



T&C
Power Conversion

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AIT-600 R

Automatic Impedance Tuner



Op. 01, Blank Front Panel.



Op. 02, Front Panel MANUAL Controls and position meter.



Rear Panel view.

FEATURING:

- 13.56 MHz - Automatic or Manual Tuning Control
- Displays Exact Capacitor Locations for Repeatability Positioning
- Meter Displays switch selectable, DC Probe Voltage, Tune Position, Load Position
- Field testable and set-up friendly controls
- DC Probe Output
- Series LC network allows wide range impedance tuning
- Can be retrofitted to most Plasma Systems
- Regular Case: 6"H x 12"W x 16.0"D
- Light Weight
- Accepts 100-240 VAC without tap changes
- 19" rack mount brackets available

Frequency Of Operation

13.56 MHz

RF Power Rating

AIT-600-06R up to 600 W
AIT-600-12R up to 1200 W
AIT-600-24R up to 2400 W

Tuning Capacitor

600W: Vacuum 5-500 pF/5 kV
1200W: Vacuum 5-500 pF/5 kV
2400W: Vacuum 25-250 pF/9 kV

Load Capacitor

600W: Air 20 to 1720 pF/1.1 kV
1200W: Air 20 to 1020 pF/1.5 kV
2400W: Vacuum 1500pF/2.4 kV

Impedance Rating, RF IN:

50 Ohms

Front Panel Options

Option 01, No Meter
Option 02, With Meter, Manual Position Adjustment Switches

Input Connector

"N" type Female

Output Connector Options

"N" type Female, "HN Female, DIN716 or Ceramic Stud

AC Power

110 - 240 VAC, 35VA

Cooling

Air

Dimensions

6"H x 12"W x 16.0"D

GENERAL

The AIT-600R Automatic Impedance Tuner (AIT) is designed to match the impedance of the plasma reactive load while maintaining 50 Ohms of its input for impedance to the RF Generator. The AIT-600R is available in three power levels and does not require additional external controllers.

Each AIT-600R Tuner is made up of two variable capacitors and fixed inductors making a "L" type circuit.

The AIT-600R's primary function is to deliver maximum RF power transfer to the reactive load. To accomplish this function the AIT-600R is designed to operate in the broad range of Inductive and Capacitive loads of the Smith Chart.

Operating in the Automatic position, the internal controller monitors the Phase and Magnitude readings and directs the servomotors to automatically adjust to the best match plasma impedance. In the manual mode of operation, the AIT-600R features "Capacitor Position" switches on the front panel that can be used to adjust the position of the internal Tune and Load capacitors to MIN/MAX positions. This gives the operator complete control of the system matching requirements by controlling one device (the AIT-600R Automatic Tuner).