LAW OFFICES

HOFGREN, WEGNER, ALLEN, STELLMAN & McCORD

20 NORTH WACKER DRIVE

CHICAGO 60606

TELEPHONE
FINANCIAL 6-1630
AREA CODE 312

AXEL A. HOFGREN
ERNEST A. WEGNER
JOHN REX ALLEN
WILLIAM J. STELLMAN
JOHN B. McCORD
BRADFORD WILES
JAMES C. WOOD
STANLEY C. DALTON
RICHARD S. PHILLIPS
LLOYD W. MASON
TED E. KILLINGSWORTH
CHARLES L. ROWE
JAMES R. SWEENEY
W. E. RECKTENWALD
J. R. STAPLETON

WILLIAM R. McNAIR
JOHN P. MILNAMOW
DILLIS V. ALLEN
W. A. VAN SANTEN, JR.
JOHN R. HOFFMAN

February 10, 1967 Em.

Mr. Robert H. Rines
Rines and Rines
No. Ten Post Office Square
Boston, Massachusetts 02109

RE: UIF v. BT v. JFD

Dear Bob:

* I enclose the material I have had copied from the Electrical Engineering Department business office records, relating to the reports. Apparently they did not keep a full set of copies of transmittal letters. On the other hand, there are copies of the letters with enough of the reports to indicate that they generally went out sometime after the report date. I suggest you check in particular the following documents:

Document No.	Description
5339	Purchase order April 21, 1959, covers for Quarterly Report No. 2
5340	Invoice April 27, 1959, covers for Quarterly Report No. 2
5341	Requisition dated 4-16-59, front and back covers Quarterly Report No. 2
5342	Purchase order April 21, 1959, Quarterly Report No. 2
5343	Invoice April 29, 1959, Quarterly Report No. 2 and transmittal letters.
5344	Requisition 4-16-59, Quarterly Report No. 2
5639	Transmittal letter dated April 27, 1959, Quarterly Report No. 2.

RECEIVED
FEB 13 1967
RINES AND RINES
NO. TEN POST OFFICE SQUARE, BOSTON

Document 5115 is the postal receipt slip dated May 5, 1959, which we had seen previously.

I don't think these documents conclusively establish that the reports went out before May 3. However, the letter of transmittal dated April 27 certainly raises a presumption of earlier mailing.

Very truly yours,

Dick

Richard S. Phillips

RSP:iag

* Enclosures

Pat. Applications

768-297

UNIVERSITY OF ILLINOIS

5124

DISCLOSURE OF INVENTION AND
LETTER OF TRANSMITTAL

To the University of Illinois
Patent Committee

Date: 20 May 1959

Entered herein and attached hereto is information concerning a potentially patentable invention for your consideration.

---

1. Descriptive Title of Invention

"Log Periodic Dipole Arrays"

2. Inventor

D. E. Isbell
Staff Member,
Antenna Research
Laboratory

University of Illinois
Electrical Engineering
Research Laboratory
Room 311F Ext. 570

3. Description of Invention

(a) Description: For a complete description of the invention please refer to Antenna Laboratory Technical Report No. 39, "Log Periodic Dipole Arrays," by D. E. Isbell, Contract No. AF 33(616) - 6079, Project No. 9-(13-6278) Task 40572 Wright Air Development Center, Electrical Engineering Research Laboratory, University of Illinois

(b) Earliest date and place invention was conceived; The antenna was conceived in September of 1958 at the University of Illinois Antenna Laboratory.

(c) Date and place of first sketch, drawing, and written description: The first recorded sketches and drawings were given on pp. 2-3 of Quarterly Engineering Report No 2 "Research Studies on Problems related to ECM Antennas," Contract No. AF 33(616)-6079 Electrical Engineering Department, University of Illinois.

RECEIVED
FEB 13 1967
RINES AND RINES
NO. TEN POST OFFICE SQUARE, BOSTON

4. Disclosure

(a) Disclosure of Invention to others: The invention was disclosed to other members of the Antenna Laboratory during its initial development and was also disclosed to some visitors to our Laboratory.

(b) Date and place of completion of the first operating model or full scale device: The first operating model was made in the University of Illinois Antenna Laboratory in December of 1948.

(c) Present Location of Model: It is still located at the Antenna Laboratory.

(d) Date, place, description and results of first test or operation: The first results were described in Technical Report No. 39 mentioned above.

5. Support of the University

The development of this invention was supported entirely by the University of Illinois facilities, with the dates the same as above.

6. This invention was made while working on research sponsored by the Wright Air Development Center under Contract AF 33(616)-6079 entitled, "Research Studies on Problems Related to H/M Antennas."

Note: This invention is unclassified.

7. If decision of the Patent Committee is to recommend release of interests of the University in this invention, the following is recommended:

Release to inventor, with recognition of contractual obligations of the University to sponsoring agency.

5126

Respectfully submitted,

Inventor Date May 31 1957

It is certified that the statements made herein are correct to the best of my knowledge and belief.

Date

Department Head, or other Administrative Officer

5127

RECOMMENDATIONS

It is my/our opinion and recommendation(s) that the potentially patentable invention described herein:

☐ Has little or no commercial value and should be released by the University to ☐ inventor(s) or ☐ sponsoring agency.

☐ Definite possibility of commercial value and retention by the University or University of Illinois Foundation for development, with partial distribution of any net income to the inventor(s).

☐ Other:

Date _____

Department Head or other Administrative Officer

Date _____

Date _____

Other Individuals who have knowledge of this Invention

Distribution Total 1227

5338

LOCAL LIST

	Technical	Progress
P. Mayes	9	9
Dr. E. C. Jordan, E. E. Bldg.	1	1
Dean Wendell Miller, 145 E. E. Bldg.	1	1
Engineering Library, 106 Civil Eng. Hall	2	2
Local Library, E.E.R.L.	1	1
C. H. Tang (box)	1	1
Raj Mittra, E.E. College box	1	1

STATEMENTS IN DUP. ACCOUNT U OF I ELECTRICAL ENGINEERING NO. B 156

CLS - 001006 STIPES PUB. - 021154 c/o MARGE JOHNSON, U OF I, URBANA, ILL.

5605

DATE 1959		PARTICULARS	FOLIO BOOK	FOLIO PAGE	DEBITS	CREDITS	BALANCES DR.	BALANCES CR.
"		Bal Dud ✓						
Apr	29	PO 44824 & 44825						
		Cont 6079 - IR 36						
		70 plates - 117 copies						
		gtd f only - 2 albums						
		Gather & Bind - 117 white &						
		buff transmittal letters						
		31 add'l copies - gather & bind	19035	72				
Apr	29	PO 44827 & 44898						
		Cont 6079 - 2R 2						
		25 plates - 117 copies - gtd						
		f & L - 2 albums - gather						
		& Bind - 117 Trans letters						
		on Lhs & 117 on Buff						
		31 add'l copies - gather & bind	19015	72				

STATEMENTS IN DUP. ACCOUNT U OF I ELECTRICAL ENGINEERING NO. S 155

CLS - 004006 STIPES FUD. - 021154 c/o MARGE JOHNSON, U OF I, URBANA, ILL.

DATE 1959		PARTICULARS	FOLIO BOOK	FOLIO PAGE	DEBITS	CREDITS	BALANCES DR.	BALANCES CR.
		Bal. Dued						
Apr	27	P.O. 44899-J - Cont. 6079						
		2ER to 2-117 Front covers ptd						
		117 Coaches plain	19016	77	2000			
Apr	28	P.O. 45350-J - Cont. 11346(31)						

5606

Date Received 4-20 1959 No 19015

Date Promised _____ 19___

E-77

CHAMPAIGN LETTER SHOP
Job Ticket

Name U of I E E

Address Dept AF 33(616)6079-QR2 Bind____ Pad____

Description of Job: 148 total run

Quantity___ Size____ Ink____ Stock____

25 plates - 117 copies - run f + b - 2 vellums
Gathers & Bind
117 Trans letters on lbs + 117 on buff

FEIC - 31 add'l copies - Gathers & bind 8.68

Dept. No. 1 Job Started____ Finished 4-2?-59

Date Received 4-20 1959 No 19016

Date Promised _____ 19___

E-77

CHAMPAIGN LETTER SHOP
Job Ticket

Name U of I E E

Address AF 33(616)6079 - QR2 Bind____ Pad____

Description of Job:

Quantity____ Size 8½×11 Ink Black Stock Azure Blue Cover

117 Front covers ptd
117 Plain back covers } 44299

148 total run

FEIC 31 Front covers ptd
31 Plain back covers } 44898

Dept. No. 1 Job Started____ Finished 4/27/59

5617

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

TRIPLICATE
FOR DEPARTMENTAL
DIVISION

No. 62-3

Department Requisitioning Electrical Engineering
Office Address

DATE 7-2-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab 3074
Room Number Building

Not Later Than _____ Call R. Dieper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		Front and back covers for Technical Report 37, Contract 6079 printed on Antique Blue Stock. Cover copy supplied by EERL.		U. of I. Print Shop	
117		Front and back covers for Technical Report No. 38, Contract 6079 printed on Antique Blue Stock. Cover copy supplied by EERL.			
117		Front and back covers for Technical Report No. 39, Contract 6079 printed on Antique Blue stock. Cover copy supplied by EERL.			
		PLEASE RUSH			

Johnson 46 22 25 314

AF 33(616)6079

APPROPRIATION _____

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW195

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

TRIPLICATE
FOR DEPARTMENTAL
DIVISION

No. 61-E

Department Requisitioning Electrical Engineering
Office Address

DATE 7-2-59 5350

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab
Room Number Building

Not Later Than _____ Call R. Ripper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
40		Additional front and back covers for Technical Report No. 37, Contract 6079, printed on Antique Blue Stock. Cover copy supplied by EERL.		U. of I. Print Shop	
40		Additional front and back covers for Technical Report No. 38, Contract 6079, printed on Antique Blue Stock Cover copy supplied by EERL.			
140		Additional front and back covers for Technical Report No. 39, Contract 6079, printed on Antique Blue Stock. Cover copy supplied by EERL.			
		PLEASE RUSH			
		Johnson 49 22 25 389			

APPROPRIATION _____ ESIC

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW105

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

TRIPLICATE
FOR DEPARTMENTAL
DIVISION

No. 1611-R

Department Requisitioning Electrical Engineering
Office Address

DATE 4-16-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab 5372
Room Number Building

Not Later Than _____ Call R. Ripper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
31		additional copies of Technical Report No. 36 Contract AF33(616)-6079 on "Use of Coupled Waveguides in a Traveling Wave Scanning Antenna" (MacPhie) Print on one side of the paper only. 71 mats including the preliminary pages, body and distribution list, and three page Reports Memorandum	Cost	~~U. of I. Print Shop~~ Champaign Letter Shop	
31		additional copies to be gathered and bound	Cost		
31		additional covers; fronts and backs.	Cost		
		Johnson			

APPROPRIATION 40 22 25 350

EEIC

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW195

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

TRIPLICATE
FOR DEPARTMENTAL
DIVISION

No. 1131-2

Department Requisitioning Electrical Engineering
Office Address

DATE 2-3-59

TO THE DIRECTOR OF PURCHASES:
Please Deliver the Following to 100 Electrical Engineering Research Lab. 5349
Room Number Building

Not Later Than _____ Call R. Hiser Ext. 2641 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		copies of transmittal letter for quarterly Status Report No. 1, Contract 6079, printed on letter head paper supplied by EERL		Champaign Print Shop	
117		copies of transmittal letter for quarterly Status Report No. 1, Contract 6079, printed on yellow copy paper supplied by EERL			
		Total	2.50		

Johnson

AF 33(616)6073

APPROPRIATION 45 22 25 314

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW105

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

TRIPLICATE
FOR DEPARTMENTAL
DIVISION

No. 110-2 5343

D rtment Requisitioning Electrical Engineering
Office Address

DATE 1-22-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab
Room Number Building

Not Later Than _____ Call R. Ripper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
31		Additional copies of Quarterly Report #1 Contract 6079, mats to be run. All pages are mats. Run on two sides of the paper, fronts and backs as marked at the top of each page	Cost	Champaign Letter Shop U. of I. Print Shop	
31		copies of Quarterly Report #1 gather and bind	Cost		
31		Additional front covers printed in accordance with copy supplied; backs plain. Quarterly Report #1, Contract 6079.	Cost		
		Johnson 22 22 25 300 5310			

APPROPRIATION _____

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	1.

HW105

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

TRIPLICATE
FOR DEPARTMENTAL
DIVISION

No. 1160-S

Department Requisitioning Electrical Engineering
Office Address

DATE 1-29-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab Urbana
Room Number Building

Not Later Than _____ Call E. Dipper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		copies of Quarterly Report #1 Contract 6079, 21 mats to be run. All pages are mats. Run on two sides of the paper, fronts and backs as marked at the top of each page.	Cost	Champaign Letter Shop ~~U. of I. Print Shop~~	
117		copies of Quarterly Report #1 gather and bind	Cost		
2		complete vellum copies of Quarterly Report #1, Contract 6079, Print on one side of the paper only and gather.	Cost		
117		Front covers printed in accordance with copy supplied; backs plain. Quarterly Report #1, Contract 6079.	Cost		

46 22 25 314
AF 33(616)6079

Johnson 46 22 25 314
AF 33(616)6079

APPROPRIATION _____

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW195

UNIVERSITY OF ILLINOIS

MONTHLY STATEMENT

BUSINESS OFFICE

FORM 500

US AF 6979

ACCOUNT TITLE	46-22-25-314 ACCOUNT NUMBER	FEB 1959 DATE	1 PAGE

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			44262.94	100000.00	55737.0
	INDIRECT COST CHARGE	4	JV 141	2354.54		
	46-22-25-314 FEB PAYROLL	01		6320.92		
	RICHARD RIPPER	4	T 007958	7.81		
	WALTER L WEEKS	3	T 008154	58.91		
523R	W J JAHR CO	4	T 008918	27.66		
458R	NEWARK ELECTRIC CO	4	T 008952	49.45		
1024R	CENTRAL STEEL & WIRE CO	4	T 008953	57.40		
1018R	NAZ-DAR-CO	4	T 011134	5.36		
1117R	NEWARK ELECTRIC CO	4	T 012072	26.34		
1116R	THE NARDA MICROWAVE CORP	4	T 012676	60.35		
	RICHARD RIPPER	4	T 013354	7.00		
	EMPLRS CONTRIB ON0387744	04	T 36229	328.69		
	ELEC ENG REPL	4	ER 019044	56.94		
	ELEC ENG REPL	4	ER 019112	14.54		
	ELEC ENG REPL	4	ER 019116	9.49		
	ELEC ENG REPL	4	ER 019129	13.18		
	ELEC ENG REPL	4	ER 019139	27.78		
	ELEC ENG REPL	4	ER 019185	3.51		
	PHYSICS STORES	4	PC 001023	X 1.67		
	PHYSICAL PLANT STORES	4	PS 075176	X 5.11		
	COMPUTER SERVICE	4	CS 020895	47.40		
770R	PHYSICAL PLANT JOBS	4	PJ 023277	17.67		
	ILLINI UNION	4	IU 004025	X 1.66		
	TRANSFERS	4	TV 021779	420.00	420.00	
	TRANSFERS	4	TV 021810	X 22.26		
	TELEPHONE CHARGES	4	TL	16.65	16.65	
	WK COMP FOR FEB 0632092	04		63.21		

supplies 30.70

Fuel 436.65

467.35

5608

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTE
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
33906 96		19692 05	689 43	54288.44	100000.00	45711.5

UNIVERSITY OF ILLINOIS

MONTHLY STATEMENT

FORM 500

AF 6079 IC

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	45-22-25-314	FEB 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			8.00	10275.80	10267.80
	INDIRECT COST CREDIT		JV 141		2354.54	
					5609	

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
		8 00		8.00	12630.34	12622.34

ALL ERRORS MUST BE REPORTED WITHIN TEN DAYS FROM THE DATE OF THIS STATEMENT

UNIVERSITY OF ILLINOIS

MISCELLANEOUS VOUCHER

This Copy for Department

Pay to:

Richard Piper
NAME

209 Electrical Engineering Research Lab
NUMBER STREET

Urbana Illinois
CITY STATE

DATE 6-18-59 UNIVERSITY DEPARTMENT Electrical Engineering

QUANTITY	DESCRIPTION	AMOUNT	
	Postage on slides	2	82
	Bottle of processing solution	1	95
	Tubes	3	35
	Total	8	12

5610

46 22 25 314
AF 33(616)6079

E

039916

Form 615

20M—7-58—66170

UNIVERSITY OF ILLINOIS

MISCELLANEOUS VOUCHER

This Copy for Department

Pay to:

Richard Ripper
NAME

209 Elec. Eng. Res. Lab.
NUMBER STREET

Urbana, Ill.
CITY STATE

DATE 3-30-59 UNIVERSITY DEPARTMENT Elec. Eng.

