described herein because it is fundamentally the same as for the two set arrangement.

4.02 Figure C shows the manual power transfer switch so operated as to permit control of power to the regular teletypewriter set, and Figure 1 shows the S.E.M. relay (B) released thereby disconnecting power from the teletypewriter set.

4.03 Receipt of Station Code

(a) Upon receipt of the assigned 20 impulse station code by the selective receiving circuit (Fig. 1, P90.982), the (B) relay of that Figure will be operated due to the closure of Contacts 1-2 of the (A) selector.

The operating path for relay (B) is from the negative side of the power supply on Terminal 22 of the (A) terminal strip, to Terminal 1 of the (A) terminal strip, through Contacts 1-2 of the (A) selector, Terminals 2 and 11 of the (A) terminal strip, through the winding of the (B) relay, the (B) resistance, to the positive side of the power supply

(b) Relay (B) (Fig. 1, P90.982) operated, provides an operating path for the S.E.M. (B) relay. The operating path is from one side of the low voltage power supply on Terminal 20 of the (A) terminal strip, through the winding of the S.E.M. (B) relay, to Terminal 12 of the (A) terminal strip, through top Contacts 2-1 of relay (B) (P90.982, Fig. 1), Terminal 13 of the (A) terminal strip, to the opposite side of the low voltage power supply on Terminal 19 of the (A) terminal strip. S.E.M. (B) relay operates.

(c) The S.E.M. (B) relay operated, will turn "ON," with one set of its contacts, the power for either the regular or spare teletypewriter set, depending on the position of the manual power transfer switch. The relay locks up through its other set of contacts, the closed contacts of the (C) and (C') nonlocking keys in series, to Terminal 13 of the (A) terminal strip, to the low voltage power supply on Terminal 19 of the (A) terminal strip. When the power for either the regular or spare teletypewriter set is to be turned "OFF" the (C) or (C') nonlocking key must be operated to release the S.E.M. (B) relay.

4.04 Receipt of Master Connect Code

Assume the circuits are again in the condition described in Paragraph 4.02, i.e., the S.E.M. (B) relay released. Upon receipt of the 20 impulse master connect code by the selective receiving circuit, Contacts 1-2 of the (A) selector (Fig. 1, P90.982) close at all stations and will perform the same functions as in Paragraph 4.03.

4.05 Manual Power Control

Assuming the S.E.M. (B) relay to be released as in Paragraph 4.02, the power for the regular or spare teletypewriter set (depending on the position of the manual power transfer switch) may be turned "ON" manually by operating either the (B) or (B') nonlocking key thereby causing the S.E.M. (B) relay to operate.

The operating path is from one side of the low voltage power supply on Terminal 20 of the (A) terminal strip, through the winding of the S.E.M. (B) relay, the contacts of either the (B) or (B') nonlocking key, to Terminal 13 of the (A) terminal strip, to the opposite side of the low voltage power supply on Terminal 19 of the (A) terminal strip. The S.E.M. (B) relay will lock up as in Paragraph 4.03 (c). When the power for either the regular or spare teletypewriter set is to be turned "OFF," the (C) or (C') nonlocking key must be operated to release the S.E.M. (B) relay.

5. INSTALLATION

5.01 The mounting and wiring of the equipment are shown in BSP Sections in the P90 series.

6. MAINTENANCE

6.01 All equipment associated with this circuit shall be maintained in accordance with the instructions contained in Bell System Practices.

7. TESTING

7.01 Before placing this circuit in service, its correct operation as described in this appendix shall be checked in conjunction with the selective receiving circuit.

8. REFERENCES

8.01 This applique circuit is covered by the following BSP sections and drawings:

Section P90.975 (Drawing 21125-SD-105) Schematic and Wiring

8.02 A complete list of BSP sections and drawings concerning the 64C1 Selector System will be found in Section P65.902.

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SECTION P65.902
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PLAN 13

APPLIQUE CIRCUIT PER BSP SECTION P91.948

TO BE USED IN CONJUNCTION WITH THE

SELECTIVE RECEIVING CIRCUIT

PER BSP SECTION P90.982

1. GENERAL

1.01 This appendix contains a description of an applique circuit to be used in conjunction with the selective receiving circuit shown in Section P90.982.

