

American Telephone and Telegraph Company

BELL SYSTEM PRACTICES
Teletypewriter Station
Installation and
Maintenance

SECTION P65.902.2
Issue B, 3-1-52
Dist. Class. 400AC-600AC

64C1 SELECTOR SYSTEM

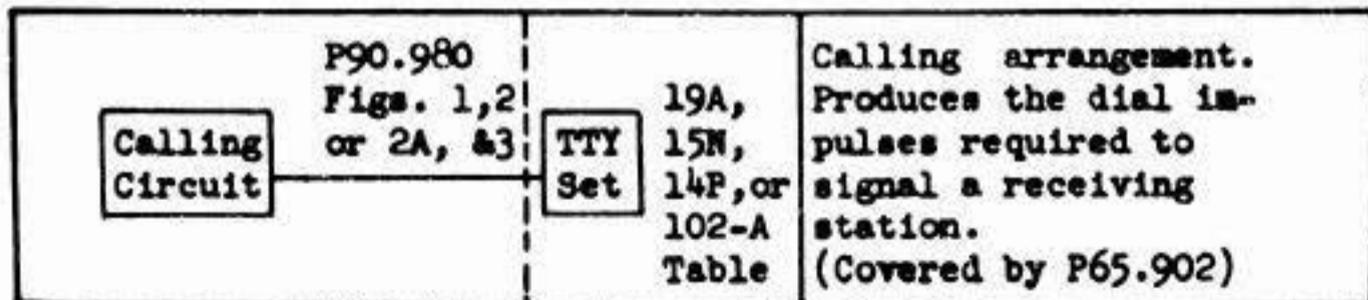
PLANS

- 1.00 This sub-section contains a brief description of the operating features of the various plans involved in the 64C1 Selector System.
- 1.01 The sub-section supersedes Issue A of Attachment 2 to P65.902, and is issued to include Plans 13 and 14, and to rate Plan 5 "A & M only."
- 1.02 Variations in equipment and service features of the 64C1 Selector System are necessary to meet customer requirements. In general, "Plan" numbers are used to identify the arrangements as described in this attachment. The Plan numbers will be referred to on service orders, circuit layout cards, in correspondence, etc. to designate the type of service furnished.
- 1.03 Similar information is also covered in Section E12.732 and Appendices 1 to 7 inclusive.

2. CIRCUIT ARRANGEMENTS

A. Selective Calling Circuit

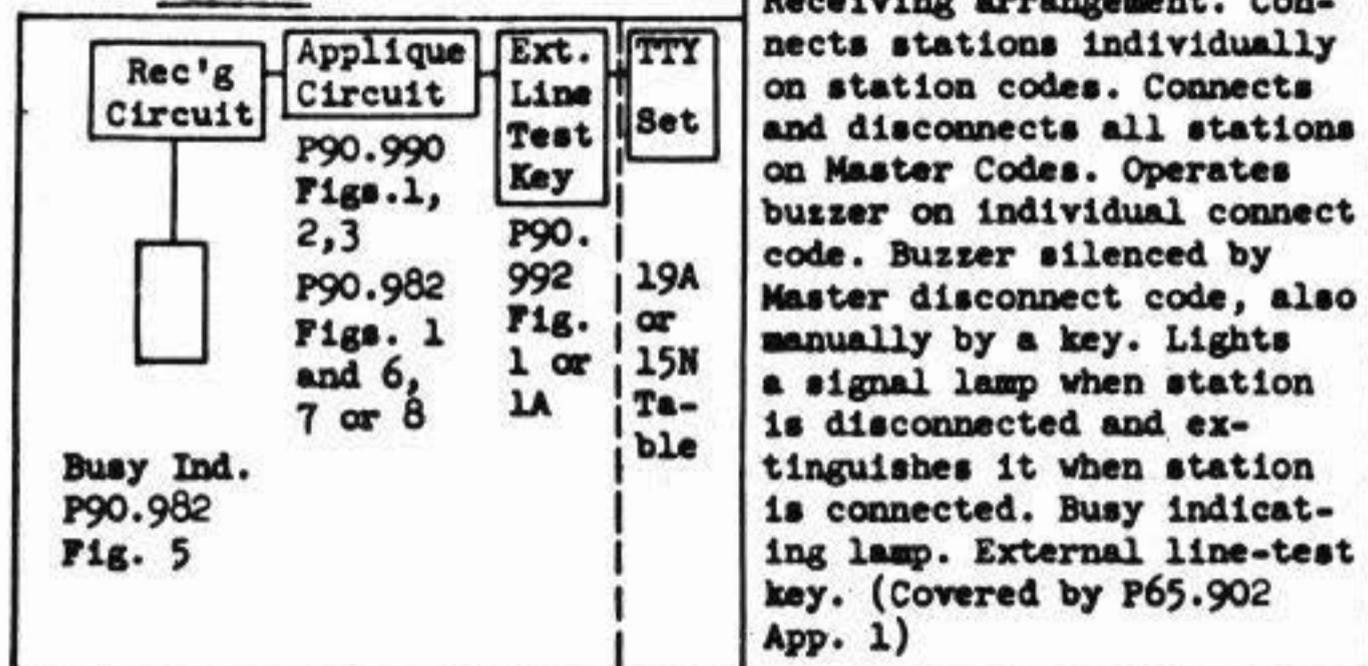
PLAN 1



2.01 The calling circuit includes a standard telephone dial, a group of relays designated as a pulse divider, a non-locking "dial" key, and filters for suppressing interference with radio circuits. This arrangement is always installed on the customer's premises and is provided only where the customer has a requirement to make calls.