QUANTITY	DESCRIPTION	AMOUNT
▶	postage on reports	72

5611

E

46 22 25 ... AF 33(616)6079

5 22 25 314 AF 33(616)6079

021278

Form 615

20M—7-58—66170

UNIVERSITY OF ILLINOIS

MISCELLANEOUS VOUCHER

This Copy for Department

Pay to:

Richard Ripper
NAME

209 Elec. Eng. Res. Lab.
NUMBER STREET

Urbana, Ill.
CITY STATE

DATE 4-25-59 UNIVERSITY DEPARTMENT Elec. Eng.

QUANTITY	DESCRIPTION	AMOUNT
	p stage on reports	1 64
	paper	3 30
	paper	3 82
	Total	8 76

5612

E

46 22 25 314
AF 33(616)6079

025673
C

Form 615

20M—7-58—66170

US AF 6079 — FORM 500

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	46-22-25-314	MAR 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			54288.44	100000.00	45711.56
	46-22-25-314 MAR PAYROLL	01		5811.99		
	IND COST CHARGE	4	JV 158	2164.93		
1214R	RADAR DESIGN CORP	4	T 014422	72.32		
1182R	GENERAL RADIO CO	4	T 014780	25.96		
835R	POLARAD ELECTRONICS CORP	4	T 014986	1.91		
158R	ALLIED RADIO CORP	4	T 015845	82.60		
1158R	GENERAL RADIO CO	4	T 016747	128.63		
614R	INDUSTRIAL PRODUCTS CO	4	T 017435	16.66		
1157R	CROSSLEY ASSOCIATES INC	4	T 017556	1.73		
1023R	HARRINGTON & KING PERFOR	4	T 017557	98.70		
1236R	NEWARK ELECTRIC CO	4	T 017582	3.67		
X	RICHARD RIPPER	4	T 018535	8.70		
1131R X	CHAMPAIGN LETTER SHOP	4	T 018558	6.00		
1103R X	CHAMPAIGN LETTER SHOP	4	T 018559	84.36		
1342R	ERBERS CAMERA SHOP	4	T 019170	44.22		
1169R	KEUFFEL & ESSER CO	4	T 020145	26.39		
1118R	SPERRY ELECTRONIC TUBE	4	T 020756	40.26		
X	RICHARD RIPPER	4	T 021278	.72		
	EMPLRS CONTRIB-ON0381494	04	T 43288	323.39		
18R	MACHINE REPAIR	4	MR 003805	39.00		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 006839	X 4.32		
	INSTRUMENT SERVICE	4	IS 010019	X .99		
	COMPUTER SERVICE	4	CS 020906	25.80		
25840C	MARTIN MOD ADH	4	TG 000217	1.30	1345	
	TELEPHONE CHARGES	4	TL	12.15		
	WK COMP FOR MAR 0581190	04		58.12		
	supplies			5.31		
	2nd			13.45		
				18.76		
					5613	

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER.
WC-WORKING CASH

TOTALS TO DATE						END OF MONTH BALANCE
SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	
39718 86		22963 98	689 43	63372.27	100000.00	36627.73

THIS STATEMENT WILL BE PREPARED ONLY WHEN THERE ARE TRANSACTIONS DURING THE MONTH.

MONTHLY STATEMENT

FORM 200

AF 6079 IC

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	45-22-25-314	MAR 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			8.00	12630.34	12622.34
	IND COST CREDIT		JV 158		2164.93	

5614

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER.
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
		8 00		8.00	14795.27	14787.27

THIS STATEMENT WILL BE PREPARED ONLY WHEN THERE ARE TRANSACTIONS DURING THE MONTH

RECEIVED
JAN 5 1967
E. E. BUS. OFF.

This Copy for Accounting Division

.INOIS

VOUCHER

: in quadruplicate

IS

W)

POSTAL RECEIPTS

Date 24 March 1959

RECEIVED of Contract 6079

$ .72

for postage on Journal Article (Mittra)

CHICAGO ILL. MAR 24 1959 STA. A

Postmaster

By

TREET

Ill.

ATE

DATE 3-30-59 DEPARTMENT Elec. Eng.

QUANTITY	DESCRIPTION	AMOUNT
	postage on reports	72

5615

RECEIVED
ACCOUNTING DIVISION
MAR 31 1959
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

Richard Pfeffer

ACCOUNT CODE NUMBER: 40 22 45 314
AF 33(616)6079

EXPENSE: 4 | FUND: T | VOUCHER NUMBER: 021278

APPROPRIATION

EXTENSION

FOR CHIEF ACCOUNTANT

I certify that no requisition has been issued, and that there is an unobligated balance available for the above expenditure in the appropriation indicated.

APPROVED

POSTED MAR 31 1959

Form 615 /

20M—7-58—66170

REQ. NO.	APPROPRIATION	ENC. NO.	DEPARTMENT NAME
[illegible]	46 22 25 314 AF 33(616)6079 (4)	52.50 Ec	Elec. Eng. 100 Elec. Eng. Res. Lab.

DEPARTMENT REQUISITIONING

DELIVER TO

UNIVERSITY OF ILLINOIS

BUSINESS OFFICE—PURCHASING DIVISION
203 ADMINISTRATION BUILDING (E)
URBANA, ILLINOIS

PURCHASE ORDER

NO. 35705 J
THIS NUMBER MUST APPEAR ON ALL CORRESPONDENCE AND SHIPMENTS.

February 5,1959
DATE

TO
• Champaign Letter Shop
• 10-12 Chester Street
• Champaign, Illinois
•

SHIP TO
UNIVERSITY OF ILLINOIS
100 Electrical Engineering Research Lab.
URBANA, ILLINOIS

SHIPPING DATE | SHIP VIA: | (SHIP CHEAPEST WAY UNLESS OTHERWISE SPECIFIED)

	QUANTITY	DESCRIPTION	PRICE	AMOUNT
	117	copies of transmittal letter for Quarterly Status Report No. 1, Contract 6079, printed on letter head paper supplies by EERL		5616
	117	copies of transmittal letter for Quarterly Status Report No. 1, Contract 6079, printed on yellow copy paper supplies by EERL.		

6.00
2.50
3.50

PRICE F.O.B.
2% 10TH OF MONTH FOLLOWING UNLESS OTHERWISE STATED
TERMS
AS PER

INVOICE				TRANSPORTATION CHARGES						
PASSED	AMOUNT	PASSED	AMOUNT	Date	CRS. No.	Carrier	Pro. No.	Amt.	Pd	C

FORM 105

THIS IS A COPY OF ORDER PLACED FROM YOUR REQUISITION. IN CASE OF ERROR, NOTIFY PURCHASING DIVISION AT ONCE.

UNIVERSITY OF ILLINOIS

INVOICE - VOUCHER

PLEASE RENDER INVOICE IN QUADRUPLICATE
ON THIS FORM AND MAIL ALL COPIES TO:

UNIVERSITY OF ILLINOIS
PURCHASING DIVISION
203 ADMINISTRATION BLDG. (EAST)
URBANA, ILLINOIS

UNIVERSITY ORDER NO.
35705 -J
MUST BE GIVEN

KE. HIS FORM INTACT
Do Not Tear It Apart

PAY TO:

FIRM NAME	Champaign Letter Shop 004006
STREET AND NUMBER	10 Chester Street
CITY AND STATE	Champaign, Illinois

THIS COPY FOR DEPARTMENT

DATE February 5, 1959 FIRM INVOICE NO. TERMS: Net

2% 10th OF MONTH FOLLOWING UNLESS OTHERWISE STATED.

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
117	copies of transmittal letter for Quarterly Status Report No. 1, Contract 6079, printed on letter head paper supplied by EERL	5617	
117	copies of transmittal letter for Quarterly Status Report No. 1, Contract 6079, printed on yellow copy paper supplied by EERL		$ 6.00

PAYEE SHOULD NOT WRITE BELOW THIS LINE

1131-R 46 22 25 314 (4)

018558

FORM 110

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

DUPLICATE
FOR DEPARTMENT
REQUISITIONING

No. 1131-R

Department Requisitioning Electrical Engineering
Office Address

DATE 2-3-59

TO THE DIRECTOR OF PURCHASES:
Please Deliver the Following to 100 Electrical Engineering Research Lab.
Room Number Building

Not Later Than _____ Call R. Ringer Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		copies of transmittal letter for QuarterlyStatus Report No. 1, Contract 6079, printed on letter head paper supplied by EERL		Champaign Print Shop	
117		copies of transmittal letter for Quarterly Status Report No. 1, Contract 6079, printed on yellow copy paper supplied by EERL			5618
		Total	2.50 ✓		2/9/59 Loc. Dec.
		Johnson			E

AG 22 25 314
AF 32(616)6079

APPROPRIATION _____

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW105

Legal	NDEA Title III Sec. 302(c)(3) (A)	600.00 net	Mat. Dup.--100 lbs Rag. Sub.

DEPARTMENT REQUISITIONING

DELIVER TO

UNIVERSITY OF ILLINOIS

BUSINESS OFFICE—PURCHASING DIVISION
203 ADMINISTRATION BUILDING (E)
URBANA, ILLINOIS

PURCHASE ORDER

NO. 35553
THIS NUMBER MUST APPEAR ON ALL CORRESPONDENCE AND SHIPMENTS.

DATE February 3, 1959

TO: Champaign Letter Shop
10 Chester St.
Champaign, Illinois

SHIP TO: UNIVERSITY OF ILLINOIS
100 Electrical Engineering Research Lab.
URBANA, ILLINOIS

SHIPPING DATE | SHIP VIA: | (SHIP CHEAPEST WAY UNLESS OTHERWISE SPECIFIED)

QUANTITY	DESCRIPTION	PRICE	AMOUNT
117	Copies of Quarterly Report #1 Contract 6079, 21 mats to be run. All pages are mats. Run on two sides of the paper, fronts and backs as marked at the top of each page.	5619	
117	Copies of Quarterly Report #1 Gather and bind		
2	Complete vellum copies of Quarterly Report #1, Contract 6079, Print on one side of the paper only and gather.		
117	Front covers printed in accordance with copy supplied; backs plain. Quarterly Report #1, Contract 6079		
	NOTE: Prices to be in accordance with attached schedule		

64.36
60.00
24.36

ok +24.36
60.00
entered

PRICE F.O.B.

2% 10TH OF MONTH FOLLOWING UNLESS OTHERWISE STATED
TERMS

AS PER

INVOICE				TRANSPORTATION CHARGES						
PASSED	AMOUNT	PASSED	AMOUNT	Date	CRS. No.	Carrier	Pro. No.	Amt.	Pd	C

FORM 105

THIS IS A COPY OF ORDER PLACED FROM YOUR REQUISITION. IN CASE OF ERROR, NOTIFY PURCHASING DIVISION AT ONCE.

Prices effective July 1, 1957 for printing and binding government research reports for the Electrical Engineering Department, University of Illinois, Urbana, Illinois

5620

Press work:

Prices based on 25 plates or more at one time

	1 side	2 sides
Less than 100 copies	$1.00	1.25
Each add'n 50 or less	.25	.25

Prices based on less than 25 plates at one time

	1 side	2 sides
Less than 100 copies	$1.25	1.50
Each add'n 50 or less	.25	.25

Add per page for thesis copies on either of the above .25¢
Add per page for vellum copies on either of the above .10¢

No handling charge on paper furnished by University unless we cut paper.

Gather, bind (stitch, affix tape and tape) and trim:

	25 p. or less	Add'n 25 p. or less
50 copies or less	30¢ each	6¢ each
More than 50 copies	28¢ each	6¢ each

(nailing books and trimming nailed books extra charge)

Photo plates, including line drawings and combination plates:
Our cost plus 20%. The following items of cost will remain constant on all plates: Plate 50¢ - check negatives, burn and develop $1.00. Added to these two items will be our cost of negatives and postage.

Where it is necessary to "Clean up" plates, charge will be made at the rate of $3.00 per hour.

Overtime charge when authorized will be billed at the rate of $2.75 per hour over regular rates.

Oftentimes we must remove sheets after reports are gathered and insert new sheets - for this work time will be charged at $2.50 per hour.

UNIVERSITY OF ILLINOIS

INVOICE - VOUCHER

PLEASE RENDER INVOICE IN QUADRUPLICATE
ON THIS FORM AND MAIL ALL COPIES TO:

UNIVERSITY OF ILLINOIS
PURCHASING DIVISION
203 ADMINISTRATION BLDG. (EAST)
URBANA, ILLINOIS

UNIVERSITY ORDER NO.
35553 -J
MUST BE GIVEN

KEEP THIS FORM INTACT
Do Not Tear It Apart

5621

PAY TO:

FIRM NAME	Champaign Letter Shop C0/006
STREET AND NUMBER	10 Chester Street
CITY AND STATE	Champaign, Illinois

THIS COPY FOR DEPARTMENT

DATE February 2, 1959 FIRM INVOICE NO. TERMS: Net

2% 10th OF MONTH FOLLOWING, UNLESS OTHERWISE STATED.

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
117	Copies of Quarterly Report #1 Contract 6079, 21 mats to be run. All pages are mats. Run on & two sides of the paper, fronts and backs as marked at the top of each page. 21 mats	@ 1.50	$ 31.50
117	Copies of Quarterly Report #1 Gather and bind	@ .28	32.76
2	Complete vellum copies of Quarterly Report #1, Contract 6079, Print on one side of the paper only and gather. 21 mats	@ .10	2.10
117	Front covers printed in accordance with copy supplied: backs plain. Quarterly Report #1, Contract 6079		18.00
			$ 84.36

PAYEE SHOULD NOT WRITE BELOW THIS LINE

1103-R 46 22 25 314

018559

FORM 110

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

DUPLICATE
FOR DEPARTMENT
REQUISITIONING

[artment Requisitioning Electrical Engineering — Office Address

No. 1103-R

DATE 1-29-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab
Room Number — Building

R. Ripper — Name

2621 — Ext.