1.02 The power for operation of this applique circuit is obtained from a separate teletypewriter rectifier in addition to certain of the power features of the selective receiving circuit.

2. FUNCTIONS

2.01 The functions provided by this applique circuit when used with the selective receiving circuit are described below.

(a) Receipt of the assigned 20 impulse station code will light a visual signal and start the teletypewriter motor. The signal will remain lighted until released by a manual key or until the 22 impulse master disconnect code is received to turn OFF the power.

(b) Receipt of the 20 impulse master connect code will perform simultaneously at all stations the functions of (a) above.

(c) Receipt of the 22 impulse master disconnect code will turn OFF the power to the teletypewriter and extinguish the connection lamp at any station that may be connected.

(d) Receipt of the assigned 24 impulse station code will turn ON the power to the transmitter-distributor, if there is tape in the gate and light the visual indicator of (a) above. The indicator may be released by the manual key. The power to the transmitter distributor is turned OFF automatically when the tape runs out.

(e) The keyboard of the teletypewriter is disabled when the transmitter distributor is sending and the typing reperforator of the 102A assembly may be made blind at the same time if desired.

(f) Break control is provided so that the distant end may stop the transmitter distributor when necessary. Transmission may be resumed following operation of the break release key.

(g) Keys are provided for manual start and stop of either the teletypewriter or the transmitter distributor.

(h) Busy indicator lamp is provided.

3. EQUIPMENT ARRANGEMENT

3.01 This applique circuit together with the associated selective receiving circuit is installed at the teletypewriter station.

3.02 The functions of the applique may control a 19-type teletypewriter or a 102A assembly.

3.03 The control keys and lamps are mounted on the teletypewriter table.

4. CIRCUIT DESCRIPTION

4.01 If the attendant dials the 20 impulse code to activate the 15-type unit on the 19 set, the 60-type selector in the 64C1 receiving unit connects

ground through its contacts 1 and 2, to the winding of the A relay, Figure 1, P90.982, causing it to operate. This relay operated connects ground through its bottom contacts 1 and 2 to the winding of relay KU, Figure 1, which operates and locks up through its bottom contacts 4 and 5, bottom contacts 2 and 3 of the DK relay and bottom contacts 1 and 2 of the KU relay to ground. The KU relay operated connects ground through its top contacts 6 and 7, to the winding of the signal engineering relay, Figure 6, associated with the power supply of the 15-type teletypewriter motor. This relay operates and connects power to the motor causing the 15 unit to be activated.

4.02 The operation of the A relay, Figure 1, P90.982, in addition connects ground through its top contacts 1 and 2 to the winding of the B relay causing it to operate and lock up through its bottom contacts 1 and 2, top contacts 3 and 4 of the KU relay, Figure 1, and the break contacts on the lamp release key, Figure 12, to ground. This relay operated connects ground through its top contacts 1 and 2 to the beehive lamp shown in Figure 10. This lamp may be extinguished by operating the lamp release key, which opens the locking circuit of the B relay causing it to release.

4.03 If the attendant wishes to disconnect the 15-type teletypewriter from the circuit he dials the 22 impulse code which connects ground through contacts 1 and 3 of the 60-type selector to the winding of the DK relay, Figure 1, causing it to operate and lock up through its bottom contacts 1 and 2 and bottom contacts 1 and 2 of the KU relay to ground. The DK relay operated opens the locking circuit of the KU relay by means of bottom contacts 2 and 3 on the DK relay. As soon as the KU relay releases the DK relay falls down since the release of the KU relay opens the locking path of the DK relay through lower contacts 1 and 2 of the KU relay.

