

When the SWTE contract was first negotiated and let, it was decided that NPIC would furnish the targets for the device. Those chosen were targets whose maximum frequency was 1040 lines/mm.

Hence this was written in the specifications for optimum performance fee. Subsequently, it was found that the targets would not suffice, and funds were allotted to ~~40~~ to make targets with a maximum frequency of 1000 lines/mm. ~~But~~ But the specs were not changed. To realistically apply the criteria, it must be understood that the 1000 lines/mm achievement constitutes the optimum performance, and the fee corresponding to the 1040 figure should be ~~allotted~~ allotted accordingly.

The specification dealing with accuracy was also in error, since no precise definition was appended. Consideration has subsequently been given to this, and decided that the reasonable specification of performance would be the spread of readings or computed points for the MTF curve; this is described by the standard deviation, or variance. The acceptance tests show a standard deviation below five percent, the figure for the maximum fee. It is therefore recommended that that fee be awarded.

Declass Review by NIMA/DOD

6539. TEST DATA.

FIRST OBJECTIVE: WILD 10x N.A. 0.25.

DATE: 3/23/67.

PINHOLE: 8 mm NOMINAL
8.00 mm MEASURED.

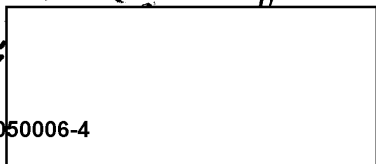
LIMITING RESOLUTION: TARGET 2-9 RESOLVED
TARGET 2-10 NOT RESOLVED.

TARGET	FILTER	F ² OBJ	ZOOM	OBSERVER	NOTES. Average & No/4	STATINTL
2-3	15-5	60	1.18	96 114 96	98 106 105	102.5/25.6
2-4	15-5	60		92 101 100	104 102 104	100.5/25.1
2-5	15-5	60	1.88	113 120 120	118 120 119	118.3/29.6
2-6	15-5	20	1.18	114 112 143	126 125 120	118.3/29.6
2-7	15-5	20	1.47	142 142 143	142 148 155	145.3/36.3
2-8	15-5	20		216 202 202	211 215 194	Image very fuzzy. 206.7/51.7

ZERO CORRECTION: MAX CONTRAST AT 0 DEGREES.

ROOMLIGHTS: 1 desk lamp shining at the wall.

Witnessed by:



STATINTL

Approved For Release 2002/06/17 : CIA-RDP78B04747A000700050006-4

SHIPPING MEMO

23rd March 67
SHIPPING DATE

TO
ATTENTION OF
SHIP VIA

CUSTOMER'S ORDER NO.	DL PROJECT NO.
	6727(6039)
QUANTITY AND DESCRIPTION	
3.	Eye piece filters (3)
4.	Microscope with special eye piece adaptor
5.	Microscope holder
6.	Eye piece 10x and 20x

SPECIAL INSTRUCTIONS

was 3/23/67

STATINTL	
PROJ. MGR.	3-23-67
ENG. ADMIN.	3/23/67
ACCTS.	STATINTL

SHIPMENT WAS MADE AS FOLLOWS

DATE SHIPPED	V I A	WAYBILL/AIR BILL NO.	RECEIPT NO.	CHARGES	WEIGHT
	Approved For Release 2002/06/17 : CIA-RDP78B04747A000700050006-4				

ACCOUNTING

STATINTL

Approved For Release 2002/06/17 : CIA-RDP78B04747A000700050006-4

SHIPPING MEMO

23rd MARCH 67
SHIPPING DATE

TO

CUSTOMER'S ORDER NO.

DL PROJECT NO.

6727-(6339)

STATINTL

ATTENTION OF

QUANTITY AND DESCRIPTION

ACCOUNTING

SHIP VIA

HAND CARRY

1 Prototype sine wave test device together with ancillary equipment including:-
1. Variable modulation target box.
2. 2 (two) 15 bar resolution targets.

SPECIAL INSTRUCTIONS

6/2/67 JMY

STATINTL
PROJ. MGR. 3-23-67
ENG. ADMIN. 3/23/67
ACCTG.
STATINTL

SHIPMENT WAS MADE AS FOLLOWS

DATE SHIPPED	V I A	WAYBILL/AIR BILL NO.	RECEIPT NO.	CHARGES	WEIGHT
	Approved For Release 2002/06/17 : CIA-RDP78B04747A000700050006-4				

SHEET 1 OF 5

STATINTL

Approved For Release 2002/06/17 : CIA-RDP78B04747A000700050006-4

SHIPPING MEMO

23rd March 67
SHIPPING DATE

TO
ATTENTION OF
SHIP VIA

CUSTOMER'S ORDER NO.	DL PROJECT NO.
	6727(6539)
QUANTITY AND DESCRIPTION	
7. Objectives 10x, 20x, & 40x	
8. Power supply for target box.	

