Sp=115V

750 ct @ 50

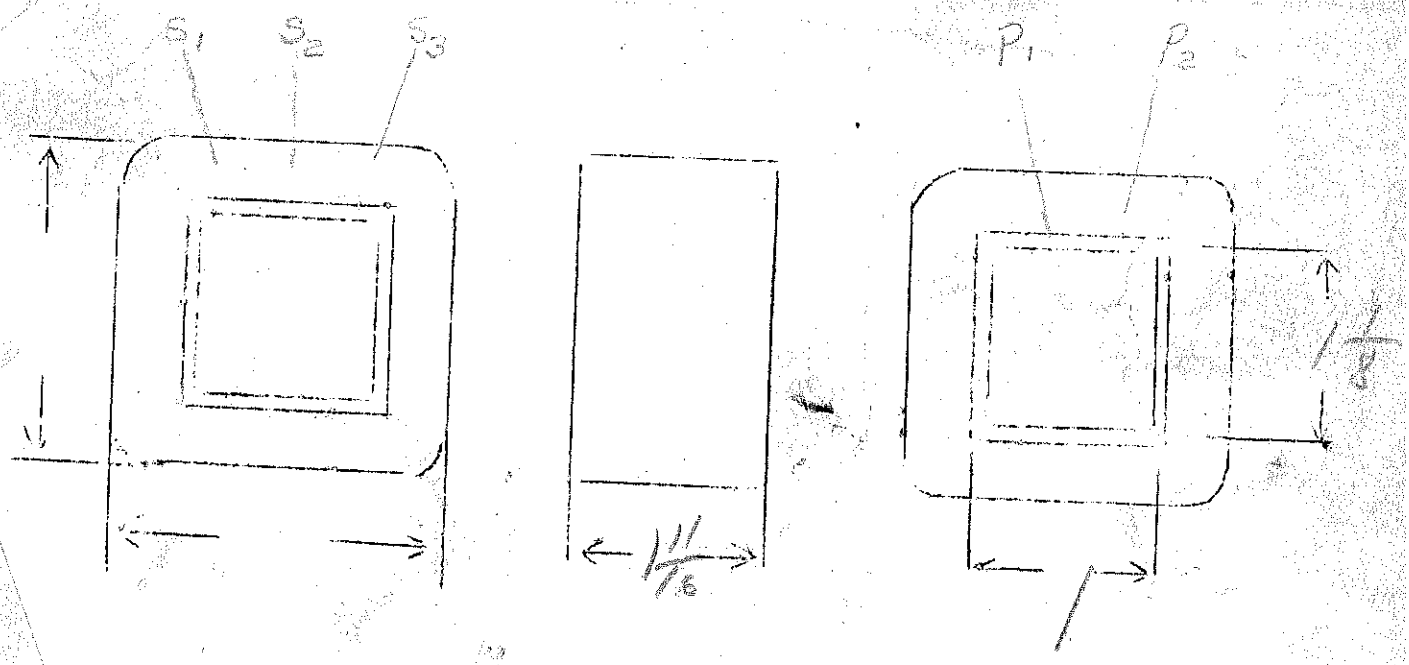
$\frac{N}{E} = 49$

SPEC. NO. 200

Winding	PRI	SHIELD	SEC	FIL 1	FIL 2		
Turns	565	87	4000	28	15		
Taps	—	—	2000	—	8		
Wind. Lgth.	1.5	1.5	1.5	—			
Wire Size	#27E	#27E	#36	#20E	#16		
T.P.L.	81-72	87	216				
Kind Term.	#20 P&BR	#14 BR	#30 P&BR	WIRE ONLY	WIRE ONLY		
Term. Lgth.	8"	3"	8"	8"	8"		
Layer Insul.	30#	30#	20#				
Wrapper	2L003VP	2L003VP	2L005BA	2L005BA			

TUBE | 2L600 | IMPREGNATION | VARNISH

CURE | 1X1½ M RECLAIMED



R.M. HADLEY CO. INTERNAL CHANGE	DATE	BY

DATE ENTERED
QUANTITY ORDERED
QUANTITY WOUND

DATE(S) WANTED			

SPEC. NO. P 200

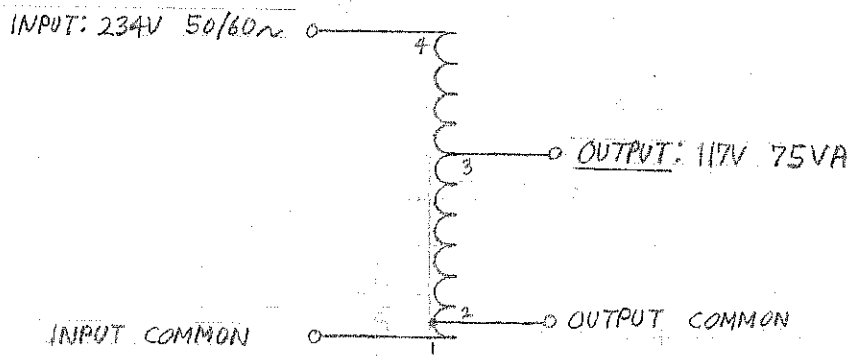
NG		1-2-3-4 AUTO							
NS		1080							
		½-560½							
IZE		#26							
ENGTH		1 3/16							
LAYER		63-18L							
H		91%							
		#22 TC							
ENGTH		4"							
NAL	INPUT 1&4 TO	D-LUGS OUTPUT	5 FOOT CORD AND MALE PLUG FEMALE SOCKET						
INS.		40#							
PER		2L005GA							
N TURN		6.2							
SITY		724							
GHT		.45							
IST.		23							
D VOLT.		1-3 121 1-4 234							
D VOLT.		1-3 117 1-4 234							
/OLTS		1500							

.5 KG @ 234V 60~ ON (1-4)
2.4 WATTS I_{EX} = .035 A.
2.5 WATTS I_P = .34 A.

1X1¼
2.6 GRADE C
3X3

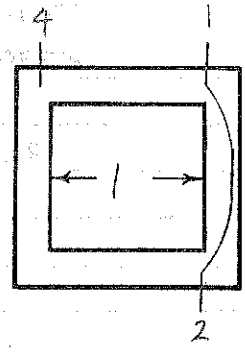
GNATION & POTTING
VARNISH CORE AND COIL.

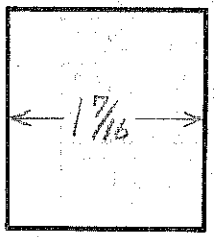
5L010GH

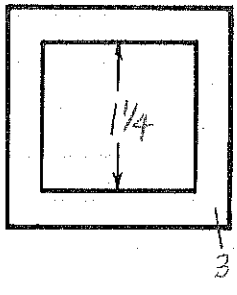


SCHEDULING
M.W. 1
FIN. 2
S.W. - WRAP 3
STACK 4
1ST TEST 5
IMP. 6
ASSY. 7
PLAST. MOLD
2ND TEST 8
SEAL
FINAL 9
NSM
CUSTOMER CO. C. H. LINT CO.
NAME
TEL.
EXT.
MARKING

1 %







SPEC. NO. P 200

_____UNITS ON BATCH NO.____ BILL OF MATERIAL AND COST SHEET FOR P 200

CUSTOMER DRWG NO. REV.

X	DEPT.	MATERIAL DESCRIPTION		SOURCE	QUANTITY PER ASSY.	PRICE PER UNIT		COST PER ASSY.	
	M.W.	COIL FORM	1X1¼X.050Fi		2"		.01		.02
		WIRE	#26 SF		.45 LB		.78		.36
		WIRE							
	S.W.	COIL FORM							
		CORE							
	FIN.	LEAD WIRE							
	STK.	CORE	1X1¼, 26C		1.25		.46		.58
	ASSY.	TERMINALS							
		CANS							
X		CASE	T-MOUNTING (INCLUDES AMPHENOL SOCKET)		1 SET				1.00
	PLST.	CUPS							
	PAINT								
	FINAL								
	MISC.								.44

MARK UP .50 9.00 TOTAL MAT'L. 2.40

.55 8.20 LABOR 2.10

.60 2.50 TOTAL COST 4.50

FIXED CHARGES

TOOLING _____

MARKING _____

SET UP 10.00

DESIGN 10.00

QUAL. TESTS _____

OTHER TESTS _____

20.00

DELIVERY _____

CUSTOMER	~~C. ITLINT~~	C. ITLINT	
DATE	~~3-25-64~~	10-12-64	
1- 2	~~27.50~~	30.00	
3- 4	~~17.50~~	20.00	
5- 9	~~10.50~~	12.00	
10- 24	~~10.00~~	11.00	
25- 49	~~7.50~~	10.00	
50- 99	~~9.00~~	9.25	
100-249	~~8.75~~	8.90	
250-499	~~8.50~~	8.25	
500-999			
1000			

Spec. Number	Issue Date	IW / C	Total Qty.	RM HADLEY CO., INC.	Planner	Rev.	Date	Customer Dwg.	Rev.	Customer Name
P 200					AHH	—	3/28/61	—	—	C. FLINT

Customer Purchase Order	Qty.	Remain Qty.	Split Qty.	Split By

PRODUCTION RECORD

Operation	Qty.	Clock No.	Date

Line	Oper. No.	Operation or Mat.	Qty. Accept	Date	R.H.M.	Cust	Gov't	Tool No.
1		5% MR						
2								
3		M.W.						
4								
5		FIN.						
6								
7		S.W. WRAP						
8								
9		STACK						
10								
11		VARNISH						
12								
13		ASSY.						
14								
15		2ND TEST						
16								
17		PAINT						
18								
19		FINAL INSP.						
20								
21		FINAL TEST						
22								
23		SHIPPING						
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								

INSPECTION RECORD

Tests:	First Test Stamp	First Test Date	Second Test Stamp	Second Test Date	Final Test Stamp	Final Test Date
RATIO						
POLARITY						
HI-POT						
I_{EX}, L, Z						
MEGGER						
OTHER						

REASON FOR REJ.

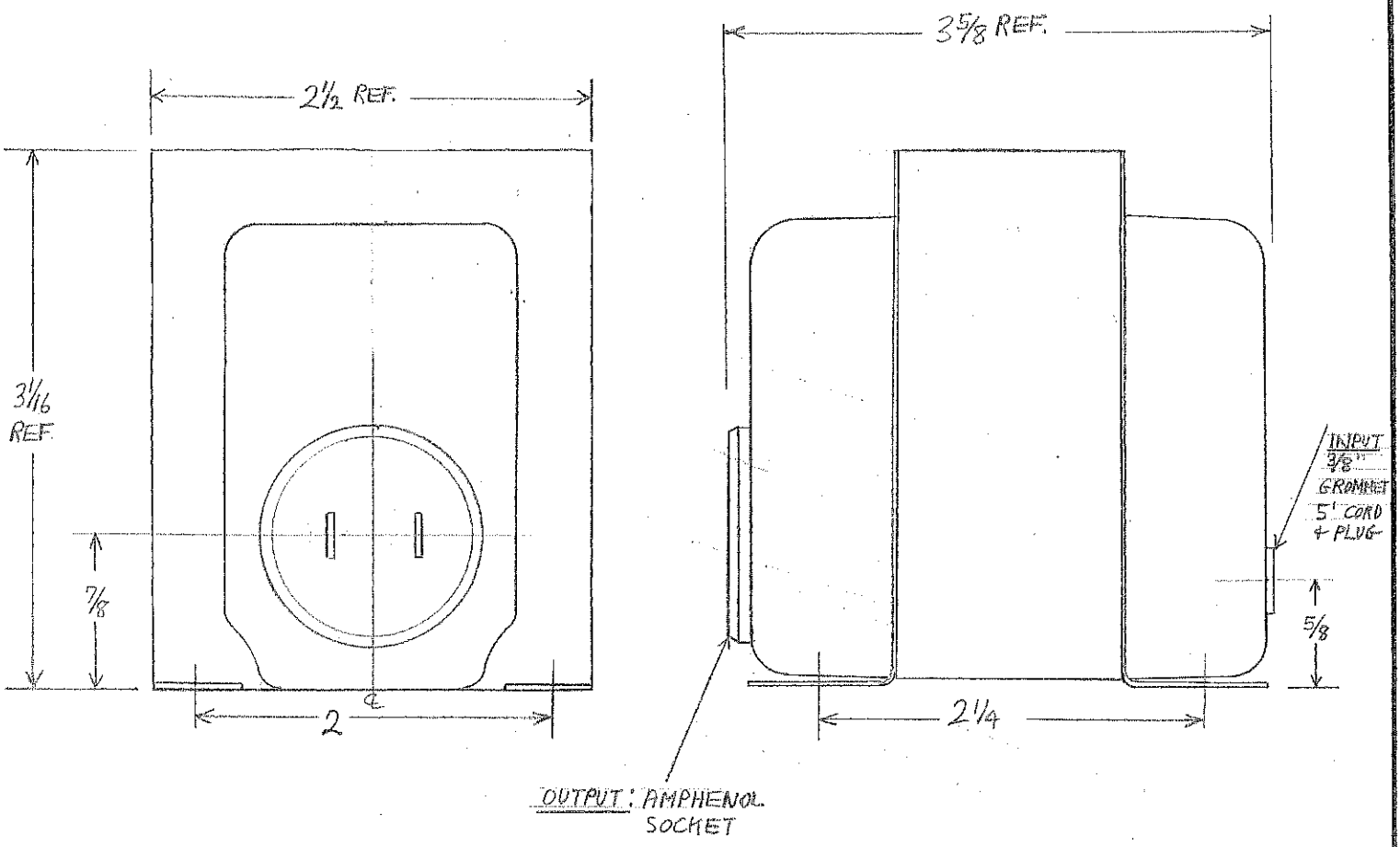
INSPECTION AND MATERIAL REVIEW RECORD

Action	1 Qty.	1 Stamp	2 Qty.	2 Stamp	3 Qty.	3 Stamp	4 Qty.	4 Stamp
REJECTED								
O.K. TO USE								
REWORK								
SCRAP								
DATE								

INSPECTION AND/OR MATERIAL REVIEW ACTION

Defect	Routing	Rework Instructions

RMH - TRAY - N.C.



4. ELECTRICAL RATING:
   INPUT: 234V, 50/60~ CORD AND PLUG.
   OUTPUT: 117V, 75VA AMPHENOL SOCKET.

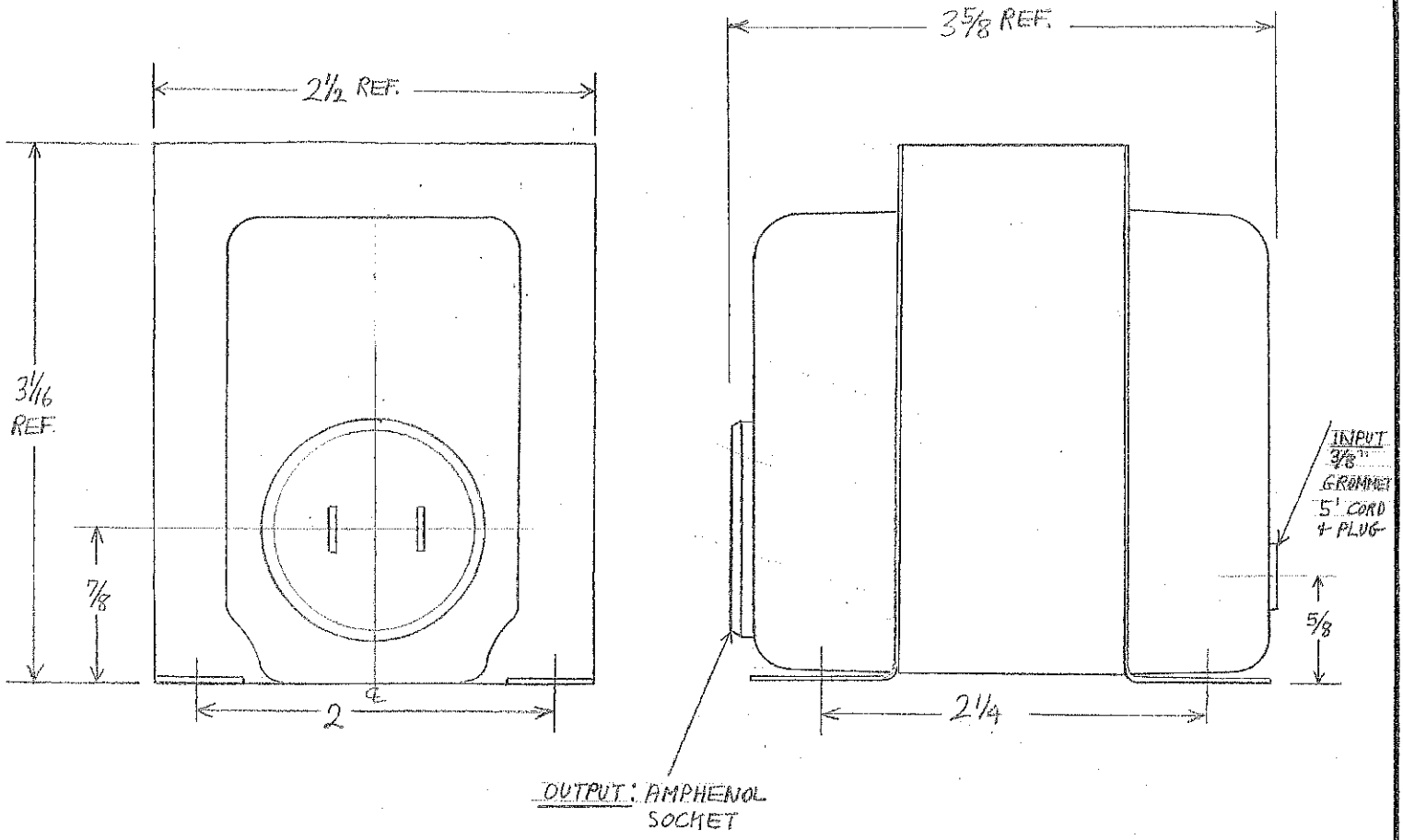
3. FINISH: ZINC CHROMATE PRIMER, BLACK SEMI-GLOSS LACQUER. # 2710
2. MARKING: HADLEY NO. 3 DECAL ON TOP OF CASE THAT HAS AMPHENOL SOCKET.
1. CONSTRUCTION: T-MOUNTING.

DRAWN BY	DATE	TITLE	
ENGINEER A.H. HADLEY	DATE 3-28-61	TRANSFORMER, AUTO, POWER, STEP-DOWN.	
CHECKED BY	DATE		
TOLERANCE - UNLESS OTHERWISE STATED FRACTIONS ± 1/16 .XX .XXX ELECTRICAL: UNDER RATED CONDITIONS VOLTS ±3 % C.T. %	CUSTOMER NAME CUSTOMER REFERENCE NO. REV.		

LETTER	REVISION	DATE	BY

R.M. HADLEY CO., INC. 750 WEST 51ST STREET LOS ANGELES 37, CAL.

SCALE	WEIGHT	SPEC. NO.	
FULL	3.25 LB. MAX		P 200



4. ELECTRICAL RATING:

INPUT: 234V, 50/60~ CORD AND PLUG.
OUTPUT: 117V, 75VA AMPHENOL SOCKET.

3. FINISH: ZINC CHROMATE PRIMER, BLACK SEMI-GLOSS LACQUER. # 2710
2. MARKING: HADLEY NO. 3 DECAL ON TOP OF CASE THAT HAS AMPHENOL SOCKET.
1. CONSTRUCTION: T-MOUNTING.

DRAWN BY	DATE	TITLE				
ENGINEER A.H.HADLEY	DATE 3-28-61	TRANSFORMER, AUTO, POWER, STEP-DOWN.				
CHECKED BY	DATE					
TOLERANCE - UNLESS OTHERWISE STATED		CUSTOMER NAME				
FRACTIONS ± 1/16 .XX .XXX						
ELECTRICAL: UNDER RATED CONDITIONS		CUSTOMER REFERENCE NO. REV.	LETTER	REVISION	DATE	BY
VOLTS ±3 % C.T. %						

R.M.HADLEY CO.INC. 750 WEST 51ST STREET LOS ANGELES 37, CAL.

SCALE	WEIGHT	SPEC. NO.
FULL	3.25 Lb. MAX	P 200

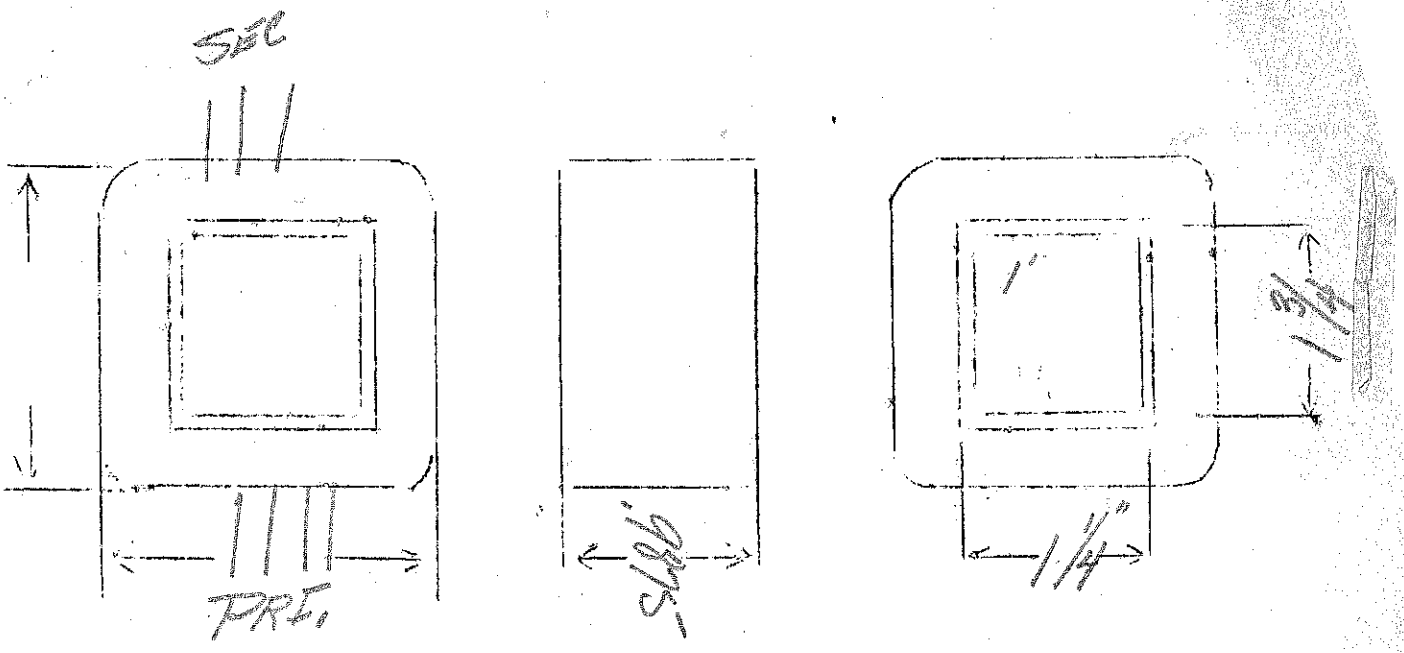
$E_P = 110 \pm 15 - 120$

$E_S = 1200 - 750 - E_S = .200$

SPEC. NO. 201

Winding	SEC.	V HIGH	PRI				
Turns	1345	1	300				
Taps	1000	NONE	275-287				
Wind. Lgth.	.875	15/16	1 3/4				
Wire Size	29E	1008 COPPER	19E				
T.P.L.	62-22	1	43-7				
Kind Term.	No 20 P.E.	SAME	WIRE ONLY				
Term. Lgth.	10"	8"	10"				
Layer Insul.	3661		00569				
Wrapper	2L005VC	2L00566	2L00568				

TUBE	2L0076R	IMPREGNATION	VARNISH
CORE	1/4 X 1 3/4 (3/4 X 2" WINDOW)		



SECONDARY

2 COILS EACH 1345 T No. 29E

REVERSED DIRECTION ASSEMBLY

ALL LEADS OUT

Primary - 120V @ 60 Cycle
Secondary - 600V CT @ 40 Ma.
Filament #1 - 5V @ 2 Amp.
Filament #2 - 2.5V @ 4 Amp. CT

STOCK

SPEC. NO. P-202

Winding	Secondary	Shield	Primary	5V Fil. #1	2.5V Fil. #2		
Turns	4000 - 4%	1	740	34 - 10%	18 - 16%		
Taps	2000	-	-	-	9		
Wind. Lgth.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"		
Wire Size	#38	.001" Cu. Sheet	#27	#20	#17		
T. P. L.	250 - 16L	1	74 - 10L	34 - 1L	18 - 1L		
Finish Pitch	88%	-	90%	90%	67%		
Type Lead	#22 Dulac	#27 Solid	#22 Pr. Br.	W. O. Sleeve	W. O. Sleeve	→ (See Other Side of Spec.)	
Lead Lgth.	9"	3"	9"	9"	9"	(From Case)	
Layer Insul.	2L 16#G	-	1L 40#G	-	-		
Test Volt.	2500V	-	1500 V.	2,000 V.	1750 V.		
Wrapper	1L .007" VC	1L .007" VC	2L .005" GA	2L .005" GA	2L .005" GA		

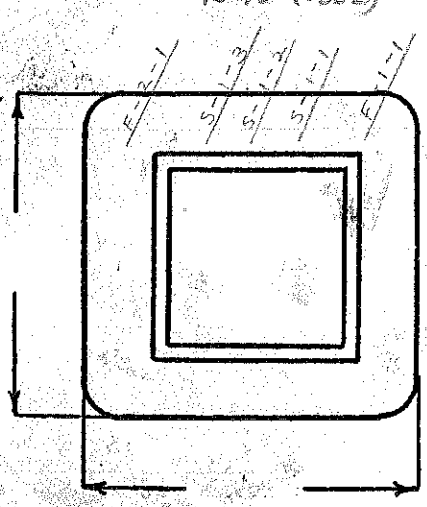
TUBE	5L - .007" GK + 1-L .005" Vc	IMPREGNATION	VARNISH

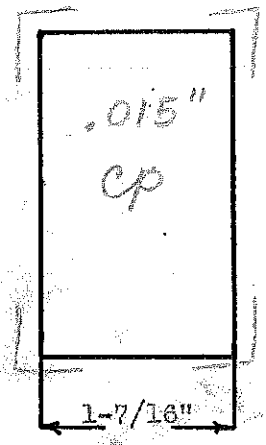
CORE 1" x 1" E & I GA. 24 GRADE D STACK 2 x 2

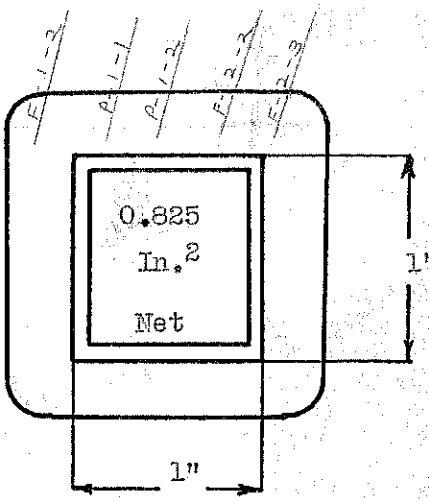
MOUNTING "A" or "B". See Other Side

Cu = 655 - 557 - 510 - 512
Fe = 73.5
TPV = 6.17
Wire Net = 0.~~358~~ (0.341") .346 (.352)

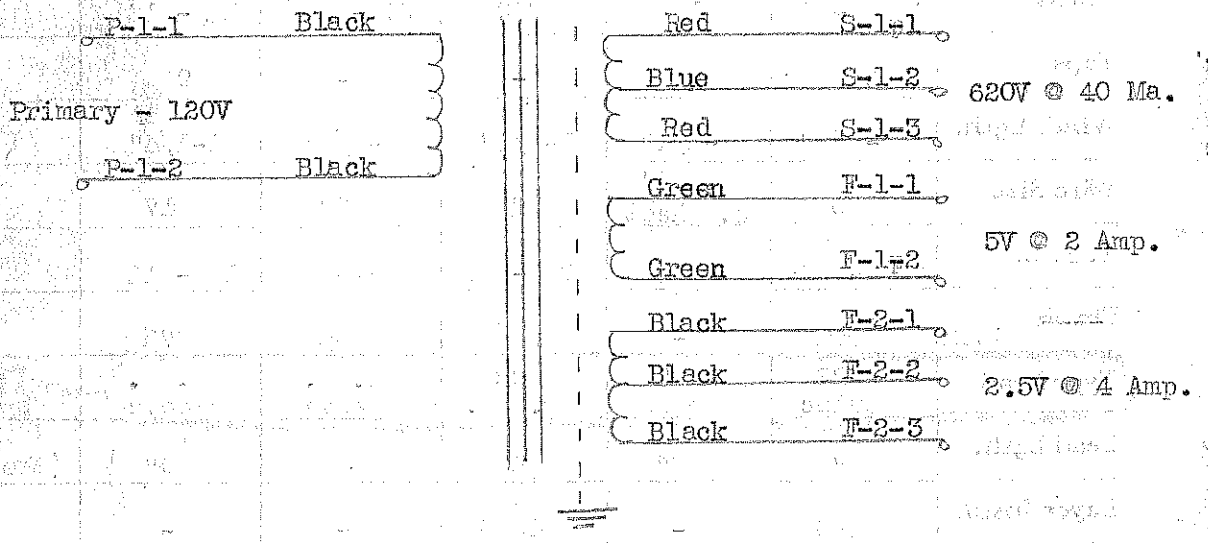
Sec. VA = 32.4
Pri. VA = 43.3
Pri. I = 361 Ma.