B. Receiving Arrangements

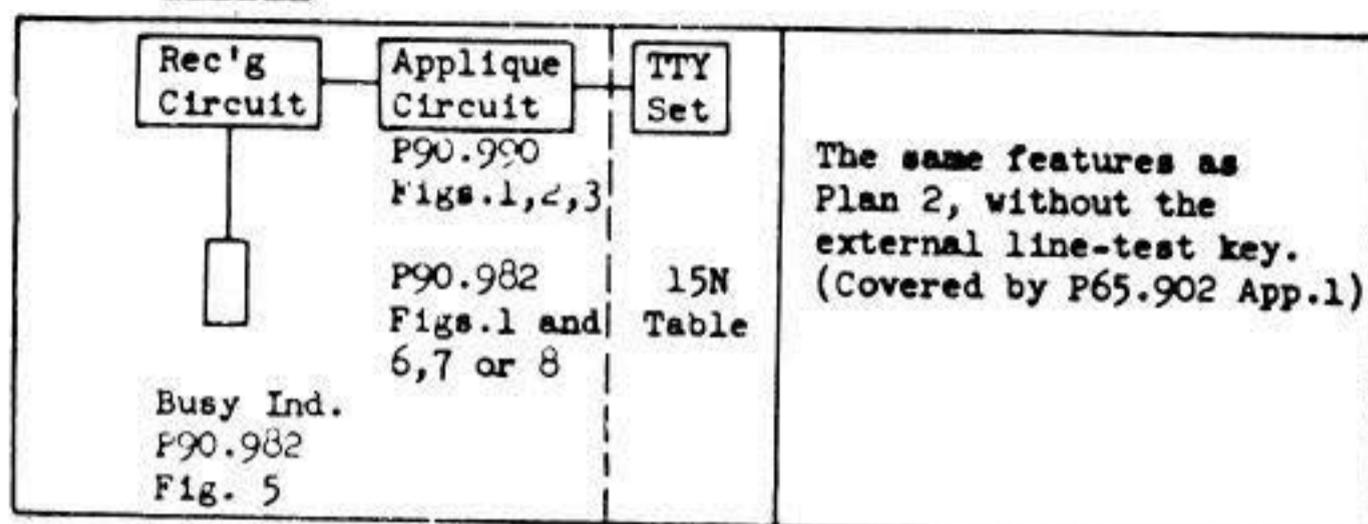
PLAN 2



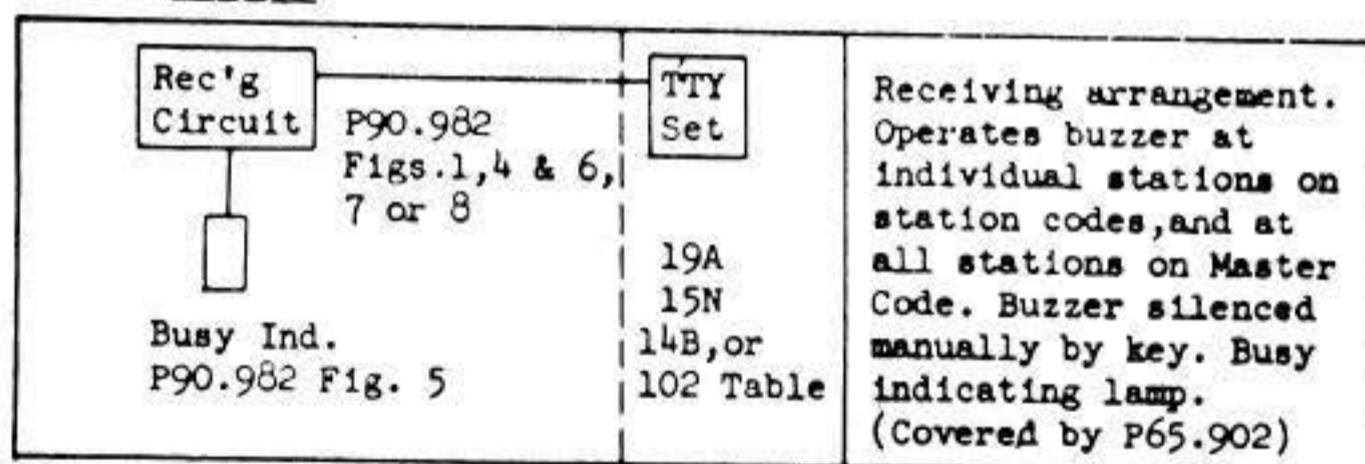
2.02 The circuit arrangement is such that the following functions are performed:

- (a) Receipt of the assigned 20 impulse station code will connect the called station to the line circuit and operate a buzzer at the called station. The buzzer will continue to operate until released by the operation of a key or until the 22 impulse master disconnect code is received. When the called station is connected to the line circuit the signal lamp (15-D3 Indicator) at the called station is extinguished.
- (b) Receipt of a 22 impulse master disconnect code will disconnect all stations connected to the line circuit and light the signal lamp (15-D3 Indicator) at each station to indicate that it is disconnected from the line circuit. The buzzer will be silenced if it is operating.

- (c) Receipt of a 24 impulse master connect code will connect all stations to the line circuit but will not operate the buzzer at the individual stations. As in (a) the signal lamp (15-D3 Indicator) at each station is extinguished when the station is connected to the line circuit.
- (d) A Busy Indicating Lamp (21B3 Indicator), is so connected that it will "flash" continuously during the period teletypewriter signals are being transmitted over the line circuit. It will also "flash" but at a slower rate, during the process of dialing. The light is extinguished when the line circuit is closed and idle. If the line circuit goes open, the "Busy Lamp" will light and will remain so until the line circuit is again closed.
- (e) An External Line-Test Key arrangement provides a station with means of preparing local copy or perforating tape during periods the station is disconnected from the line circuit. The external line-test key permits these functions without interfering with any functions of the Selective Receiving Circuit. When this key is in the "line" position, all functions are performed as in (a), (b), (c) and (d). When the key is in the "test" position the Selective Receiving Circuit performs as normal, but the teletypewriter itself is controlled by the key and cannot be placed in a position to transmit to or receive from the line circuit until the key is operated to the "line" position.
- (f) In the event of a power failure, at the station, or tube failure or certain other types of equipment trouble in the receiving equipment, the teletypewriter at the station involved is prevented from transmitting or receiving further teletypewriter signals.