Not Later Than _____ Call _____ For additional information

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		copies of Quarterly Report #1 Contract 6079, 21 mats to be run. All pages are mats. Run on two sides of the paper, fronts and backs as marked at the top of each page.	Cost ✓	15622 U. of I. Print Shop	
117		copies of Quarterly Report #1 gather and bind	Cost ✓		
2		complete vellum copies of Quarterly Report #1, Contract 6079, Print on one side of the paper only and gather.	Cost ✓		
17		Front covers printed in accordance with copy supplied; backs plain. Quarterly Report #1, Contract 6079.	Cost ✓		

✓ 3/6/59 Loc Dec

E

Johnson 46 22 25 314

APPROPRIATION AF 33(616)6079

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW195

NAME Dubell PROMISED Tues 3:00 PM
(Day and Date)

DATE 2-20-59 REQ'N # PHONE CLERK MF

DUPLICATE FOR DEPARTMENT

COPY CONSISTS OF

2 - Kodachromes 5623

WORK TO BE DONE	UNIT	CHARGES
1 - Standard Copy neg 8 x 10	2.00	2 00
2 - 5x7 Glass enlargements from	1.60	1 60
20% Rush Chg.		72

CHARGE TO 46-22-25-314
A.P. 6079

RECEIVED BY Dubell

Auditor Class Fund

Photography
Blueprinting
09-10-18-906

Total 4 32

Del. by

Correct (Manager)

10M—3-58—65264

UNIVERSITY OF ILLINOIS
PHOTOGRAPHIC DEPARTMENT
713 S. WRIGHT ST., CHAMPAIGN

No A 6839

US AF 6079

MONTHLY STATEMENT

FORM 500

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	46-22-25-314	APR 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			63372.27	100000.00	36627.73
	IND COST CHARGE	4	JV 176	2087.64		
	46-22-25-314 APR PAYROLL	01		5604.40		
1397	ALLIED RADIO CORP	4	T 021595	.96		
1329R	BANBACH MACHINERY CO INC	4	T 021888	68.16		
614R	INDUSTRIAL PRODUCTS CO	4	T 022501	16.66		
1422R	CROSSLEY ASSOCIATES INC	4	T 023223	22.09		
1118R	SPERRY ELECTRONIC TUBE	4	T 023700	20.26		
1322R	NEWARK ELECTRI CO	4	T 023701	13.63		
1397R	ALLIED RADIO CORP	4	T 024043	23.04		
	R MITTRA	3	T 024462	61.50		5624
158R	ALLIED RADIO CORP	4	T 024511	80.10		
1441R	EASTMAN KODAK STORES INC	4	T 025244	13.57		
14R	DEPKE WELDING SUPPLIES	4	T 025245	7.20		
X	RICHARD RIPPER	4	T 025673	8.76		
1446R	SPERRY ELECTRONIC TUBE	4	T 026244	84.26		
	EMPLRS CONTRIB ON0381494	04	T 50387	323.39		
	ELEC ENG REPL	4	ER 012023	17.31		
	ELEC ENG REPL	4	ER 012041	21.99		
	ELEC ENG REPL	4	ER 024402	73.75		
	ELEC ENG REPL	4	ER 024421	67.46		
	ELEC ENG REPL	4	ER 024432	16.45		
	ELEC ENG REPL	4	ER 024434	.78		
	PHYSICS STORES	4	PC 001374	X 2.39		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 007696	X 16.80		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 007973	X 21.00		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 008112	X 6.40		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 008144	X .60		
	ILLINI UNION	4	IU 004248	X 2.17		
	ILLINI UNION	4	IU 004307	X 1.89		
41860	TRU TOOL	4	EX 022274	3.22	6.47	
34831	HARRINGTON	4	FT 016067	3.25		
	LAWLER MISSILE	4	TG 000318	1.46	20.96	
	TELEPHONE CHARGES	4	TL	19.50		
	WK COMP FOR APR 0560440	04		56.04		

supplies 51.25
Frt 6.47
Tel 20.96
48.68

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
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MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
45323 26		26127 66	689 43	72140.35	100000.00	27859.65

THIS STATEMENT WILL BE PREPARED ONLY WHEN THERE ARE TRANSACTIONS DURING THE MONTH

AF 6079 IC

MONTHLY STATEMENT

FORM 500

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	45-22-25-314	APR 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH -			8.00	14795.27	14787.27
	IND COST CREDIT		JV 176		2087.64	
	IND COST DISTRIBUTION		JV 165		8144.50-	
					5625	

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
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T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER.
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
		8 00		8.00	8738.41	8730.41

THIS STATEMENT WILL BE PREPARED ONLY WHEN THERE ARE TRANSACTIONS DURING THE MONTH.

CEPT FOR 12158
GISTERED ARTICLE NO. ..... Date .....

lue $ 10¢ Special delivery fee ..... ¢

e $ 50 Return receipt fee 10 ¢

rcharge $ ..... Restricted delivery fee ..... ¢

stage $ 10¢ ☐ Airmail

om Prof R a Gesselman
Elec Eng R Lab W 120
(Address)

dressed to E K Bennett
Nyc
(Address) (Accepting employee)

GPO c0—10—12660-8

8 1.64

URBANA POSTMARK 1959 ILL.

RECEIVED
JAN 5 1967
E. E. BUS. OFF.

This Copy for Accounting Division

Urbana, Ill.
CITY STATE

DATE 4-15-59 UNIVERSITY DEPARTMENT Elec. Eng.

QUANTITY	DESCRIPTION	AMOUNT
▶	postage on reports	1 64
	paper	3 30
	pap er	3 82
	Total	8 76

5626

RECEIVED
ACCOUNTING DIVISION
APR 17 1959
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

R Ruppert

46 22 25 314
AF 33(616)5079

ACCOUNT CODE NUMBER 46-22-25-314 eed Dept

EXPENSE 4 FUND 1 VOUCHER NUMBER 025673

APPROPRIATION

EXTENSION

FOR CHIEF ACCOUNTANT

I certify that no requisition has been issued, and that there is an unobligated balance available for the above expenditure in the appropriation indicated.

APPROVED H B Lawlor

POSTED APR 21 1959

Form 615 20M—7-58—66170

US AF 6079 — FORM 500

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	46-22-25-314	MAY 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			72140.35	100000.00	27859.65
	~~EXPENSE CLASS CHANGE~~	6	JV 189	~~369.91~~		
	~~IND COST CHARGE~~	4	JV 187	~~2972.13~~		
X	~~RICHARD RIPPER~~	4	T 028170	~~4.45~~		
14R	~~DEPKE WELDING SUPPLIES~~	4	T 028488	~~4.17~~		
1580R	~~NEWARK ELECTRIC CO~~	4	T 028802	~~12.05~~		
1445R	~~EUGENE DIETZGEN CO~~	4	T 029148	~~34.66~~		
1365R	~~EUGENE DIETZGEN CO~~	4	T 029514	~~77.63~~		
1631R	~~ARROW SALES-CHICAGO INC~~	4	T 030587	~~17.81~~		
	~~PAUL E MAYES~~	3	T 031002	~~14.45~~		
	~~JOHN D DYSON~~	3	T 031882	~~11.80~~		
1662R	~~PHILIP A HUNT CO~~	4	T 032596	~~47.56~~		
1613R	~~CHAMPAIGN LETTER SHOP~~	4	T 032623	~~20.00~~		
1612R	~~CHAMPAIGN LETTER SHOP~~	4	T 032624	~~77.26~~		
1610R	~~CHAMPAIGN LETTER SHOP~~	4	T 032625	~~20.00~~		
1609R	~~CHAMPAIGN LETTER SHOP~~	4	T 032626	~~147.15~~		
1685R	~~GENERAL RADIO CO~~	4	T 032924	~~4.08~~		
X	~~RICHARD RIPPER~~	4	T 033163	~~16.50~~		
	~~EMPLRS CONTRIB-ON0450479~~	04	T ~~57434~~	~~381.87~~		
	ELEC ENG REPL	4	ER 023777	45.43		
	ELEC ENG REPL	4	ER 023941	16.95		
	ELEC ENG REPL	4	ER 023962	.21		
	ELEC ENG REPL	4	ER 024024	15.77	5627	
	ELEC ENG REPL	4	ER 024150	43.54		
	ELEC ENG REPL	4	ER 024270	13.57		
	ELEC ENG REPL	4	ER 024292	10.64		
	ELEC ENG REPL	4	ER 024310	38.10		
	ELEC ENG REPL	4	ER 024455	34.02		
	ELEC ENG REPL	4	ER 024462	18.95		
	ELEC ENG REPL	4	ER 024472	20.60		
	ELEC ENG REPL	4	ER 024491	21.45		
	ELEC ENG REPL	4	ER 024497	23.50		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 008691	X 15.10		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 008764	X 9.00		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 008942	X 22.00		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 008949	X 16.30		
	ILLINI UNION	4	IU 004451	X 1.69		
	TRANSFERS	4	TV 025191	X 150.74		
	TRANSFERS	4	TV 025202	X 293.92		
	DYSON JACOBS	4	TG 000403	1.10	11.35	
34319D	MARTIN NEWARK	4	TG 000420	.90		
	TELEPHONE CHARGES	4	TL	9.35		
	~~WK COMP FOR MAY 0797887~~	04		~~79.79~~		
	~~46-22-25-314 MAY PAYROLL~~	01		7978.87		
				supplies 508.75		
				11.35		
				520.10		

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER.
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
53302 13		30893 85	1059 34	85255.32	100000.00	14744.68

THIS STATEMENT WILL BE PREPARED ONLY WHEN THERE ARE TRANSACTIONS DURING THE MONTH

UNIVERSITY OF ILLINOIS

MONTHLY STATEMENT

FORM 500

AF 6079 IC

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	45-22-25-314	MAY 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			8.00	8738.41	8730.41
	IND COST CREDIT		JV 187		2972.13	
					5628	

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV. PRESS ART SER
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
		8 00		8.00	11710.54	11702.54

REQ. NO.	APPROPRIATION	ENC. NO.	DEPARTMENT NAME
3-19-[illegible]	[illegible] 32 23 33x AP 12(328)6079 (4)	[illegible]0.00 RC	Elec. Eng. 100 Elec. Eng. Res. Lab.

5339

DEPARTMENT REQUISITIONING

DELIVER TO

UNIVERSITY OF ILLINOIS

BUSINESS OFFICE—PURCHASING DIVISION
200 ADMINISTRATION BUILDING (E)
URBANA, ILLINOIS

PURCHASE ORDER

NO. 44899

THIS NUMBER MUST APPEAR ON ALL CORRESPONDENCE AND SHIPMENTS.

April 21,1959
DATE

TO: Champaign Letter Shop
10-12 Chester Street
Champaign, Illinois

SHIP TO: UNIVERSITY OF ILLINOIS
100 Elec. Engineering Research Lab.
URBANA, ILLINOIS

DELIVERY DESIRED BY	SHIP VIA:	(SHIP CHEAPEST WAY UNLESS OTHERWISE SPECIFIED)

QUANTITY	DESCRIPTION	PRICE	AMOUNT
117	Front and back covers; fronts to be printed in accordance with copy supplied, backs plain. Print on blue stock (QER #2, contract 6079)		
	Prices to be in accordance with price schedule attached		
	20.00 10.00 10.00		a/p 10.00 E

PRICE F.O.B.

2% 10TH OF MONTH FOLLOWING UNLESS OTHERWISE STATED
TERMS

AS PER

INVOICE				TRANSPORTATION CHARGES						
PASSED	AMOUNT	PASSED	AMOUNT	Date	CRS. No.	Carrier	Pro. No.	Amt.	Pd	C

FORM 105

THIS IS A COPY OF ORDER PLACED FROM YOUR REQUISITION. IN CASE OF ERROR, NOTIFY PURCHASING DIVISION AT ONCE.

THIS COPY FOR DEPARTMENT

UNIVERSITY OF ILLINOIS

DELIVERY INVOICE - VOUCHER

UNIVERSITY OF ILLINOIS
PURCHASING DIVISION
200 ADMINISTRATION BLDG. (EAST)
URBANA, ILLINOIS

UNIVERSITY ORDER NO. 44899 MUST BE GIVEN

PLEASE RENDER INVOICE IN QUADRUPLICATE ON THIS FORM AND MAIL ALL COPIES TO THE ABOVE ADDRESS.

5340

PAY TO:

FIRM NAME: Champaign Letter Shop (illegible)
STREET AND NUMBER: 30 Harbor Blvd.
CITY AND STATE: Champaign, Illinois

DATE: April 27, 1959 FIRM INVOICE NO. TERMS: 2%

2% 10th OF MONTH FOLLOWING, UNLESS OTHERWISE STATED.

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
337	Hard and soft covers: Proofs to be printed in accordance with copy supplied, basis plain. Print on blue stock (12.12, Contract 079)		$ 20.00

PAYEE SHOULD NOT WRITE BELOW THIS LINE

032623

FORM 110

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

DUPLICATE
FOR DEPARTMENT
REQUISITIONING

No. 1613-R ~~1573-R~~

Department Requisitioning Electrical Engineering
Office Address

DATE 4-16-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab
Room Number Building

5341

Not Later Than _____ Call R. Ripper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		front and back covers; fronts to be printed in accordance with copy supplied, backs plain. Print on blue stock. (QER #2, contract 6079)	Cost ✓	U. of I. Print Shop ✓ 4/30/59	

Johnson

APPROPRIATION 46 22 23 334
AF 33(616)6079

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW195

REQ. NO.	APPROPRIATION	ENC. NO.	DEPARTMENT NAME
[illegible]	[illegible] (4)	400.00 hc	Elec. Eng. 100 Elec. Eng. Res. Lab.

DEPARTMENT REQUISITIONING

DELIVER TO

UNIVERSITY OF ILLINOIS

BUSINESS OFFICE—PURCHASING DIVISION
200 ADMINISTRATION BUILDING (E)
URBANA, ILLINOIS

PURCHASE ORDER

NO. 44826-J
THIS NUMBER MUST APPEAR ON ALL CORRESPONDENCE AND SHIPMENTS.

DATE April 21, 1959

TO: Champaign Letter Shop
10-12 Chester Street
Champaign, Illinois

SHIP TO: UNIVERSITY OF ILLINOIS
100 Elec. Engineering Research Lab.
URBANA, ILLINOIS

DELIVERY DESIRED BY	SHIP VIA:	(SHIP CHEAPEST WAY UNLESS OTHERWISE SPECIFIED)

QUANTITY	DESCRIPTION	PRICE	AMOUNT
117 ea.	Covers: Front and Back covers for Technical Report No. 36, Contract 6079 (MacPhie). Fronts as per the attached sample: backs plain. Please print on Blue Stock		5629
	Balance		
	Prices to be in accordance with attached schedule		

20.00
10.00
10.00 adj to 10.00

PRICE F.O.B.

TERMS: 2% 10TH OF MONTH FOLLOWING UNLESS OTHERWISE STATED

AS PER

INVOICE				TRANSPORTATION CHARGES						
PASSED	AMOUNT	PASSED	AMOUNT	Date	CRS. No.	Carrier	Pro. No.	Amt.	Pd	C

FORM 105

THIS IS A COPY OF ORDER PLACED FROM YOUR REQUISITION. IN CASE OF ERROR, NOTIFY PURCHASING DIVISION AT ONCE.

