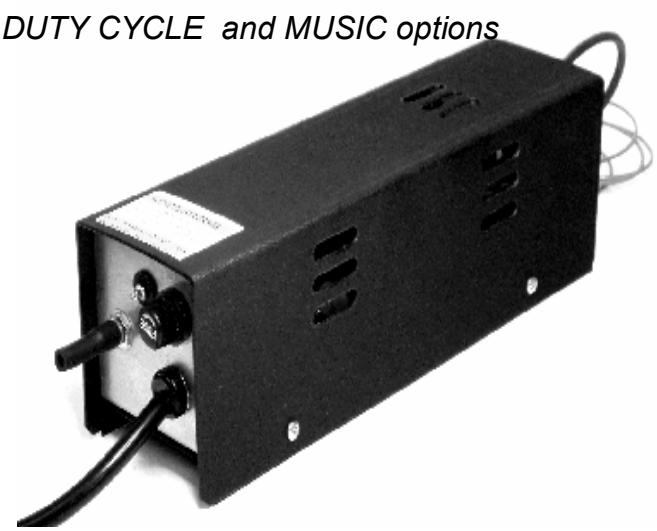
PVM400/DELUX Series Operating Instructions

Use with caution with 12” globes or smaller as glass may puncture if unit is operated at maximum output.
It is suggested to use our PVM12 unit for these smaller displays

See page 2 for optional instructions for our DUTY CYCLE and MUSIC options

OUTPUT.....Variable 1 to 15 KV.
FREQUENCY...Variable 20 to 50 KHZ
CURRENT..Reactance limited
INPUT..115 at 60 Hz /220@50 HZ
SAFETY...Over-voltage Shutdown With Manual Reset.



Precautions

Keep at least 10 feet from sensitive electronic equipment.
Energized display may radiate RF energy into nearby objects and people causing annoying burns.
This product can be a fire hazard and must be installed by experienced personal.

Operation

On/off power control has an insulating shaft extension to prevent annoying burns

1. Connect HV lead to display-CAUTION lead must not be near any flammable or conductive objects.

2. Plug into power outlet and click POWER CONTROL to "on". Slowly adjust CW for desired effect.

If unit shuts down you must reset by turning unit “off” and waiting several minutes for unit to reset before turning “on”. Shut down should not occur on globes 14” or over.
Apply power and slowly advance POWER CONTROL just to point where unit turns “off” and note position. Turn slightly CCW and repeat reset procedure. *See special note on shutdown level adjust*

3. Allow to run for 1 hour and note unit and display are slightly warm.

4. Turn lights "off" to see and eliminate any corona. This manifests itself as bluish glows, hissing sounds or an ozone smell

5. IMPORTANT: Allow to operate for 1 hour. Turn “off” and check OUTPUT TRANSFORMER for excessive heat. It should never be uncomfortably hot to touch. Turn power down as it is possible to overpower if display is improperly made or has out gassed. These problems will require excessive voltage to now obtain a decent display and cause both the PVM400 and display to run hot. Unit has a 1.5 amp fuse and will blow if severely overloaded.

Shut down level adjust for undersize displays. This setting is factory set, usually sufficing for most applications

Undersized displays of smaller electrical capacity may cause shut down due to excessive output voltage. It is suggested to use our MODEL #PVM12 or NEON21 for these smaller displays.

Unit contains an internal factory set shutdown level control. You may adjust it for more voltage but if the transformer is damaged it will cost $50.00 for factory replacement. Consult the factory if in doubt.

6. Use a plastic screwdriver and rotate the orange TRIMPOT nearest to the front panel full CCW-Note this setting disables the safety shutdown function.

7. Set POWER CONTROL for desired effect in particular display as described above. Make sure there is no excessive corona on the transformer or leads.

8. Slowly rotate TRIMPOT CW just to point where display shuts down.

9. Turn POWER CONTROL "off" and wait as in above step 2 to reset. Turn "on" and readjust for desired effect.
Increasing output further should now trigger shutdown turning unit "off".

It may be necessary to repeat above steps to guarantee reliable operation. Rotate TRIMPOT slightly more CCW if unit prematurely shuts down. It may take several attempts to properly perform for a particular display. The objective is to shut down in case of over voltage, display breakage, out gassing or other failure.