PLAN 3

2.03 The circuit arrangement for this Plan provides the same functions as Plan 2 except the external line test key is omitted and is applicable only to the 15N Table.

PLAN 4

2.04 The circuit arrangement is such that the following functions are performed:

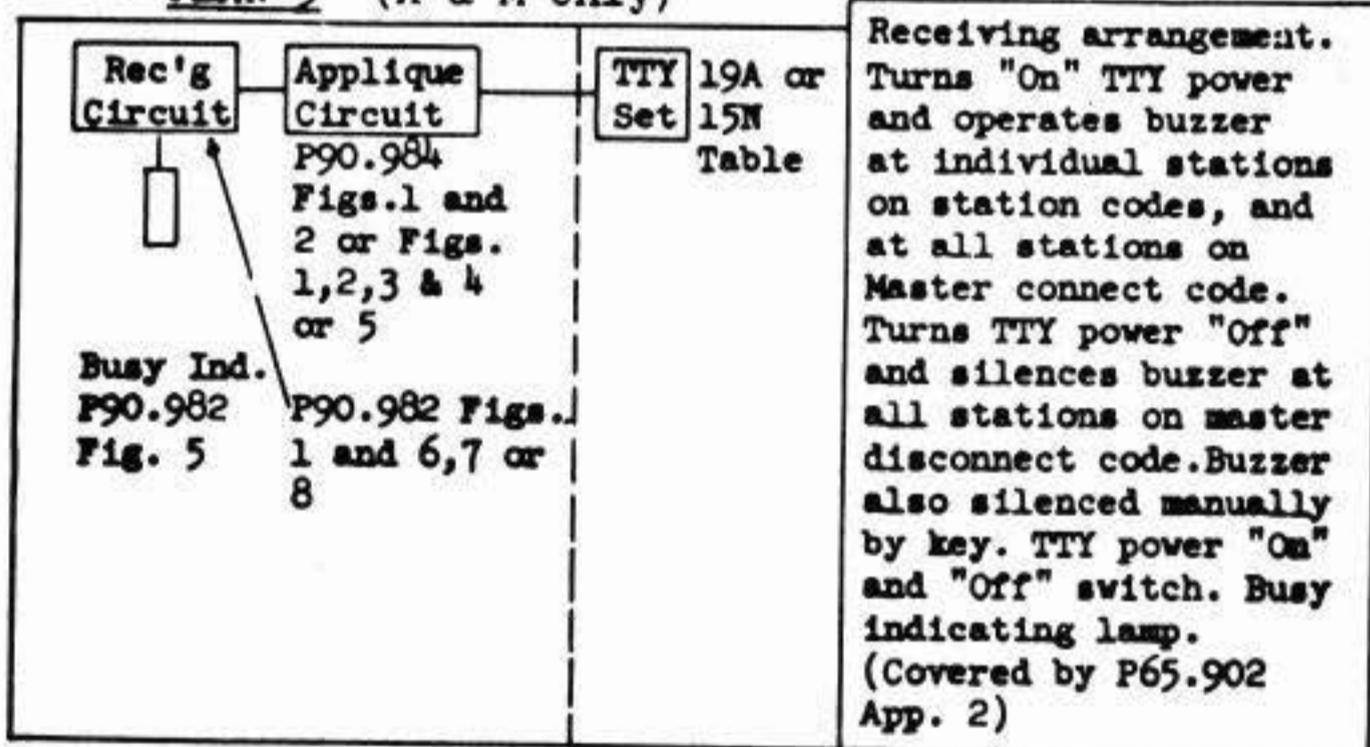
- (a) Either the assigned 20 impulse station code or the 20 impulse master connect code will operate a buzzer at the called station. The buzzer will continue to operate until silenced by the operation of a key
- (b) A Busy Indicating Lamp (21B2 Indicator) is so connected that it will "flash" continuously during the period that teletypewriter

signals are transmitted over the line circuit. It will also "flash," but at a slower rate, during the process of dialing. The light is extinguished when the line circuit is closed and idle. If the line circuit goes open, the "Busy Lamp" will light and will remain so until the line circuit is again closed.

Note 1: The selector circuit has no control over the teletypewriter at the called station.

Note 2: During periods when a station does not desire to transmit or receive copy, its teletypewriter power may be turned off by means of its teletypewriter power switch.

PLAN 5 (A & M Only)



2.05 This plan has been superseded for new services by Plan 14. Plan 5 will usually be specified for additions to existing circuits so as to provide the same supervisory indications at all stations. The circuit arrangement is such that the following functions are performed:

(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.

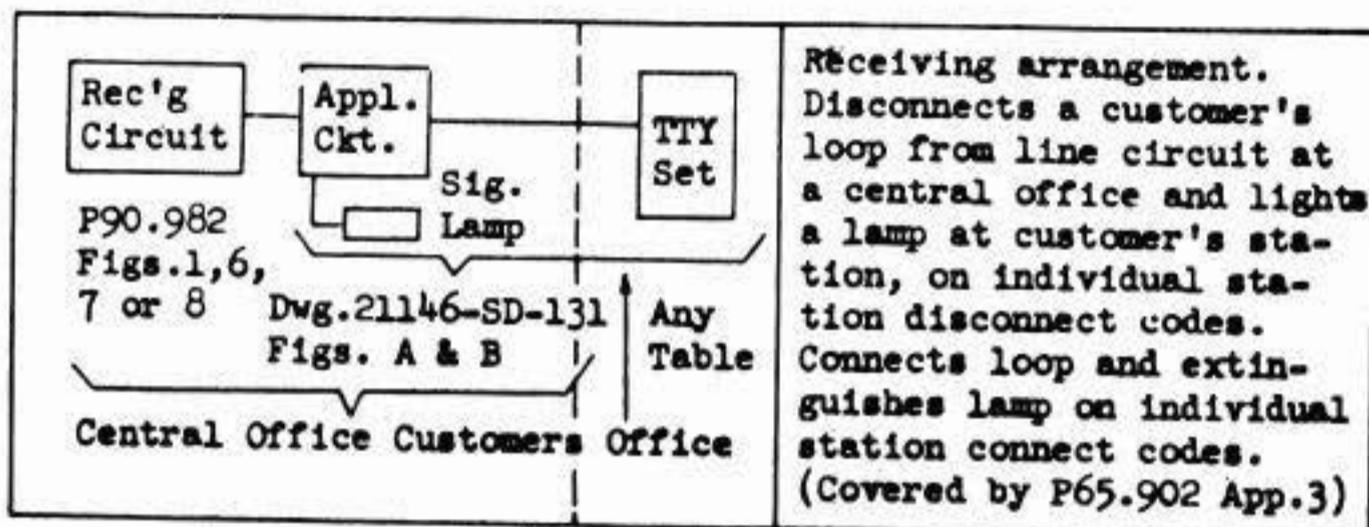
(b) Receipt of the 20 impulse master connect code will perform simultaneously at all stations, the same functions as in (a) above.