4.04 When the attendant desires to start a distant transmitter distributor the 24 impulse code

dialed causes the 60-type selector ground through its contacts 1 and 4 to the winding of the G relay, Figure 2, P90.982, causing it to operate. This relay operated connects ground to the winding of the B relay, Figure 1, P90.982, causing it to operate and lock up as described previously, and in addition energizes the lamp signal through its top contacts 1 and 2. In addition relay G operated connects ground through its top contacts 1 and 2 to the winding of the MS relay causing it to operate. Relay MS operated connects ground through its bottom contacts 1 and 2 to the winding of the KU relay causing it to operate and lock up as explained previously. In addition, it connects ground through its top contacts 1 and 2 to the winding of the transmitter power relay, Figure 6, causing it to operate and so energize the transmitter distributor motor. This ground which causes the MS relay to operate will also be connected through top contacts 4 and 5 of the MS relay to the winding of the MA relay so that it will be unable to operate as this arrangement grounds out the battery supply for the MA relay. When the last digit in the code is dialed, the selector steps off its contacts so that ground is removed from the winding of the MA relay which will operate providing there is tape in the transmitter distributor so that the sixth pin contact will be closed. The closure of this sixth pin connects ground to the winding of the MA relay so that the battery furnishing power for the MS relay now flows through its winding, contacts 4 and 5 of the MS relay, the winding of the MA relay, and the sixth pin contact to ground.

4.05 Relay MA operated by means of its top contacts 3 and 4 removes ground from the winding of the CM relay. The CM relay released completes the control magnet circuit through its lower contacts 2 and 3 and lower contacts 4 and 5 of the MA relay. Relay CM is a slow release relay so that there will be sufficient time for the motor of the transmitter to obtain full speed before any characters are transmitted from the distributor. This means that it will be unnecessary for the teletypewriter attendant to insert any letters signals ahead of the message in order to account for any mal-speed conditions of the motor.

4.06 The disconnection of the transmitter distributor is affected when the tape in the gate runs out.

4.07 Since the external break circuit, Figure 8, will most likely be operated by the long selector dial pulses, the locking circuit of the A relay is so arranged that the operation of the MA relay, Figure 1, will open it by means of its lower contacts 2 and 3. This locking circuit will remain open until the CM relay releases and closes it through its top contacts 2 and 3. The delay time of the CM relay is sufficient to permit the release of the above mentioned A relay.

4.08 It will be noted that there is provided a break release key which upon operation opens the locking circuit of relay A in the external break circuit so that it releases. The power disconnect key upon being operated applies ground to the DK relay causing it to operate and thus disconnect the power from the teletypewriter as described previously. The power connect key upon being operated applies ground to the winding of the KU relay causing it to operate, lock up and also start the teletypewriter motor as described previously. The transmitter distributor stop key upon being operated opens the circuit of the control magnet and at the same time applies ground to the winding of the MA relay so that the tape gate may be opened, tape relined and tape lid put back in place without the operator losing control of the circuit. The transmitter start key is so arranged that upon its operation ground is connected to the winding of the MS relay in the same manner as when the 60-type selector applies ground to this relay so that upon the release of this key the distributor transmits any tape in the gate to the line.

5. INSTALLATION

5.01 The applique circuit together with the selective receiving circuit is furnished mounted in an apparatus cabinet as shown on Drawing 23069-ED-107.

5.02 The manual control keys will be mounted in the key box of the XRT205 table per Drawing 23173-134. On other type tables the keys may be mounted in 151 or 201 type jack mountings.

5.03 Interconnections for the applique circuit, receiving unit, teletypewriter apparatus, power relays, keys and lamps are shown on Application Schematic P91.933.

6. MAINTENANCE

6.01 All equipment associated with this circuit arrangement shall be maintained in accordance with instructions contained in Bell System Practices.

7. TESTING

7.01 Before placing this circuit arrangement in service, the correct operation in accordance with this appendix shall be checked in conjunction with the selective receiving circuit.

8. REFERENCES

8.01 This applique circuit is covered by the following sections and drawings:

Section P91.933	Application Schematic
Section P91.948 (23069-SD-33)	Applique Schematic
Section P91.948.1 (23069-T-116)	Applique Wiring
Drawing 23069-ED-107	Equipment
Drawing 21373-134	Key Mounting XRT205 Table

8.02 A complete list of BSP sections and drawings concerning the 64C1 selector system will be found in Section P65.902.1.