DESIGNED BY HWS DATE 12-22-41



NOTE: "A" Case - Use above color code.
"B" Case - Use Silver Braid for Secondary & Primary;
Wire Only for Filaments. LEAD LENGTH = 3"

Auto Step Down
234 V to 117 V 50/60 ~
150 VA

New Stock

I_s = 1.283

SPEC. NO. P 202

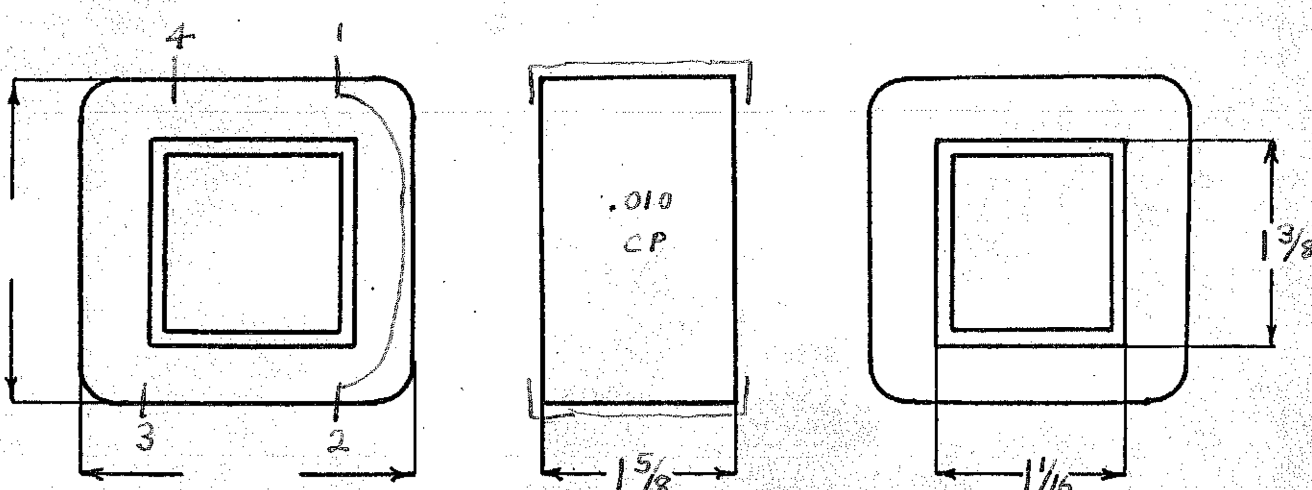
Winding		1-2-3-4 auto		1-2-3-4 auto			
Turns		990		936			
Taps	½	550½	½	– 520½			
Wind. Lgth.		1 3/8		1 3/8			
Wire Size		#23		#23			
T. P. L.		55-18L		52-18L			
Finish Pitch		95%		90%			
Type Lead		w. o. to lugs		w. o.			
Lead Lgth.		3"		3"			
Layer Insul.		60#		60#			
Test Volt.		1500		1500			
Wrapper		2L005GA		2L005GA			

TUBE	5L010 GK HL003CA	IMPREGNATION	Varnish

CORE 1 1/16 x 1 3/8 GA. 24 GRADE D STACK 2 X 2

MOUNTING T

wn = 83%



DESIGNED BY F. FRAZEE

DATE 6-47

DESIGN AND TEST DATA

Rating: I_s — Sec VA = 159, Pri VA = 179, I_p = 734 ma

Winding		Auto					
Mean Turn		6.99					
Resistance 25° c		12.0					
Pounds Copper		.900					
Copper Density		695					
Ratio Volts		234 117					
Test to Ground		1500					

Iron Induction 11.9 kg ~~12.9 kg~~ @ 60 ~~50~~ Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 – 4 male plug

2 – 3 female docket

E_p - 230V - export 50~
E_S - 660 V(open) - 40 Ma
E_{F1} - 5.7v open - 2 amp
E_{F2} - 7.0v open - 1.6 amp

(... for export)

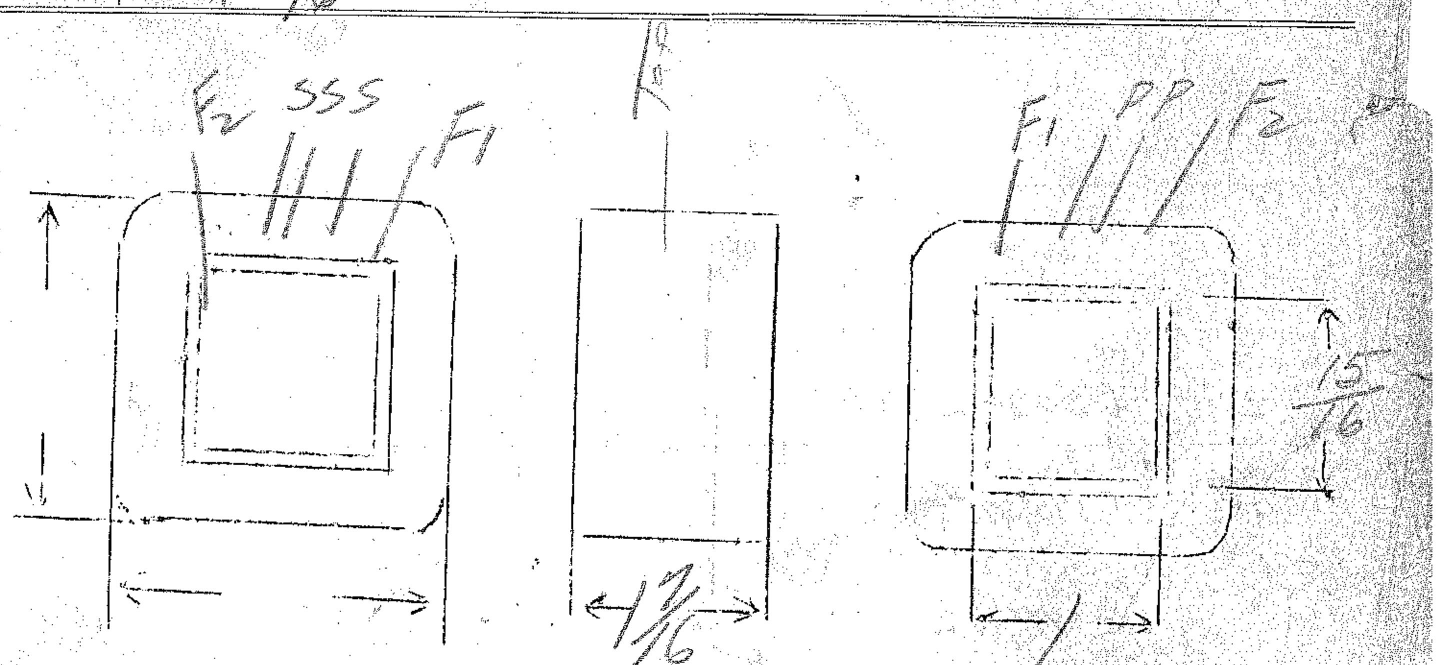
SPEC. NO. P-202-230V-6202-23

Winding	SEC	SHIELD	PRI	F_1	F_2		
Turns	3840	104	1340	33	41	33	16
Taps	1920			—	20	—	8
Wind. Lgth.	1.25	1.25	1.25	—	—	—	
Wire Size	#37	#30	#30	#21	#22	#21	double #20
T.P.L.	220-18	104	108-13				
Kind Term.	#20 P. Br.	Sil. Br.	#20 P. Braid	WIRE	ONLY	WIRE	ONLY
Term. Lgth.	9"	3"	9"	9"	9"	9"	9"
Layer Insul.	Doubly 16#		Doubly 16#				
Wrapper	1100 TVC	1005 VC	2100 SGA	2100 SGA	2100 SGA	2100 SGA	2100 SG

TUBE | 5100 T/6 LGA | IMPREGNATION | VARNISH

CURE | 1 X 15/16

1.25
1.59
3.18
3.84
1.78

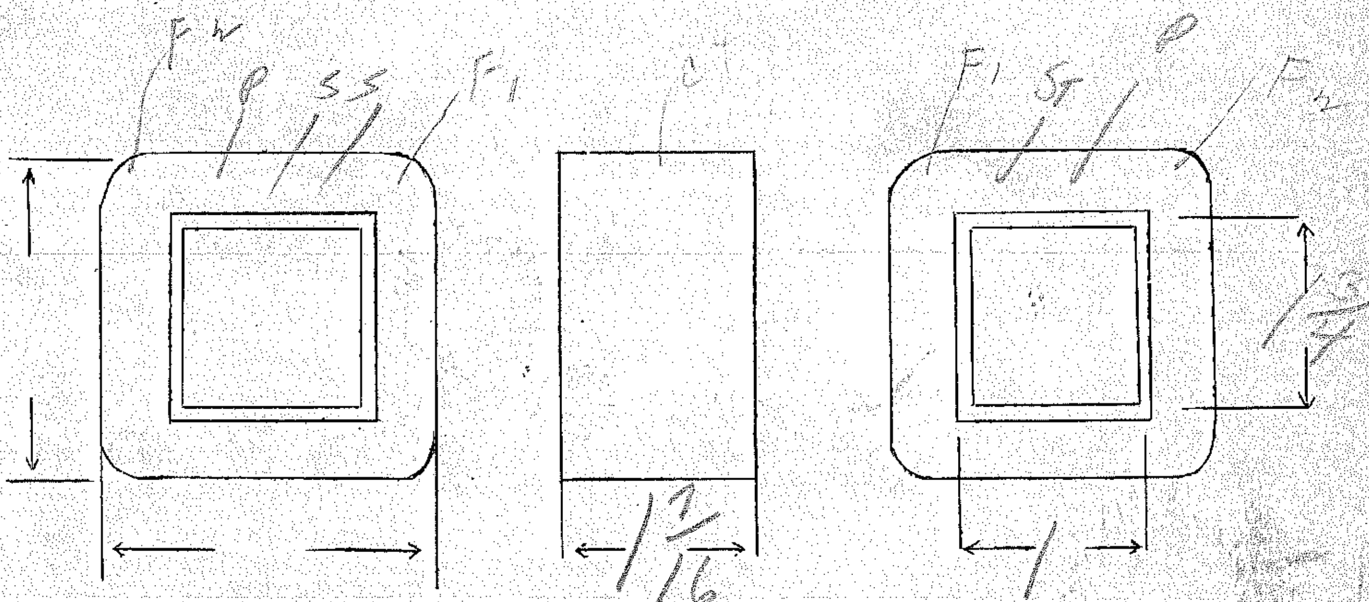


Ep - 117V.
Es - 600V.C.T. - 40 MA
EF1 - 5V, 2amp
EF2 - 2.5V.C.T. - 4amp

SPEC. NO. 202-25N

Winding	SEC	SHIELD	PRI	FIL$_1$ (green)	FIL$_2$ (black)		
Turns	3750	208	660	32	16		
Taps	1875	–	–	—	8 - tap one [illegible] only		
Wind. Lgth.	1.25	1.25	1.25	—			
Wire Size	#36	#36	#27	#21	double #20		
T.P.L.	208-18	—	74-9	—	—		
Kind Term.	#20 [illegible]	sil Br	#20 [illegible]	WIRE ONLY			
Term. Lgth.	9" [illegible]	3"	9"	9"	9"		
Layer Insul.	double 16#		40#				
Test Volt.	2500		1250				
Wrapper	1L007VC	1L005VC	2L005GA	2L005GA	2L005GA		

TUBE	5L007	IMPREGNATION	VARNISH
CORE	1 x 1 3/4	PRIMARY V.A.	
MOUNTING	optional		



DESIGNED BY [illegible] DATE 12-27-36

Auto Step Down

New Stock

234V to 117V 50/60~

150 VA

SPEC. NO. P 262

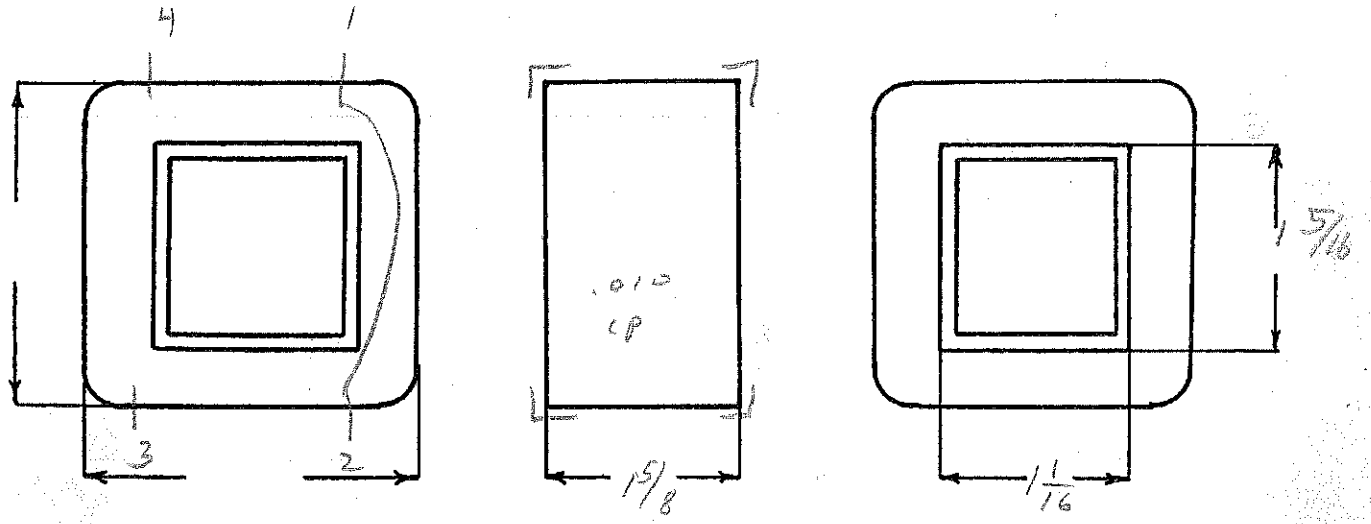
Winding		1 - 2 - 3 - 4 Auto				
Turns		990				
Taps		550 1/2				
Wind. Lgth.		1 3/8				
Wire Size		# 23				
T. P. L.		55 - 18				
Finish		95%				
Type Lead		W.O. Tol ugs				
Lead Lgth.		3"				
Layer Insul.		50 #				
Test Volt.		1500				
Wrapper		2 0 0 5 4 A				

TUBE 5-Lock IMPREGNATION Varnish

CORE 1 1/16 x 1 5/16 GA. 24 GRADE D STACK 2 x 2

MOUNTING T

Wgt. = 83%



DESIGNED BY F. Frazee DATE 6-47

DESIGN AND TEST DATA

Rating:

Sec VA = 15°
Pri VA = 17
I_p = 734 ma

Winding		Auto					
Mean Turn		6.99					
Resistance 25° c		12.0					
Pounds Copper		.900					
Copper Density		695					
Ratio Volts		234 117					
Test to Ground		1500					

Iron Induction _____ @ _____ Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 - 4 Male Plug

2 - 3 Female Socket

E_p = 110 - 115 - 120

E_s = 1150 - 0 - 1150 - 200 MA

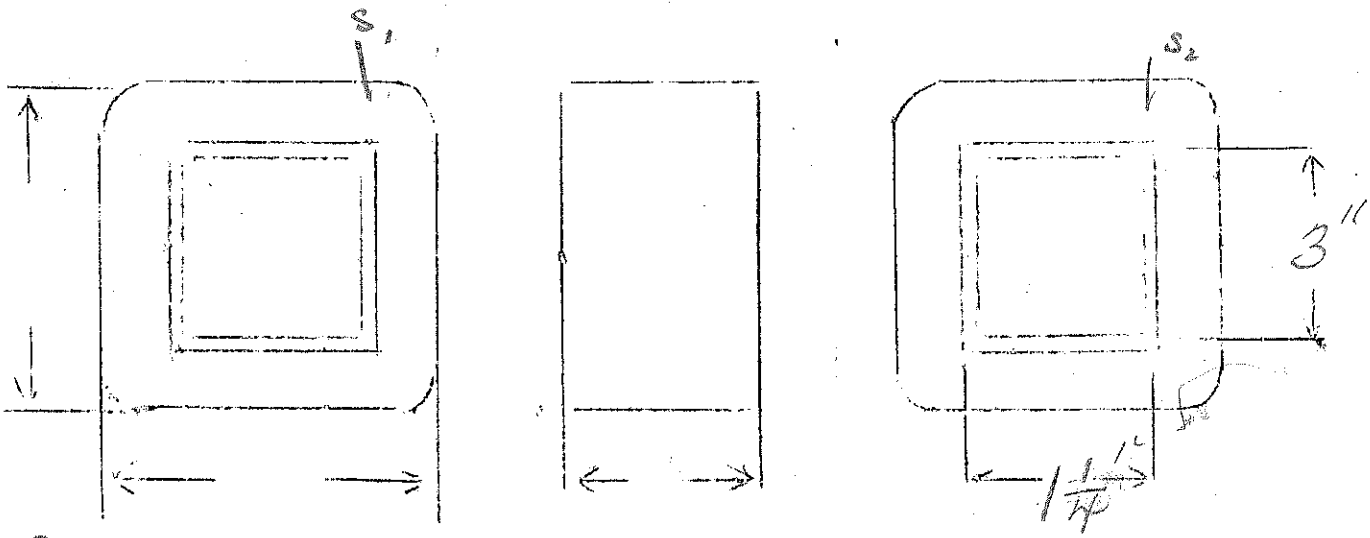
1.145

SPEC. NO. 203

Winding	SEC	SHIELD	PRI				
Turns	1800	1	174				
Taps	NONE		162-157				
Wind. Lgth.	5/8	15/16	3/4"				
Wire Size	#29E	.005 BRASS	#16E				
T.P.L.	58-31		14				
Kind Term.	#20 P.BR		WIRE ONLY				
Term. Lgth.	10"		10"				
Layer Insul.	50# OIL		.005 GA				
Wrapper	2L.005 VC 2L.005 GA	2L.005 GA	2L.005 VC 1L.005 GA				

TUBE | 7L007 | IMPREGNATION | Varnish

CURE | 1/2 X 3 (1/4 x 3 1/8 Lindsay)



SEC - 2 COILS 1800T EACH, 3/8" WIDE

PRI - 1 COIL 174T 1" WIDE

SHIELDS OVER OUTSIDE EACH COIL

E_p - 230V
E_5 - 750VCT-150Ma.
E_{f1} - 5V-3Amp
E_{f2} - 2.5VCT-9Amp
E_{f3} - 2.5VCT-4Amp
E_{f4} - 2.5V~~CT~~-3.5Amp

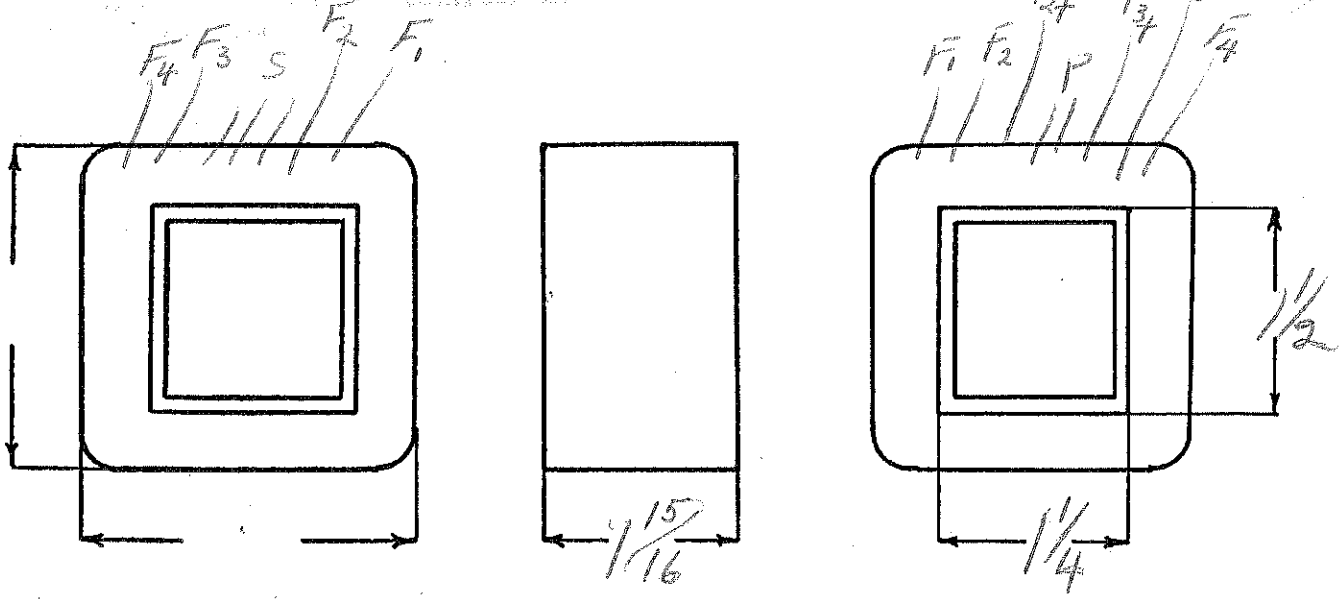
SPEC. NO. P203-230V

Winding	Sec.	Shield	Pri	Green F_1	Black F_4	White F_3	Red F_2
Turns	2700	163	760	18	9	9	9
Taps	1350					5	5
Wind. Lgth.	1 3/4	1 3/4	1 3/4				
Wire Size	#31	#31	#24	#18	#13	#16	#18
T. P. L.	151-18	151	76-10				
Finish							
Type Lead	#20 P_1 B_1	Lit B_1	#20 P_2 B_2	Lit	Lit	Lit	
Lead Lgth.	9"	3"	9"	9"	9"	9"	9"
Layer Insul.	Double 20#		1 #				
Test Volt.							
Wrapper	1L007VC	1L007VC	2L007GA	2L007GA			2L007GA

TUBE	7L007GK	IMPREGNATION	Varnish

CORE ~~1 1/4 x 1 1/2~~ GA. 24 GRADE D STACK 2X2

MOUNTING A



DESIGNED BY G. W. DATE

P 203

Pri - 115V - 50 - 60 Cycle
Black Braid

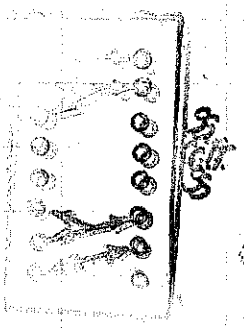
Sec - 750 V. C. T.
Red Braid

Fil #1 - 5V - 3 Amps
Green Sleeving

Fil #2 - 2.5 V. C. T. - 3.5 Amps
Red Sleeving

Fil #3 - 2.5 V. C. T. - 4 Amps
Yellow Sleeving

Fil #4 - 2.5 V. C. T. - 9 Amps
Black Sleeving



Pri - 115V - 50 - 60 Cycle
Black Braid

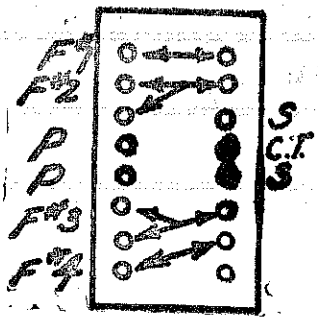
Sec - 750 V. C. T.
Red Braid - Blue

Fil #1 - 5V - 3 Amps
Green Sleeving

Fil #2 - 2.5 V. C. T.
Red Sleeving

Fil #3 - 2.5 V. C. T. - 4 Amps
Yellow Sleeving

Fil #4 - 2.5 V. C. T. - 9 Amps
Black Sleeving



P 203

Pri - 115V - 50 - 60 Cycle
Black Braid

Sec - [illegible] V. C. T. - 150 Ma
Red [illegible] - Blue C. T.

Fil #1 - [illegible] - 3 Amps
[illegible] Sleeving

Fil #2 - 2.5 V. C. T. - 3.5 Amps
Red Sleeving

Fil #3 - 2.5 V. C. T. - 4 Amps
Yellow Sleeving

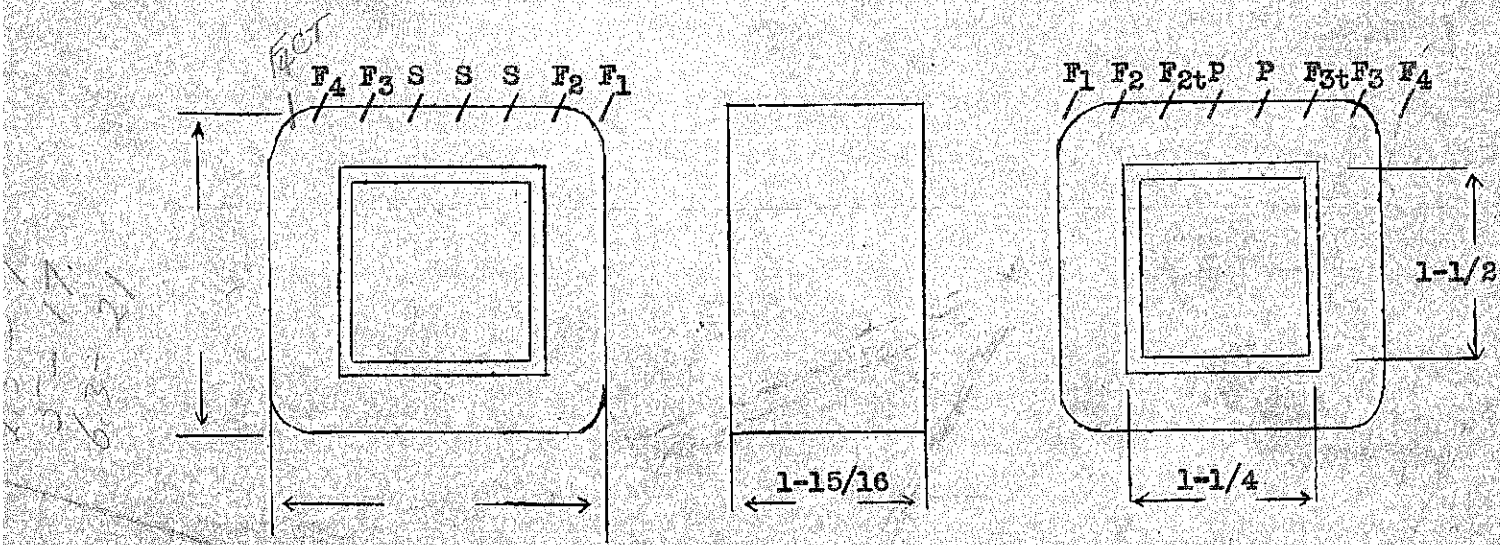
Fil #4 - 2.5 V. C. T. - 9 Amps
Black Sleeving

Ep - 120V.
Es - 750V.C.T. - 150 Ma.
Ef1 - 5V. - 3 Amps.
Ef2 - 2.5V.C.T. - 9 Amps.
Ef3 - 2.5V.C.T. - 4 Amps.
Ef4 - 2.5V.C.T. - 3.5 Amps.

SPEC. NO. P203

Winding	SEC.	SHIELD	PRI.	F_1	F_4	F_3	F_2
Turns	2700	163	335	18	9	9	9
Taps	1350				5	5	5
Wind. Lgth.	1.75	1.75	1.75				
Wire Size	31	31	21	18	13	16	18
T.P.L.	151-18	163	55-7				
Kind Term.	#20 P. Br.	Sil. Br.	#20 P. Br.		WIRE ONLY		
Term. Lgth.	9"	3"	9"	9"	9"	9"	9"
Layer Insul.	Double 16#		50#		1 Layer		
Test Volt.							
Wrapper	1L007VC	1L007VC	2L007GA	2L007GA	2L007GA	2L007GA	2L007GA

TUBE	7L007	IMPREGNATION	VARNISH
CORE	1-1/4 x 1-1/2	PRIMARY V.A.	
MOUNTING			



DESIGNED BY G.W. DATE

P 203
Pri. - 115V - 50 - 60 Cycle
Black Braid
Sec. - 750 V. C.T. - 150 MA
Red Braid - Blue C.T.
Fil #1 - 5V - 3 Amps
Green Sleeving
Fil #2 - 2.5 V.C.T. - 5 Amps
Red Sleeving
Fil #3 - 2.5 V.C.T. - 4 Amps
Yellow Sleeving
Fil #4 - 2.5 V.C.T. - 9 Amps
Black Sleeving

#3 - 2, T.

SEC 1/28, 428
G F1 = 5.8
R F2 = 1.58, 1.
Y F3 = 1.58, 1.
F4 = 2.8

Auto Step Down

234V to 117V 50/60~

300 VA

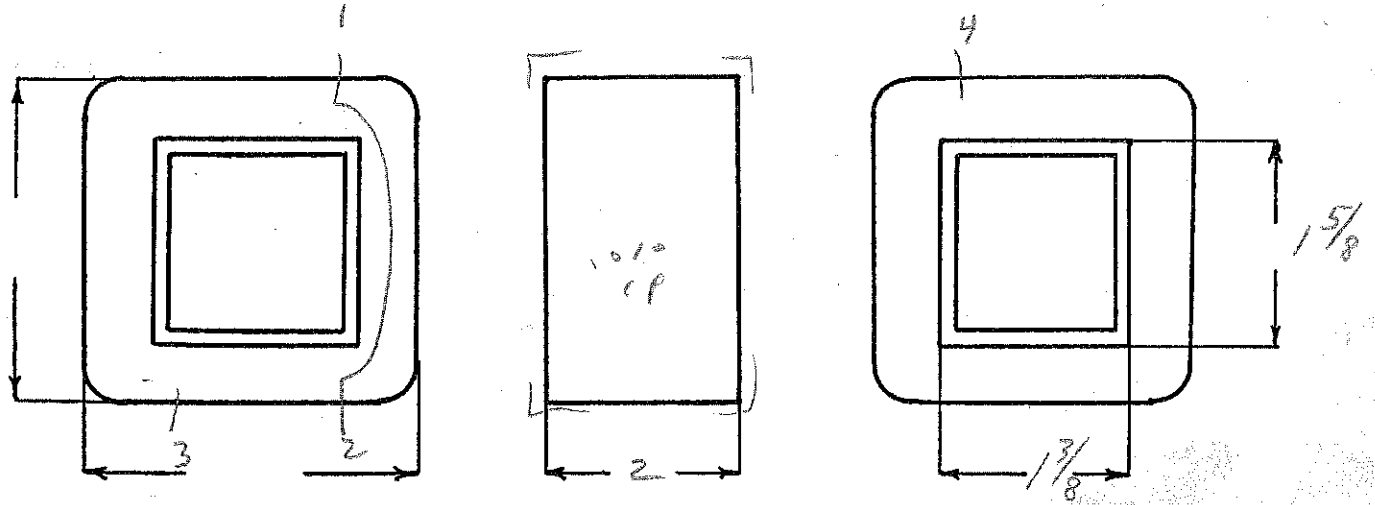
New stock

SPEC. NO. P 204

Winding		1-2-3-4 Auto.				
Turns		700				
Taps		364 1/2				
Wind. Lgth.		1 3/4				
Wire Size		#20				
T. P. L.		48-15C				
Finish		91%				
Type Lead		Wind-Leads				
Lead Lgth.		3"				
Layer Insul.		5 mil				
Test Volt.		1500				
Wrapper		2 Coats				

TUBE	5 Coats	IMPREGNATION	Varnish
CORE	1 3/8 x 1 5/8 GA. 24	GRADE D	STACK 2x2
MOUNTING	T		

Wm = 88%



DESIGNED BY F. Fratee

DATE 11-12-47

DESIGN AND TEST DATA

Rating: Sec VA = 300
Pri VA = 335
Ip = 1.43 a.

Winding		Auto					
Mean Turn		8.36					
Resistance 25° c		5.05					
Pounds Copper		1.525					
Copper Density		705					
Ratio Volts		234 117					
Test to Ground		1500					

Iron Induction 11.85 kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 - 4 Male Plug

2 - 3 Female Socket

Ep - 120V
Es - 630V c.t. - 40Ma
Ef - 5V - 2amp
Ef - 2.5V CT - 4amp

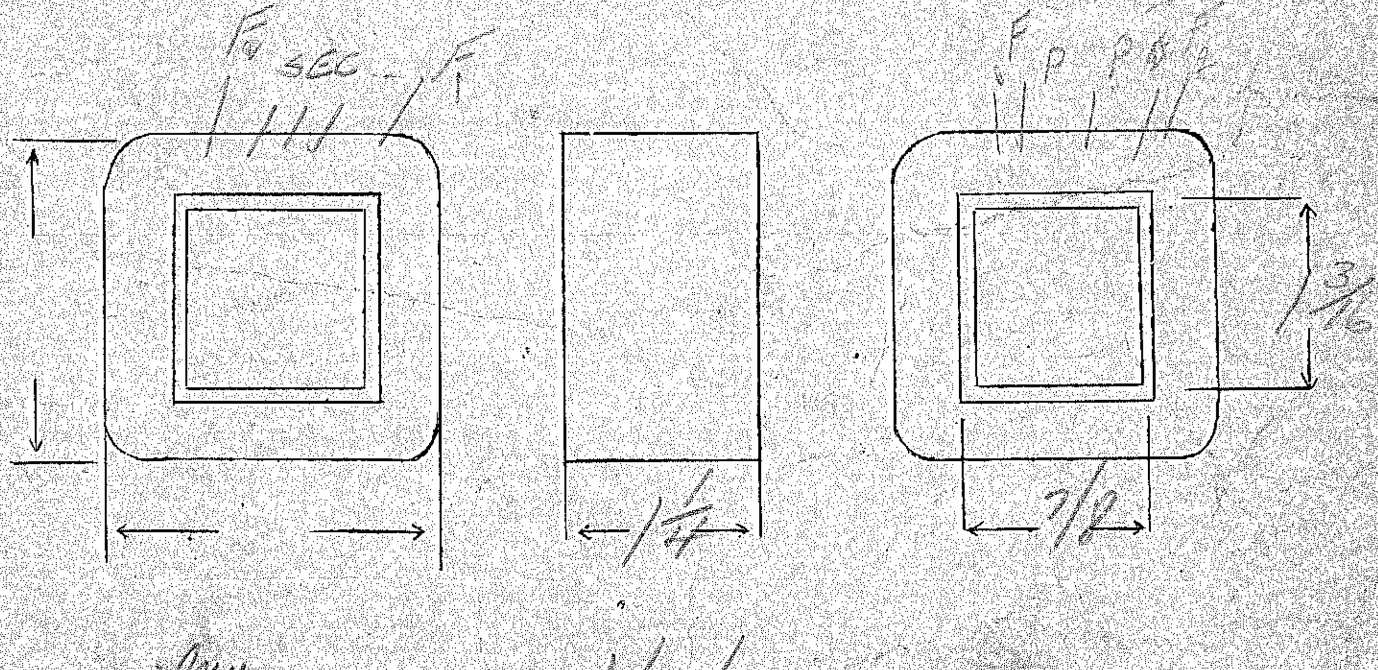
SPEC. NO. P204 OLD

Winding	SEC	SHIELD	PRI	F1 (green)	F2 (black)		
Turns	3140	—	600	28	14		
Taps	1570	—	—	—	7		
Wind. Lgth.	1 1/16	1 1/16	1 1/16				
Wire Size	#37	#28	#28	#21	double #21		
T.P.L.	196-16	—	70-9	—	—		
Kind Term.	#22 [illegible]		#22 [illegible]	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 14#		40#	—	—		
Test Volt.	2500		1250				
Wrapper	1205VC	1205VC	2605GA	2605GA	2605GA		

TUBE 52007 | IMPREGNATION VARNISH

CORE 7/8 x 1 3/16 | PRIMARY V.A.