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

(d) A busy Indicating Lamp (21B3 Indicator) is so connected that it will "flash" continuously during the period teletypewriter signals are being transmitted over the line circuit. It will also "flash", but at a slower rate, during the process of dialing. The light is extinguished when the line circuit is closed and idle. If the line circuit goes open, the "Busy Lamp" will light and will remain so until the line circuit is again closed.

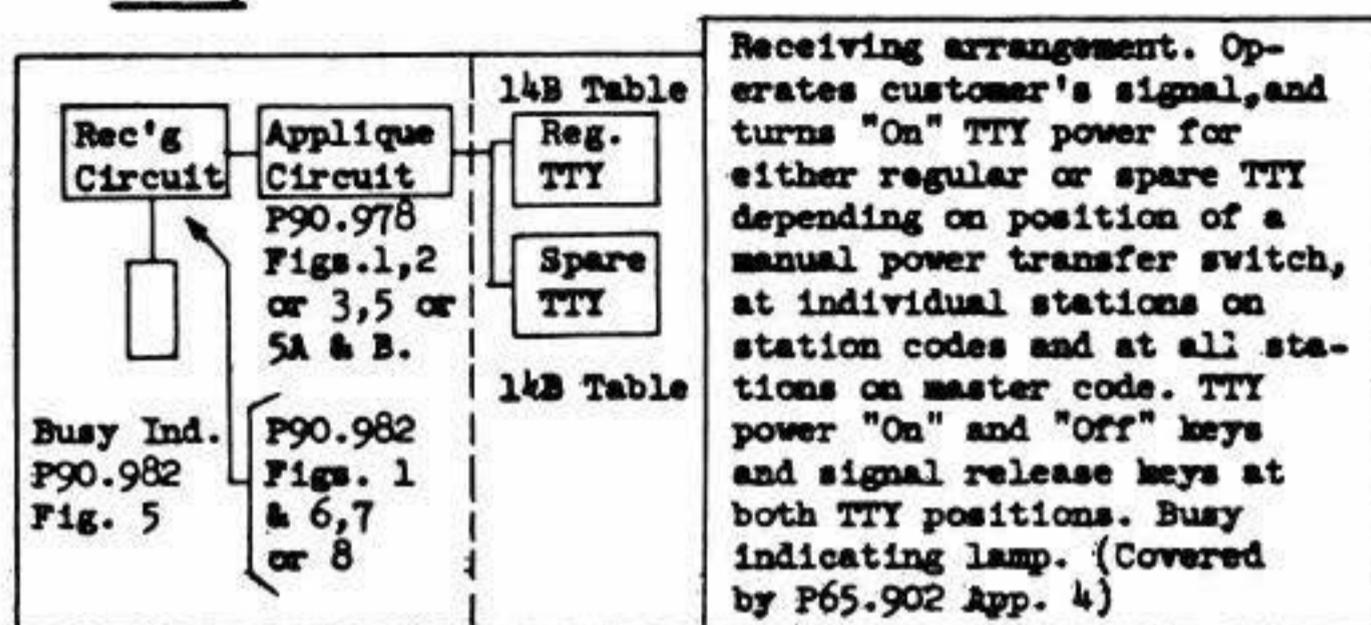
(e) The contacts of the remote controlled relay power switch are connected in parallel with the teletypewriter table power switch. The teletypewriter power, therefore, is not under control of the selective receiving circuit when the teletypewriter table power switch is in the "ON" position. In order that the attendant may shut off the teletypewriter motor to change paper, ribbon, etc., the power switch on the teletypewriter base is left operative.

PLAN 6



2.06 The circuit arrangement is installed in the Central Office. This arrangement provides for the following functions:

- (a) Receipt of the assigned 22 impulse code will disconnect the called station's loop from the teletypewriter line circuit at the Central Office, terminate the loop to battery and light a lamp at the called station to indicate this condition.
- (b) Receipt of the assigned 24 impulse code will connect the called station's loop to the teletypewriter line circuit at the Central Office and extinguish the lamp at the called station to indicate this condition.
- (c) This plan requires a second loop for the lamp signal, which limits its use to stations operated on a loop basis from the serving telegraph office.