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SECTION P65.902
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PLAN 14

APPLIQUE CIRCUIT PER BSP SECTION P91.949

TO BE USED IN CONJUNCTION WITH THE

SELECTIVE RECEIVING CIRCUIT

PER BSP SECTION P90.982

1. GENERAL

1.01 This Appendix contains a description of an applique circuit to be used with the selective receiving circuit shown in Section P90.982. The schematic drawing of this applique is covered in Section P91.949.

1.02 The power for operation of this applique circuit is obtained from the selective receiving circuit covered by Section P90.982.

2. FUNCTIONS

2.01 This applique performs functions similar to those of the applique per P90.984, which this applique supersedes for new services, but the busy indications differ.

(a) Receipt of the assigned 20 impulse station code will operate a buzzer and turn "ON" the power of a teletypewriter at the called station. The buzzer will continue to operate until silenced by operation of a key, or until the 22 impulse master disconnect code for turning "OFF" the power is received.

(b) Receipt of the 20 impulse master connect code will perform simultaneously at all stations the functions given in (a) above.

(c) Receipt of the 22 impulse master disconnect code will turn "OFF" the power of the teletypewriter at each station. The buzzer will be silenced, if operating.

(d) The 21B3 indicator will:

1. Light steadily while codes are being dialed.

2. Flash at all stations during transmission of signals.

3. At all stations busy lamps will be lighted steadily during pauses in transmission.

4. If transmission takes place without any stations being called the busy lamps will be extinguished during pauses in transmission.

5. A clearing out signal (disconnect code) is required to restore the indicator at the opening of business or subsequent to an open line condition.

2.02 Manual power connect and disconnect keys are provided. A station started with the manual key is connected to the line.

2.03 The power switch on the teletypewriter base may be used by the attendant to prevent remote starting of the motor while paper and ribbons are being replaced.

3. EQUIPMENT ARRANGEMENT

3.01 The applique equipment is contained in a small apparatus cabinet.

3.02 Section P91.949 is arranged for use with a 15-type teletypewriter. The applique may be used with other teletypewriters as required.

4. CIRCUIT DESCRIPTION

4.01 The circuit covered by P91.949 is designed to work with the receiving selector on the 64C1 system, which is covered by P90.982. This arrangement provides means so that the attendant at a point having calling equipment may, by dialing the proper code, connect and disconnect the power to the teletypewriter set at a remote point. The lamp circuit is such that when a selecting code is being transmitted over the teletypewriter service, the busy lamp will remain lighted. After a station has been selected and teletypewriter signals are being transmitted to that point the busy lamp will follow the teletypewriter signals, remaining lit in case the sending operator hesitates, if transmitting by keyboard, or stops the transmitter distributor if that equipment is being employed. As soon as the transmission is over and the disconnect signal has been transmitted the busy lamp will be extinguished and will remain that way unless teletypewriter signals are transmitted over the circuit, in which case the busy lamp will again follow the teletypewriter signals but will not remain lit during pauses in the transmission of the teletypewriter signals.

4.02 Station Connect Code. When the attendant operates the calling equipment to connect the power supply to the teletypewriter at some point, the busy lamp will become energized since at that moment the dialing action permits the C and E relay in the 64C1 unit to release so that the locking circuit of the K relay is broken by lower contacts 4 and 5 of the C relay. The busy lamp is now energized since positive power is connected through top contacts 2 and 3 of the E relay, terminals 29 of the A terminal strip on P90.982 and 29 of the B terminal strip on P91.949 to one side of the 21B3 indicator. The other side of this indicator is connected through top contacts 5 and 6 of the K relay to the negative side of the power on terminal 22 of the B terminal strip on P91.949.

4.03 At the completion of dialing the 20 impulse station connect code, the 60-type selector in

the 64C1 selector system connects ground to terminal 2 of the B terminal strip P91.949 which is connected to the MB relay winding so that this relay operates and locks up through its top contacts 5 and 6, closed contacts of the E key, top contacts 1 and 2 of the DU relay and both bottom contacts 1 and 2 of the K relay, and top contacts 1 and 2 of the MB relay to ground. This relay operated connects power to the buzzer through its bottom contacts 1 and 2 and top contacts 1 and 2 of the BD relay. In addition, it connects power to the relay in Figure 2 through its top contacts 3 and 4.