MOUNTING A



DESIGNED BY [illegible] DATE 6/12/37

Auto-step Down

234 V to 117 V 50/60 ~

300 VA

New Stock

SPEC. NO. P 204

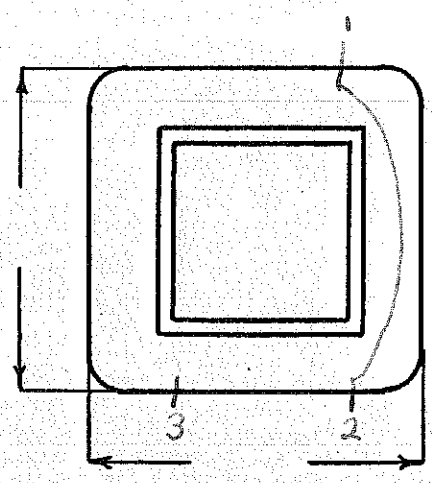
Winding		1-2-3-4 Auto					
Turns		700					
Taps		364½					
Wind. Lgth.		1 3/4					
Wire Size		#20					
T. P. L.		48-15L					
Finish P.T.H.		91%					
Type Lead		w. o.					
Lead Lgth.		3"					
Layer Insul.		50#					
Test Volt.		1500					
Wrapper		2L005GA					

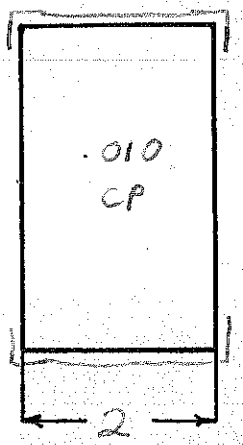
TUBE	5L 010 GK-HL002M	IMPREGNATION	Varnish

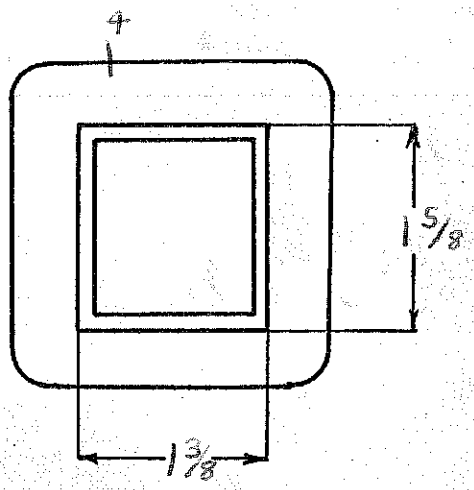
CORE 1 3/8 x 1 5/8 GA. 24 GRADE D STACK 2 x 2

MOUNTING T

Zinc Chromate Primer
Black Lacquer







DESIGNED BY F. FRAZEE

DATE 11-12-47

DESIGN AND TEST DATA

Rating:

Sec VA = 300
Pri VA = 335
I_p = 1.43a

Winding		Auto					
Mean Turn		8.36					
Resistance 25° c		5.05					
Pounds Copper		1.525					
Copper Density		705					
Ratio Volts		234 117					
Test to Ground		1500					

Iron Induction 11.85Kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 – 4 Male Plug

2 – 3 Female Socket

_____UNITS ON BATCH NO.____ BILL OF MATERIAL AND COST SHEET FOR P 204

CUSTOMER DRWG NO. REV.

X	DEPT.	MATERIAL DESCRIPTION		SOURCE	QUANTITY PER ASSY.	PRICE PER UNIT	COST PER ASSY.
	M.W.	COIL FORM	1 3/8 X 1 5/8 X .050 GT		2	.02	.04
		WIRE	#20 SF		1.53 LB	.66	1.02
		WIRE					
	S.W.	COIL FORM					
		CORE					
	FIN.	LEAD WIRE					
	STK.	CORE	1 3/8 X 1 5/8, 26 C		1.63"	.85	1.40
	ASSY.	TERMINALS					
		CANS					
		CASES	1 3/8 A CASES		1 SET	.51	.51
	PLST.	CUPS					
	PAINT						
	FINAL						
	MISC.						1.02

MARK UP	.50	14.00	TOTAL MAT'L. 4.00
	.55	12.70	LABOR 3.00
	.60	11.70	TOTAL COST 7.00

FIXED CHARGES

TOOLING _____

MARKING _____

SET UP _____

DESIGN _____

QUAL. TESTS _____

OTHER TESTS _____

30.00

DELIVERY _____

CUSTOMER	MOVIOLA		
DATE	3-17-60		
1- 2	30.00		
3- 4	25.00		
5- 9	20.00		
10- 24	17.50		
25- 49	15.50		
50- 99	14.50		
100-249	14.00		
250-499	13.75		
500-999	13.50		
1000			

E_p = 110 - 125 - 145 - 220

E_s = 700V. - 55 ma

F_1 = 2.5V - 1.5 amps

F_2 = 5V - 2 amps

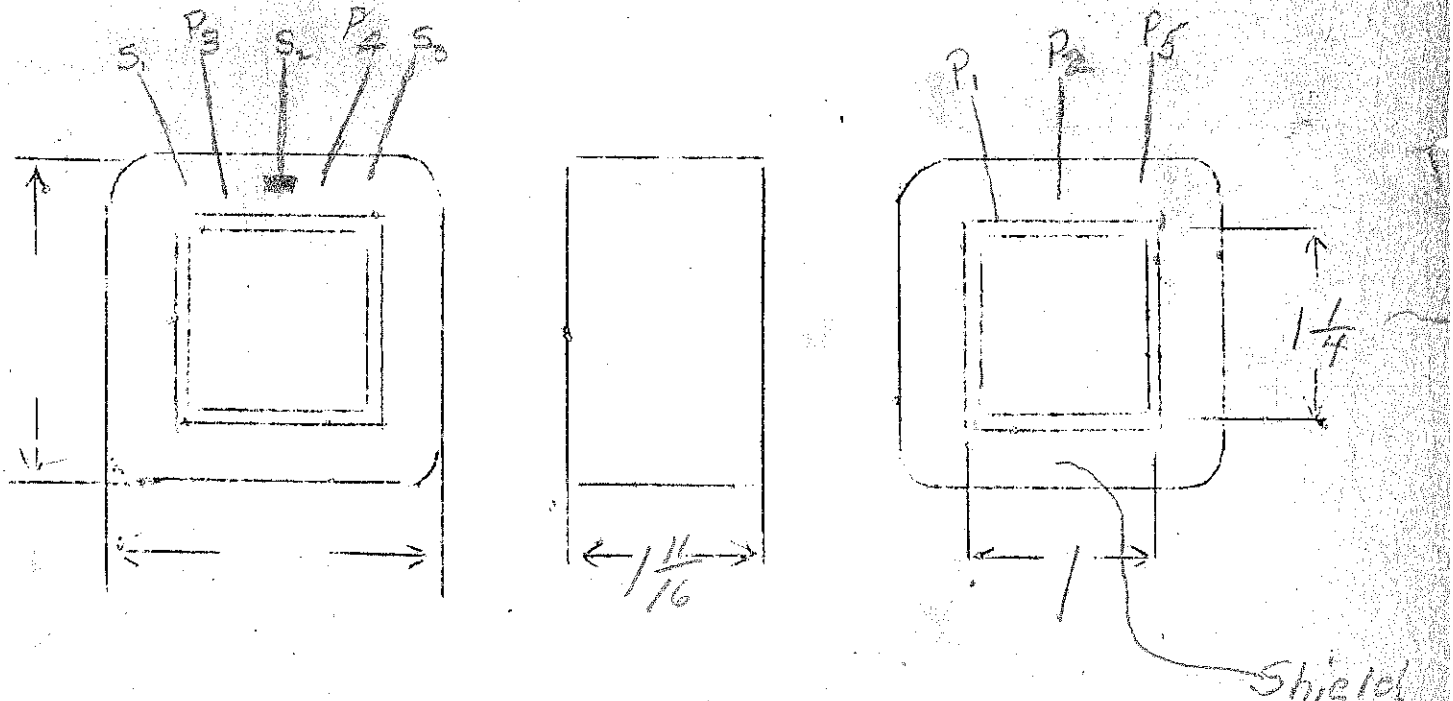
447

SPEC. NO. 205

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	985	72	3380	12	24		
Taps	650-560 500	—	1690	—	—		
Wind. Lgth.	1.5	1.5	1.5				
Wire Size	#25E	#25E	35E	16E	20E		
T.P.L.	72	72	220				
Kind Term.	#20 PBR	WIRE ONLY	#20 PBR	WIRE ONLY	WIRE ONLY		
Term. Lgth.	9"	9"	9"	9"	9"		
Layer Insul.	50#		20#				
Wrapper	2L003VP	2L003VP	2L005GA	2L005GA	2L005GA		

TUBE | 2L007 | IMPREGNATION | VARNISH

CURE | 121 ± 4



Auto Step Down

234 V to 117 V 50/60~

600 VA

New stock

SPEC. NO. P 206

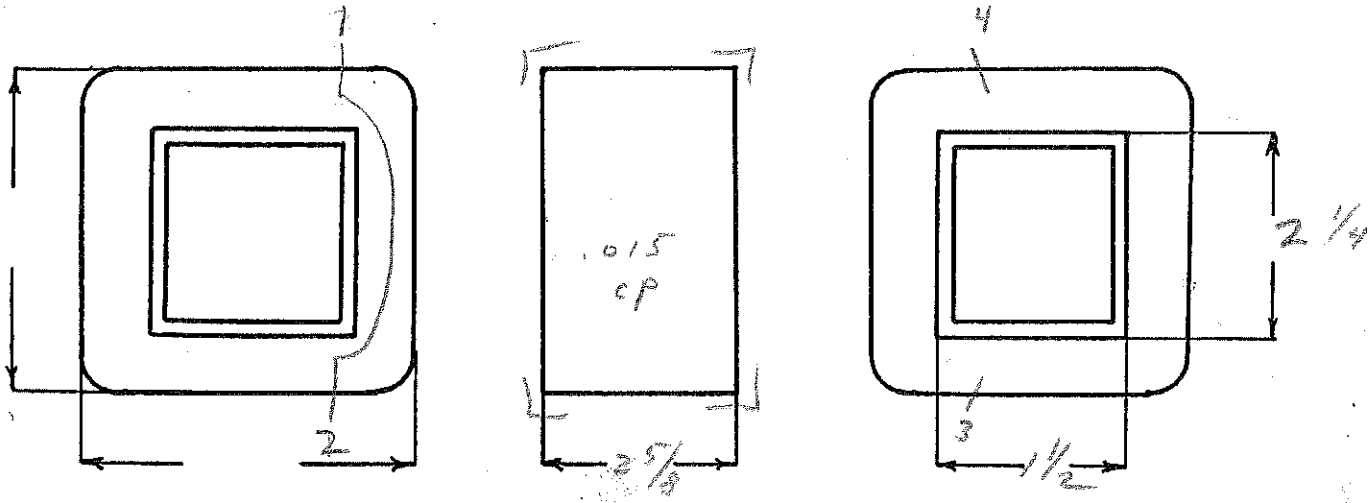
Winding		1-2-3-4 Auto				
Turns		550				
Taps		288 1/2				
Wind. Lgth.		2 1/4				
Wire Size		#16				
T. P. L.		40-14L				
Finish		93%				
Type Lead		W.O				
Lead Lgth.		3"				
Layer Insul.		1L0076A				
Test Volt.		1500				
Wrapper		2L0056A				

TUBE 2L010 6K IMPREGNATION Varnish

CORE 1 1/2 x 2 1/4 GA. 24 GRADE D STACK 2x2

MOUNTING T

Wt = 92%



DESIGNED BY F. Frazee DATE 6-47

DESIGN AND TEST DATA

Rating:

Sec VA = 600
Pri VA = 66
$I_p = 2.84$ a

Winding		Auto					
Mean Turn		11.07					
Resistance 25° c		2.09					
Pounds Copper		4.04					
Copper Density		8.91					
Ratio Volts		234 117					
Test to Ground		1500					

Iron Induction 10 Kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 - 4 Male Plug

2 - 3 Female Socket

Auto Step Down

New stock

234 V to 117 V 50/60 ~

600 VA

SPEC. NO. P 206

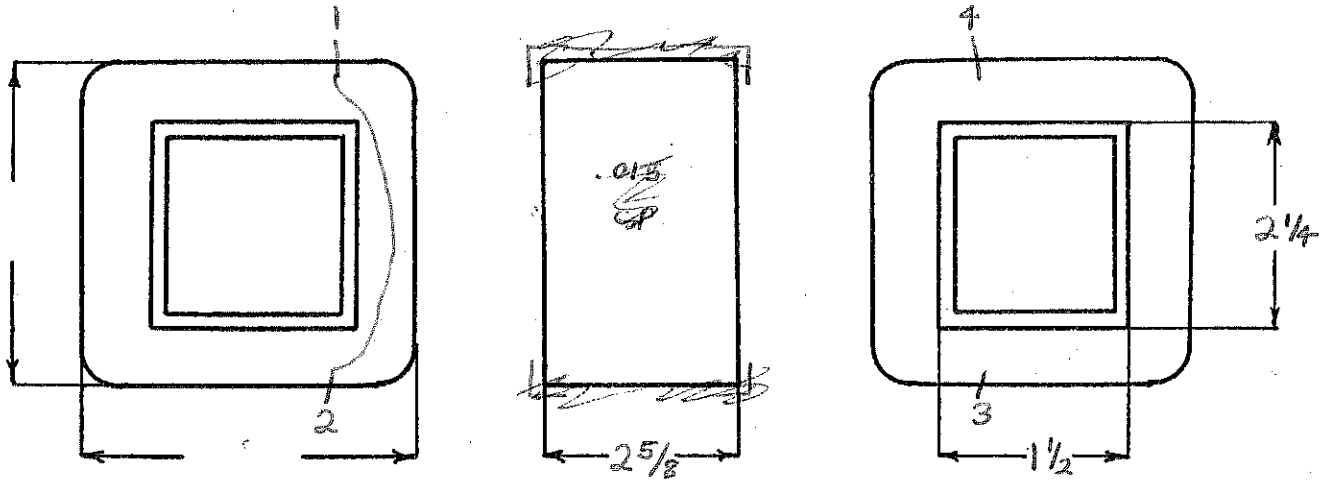
Winding		1-2-3-4 Auto					
Turns		550					
Taps		288 ½					
Wind. Lgth.		2 1/4					
Wire Size		#16					
T. P. L.		40-14L					
~~Finish~~ Pitch		93%					
Type Lead		nr. o.					
Lead Lgth.		3"					
Layer Insul.		1L007GA					
Test Volt.		1500					
Wrapper		2L005GA					

TUBE 7L010GR + 1L001CA IMPREGNATION Varnish

CORE 1 1/2 x 2 1/4 GA. 24 GRADE D STACK 2 x 2

MOUNTING T

nr = 92%



DESIGNED BY F. FRAZEE

DATE 6-47

DESIGN AND TEST DATA

Rating:

Sec VA = 600
Pri VA = 665
Ip = 2.84 a

Winding		Auto					
Mean Turn		11.07					
Resistance 25° c		2.09					
Pounds Copper		4.04					
Copper Density		891					
Ratio Volts		234 117					
Test to Ground		1500					

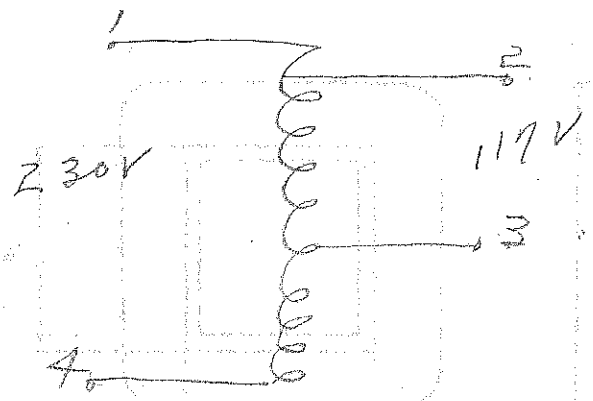
Iron Induction 10 kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 – 4 male plug
2 – 3 female socket



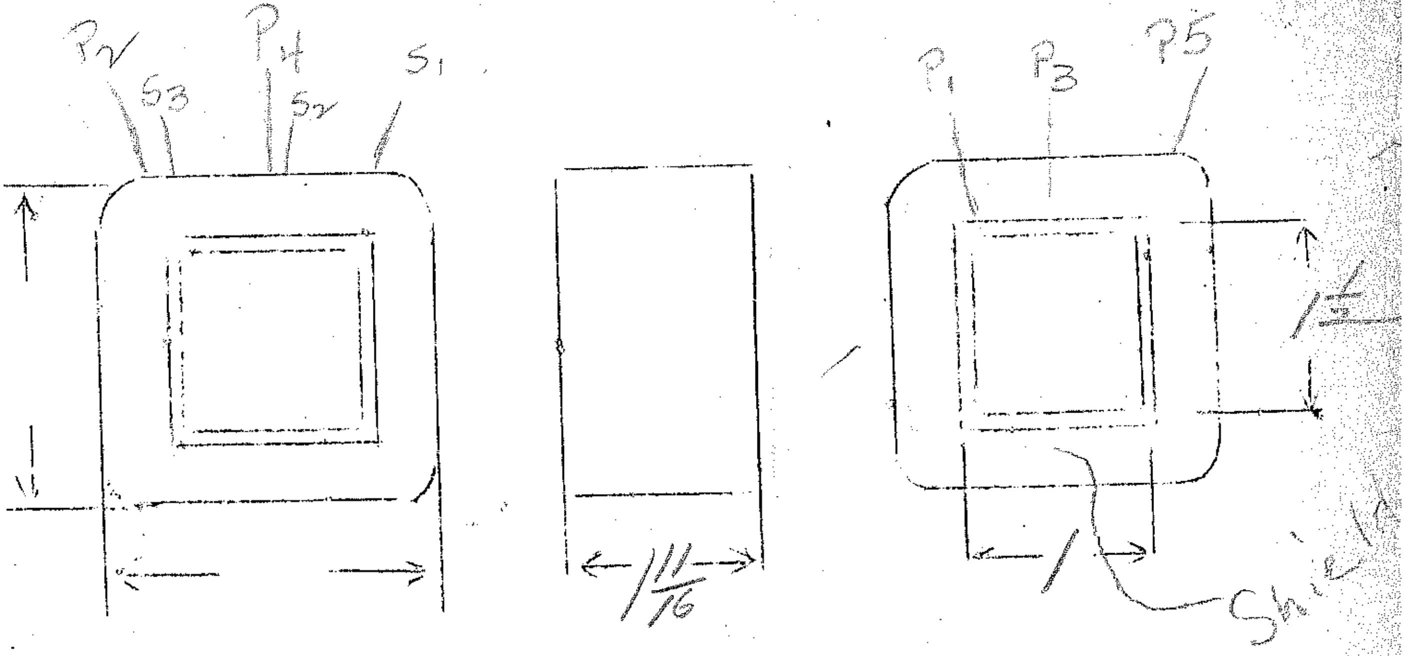
E_p = 110-125-145-220 PETER PAN

E_s = 730V - 80ma 3.7

SPEC. NO. 206

Winding	PRI	SH.	SEC	F_1	F_2		
Turns	825	59	2900	20	10		
Taps	537 463-412	—	1450	—	—		
Wind. Lgth.	1.5	1.5	—	—	—		
Wire Size	#34	#24E	#34E	#20E	#15E		
T.P.L.	59	59	200	—	—		
Kind Term.	#20 P.BR	WIRE ONLY	#20 PBR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	50# OR		20# OR				
Wrapper	2L003VP	2L003VP	2L003VP	2L005 GA	2L005 GA		

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1X1½M		



P2 black

P4 white

$E_p = 110V$ VICTORY SPEAKER Co 58¢ 64¢

$E_s = 225V - I = .100$

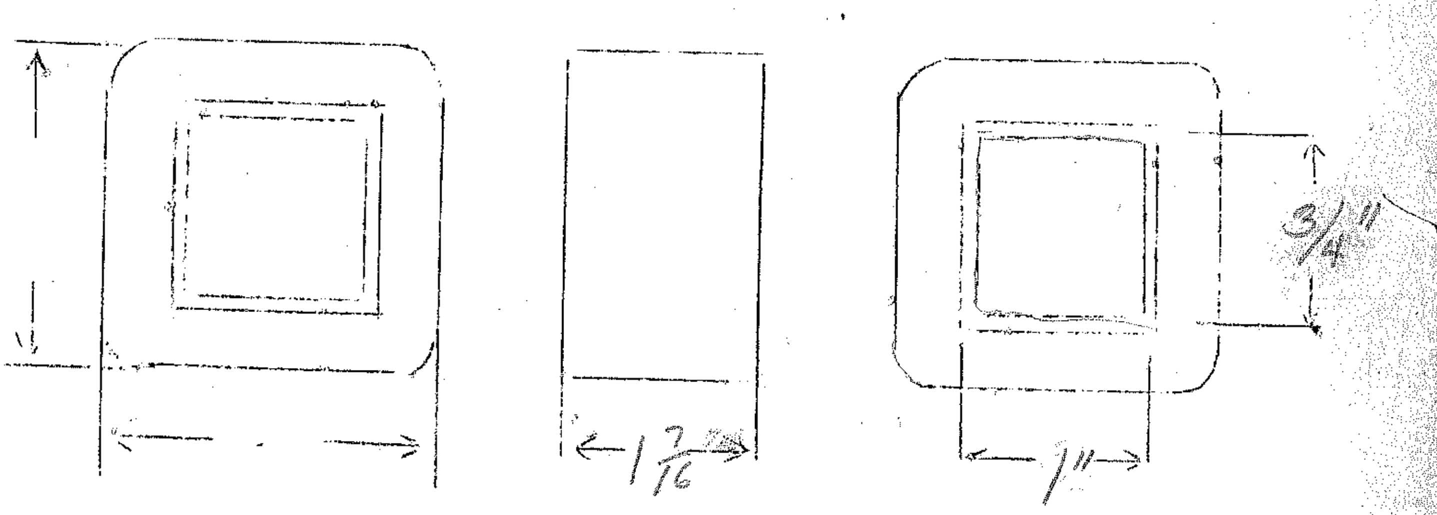
$E_F = 5V - 2$ amps

SPEC. NO. 207

Winding	PRI	SHIELD	SEC	F			
Turns	800	73	1800				
Taps	—	—	900				
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	29	29	#33				
T.P.L.	73	73					
Kind Term.							
Term. Lgth.							
Layer Insul.							
Wrapper							

TUBE 4L007 IMPREGNATION VARNISH

CURE 1 x 3/4 NW



Auto Step Down

234 V @ 50/60 ~ to

117 V @ 1200 VA

New Stock

SPEC. NO. P208

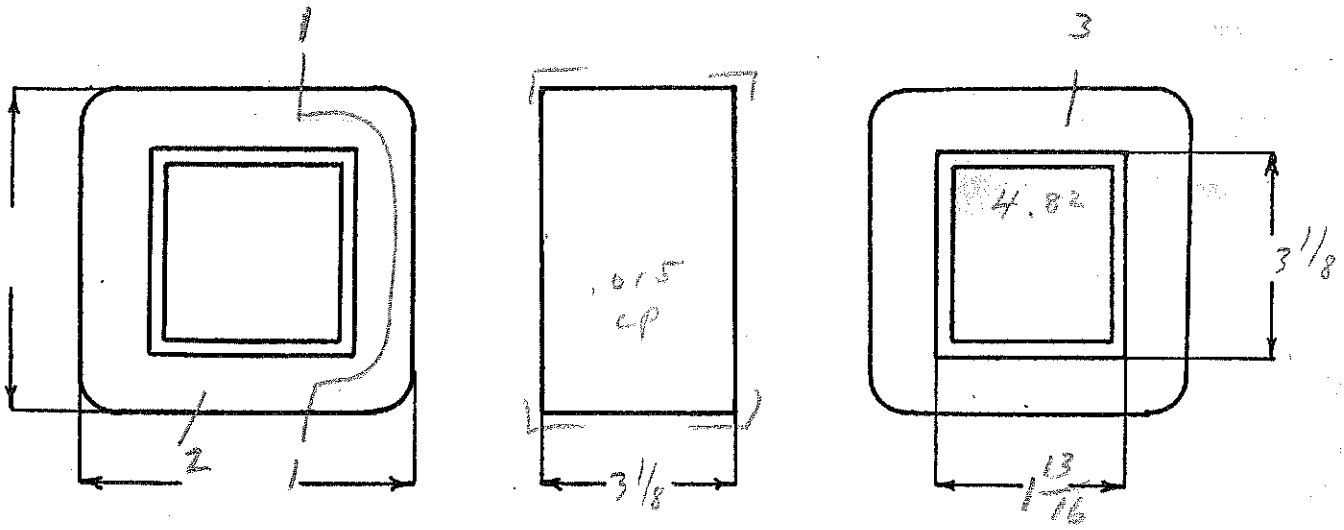
Winding		1-2-3 Auto					
Turns		2 3/8 10					
Taps		159½					
Wind. Lgth.		2 3/4					
Wire Size		# 12					
T. P. L.		30 - 111					
Finish		90%					
Type Lead		W.O.					
Lead Lgth.		3"					
Layer Insul.		1L010CP					
Test Volt.		1500					
Wrapper		3L007-A					

TUBE	7L010GK	IMPREGNATION	Varnish

CORE 1 3/4 X 3 1/8 GA. 24 GRADE D STACK 2 X 2

MOUNTING T

Wm = 88%



DESIGNED BY S. Babcock

DATE 5-18-49

DESIGN AND TEST DATA

Rating:

Sec VA = 12.00
Pri VA = 14.30
Ip = 6.07 a.

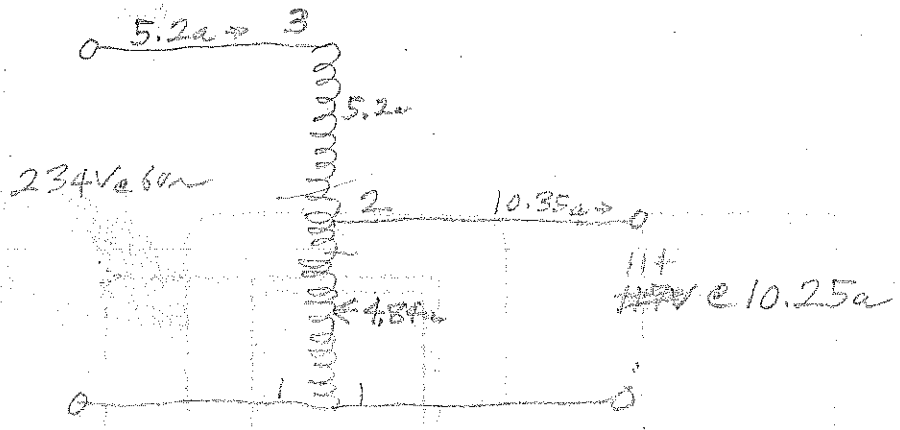
Winding		Auto					
Mean Turn		14.00					
Resistance 25° c		.585	2.55				
Pounds Copper		7.22					
Copper Density		1077					
Ratio Volts		234 1.7					
Test to Ground		1500					

Iron Induction 11.0Kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:



Auto Step Down

New Stock

234 V @ 50/60 ~ to
117 V @ 1200 VA

Ls = 10,026

SPEC. NO. P 208

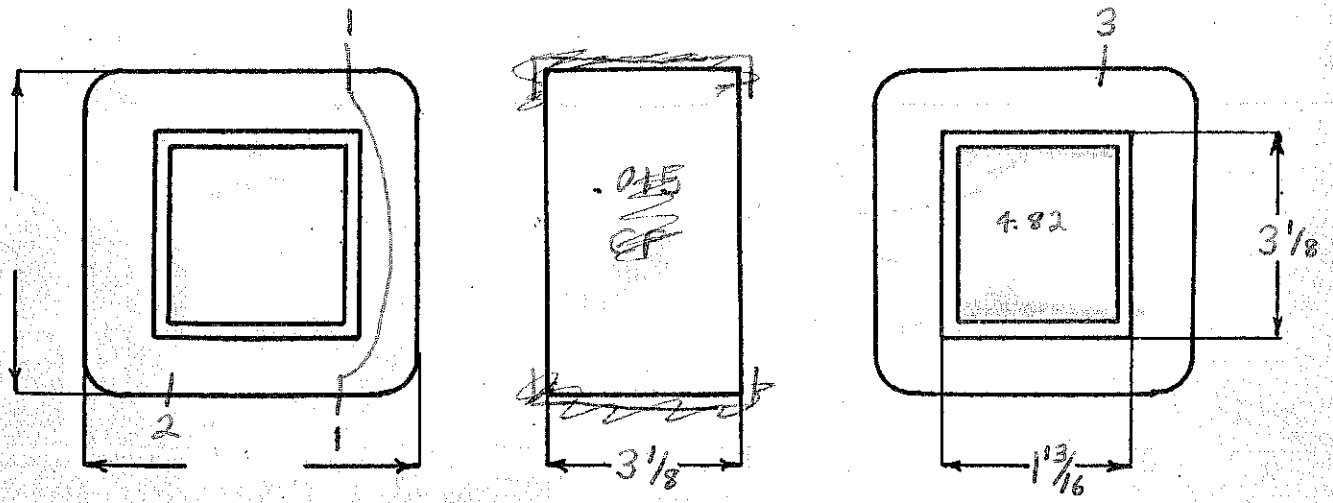
Winding		1-2-3 Auto					
Turns		310					
Taps		159 1/2					
Wind. Lgth.		2 3/4					
Wire Size		#12					
T. P. L.		30-11L					
Finish Pitch		90%					
Type Lead		w. o.					
Lead Lgth.		3"					
Layer Insul.		1L010CP					
Test Volt.		1500					
Wrapper		3L007GA					

TUBE	7L010GK + 1L003CA	IMPREGNATION	Varnish

CORE 1 3/4 X 3 1/8 GA. 24 GRADE D STACK 2 X 2

MOUNTING T

wn = 88%



DESIGNED BY S. BABCOCK

DATE 5-18-49

DESIGN AND TEST DATA

Rating: Sec VA = 1200
Pri VA = 1420
I_p = 6.07a

Winding		auto					
Mean Turn		14.00					
Resistance 25° c		.585					
Pounds Copper		7.22					
Copper Density		1077					
Ratio Volts		234 117					
Test to Ground		1500					

Iron Induction 11.0 Kg @ 50 Cycles

Exciting Current 150 ma amperes @ 234 volts 60 cycles on

Induced Test: Apply Volts at Cycles on with grounded

Remarks:

1 – 3 male Plug

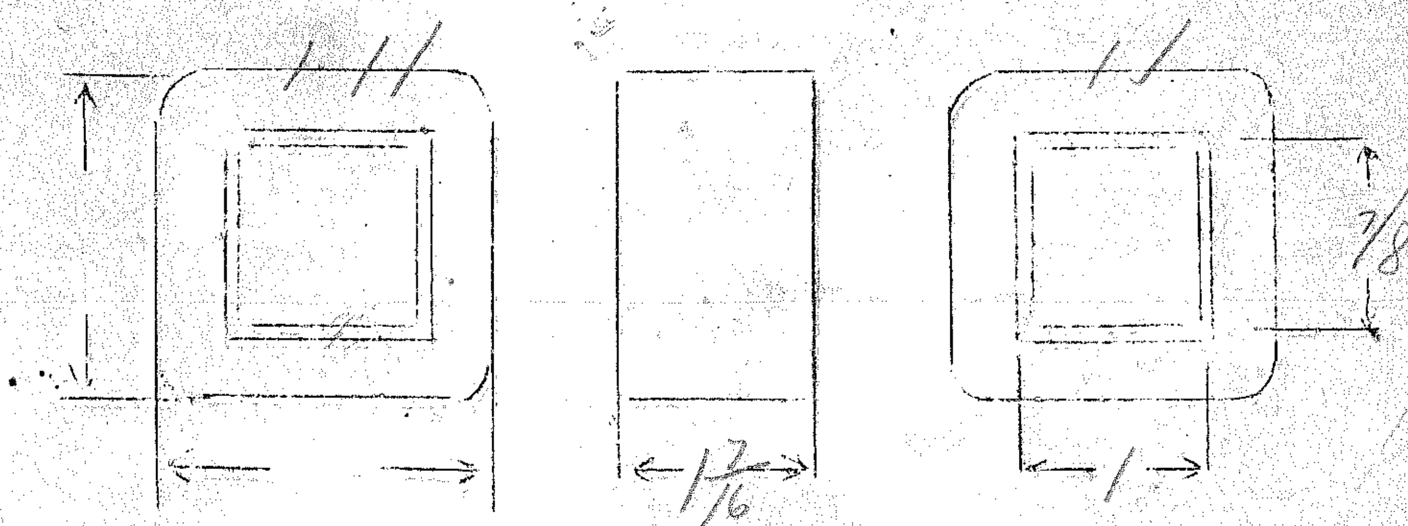
1 – 2 female docket

5 tube power transformer ([illegible]2 amp) B = 132 [illegible]
118 V. line
E_S = 600 V. C.T. (load)
E_{F1} = 5 V — 2 amps
E_{F2} = 2.5 V — 5 amp

SPEC. NO. 209

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	710	79	4000	33	17		
Taps	—	—	2000	—	—		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	#27	#27	#36	#21	#20 double		
T.P.L.	72-10	72-10	202-20	—	—		
Kind Term.	#20 PBR	wire	#20 PBR	wire only			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#	—					
Wrapper	1L007VC	1L007VC	2L0056A	2L0056A	2L0056A		

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1X 7/8 NW		



120V Primary - 60 Cycle
660V CT @ 45 Ma.
5V @ 2 Amp.
2.5V CT @ 5 Amp.

