

*Installing 8D21 Plate Assembly in Transmitter-*  
Insert the 8D21 tube mounting plate into the contact clamps provided along the top and bottom of the power-amplifier frame. These clamps ground the mounting plate to the frame.

Check that the screen-grid voltage terminal on the tube mounting plate makes good electrical contact with the clamp.

Connect the two filament leads from the tube to the terminals provided at the rear of the frame. Tighten the wing-nuts on the terminals.

Connect the two spring clips attached to the end of the grid-line to the control-grid terminals.

Attach the water block from the plate tank to the anodes. This may be accomplished as follows:

(a) Carefully align the water block with the anode by inserting the water block into the anode water openings provided.

(b) Spread the clamp by unscrewing the thumb screw and then applying pressure to the head of the thumb screw. This will snap the clamp out of its grooves and spread the clamp fingers.

(c) While maintaining the proper alignment push on the end of the clamp fingers. They should snap into place and hook into the tube anode, then tighten the thumb screw finger tight.

Connect the tank circuit to the anodes by means of the copper connecting straps and the knurled thumb screws.

Connect the inlet and outlet water hose from the rear of the cabinet to the water connections on the mounting plate. These connections are easily accomplished by pushing back on the sleeves while inserting the connectors.

Check all water connections.

## CONSOLE INSTALLATION

### GENERAL

Installation of the control console with respect to the transmitter proper is shown on Figures 19 and 20.

Wiring to the control console may be brought up through the open bottom. The wire kit is intended for duct installation. Eight terminal boards and six coaxial connectors are provided in the console for making all necessary external connections.

The wire chart supplied in Figure 79, lists all transmitter terminals, terminal boards, types of wire, and the equipment to which connections should be made. Note that the impedance of all console sound lines is 600 ohms and that of the console coaxial lines, 75 ohms. The console schematic diagram, Figure 81, the

connection diagrams, Figures 83 and 84, and the interconnection diagram, Figure 82, will be of assistance in installation.

As shipped, step-down transformer T1101 is connected for operation from a 115-volt power source. If the incoming line voltage is other than 115 volts, the transformer tap should be changed accordingly.

## MASTER MONITOR

The Master Monitor chassis is shipped in place in the console. All tubes are installed except the kinescope 1816P4, and the C.R. oscilloscope, 5CP1-A. These tubes are shipped in separate cartons, securely packed. Before installation carefully remove the monitor chassis from the console, remove all packing material and inspect the unit for damage and loose parts. Then refer to instructions in IB-36021-2, shipped with Master Monitor, for complete installation details.

Connection for the monitoring diode is not shown on the drawings, but should be made to the first spare pushbutton on switches S1103 and S1104, through the jack panel in the visual monitoring rack.

## MONITORING EQUIPMENT, INSTALLATION

### MONITORING RACKS

Install the monitoring equipment units in the two monitoring racks as shown in outline drawing, Figure 28. The visual and aural rack connection and schematic diagrams, Figures 85 to 88 should also be referred to for interconnection details.

Although not indicated on the drawings, provision should be made for connecting the monitoring diode to the picture monitoring rack.

The individual equipments in the racks are equipped with protective fuses. In addition, for protection of wiring, fuse receptacles are provided in the 57-C switch and fuse panels and in the outlet panel. Because of the various applications of these units, fuses are not provided. In the Television Station Monitoring Equipment the following fuses should be installed:

In 57C for Picture Rack...20 amperes

In 57C for Sound Rack... 5 amperes

In Outlet Panel.....20 amperes or less

In some installations the BA-14 series amplifier will be utilized instead of the BA-4 series. Where this is the case, the 10 db, 600-250 ohm pad should be removed from the amplifier input circuit. This pad may be disconnected by taking off the four leads attached, soldering and taping the two red