SPECIAL INSTRUCTIONS

WAS *3/23/67*

TITLE
PROJ. MGR. 3-23-67
ENG. ADMIN. 3-23-67
ACCTS
STATINTL

SHIPMENT WAS MADE AS FOLLOWS

DATE SHIPPED	V I A	WAYBILL/AIR BILL NO.	RECEIPT NO.	CHARGES	WEI	RE

Approved For Release 2002/06/17 : CIA-RDP78B04747A000700050006-4

ACCOUNTING

SHIPPING MEMO

MEMORANDUM FOR: [REDACTED]

STATINTL

Here is the file of papers. I've written a few melodious sentences necessary for the inspection report, etc.

[REDACTED] now has the equipment. He will have [REDACTED] construct the necessary pieces to adapt it to the Beck Bench. He will be in [REDACTED] this next week, and will therefore not be able to work on the SWTE until the 3rd of April. By that time the manual should be here. Rots of Ruck.

Act S.

20 March 1967

(DATE)

FORM NO. 101 REPLACES FORM 10-101
1 AUG 54 WHICH MAY BE USED.

(47)

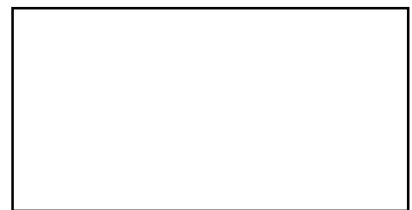
STATINTL
25X1

STATINTL

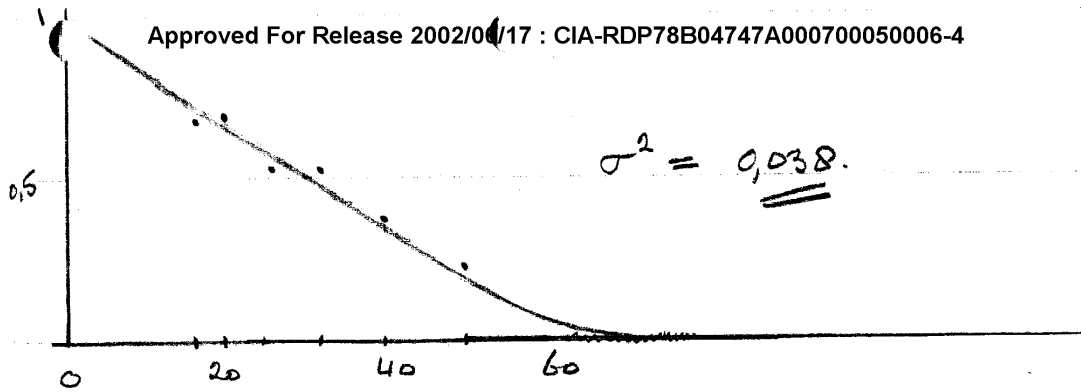
Range	V	φ_{av}	$\sin^2 \varphi$	V	1/V	$\tau = \frac{0.127}{V}$
2-3	15.85	25.6	.188	.188	5.31	.68
2-4	19.96	25.1	.180	.180	5.55	.70
2-5	25.12	29.6	.244	.243	4.11	.52
2-6	31.63	29.6	.244	.243	4.11	.52
2-7	39.22	36.3	.350	.347	2.88	.365
2-8	50.14	51.7	.616	.604	1.66	.210

$$V = 1.010 \sin^3 \varphi - 0.049 \sin^4 \varphi$$

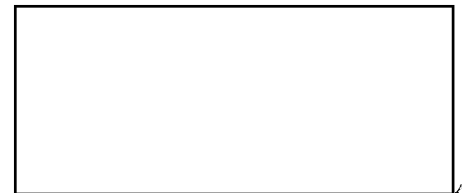
STATINTL



3/23/69



STATINTL



23 March 1967

T02509*
 2*
 0*
 1
 15.85 1 5.31
 1
 19.96 1 5.55
 1
 25.12 1 4.11
 1
 31.63 1 4.11
 1
 39.82 1 2.88
 1
 50.14 1 1.66

0
 T07261*
 100
 -1.1155537E-01
 7.3301811E+00
 1.0383280E+02

5.3851801E-01

STATINTL

$$\frac{1}{V_{ben}} = 17.3302 - 0.1116 \nu$$

$$= 7.7568 (9945 - \frac{\nu}{75.2} 1.082)$$

$$\therefore V_{full} = 0.129$$



STATINTL

22-863/22-864 HIGH RESOLUTION TEST TARGETS

This target contains three groups of fifteen-bar high contrast targets.