S T O C K

SPEC. NO. P-210

Winding	Secondary	Shield	Primary	Fil. #1 5V	Fil. #2 2.5V		
Turns	3600	1	660	30	15		
Taps	1800 CT	-	-	-	7 - CT		
Wind. Lgth.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1.25"	
Wire Size	#37	.001" Cu. Sheet	#26	#20	2 - #19		
T. P. L.	225 - 16L	1	66 - 10L	34 - 1L	15 - 1L		
Finish Pitch	90%	-	90%	90%	90 %		
Type Lead	#22 Pr. Br.	Sil. Br.	#22 Pr. Br.	W. O. Sleeve	W. O. Sleeve		
Lead Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	1L 20#G	-	1L 40#G	-	-		
Test Volt.	2500V		1500V.	2500V.	1500V.		
Wrapper	1L .007" VC	1L .005" VC	1L .007" VC	2L .005" GA	2L .005" GA		

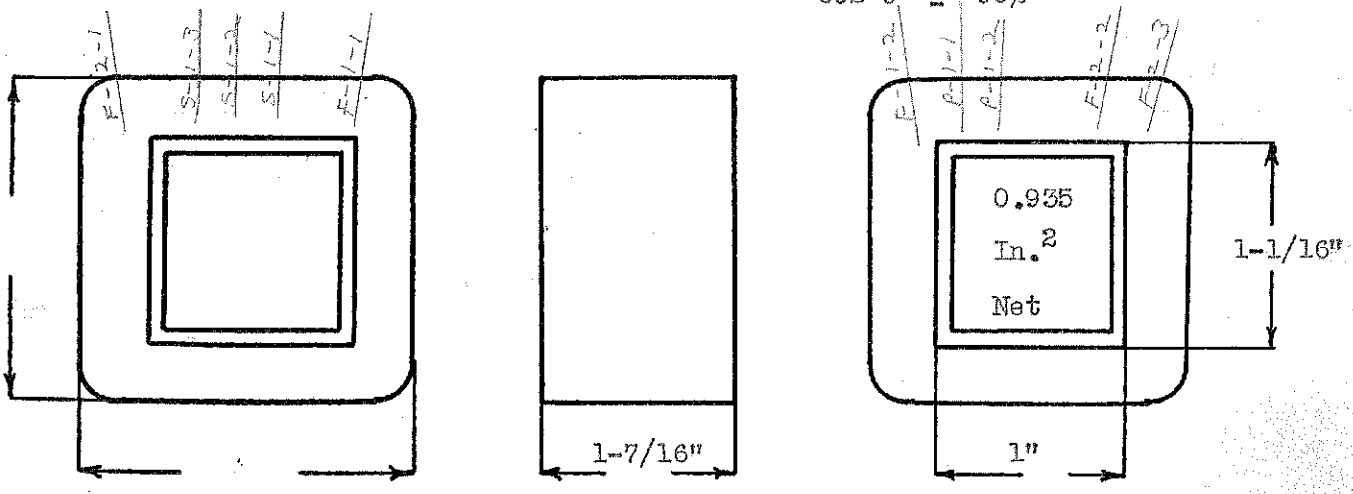
TUBE	5L - .007" GK	IMPREGNATION	VARNISH

CORE 1 x 1-1/16 E & I GA. 24 GRADE D STACK 2 x 2

MOUNTING "A" m. w. — See Reverse Side

Cu = 733 - 610 - 510 - 515
Fe = 73 @ 60 Cycle
TPV = 5.5
Wire Net = 0.358" (0.355")

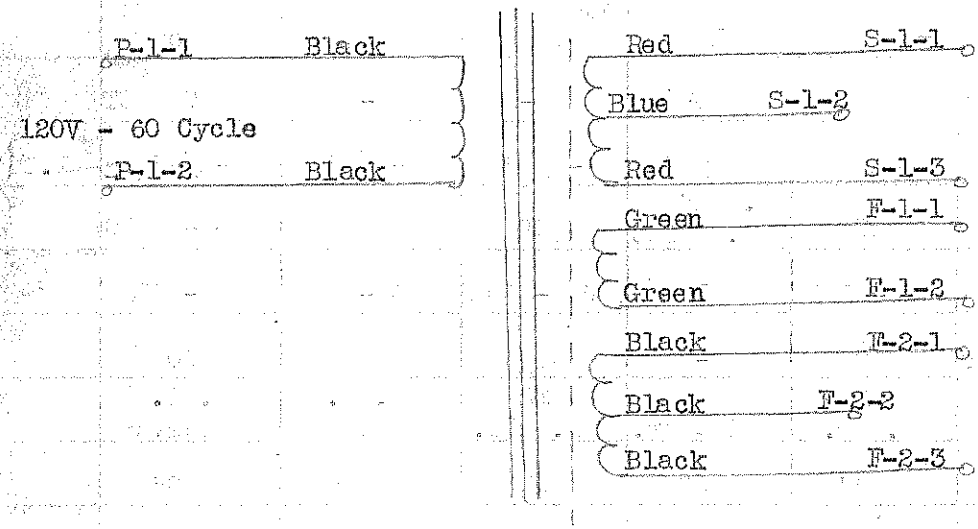
Sec. VA = 37.4
Pri. VA = 50
Pri. I = 416
Efficiency = 83%
COS θ = 90%



DESIGNED BY HWS

DATE 7-25-41

#P-202



NOTE TO MULTI-WINDER: Multiple-wind secondary and primary only.

$E_p = 117V$
$E_s = 675V - 40 ma$
$E_{F1} = 5V - 2 amps$
$E_{F2} = 2.5V - 5 amps$

$\frac{N}{E} = 7.2$

SPEC. NO. 210 + 6210 -25 N

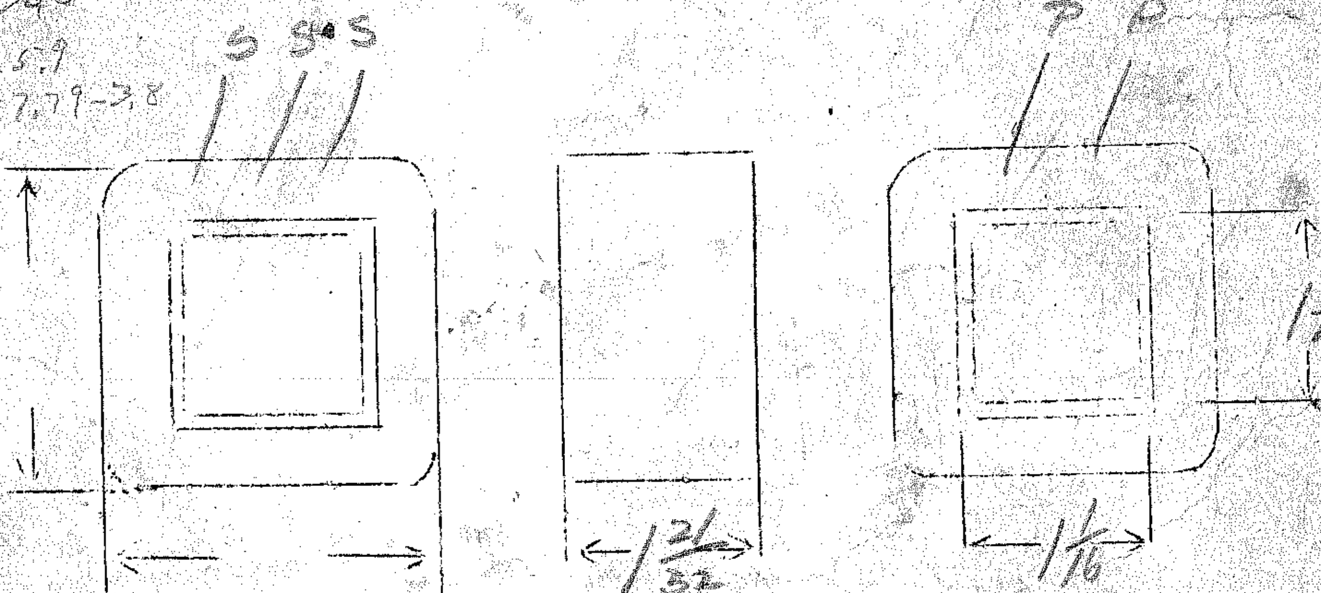
Winding	SEC	SHIELD	PRI	F1	F2	F1	F2
Turns	5150	78	856	41	21	41	53
Taps	2575		—	—	10	—	26
Wind. Lgth.	1 15/32	1 15/32	1 15/32			—	—
Wire Size	#35	#26	#26	#20	#16	#20	#20
T.P.L.	216-24	78	79-11			—	—
Kind Term.	#20	wire	#20	WIRE ONLY		—	—
Term. Lgth.	9"	3"	9"	9"	9"	9"	9"
Layer Insul.	Double #16		40#				
Wrapper	2L0070C	2L0070C	2L0056A	2L0056A	2L0056A	2L0056A	2L0056A

TUBE | 7L007

IMPREGNATION | VARNISH

CURE | 1 1/16 X 1 1/4

S 365 S
F1 5.9
F2 7.79-3.8



E_p - 230 V
E_s - 650 VCT - 45 Ma.
E_{f_1} - 5 V - 2 Amp
E_{f_2} - 2.5 V - 5 Amp

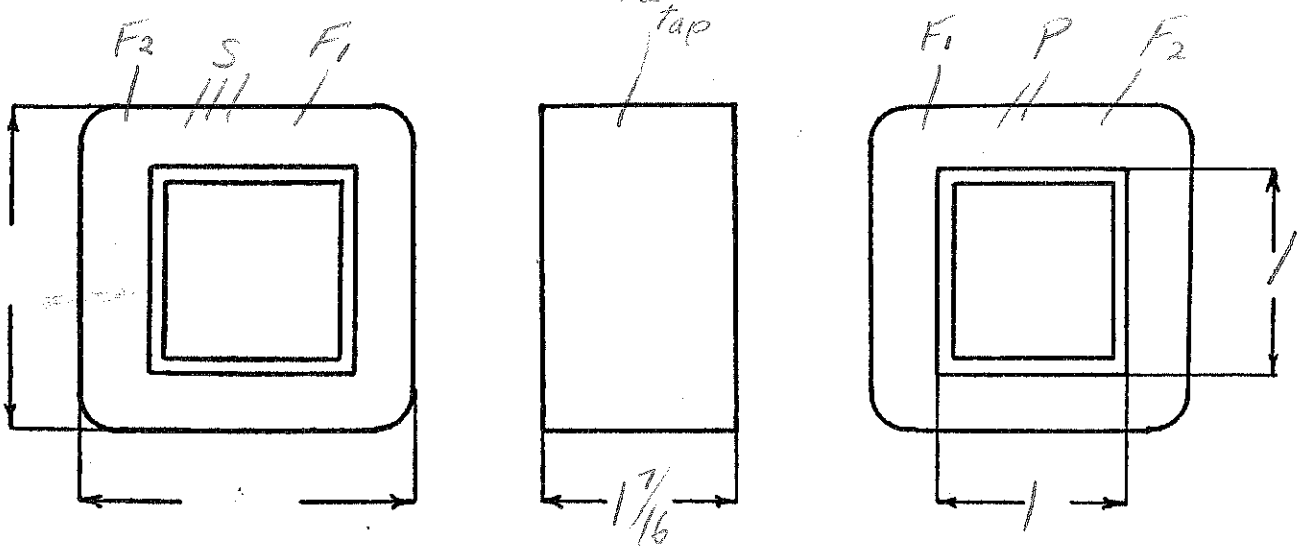
SPEC. NO. P210-230V

Winding	Sec	Shield	Pri	Green F_1	Black F_2		
Turns	3700 - 1850	103	1300	31	15 - 7		
Taps							
Wind. Lgth.	1 1/4						
Wire Size	#36	#30	#30	#21	Double #20		
T. P. L.	207-18		103-13				
Finish							
Type Lead	#20 P.B.S.	1 B.S.	#20 P.B.S.	Wire Only			
Lead Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	Double 16 #		30 #				
Test Volt.	Standard						
Wrapper	2L007VC	2L005VC	2L005GA	2L005GA	2L005GA		

TUBE 5Z007GK | IMPREGNATION Double Varnish

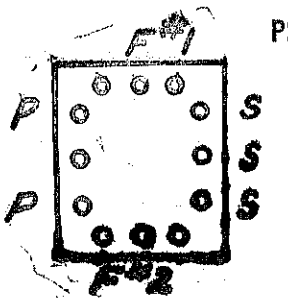
CORE IX1 | GA. 24 | GRADE D | STACK 2X2

MOUNTING A or B



DESIGNED BY G.W.

DATE 8-23-38



P210

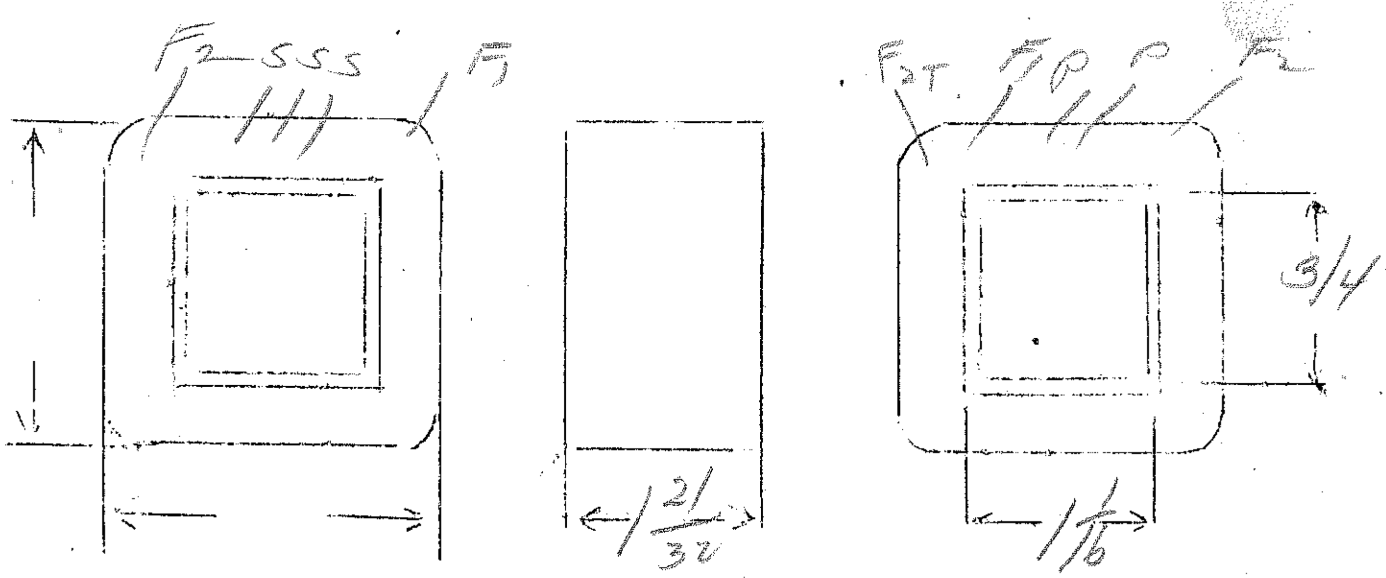
Pri - 115V - 50-60 Cycle
Black Braid
Sec 660 V. C. T. 45 Ma
Red Braid - Blue C.T.
Fil #1 - 5V, 2 Amps
Green Sleeving
Fil #2 - 2.5 V.C.T. - 5 Amps
Black Sleeving

Same as 211 except Ep = 125V

SPEC. NO. 211N

Winding	PRI	SHIELD	SEC	F1	F2		
Turns	860	72	5000	38	20		
Taps	—	—	2500	—	10		
Wind. Lgth.	1 15/32	1 15/32	1 15/32	—	—		
Wire Size	#26	#26	#36	#20	#16		
T.P.L.	22-12	72	230-22	—	—		
Kind Term.	#20 PBr	sil Br	#30 PBr	wire			
Term. Lgth.	9	3	9	9	9		
Layer Insul.	30#	—	20#	—	—		
Wrapper	1L00 WC	1L00 WC	2L005 GA	→	→		

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1 1/16 x 3/4		



Power Transformer

STOCK

120V Primary @ 60 Cycle
to
700V CT @ 55 Ma.
5V @ 2 Amp.
2.5V @ 6 Amp.

SPEC. NO. P-211

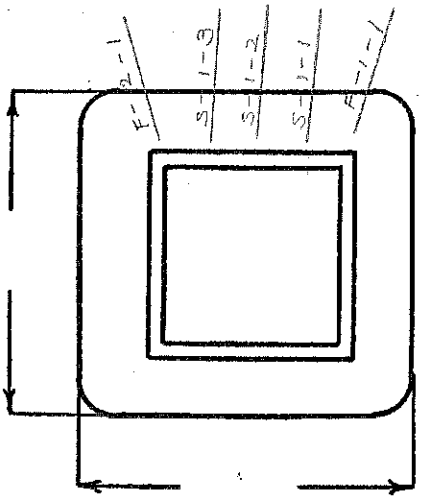
Winding	Secondary	Shield	Primary	5V Fil. #1	2.5V Fil. #2		
Turns	3000	1	472	22	11		
Taps CT	1500	-	-	-	5 CT		
Wind. Lgth.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	= 1.25"	
Wire Size	#36	.001" Cu. Sheet	#25	#20	Double #18		
T. P. L.	188 - 16L	1	59 - 8L	22 - 1L	11 - 1L		
~~Finish~~ Pitch	83%	-	90%	59%	74%		
Type Lead	#22 Dulac	#25 P. E.	#22 Pr. Br.	W. O. Sleeve	W. O. Sleeve		
Lead Lgth. CUT	12"	3"	12"	12"	12"		
Layer Insul.	1L .20#G	-	1L .40#G	-	-		
Test Volt.	2500V	-	1500V	2500V	1500V		
Wrapper	1L .005" VC	1L .005" VC	2L .005" GA	2L .005" GA	2L .005" GA		

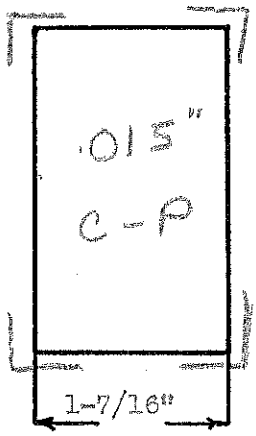
TUBE	5L - .007" GK + 1L - .003" VP	IMPREGNATION	VARNISH

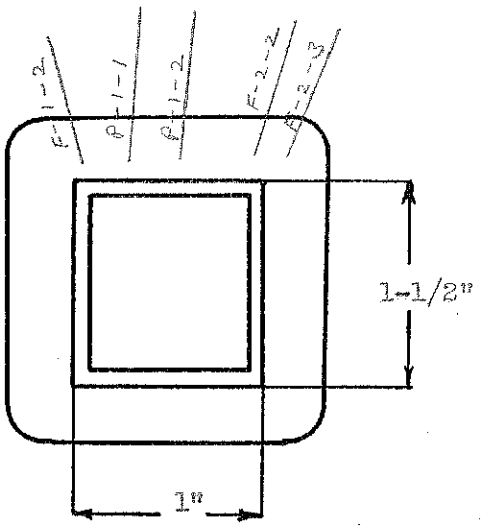
CORE 1" x 1-1/2" E & I GA. 24 GRADE D STACK 2 x 2

MOUNTING "A" - Leads

Cu = 757 - 720 - 510 - 542
Fe = 72.3 @ 60 Cycle
TPV = 3.93
WN = 0.348 (0.348)



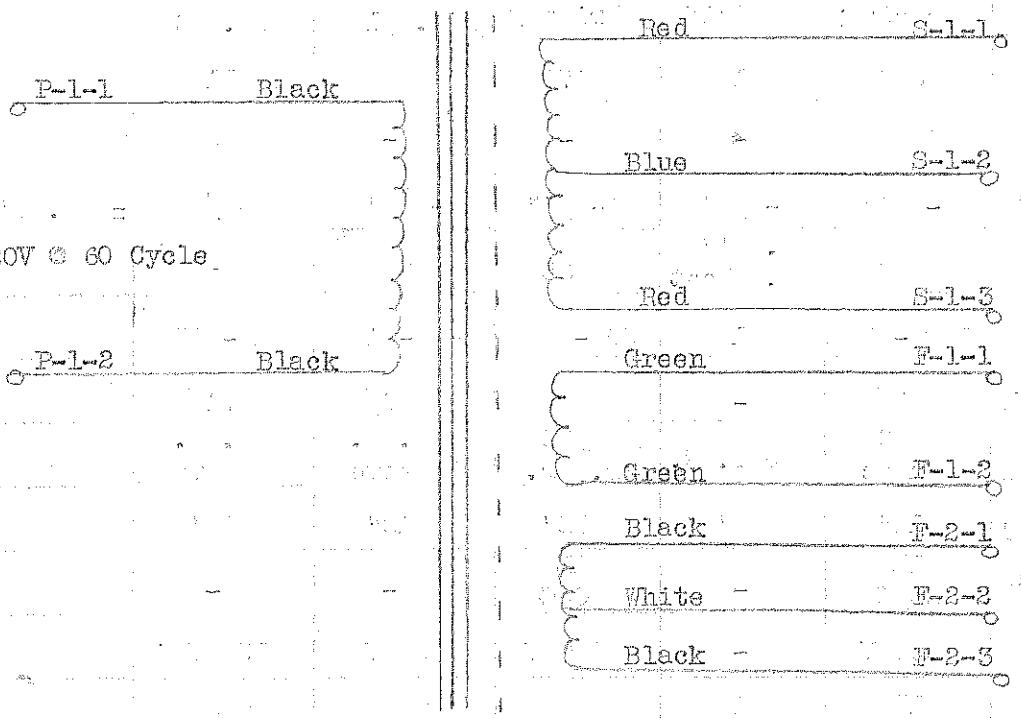




Re-DESIGNED BY HHH

DATE 4-28-43

P-211



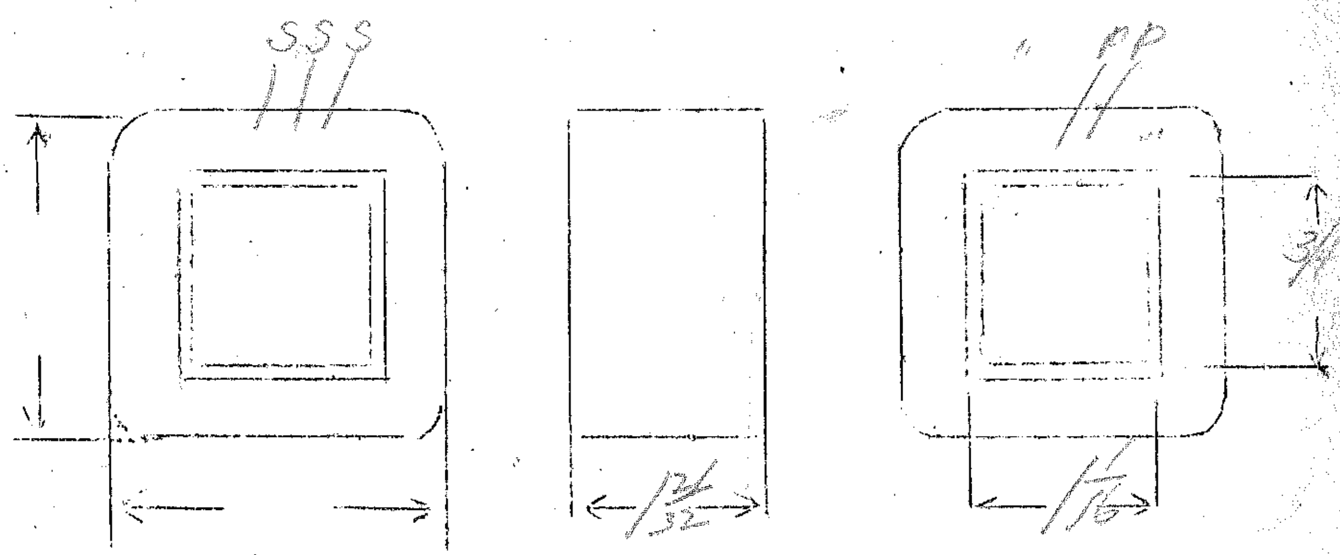
Primary: 120V @ 60 Cycle

7.15

SPEC. NO. 211-6211-N(02

Winding	SEC	SHIELD	PRI	F_1 (211N)	F_2 (211N)	F_1 (6211N)	F_2 (6211N)
Turns	5200	80	870	40	20	40	50
Taps	2600	—	—	—	10	—	25
Wind. Lgth.	$1\frac{15}{32}$	$1\frac{15}{32}$	$1\frac{15}{32}$	—	—	—	—
Wire Size	#35	#26	#26	#20	#16	#20	#20
T.P.L.	218-24	80-1	80-11	—	—	—	—
Kind Term.	#20 Par Braid	WIRE ONLY	#20 Par Braid	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"	9"	9"
Layer Insul.	double 16#		40#				
Wrapper	1L007VC	1L007VC	2L005GA	2L005GA	2L005GA	2L005GA	2L005GA

TUBE	7L007	IMPREGNATION	VARNISH
CURE	$1\frac{1}{16} \times \frac{3}{4}$		



E_b - 230V
E_g - 700VCT - 55 ma
E_{F_1} - 5V - 2amp E_{F_2} 2.5VCT - 6amp

6.2

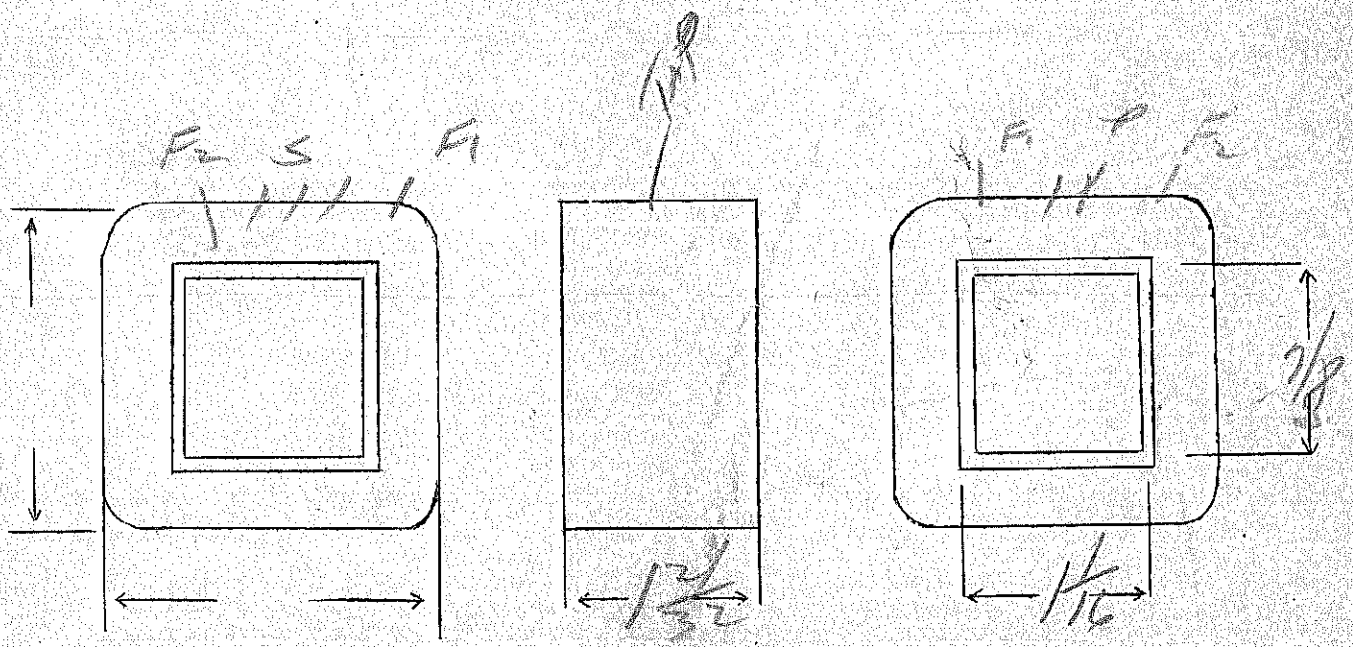
SPEC. NO. P-211-230V

Winding	SEC	SHIELD	PRI	F_1	F_2		
Turns	4700	111	1425	34	17		
Taps	2350		—	—	8		
Wind. Lgth.	1 15/32			—			
Wire Size	#35	#29	#29	#20	#16		
T.P.L.	2½-22		1½-13				
Kind Term.	#30 DSC		#30 BE	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	1-16#		40#				
Test Volt.							
Wrapper	1L005VC	1L005VC	2L005GA	2L005GA	2L005GA	DOUBLE	

TUBE 7L007 | IMPREGNATION VARNISH

CORE | PRIMARY V.A.

