



DEM Part Number 3-8 PA, 3-8 PAP

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**8 Watt, 10.2 to 10.4GHz Linear Amplifier**

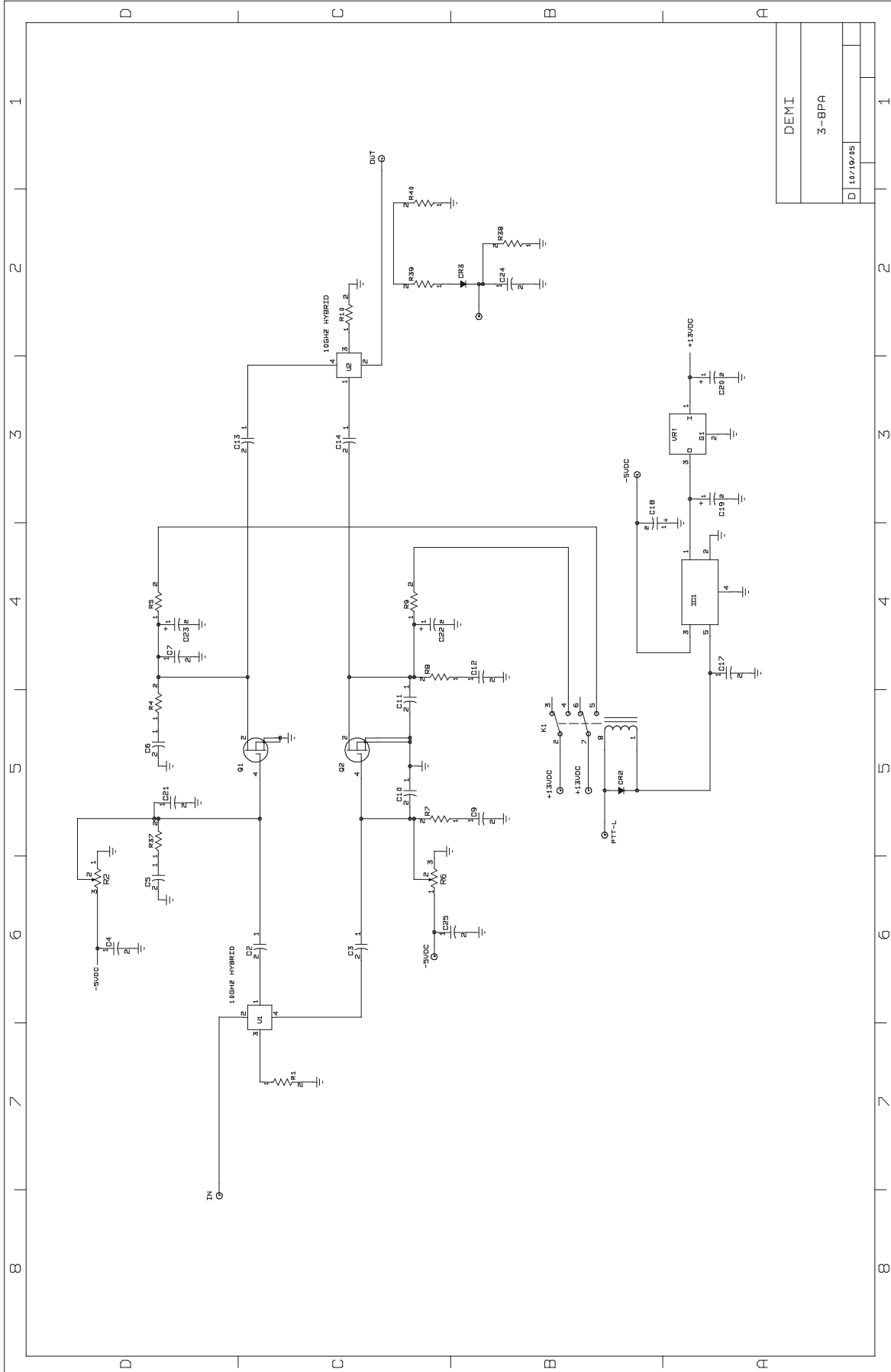
**Specifications**

Frequency range:	10.2 – 10.4 GHz.
Power Out	8 Watts nominal (6 dB minimum gain)
Power Input for rated power out:	2.0Watt Maximum for linear operation
Return Loss	>10dB @ 10.368 GHz
DC requirements:	13.8 VDC nominal @ 5 amps, 11-15 VDC Operational.
Monitor Output	1.0 VDC = 6 watts output (+/- 0.10 VDC)
Keying Option:	PTT – L (Ground on transmit)

**Instructions for Use:** Please read all steps before use.

**WARNING!** This power level can hurt you! Safety First! If you do not understand what you have, please take the time to learn before you attempt use.

1. The Down East Microwave Inc. 3-8 PA is a simple gain block for the amateur 3 cm band. It will provide > 8 Watts saturated output power with 2Watts of drive. It requires external T/R switching to be used in a transceiver system. It can also be used by itself in a transmit system or as a driver for a higher power amplifier.
2. Use only "Hard line" type coax for interconnects. Do not use any cables with braided shielding. This type of cable will cause harmful radiation at 10 GHz. The secondary effect will be erratic operation and varying power levels. **Test all cables and relays at low levels first before using at higher power levels!**
3. The amplifier requires a single 13.8 volts DC supply at 5 amps, but will operate at reduced ratings down to 10 volts and at increased power dissipation up to 15 volts. The unit is provided with an internal negative bias supply and keying circuit for ease of use. The PTT-L circuit is toggled to Ground to activate. Always have voltage applied before activating.
4. The maximum RF drive level required for linear operation is approximately 1.5 Watts. To operate at full-saturated output power the drive level should not to exceed 2 Watts. The amplifier has been tested to 2.5-Watts input with no damage but it is not recommended due to excessive power dissipation (Heat destroys all!).
5. To achieve maximum performance the amplifier should be mounted in a well-ventilated area with heat sink fins in the vertical position for optimum cooling. A cooling fan is required for 100% duty cycle operation. Key down operation will cause some power sag. If you have a 3-8PAP, do not attempt operation before mounting on a heat sink or installing in its final metal enclosure. The 3-8PAP will over dissipate otherwise.
6. It is advisable but not necessary to use isolators/circulators and band pass filters when available. This will prevent stray oscillations in the advent of a mismatch, and prevent needless waste of power by amplifying stray spurious or leaky local oscillator signals.



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