The spatial frequency ratio between successive targets is $10\sqrt{10}$. The target of highest spatial frequency in each group is repeated as the target of lowest spatial frequency in the next group, making a total of 31 distinct target frequencies. The maximum variation in width between light and dark bars is less than 5 per cent over the 1 to 300 cycles/mm range. The density difference is greater than 2.0. The spatial frequencies in each group in cycles per millimeter are as follows:

<u>GROUP I</u>	<u>GROUP II</u>	<u>GROUP III</u>
1.00	10.00	100.0
1.26	12.59	125.9
1.58	15.85	158.5
2.00	19.96	199.6
2.51	25.12	251.2
3.16	31.63	316.3
3.98	39.82	398.2
5.01	50.14	501.4
6.31	63.13	631.3
7.95	79.48	794.8
10.00	100.00	1000.0

STATINTL



5. The clause entitled "DELIVERY:" is amended, in part, to include the following:

1. Two (2) copies of all reports required under this contract shall be forwarded direct to the Contracting Officer.

2. Three (3) copies of all reports required under this contract shall be forwarded to the Technical Representative of the Contracting Officer at the following address:



STATINTL

STATINTL

6. The clause entitled "CONTRACT COST:" is amended to read:



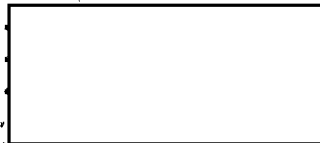
7. The clause entitled "CONTRACT FEE:" is amended to read:

The fee for performance of this Contract shall be determined by application of performance and cost incentives as follows:

→ 1. Resolution:

Spatial frequency capability of the instrument will be evaluated on three levels of performance:

- a. 228 1/mm (minimum acceptable)
- b. 600 1/mm
- c. 1040 1/mm




STATINTL

No Government Equipment will be furnished as targets.

2. Accuracy of Modulation Transfer Function Measurement:

The accuracy and precision of the equipment shall be demonstrated by the following procedure:

A microscope objective of high quality ( or equal) is to be placed in a finite fixture having an adjustable aperture stop. This stop shall be circular

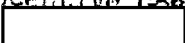
25X1



STATINTL

and shall be adjusted to allow the lens to operate in a diffraction-limited mode. The diffraction limit shall be a lower frequency than the highest frequency on the testing target. The fixture shall also permit longitudinal focal shifts of 0, 1/4, 1/2, 3/4, and 1 wave of defocussing.

The sine-wave testing device shall be used to measure the transfer function of the lens under these conditions of focal shift. Measurements shall be made for at least two different aperture stops. Comparison of measured and calculated transfer curves shall fall within:

- a. ten (10) per cent (Target).
- b. five (5) per cent (Incentive Goal).
For achieving Incentive Goal fee to be increased by 

STATINTL

All other terms and conditions of the said contract shall be and remain the same.

Please indicate your acceptance of the foregoing by signing this letter and the enclosed two copies thereof. Retain one copy for your records and return the signed original and remaining one copy to the undersigned at the earliest practicable date.

Very truly yours,



STATINTL

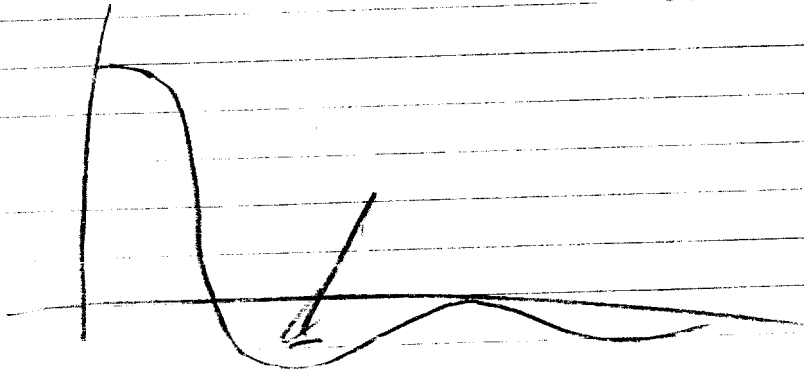
Successor Contracting Officer

ACKNOWLEDGED AND ACCEPTED
THIS _____ DAY OF _____ 1966.

DIFFRACTION LIMITED, INC.

BY _____

TITLE _____



2. (attention to page 2)

Demilitarization of D/C per page

of a OR project where
 cutoff is subject to approval

a) 800 g/m²

b) 600 "

c) 400 "

d) 200 "

6-10 points

↑

a) Do all cases (what

b) We will ask you to reproduce
 graph then, at different cut-off points