MOUNTING order



DESIGNED BY [illegible] DATE 5/23/38

$\frac{N}{E} = 444$

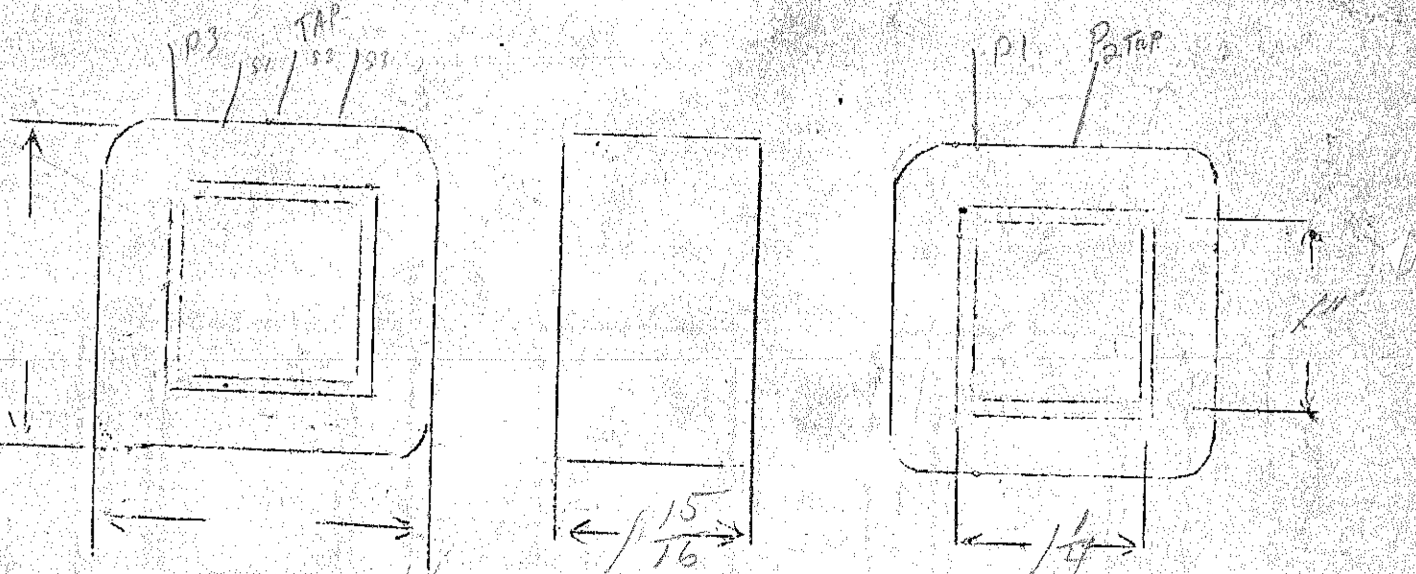
SPEC. NO. 212

Winding	PRI	SHIELD	SEC	F1	F2	F3
Turns	1040	205	3640	24	12	12
Taps	975	—	1820	—	—	6
Wind. Lgth.	1 3/4	1 3/4	1 3/4	—	—	—
Wire Size	25E	33E	33E	18	14	16
T.P.L.	83 13	205	205 - 19	—	—	—
Kind Term.	WIRE ONLY	SIL BR	SIL BR	WIRE ONLY	WIRE ONLY	WIRE ONLY
Term. Lgth.	3"	3"	3"	3"	3"	3"
Layer Insul.	50 M GL		20 M GL			
Wrapper	1L 007 VC	1L 007 VC	2L 005 GA		2-L 005 GA	

TUBE | 7L 007

IMPREGNATION | VARNISH

CURE | 14 V1 NW



Watch lead positions

Ep - 220-240V Ef - 2.5V - 5 amp
S - 700VCT - 100 ma Ef - 2.5VCT - 3.5 amp
F - 5V - 2 amp

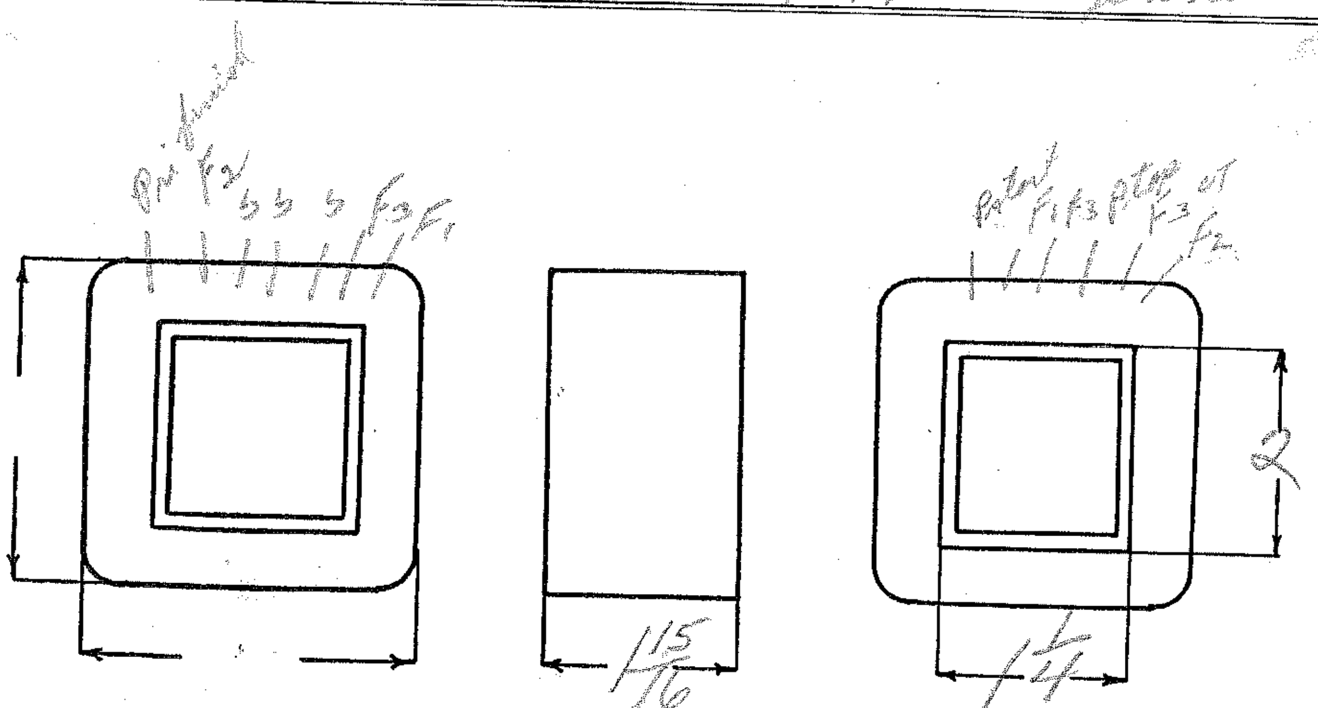
SPEC. NO. 212-25

Winding	SEC	SHIELD	PRI	F1	F2	F3	
Turns	3400	188	1030	24	12	12	
Taps	1700		950	—	—	6	
Wind. Lgth.	1.75						
Wire Size	#33	#33	#25	#19	#15	#17	
T. P. L.	188		83-13	"			
Finish			W. O.	WIRE ONLY			
Type Lead	sil. br.	✓					
Lead Lgth.	3"	3"	3"	3"	3"	3"	
Layer Insul.	double 16 #		50 #				
Test Volt.	—	—	—	—	—	—	
Wrapper	1600 7VC	1600 7VC	2600 7GA	2600 7GA		2600 7GA	

TUBE	7L007	IMPREGNATION	VARNISH

CORE 1 1/4 X 2 GA. GRADE STACK

MOUNTING C - use Corrected 2247 Printed panel



DESIGNED BY Weaver

DATE 11/24/37

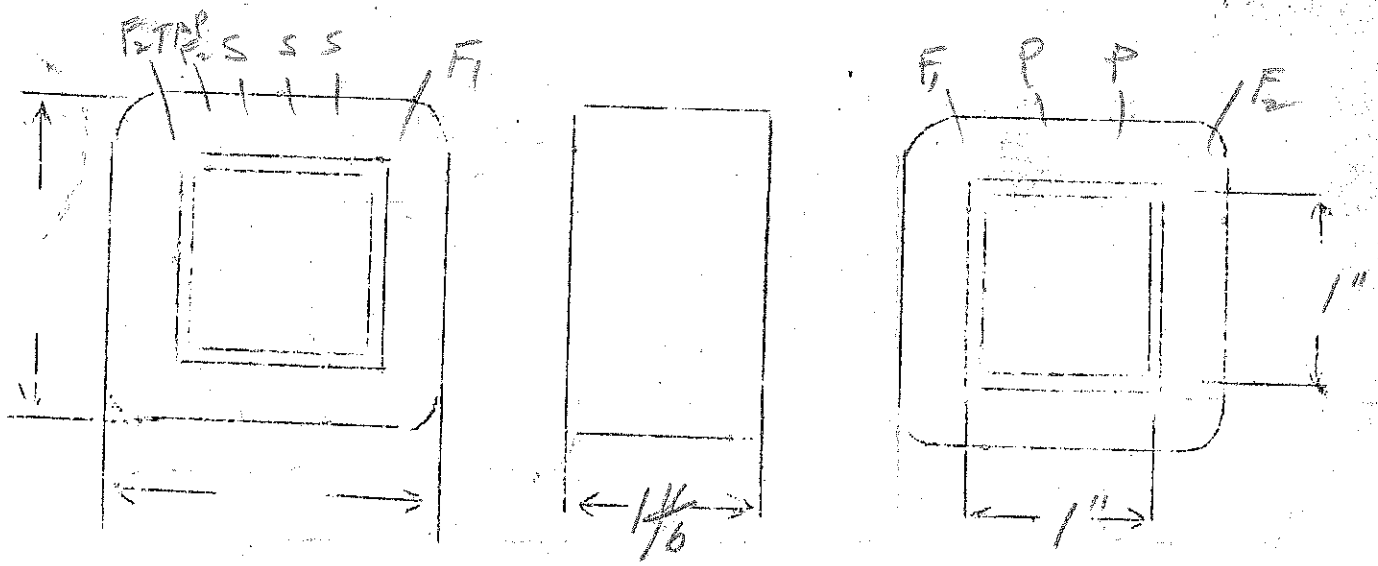
$E_p = 118$
$E_s = 690$ open
$E_{F_1} = 5.6$ open
$E_{F_2} = 2.8$ open

GILFILLAN - INCA 1505
B = 12,500 lines
$\frac{N}{E} = 5.55$

SPEC. NO. 213

Winding	PRI	SHIELD	SEC	F1	F2		
Turns	656	82	3900	31	16		
Taps	NONE		1950	—	8		
Wind. Lgth.	1.5	1.5	1.5	1.5	1.5		
Wire Size	#26E	#26E	#36E	#20E	#15E		
T.P.L.	82-8	82	244-16	31	16		
Kind Term.	#20 P.BR	SIL. BR	#22 P.BR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		20#				
Wrapper	2L003VP 2L Classine	2L003VP 2L Classine	2L0056A	→			

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1X1 M		



Ep- 120
Es- 640V - 40 Ma.
Ef - 5V - 2 a.
Ef.-2.5 V - CT - 4 amp.

File Copy

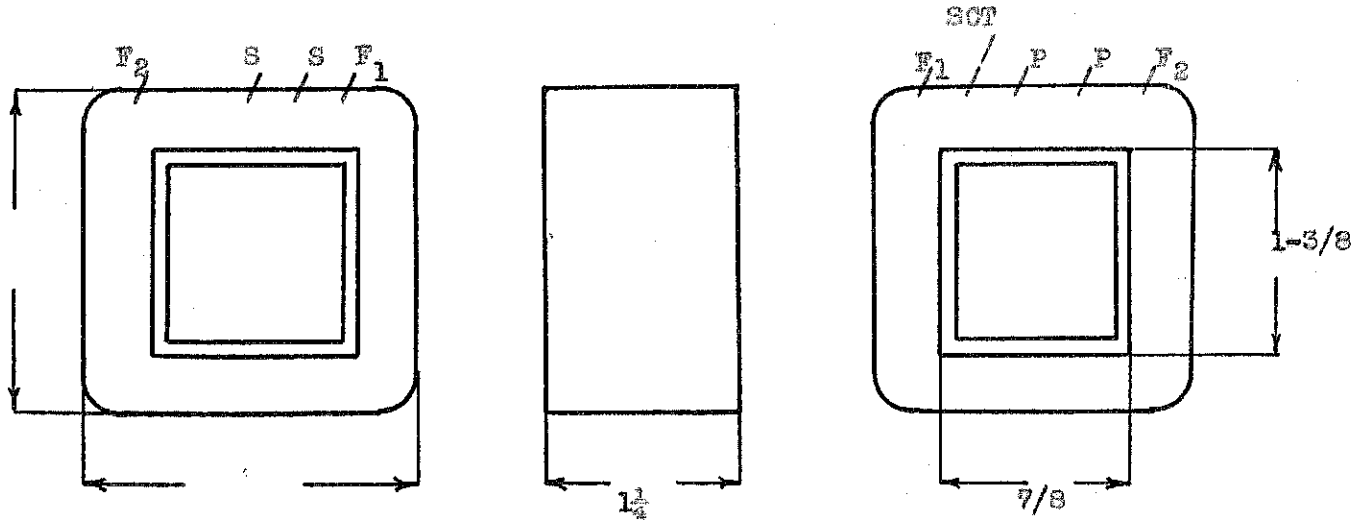
Green Black SPEC. NO. P215

Winding	Sec	Shield	Pri	F_1	F_2		
Turns	2740	64	512	24	12		
Taps	1370		-		6		
Wind. Lgth.	1-1/16	1-1/16	1-1/16				
Wire Size	#37	#27	#27	#21	double #21		
T. P. L.	196-14	64	64-8				
Finish							
Type Lead	#20 Pr. Br.	w. o.	#22 Pr. Br.	Wire	Only		
Lead Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double #14#		40#				
Test Volt.							
Wrapper	1L007VC	1L005VC	2L005CA	2L005CA	2L005CA		

TUBE 5L007 IMPREGNATION Varnish

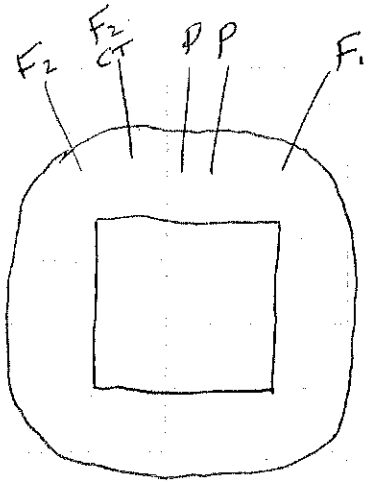
CORE 7/8 x 1-3/8 GA. GRADE STACK

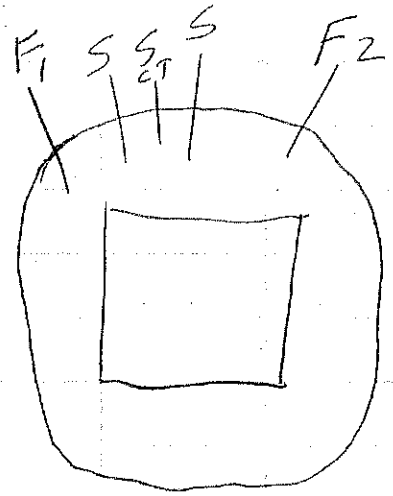
MOUNTING A B(over)



DESIGNED BY G W

DATE 6/12/37





#2 — .0355 A
.0270 - Panel

#3 — 2.25

S = 328,328

GF = 5.7

B.F. = 1.43,143

P = 118V PETER PAN - 5 TUBE SPECIAL

S = 550 (open)

F1 = 5V - 2 amps

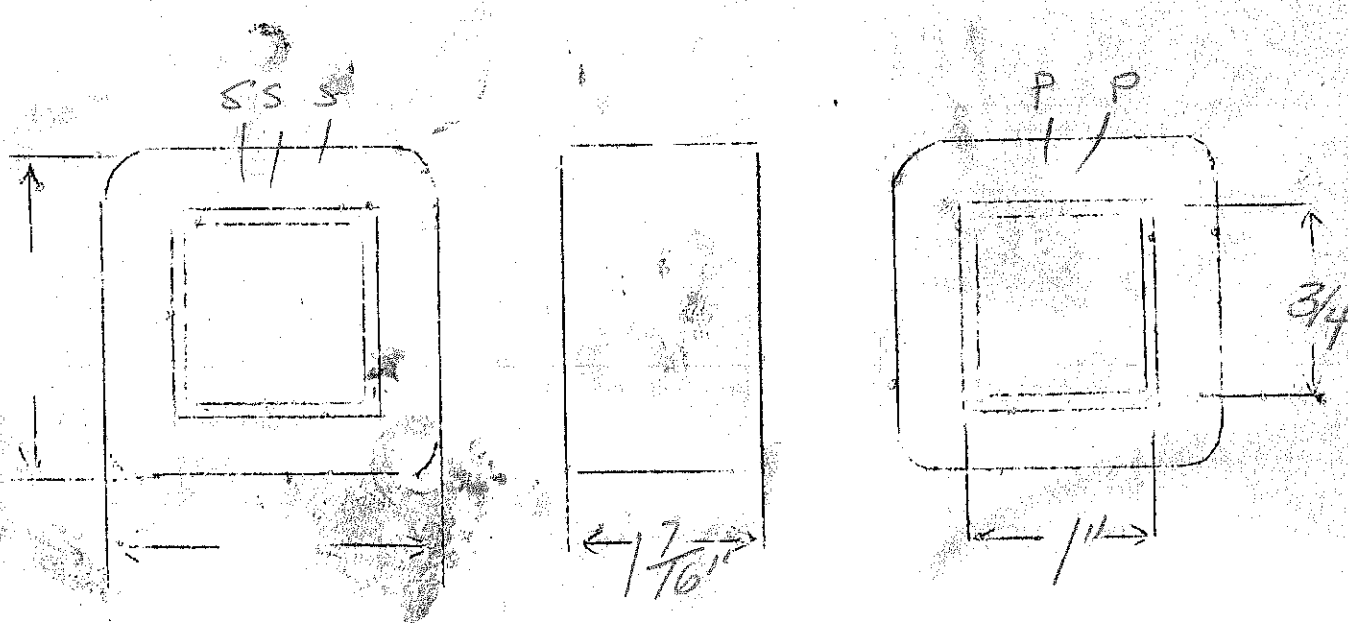
F2 = 2.5V, 4.25 amps

SPEC. NO. 2141

Winding	PRI	SHIELD	SEC	F1	F2		
Turns	808	81	3520	38	19		
Taps	NONE	—	1760	NONE	NONE		
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	#28	#28	#37	21E	17E		
T.P.L.	81-10	81	220	38	19		
Kind Term.	#20 P.BR	WIRE ONLY	#22 P.BR	WIRE ONLY	—		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30 #10		20 #10				
Wrapper	1L005VC	1L005VC	2L005GA	2L005GA			

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1 X 3/4 NW



E_p - 110 V   2.5V - 3amps   RCA R32, 52, 45, 75
E_s - 800V - 130Ma 5V - 3.5amps   List Price 8.50
E_f - 2.5V - 3amps
1.5V - 9amps
1.5V - 2amp   VA = 108   33

SPEC. NO. 214-25

Winding	PRI	SHIELD	SEC	F_1	F_2	F_3	F_4	F_5
Turns	364	182	2800	9 [2]	6 [5]	6 [4]	18 [1]	9 [3]
Taps	—	—	1400	—	—	—	—	5
Wind. Lgth.	1.75	1.75	1.75	—	—			
Wire Size	#21		#32	#18E	13E	#19	#18	#18E
T.P.L.	54	182	182	—				
Kind Term.	#20 PBR	5" BR	#20 PBR	WIRE ONLY			→	
Term. Lgth.	3"	3"	3"	3"	3"	3"	→	
Layer Insul.	50#		20#	—				
Wrapper	2L003VP	2L003VP	2L005GA	→	→	→		

TUBE	4L009	IMPREGNATION	VARNISH
CURE	1 1/4 x 2 1/2 (2 x 3/4 window)		

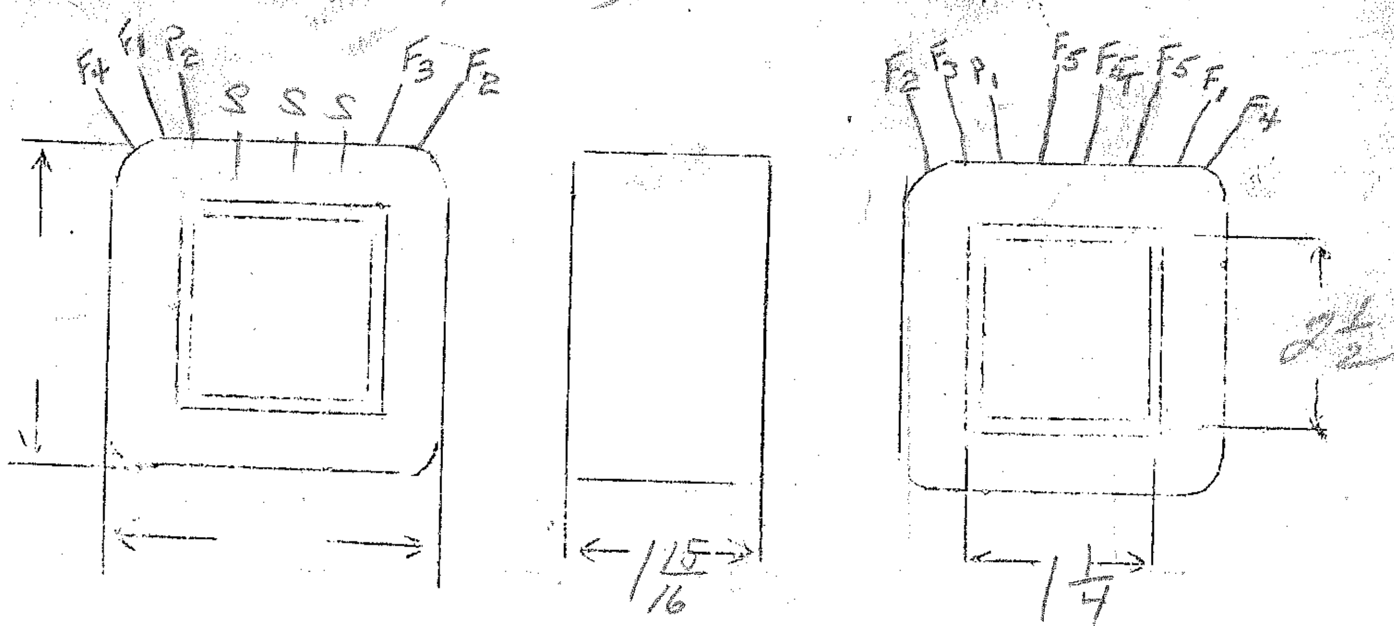
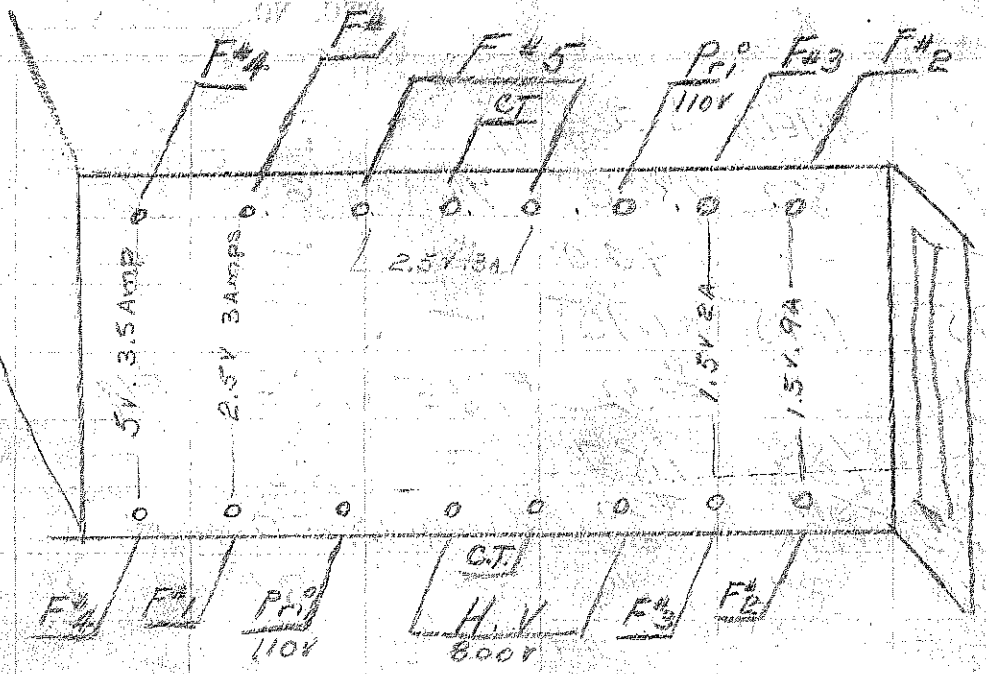


Diagram for Panel on reverse side.


F#4
F#1
F#5
C.T.
Pr.1°
110v
F#3
F#2
5v. 3.5 Amp
2.5v. 3 Amps
2.5v. 1 Amp
1.5v. 2A
1.5v. 9A
F#6
F#1
Pr.2°
110v
C.T.
H.V.
8.000v
F#3
F#2

E_p = 240V – 40W REMINGTON

E_s = 650V – 45ma

E_{F_1} = 5V – 2amps

E_{F_2} = 2.5V – 4.25 amps

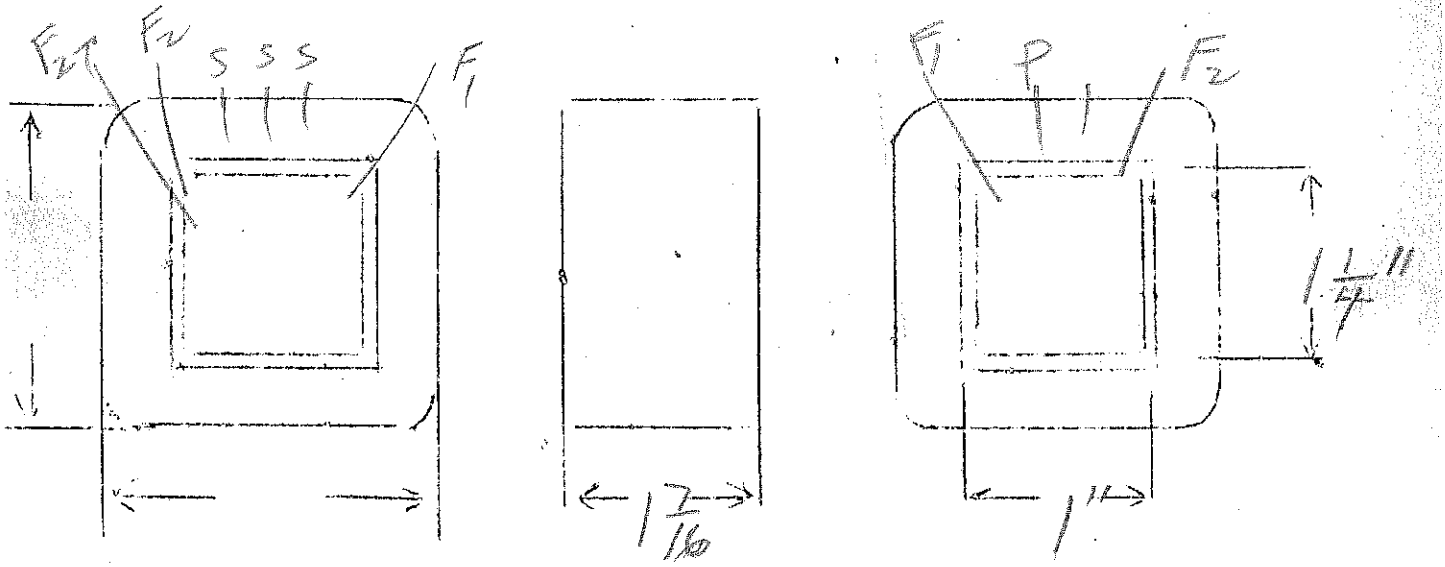
SAME AS #210 – E_p = 240V – 40W

SPEC. NO. 216

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	1280	92	3700	30	15		
Taps	NONE	—	1850	—	7		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	#30E	#30E	#36E	#21E	#17E		
T.P.L.	92–14	92					
Kind Term.	#20 P.BR	SIL BR	#22 P.BR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	3 mil		2 mil				
Wrapper	1L005VC	1L005VC	1L005GA	2L005GA	2L005GA		

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1X1½ NW



$E_p = 118V$ REMINGTON

SAME AS #218

$E_p = 240V - 40 \sim$

$E_S = 690V$ open 50 ma

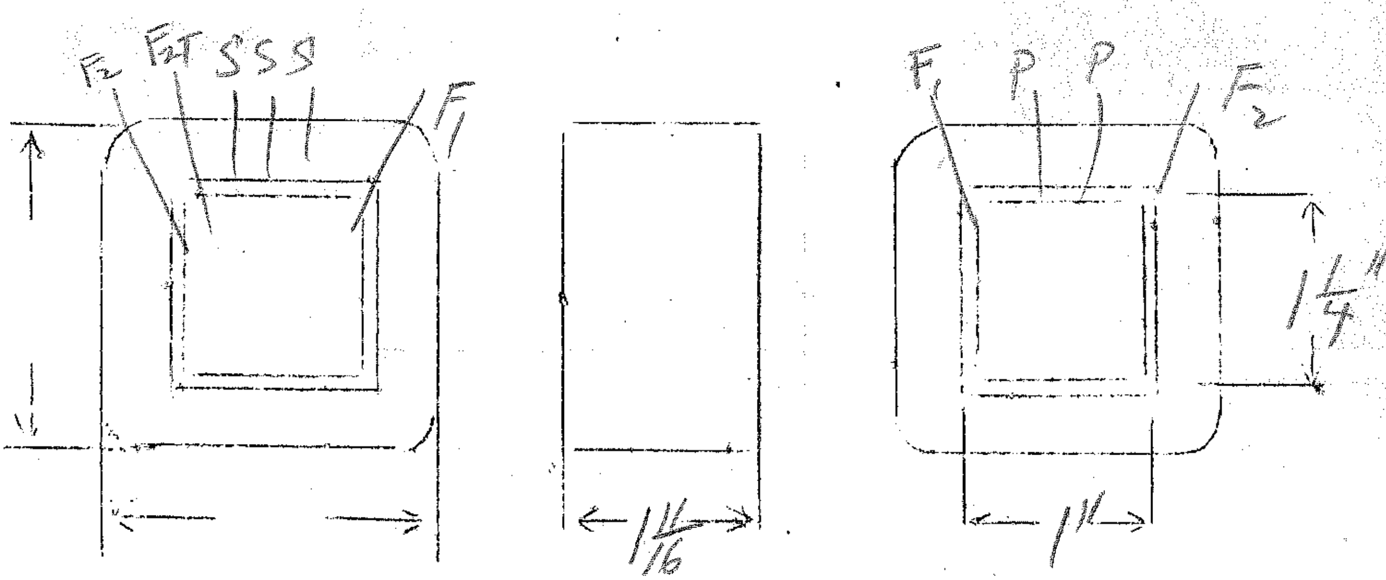
$E_{F_1} = 5V - 2$ amps

$E_{F_2} = 2.5V - 5$ amps

SPEC. NO. 217

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	1340	96	3900	31	16		
Taps	NONE	NONE	1950		8		
Wind. Lgth.	1.5	1.5	1.5	1.5	1.5		
Wire Size	#29	#29	#36E	#20E	#15E		
T.P.L.	96-14	96-1	244-16	31	16		
Kind Term.	#22 PBR	S11 BRAID	#22 P.BR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		20#				
Wrapper	1L005VC	1L005VC	1L005VC	2L0056A	2L0056A		

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1X1¼ M		



RADIO PHONE TUBE TESTER TRANSFORMER

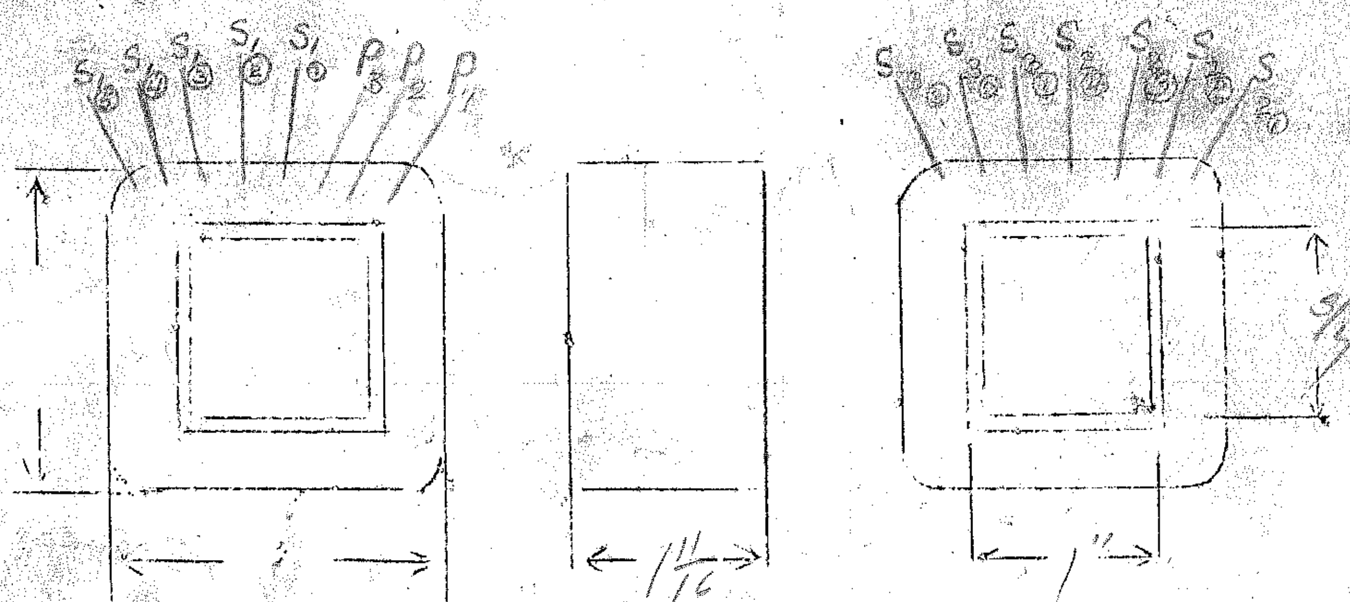
OVER

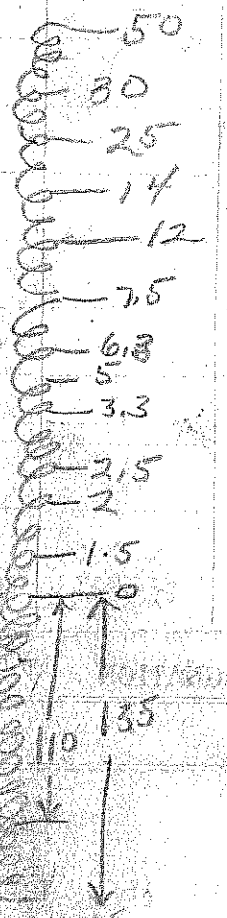
565 N=75

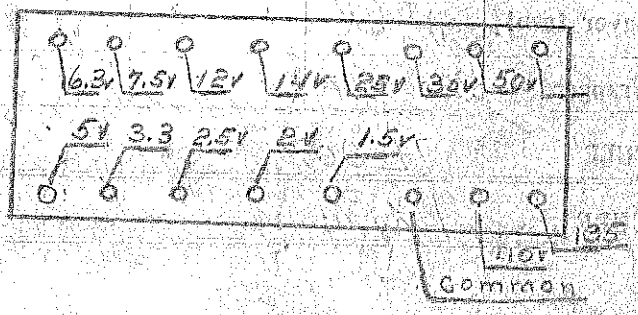
SPEC. NO. 217 [illegible] 131

Winding	PRI	SEC1	SEC2	SEC3			
Turns	1090	40	71	280			
Taps	265	12-16-20-26 End 40	10-20-56 End 71	88-130 End-280			
Wind. Lgth.	1.5						
Wire Size	#24	#18	#20	#22			
T.P.L.	64						
Kind Term.	WIRE	ONLY					
Term. Lgth.	3"						
Layer Insul.	30# Kel						
Wrapper	2L00560						

