PHILADELPHIA

(Continued)

indicates which console is in use; while a second light in the center of the console indicates when the transmitter is energized and ready to transmit. Two boom-mounted dynamic microphones attached to the desk serve the station operator during broadcasts.

Two seven-foot cabinet racks contain all the amplifiers, speaker monitors, and speech amplifiers, as well as monitoring receivers for Station KGB-476.

One control rack contains all the selector switching controls. A meter panel at the top provides a line voltage and db meter. Inside the cabinet are mounted the CF-16A monitor receiver, which operates on a frequency of 170.15 megacycles, and an inside meter panel showing receiver alignment.

A third panel in this cabinet contains the selector panel, with 8 switches which allow (1) selection between the number 1 and number 2 consoles; (2) selection between the number 1 and number 2 speech amplifiers; (3) selection between City Hall transmitting equipment and 46th Street Station transmitting equipment; (4) selection between receiving equipment at City Hall and receiving equipment at the 46th Street location; (5) selection between the number 1 and number 2 transmitters in the City Hall tower transmitting room; (6) selection between receiver number 1 and receiver number 2 at City Hall; (7) selection between monitor receiver number 1 and number 2 at City Hall; and (8) an off-on power switch which activates all transmitting and receiving equipment in the City Hall transmitting room.

The fourth cabinet panel controls the speaker and monitor amplifiers and contains loudspeaker, power lights, and on-off switch. The fifth panel space is occupied by the speech and monitor amplifier channels, while the remaining space in the cabinet houses a terminal board and a main power switch panel.

The custom-built equipment in the other rack has an identical line voltage and db meter panel at the top, and monitor receiver and meter panel sections. The third space in this cabinet contains, instead of the selector panel, a patch panel which terminates all audio lines coming into the radio dispatch control room from both the City Hall transmitter room and the 46th and Market Streets headquarters station. Great flexibility in choice of lines is provided by the system.

The fourth space in the cabinet is given over to a dedication plaque, while the lower cabinet sections contain the dual relay power supply, control panel, speech and monitor amplifiers, and terminal boards.

A fire-proof asbestos-lined room in City Hall tower serves as the transmitting room and contains the twin 250-watt transmitters and RCA Type CR-16A receivers, as well as minor associated equipment.

A co-axial transmission line selector box, containing relays to select between receivers 1 and 2 and transmitters 1 and 2, is contained in a wall-mounted cabinet in this room. A power relay control box on the wall of this room controls all power to the transmitter and receiver. It has time-delay relays as well as power-switching relays, making it impossible to put into operation before it is properly warmed up. A twenty-pair, lead-covered cable interconnects the transmitter room and the radio dispatcher's booth in the Electrical Bureau.

The special dual FM antenna supplied to the Philadelphia Electrical Bureau by RCA is of particular interest. The antenna, which rises ten feet directly out of the hat of Penn's statue, long the dominating figure on the Quaker City's skyline, is three inches in diameter. It has a three-foot mounting stub. The top antenna section transmits at a frequency of 170.15 megacycles, and the bottom section at a frequency of 154.01 megacycles. Due to the close spacing of frequencies used, ACA engineers have provided the midsection of the antenna with two decoupling skirts or quarter-wave sections to insure complete isolation between the two transmitting radiators. All elements are grounded to the statue, and thence to the ground.

Co-axial cable of 7/8-inch diameter leads to the transmission room in the City Hall tower, one hundred and fifteen feet away. In the transmitting room an automatic dehydrating unit maintains constant pressure of dehumidified air in the co-axial lines at all times. There is also a cavity filter network in the receiver line to provide for rejection of adjacent channel and other nearby frequencies that might introduce unwanted signals into the system.

Linked with the Electrical Bureau's transmitting station are the 150 RCA mobile units installed in fire trucks, pumpers, chief's cars, and other appara-