PLAN 7

2.07 The circuit arrangement is such that the following functions are performed:

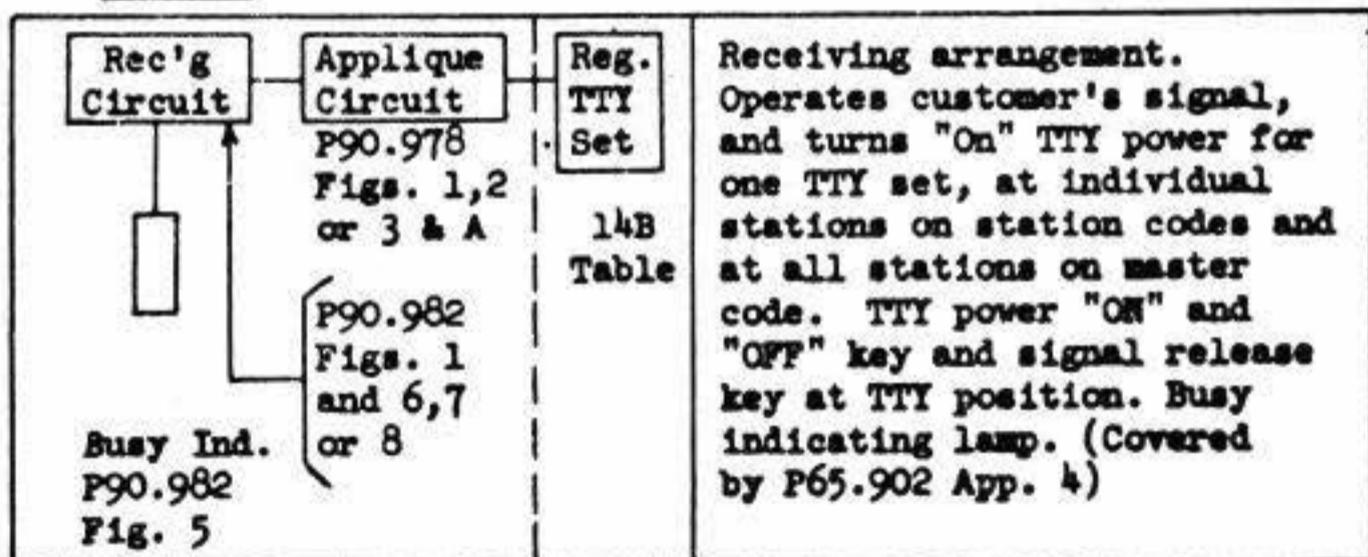
- (a) Receipt of the assigned 20 impulse station code will turn "ON" the power for a regular or spare teletypewriter set depending on the position of a manual power transfer switch and at the same time close the customer's audible signal circuit. The signal circuit will remain closed until released by a non-locking key.
- (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 either of two non-locking keys, located at the regular and spare teletypewriter positions respectively, 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 customer's audible alarm circuit.

(d) When the power for a teletypewriter set has been turned "ON" manually and a 20 impulse station code or a 20 impulse master connect code is received, the customer's signal circuit will be closed. The signal circuit will remain closed until released by operation of a non-locking key.

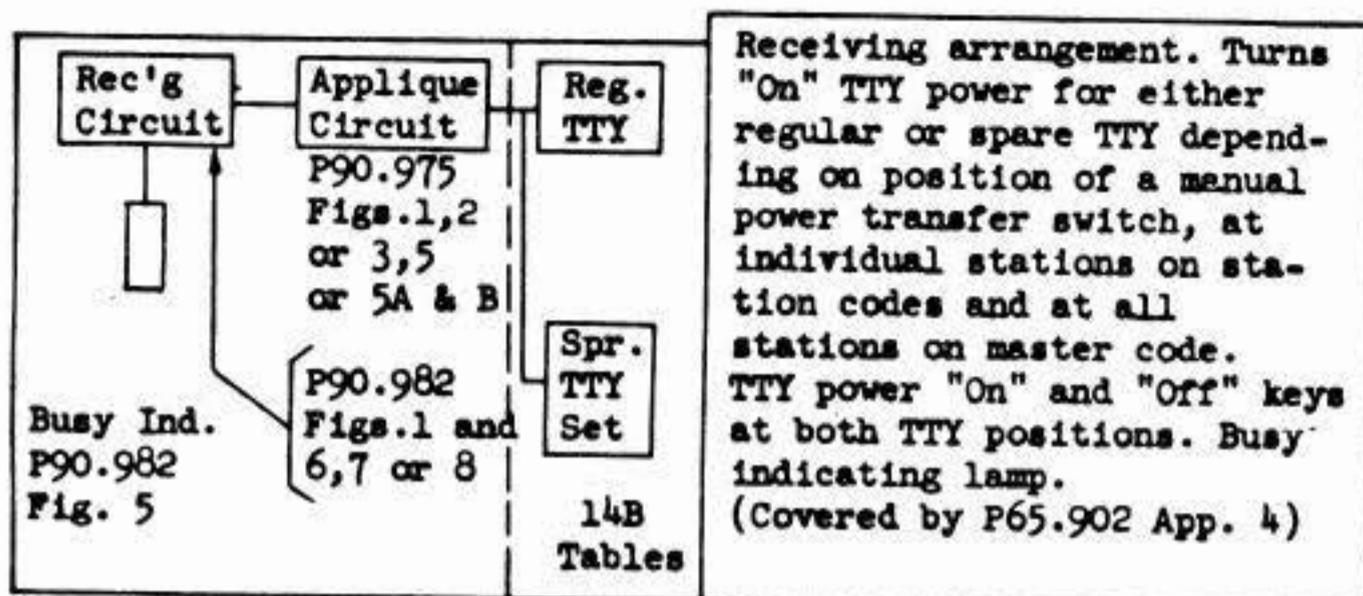
(e) When the power for a teletypewriter set is to be turned "OFF" it must be done manually. In order that the attendant may shut off the teletypewriter motor to change paper, ribbons, etc., the power switch on the teletypewriter base is left operative.

(f) A Busy Indicating Lamp (21B3 Indicator), is so connected that it will "flash" continuously during the period that teletypewriter signals are being transmitted over the line circuit. It will also "flash" but at a slower rate, during the process of dialing. The light is extinguished when the line circuit is closed and idle. If the line circuit goes open the "Busy Lamp" will light and will remain so until the line circuit is again closed.

PLAN 8



2.08 The circuit arrangement for this Plan provides the same functions as Plan 7 except the remote and manual power control of a second teletypewriter is omitted.

