

Match Pro Automatic Tuning Networks

**Ultra-Fast Tuning and Fine Tune Resolution
Deliver Repeatable Process Results**



Performance:

Every Match Pro system is engineered with Comdel's unique PROTRAK, a high-speed tuning algorithm that gradually slows the system as it approaches the tuning point, allowing a precise match even in high "Q" loads. This proportional control circuitry illustrates the critical difference between Comdel's Match Pro and other matching networks. The Match Pro adjusts input impedance to 50 Ohms quickly, accurately and dependably—in response to the changes in load characteristics during your process.

The Match Pro series of matching networks are manufactured at power levels ranging from 50 to 80,000 Watts.

Features:

- **Automatic and manual modes with local and remote manual control of tuning capacitors**
- **Ability to pre-position capacitors to optimal plasma ignition point prior to turn on, resulting in quick and reliable tuning**
- **Capacitor position outputs to show where the match occurs from process to process**
- **High power, H-bridge, Mosfet motor drive circuitry is conservatively rated for improved reliability**

Custom Configurations:

To optimize the tuning range of the Match Pro system, Comdel engineers map the impedance of your active chamber. This mapping allows optimal tuning elements to be chosen for your process requirements. Customization assures that you receive the voltage and current handling capabilities, tuning range, tuning time and physical size required.

General Specifications:

- Frequency range: Configured to operate at fixed frequencies from 2 to 60MHz
- Line input voltage/power: 115/208/230VAC; single phase; 50/60 Hz; 24 VDC (other input voltages may be special ordered)
50 Watts maximum power required while tuning
- VSWR: Typically less than 1.5 to 1 in a 50-Ohm system
- Cooling: Forced air or water cooling is employed as dictated by network operating "Q" and power level. Operating ambient temperature range is -10 to +35° C
- Mounting: The Match Pro unit must be mounted close to the chamber for optimum performance. Custom mounting configurations are accommodated.

Standard Configurations:

Comdel engineers will map the impedance of your active chamber to determine the custom design and optimal tuning elements for your process requirements. However, Comdel's Match Pro networks are available in the following standard configurations:

	CPMX-5000	CPMX-2500	CPM-1000*
Load current:	50A	25A	8A
Size:	8"H x 14.5"W x 16"D (20.3cm x 36.8cm x 40.6cm)	5"H x 10"W x 12"D (12.7cm x 25.4cm x 30.5cm)	5"H x 12"W x 8"D (12.7cm x 30.5cm x 20.3cm)
Weight:	67 lbs. (30.4 kg)	16 lbs. (7.3 kg)	8 lbs. (3.6 kg)

*Remote control included.

Remote Control Unit:

The Comdel CPMX Remote was designed to provide remote control capability to any of the CPMX series Match Pro impedance matching networks. The unit monitors functions such as auto/manual mode, preset position, capacitor position and DC bias. It is housed in a compact 3.5"H x 9.5"W x 6.25"D (9cm x 24cm x 16cm) half-rack package and weighs approximately 3 lbs.