4.04 The indicator lamp will remain burning until teletypewriter signals are transmitted over the teletypewriter service causing the C and E relays in the selector unit to be operated. One side of this lamp will now be connected to the armature of the PR receiving relay in the selector unit through the top contacts 1 and 2 of the E relay so that this lamp will follow the teletypewriter signals and is so polarized that it will be excited during the time that this receiving relay is on its marking side so that in the case transmission is stopped for any reason the lamp will burn continuously, indicating that the circuit is busy.

4.05 Master Connect Code. Receipt of the 20 impulse master connect code will cause the same action at all receiving stations simultaneously.

4.06 Disconnect Code. At the conclusion of the transmission of traffic the attendant will dial the assigned 22 impulse disconnect code which connects ground to the winding of the DU relay causing it to operate and lock up through its bottom contacts 4 and 5, top contacts 1 and 2 of the MB relay to ground and in addition through bottom contacts 1 and 2 of the K relay to ground. Relay DU operated opens the locking path of the MB relay by means of top contacts 1 and 2 of the DU relay, causing the MB relay to release. In addition, this relay operated connects the armature of the PR relay in the 64C1 selector set through to bottom contacts 6 and 7 to the grid of the A vacuum tube. The battery is also connected by means of top contacts 3 and 4 of the DU relay to the winding of the 60-type selector in the receiving selector unit so that it

steps off its top contact. When the teletypewriter service closes due to the release of the dial key or by the attendant dialing the teletypewriter signal 1, positive battery is connected from the armature of the PR relay, through resistance R5, bottom contacts 6 and 7 of the DU relay to the grid of the A vacuum tube causing its plate circuit to become conducting so that the F relay operates, which in turn connects battery to the windings of the C and E relay causing them to operate, thus removing the 60-type selector from the circuit.

*4.07 As soon as the C and E relays are operated ground will be connected through lower contacts 4 and 5 of the C relay, top contacts 6 and 7 of the DU relay in the applique circuit to the winding of the K relay causing it to operate and lock up through its bottom contacts 3 and 4 and bottom contacts 4 and 5 of the C relay in the selector circuit to ground. Relay K operated by means of its top transfer contacts 4, 5 and 6 reverse the polarity of the power supply to the indicator lamp causing it to be extinguished on a marking signal. In addition, the operation of the K relay, by means of its bottom contacts 1 and 2, opens the locking path of the DU relay so that it will release provided the MB relay has fallen down.

*4.08 Clearing Out Signal. It should be noted that when power is turned on the K relay in the applique circuit will be released so that at the start of business after all stations have turned on their power, the control office should send a disconnect signal in order that the busy signals will be extinguished. The same procedure is required following an open line condition.

5. INSTALLATION

5.01 Wiring of the equipment is shown in Section P91.949.1. Equipment arrangements are shown on Drawing 22750-ED-129.

5.02 The applique apparatus cabinet may be mounted with the associated selective receiving circuit.

5.03 The manual control keys and the busy indicator are mounted on the teletypewriter table.

6. MAINTENANCE

6.01 All equipment and apparatus associated with this circuit shall be maintained in accordance with the instructions contained in Bell System Practices.

7. TESTING

7.01 Before placing this circuit in service, the correct operation as described in this appendix shall be checked with the associated selective receiving circuit.

7.02 When testing this applique circuit with the portable calling circuit covered in Paragraph 7 of P65.902, it is necessary that the dial contacts be closed at the completion of dialing any of the assigned codes.

7.03 Since all assigned codes are of an even number of digits, the dial contacts will be closed at the completion of dialing if the contacts are closed at the start of dialing.

7.04 Before dialing a code, check with the teletypewriter meter or other suitable means to insure that the contacts are closed. If the contacts are closed, proceed to dial the complete code. If the contacts are open, dial the digit 1 (which will close the contacts) followed by the complete code.

8. REFERENCES

8.01 This applique is covered by the following Bell System Practice Sections and Drawings:

Section P91.949 (22750-SD-33) - Schematic
Section P91.949.1 (22750-T-113) - Wiring
22750-ED-129) - Equipment

8.02 A complete list of Bell System Practice Sections and drawings covering the 64C1 selective receiving unit is contained in Section P65.902.1