

# INSTRUCTIONS

for

**MILLEN HIGH VOLTAGE POWER SUPPLY**

Cat. No. 90281-1 Serial No. 207

**JAMES MILLEN MFG. CO., INC.  
MALDEN, MASS., U. S. A.**

### 1. Description

The 90281 is a general purpose, high voltage power supply unit with extremely effective filtering network. It is suited particularly for furnishing the plate supply to small transmitters, such as our 90800 or to the exciter stages of higher power transmitters. It is also an excellent power supply for modulators and other audio systems, requiring DC plate supply of 550 to 750 volts, at currents up to 235 ma. The filter network is the II type, with two 10 henry General Electric chokes and a capacitor arrangement of 2-2-10 General Electric 1000 volt pyranol capacitors. A 50,000 ohm bleeder resistor is incorporated in the unit as a safety measure. A separate filament transformer, furnishing 6.3 volts AC at 5 amperes, is also included, so that the 90281 power supply is, in itself, a complete power supply for use with our 90800 exciter-transmitter. The high voltage output terminals are protected by an overhanging cover, so as to minimize the possibility of accidental contact.

Voltage variation is made possible by two methods: a resistor can be cut into the primary of the plate transformer by means of the LOW-HIGH switch (S3) on the rear panel; additional voltage change can be obtained by changing the filter input. When the link is in the high position, the filter system has condenser input with highest voltage output. With the link in low position, the filter is reactor input with lower voltage.

### 2. Application

The 90281 power supply may be either rack mounted on the conventional 19" relay rack or rack cabinet or else may be used for general laboratory purposes on the laboratory bench; in which case, it is supported by the special mounting feet built into the unit for just such purpose. When used as a laboratory power supply, provision is made for the employment of a standard AC laboratory cord for the input to the unit and two toggle switches are mounted on the front panel for independent control of the rectifier filament and high voltage transformers. When used as a component in a transmitter, a special input AC terminal panel is used, so that remote switching of the rectifier filament and plate supply windings can be accomplished with a minimum of inconvenience.

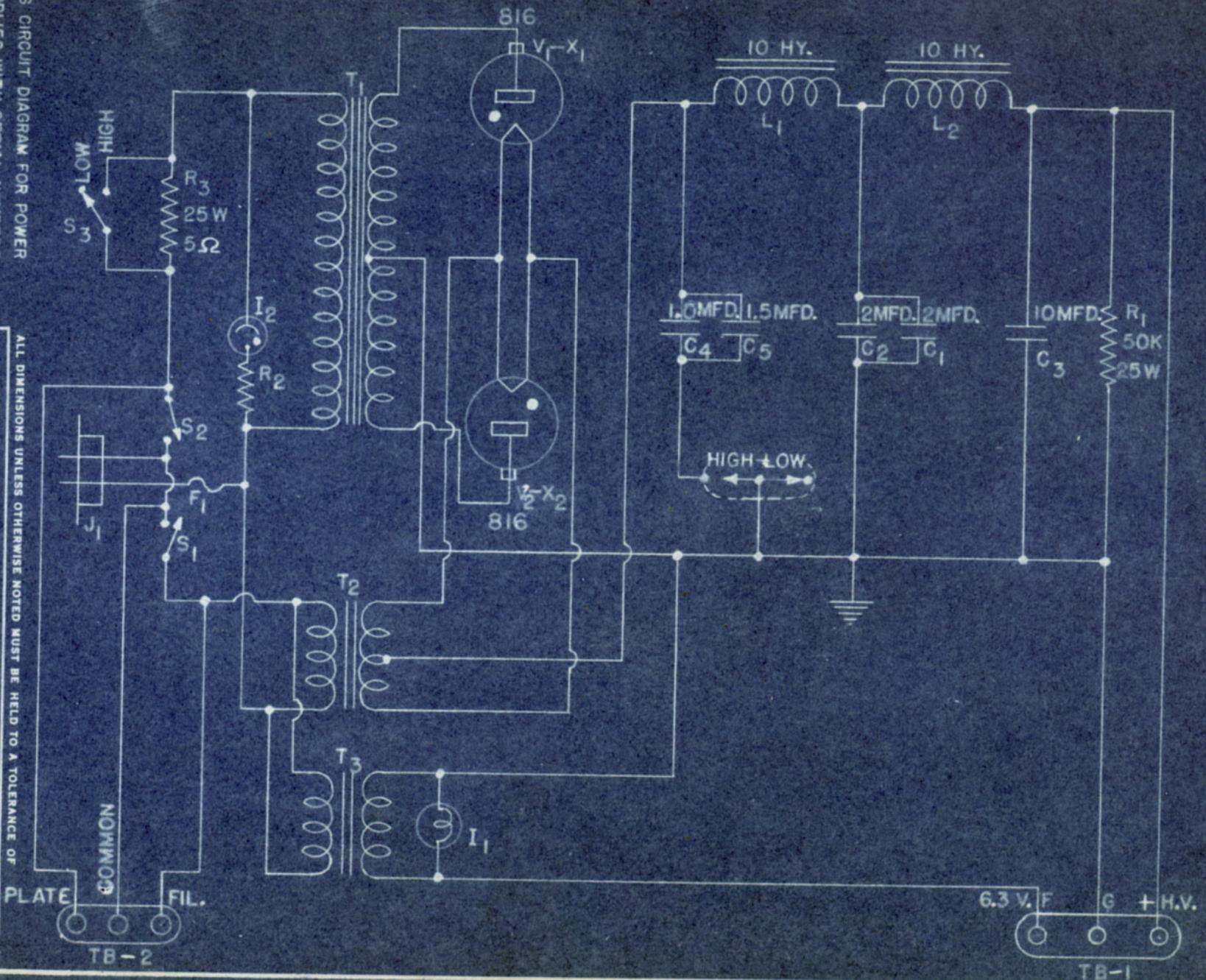
### 3. Installation

**CAUTION:** Be certain that the power cord is removed from wall socket or, if the power supply is wired into a transmitter, that primary power source is disconnected before inserting tubes.

The 90281 uses two Type 816 high voltage rectifier tubes. A fuse in the 115 volt AC circuit is mounted in the fuse holder on the rear terminal panel.

If, for any reason, it becomes necessary, at any time, to remove the front panel from the chassis, it is necessary to first remove, by means of the 4 corner screws, the nameplate carrying switches and pilot lamps, from the front panel, as under this plate is located one of the main supporting screws for the attachment of the panel to the chassis.

THIRD ANGLE PROJECTION



THIS CIRCUIT DIAGRAM FOR POWER SUPPLIES WITH SERIAL NUMBERS ABOVE 200.

ALL DIMENSIONS UNLESS OTHERWISE NOTED MUST BE HELD TO A TOLERANCE OF

### H.V. POWER SUPPLY

FIRST MADE FOR

DESIGNED BY

DRAWN BY *A.D.M.*

JAMES MILLEN MFG. CO., INC.  
MALDEN, MASS., U.S.A.

CHECKED BY *R.W.C.*

APPROVED

K 90281-1

Serial #207

DATE

8-9-47