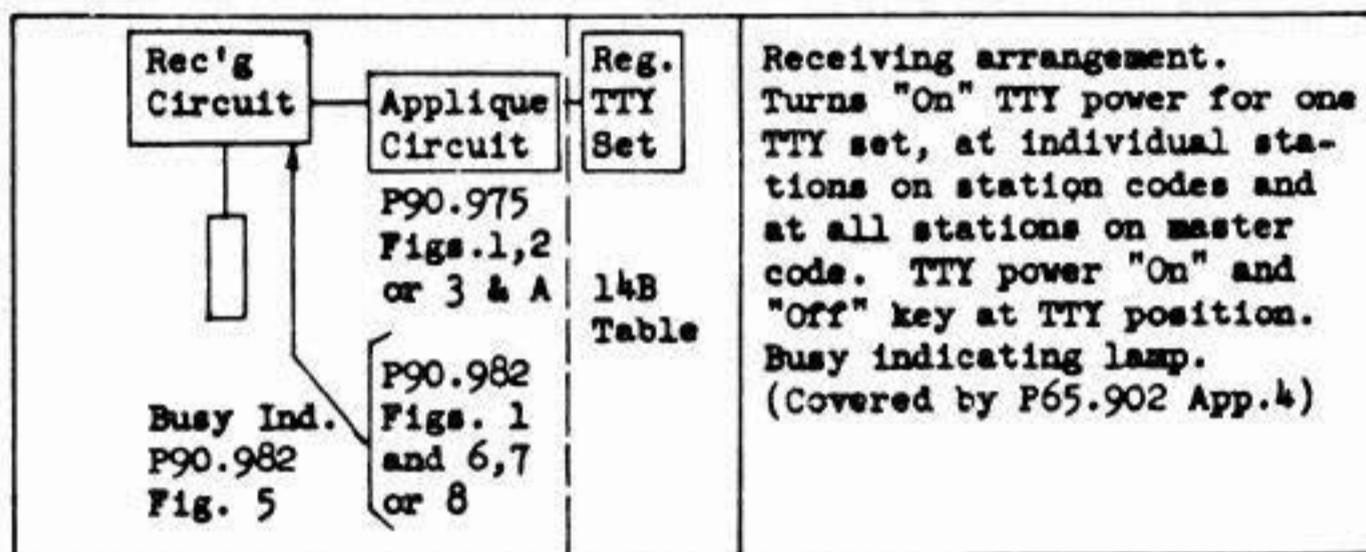
PLAN 9.

2.09 The circuit arrangement is such that the following functions are performed:

- (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 either of two non-locking keys, located at the regular and spare teletypewriter positions respectively, 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. In order that the attendant may shut off the teletypewriter set motor to change paper, ribbons, etc., the power switch on the teletypewriter base is left operative.

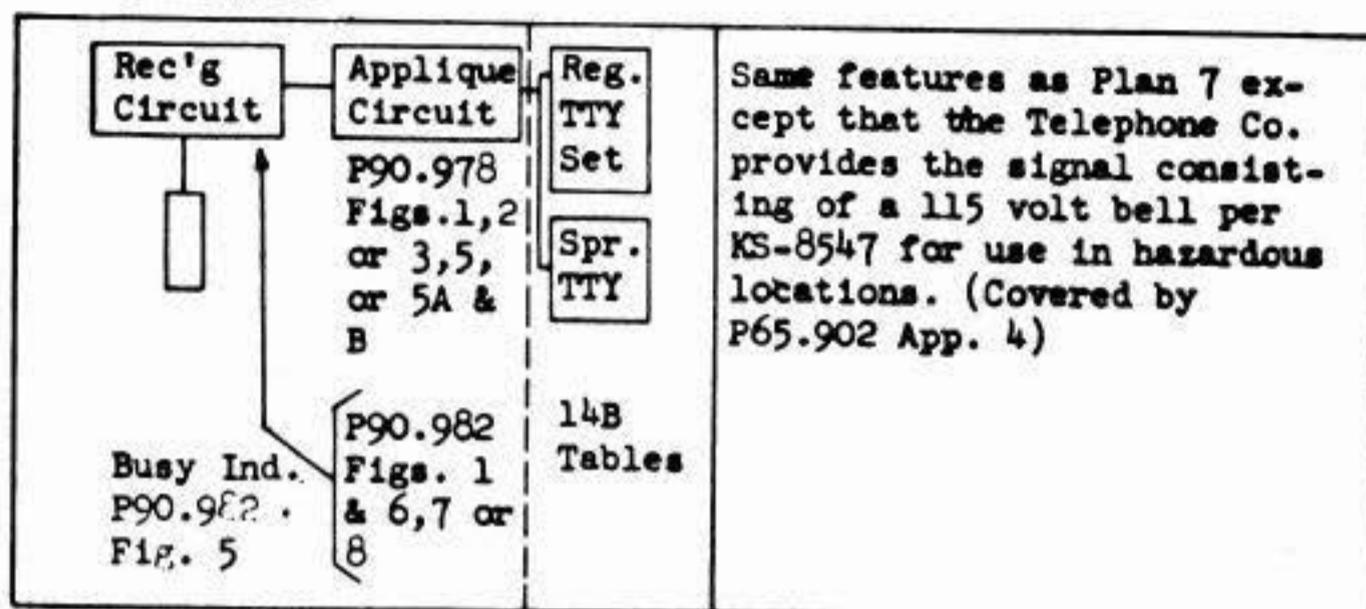
(e) A Busy Indicating Lamp (21B3 Indicator), is so connected that it will "flash" continuously during the period that teletypewriter signals are being transmitted over the line circuit. It will also "flash," but at a slower rate, during the process of dialing. The light is extinguished when the line circuit is closed and idle. If the line circuit goes open the "Busy Lamp" will light and will remain so until the line circuit is again closed.

PLAN 10



2.10 The circuit arrangement for this Plan provides the same functions as Plan 9 except the remote and manual control of a spare teletypewriter is omitted.

