Micro-Channel Plate (MCP) Assembly

Parts Preparation

Identify Holder –
- Inscribe the name of the individual holder in accordance with detector name.

Wire Clamps -
- Remove wire clamps and discard SS screws.

Cut Nylon Screws-
- Cut nylon, 2-56, flathead screws to proper length. 5Ea. 0.175"long, 3Ea. 0.250"long.
(Measured from head surface)

De-Bur Monocles -
-With monocle on a glass plate, use fine emery paper to carefully sand both sides of the Monocle, to remove burs. (2 Ea.)

De-Bur Wave Washer –
-With Wave Washer on a glass plate, use fine emery paper to carefully sand both sides, to remove burs. (1Ea.)

Bottom Monocle Wire –
- Place Monocle on clean glass plate. Cover Monocle with second glass plate, leaving solder tab exposed. This prevents flux splatter.
- Solder an 8" length of high voltage wire to the solder tab of the Monocle. Be sure solder is smooth, with no sharp points.
-With solder facing up, bend wire up.

Top Monocle Wire –
- Place Monocle on clean glass plate. Cover Monocle with second glass plate, leaving solder tab exposed. This prevents flux splatter.
- Trip 1/6" from solder tab.
- Solder an 8" length of high voltage wire to the solder tab of the Monocle. Be sure solder is smooth, with no sharp points.
- With solder facing down, bend wire up.

Clean All Parts –
 - Bath all parts in alcohol and dry completely. Remove all alcohol containers, spills, or tissues before continuing.

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Assembly Procedure

Clean Work Space –
- Wipe down entire workspace and glass plate. Remove any sources of alcohol, tissues, containers, or spills.

Install Bottom Cover –
- Position protective acrylic cover over bottom of MCP holder.
- Secure cover using 2-56 x 0.125" nylon screws. 3Ea.

Install Wave Washer –
- Place Wave Washer in the bottom of the MCP Holder.

Install Bottom Monocle –
- Place the Bottom Monocle in the deep slot, with solder connection facing up.

Install Bottom MCP –
- Select the lower gain MCP of the pair. This will be the Bottom MCP.
- Transfer the label for this MCP to the Bottom Cover.
- Orient the MCP with the notch facing up.
- Pick MCP using triceps. Hold MCP up to the light, tilt 8 deg., and rotate until light can be seen through the MCP. Inspect MCP for any defects, blind spots, and note the location.
- NOTES:
- Install MCP, situating any defect 180º from a post location.

Install Top MCP –
- Select the higher gain MCP of the pair. This will be the Top MCP.
- Transfer the label for this MCP to the Top Cover.
- Orient the MCP with the notch facing up.
- Pick MCP using triceps. Hold MCP up to the light, tilt 8 deg., and rotate until light can be seen through the MCP. Inspect MCP for any defects, blind spots, and note the location.
- NOTES:
- Install Top MCP with its notch 180 deg. from the Bottom MCP notch.

Install Top Monocle –
- Place Monocle with solder tab in the shallow slot, and solder connection facing down.

Install MCP Clamp –
- Position MCP Clamp over top monocle.
- Position Top Cover over the MCP clamp, with oversized holes aligned with Clamp mounting holes.
- Secure MCP Clamp using 2-56 x 0.250"nylon screws. 3Ea.

Install Wire Clamps –
- Install wire clamps in mating location (See letter etched on each clamp)
- Install 2-56 x 0.125"nylon screws.