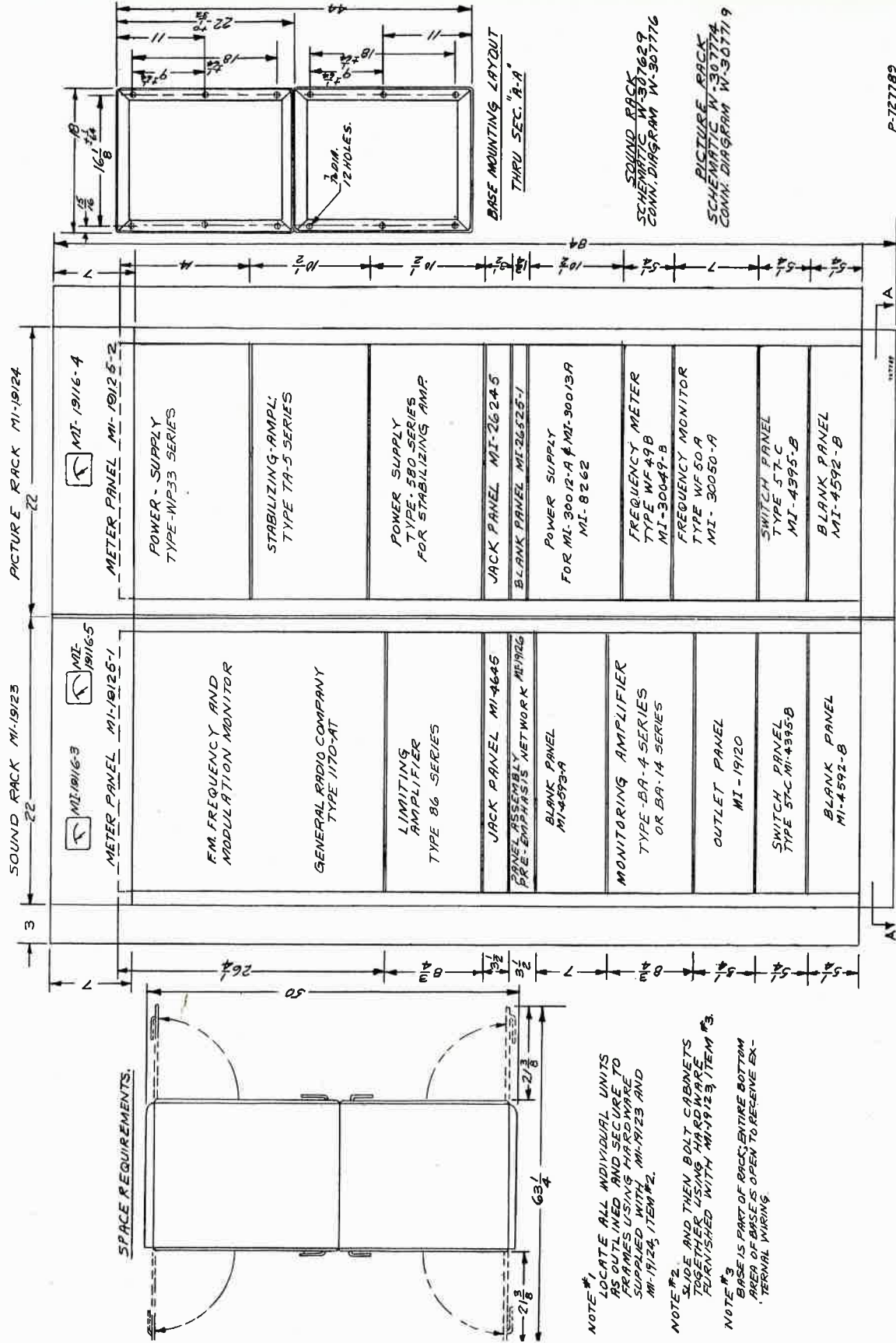


Figure 28 - Outline, Monitoring Equipment Racks (727789-sub 13)

leads together, and then doing the same with the two black leads. The 600-250 ohm pad (part of MI-19126) is shown on the aural monitoring rack connection and schematic diagrams, Figures 86 and 88.

