**OPERATING INSTRUCTIONS**
**NTQA50GA**

**Note: These operating instructions describe the procedure for turning on and off the amplifier output power using signal generators. This amplifier will be used with transmitters which have been or will be certified separately. The specific transmitter instruction book should be consulted for the correct method to use this amplifier with transmitters.**

1. The input voltage range, applied to pin A1 of the DC input connector, should be between –36VDC and –57 VDC. Pin A2 and A3 of the connector should be grounded.

2. Pin 5 of the Data I/O connector should be grounded to enable operation of the amplifier without the data interface. Pins 1, 2, 11, and 12 on the Data I/O connector are connected to ground. Operation with the Data I/O interface can only be performed using the transmitter software. See the transmitter manual for instructions.

3. Connect the RF signal generator to the RF input port.

4. Connect the RF output port to the measurement equipment. Make sure the measurement equipment is capable of handling 33 watts, or use a power attenuator or directional coupler to attenuate the signal to a level the equipment can handle.

5. To turn on the amplifier, first apply the DC voltage with the specified range (-48 VDC nominal).

6. Apply RF power from the signal generator. Adjust the RF input power until the desired RF output power is achieved. The amplifier's maximum RF output power rating is 33 watts (+45.2 dBm)

7. The gain may change up to 0.5 dB as the amplifier temperature stabilizes after turn-on. Let the amplifier warm up for 10-30 minutes, then re-adjust the power to compensate for the gain change.

8. The amplifier is now operational.

**SPECIFICATIONS**

| **Parameter** | **Specification** |
|---|---|
| Operating Frequency | 1930 to 1990 MHz |
| Rated Output Power | +45.2 dBm (33 Watts) |
| Gain at Full Power | 48 +/- 1 dB |
| Input Voltage Range | -36 to –57 VDC |
| Maximum DC Power Consumption | 230 Watts |
| Channeling | Controlled by transmitter |
| Modes of Transmission | GSM or EDGE |
| Type of Modulation | Not applicable (performed by transmitter) |

Occupied Bandwidth and Emissions Designators

| Emissions Type | Amplitude | Frequency Removed from Carrier |
|---|---|---|
| GSM (300KGXW) | -30 dBc | 200 kHz |
| | -33 dBc | 250 kHz |
| | -60 dBc | 400 kHz |
| | -70 dBc | 600 kHz |
| | -73 dBc | 1200 kHz |
| | -75 dBc | 1800 kHz |
| | -80 dBc | 6000 kHz |

| | | |
|---|---|---|
| EDGE (300KG7W) | -30 dBc | 200 kHz |
| | -33 dBc | 250 kHz |
| | -56 dBc | 400 kHz |
| | -70 dBc | 600 kHz |
| | -73 dBc | 1200 kHz |
| | -75 dBc | 1800 kHz |
| | -80 dBc | 6000 kHz |