THIS COPY FOR DEPARTMENT

UNIVERSITY OF ILLINOIS

DELIVERY INVOICE - VOUCHER

UNIVERSITY OF ILLINOIS
PURCHASING DIVISION
200 ADMINISTRATION BLDG. (EAST)
URBANA, ILLINOIS

UNIVERSITY ORDER NO.
44826

MUST BE GIVEN

PLEASE RENDER INVOICE IN QUADRUPLICATE ON THIS FORM AND MAIL ALL COPIES TO THE ABOVE ADDRESS.

PAY TO:

FIRM NAME	Champaign Lumber Co. [illegible]
STREET AND NUMBER	10 Chester Street
CITY AND STATE	Champaign, Illinois

DATE [illegible] FIRM INVOICE NO. TERMS: [illegible]

2% 10th OF MONTH FOLLOWING, UNLESS OTHERWISE STATED.

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
217 sq.	Cover: Front and Back covers for Technical Report No. 36, Contract (W7) (Section)		
	Boards as per attached sample: Backs plain. Printed on Dull Stock		$ 30.00
		5630	

PAYEE SHOULD NOT WRITE BELOW THIS LINE

032625

FORM 110

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

DUPLICATE
FOR DEPARTMENT
REQUISITIONING

No. 1610-R

D irtment Requisitioning Electrical Engineering
Office Address

DATE 4-16-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab
Room Number Building

Not Later Than _____ Call R. Ripper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117 ea.		covers; Front and Back covers for Technical Report No. 36, Contract 6079 (MacPhie). Fronts as per the attached sample; backs plain. Please print on Blue Stock.	Cost	U. of I. Print Shop √ Complete 4/30/59 5631	

Johnson

APPROPRIATION 46 22 25 314
AF 33(616)6079

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW195

REQ. NO.	APPROPRIATION	ENC. NO.	DEPARTMENT NAME
1x42-4	65 22 25 314 AF 34(616)379 (4)	2170.09 bs	Elec. Eng. 100 Elec. Eng. Res. Lab. 5342

DEPARTMENT REQUISITIONING

DELIVER TO

UNIVERSITY OF ILLINOIS

BUSINESS OFFICE—PURCHASING DIVISION
200 ADMINISTRATION BUILDING (E)
URBANA, ILLINOIS

PURCHASE ORDER

NO. 44827-J
THIS NUMBER MUST APPEAR ON ALL CORRESPONDENCE AND SHIPMENTS.

April 21, 1969
DATE

TO
• Champaign Letter Shop
• 10-12 Chester Street
• Champaign, Illinois
•

SHIP TO
UNIVERSITY OF ILLINOIS
100 Elec. Engineering Research Lab.
URBANA, ILLINOIS

DELIVERY DESIRED BY | SHIP VIA: | (SHIP CHEAPEST WAY UNLESS OTHERWISE SPECIFIED)

QUANTITY	DESCRIPTION	PRICE	AMOUNT
117	copies of Quarterly Engineering Report No. 2, Contract AF 6079 "Research Studies on Problems Related to E.C.M. Antennas" please print on both sides of the paper 25 mats, including six page distribution list and three page Reports Memoranda. Fronts and backs as marked at the top of each mat.		
117	copies of the above - gather and bind.		
2	complete vellum copies of the above. Print on one side of the paper only.	adj - 91.74	
117	Transmittal letters printed on letterhead paper		
117	transmittal letters printed on buff		
	Prices to be in accordance with attached schedule	E	

175.00
17.26
91.74

2% 10TH OF MONTH FOLLOWING UNLESS OTHERWISE STATED

PRICE F.O.B. | TERMS | AS PER

INVOICE PASSED	INVOICE AMOUNT	INVOICE PASSED	INVOICE AMOUNT	TRANSPORTATION CHARGES Date	CRS. No.	Carrier	Pro. No.	Amt.	Pd	C

FORM 105

THIS IS A COPY OF ORDER PLACED FROM YOUR REQUISITION. IN CASE OF ERROR, NOTIFY PURCHASING DIVISION AT ONCE.

THIS COPY FOR DEPARTMENT

UNIVERSITY OF ILLINOIS

DELIVERY INVOICE - VOUCHER

UNIVERSITY OF ILLINOIS
PURCHASING DIVISION
200 ADMINISTRATION BLDG. (EAST)
URBANA, ILLINOIS

UNIVERSITY ORDER NO. 44827 ~~

MUST BE GIVEN

PLEASE RENDER INVOICE IN QUADRUPLICATE ON THIS FORM AND MAIL ALL COPIES TO THE ABOVE ADDRESS.

5343

PAY TO:

FIRM NAME: Harrison Letter Shop 00626
STREET AND NUMBER: 10 Boston Street
CITY AND STATE: Harrison, Illinois

DATE: March 30, 1949 FIRM INVOICE NO. TERMS: 15E

2% 10th OF MONTH FOLLOWING, UNLESS OTHERWISE STATED.

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
117	Copies of Quarterly Engineering Report No. 2, Contract W 679 "Research Studies on Problems Related to A.C.H. Antenna" please print on both sides of the paper		
	25 mts, including six page distribution list and three page Reports Summary. Fronts and backs as marked at the top of each mt. @ .25	1.50	37.50
117	copies of the above - gather and bind. @ .28		32.76
2	Complete vellum copies of the above. Printed on one side of the paper only. 25 @ .10		2.50
117	Transmittal letters printed on letterhead paper		
117	Transmittal letters printed on buff		4.20
			$ 77.26

PAYEE SHOULD NOT WRITE BELOW THIS LINE

033624

FORM 110

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

DUPLICATE
FOR DEPARTMENT
REQUISITIONING

No. 1612 ~~1577~~

D ~~a~~rtment Requisitioning Electrical Engineering (Office Address)

DATE 4-16-59

TO THE DIRECTOR OF PURCHASES:

Please Deliver the Following to 100 Electrical Engineering Research Lab 5344
(Room Number) (Building)

Not Later Than _____ Call R. Ripper (Name) Ext. 2621 For additional information

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		copies of Quarterly Engineering Report No. 2, Contract AF 6079 "Research Studies on Problems Related to E. C. M. Antennas" please print on both sides of the paper. 25 mats, including six page distribution list and three page Reports Memoranda. Fronts and backs as marked at the top of each mat.	Cost	U. of I. Print Shop	
117		copies of the above - gather and bind.		✓ completed 4/30/59	
2		complete vellum copies of the above. Print on one side of the paper only.			
117		transmittal leters printed on letterhead paper.			
117		transmittal letters printed on buff.	Cost		

Johnson

APPROPRIATION 43 22 20 314
AF 33(616)6079

CLASSIFICATION

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

6. Equipment	
7. Improvements	
4. Other Expense	4

HW105

P.O. NO.	APPROPRIATION	ENG. NO.	DEPARTMENT NAME
[illegible]	[illegible] AF 33(616)-8079 (4)	233.09 hs	Elec. Eng. 100 Elec. Eng. Res. Lab.

DEPARTMENT REQUISITIONING

DELIVER TO

UNIVERSITY OF ILLINOIS

BUSINESS OFFICE—PURCHASING DIVISION
209 ADMINISTRATION BUILDING (E)
URBANA, ILLINOIS

PURCHASE ORDER

NO. 44824 -5
THIS NUMBER MUST APPEAR ON ALL CORRESPONDENCE AND SHIPMENTS.

DATE April 21,1959

TO: Champaign Letter Shop
10-12 Chester Street
Champaign, Illinois

SHIP TO: UNIVERSITY OF ILLINOIS
100 Elec. Engineering Research Lab.
URBANA, ILLINOIS

DELIVERY DESIRED BY | SHIP VIA: (SHIP CHEAPEST WAY UNLESS OTHERWISE SPECIFIED)

QUANTITY	DESCRIPTION	PRICE	AMOUNT
117	copies of Technical Report No. 36 Contract AF33(616)-8079 on "Use of Coupled Waveguides in a Traveling Wave Scanning Antenna" (MacPhie) Print on one side of the paper only.		
	71 mats including the preliminary pages, body and distribution list, and three page Report memorandum		5632
117	copies to be gathered and bound		
2	complete vellum copies. Print on one side of the paper only		
117	transmittal letters: 117 on Letterhead paper and 117 on buff paper		
	Prices to be in accordance with attached schedule		E

250.00
147.15
102.85

Adj - 102.85

PRICE F.O.B.

TERMS 2% 10TH OF MONTH FOLLOWING UNLESS OTHERWISE STATED

AS PER

INVOICE				TRANSPORTATION CHARGES						
PASSED	AMOUNT	PASSED	AMOUNT	Date	CRS. No.	Carrier	Pro. No.	Amt.	Pd	C

FORM 103

THIS IS A COPY OF ORDER PLACED FROM YOUR REQUISITION. IN CASE OF ERROR, NOTIFY PURCHASING DIVISION AT ONCE.

rMS COPY FOR DEPARTMENT

UNIVERSITY OF ILLINOIS
DELIVERY INVOICE - VOUCHER

UNIVERSITY OF ILLINOIS
PURCHASING DIVISION
200 ADMINISTRATION BLDG. (EAST)
URBANA, ILLINOIS

UNIVERSITY ORDER NO. 44824 ~
MUST BE GIVEN

PLEASE RENDER INVOICE IN QUADRUPLICATE ON THIS FORM AND MAIL ALL COPIES TO THE ABOVE ADDRESS.

PAY TO:

FIRM NAME	Champion Letter Shop (XXXX
STREET AND NUMBER	30 Chester Street
CITY AND STATE	Champion, Illinois

5633

DATE April 29, 1959 FIRM INVOICE NO. TERMS: Net 2% 10th OF MONTH FOLLOWING, UNLESS OTHERWISE STATED.

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
117	Copies of Technical Report No. 36, Contract N33(616)-607) on "Use of Coupled Waveguides in a Traveling Wave Scanning Antenna" (Thesis) Printed on one side of the paper only		
	71 sets including the preliminary pages, body and distribution list, and three page Report summaries @ 1.25		88.75
117	Copies to be gathered and bound @ .10		11.70
2	complete xerox copies. Print on one side of the paper only @ .30		7.10
117	Transmittal letters: 117 on letterhead paper and 117 on buff paper		1.20
			$112.35

PAYEE SHOULD NOT WRITE BELOW THIS LINE

032626

FORM 110

UNIVERSITY OF ILLINOIS
BUSINESS OFFICE
URBANA

REQUISITION

DUPLICATE
FOR DEPARTMENT
REQUISITIONING

No. 1609-R

D irtment Requisitioning Electrical Engineering
Office Address

DATE 4-16-59

TO THE DIRECTOR OF PURCHASES:
Please Deliver the Following to 100 Electrical Engineering Research Lab
Room Number Building

Not Later Than _____ Call R. Ripper Ext. 2621 For additional information
Name

QUANTITY	CATALOG NUMBER	ITEM (Give Complete Specifications)	Estimated Cost (If Available)	Suggested Vendor (If Available)	P. O. Number
117		copies of Technical Report No. 36 Contract AF33(616)-6079 on "Use of Coupled Waveguides in a Traveling Wave Scanning Antenna" (MacPhie) Print on one side of the paper only.	Cost ✓	5634 U. of I. Print Shop	
		71 mats including the preliminary pages, body and distribution list, and three page Reports Memorandum	Cost ✓	✓ complete 4/30/59	
117		copies to be gathered and bound	Cost ✓		
2		complete vellum copies. Print on one side of the paper only	Cost ✓		
117		transmittal letters: 117 on Letterhead paper and 117 on buff paper	Cost ✓		
					E

Johnson

APPROPRIATION 40 22 25 314
AF 33(616)6079

I hereby certify that there is an unobligated balance available for the above expenditures in the appropriation indicated.

Approved _____

CLASSIFICATION

6. Equipment	
7. Improvements	
4. Other Expense	4

HW195

5115

POSTAL RECEIPTS

Date May, 1959

RECEIVED of Contract 6079

$ 13.30

for postage on reports

CHAMPAIGN ILL. STA. A MAY 14 1959

Postmaster

By

UNIVERSITY BOOK STORE

Phone FLeetwood 2-5726 610 E. DANIELS ST.

610

CHAMPAIGN, ILLINOIS

QUAN.	DESCRIPTION	Amount
1	folder	3.20
	AF-6079	
	J. Dyson	

PLUS SALES TAX

Sold by	CASH	CHARGE	ON ACCT.	MDSE. RETD.	TOTAL

Customer's Order No. 5-14 1959

Sold To

Address

C 6486 Received By Gail Howard Lewis

ALL BILLS MUST BE PAID WITHIN 30 DAYS.

PINK - FOR CUSTOMER

1330:
320:
16.50

UNIVERSITY OF ILLINOIS
MISCELLANEOUS VOUCHER

5114

The University department will prepare in quadruplicate and mail three copies to
UNIVERSITY OF ILLINOIS
Accounting Division
257 Administration Bldg. (W)
Urbana, Illinois

This Copy for Accounting Division

Pay to:

Richard Ripper
NAME

209 Elec. Eng. Res. Lab.
NUMBER STREET

Urbana, Ill.
CITY STATE

DATE 5-20-59 UNIVERSITY DEPARTMENT Elec. Eng.

QUANTITY	DESCRIPTION	AMOUNT
	postage on reports	13 30
	folder	3 20
	Total	16 50

W A Wolcott

Richard Ripper

ACCOUNT CODE NUMBER 46 22 25 314 AF 33(616)6079 ECD-Low Voltage Switchgear July

APPROPRIATION

EXPENSE 4 FUND 1 VOUCHER NUMBER 033163

EXTENSION 7 FOR CHIEF ACCOUNTANT

I certify that no requisition has been issued, and that there is an unobligated balance available for the above expenditure in the appropriation indicated.

APPROVED H B Lawler

POSTED MAY 26 1959

Form 615 20M—7-58—66170

UNIVERSITY OF ILLINOIS

MISCELLANEOUS VOUCHER

This Copy for Department

5635

Pay to:

Richard Hooper
NAME

[illegible] Elec. Eng. Bo. Lab.
NUMBER STREET

Urbana, Ill
CITY STATE

DATE 5-20-59 UNIVERSITY DEPARTMENT Elec. Eng.

