

Lear Siegler Laser System Center
First Gigawatt (world record) Ruby Laser
John D. Myers 1965

LASER SYSTEMS CENTER
LEAR SIEGLER, INCORPORATED
Ann Arbor, Michigan

J.D. Myers

Date

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" RGI/PPI

Investigation "

RGI/PPI INVESTIGATION

Interim Progress Report No. 2
1 July 1966 through 1 February 1967
Contract N00014-66-C0157

Phase I AB, Field Testing Report
Prepared by J. Jenney

Phase I AC, Development Report
Prepared by J. D. Myers

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TABLE OF CONTENTS

SECTION I

PHASE I AB (Field Testing)

SECTION II

PHASE I AC (Development)

1.0	INTRODUCTION AND SUMMARY.....	1
2.0	GENERAL CONSIDERATIONS.....	3
2.1	Material Considerations.....	4
2.2	Flashlamp and Cavity Considerations.....	10
3.0	TECHNICAL PROGRAM.....	12
3.1	10 KW Driver Sub-Task 011.....	12
3.2	1.06 Micron Breadboard Sub-Task 012.....	13
3.3	Q-Switch Modulation Sub-Task 014.....	14
3.4	Thermal Monitoring Equipment Sub-Task 016.....	15
3.5	1.06 Micron Prototype Transmitter Sub-Task 017..	17
4.0	SCHEDULE AND PLANS FOR NEXT QUARTER.....	18
	APPENDIX A.....	19
	APPENDIX B.....	25
	APPENDIX C.....	31

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2.0 GENERAL CONSIDERATIONS

This overall development effort embodies several tasks which can be grouped into four separate and distinct laser transmitter systems. These systems are as follows:

1. 1.06 micron PPI transmitter
2. .6943 micron PPI transmitter
3. 1.06 micron RGI transmitter
4. .6943 RGI transmitter

Many features are common to two or more of the above mentioned transmitter systems. The techniques, knowledge and equipment developed for one system will in general be directly applicable to the other systems. For example, the 10 kilowatt driver can be used to evaluate all four systems; and the modulators and laser cavities will be similar.

Recognizing the fact that present funding will not permit the complete development of more than one of the above systems, we have decided to concentrate our efforts initially on the development of the 1.06 micron PPI transmitter system.

We anticipate that the 1.06 micron PPI transmitter will become operational during the month of March. At that time, we will review the following in terms of customer priority,

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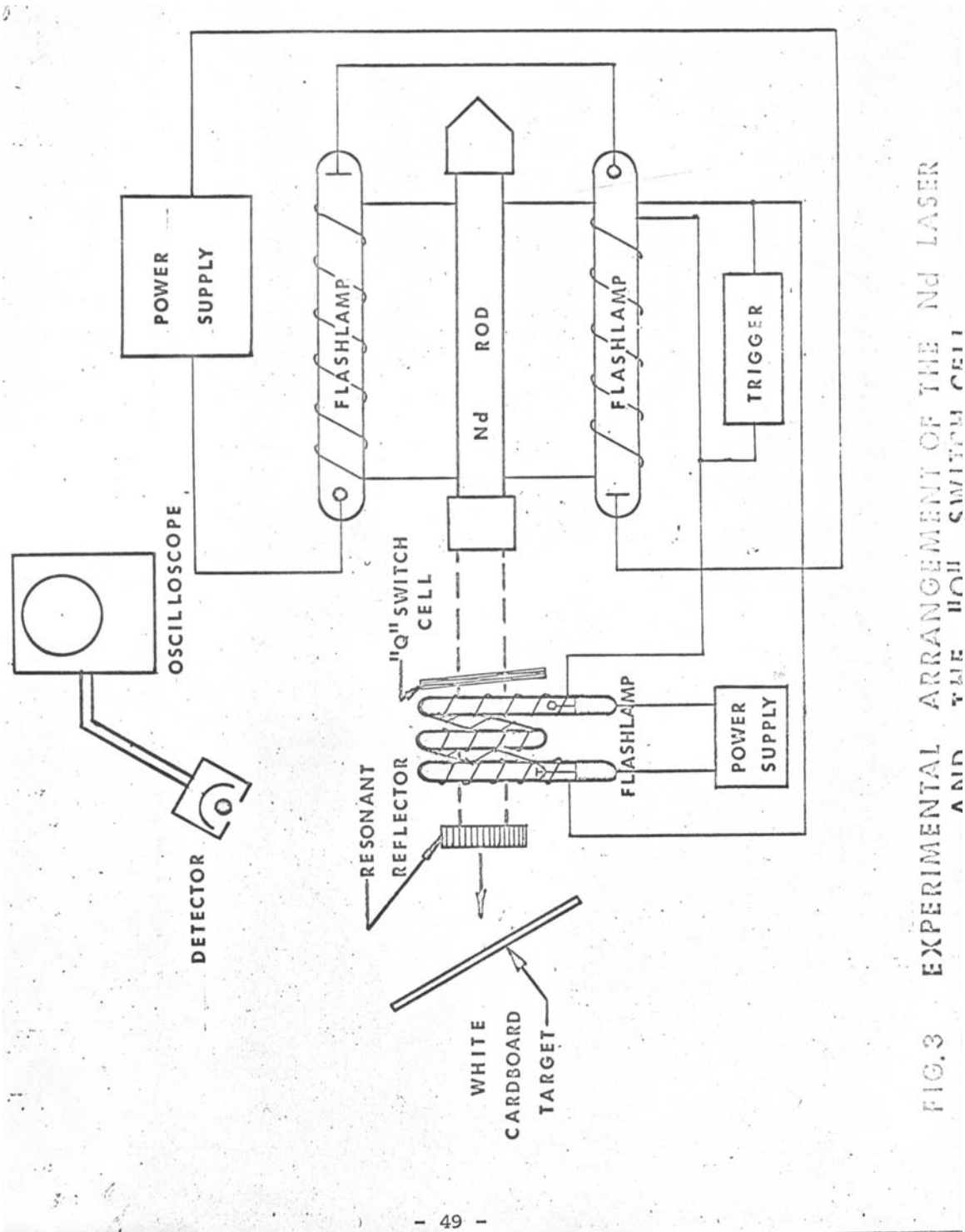