PLAN 11



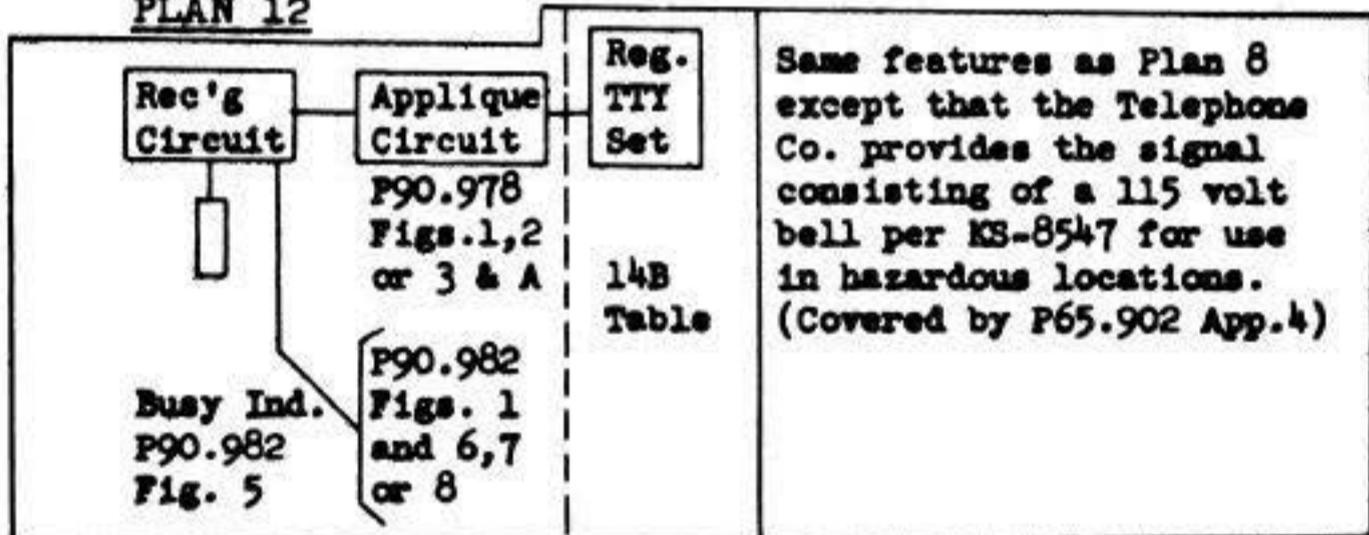
2.11 The circuit arrangement is such that the following functions are performed:

- (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 operate a KS-8547 Bell. The bell will continue to operate until silenced by the operation of a non-locking key
- (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 either of two non-locking keys, located at the regular and spare teletypewriter positions respectively, 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 operating the bell signal.
- (d) When the power for a teletypewriter set has been turned "ON" manually and a 20 impulse master connect code is received, the bell signal will be operated. The bell will remain operated until released by operating on a non-locking key.

(e) When the power for a teletypewriter set is to be turned "OFF" it must be done manually. In order that the attendant may shut off the teletypewriter motor to change paper, ribbon, etc., the power switch on the teletypewriter base is left operative.

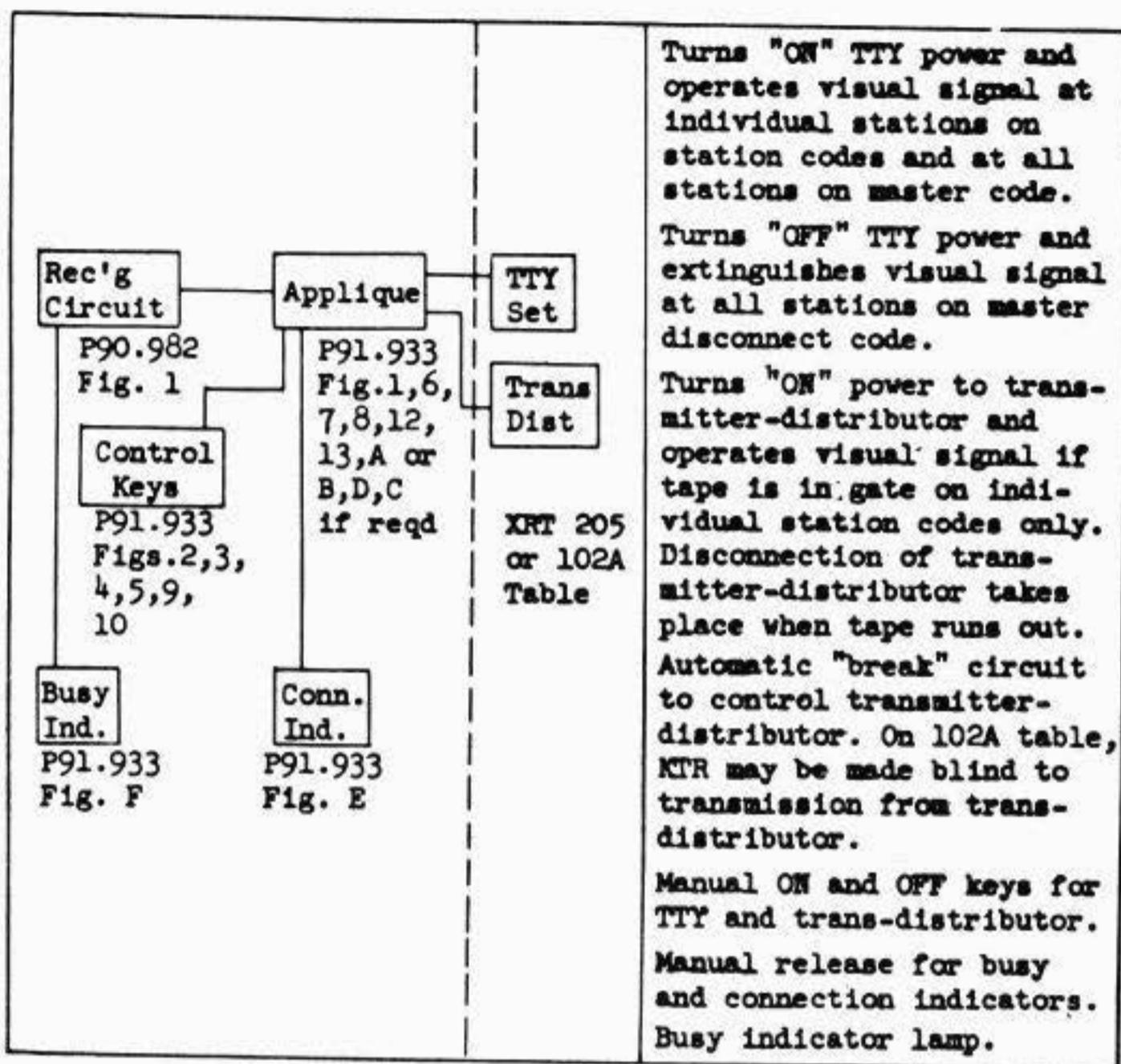
(f) A Busy Indicating Lamp (21B3 Indicator), is so connected that it will "flash" continuously during the period that teletypewriter signals are being transmitted over the line circuit. It will also "flash" but at a slower rate, during the process of dialing. The light is extinguished when the line circuit is closed and idle. If the line circuit goes open the "Busy Lamp" will light and will remain so until the line circuit is again closed.