In addition to the other monitoring equipment a loudspeaker is required to permit monitoring of the sound signals. The RCA LC-1A speaker is recommended. As shipped, the output of the monitoring amplifier is connected for 500-600 ohm load. Taps may be changed at the output plug which is part of the rack wiring. Change the connections from taps 11-12 to 9-10 for a 15-ohm output.

## MONITORING DIODE

The monitoring diode is designed to be mounted on either 3 1/8-inch O.D. or 1 5/8-inch O.D. coaxial transmission line. Two sets of clamps are provided for securing the unit to the line, one for each size of line. A 5/8-inch diameter hole is required for the probe.

The exact location of the hole between the visual transmitter output and the side-band filter input must be determined at the time of installation since a small amount of sound energy normally feeds back into the visual transmission line and may appear as interference in the picture.

For a first attempt, drill the 5/8-inch diameter probe hole in the transmission line outer conductor at any convenient point. The hole should be on the bottom side so that chips and dirt will not fall inside the line. If an additional hole is required, it will be specified in final transmitter tuning.

As shipped; the capacity pickup probe is mounted inside the unit for protection during shipment. Remove the probe and insert it up through the bottom. Orient the long end of the probe toward the short end of the chassis and insert it in the transmission line. Coupling is adjusted by moving the probe down or up to increase or decrease the output voltage.

The monitoring diode is supplied for use on channels 2 through 6. For operation on channels 7 through 13, replace choke L102 (green) with the blue choke which is packed separately.

A 115 volt, 60 cycle a-c supply is required for the diode and should be connected to terminals K8 and K9 in the monitoring equipment racks where it will be energized only when the console is operating.

The visual output of the monitoring diode is 75 ohms and is supplied with a plug. In operation this output is connected through the picture monitoring rack to the first spare pushbutton on the console kinescope and CRO switches.

## PRELIMINARY ADJUSTMENTS

### FUSES

Before applying power to the transmitter it is recommended that all circuits be checked to see if they are properly fused. With the exception of the filament primary fuses, F416 and F417, all fuses for the transmitter are located on the lower-front panel of cabinet four. Fuses F416 and F417 are mounted on the rear of the front panel of cabinet four and are accessible through the rear door.

The rating of each fuse, and the circuit in which it is used is listed in the following table.

TABLE 6  
FUSE COMPLEMENT

SYMBOL	RATING	CIRCUIT
TRANSMITTER		
F401	20 amperes	Service Receptacles
F402	20 amperes	Service Receptacles
F403	1 ampere	Crystal Oscillators
F404	1 ampere	Crystal Oscillators
F405	10 amperes	Sound Fans and Blowers
F406	10 amperes	Picture Fans and Blowers
F407	20 amperes	Sound Filaments
F408	3 amperes	Sound Bias
F409	10 amperes	FM Exciter
F410	6 amperes	Picture PA Screen
F411	10 amperes	Picture Bias
F412	20 amperes	Picture Filaments
F413	1 ampere	Line Voltmeter
F414	1 ampere	Line Voltmeter
F415	1 ampere	Line Voltmeter
F416	1 ampere	Filament Line Voltmeter
F417	1 ampere	Filament Line Voltmeter
CONTROL CONSOLE - NONE		
MONITORING EQUIPMENT		
-	20 amperes	Visual Rack
-	5 amperes	Aural Rack
-	20 amp. or less	Outlet Panel

### CONTROL CIRCUIT CHECKS, VISUAL AND AURAL

After installation has been completed, and before attempting to operate the transmitter, a control circuit check should be made. As previously noted, the locations of the various switches, relays, circuit breakers, and terminal points are identified by the first digit of the number following the letter. For example, S417 is located in cabinet four, while switch S1110 is on the control console.