QUANTITY	DESCRIPTION	AMOUNT
	postage on reports	13 30
	folder	3 20
	Total	16 50

46 22 25 314
AF 33(616)6079

E

033163

Form 615

20M—7-58—66170

UNIVERSITY OF ILLINOIS

MONTHLY STATEMENT

BUSINESS OFFICE
FORM 503

US AF 6079 | 46-22-25-314 | JUN 1959 | 1

ACCOUNT TITLE | ACCOUNT NUMBER | DATE | PAGE

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			85255.32	100000.00	14744.68
	~~IND COST CHARGE~~	~~4~~	~~JV 209~~	~~1897.35~~		
	~~46-22-25-314 JUN PAYROLL~~	~~01~~		~~5093.63~~		
~~1751R~~	~~THE HARDA MICROWAVE CORP~~	~~4~~	~~T 034495~~	~~24.16~~		
~~1617R~~	~~NEWARK ELECTRIC CO~~	~~4~~	~~T 035305~~	~~29.87~~		
~~1541R~~	~~CROSSLEY ASSOCIATES INC~~	~~4~~	~~T 035324~~	~~19.73~~		
X	RICHARD RIPPER	4	T 036494	2.84		
~~14R~~	~~DEPKE WELDING SUPPLIES~~	~~4~~	~~T 036911~~	~~5.40~~		
~~1854R~~	~~STEVENS-ARNOLD INC~~	~~4~~	~~T 039395~~	~~43.84~~		
X	RICHARD RIPPER	4	T 039916	8.12		
	~~GEORGES A DESCHAMPS~~	~~3~~	~~T 041608~~	~~186.75~~		
	~~EMPLRS CONTRIB ON0300713~~	~~04~~	~~T 64866~~	~~254.91~~		
	OFFICE SUPPLY STORE	4	OS 022968	X2.31		
	OFFICE SUPPLY STORE	4	OS 023381	X1.85		
	OFFICE SUPPLY STORE	4	OS 023449	X19.80		
	ELEC ENG REPL	4	ER 024332	19.48		
	ELEC ENG REPL	4	ER 024344	70.76		
	ELEC ENG REPL	4	ER 028017	13.51	5636	
	ELEC ENG REPL	4	ER 028040	7.42		
	ELEC ENG REPL	4	ER 028144	17.54		
	ELEC ENG REPL	4	ER 028165	25.59		
	ELEC ENG REPL	4	ER 028190	11.53		
	ELEC ENG REPL	4	ER 028304	4.07		
	PHYSICS STORES	4	PC 001674	X6.30		
	PHYSICAL PLANT STORES	4	PS 080789	X1.71		
Y	BLUEPRINTING PHOTOGRAPHY	4	BL 000025	X13.50		
Y	BLUEPRINTING PHOTOGRAPHY	4	BL 000357	X14.70		
Y	BLUEPRINTING PHOTOGRAPHY	4	BL 000689	X36.00		
Y	BLUEPRINTING PHOTOGRAPHY	4	BL 000819	X18.00		
Y	BLUEPRINTING PHOTOGRAPHY	4	BL 009090	X 2.50		
X	BLUEPRINTING PHOTOGRAPHY	4	BL 009877	X 6.66		
	COMPUTER SERVICE	4	CS 020921	X 64.75		
	COMPUTER SERVICE	4	CS 020940	X 96.25		
	ILLINI UNION	4	IU 004649	X3.23		
	ILLINI UNION	4	IU 004651	X .84		
45951	P A HUNT	4	FT 031784	3.41	3.41	
	DYSON-NUSSBAUM	4	TG 000610	1.40	1.40	
~~00495~~	~~513 MAYES DAYTON O~~	~~03~~	~~CP 05-04~~	~~29.70~~		
	TELEPHONE CHARGES	4	TL	18.55	18.55	
	~~UK COMP FOR JUNE 0509363~~	~~04~~		~~50.94~~		
	UNBILLED EXPEND 6-30-59		JV 225		8128.93	
	INCOME DEFERRED TO 59-60		JV 225		14744.68-	
				supplies -	288.40	
				telephone + telegram -	19.95	
				freight -	3.41	
					311.76	

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPL
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
TG-TELEGRAMS
TL-TELEPHONE
TS-TABULATING SER
TV-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV PRESS ART SER.
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
58395 76		33929 15	1059 34	93384.25	93384.25	

UNIVERSITY OF ILLINOIS

AF 6079 IC

MONTHLY STATEMENT

BUSINESS OFFICE
FORM 500

ACCOUNT TITLE	ACCOUNT NUMBER	DATE	PAGE
	45-22-25-314	JUN 1959	1

REQUISITION OR SALES INVOICE NO.	ARTICLES OR PAYEE	CLASS	BUSINESS OFFICE NUMBER	EXPENDITURES	CREDITS	BALANCE
	FROM PREV MONTH			8.00	11710.54	11702.54
	IND COST CREDIT		JV 209		1897.38	
	INDIRECT COST DISTR		JV 193		4442.22-	
					5637	

EXPLANATION OF CLASS NUMBERS

1-SALARIES
2-WAGES
3-TRAVEL
4-COMMODITIES
5-CONTRACTUAL
6-EQUIPMENT
7-IMPROVEMENTS
8-LAND

EXPLANATION OF ABBREVIATIONS

AC-ANALOG COMPUTER
AT-AIR TRAVEL
BD-BIOL DRAFTING
BL-BLUEPRINTING
CP-CAR POOL
CR-CASH RECEIPT
CS-COMPUTER SER
EC-EMPLOYERS CONT
ER-ELEC ENG. REPT
EX-EXPRESS
FE-FEDERAL EXT.
FR-FEDERAL RES.
FS-FEED STORAGE
FT-FREIGHT
G-GENERAL
GA-GRAPHIC ARTS
GB-GLASSBLOWING
GC-GEN. CHEM STORES
IS-INSTRUMENT SER
IU-ILLINI UNION
JV-JOURNAL VOUCHER
LH-LIQUID HELIUM
MG-MIMEOGRAPHING
MI-MISCELLANEOUS
MR-MACHINE REPAIR SER
MS-MAILING SER
OS-OFFICE SUPPLY STORE
PC-PHYSICS STORES
PH-PHOTOGRAPHY
PJ-PP JOB
PO-POSTAGE
PR-PRINTING
PS-PP STORES
PY-PHYSICS SER
RS-RECORDING SER
S-STORES & SERVICE
SG STENOGRAPHIC SER
SI-SALES INVOICE
T-TRUST
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TL-TELEPHONE
TS-TABULATING SER
TY-TRANSFER
TY-TELETYPE
UC-UNCLASSIFIED
UP-UNIV. PRESS ART SER.
WC-WORKING CASH

TOTALS TO DATE

SALARIES	WAGES	EXPENSE	EQUIPMENT	EXPENDITURES	CREDITS	END OF MONTH BALANCE
		8 00		8.00	9165.70	9157.70

LINOIS

VOUCHER

e in quadruplicate
to
OIS
(W)

RECEIVED
JAN 5 1967
E. E. BIOS. OFF.

This Copy for Accounting Division

POSTAL RECEIPTS

Date June 15, 19 59

RECEIVED of Contract C679

$ 82.82

for Postage on slides

U. S. POST OFFICE URBANA, ILL.

Postmaster

By J. L. Dilley

arch Lab
STREET
inois
TATE

DATE 6-18-59 UNIVERSITY DEPARTMENT Electrical Engineering

QUANTITY	DESCRIPTION	AMOUNT	
	Postage on slides	2	82
	Bottle of processing solution	1	95
	Tubes	3	35
	Total	8	12

'5638

RECEIVED
ACCOUNTING DIVISION
JUN 23 1959
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

Richard Ryffel

ACCOUNT CODE NUMBER

APPROPRIATION 46 22 25 314
AF 33(616)60/0

EXPENSE 4 | FUND 1 | VOUCHER NUMBER

EXTENSION 7 | FOR CHIEF ACCOUNTANT E. Engle

POSTED

JUN 24 1959

I certify that no requisition has been issued, and that there is an unobligated balance available for the above expenditure in the appropriation indicated.

APPROVED C. C. Dalton

Form 615

20M—7-58—66170

UNIVERSITY OF ILLINOIS

MISCELLANEOUS VOUCHER

5113

The University Department will prepare in quadruplicate and mail three copies to

UNIVERSITY OF ILLINOIS
Accounting Division
257 Administration Bldg. (W)
Urbana, Illinois

This Copy for Accounting Division

Pay to:

Richard Ripper
NAME

209 Electrical Engineering Research Lab
NUMBER STREET

Urbana Illinois
CITY STATE

DATE 8-25-59 UNIVERSITY DEPARTMENT Electrical Engineering

QUANTITY	DESCRIPTION	AMOUNT
	Postage	36 18
1	Protractor	
1	Protractor	3 35
	Total	39 53

RECEIVED
ACCOUNTING DIVISION
AUG 26 1959
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

Richard Ripper

46 22 25 314

ACCOUNT CODE NUMBER AF 33(616)6079

APPROPRIATION eed Prog/aly Bursar

EXPENSE 4

FUND 1

VOUCHER NUMBER 054206

EXTENSION 7

FOR CHIEF ACCOUNTANT

I certify that no requisition has been issued, and that there is an unobligated balance available for the above expenditure in the appropriation indicated.

APPROVED H B Lawler

POSTED AUG 28 1959

H176

THE U. of I. SUPPLY STORE
BOOKS

STATIONERY, ART AND ATHLETIC SUPPLIES

625-31 S. WRIGHT ST. PHONE 6-1369

No. _____ Champaign, Ill. Aug 18 1959

Sold to EE Research Lab

Address _____

QUAN.	DESCRIPTION	AMOUNT
1	protractor	1 25
1	"	2 10
		3 35
	paid	
	26	
	AF 6079	
	R. Carel	

Received by G. O. Kolenz

POSTAL RECEIPTS

Date 21 Aug, 19 59

RECEIVED of Contract 6079

$ 36.18

for postage on TR #37, 38, 39 & QER #3

JOHN THEODORE, Postmaster, Urbana, Illinois

Postmaster

By J L Dudley

27 April 1959

5639

Dear Sir:

In accordance with contract requirements, attached please find copies each of

Technical Report No. 36, "Use of Coupled Waveguides In a Traveling Wave Scanning Antenna" by Robert H. MacPhie.

Quarterly Engineering Report No. 2, "Research Studies on Problems Related to ECM Antennas"

issued by our Antenna Laboratory under Contract AF33(616)-6079. Project number is 9(13-6278), Task 40572, and the sponsor is the Wright Air Development Center.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
210 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:sk

15 February 1962

Aeronautical Systems Div.
Attn: (ASRNRE-4)
Wright-Patterson Air Force Base
Ohio

5640

Dear Sir:

In accordance with contract requirements, we are sending you one (1) 3 copy of Quarterly Engineering Report No. 13 on "Research Studies on Problems Related to ECM Antennas," for the period 1 September 1961 to 30 November 1961, issued under contract AF33(616)-6079.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
205 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:ss
cc: Mr. H. B. Lauter
Mr. F. X. Finnigan

FOR INFORMATION OF Lawler 6079

12 December 1961

5641

Commander
Aeronautical Systems Division
Wright-Patterson Air Force Base
Ohio

Attention: ASRNRE-4

Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you two (2) copies of the October Monthly Progress Report on "Broadbanding, Pattern Synthesis, and New Radiating Structures," issued under the subject contract.

Sincerely,

G. A. Deschamps
Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

GAD:bsc

Enclosure

cc: ASD, Attn: ASRCS
ONR, Chicago
F. X. Finnigan
H. B. Lawler

FOR INFORMATION OF Lawler

31 October 1961

5612

Commander
Aeronautical Systems Division
Wright-Patterson Air Force Base
Ohio

Attention: ASRNRE-4

Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you two (2) copies of the September Monthly Progress Report on "Broadbanding, Pattern Synthesis, and New Radiating Structures," issued under the subject contract.

Sincerely,

G. A. Deschamps
Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

GAD:bsc
Enclosure
cc: ASD, Attn: ASKCE
ONR, Chicago
F. X. Finnigan
H. B. Lawler

11 September 1961

Aeronautical Systems Div.
Attn: (ASRNRE-4)
Wright-Patterson Air Force Base
Ohio

5643

Dear Sir:

In accordance with contract requirements please find enclosed ~~one (1) copy~~ 10 copies of Quarterly Engineering Report No. 11 on "Research Studies on Problems Related to ECM Antennas," for the period 1 March 1961 to 1 June 1961, issued under contract AF33(616)-6079.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
205 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:ss

Enclosure

cc: H. B. Zander
D. X. Dunnigan

FOR INFORMATION OF

28 August 1961

3644

Commander
Aeronautical Systems Division
Wright-Patterson Air Force Base
Ohio

Attention: ASRNRE-4

Re: Contract AF33(616)-8079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the July Monthly Progress Report on "Broadbanding, Pattern Synthesis, and New Radiating Structures," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:jk
Enclosure
cc: ASD, Attn: ASRNRE
ONR, Chicago
F. K. Pinnigan
E. B. Lawler

26 July 1961

5645

Commander
Aeronautical Systems Division
Wright-Patterson Air Force Base
Ohio

Attention: ASRNRE-4 Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the June Monthly Progress Report on "Broadbanding, Pattern Synthesis, and New Radiating Structures," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:ss
Enclosure
cc: ASD, Attn: ASRCE
ONR, Chicago
F. X. Finnigan
H. B. Lawler

FOR INFORMATION OF

19 June 1961

5646

Commander
Aeronautical Systems Division
Air Force Systems Command
Wright-Patterson Air Force Base, Ohio

Attention: ASRNRE-4

Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the April Monthly Progress Report on "Broadbanding, Pattern Synthesis, and New Radiating Structures," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:jk
Enclosure
cc: ASD, Attn: ASKCE
ONR, Chicago
F. X. Finnigan
H. B. Lawler

FOR INFORMATION OF

5647

8 February 1961

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attention: WCLRS-A Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the December Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:ss
Enclosure
cc: WADC, Attn: WCKCE
ONR Chicago
F. X. Finnigan
H. B. Lawler

HBL

5648

7 February 1961

Wright Air Development Div.
Attn: WWDBEG, Mr. Nicholas C. Draganjac
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, please find enclosed one (1) copy of Quarterly Engineering Report No. 9, "Research Studies on Problems Related to ECM Antennas", by P. E. Mayes and G. A. Deschamps, dated 31 December 1960, sponsored by Wright Air Development Center, under contract number AF33(616)-6079.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
205 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:bsc
Enclosure
cc: H.B. Lawler

HBL

FOR INFORMATION OF 6079

5649

29 November 1960

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attention: WCLRS-A

Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the October Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:ss
Enc.
cc: WADC, Attn: WCKCS
ONR Chicago
F. X. Finnigan
H. B. Lawler

5650

10 November 1960

Wright Air Development Div.
Attn: WWDBEG, Mr. Nicholas C. Draganjac
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, enclosed please find one copy of Quarterly Report No. 8, "Research Studies on Problems Related to ECM Antennas," Sponsored by Wright Air Development Center for the period 1 June 1960 to 1 September 1960 and issued under Contract No. AF33(616)-6079.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
205 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:jk

Encl

cc: F. X. Finnigan
H. B. Lawler ✓

HBL

5651

18 November 1960

Wright Air Development Div.
Attn: WWDBEG, Mr. Nicholas C. Draganjac
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, please find enclosed one (1) copy of Technical Report No. 47, "Logarithmically Periodic Resonant-V Arrays," by Paul E. Mayes and Robert L. Carrel, dated 15 July 1960, sponsored by Wright Air Development Center, under contract number AF33(616)-6079.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
205 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:ss

Enclosure
cc: F. X. Finnigan
H. B. Lawler ✓

HBL.