PLAN 12



2.12 The circuit arrangement for this Plan provides the same functions as Plan 11 except the remote and manual control of a spare teletypewriter is omitted.

PLAN 13

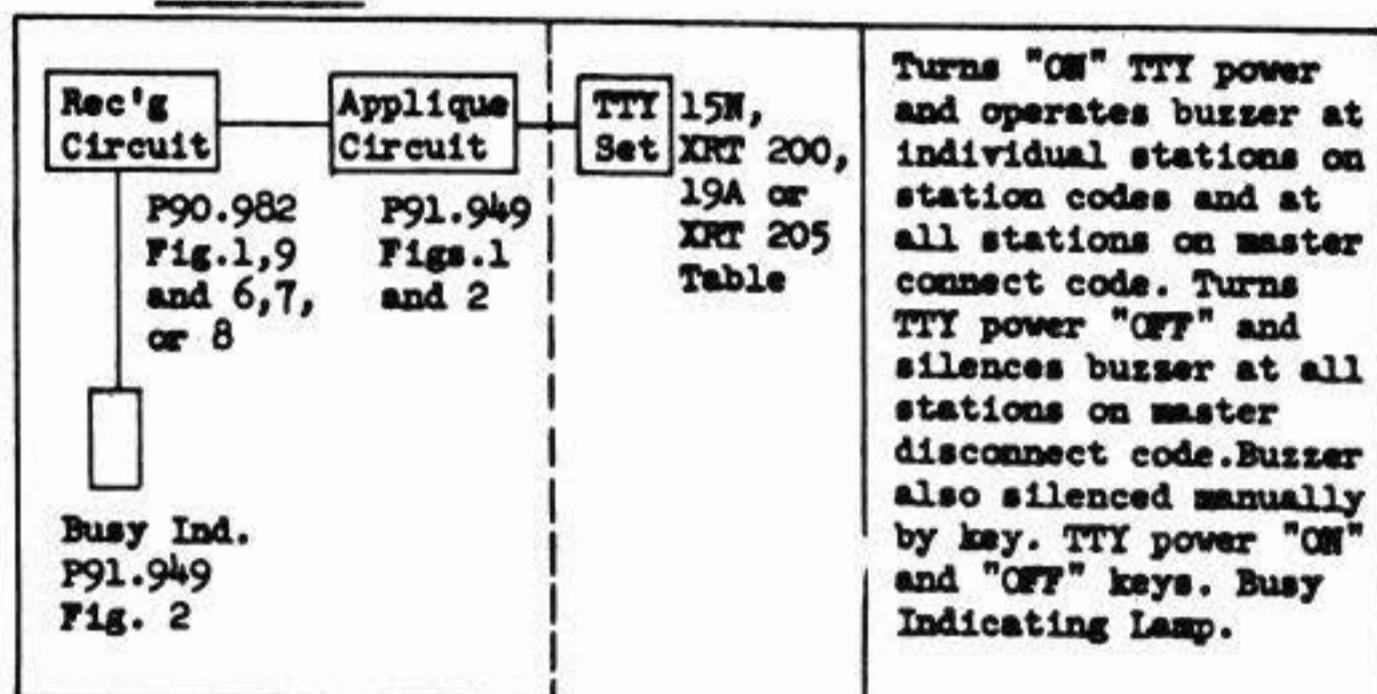


2.13 Performs motor start function for teletypewriter of 19A set or 102A assembly and performs motor start function independently for the associated transmitter-distributor of either type set when tape ready for transmission is in the tape gate.

- (a) Receipt of the assigned 20 impulse station code will start the teletypewriter motor and light a visual signal. The signal will remain operated until released by manual operation of a key or until the 27 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 of the teletypewriter at each station and extinguish any connection indicator that may be lit.
- (d) Receipt of the assigned 24 digit 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 extinguished by manual operation of a key.
- (e) Power to the transmitter-distributor is turned OFF automatically when the tape runs out.
- (f) 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.
- (g) Break control is provided so that the distant end may stop the transmitter-distributor when necessary. Transmission may be resumed by operation of a break release key.
- (h) Keys are provided for manual start and stop of teletypewriter and transmitter-distributor.
- (j) Busy indicator lamp is provided.

PLAN 14



2.14 Performs functions similar to Plan 5, which Plan 14 supersedes for new services, but 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 normally will be lighted steadily during pauses in transmission.
- *4. At all stations the indicator normally is extinguished if the circuit goes open.
- *5. If transmission takes place without any stations being called, the lamps will be extinguished during pauses in transmission and will be lighted if the circuit goes open.
- 6. A clearing out signal (disconnect code) is required to restore the indicator at the opening of business, or subsequent to an open line condition.

(e) Manual power connect and disconnect keys are provided. A station started with the manual key is connected to the circuit.

(f) 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.

*Indicates change