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1 X 3/4 M		




50
30
25
14
12
7.5
6.8
5
3.3
2.5
2
1.5
0
110
135


6.3v
7.5v
12v
14v
25v
30v
50v
5v
3.3
2.5v
2v
1.5v
110v
135
Common

E_p = 240v - 40w KEMINGTON

E_{s_1} = 600v - 40ma

E_{F_1} = 5v - 2amps

E_{F_2} = 2.5 - 3.25 amps

SAME AS #102

E_p = 240 V - 40 W

SPEC. NO. 219

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	1540	110	4200	36	18		
Taps	NONE	NONE	2100	NONE	9		
Wind. Lgth.	1.25	1.25	1.25	1.25	1.25		
Wire Size	#31E	#31	#37E	#21	#18		
T.P.L.	110-14	110	215	—	—		
Kind Term.	SI BR	SI BR	SI BR	WIRE ONLY			
Term. Lgth.	3"	3"	3"	3"	3"		
Layer Insul.	~~30#~~		20#				
Wrapper	1L005VC	1L005VC					

TUBE	4L007	IMPREGNATION	VARNISH

CURE	1 X 1 NW

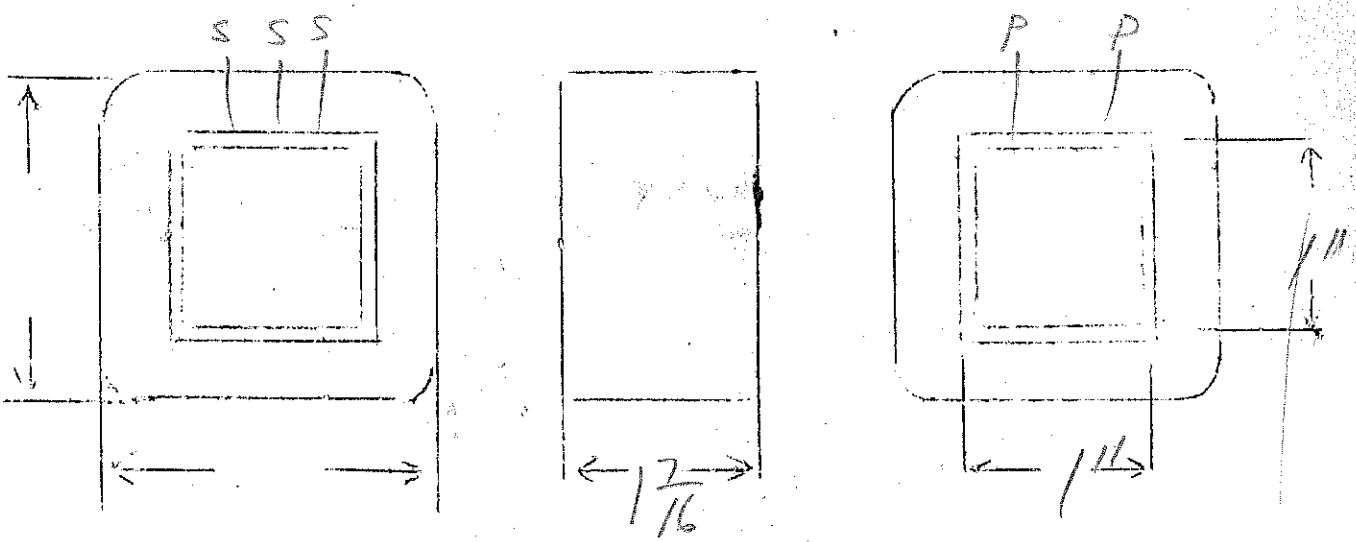


Fig. 120!

E_s = 8, 24 volt - 50 watt

SPEC. NO. 219-A

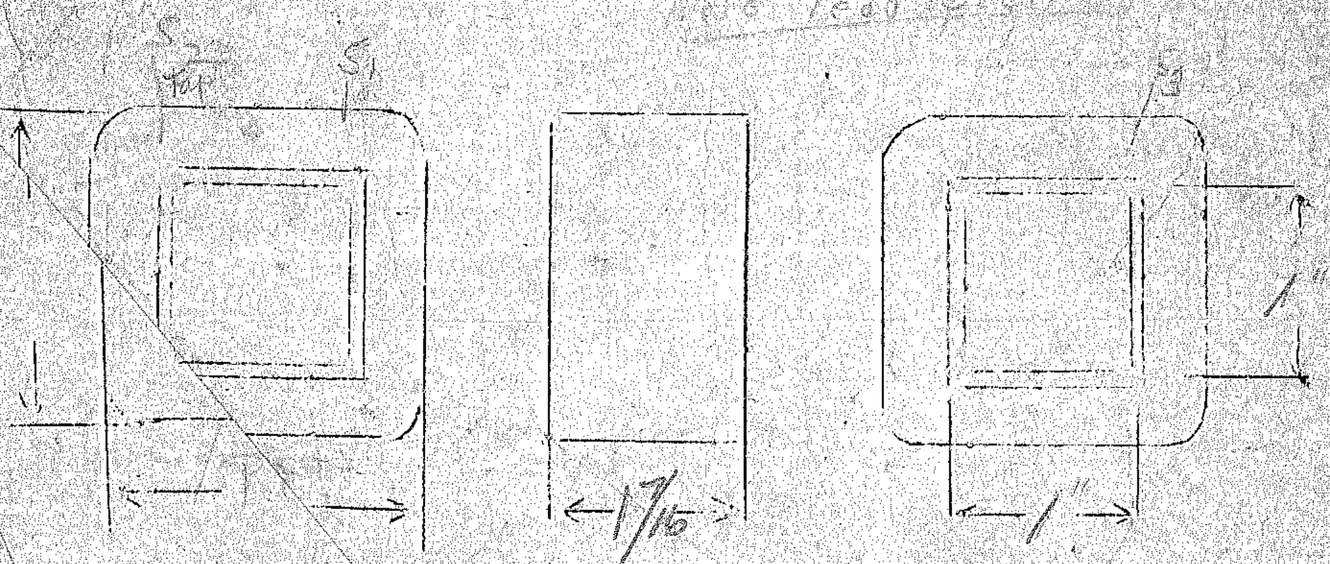
Winding	PRI	SEC					
Turns	630	150					
Taps	—	50					
Wind. Lgth.	1.25	1.25					
Wire Size	26	21					
T.P.L.	63-10	32-5					
Kind Term.	#14 Braid	#14 Braid					
Term. Lgth.	[illegible]	[illegible]					
Layer Insul.	3#	5#					
Wrapper	[illegible]	2 - .005 [illegible]					

TUBE [illegible] | IMPREGNATION [illegible]

CURE [illegible]

Mount with special case

Note lead position



Pri Case — single grommet
Sec Case — Grommet #1 - Common [illegible] 8 volt tap
Grommet #2 24 volt tap

Ep: 240V
Es - 24V - 50 watt tap 8 watt

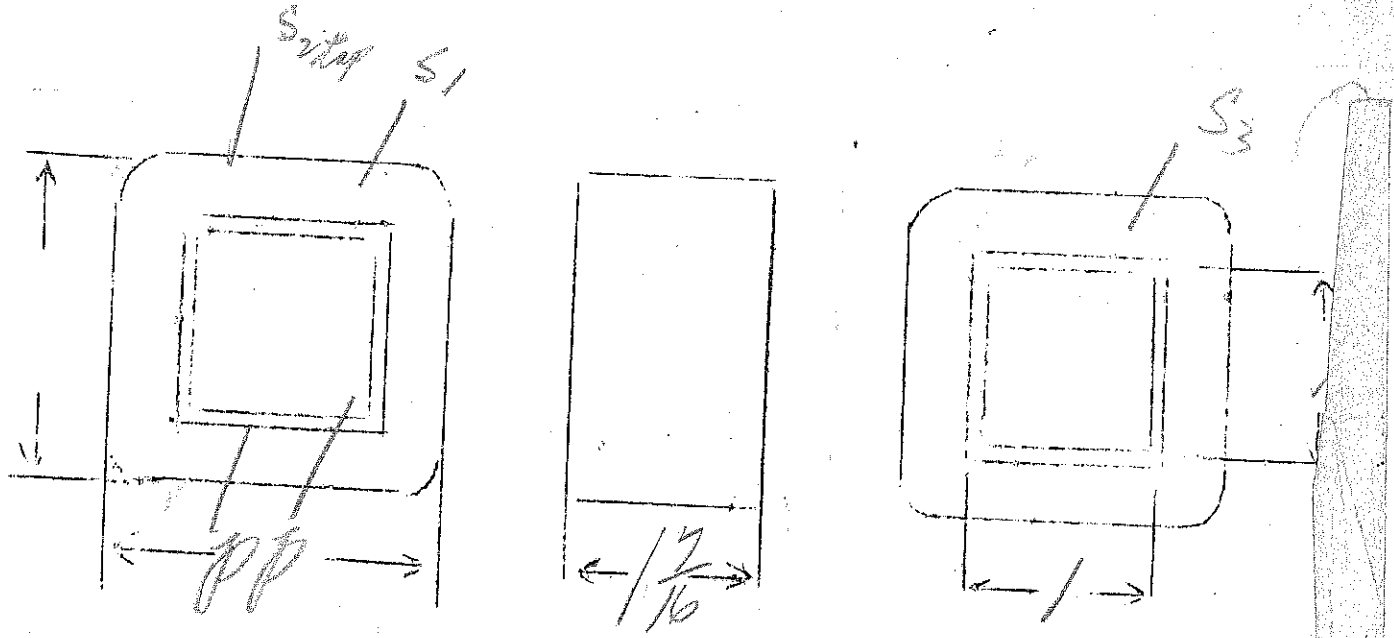
58

SPEC. NO. 219-240V

Winding	PRI	SEC					
Turns	1380	153					
Taps	—	52					
Wind. Lgth.	1.25						
Wire Size	#29	#21					
T.P.L.	94-13						
Kind Term.	#14	Braid					
Term. Lgth.	12"	12"					
Layer Insul.	30#	—					
Wrapper	2U055A	2U055A					

TUBE | 7U07 | IMPREGNATION | Varnish

CURE | 1X1



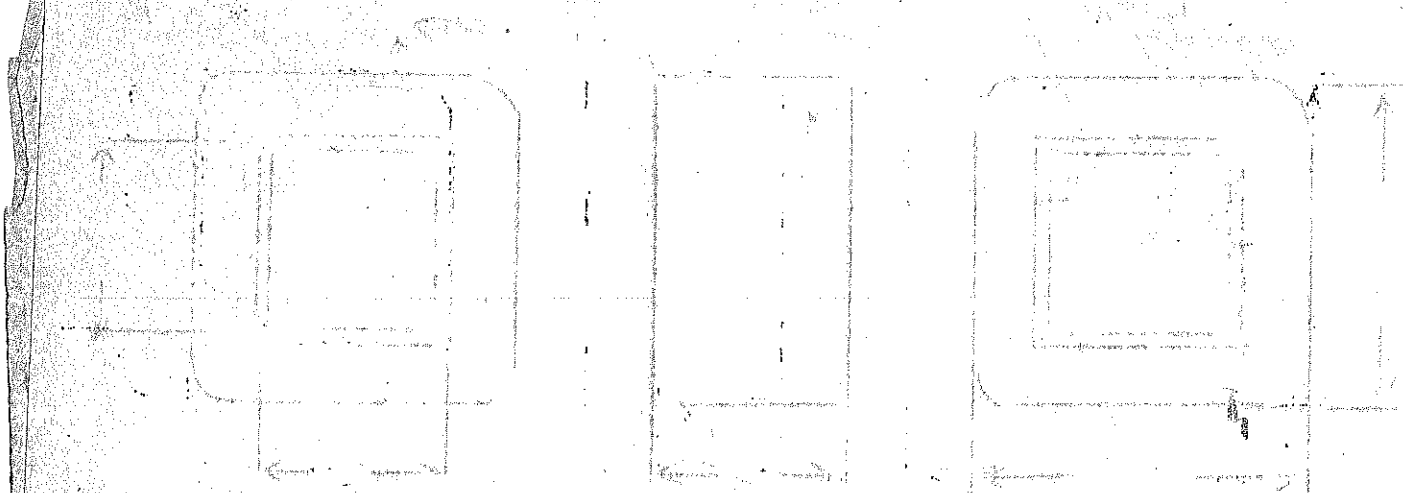
50-60 CYL

240

50 VA

219

0-8 24



Isolation

117 V to 117 V 50/60 ~

35 watts

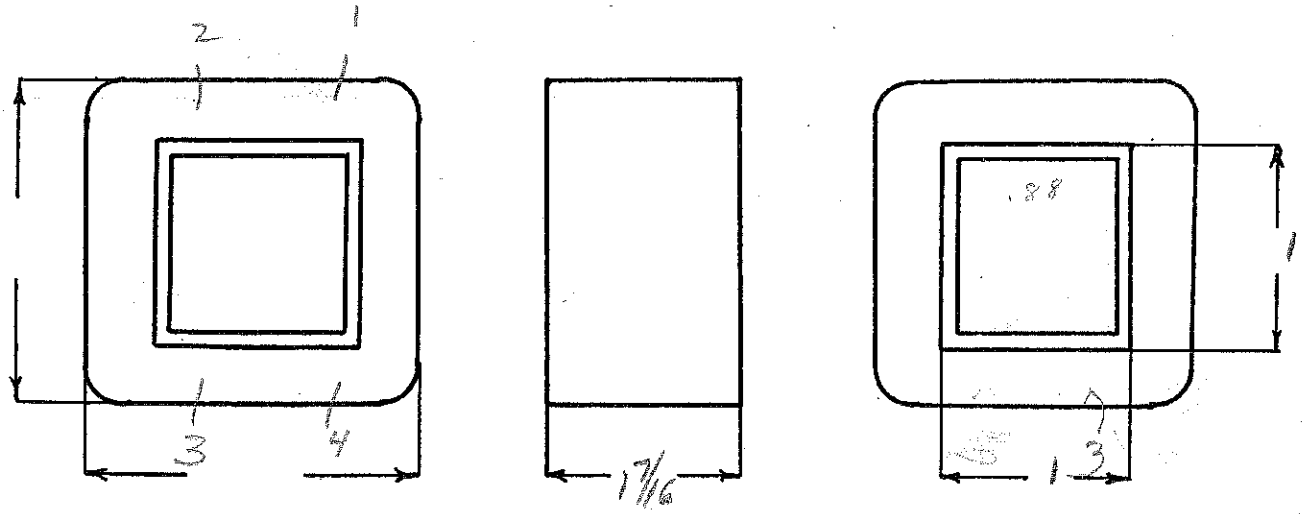
New Stock

SPEC. NO. P 220

Winding	1-2 Sec.	Shield	3-4 Pri.				
Turns	800	1	715				
Taps	—	—	—				
Wind. Lgth.	1 1/4	1 1/4	1 1/4				
Wire Size	#28	.001 Cm.	#26				
T. P. L.	80 - 10L	—	65 - 11L				
Finish	87%	—	87%				
Type Lead	S.L Br. to Leg	S.L Br.	S.L Br. to Leg				
Lead Lgth.	3"	3"	3"				
Layer Insul.	30#	—	40#				
Test Volt.	1500	—	1500				
Wrapper	1L005VC	1L005VC	2L005GA				

TUBE	5L010GK		IMPREGNATION	Varnish	
CORE	1 X 1	GA. 24	GRADE D	STACK 2 X 2	
MOUNTING	D				

wn 86%



DESIGNED BY S. Babcock

DATE 3-30-49

DESIGN AND TEST DATA

Rating: I_s = .299 Amps

Sec VA = 3
Pri VA =
I_p = 406 ma

Winding	Sec	Sec.	Pri				
Mean Turn	4.93		6.33				
Resistance 25° c	21.75 Ω		15.65	6.35			
Pounds Copper	.161		.295				
Copper Density	535		605				
Ratio Volts	117.2		117				
Test to Ground	1500		1500				

Iron Induction 13kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1-2 Female Socket
3-4 male plug

Isolation — New stock

117 V to 117 V 50/60 ~ A.

35 VA

SPEC. NO. P 220

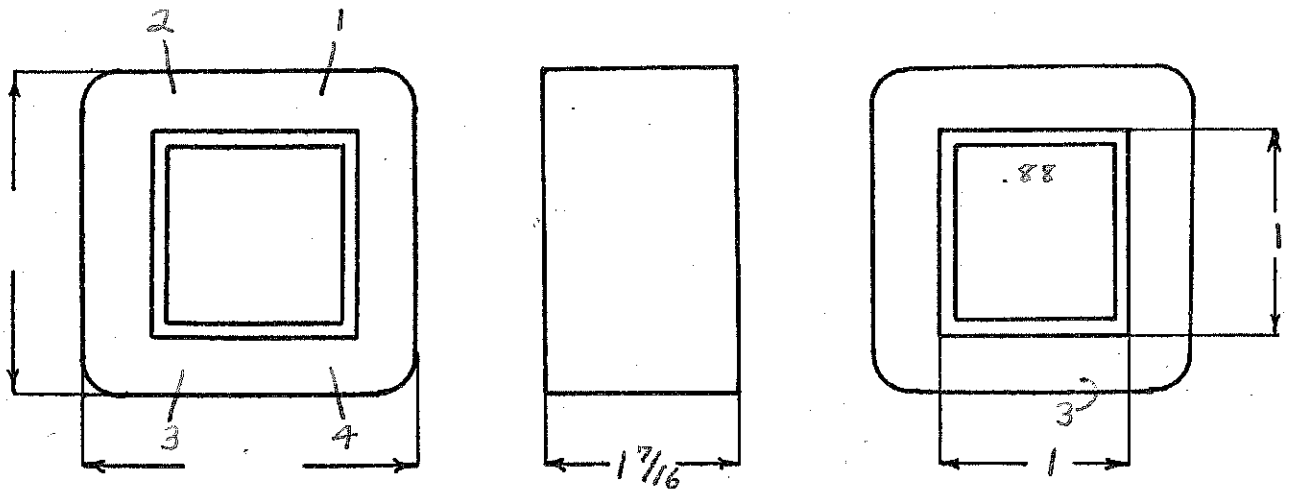
Winding	1–2 Sec	Shield	3–4 Pri		Sec	Pri	
Turns	800	1	715		1-80	1-65	
Taps	—	—	—		2-160	2-130	
Wind. Lgth.	1¼	1¼	1¼		3-240	3-195	
Wire Size	#28	.001 cu	#26		4-320	4-260	
T. P. L.	80–10L	—	65–11L		5-400	5-325	
Finish / Pitch	87%	—	89%		6-480	6-390	
Type Lead	~~Lil. Br.~~ to lug	Lil. Br.	~~Lil. Br.~~ to lug		7-560	7-455	
Lead Lgth.	3"	3"	3"		8-640	8-520	
Layer Insul.	~~40#~~	—	40#		9-720	9-585	
Test Volt.	1500	—	1500		10-800	10-650	
Wrapper	IL-003CA 1 Lap ~~IL-005VC~~	IL-003CA 1 Lap IL-005VC	IL-003CA 1 Lap ~~IL-005VC~~			11-715	

TUBE 5L010GK + IL003CA IMPREGNATION Varnish

CORE 1 × 1 GA. 24 GRADE D STACK 2 X 2

MOUNTING D

mm = 86%



DESIGNED BY S. BABCOCK DATE 3-30-49

DESIGN AND TEST DATA

Rating: $I_s = 297$ ma.

Sec VA = 35
Pri VA = 47
$I_p = 406$ ma.

Winding	Sec	Shield	Pri				
Mean Turn	4.93		6.33				
Resistance 25° c	21.75		15.65				
Pounds Copper	.161		.295				
Copper Density	535		605				
Ratio Volts	117		117				
Test to Ground	1500		1500				

Iron Induction 13Kg @ 50 Cycles

Exciting Current 70 ma amperes @ 117 V volts 60 cycles on

Induced Test: Apply Volts at Cycles on with grounded

Remarks:

~~1-2 Female Socket~~

~~3-4 male plug~~

E_0 = 1225 V

E_{F_3} = 700 V – 45 ma

E_{F_1} = 5 V – 2 amps

E_{F_2} = 2.5 V – 5.75 amps

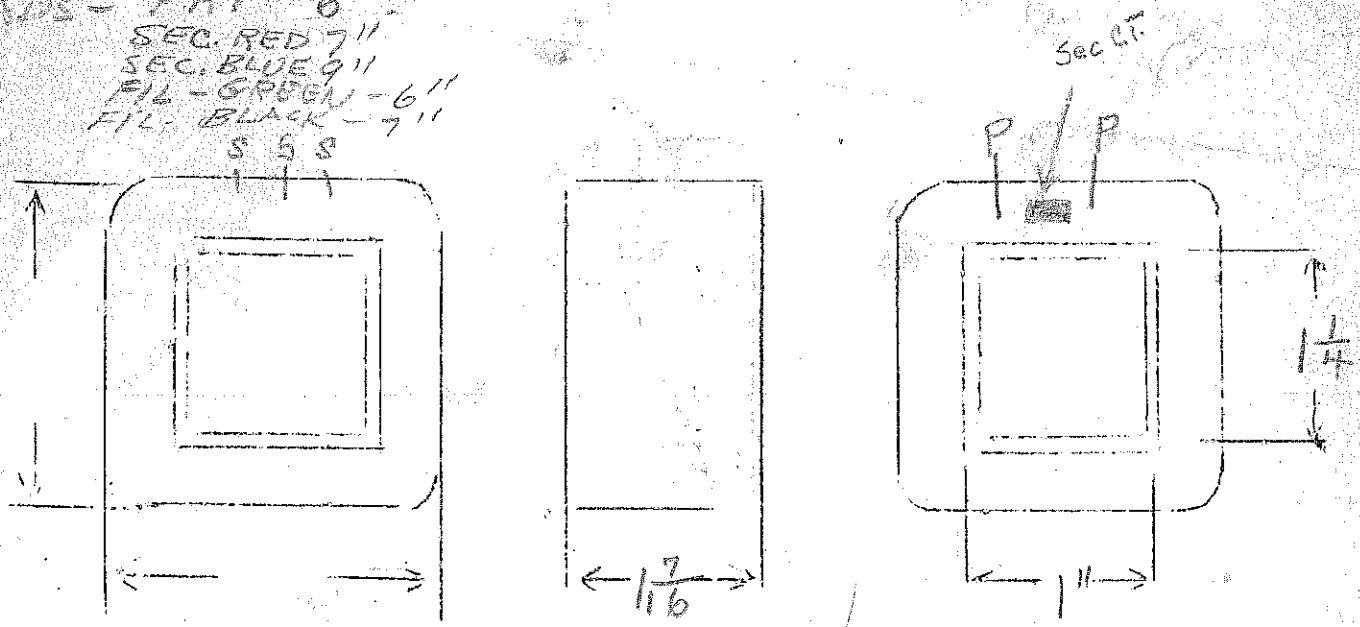
SPEC. NO. 220

Winding	PRI	SHIELD	SEC	F_3	F_2	F_2	
Turns	496	214	2996	23	12	12	
Taps	NONE	NONE	1498	NONE	NONE	NONE	
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	#26	#36	#36	#21	#16 or Bunch of #19		
T.P.L.	62-8		214/14				
Kind Term.	#20 PBR	SIL. BR.	#22 PBR	WIRE ONLY			
Term. Lgth.	5"	3"					
Layer Insul.	30#		20#				
Wrapper	1L005VC	1L005VC	2L005GA	2L005GA	2L005GA		

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1 X 1 hr NW

LEADS – PRI – 6"
SEC. RED 7"
SEC. BLUE 9"
F_2 – GREEN – 6"
F_2 – BLACK – 9"

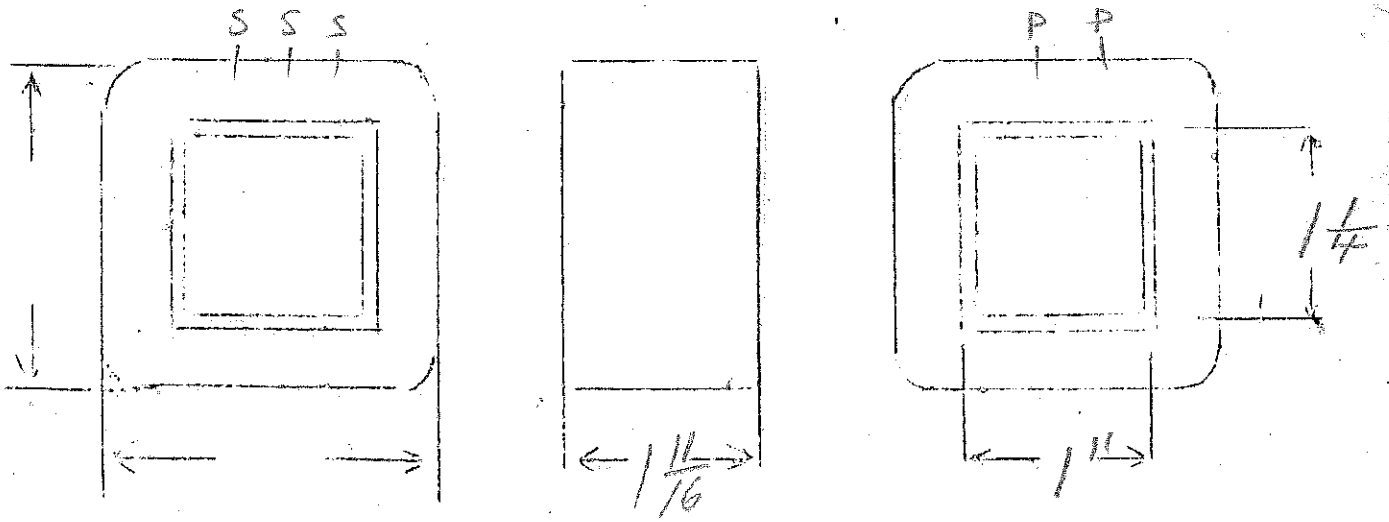


SPEC. NO. 220X (Amp 6)

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	530	78	3240	24	12		
Taps	—	—	1620	—	—		
Wind. Lgth.	1.5	1.5	1.5	—	—		
Wire Size	#26	#26	#36	#21	#17		
T.P.L.	78	78	235	24	12		
Kind Term.	P.B.P.	SILK	P.B.P.	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		20#				
Wrapper	1L005VC	1L005VC	2L005CA	—	—		

TUBE | 7L007 | IMPREGNATION |

CURE | 1 X 1½ M RECLAIMED



Ep - 120 V.
Es - 700 V.C.T. - 65 Ma.
Ef_1 - 5 V. - 2 A.
Ef_2 - 2.5 V.C.T. - 8 A.

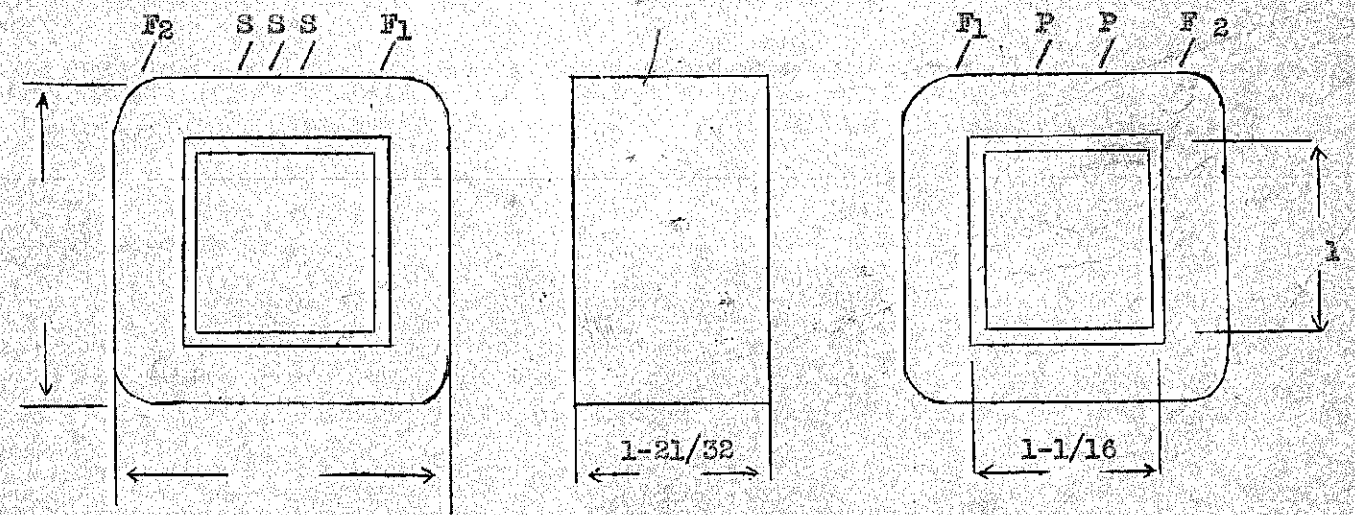
SPEC. NO. P221

Winding	SEC.	SHIELD	PRI.	Green F_1	Black F_2		
Turns	3940	61	625	28	14		
Taps	1970				7		
Wind. Lgth.	1-15/32	1-15/32	1-15/32				
Wire Size	#35	#24	#24	#20	#14		
T.P.L.	200-20	61-1	63-10				
Kind Term.	#20 Zeelite	Wire Only	#20 Zeelite	Wire Only			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	Double 16#		40#				
Test Volt.							
Wrapper	1L007VC	1L005VC	2L005GA	2L005GA	2L005GA		

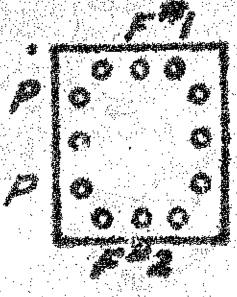
TUBE 7L007 | IMPREGNATION VARNISH

CORE 1-1/16 x 1 | PRIMARY V.A.