FOR INFORMATION OF

5652

22 February 1961

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attention: WCLRS-A

Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the January Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:es
Enclosure
cc: WADC, Attn: WCKCE
ONR Chicago
F. X. Finnigan
H. B. Lawlor

FOR INFORMATION OF

5653

21 June 1960

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attn: WCLRS-A

Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the June Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:aa
Enc.
cc: WADC, Attn: WCKCE
ONR Chicago
F. X. Finnigan
H. B. Lawler

5654

15 July 1960

Wright Air Development Division
ATTN: WWRNRE-4, E.M. Turner
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, enclosed please find ~~one copy~~ 2 copies of Quarterly Engineering Report No. 7 on "Research Studies on Problems Related to ECM Antennas", for the period 1 March 1960 to 1 June 1960, sponsored by Wright Air Development Center and issued under Contract No. AF33(616)-6079.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
205 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:sk

Encl.

cc: D. X. Dunnigan
H. B. Lawler

HBL

FOR INFORMATION OF Lawler

5655

May 28, 1960

Re: Contract No.
AF33(616)-6079

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, we are forwarding to you the April Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas", issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:san
Enclosure
CC: WADC, ATTN; WCRCE
ONR Chicago
F. X. Finnigan
H. B. Lawler

HBL

FOR INFORMATION OF 6079

5656

April 25, 1960

6079

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, we are forwarding to you the March Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas", issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:san
Enclosure
CC: WADC, ATTN; WCKCE
ONR Chicago
F. N. Finnigan
H. B. Lawler

HBL

6079

3657

Commander
Wright Air Development Division
ATTN: E. M. Turner (WCLRRB)
Wright-Patterson Air Force Base, Ohio

27 April 1960

Dear Sir:

In accordance with contract requirements, enclosed please find two copies of Quarterly Engineering Report on "Research Studies on Problems Related to ECM Antennas," sponsored by Wright Air Development Center for the period 1 December 1959 to 1 March 1960 and issued under Contract No. AF33(616)-6079. The Project No. is 9-(13-6278), the Task is 40572. This is the sixth quarterly report.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
210 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:sk

Encl.

cc: H. X. Hannigan
W. B. Hawley

FOR INFORMATION OF H.B. Lawler

5658 February 24, 1960

6179

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attn: WCLRS-A

Dear Sir:

In accordance with contract requirements, we are forwarding to you the January Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P.E. Mayes
Associate Professor
Electrical Engineering Research Laboratory
University of Illinois
Urbana, Illinois

PEM:sen
Enc.
CC: WADC, ATTN: WCRCE
CRDL Chicago
F. X. Finnigan
H. D. Lawler

5659

15 February 1960

Commander
Wright Air Development Division
ATTN: E. M. Turner (WCLRRB)
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, enclosed please find ~~one copy~~ two copies of Quarterly Engineering Report No. 5 on "Research Studies on Problems Related to ECM Antennas." This report is issued under Contract No. AF33(616)-6079, Project No. 9-(13-6278) Task 40572, and is sponsored by Wright Air Development Center.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
210 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:sk

cc: J. K. Hodges
N. B. Lawler

FOR INFORMATION OF 6079

212 Electrical Engineering
Research Laboratory
February 18, 1960

5660

Professor W. E. Miller
156 E. E. Building

Professor Miller:

Attached are seven copies of a Disclosure of Invention and Letter of Transmittal entitled, "All-Channel TV and FM Receiving Antenna." This disclosure has been prepared by Professor P. E. Mayes and Mr. Robert L. Carrel. This is the invention for which support was recently requested from the University of Illinois Foundation. Will you please transmit all copies along with the recommendation of the Department Head to Mr. C. C. DeLong, Secretary, Patent Committee.

Harold B. Lawler
Laboratory Manager

HBL:mag

FOR INFORMATION OF

5661

January 27, 1965

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attn: WCLRS-A

Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the December Monthly Progress Report on Research Studies on Problems Related to ECM Antennas, issued under the subject contract. Attached please find two copies.

Sincerely,

P.E. Mayes
Associate Professor
Electrical Engineering Research Laboratory
University of Illinois
Urbana, Illinois

PEM:aa
Enc.
cc: WADC, Attn: WCKCS
ONR Chicago
F. N. Finnigan
√H. B. Lawler

FOR INFORMATION OF

5662

January 27, 1960

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attn: WCLRS-A Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the December Monthly Progress Report on Research Studies on Problems Related to ECM Antennas, issued under the subject contract. Attached please find two copies.

Sincerely,

P.E. Mayes
Associate Professor
Electrical Engineering Research Laboratory
University of Illinois
Urbana, Illinois

PEM:aa
Enc.
cc: WADC, Attn: WCRCS
ONR Chicago
F. X. Finnigan
H. D. Lawler

FOR INFORMATION OF 6079

November 27, 1959

5663

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attn: WCLRS-A Re: Contract AF33(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the October Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas" issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering Research Laboratory
University of Illinois
Urbana, Illinois

PEM:sa
Enc.
cc: WADC, Attn: WCRCE
ONR Chicago
F. X. Finnigan
H. B. Lawlor

5864

6 November 1959

Commander
Wright Air Development Center
Attn: WCLRS-A, Mr. W. J. Portune
Wright-Patterson Air Force Base, Ohio

Dear Sir:

In accordance with contract requirements, attached please find one copy of Quarterly Engineering Report on Research Studies on Problems Related to ECM Antennas issued on Contract No. AF33(616)-6079. Project number is 9-(13-6278), Task 40572, and the sponsor is the Wright Air Development Center.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
210 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:sk

Encl.

H. X. Finnigan
R. B. Lawler

FOR INFORMATION OF_____

27 October 1955

5665

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Re: Contract AF32(616)-0079

Attn: WCLRS-A

Dear Sir:

In accordance with contract requirements, we are forwarding to you the September Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:sk
Encl.
cc: WADC, Attn: WCSCS
ONR Chicago
F. X. Finnigan
H. B. Lawler

5666

August 13, 1959

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Attn: WCLRS-6

Re: Contract AF32(616)-6079

Dear Sir:

In accordance with contract requirements, we are forwarding to you the July Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P. E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:ds
Enc.
cc: WADC, Attn: WCESS
ONR Chicago
F. X. Finnigan
H. B. Lawler
P. E. Mayes

5667

21 August 1959

Armed Services Technical
Information Agency
Arlington Hall Station
Arlington 12, Va.

Dear Sir:

In accordance with contract requirements, attached please find ~~one~~ 10 ea 1 repro copy each of

Quarterly Engineering Report No. 2, "Research Studies on Problems Related to ECM Antennas,"

Technical Report No. 37, "On the Solution of a Class of Wiener-Hopf Integral Equations in Finite and Infinite Ranges," by Raj Mittra.

Technical Report No. 38, "Prolate Spheroidal Wave Functions for Electromagnetic Theory," by Walter L. Weeks.

Technical Report No. 39, "Log Periodic Dipole Arrays," by Dwight E. Isbell.

issued by our Antenna Laboratory under Contract AF33(616)-6079. Project number is 9-(13-6278), Task 40572, and the sponsor is the Wright Air Development Center.

Sincerely,

Marge Johnson

(Miss) Marge Johnson
Technical Editor
210 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:sk
cc: T. X. Finnigan
N. B. Lawler

FOR INFORMATION OF

5668

21 July 1959

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Re: Contract AF33(616)-6079

Attn: WCLRS-6

Dear Sir:

In accordance with contract requirements, we are forwarding to you the June Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P.E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:sk

Encl.

cc: WADC, Attn: WCKCE
CRR Chicago
F.X. Finnigan

FOR INFORMATION OF ~~218 Electrical Engineering~~
Research Laboratory
June 19, 1959

Mr. R. E. Gentry
100b Administration

5669

Ref: AF33(616)-6079

Mr. Gentry:

Accompanying this letter is a Disclosure of Invention prepared by Mr. D. E. Isbell of the Department of Electrical Engineering. Seven copies of the University letter of transmittal and three copies each of forms NAVEXOS 2374 and NAVEXOS 2375. There is also included five copies of Technical Report No. 59 on the subject contract in which this invention is described in detail. It is my understanding that two copies of this report are required by the University Patent Committee and three copies for the Department of Defense.

Will you please execute these documents at your earliest convenience.

Harold B. Lawler
Laboratory Manager

HBL:mat

cc: F.X. Finnigan
P.E. Mayes

FOR INFORMATION OF H.B. Lawler

210 E.E.R.L. 3 February 1959

5870

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

ATTN: WCLRS-6, Mr. F.E. Burnham

Dear Sir:

In accordance with contract requirements, attached please find 3 copies of Quarterly Engineering Report No. 1, "Research Studies on Problems Related to Antennas," issued by our Antenna Laboratory under Contract AF33(616)-6079. Project number is 9(13-6278) Task 40572, and sponsor is the Wright Air Development Center.

Sincerely,

(Miss) Marge Johnson
Technical Editor
210 Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

MJ:dm

cc: F.X. Finnigan
H.B. Lawler

All copies of this report have been distributed in accordance with instructions received from Wright Air Development Center, Wright-Patterson Air Force Base, Ohio.

FOR INFORMATION OF 6079 2/B Lawler

29 January 1959

5671

Commander
Wright Air Development Center
Wright-Patterson Air Force Base, Ohio

Re: Contract AF33(616)-6079

ATTN: WCLRS-6

Dear Sir:

In accordance with contract requirements, we are forwarding you the January Monthly Progress Report on "Research Studies on Problems Related to ECM Antennas," issued under the subject contract. Attached please find two copies.

Sincerely,

P.E. Mayes
Associate Professor
Electrical Engineering
Research Laboratory
University of Illinois
Urbana, Illinois

PEM:da

cc: WADC, Attn: WCRCE
ONR, Chicago
F.X. Finnigan

SCHEDULE

PART I - STATEMENT OF WORK

A. The Contractor shall, within the period of time set forth in PART II hereof, provide the necessary personnel, facilities, materials and supplies and shall perform antenna research in accordance with the following:

1. Attachment I, dated 7 July 1958, attached hereto and made a part hereof.

B. The Contractor shall, as a result of the work accomplished in accordance with the requirements of Paragraph A above, and in accordance with the schedule set forth in PART II hereof, submit the following ITEMS:

1. ITEM I - Monthly Progress Reports - in two (2) copies containing a brief outline of the status of the project and a discussion bearing upon the approach to the objectives specified herein, including both positive and negative results obtained during the reporting period.

2. ITEM II - Quarterly Engineering Reports - in ninety (90) copies, one (1) copy of which shall be in a reproducible form prepared in accordance with ARDC Manual 5-1, dated June 1957, and using as a guide Exhibit WCLR 519, dated 8 October 1957, both incorporated by reference. A copy of the distribution list mentioned in PART II hereof shall be bound into each copy of the report by the Contractor.

3. ITEM III - Final Engineering Report - in ninety (90) copies, one (1) copy of which shall be in a reproducible form prepared in accordance with ARDC Manual 5-1, and using as a guide Exhibit WCLR 519. A copy of the distribution list mentioned in PART II hereof shall be bound into each copy of the report by the Contractor.

C. The Contractor shall prepare in three (3) copies a letter of transmittal which shall be submitted concurrently with each Item delivered under this contract. The Letter of Transmittal which accompanies the Monthly Progress Report shall contain an indication as to the percentage of completion of the total work required as of the end of the reporting period. The Contractor shall certify in the letter of transmittal which accompanies the Quarterly and Final Engineering Reports that the other copies of the reports have been distributed to the destinations outlined in the distribution list. The Letter of Transmittal shall be submitted in accordance with instructions contained in PART II hereof.

D. All Items required herein shall bear the Contract Number and Task Number designated on the cover page of this contract.

PART II - TIME OF PERFORMANCE AND DELIVERY INSTRUCTIONS

A. The Contractor shall commence performance of the work set forth herein on or after 1 September 1958 and shall deliver the items required by PART I hereof in accordance with the following schedule:

1. ITEM I - Monthly Progress Reports - The first report shall be submitted no later than 20 October 1958 and each subsequent report shall be submitted monthly thereafter for the duration of the contract.

2. ITEM II - Quarterly Engineering Reports - The first report shall be submitted no later than 31 December 1958 and each subsequent report shall be submitted quarterly thereafter for the duration of the contract.

3. ITEM III - Final Engineering Report - shall be submitted on or before 31 October 1959.

B. The Contractor shall submit by prepaid mail all items required by PART I hereof as follows:

1. ITEM I to: Commander
Wright Air Development Center
ATTN: WCLRS-6, Contract AF 33(616)-6079
Wright-Patterson Air Force Base, Ohio

2. ITEM II and ITEM III shall be distributed in accordance with a distribution list to be furnished by the Aerial Reconnaissance Laboratory.

C. The Contractor shall forward the three (3) copies of the Letter of Transmittal called for herein to the following: One (1) copy to accompany the ITEM submitted to the Laboratory; one (1) copy to the Administrative Office designated the cover page of this contract; and one (1) copy to Commander, Wright Air Development Center, ATTN: WCLRO-3, Wright-Patterson Air Force Base, Ohio

PART III - CONSIDERATION AND PAYMENT

A. The estimated cost of this contract as contemplated by the General Provisions is ONE HUNDRED THOUSAND DOLLARS AND NO CENTS ($100,000.00).

B. The Contractor shall be reimbursed for overhead expense during each overhead period at a provisional rate, applicable to direct salaries and wages, including vacation, holidays and sick leave allowance; subject, however, to the provisions of the Clause hereof entitled "Negotiated Overhead Rates". The rate for the first period is 37.25%. The first period shall extend from the inception of this Contract through 31 August 1959, and subsequent periods shall be of 12 months duration each.

PART IV - INSPECTION AND ACCEPTANCE

A. The Aerial Reconnaissance Laboratory, WCLR, Wright Air Development Center, Wright-Patterson Air Force Base, Ohio, is hereby designated as the point for final inspection and acceptance of all ITEMS required herein.

PART V - ADVANCE PAYMENTS

A. Advance Payments will be made for the work called for hereunder in accordance with the Findings and Authorization signed by the Assistant Secretary of the Air Force on 7 August 1953. Payments made pursuant to this clause shall be governed

SCHEDULE

FIRST: The Provisions of this Schedule shall become effective 28 October 1960.

SECOND: By amending PART I - STATEMENT OF WORK as follows:

A. By adding to Paragraph A, subparagraph 3 as follows:

"3. Exhibit B, dated 1 June 1960, attached hereto and made a part hereof."

B. By making inapplicable subparagraphs 2 and 3 of Paragraph B and Making applicable in lieu thereof the following new subparagraphs 2 and 3, as follows:

"2. ITEM II - Quarterly Engineering Reports - in one hundred seventy-five (175) copies, prepared in accordance with ARDC Manual 5-1, dated June 1957, and using as a guide Exhibit WCLR-519, dated 8 October 1957, both incorporated herein by reference. A copy of the distribution list mentioned in PART II hereof shall be bound into each copy of the report by the Contractor.

"3. ITEM III - Final Engineering Report - in one hundred seventy-five (175) copies, one (1) copy of which shall be in a reproducible form prepared in accordance with ARDC Manual 5-1, and using as a guide Exhibit WCLR-519. A copy of the distribution list mentioned in PART II hereof shall be bound into each copy of the report by the Contractor."

THIRD: By amending PART II - TIME OF PERFORMANCE AND DELIVERY INSTRUCTIONS as follows:

A. By extending the date as set forth in Paragraph A.3 from "30 September 1960" to "30 September 1961".

FOURTH: By amending PART III - CONSIDERATION AND PAYMENT as follows:

A. By increasing the estimated cost set forth in Paragraph A by ONE HUNDRED NINETEEN THOUSAND NINE HUNDRED EIGHTY-NINE DOLLARS AND NO CENTS ($119,989.00), thereby reflecting a new total estimated cost of THREE HUNDRED THIRTY-NINE THOUSAND NINE HUNDRED THIRTY-NINE DOLLARS AND NO CENTS ($339,939.00).

FIFTH: By revising PART VII - SPECIAL PROVISIONS to read as follows:

"A. Notwithstanding any of the provisions of this contract, the Contracting Officer shall be the only individual authorized to redirect the effort or in any way amend any of the terms of this contract.

