JORDAN TOF PRODUCTS, INC.

Formerly
R. M. Jordan Co., Inc.

TIME OF FLIGHT COMPONENTS
ELECTRON GUN AND HIGH VOLTAGE PULSER PRODUCTS

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Reflectron TOF (RETOF)

Orthogonal Acceleration TOF (oaTOF)

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Linear Time Of Flight

Electron Gun Ionizers

Microchannel Plate Detectors

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Egun Mounted on 2.75 Conflat Flange

C-950 ELECTRON GUN IONIZER

The Electron Gun with its power supply can be used to inject electrons into a vacuum chamber. These electrons are primarily used to generate ions by electron impact. When used with the Pulser, it can be used as an EI source for a TOF Mass Spectrometer.

GENERAL DESCRIPTION
Electrons are emitted from a hot wire filament and accelerated to an energy level which is adjustable to between 40 and 100V. Most of these electrons are collected by the first lens element and are displayed on the meter as Emission Current. About 10% of them will pass through the slit and past the second lens element which is connected to the Focus Voltage. They then pass through the split lenses which are mechanically touching the Grid Plates of the Ion Source.

The Egun and Power Supply were designed to operate at the potential of the Grid Plates which can be as high as 3500VDC continuous.The Egun is mounted on a standard 2.75 CONFLAT flange.

The Filament Assembly is one inch in diameter and will extend into the vacuum as far as requested in order to make proper contact with the grid plates.

D-903 ELECTRON GUN POWER SUPPLY

EGUN POWER SUPPLY SPECIFICATIONS

EMISSION: 0 to 10 Milliamps
ELECTRON ENERGY: -40 to -100 Volts
FOCUS: 0 to -100 Volts
INPUT BIAS VOLTAGE: 3500 volts Maximum

CABINET SIZE 19.0" Width X 3.5" Height X 13.5" Depth
CABINET WEIGHT 9.5 Lbs.
INPUT POWER 100/120/220/240 Volts, 1 Phase, 50-60Hz

C-950 Electron Gun and D-903 Power Supply Manual (PDF)

(Click image to enlarge)

Electron Gun Filament Assembly

(Click image to enlarge)

D-903 Electron Gun Power Supply

(Click image to enlarge)

D-1040 High Voltage Pulser and D-1003 Power Supply

D-1040 HIGH VOLTAGE PULSER
D-1003 PULSER POWER SUPPLY

In the usual TOF instrument, ions are generated with a Pulsed Laser which gives them all the same start time. In some applications ions are generated in a different way or a different place and there is a need for some way to inject them into the flight tube at the same time.

GENERAL DESCRIPTION
The Pulser is used to deliver a voltage pulse which can be varied in magnitude, duration and timing interval. These pulses when applied to elements of a TOF instrument can be used to extract bursts of ions and to gate or deflect Ion or Electron Beams.

It provides voltage steps of 11 to 400V from an internal power supply with a rise and fall time of <10 nanoseconds.

It can be biased up to 3500V continuous. This is adequate for an instrument with pulsed extraction voltage of less than 400V and acceleration voltage less than 3500V. Maximum repetition rate is 200 kHz.

The power supply can be wired for either positive or negative going pulses. It will also work with a positive or a negative bias voltage which is monitored on the front panel. NOTE: two wires must be changed to enable the meter to read upscale with a negative bias voltage. The power supply has a pulse delay circuit which

allows the user to adjust both delay and pulse duration. It must be triggered from an external pulse generator.

D-1040 High Voltage Pulser and D-1003 Power Supply Manual (PDF)

PULSER AND POWER SUPPLY SPECIFICATIONS

PULSE AMPLITUDE: +/-400 Volts from Input Bias Voltage
BIAS VOLTAGE (NOT SUPPLIED): +/-3500V Maximum
PULSE RISE/FALL TIME: <10nS
PULSE DURATION: 50nS TO 12µS
DELAY: 2µS to 1.2mS
TRIGGER IN: +/- 1.3 to 10V TTL

CABINET SIZE 19.0" Width X 3.5" Height X 13.5" Depth
CABINET WEIGHT 9.5 Lbs.
REMOTE PULSER SIZE 5.5" Width X 1.1" Height X 4.3" Depth
REMOTE PULSER WEIGHT 1 Lb.
REMOTE PULSER OUTPUT SHV for direct mounting to flange feedthrough
INPUT POWER 100/120/220/240 Volts, 1 Phase, 50-60Hz

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Description of Images and Product Information Downloads:


Electron Gun Ionizer for Linear and Reflectron Time of Flight Mass Spectrometers:

Electron Gun Mounted on 2.75 Inch Rotatable Conflat Flange (left)
Electron Gun Mounted on C-870 Reflectron TOF Ion Source Assembly (right)

EGUN Literature, Drawings and Wiring Diagram
EGUN Mount Detail for Shrouded Ion Source Assy


Electron Gun Mounted on C-677 Linear Time of Flight Ion Source Assembly


Electron Gun Ionizer for Ion Trap Time of Flight Mass Spectrometers:

Electron Gun as Ionization Source for Ion Trap TOF (left)
C-1550 Ion Trap and EGUN Assembly (right)

Ion Trap EGUN Drawings and Wiring Diagram


High Voltage Pulser and Power Supply:

D-1003 Pulser Power Supply (left)
D-1040 High Voltage Pulser (right)

Click Images to Enlarge

Electron Gun and Pulser Price List

User Manuals:
C-950 Electron Gun and D-903 Power Supply Manual (PDF) Filesize: approx. 350 KB.
D-1040 High Voltage Pulser and D-1003 Power Supply Manual (PDF) Filesize: approx. 450 KB.
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