The dc drain voltage of Q1, the MOSFET power transistor, is 46 volts. The drain current, for 25 watts carrier, is 2.4 amperes. At amplitude modulation peaks of approx. 75 watts, the peak drain current is approximately 4.2 amperes.

The instruction book for the PA25 is attached (exhibit F).

Per **part 2.983(d)(9)**, the **tune-up procedure** is as follows:

1. with an applied input signal at approx. 136 Mhz and approx. 5 watts amplitude, adjust C28 for maximum carrier power output
2. adjust C1 for maximum carrier power output, then "back off" this adjustment to reduce the power output approx. 1 dB, to insure against too much roll-off at the low end of the band.
3. change the signal frequency to mid-band (approx. 127 Mhz) and adjust C18 for maximum power output.

This completes the amplifier tune-up.

Parts 2.983(d)(10) and **2.983(d)(11):** Note that since it is an amplifier only, the PA25 does not contain any circuits for determining or stabilizing the signal frequency. Other than amplifier saturation (approximately 80 watts), the PA25 does not contain circuits for limiting the power output. For power output levels below 50 watts the output will be 7 dB (amplifier gain) higher than the power input. Above 50 watts, the gain is less than 7 dB. Any modulation must be present at the signal input, as there is no provision for modulation within the amplifier itself.

The output filter described earlier is for the purpose of suppressing spurious outputs. The only spurious outputs that have been detected are carrier harmonics.

Accordingly, the measurements which follow do not include those required of type accepted transmitters but which are not applicable for a power amplifier like the PA25. These include parts 2.987 (modulation characteristics), 2.989 (occupied bandwidth) and 2.995 (frequency stability), all of which are determined by the signal source, which would be a type accepted transmitter or transceiver.

Photographs are attached showing the construction and layout, as well as the locations of key components (exhibit F).

Measurement Data

Part 2.985—RF Power Output

Equipment used:

1. Bird Model 43 RF Wattmeter, with 10 watt 100-250 Mhz element
2. Bird Model 43 RF Wattmeter, with 100 watt 100-250 Mhz element
3. 50 ohm 150 watt RF coaxial load, Bird Model 8135
4. Mentor Model M15 Transceiver (type accepted for Part 87)
5. short RG-58 coaxial cables with suitable coaxial connectors