"B. FINANCIAL STATUS REPORT OF CONTRACT

1. Notwithstanding the provisions of the Clause of the General Provisions hereof entitled 'Financial Status Report of Contract', information called for in block Item 17 on the DD Form 1097 is not required.

05006

GENERAL PROVISIONS
TO
CONTRACT AF 33(616)-6079

ARTICLE I - GENERAL TERMS AND CONDITIONS

A. All of the clauses of Section A of the Basic Agreement designated Contract AF 18(600)-2370, dated 30 December 1960, between the parties hereto, referred to hereinafter as the "Basic Agreement", are incorporated by reference.

B. For the purposes of this contract Clause A.13 entitled, "Nondiscrimination in Employment" incorporated in the above referenced Basic Agreement is made inapplicable, and a new Clause A.13 entitled, "Nondiscrimination in Employment", (April 1961) attached hereto is now made applicable.

ARTICLE II - SPECIAL TERMS AND CONDITIONS

A. In addition to the clauses designated by ARTICLE I above, the following clauses of Section B of the Basic Agreement are incorporated by reference:

1. Clause B-1 Financial Management Report
2. Clause B-3 Advance Payments

B. The Patent Indemnity (Not Predetermined) clause referenced in PART VIII of the Schedule is hereby designated as Clause C-1 and is attached hereto and made a part hereof.

LAW OFFICES

AXEL A. HOFGREN
ERNEST A. WEGNER
JOHN REX ALLEN
WILLIAM J. STELLMAN
JOHN B. McCORD
BRADFORD WILES
JAMES C. WOOD
STANLEY C. DALTON
RICHARD S. PHILLIPS
LLOYD W. MASON
TED E. KILLINGSWORTH
CHARLES L. ROWE
JAMES R. SWEENEY
W. E. RECKTENWALD
J. R. STAPLETON

WILLIAM R. McNAIR
JOHN P. MILNAMOW
DILLIS V. ALLEN
W. A. VAN SANTEN, JR.
JOHN R. HOFFMAN

HOFGREN, WEGNER, ALLEN, STELLMAN & McCORD

20 NORTH WACKER DRIVE

CHICAGO 60606

TELEPHONE
FINANCIAL 6-1630
AREA CODE 312

May 4, 1967

RECEIVED
MAY 8 1967
RINES AND RINES
NO. TEN POST OFFICE SQUARE, BOSTON

Mr. Robert H. Rines
Rines and Rines
No. Ten Post Office Square
Boston, Massachusetts 02109

Dear Bob:

I borrowed from Mike Cass a collection of the periodicals listed in their notice of prior art. I considered making copies only of the report pages on which they intend particularly to rely. However, after examining the reports, I thought it best to give you copies of
* the whole thing. A booklet with these copies is enclosed. This has everything except the article from the Champaign-Urbana Courier, May 12, 1961.

* I also enclose copies of JFD drawings 12449-0001, 12450-0001 and 12451-0001 which Mike gave me.

Very truly yours,

Dick

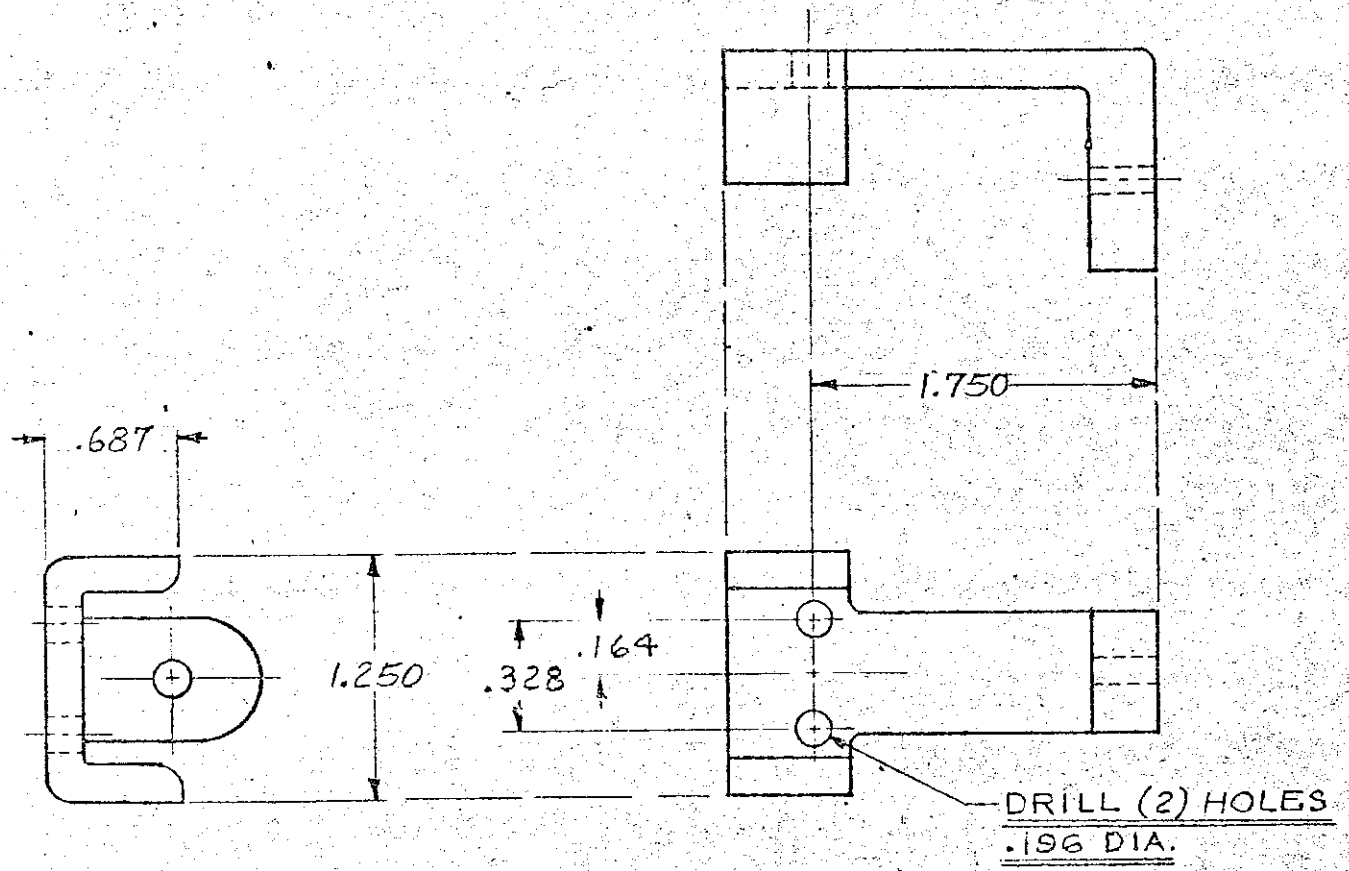
Richard S. Phillips

RSP:iag

* Enclosures

* PS: I also enclose a copy of TR-39.

REV.	DESCRIPTION	DATE	APP.
A	437 WAS 562	6-16-64	



ITEM NO.	NO. REQ'D	PART NO.	DESCRIPTION	MATERIAL	SPECIFICATION	NOTE

SCALE: 1:1

NO. REQ'D PER ASSEMBLY: 3

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONAL ± 1/64
DECIMAL ± .005
ANGULAR ± 1/2°

STAND-OFF
LPV-VU ANTENNAS

DATE OF PRINTING
APR 5 1967
NEXT ASSEMBLY

MATERIAL: MADE FROM PART # 10000-0001

HEAT TREAT:

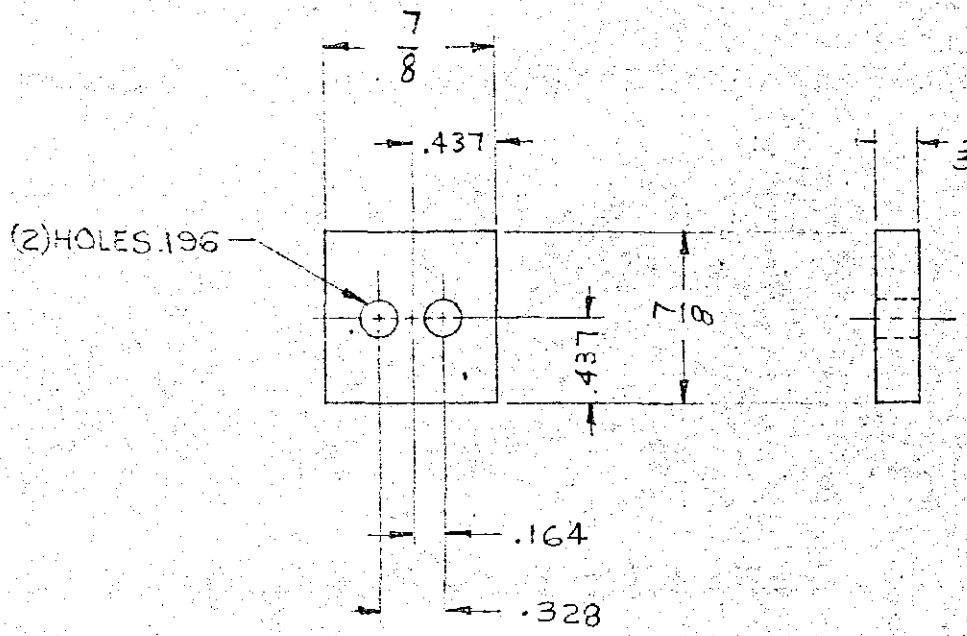
FINISH:

DRAWN	CHECKED	ENG. APP.	PROD. APP.
Anderson 1-2-63			

JFD ELECTRONICS CORP.
BROOKLYN 19, N.Y.

DRAWING NO.
12449-0001

REV.	DESCRIPTION	DATE	APP.



ITEM NO.	NO. REQ'D	PART NO.	DESCRIPTION	MATERIAL	SPECIFICATION	NOTE

SCALE: FULL

NO. REQ'D PER ASSEMBLY: 3

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONAL ± 1/64
DECIMAL ± .005
ANGULAR ± 1/2°

MATERIAL:

HEAT TREAT:

FINISH:

SPACER INSULATOR
LPV-YU

DRAWN	CHECKED	ENG. APP.	PROD. APP.
[illegible]			
12-26-63			

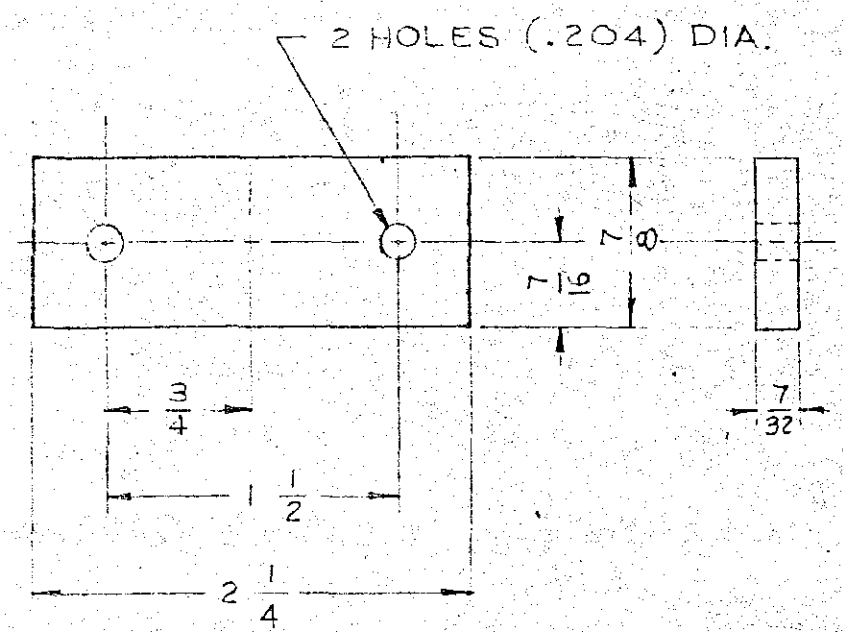
JFD ELECTRONICS CORP.
BROOKLYN 19, N.Y.

DATE OF PRINTING
APR 5 1967

NEXT ASSEMBLY

DRAWING NO.
12450-0001

REV.	DESCRIPTION	DATE	APP.



ITEM NO.	NO. REQ'D	PART NO.	DESCRIPTION	MATERIAL	SPECIFICATION	NOTE

SCALE: FULL

NO. REQ'D PER ASSEMBLY: 1

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONAL ± 1/64
DECIMAL ± .005
ANGULAR ± 1/2°

MATERIAL: 1/32 × 3/4 MADE FROM 85090

HEAT TREAT:

FINISH:

TAKE-OFF Insulator LPV-VU

DRAWN	CHECKED	ENG. APP.	PROD. APP.
[illegible] 1-2-64			

JFD ELECTRONICS CORP.
BROOKLYN 19, N.Y.

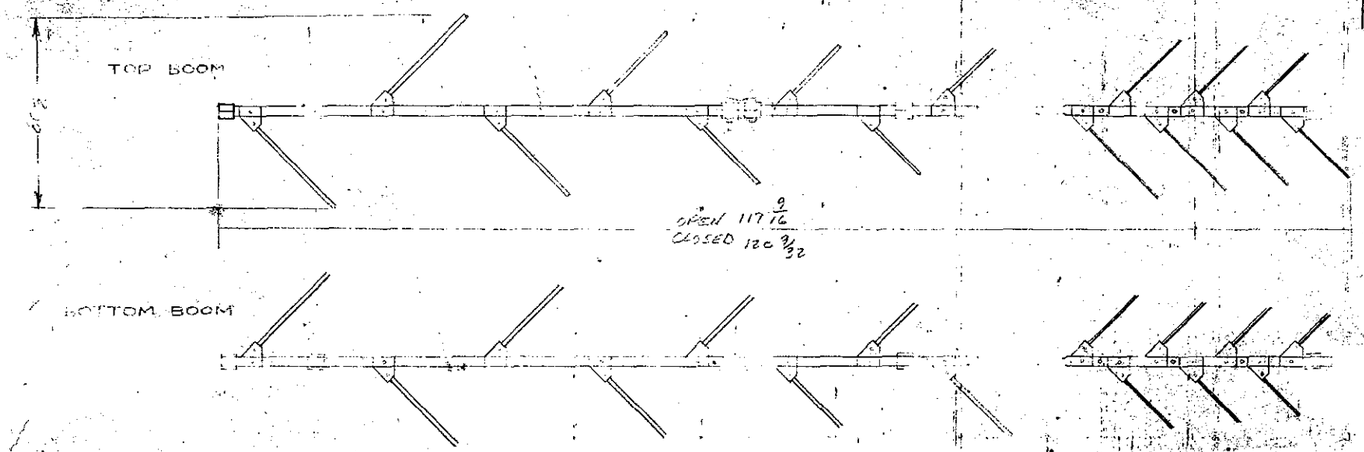
DATE OF PRINTING
APR 5 1967

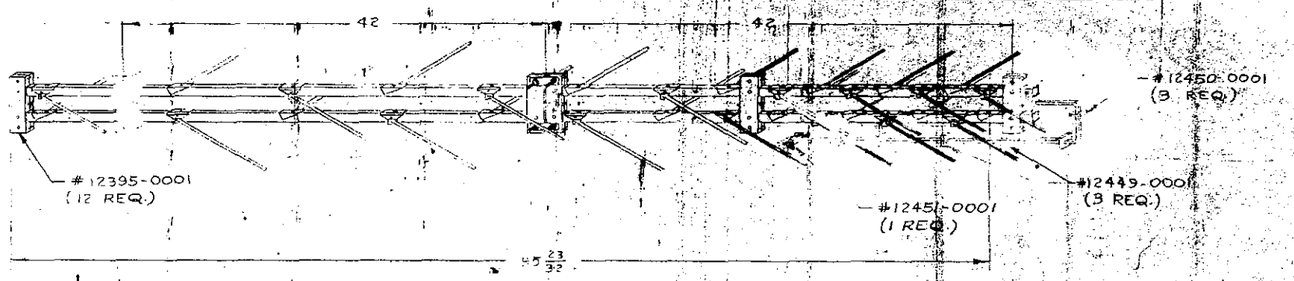
NEXT ASSEMBLY

DRAWING NO.
12451-0001

REV.	DESCRIPTION	DATE	APP.
A	BOOM BRACE 51" CUTSIZE WAS 54 1/2	1-29-64	
B	CROSSARM CHANGED TO ONE PIECE	9-1-64	
C	REVISED CUTSIZE OF .156 WIRE	12-1-64	