MOUNTING A or B



DESIGNED BY G.W. DATE



P221

Pri-115V-50-60 Cycle
Black Braid
Sec 700 V. C. T. 65 Ma
Red Braid-Blue C.T.
Fil #1 - 5V, 2 Amps
Green Sleeving
Fil#2-2.5V.C.T.-3 Amps
Black Sleeving

#3 A 2.1°
B 1.4°

S = 385 385
F1 5.5
F2 = 1.37 1.37

E_p - 230 V
E_s - 700 VCT - 65 Ma
E_{f_1} - 5V - 2 Amp
E_{f_2} - 2.5 V.C.T. - 8 Amp

5.2

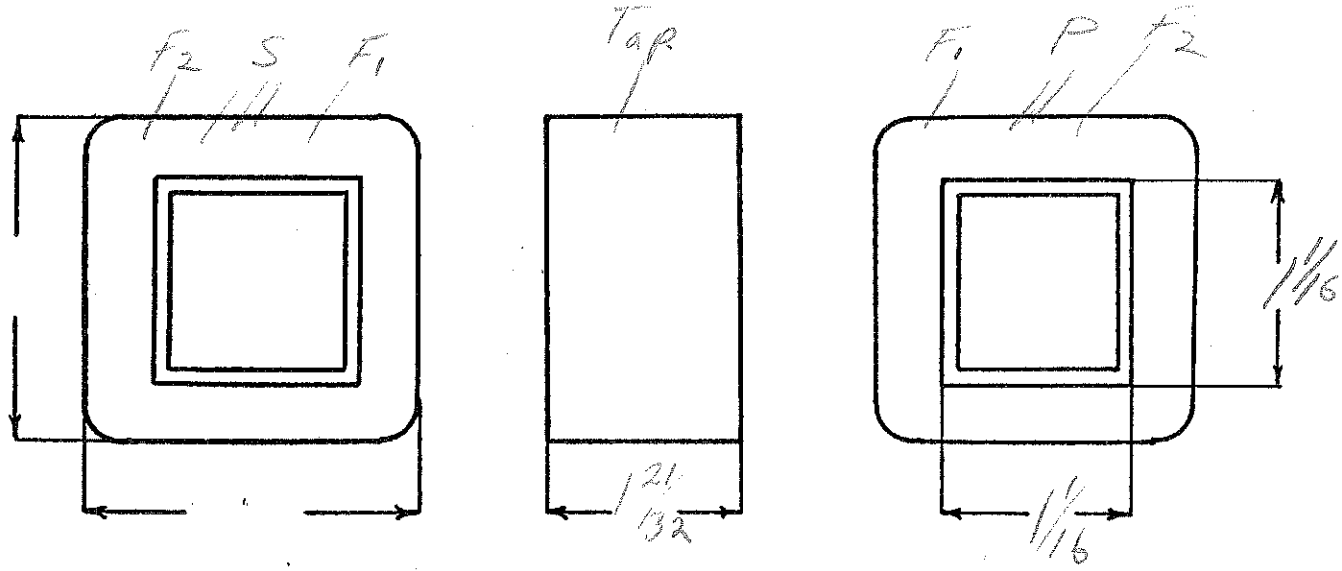
SPEC. NO. P221-230V

Winding	Sec	Shield	Pri	Green F_1	Blue F_2		
Turns	3940	86	1200	28	14		
Taps	1970				7		
Wind. Lgth.	1 5/32	1 5/32	1 5/32				
Wire Size	#35	#27	#27	#20	#14		
T. P. L.	200-20	86-1	86-14				
Finish							
Type Lead	PtBu	W.O.	PtBu.	Twist Only			
Lead Lgth.	9"	3"	9"	8"	9"		
Layer Insul.	Double 10#		40#				
Test Volt.	Standard						
Wrapper	2L007VC	2L005VC	2L005GA	2L005GA	2L005GA	Double	

TUBE 2L0076K IMPREGNATION Varnish

CORE 1/16 X 1 1/16 GA. 24 GRADE D STACK 2 X 2

MOUNTING A or B



DESIGNED BY G.W. DATE

E_p = 117V – 25~

E_{S_1} = 700 V.C.T. – 60 MA

E_{F_1} = 5V – 2 amps

E_{F_2} = 2.5V – 8 amps

B = 14,500

$\frac{N}{E}$ = 4.8

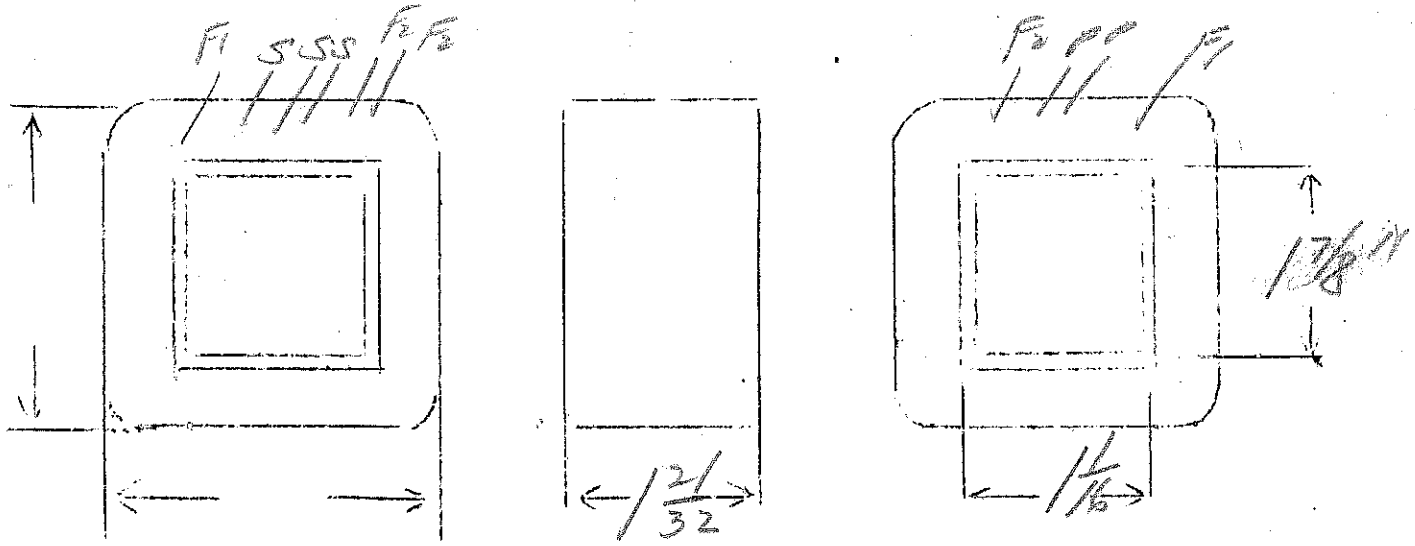
8/16/35

SPEC. NO. 221-251

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	568	189	3750	27	13		
Taps	—		1875	—	7		
Wind. Lgth.	$1\frac{15}{32}$	$1\frac{15}{32}$	$1\frac{15}{32}$	—			
Wire Size	#24	#34	#34	#20	~~#16~~		
T.P.L.	58-10	189	189-20				
Kind Term.	#20 PBw	silRm	#20 PBw	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"			
Layer Insul.	30 #	—	20 #	—	—		
Wrapper	KL007VC	KL007VC	2M56A	2M56A	2M56A		

TUBE | KL007 | IMPREGNATION | VARNISH

CURE | $1\frac{1}{2}$ H | $1\frac{7}{8}$"



E_p = 1250 v
E_s = 650 v - 45 Ma.
F_1 = 5 v - 2 amps
F_2 = 2.5 v - 4.25 amps

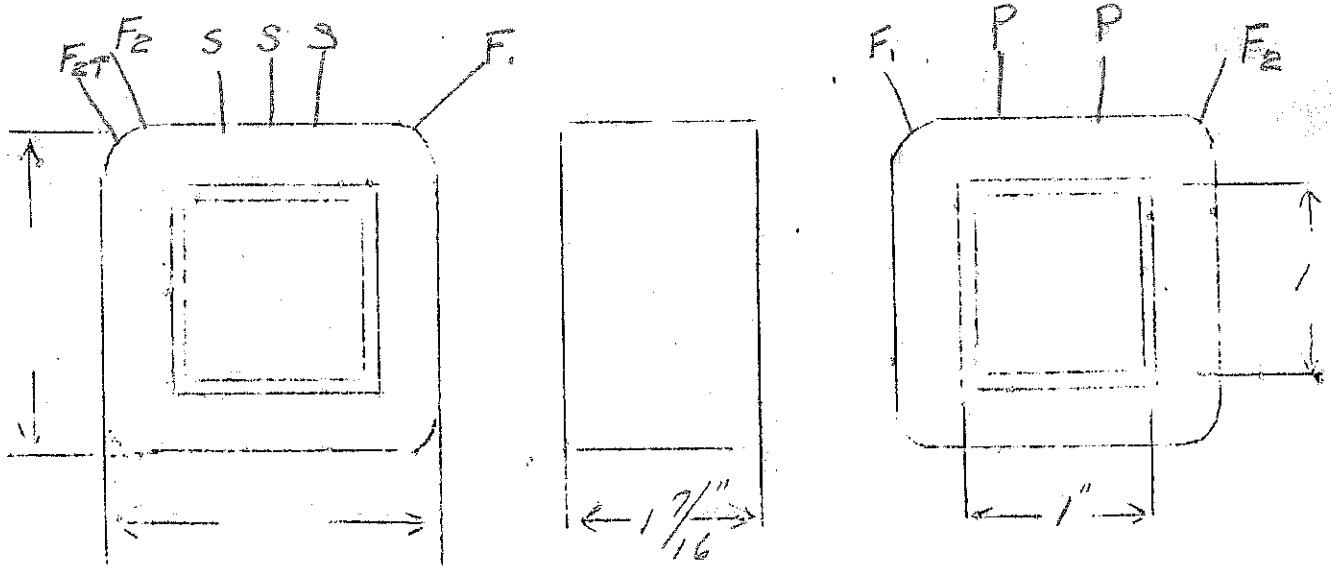
SPEC. NO. 222

Winding	Pri	Shield	Sec	F_1	F_2		
Turns	670	71	3700	30	15		
Taps	—	—	1850	—	7		
Wind. Lgth.	1 1/4"	1 1/4"	1 1/4"	—			
Wire Size	#27	#27E	36E	21E	17E		
T.P.L.	67-10	71	215	Wire	Only		
Kind Term.	#28 P. Br.	Sil Br	#20 P. Br.				
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		20#				
Wrapper	2.003"VP	2.003"VP	—	2L.005 G.A.	—	—	

TUBE		IMPREGNATION	

CURE

SAME AS #210 — E_p = 1225 v.



Isolation

117V to 117V 50/60~

75 VA

New Stock

SPEC. NO. P292

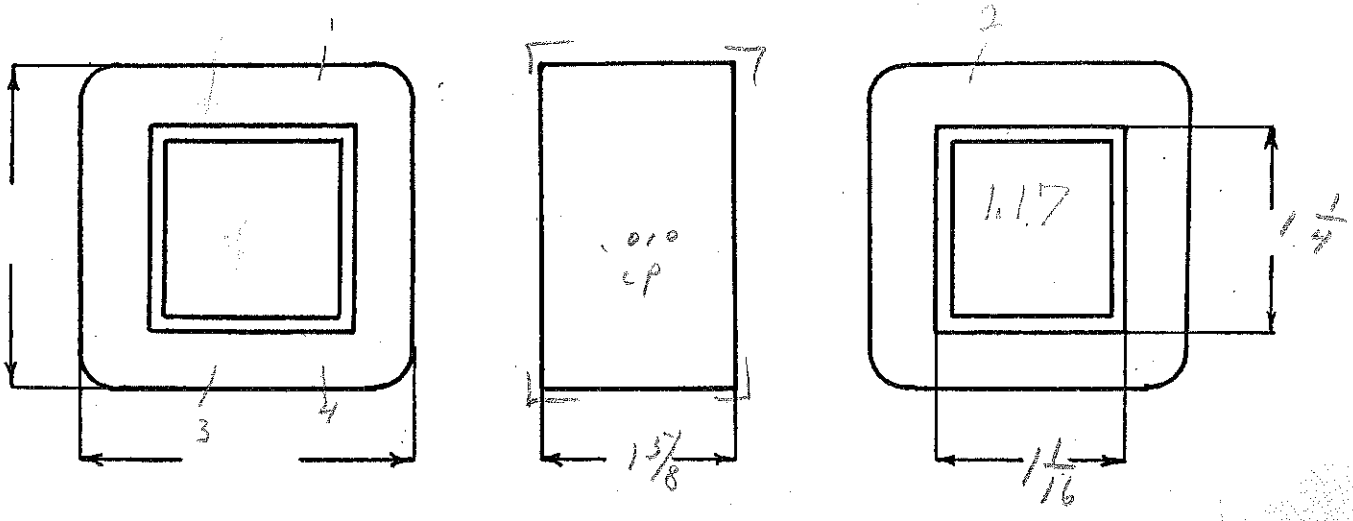
	1-2		3-4				
Winding	Pri	Shield	Sec				
Turns	500	1	550				
Taps	—	—	—				
Wind. Lgth.	1 3/8	1 3/8	1 3/8				
Wire Size	# 23	.001 Cu	# 23				
T. P. L.	56-92	—	56-102				
Finish	90	—	90%				
Type Lead	to lugs W.O.	Sil Bl	to lugs W.O.				
Lead Lgth.	3"	3"	3"				
Layer Insul.	50 #	—	50 #				
Test Volt.	1500	—	1500				
Wrapper	2L005VC	2L005VC	2L005VC				

TUBE 5L010 GK IMPREGNATION Varnish

CORE 1 1/16 x 1 1/4 GA. 24 GRADE D STACK 2 x 2

MOUNTING T

$\eta\eta$ = 89%



DESIGNED BY G. W. See P430

DATE

DESIGN AND TEST DATA

Rating: $I_s = .641$

Sec VA = 75
Pri VA = 101
I_p = 935 mA

Winding	1–2 Pri	Shield	3–4 Sec				
Mean Turn	5.88	—	7.90				
Resistance 25° c	5.09	—	7.52				
Pounds Copper	.384	—	.568				
Copper Density	544	—	794				
Ratio Volts open circuit	117	—	128.8				
Ratio Volts Load	117	—	118.6				
Test to Ground	1500	—	1500				

Iron Induction 12.9 kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 – 2 Male Plug

3 – 4 Female Socket

Isolation

New stock

117 V to 117 V 50/60 ~

75 VA

SPEC. NO. P 222

See P 4-30

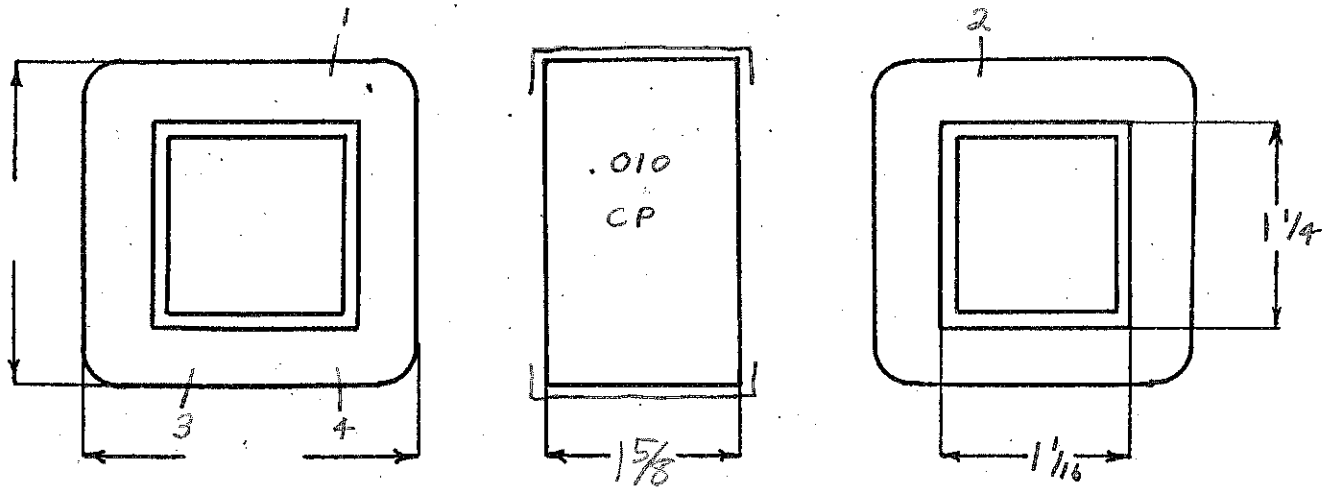
Winding	1-2 Pri	Shield	3-4 Sec				
Turns	500	1	550				
Taps	—	—	—				
Wind. Lgth.	1 3/8	1 3/8	1 3/8				
Wire Size	#23	.001 cu	#23				
T. P. L.	56 - 9L	—	55 - 10L				
Finish Pitch	90%	—	90%				
Type Lead	~~w. o.~~	Sil. Br.	~~w. o.~~				
Lead Lgth.	3"	3"	3"				
Layer Insul.	~~50#~~ 60#	—	~~50#~~ 60#				
Test Volt.	1500	—	1500				
Wrapper	1L003CA ~~2L012VC~~	1L003CA 1L 50# ~~2L005VC~~	2L005GA				

TUBE 5L010GK+1L002CA IMPREGNATION Varnish

CORE 1 1/16 x 1 1/4 GA. 24 GRADE D STACK 2 X 2

MOUNTING T

88%



DESIGNED BY G. W. DATE

DESIGN AND TEST DATA

Rating:

Sec VA = 75
Pri VA = 100
I_p = 935 ma

Winding							
Mean Turn							
Resistance 25° c							
Pounds Copper							
Copper Density							
Ratio Volts							
Test to Ground							

Iron Induction _____ @ _____ Cycles _____

Exciting Current 100 mg amperes @ 117 volts 60 cycles on Pri

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 – 2 Male Plug

3 – 4 Female docket

E_p = 115 V. KA = 113

N/E = 3.6

E_s = 750 v - 150 Ma

E_{f_1} = 2.5 V - 9 amps E_{f_3} = 2.5 V - 2 amps

E_{f_2} = 2.5 V - 5 amps E_{f_4} = 5 V - 3.5 amps

Specification No. 223

Type Transformer Power

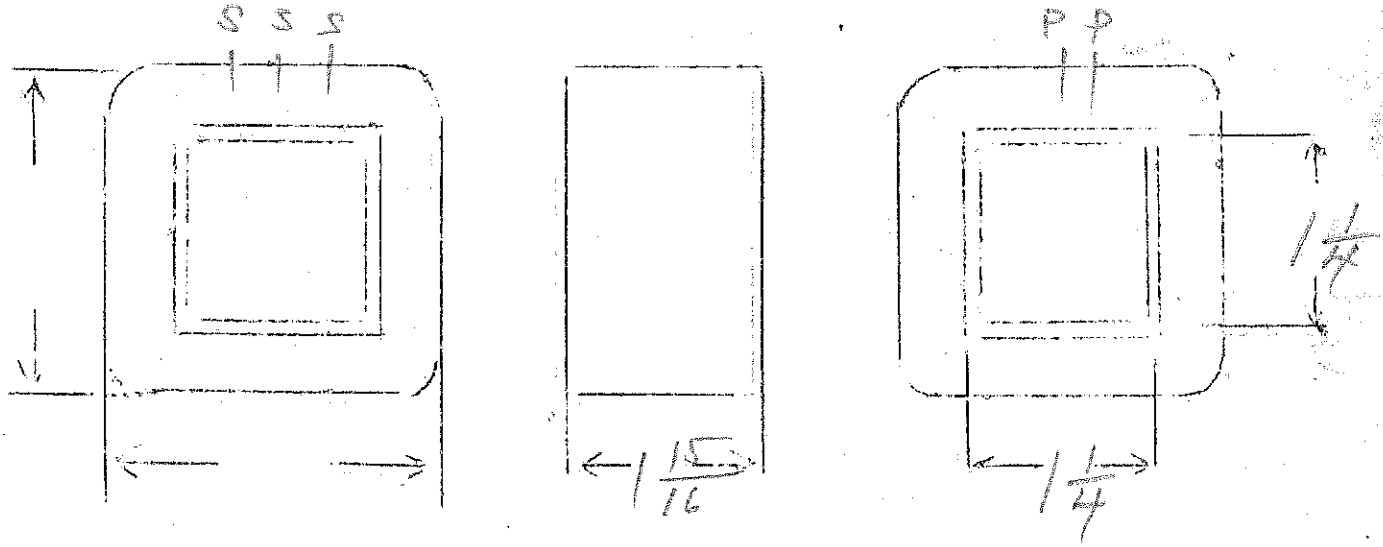
$5.00 Unit

SPEC. NO. 223

Winding	PRI	SHIELD	SEC	E_1 B	E_2 W	E_3 R	E_4 Y
Turns	415	170	3000	10 G	10 W	10 R	20 Y
Taps	NONE	NONE	1500	5	5	5	NONE
Wind. Lgth.	1.75	1.75	1.75	—	—	—	—
Wire Size	#31	#31	#31	#Double 16E	#16E	#20E	#18E
T.P.L.	53-8	170	170-18	—	—	—	—
Kind Term.	#20 BR	WIRE ONLY	#20 BR	WIRE ONLY	—	—	→
Term. Lgth.	9"	3"	9"	9"	9"	9"	9"
Layer Insul.	2 - 40#		20#	1 Lec 5 VC			
Wrapper	1L005 VC	2L005 VC	2L005 VP 1L005 VC	1L005 GA		3L005 GA	

TUBE | 7L007 | IMPREGNATION | VARNISH

CURE | 1¼ x 1¼ No Waste Lamination



Isolation
117V @ 50/60 ~ to
117V
150 Watt

New Stock

SPEC. NO. P-224

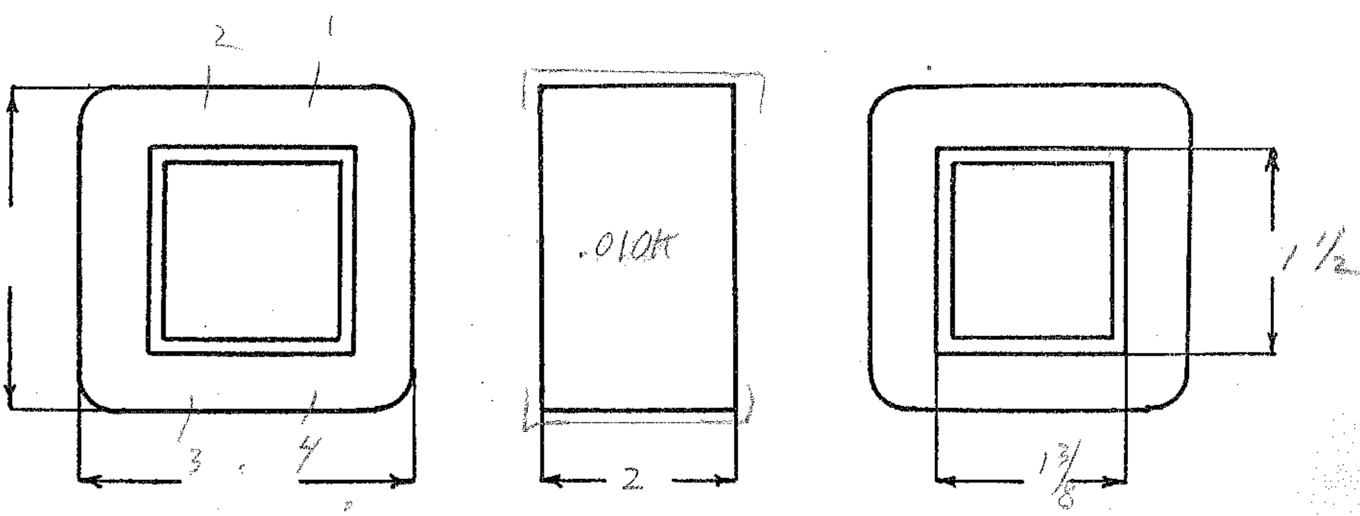
Winding		1-2 Sec		Shield		3-4 Pri.	
Turns		400		1		320	
Taps		—		—		—	
Wind. Lgth.		1 3/4		1 3/4		1 3/4	
Wire Size		#21		.001 Cu.		#20	
T. P. L.		50 - 8L.		—		47 - 8L.	
Finish		87%		—		90%	
Type Lead		W.O. TO 'D' LUGS		#26 TC		W.O. TO 'D' LUGS	
Lead Lgth.		3"		3"		3"	
Layer Insul.		50 #		—		50 #	
Test Volt.		1250		—		1250	
Wrapper		2L003M 1L20#		2L003M 1L20#		2L005GA	

TUBE	520106K	IMPREGNATION	Varnish

CORE 1 3/8 x 1 1/2 GA. 29 GRADE XXX STACK 2 x 2

MOUNTING T

90%



Re-DESIGNED BY S. Babcock
from 1 1/4"

DATE 3-?-49

DESIGN AND TEST DATA

Rating: I_s = 1.30 amps.

Sec VA = [illegible]
Pri VA = [illegible]
I_p = 1.65 a.

Winding		Sec			Pri		
Mean Turn		7.07			9.19		
Resistance 25° c		3.075			2.93		
Pounds Copper		.585			.89		
Copper Density		623			620		
Ratio Volts	open ckt	127 117			115 117		
Test to Ground		1250			1250		

Iron Induction 12 Kg @ 50 Cycles

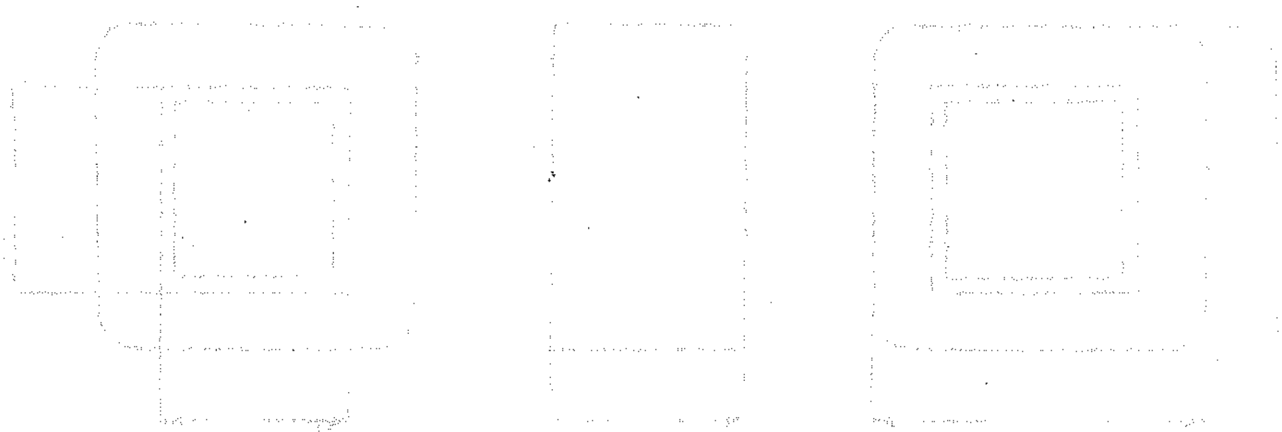
Exciting Current ______ amperes @ ______ volts 60 cycles on ______

Induced Test: Apply ______ Volts at ______ Cycles ______ on ______ with ______ grounded

Remarks:

1 – 2 Female Socket

3 – 4 Male Plug



E_p = 110V

E_s = 700V-CT-50 MA

E_{f_1} = 5V-2 amps

E_{f_2} = 2.5V-8 amps

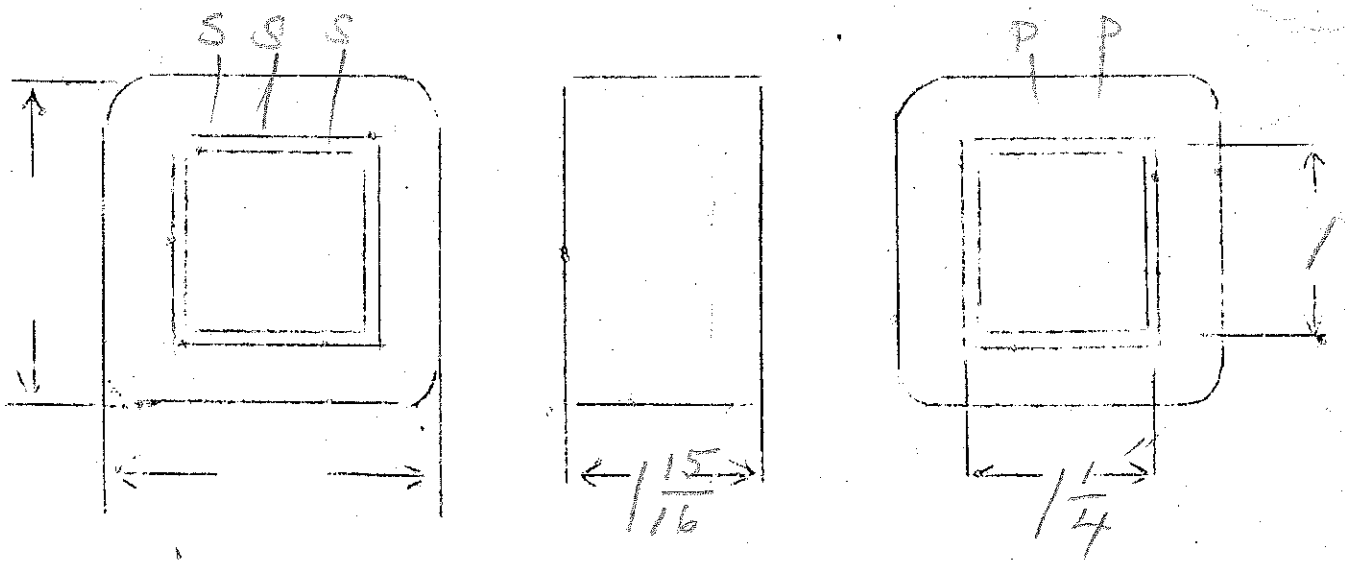
E. M. SARGENT

SPEC. NO. 225

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	500	240	3300	24	12		
Taps	NONE	NONE	1650	NONE	6		
Wind. Lgth.	1.75	1.75	1.75	1.75			
Wire Size	#24	#35	#35	#20	#14		
T.P.L.	75-7	240	240-14				
Kind Term.	Wire	SILBR	SILBR	WIRE ONLY			
Term. Lgth.	3"	3"	3"	3"	3"		
Layer Insul.	50#		20#				
Wrapper	2L005VG	2L005VG	2L005GA	2L005GA			

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1/4 x 1 (2 x 3/4 window)



Isolation
117V to 117V 50/60~
250 VA

New stock

SPEC. NO. P226

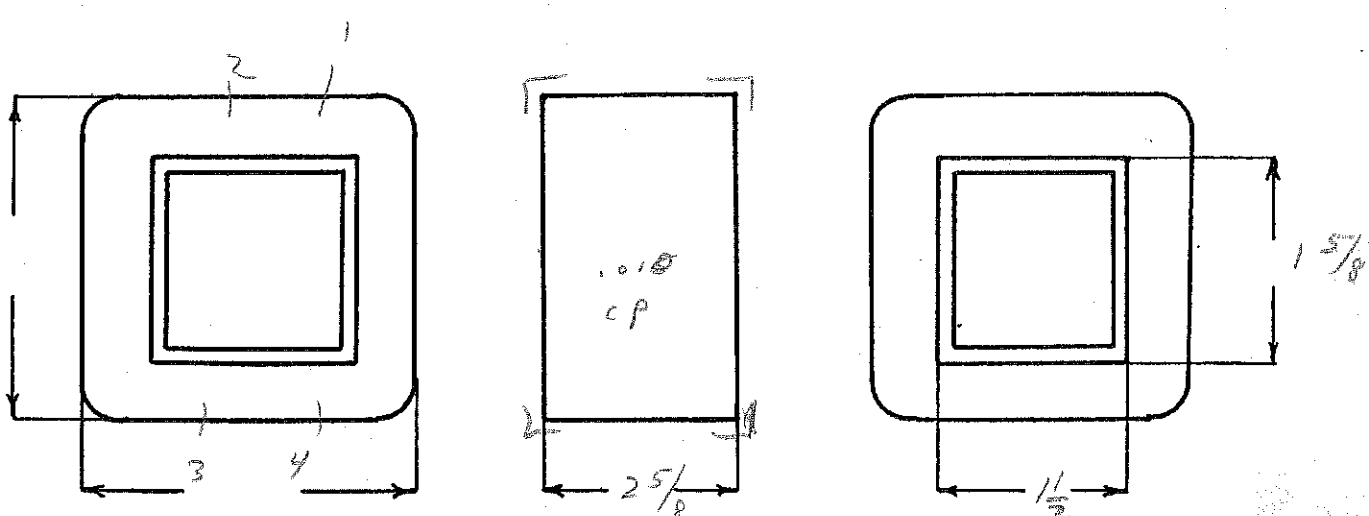
Winding	1-2 Sec	Shield	3-4 Pri			
Turns	374	1	344			
Taps	—	—	—			
Wind. Lgth.	2 1/4	2 1/4	2 1/4			
Wire Size	#18	.002 Cu	#17			
T. P. L.	48-8L	—	43-8L			
Finish	89%	—	90%			
Type Lead	W.O.	Sil Br	W.O.			
Lead Lgth.	3"	3"	3"			
Layer Insul.	1L005GA	—	1L005GA			
Test Volt.	1500	—	1500			
Wrapper	2L005GA	2L005GA	2L005GA			