You may also damage the display from over powering noting glass should only be warm to the touch. You can get an idea of power by connecting an AC ammeter in the line and observe the current noting larger displays will automatically take more power than smaller ones ***for a given voltage.*** This is due to the electrical capacity of the display

*A 12" globe should draw a maximum line current of .25 amps at 120 vac
A 14" globe should draw a maximum line current of .40 amps at 120 vac
A 18" globe should draw a maximum line current of .50 amps at 120 vac
A 24" globe should draw a maximum line current of .6 amps at 120 vac
A 30" globe should draw a maximum line current of 1 amps at 120 vac
Assumed globes are argon/neon and properly prepped and pumped
***It is suggested to use our PVM12 unit along with our 12DC/3 Adapter for 12" globes and smaller to prevent over powering**

Instructions for optional PVM400DELUX

1. This model has a built-in controller that allows you to change the display texture over a considerable range. This feature greatly enhances the display effect by controlling the ratio of pulse on to off times *providing many variations in display texture.*
This adjustment control is located on the front panel along side of the main power control. It disables these functions when turned fully ccw and clicked off. Unit now operates as a normal PVM400. You will note these optional units are larger than the basic PVM400 unit

2. Contains a 3.5 mm audio jack that accepts a 5 volt level allowing the unit to flash to any external source. Unit can be made to flash at a 50/50 rate from 1 to 30 flashes per second with our **FLASH10.**
Excellent effect when activated in coincidence to the base beat of any music system when using our **BASEBEAT10.**
These instructions are included in this data.

3. Multiple units up to four displays may be activated by our 10 program **ANIMATOR40**

Base Beater Module

The BASEBEATER unit provides an animated function for specialty neon and plasma gas discharge devices. These are often used as props for bands, djs or home audio systems. The unit requires our PVM400DELUX connected to a proper display as shown in the included instructions. It is factory set to respond to the base beats but can be factory set for other audio frequencies

CAUTION! Make sure PVM400D Is turned off before removing this module

Setup

1. Set up plasma display system and verify proper operation as per enclosed instructions.
2. Turn sense pot fcw/off
3. Plug in wall adapter and other plugs as shown
4. Note that the display will be inactive
5 Tune radio to appropriate station with base music
6.Adjust sensitivity to where unit is triggering the PVM400
7.Adjust dwell time for desired effect

NOTE It may take some time to get the settings you desire. You should have a way of monitoring the music as you set the control

Plasma Column Setup Instructions

1. Unpack, verify and report any damage. *Columns* are professionally packed and will tolerate normal shipping abuse.

2. Mount *column* in a non conductive enclosure or stand. *Display* should be away from traffic or activity that could cause breakage.

3. Bottom of *column* is the most sensitive part and should be protected against any electrical or me chanical contact.

4. Connection between *column* and *driver* must be short and direct as possible. IMPORTANT!! Never route the HV lead adjacent to or near any conductive or flammable surfaces.

5. Study instructions supplied with our PVM *driver*. Note this *driver* has a safety overvolt shut down that could cause premature shutdown. It may be necessary to fine tune system for proper operation.

6. Apply power by clicking “on” *power control* and very slowly turning in a CW direction until display plasma just fills the enclosure. This is the point where tenacles just about go to the end. Overdriving will damage *column* and *driver* voiding any warrantee.

7. Allow to operate for several hours and check for any heating of *driver* or *column*. In hot enviroments it is suggested to place a fan at the base of *column* for cooling. *Driver* may also require cooling in extremely hot situations.

8. If premature shutdown is a problem, it will be necessary to reset the shutdown adjustment as directed on the *driver* instructions. Unit sometimes will have tendency to prematurely shutdown as system heats up.

NOTE Columns with external capacitive electrodes will run hotter than those with internal electrodes. Always check for excessive heating. Should never be to hot to touch

NOTE Shut down is factory set to shut down when a 4”x 48” external electrode column is to the point of being overpowered. This is approximately at .7 amps as read on an external ammeter. Shut down is a function of output voltage usually allowing larger loads to be more easily operated as they have a tendency to keep the voltage low due to “real” loading.

Sample 12” Plasma Globe
In one of our custom made stands