NOTICE
THIS PRINT SUPERCEDES ALL ISSUES TO DATE
JFD SOUTHERN





NOTE: BOOM ACE PT# 11089 (CUT-SIZE 51)
CROSSARM LENGTH — 98 31/32

00332

ITEM NO.	NO. REQ'D	PART NO.	DESCRIPTION	MATERIAL	SPECIFICATION	NOTE
			1 Element Twin Boom UPVVU-1			

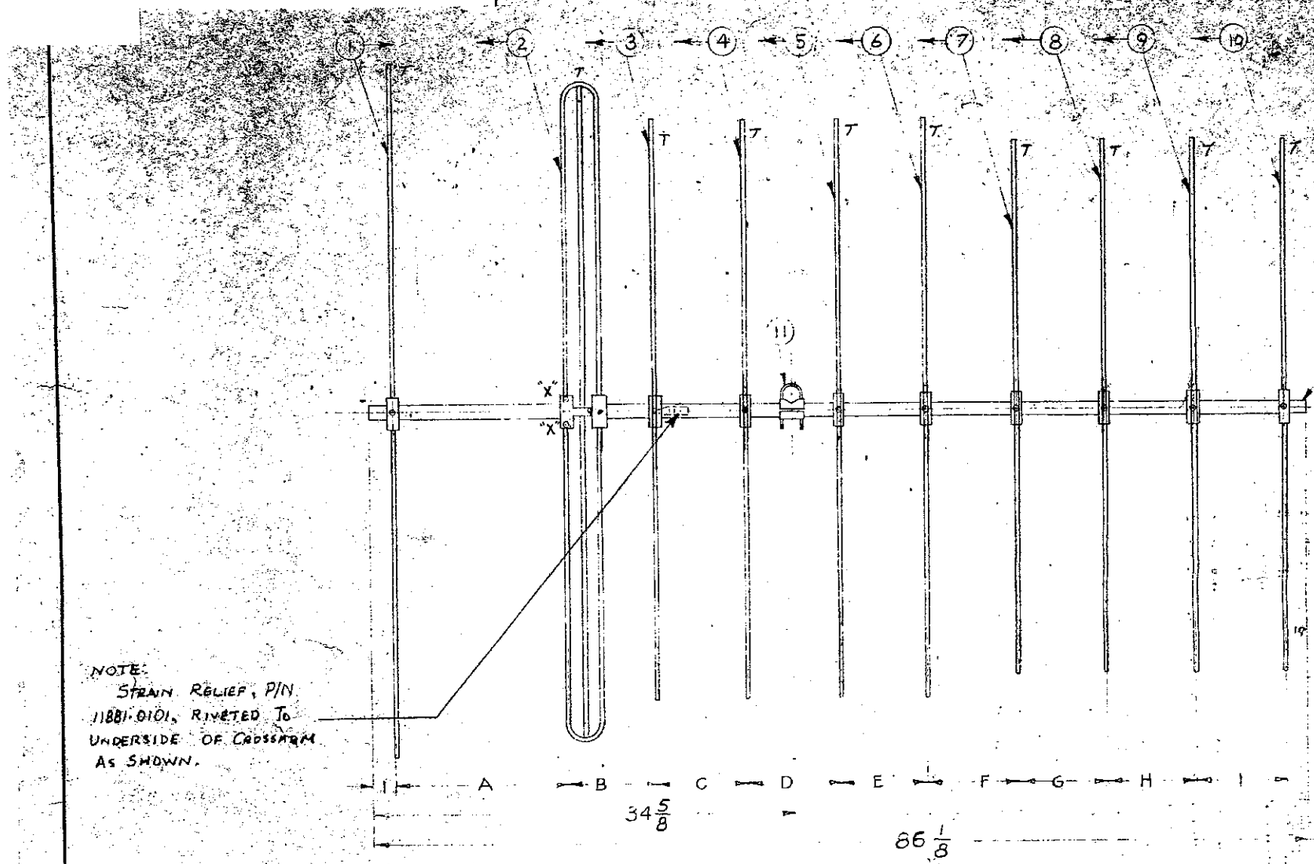
SCALE: APPROX. 1/6
NO. REQ'D PER ASSEMBLY:
MATERIAL:
HEAT TREAT:
FINISH:
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONAL ± 1/64
DECIMAL ± .005
ANGULAR ± 1/2°

DRAWN	CHECKED	ENG. APP.	PROD. APP.
Anderson			

JFD ELECTRONICS CORP.
BROOKLYN 19, N.Y.

DATE OF PRINTING: NOV 7 1966
NEXT ASSEMBLY:
DRAWING NO. 52720

NO.	QTY.	DESCRIPTION	DATE	APP.
A		(2) HOLES ELE		
		1" HOR SPA. 2 HOLES 5/8		
		22 1/2 HOR SPA. 2 HOLES 5/8		
		8 3/8 HOR SPA. 1 3/8 5/8 HOLES 5/8	6-2-59	
B		6 HOLES 5/8 1/2 1" SPACING	6-6-60	
		5/8		
C		MODIFIED EL OUTSIDE + SPACING	5-0-62	
D		EL HOR CENTER	6-28-62	
E		EL BACK TO BACK - BAND BRTS	8-7-62	
F		ADDED STRAIN RELIEF PER 11881 3 HOLES	8-13-62	
G		CHANGED DWG TO MINIMUM QTY	12-22-62	
H		ELEMENTS 3 & 9 TO BE ONE PIECE CONST.	9/6/63	
I		OLD NO. 50171 CHANGED TO LBM NO. 0120170	6-15-66	



00336

NOTE:
ALL ELEMENTS TO BE CONSTRUCTED OF 3/8 DIA. BUTTSEAM ALUM TUBING
FOR MODEL 10Z1013 SUBSTITUTE 1" RD. CROSSARM
PRINT (50171) IBM 53691
"X-X" DENOTES TAKE-OFF POINT.

ITEM NO.	NO. REQD	PART NO.	DESCRIPTION	MATERIAL	SPECIFICATION	NOTE
1 & 10	1	30043	HI-LO REFLECTOR SPLIT ASS'Y - ONE PS CONST.			
12	1	10950	CROSSARM 1" SQ. ALUM. TUBING			
11	1	BR38	U BOLT ASS'Y			
2	1	30002	HI BAND FOLDED DIPOLE ASS'Y			
3 THRU 9	7	30004	HI BAND REFLECTOR ASS'Y - 2 PS CONST.			

SCALE: NONE
TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONS 1/64; DECIMALS .XX ± .02; ANGULAR 2 1/2°
NO. REQD FOR ASSEMBLY:
MATERIAL:
HEAT TREAT:
FINISH:

ANTENNA JO ELEMENT
10Y1013C - ALBANY, N.Y.

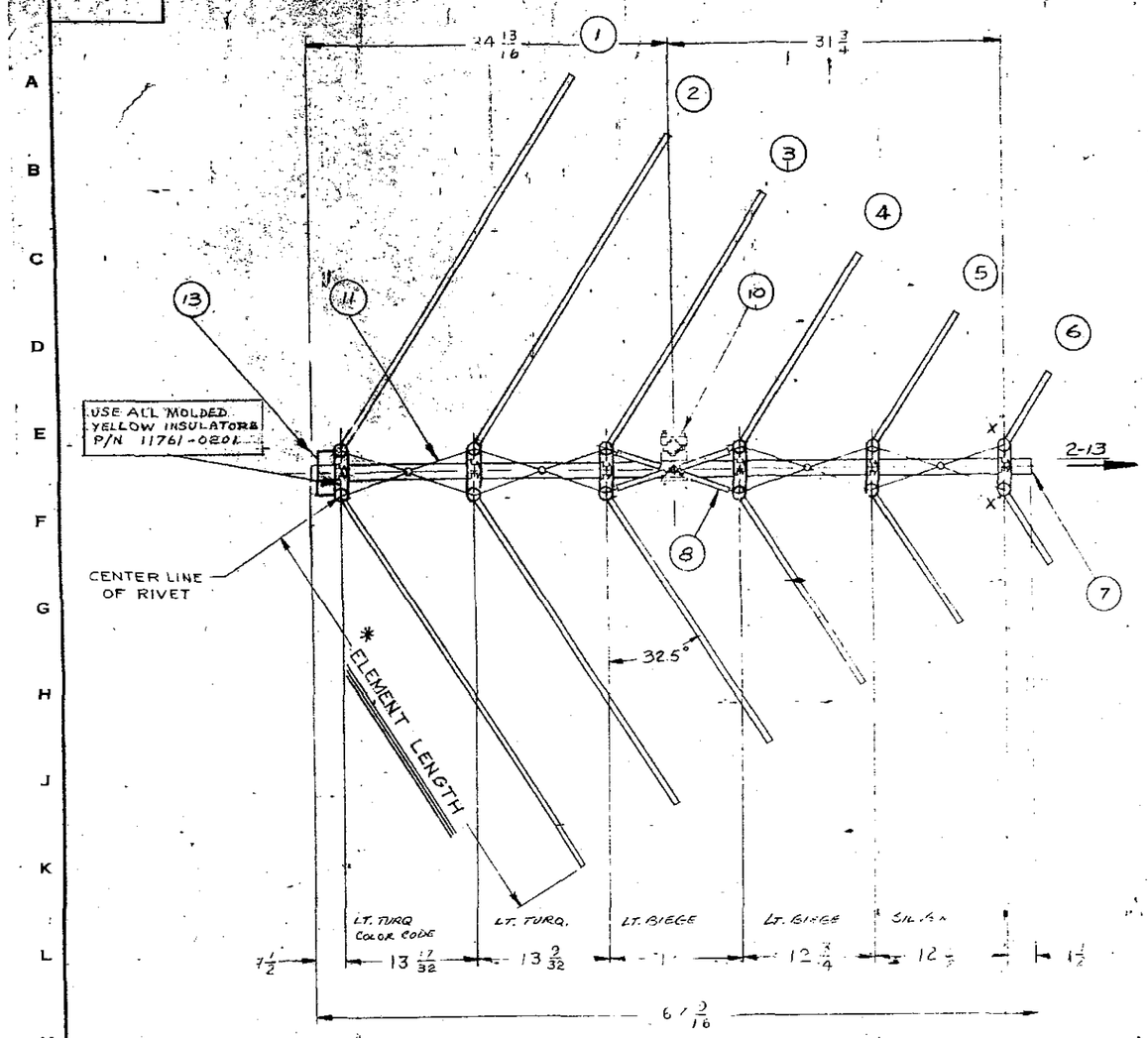
DRAWN	CHECKED	ENG. APP.	PROD. APP.
F.D. 9/12-58	6-2-59	6-24-60	6-19-60

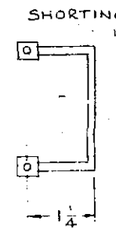
J.F.D. MANUFACTURING CO. INC.
BROOKLYN 19, N.Y.

DATE OF PRINTING: JAN 2 0 1967
NEXT ASSEMBLY:
DRAWING NO. 0120170

IBM 53701

REV.	DESCRIPTION	DATE	APP.
A	1½ DIM WAS 1"; 34 DIM WAS 33½; 67½ WAS 67.	9-16-63	
B	EL "2 LENGTH 96⅛ WAS 95 7/16 EL "3 LENGTH 91 3/16 WAS 93	9-16-63	
C	"U" BOLT ASS'Y WAS 30398 CHANGED TO 30398-1; THE LETTER 'D' WAS TO BE MARKED ON LEGEIS	5-2-63	
D	CROSSARM @ 8 IN A'S @ 7⅛	5-7-63	
E	CHANGED HARNESS TO SOLID WIRE .155 DIA. THE LETTER 'M' SHALL BE STAMPED ON ALL LABELS	3-25-64	
F	MODIFIED SPACINGS. SEE CROSS ARM PRINT.	1-20-65	





NOTICE
THIS PRINT SUPERCEDES ALL ISSUES TO DATE
JFD SOUTHERN

* ELEMENT LENGTH MEASURED FROM CENTER OF RIVET TO END OF ELEMENT.

NOTE:
1-TAKE OFF AT BOTTOM OF INSULATOR "XX"
2-CARTON SIZE IS 92¼ LG.

ITEM NO	NO REQ'D	PART NO	DESCRIPTION	MATERIAL	SPECIFICATION
13	1	11799-4	SHORTING STUB 1/4 LG.		
11	4		HARNESS ASS'Y		
10	1	30398-1	DOUBLE U-BOLT ASS'Y		
8	1		HARNESS ASS'Y		
7	1	12036	CROSSARM SQ.		
1 TO 6	12	11833-	ELEMENT		

SCALE: NONE	TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONAL ± 1/64 DECIMAL ± .005 ANGULAR ± 1/2	Z-11H 973-E ASSEMBLY DWG. (PEL)	NOV 7 1966
NO REQ'D PER ASSEMBLY ~			NEXT ASSEMBLY
MATERIAL ~	DRAWN M.W. 10-10-62	CHECKED 10-12-62 / ENG. APP. / PROD. APP.	
HEAT TREAT ~		JFD ELECTRONICS CORP. BROOKLYN, N.Y.	DRAWING NO. 50451
FINISH: GOLD ALODINE			

60334

REV.	DESCRIPTION	DATE	APP.
A	REVISED OUTSIDE SPACING TUBE	10-14	

TOP BOOM

BOTTOM BOOM

138 OPEN
140 1/2 CLOSED

45 7/8

45 7/8

#12450-0001
(3 REQ.)

#12395-0001
(12 REQ.)

#12449-0001
(3 REQ.)

#12451-0001
(1 REQ.)

114 25/32

NOTE: BOOM BRACE PT# 11084-14 (w/ TUBE SIZE 5 1/2)

CROSSARM LENGTH - 118 1/32

NOTICE
THIS PRINT SUPERCEDES ALL ISSUES TO DATE
JFD SOUTHERN

00333

ITEM NO.	NO. REQ'D	PART NO.	DESCRIPTION	MATERIAL	SPECIFICATION	NOTE

SCALE: APPROX 1/8 : 1
NO. REQ'D PER ASSEMBLY:
MATERIAL:
HEAT TREAT:
FINISH:

18 Element Twin Boom
PVVU-18

DRAWN: Bradley
CHECKED:
ENG. APP.:
MFG. APP.:

JFD ELECTRONICS CORP.

DATE OF PRINTING: NOV 7 1966
SUPERSEDES:
SUPERSEDED BY: