

Facsimile Price \$ 1.10

Microfilm Price \$ .80

Available from the  
Office of Technical Services  
Department of Commerce  
Washington 25, D. C.

BNL 6443

IHR - 117 X

3/15/62

### 0-2 kv Flash Tube Supplies

D. M. Miller

MASTER

#### Introduction

In order to perform the various experiments with a bubble chamber, a high intensity flash tube is used. This report briefly describes the power supplies designed and constructed to power these lamps.

#### Specifications

Three supplies operated remotely are to be capable of charging 100 mfd to 2 kv with a repetition rate of not less than 0.8 second.

x A control panel containing 3 powerstats, one for each supply, together with a kilo-voltmeter for each supply plus the necessary over-current protection and control equipment.

#### Description

The control panel consists of 3 identical sections. Each section contains a "Powerstat" for adjusting its supply, a meter, and the main control relay. The circuit is a conventional relay operated circuit with interlock switches from the power supplies wired in series with the off button. A 300 volt supply used with the firing circuit is also switched through this circuit.

The a.c. input for the three sections may be powered from a 117 VAC single phase circuit or from a 208 V 3 Ø circuit with the individual supplies combined into a "Y" configuration.

The power supplies are simple full wave center tapped rectifiers employing silicon rectifiers. The output charges a self-contained 100 mfd capacitor through a large charging resistor.

## **DISCLAIMER**

**This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.**

## **DISCLAIMER**

**Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.**

A thyatron circuit used in firing the flash tube is also in this unit.

A vacuum relay is provided to crow bar the capacitor in the event any of the interlocks are opened or when the off button is depressed.

The complete schematic IH-110 follows.

These units were constructed for Account 1395 as authorized by ILR 113786.



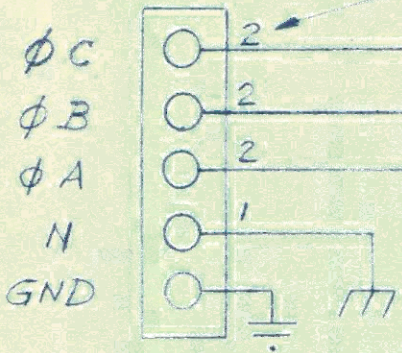
TOLERANCE - DECIMAL .01, FRACTIONAL  $\pm 1/64$ , ANGULAR  $\pm 30'$

REFERENCE -

USED ON DWG.

BURNDY BLOCK

WIRE NUMBERS



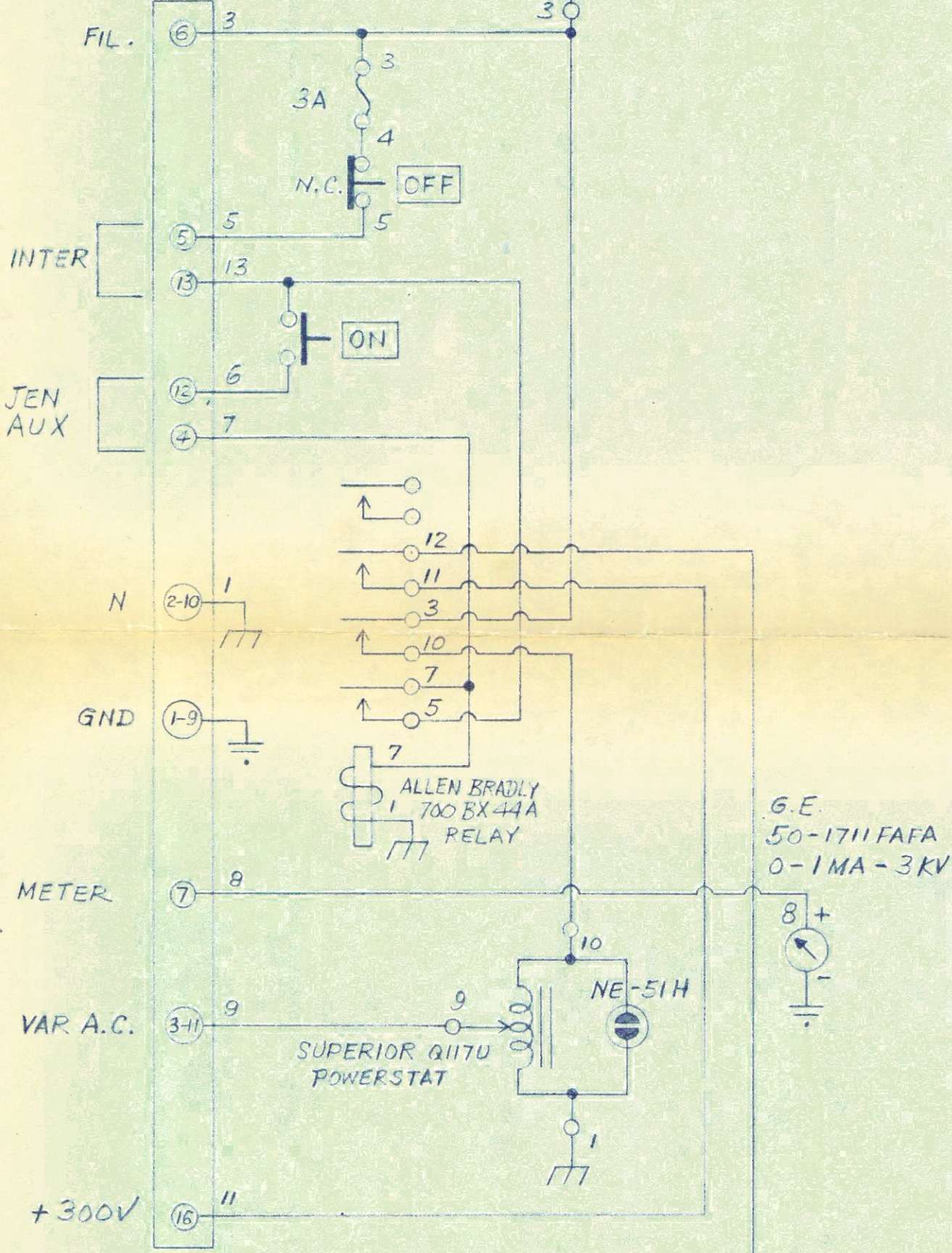
AMPHENOL  
26-4401-163

HEINEAMANN  
SP 10A BREAKER

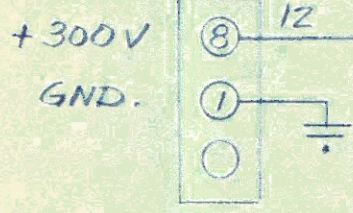
UNIT #1

UNIT #2  
SAME AS #1

UNIT #3  
SAME AS #1



AMPHENOL  
26-4401-85



CHASSIS GROUND  
FLOATING GROUND

BROOKHAVEN NATIONAL LABORATORY  
ASSOCIATED UNIVERSITIES, INC.  
UPTON, N. Y.

0-2KV FLASH TUBE POWER  
SUPPLY-CONTROL PANEL

SCHEMATIC

IH-110-1-2

A

MATERIAL SPEC.	SIZE	WEIGHT	FINISH
4-2-62	JE		
DATE	DRAWN BY	CHECKED BY	APPROVED BY

SCALE

DRAWING NUMBER

REV.