FIG. 3 EXPERIMENTAL ARRANGEMENT OF THE Nd LASER AND THE HIGH SWITCH CELL

1st Gigawatt Neodymium and Ruby Laser Design – Early 1960's

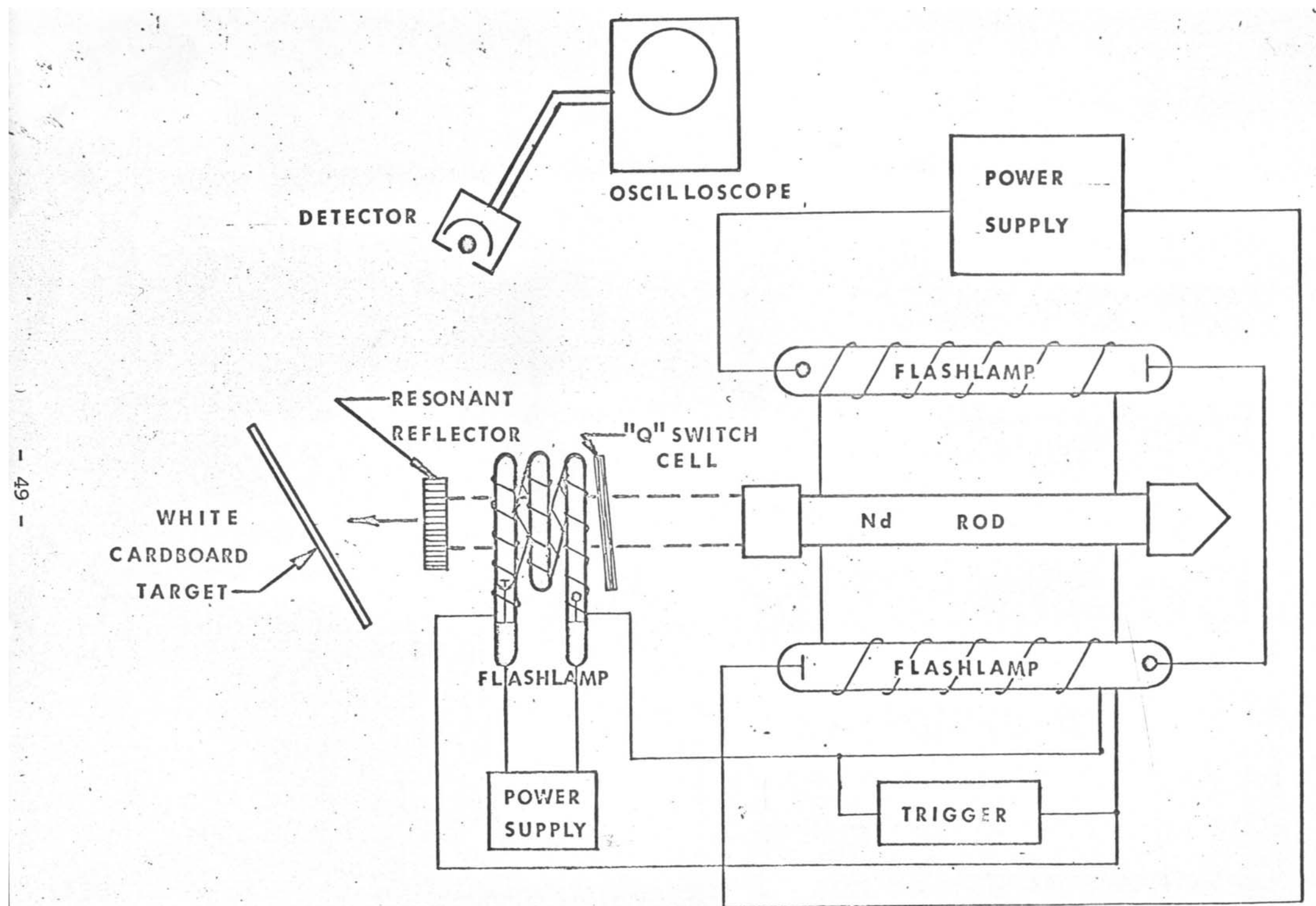


FIG.3 EXPERIMENTAL ARRANGEMENT OF THE Nd LASER AND THE "Q" SWITCH CELL