TUBE	7L010 GK	IMPREGNATION	Varnish

CORE 1 1/2 x 1 5/8 GA. 24 GRADE D STACK 2x2

MOUNTING T

Wh = 95%



DESIGNED BY F. Firazee

DATE 6-4-47

DESIGN AND TEST DATA

Rating: $I_s = 2.18$ Sec VA = 250 Pri VA = 312 $I_p = 2.71$

Winding	Sec		Pri				
Mean Turn	5.14		11.28				
Resistance 25° c	1.66		1.68				
Pounds Copper	1.27		2.04				
Copper Density	746		750				
Ratio Volts	117		117				
Test to Ground	1500		1500				

Iron Induction 10.9 kv @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1-2 Female Socket

3-4 Male PL-9

DESIGN AND TEST DATA

Rating: $I_s = 2.18$ Sec VA = 25.0 Prim VA = 31.2 $I_p = 2.71$

Winding	Sec		Pri				
Mean Turn	5.14		11.28				
Resistance 25° c	1.66		1.68				
Pounds Copper	1.27		2.04				
Copper Density	746		750				
Ratio Volts	11.7		117				
Test to Ground	1500		1500				

Iron Induction 10.9 kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 - 2 Female Socket

3 - 4 Male PL-9

Isolation   New Stock

117 V to 117 V   50/60 ~

250 VA

SPEC. NO. P 226

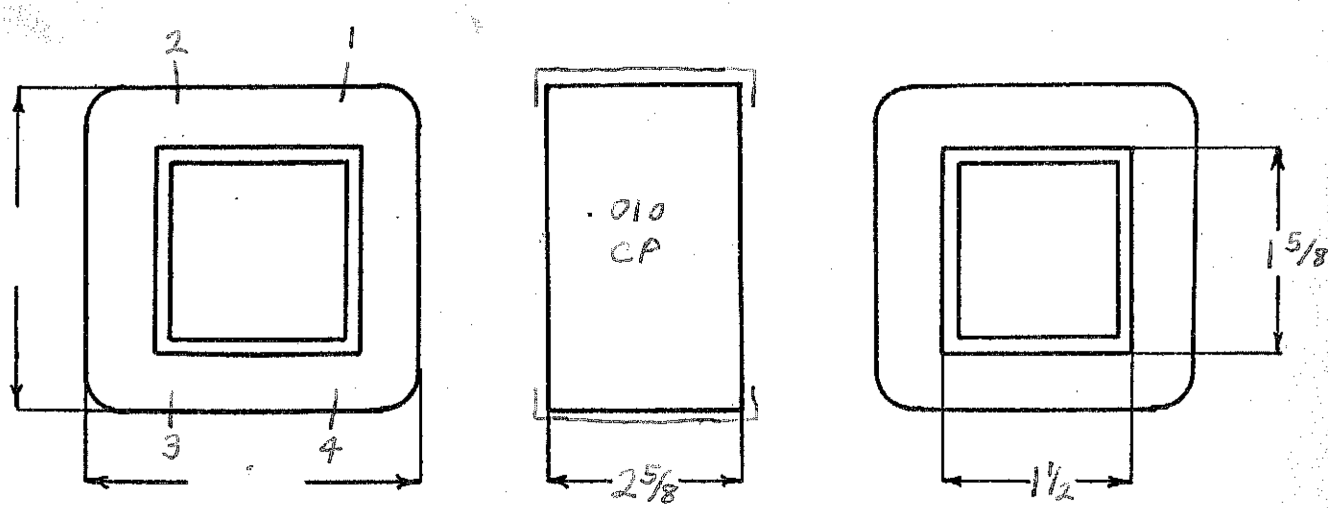
Winding	1–2 Sec	Shield	3–4 Pri				
Turns	374	1	344				
Taps	—	—	—				
Wind. Lgth.	2 1/4	2 1/4	2 1/4				
Wire Size	#18	.002 cu	#17				
T. P. L.	48–8L	—	43–8L				
~~Finish~~ Pitch	89%	—	90%				
Type Lead	w. o.	Sil. Br.	w. o.				
Lead Lgth.	3"	3"	3"				
Layer Insul.	60# or 1L005GA	—	1L005GA				
Test Volt.	1500	—	1500				
Wrapper	1L005CA 1L20# ~~2L005GA~~	2L005GA	2L005GA				

TUBE ~~6~~L010GH+1L002CA   IMPREGNATION Varnish

CORE 1 1/2 x 1 5/8   GA. 24   GRADE D   STACK 2x2

MOUNTING T

wn = 95%



DESIGNED BY F. FRAZEE   DATE 6-4-47

DESIGN AND TEST DATA

Rating: $I_s = 2.18a$

Sec VA = 250
Pri VA = 312
$I_p = 2.71a.$

Winding	Sec	Shield	Pri				
Mean Turn	8.14		11.28				
Resistance 25° c	1.66		1.68				
Pounds Copper	1.27		2.04				
Copper Density	746		756				
Ratio Volts	117		117				
Test to Ground	1500		1500				

Iron Induction 10.9 Kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 – 2 Female Socket

3 – 4 Male Plug

E_p = 115

E_s = 750 v – 30 ma

E_{F_1} = 5 v – 2 amps

E_{F_2} = 2.5 v – 6 amps

REMINGTON

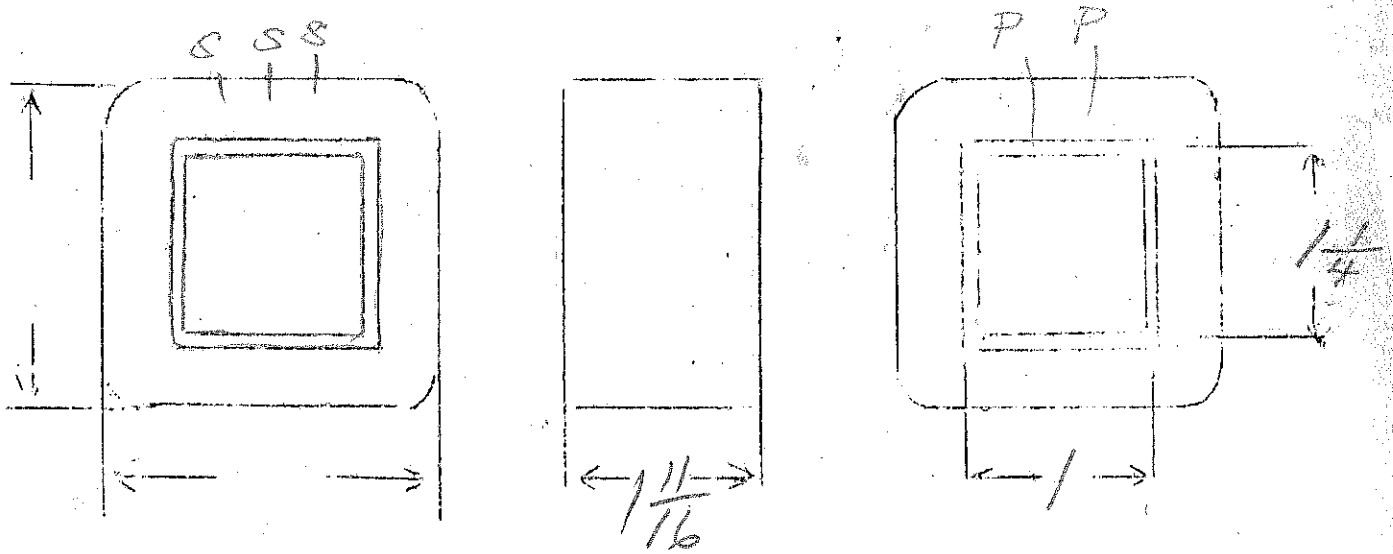
B = 12,000 @ 115 v

$\frac{N}{E}$ = 4.70

SPEC. NO. 226

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	540	68	3820	27	14		
Taps	—	—	1910	—	7		
Wind. Lgth.	1.5	1.5	1.5	—	—		
Wire Size	#25	#25	#34	#20	#15		
T.P.L.	68-8	68	190	9			
Kind Term.	#20 PBR	WIRE ONLY	#20 PBR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		20#				
Wrapper	2L005VC	2L005VC	2L005VC	2L005 GA			

TUBE	2L007	IMPREGNATION	VARNISH
CURE	1HR @ 125°F		



$E_p = 115$ V.

$E_s = 24$ V. 1.1 amps

$\frac{N}{E} = 6$

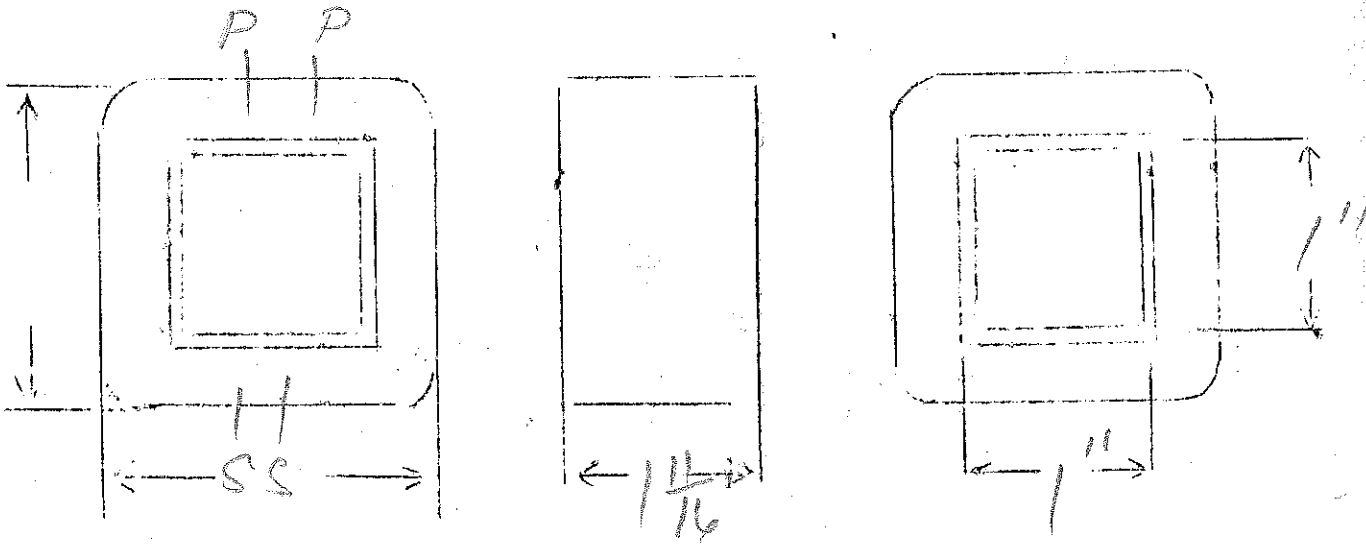
$B = 11,500$

SPEC. NO. 227E

Winding	PRI		SEC				
Turns	690		165				
Taps	NONE		NONE				
Wind. Lgth.	1.5		1.5				
Wire Size	#27		#21				
T.P.L.	85						
Kind Term.	#20 PBR		WIRE ONLY (Stranded)				
Term. Lgth.	3"		3"				
Layer Insul.	30#		1 L. GA				
Wrapper	1L005VC		2L005GA				

TUBE | 7L007 | IMPREGNATION | VARNISH

CURE | 1 x 1 M REGLAIMED



Isolation

117 V to 117 V @ 50/60 ~
600 VA

New stock

SPEC. NO. P228

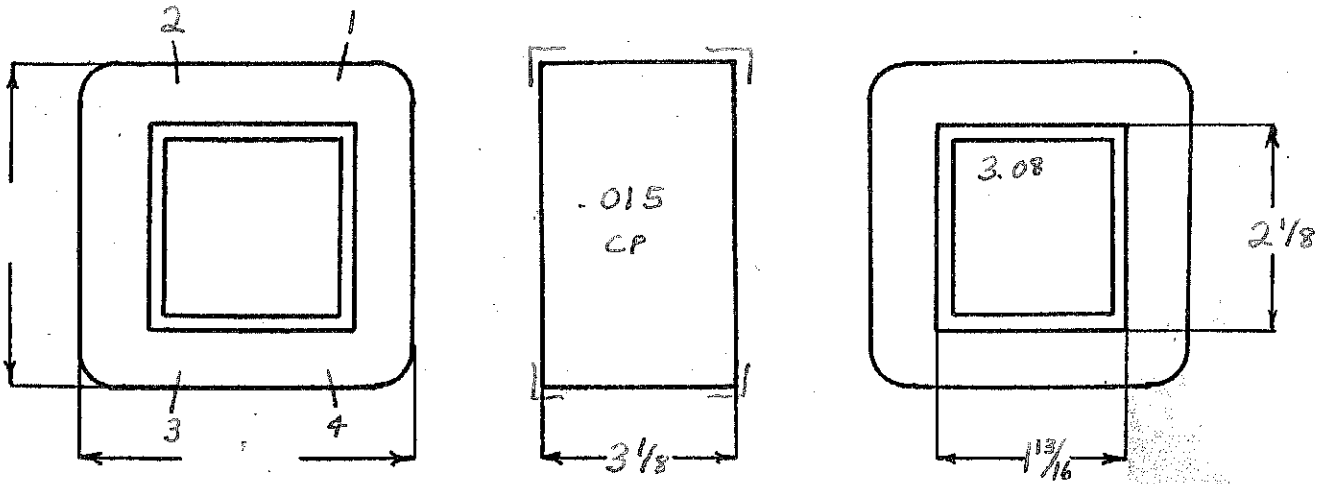
Winding	1–2 Sec	Shield	3–4 Pri				
Turns	198	1	190				
Taps	—	—	—				
Wind. Lgth.	2 3/4	2 3/4	2 3/4				
Wire Size	#14	.002 cu	#13				
T. P. L.	33–6L	—	32–6L				
Finish Pitch	79%	—	86%				
Type Lead	nu. o.	#20 P.E.	nu. o.				
Lead Lgth.	3"	3"	3"				
Layer Insul.	1L010CP	—	1L010 CP				
Test Volt.	1250	—	1250				
Wrapper	1L015CP	1L015 CP	2L007GA				

TUBE 7L010 GH IMPREGNATION Varnish

CORE 1 3/4 X 2 1/8 GA. 24 GRADE D STACK 2X2

MOUNTING T

nn = 86%



DESIGNED BY S. BABCOCK

DATE 5-17-49

DESIGN AND TEST DATA

Rating: $I_s = 5.13a$.

Sec VA = 600
Pri VA = 725
$I_p = 6.2a$.

Winding	Sec	Shield	Pri				
Mean Turn	9.91		13.50				
Resistance 25° c	.420		.437				
Pounds Copper	2.05		3.39				
Copper Density	800		835				
Ratio Volts	117.1		117				
Test to Ground	1250		1250				

Iron Induction 14.5 kg @ 50 Cycles

Exciting Current 100 m.a. amperes @ 117 volts 60 cycles on 3-4

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1-2 Female Socket

3-4 Male Plug

Isolation
117V to 117V @ 60~
600VA
Electrostatically Shield

New Stock

SPEC. NO. P 228

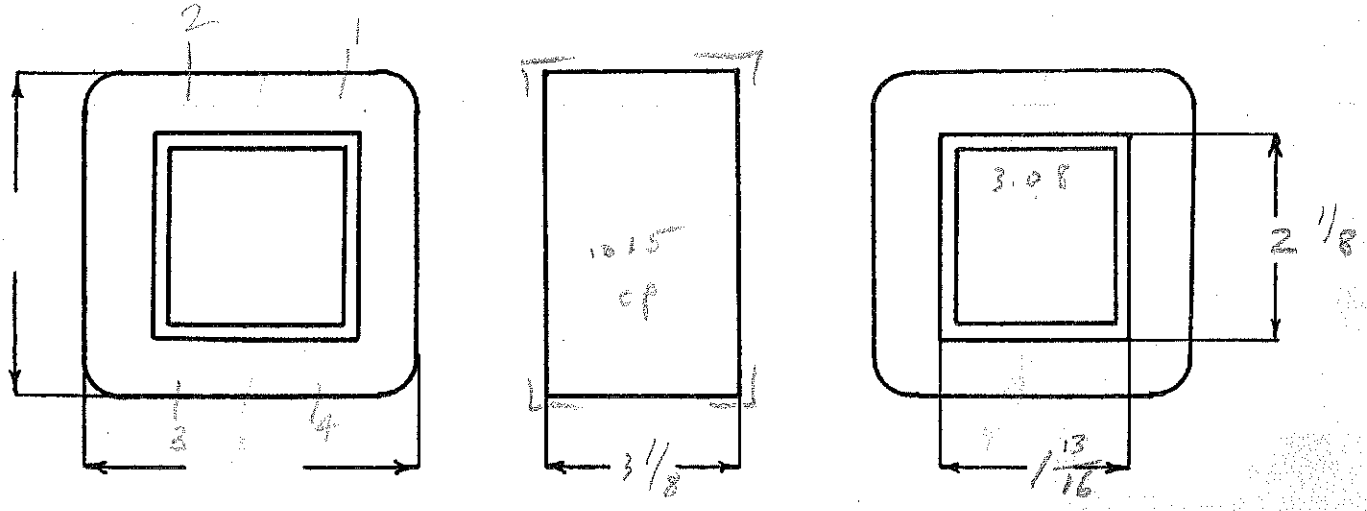
Winding	1-2 Sec	Shield	3-4 Pri.				
Turns	198	1	190				
Taps	—	—	—				
Wind. Lgth.	2 3/4	2 3/4	2 3/4				
Wire Size	#14	.002 Cu.	#13				
T. P. L.	33-6L	—	32-6L				
Finish	79%	—	86%				
Type Lead	U.O.	#20 P.E	U.O.				
Lead Lgth.	3"	3"	3"				
Layer Insul.	1L010CP	—	1L010CP				
Test Volt.	1250	—	1250				
Wrapper	1L015CP	1L015CP	2L007GA.				

TUBE 7L010GK IMPREGNATION Varnish

CORE 1 3/4 * 2 1/8 GA. 24 GRADE D STACK 2 x 2

MOUNTING T

um = 86%.



DESIGNED BY S. Babcock DATE 5-17-49

DESIGN AND TEST DATA

Rating: $I_s = 5.13$ a.

Sec VA = 600
Pri VA = 725
$I_p = 6.2$ a.

Winding	Sec	Sh.	Pri				
Mean Turn	9.91		13.59				
Resistance 25° c	.420		.437	2.7%			
Pounds Copper	2.05		.339				
Copper Density	800		835				
Ratio Volts	117.1		117				
Test to Ground	1250		1250				

Iron Induction 11.5 Kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1–2 Female Locket
3–4 Male Plug

Isolation

New Stock

117 V @ 50/60 ~ to
117 V @ 1200 VA

SPEC. NO. P230

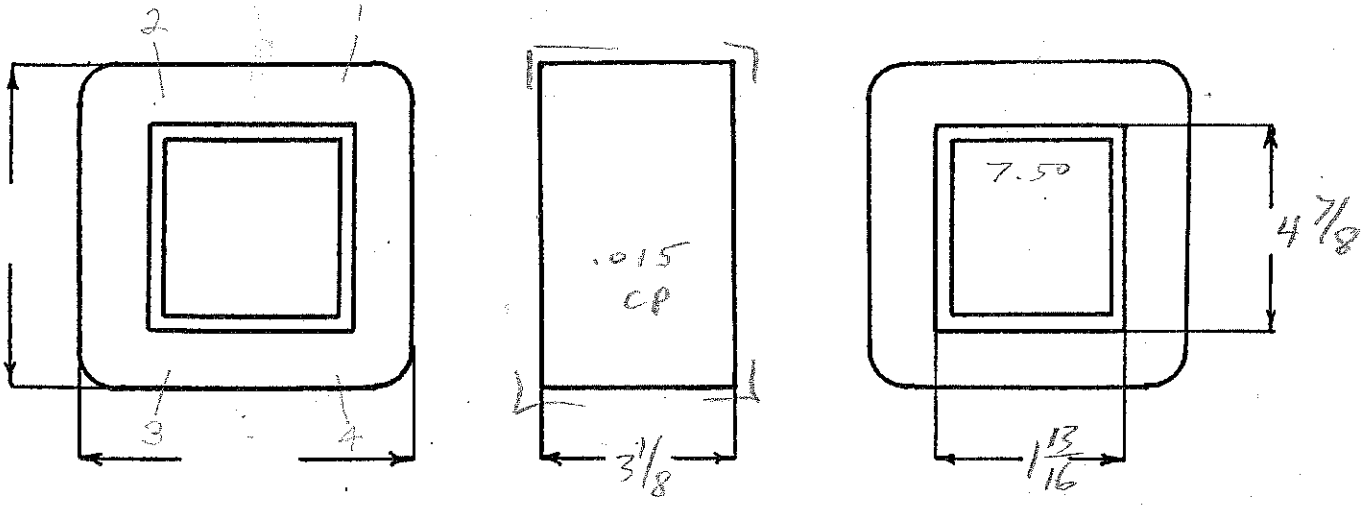
	1-2		3-4				
Winding	Pri.	Shield	Sec.				
Turns	92	1	95				
Taps	—	—	—				
Wind. Lgth.	2 7/8	2 7/8	2 7/8				
Wire Size	# 9	.005 cm	# 10				
T. P. L.	23-46	—	24-46				
Finish	93%	—	87%				
Type Lead	W.D.	#30E	W.D.				
Lead Lgth.	3"	3"	3"				
Layer Insul.	1L0.10CP	—	1L0.10CP				
Test Volt.	1250	—	1250				
Wrapper	1L0.20CP	1L0.20CP	3L0.007CA				

TUBE 10L010 6K IMPREGNATION Varnish

CORE 1 3/4 x 4 7/8 GA. 24 GRADE D STACK 2x2

MOUNTING T

$\eta_m = 89\%$



DESIGNED BY S. Babcock

DATE 5-17-49

DESIGN AND TEST DATA

Rating: $I_s = 10.43$ a

Sec VA = 1201
Pr. VA = 1422
$I_p = 12.35$ a

Winding	Pr.	Sh	Sec				
Mean Turn	15.95		22.75				
Resistance 25° c	.0987		.183				
Pounds Copper	4.89		5.71				
Copper Density	1069		995				
Ratio Volts	115		115.6				
Test to Ground	1250		1250				

Iron Induction 11.65 Kg @ 50 Cycles

Exciting Current _____ amperes @ _____ volts 60 cycles on _____

Induced Test: Apply _____ Volts at _____ Cycles _____ on _____ with _____ grounded

Remarks:

1 – 2 Male Plug
3 – 4 Female Socket

Isolation

117 V @ 50/60 ~ to
117 V @ 1200 VA

New stock

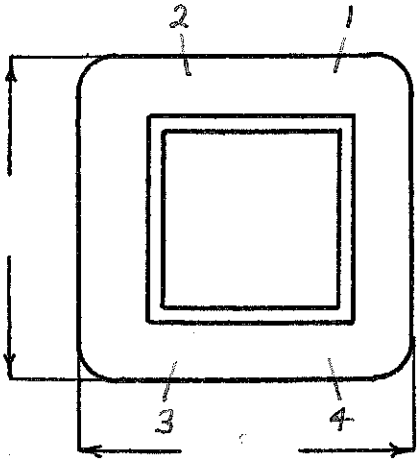
SPEC. NO. P 230

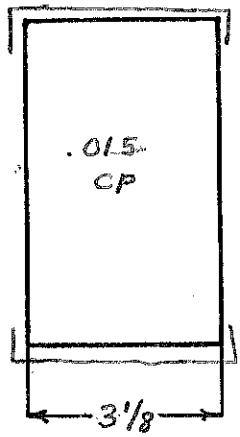
Winding	1–2 Pri	Shield	3–4 Sec				
Turns	92	1	95				
Taps	—	—	—				
Wind. Lgth.	2 7/8	2 7/8	2 7/8				
Wire Size	#9	.005 cu	#10				
T. P. L.	23–4L	—	24–4L				
Finish Poth	93%	—	87%				
Type Lead	w. o.	#20 P.E.	w. o.				
Lead Lgth.	3"	3"	3"				
Layer Insul.	1L010CP	—	1L010CP				
Test Volt.	1250	—	1250				
Wrapper	1L020CP	1L020CP	3L007GA				

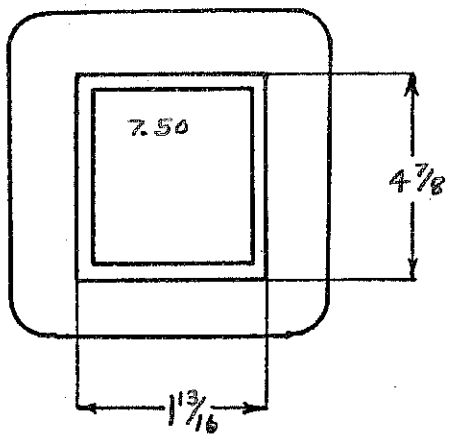
TUBE 10L010 GHT IMPREGNATION Varnish

CORE 1 3/4 X 4 7/8 GA. 24 GRADE D STACK 2 X 2

MOUNTING T







DESIGNED BY S. BABCOCK

DATE 5–17–49

DESIGN AND TEST DATA

Rating: $I_s = 10.43$ a

Sec VA = 1200
Pri VA = 1420
$I_p = 12.35$ a.

Winding	Pri	Shield	Sec				
Mean Turn	15.95		22.75				
Resistance 25° c	.0987		.183				
Pounds Copper	4.89		5.71				
Copper Density	1069		995				
Ratio Volts	115		115.6				
Test to Ground	1250		1250				

Iron Induction 11.65Kg @ 50 Cycles

Exciting Current 600ma amperes @ 117 volts 60 cycles on

Induced Test: Apply Volts at Cycles on with grounded

Remarks:

1 – 2 Male Plug

3 – 4 Female Socket

210-230-250V - 60~
700V CT @ 85ma
5V @ 3A
2.5V CT @ 3.5A
2.5V @ 7A

Stock

SPEC. NO. P-230-250V

Winding	Sec	Shield	Pri	5V F1	2.5V F3	2.5V F2	
Turns (8%)	2200	1	728 - 11	16 (10%)	8 (10%)	8	
Taps	1100	—	680 - 10 617 - 9	—	—	4	
Wind. Lgth.	1 15/32"	1 15/32"	1 15/32"	1 15/32"	← 1 15/32" →		= 1.468"
Wire Size	#33	.001 Cu Sheet	#25	#18	2-#17	#17	
T. P. L.	158-14L	1	68-11L	16-1L	8-½L	8-½L	
Finish Pitch	83%	—	88%	46%	51%	26%	
Type Lead	Sil. Br.	#25 Solid	W.O.	W.O.	W.O.	W.O.	
Lead Lgth.	4"	4"	4"	4"	4"	4"	
Layer Insul.	2L 1.0#6	—	1L .40#6	—	← ONE LAYER →		
Test Volt.	2500						
Wrapper	1L .007VC	1L .007VC	2L .0056A	2L .0056A	← 2L .005 GA →		

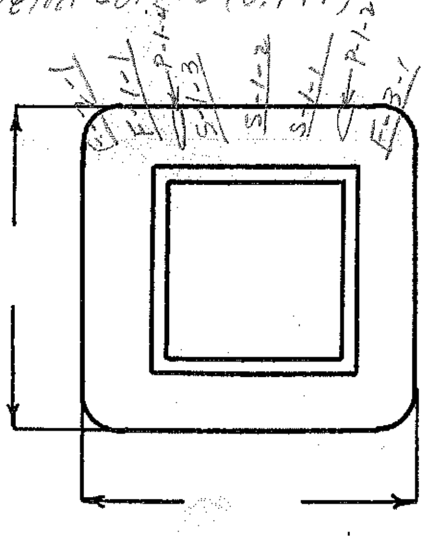
TUBE	7L-.007 GR	IMPREGNATION	Double Varnish

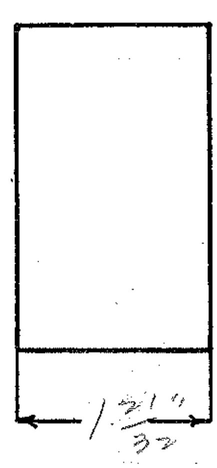
CORE	1 1/16" x 1 7/8" E & I	GA.	24	GRADE	D	STACK	2 x 2

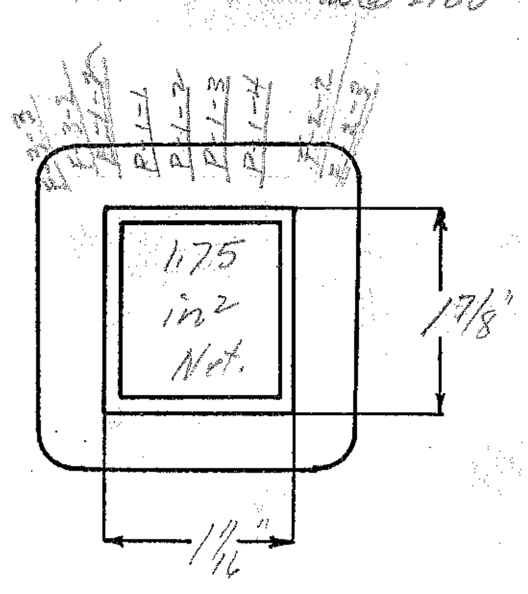
MOUNTING "B"

Cu = 982-635-552-585-585.
Fe = 74 @ 60~
TPV = 2.9
Wire Ht = 0.476" (0.449")

Σ Sec VA = 79 η = 83
Pri VA = 106 cos θ = .90
Pri I = .505 ma @ 210V



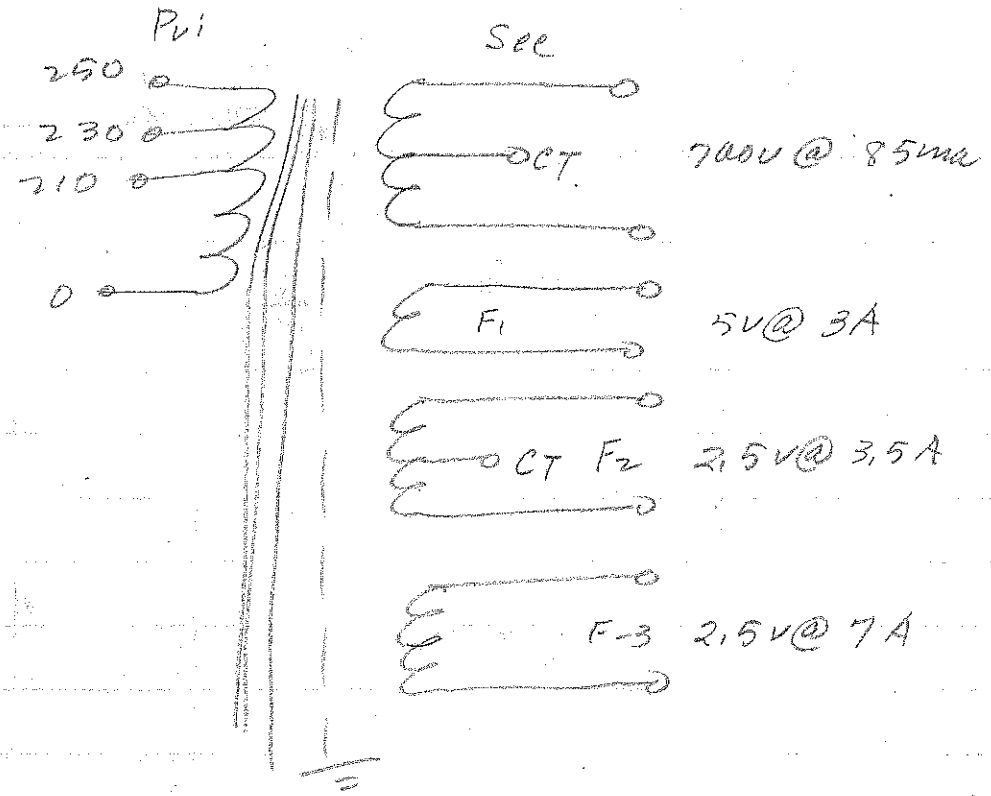




Re DESIGNED BY NHR

DATE 2-24-42

over.


Pri
250
230
210
0
Sec
CT
740V @ 85mA
F1
5V @ 3A
CT F2
2.5V @ 3.5A
F-3
2.5V @ 7A

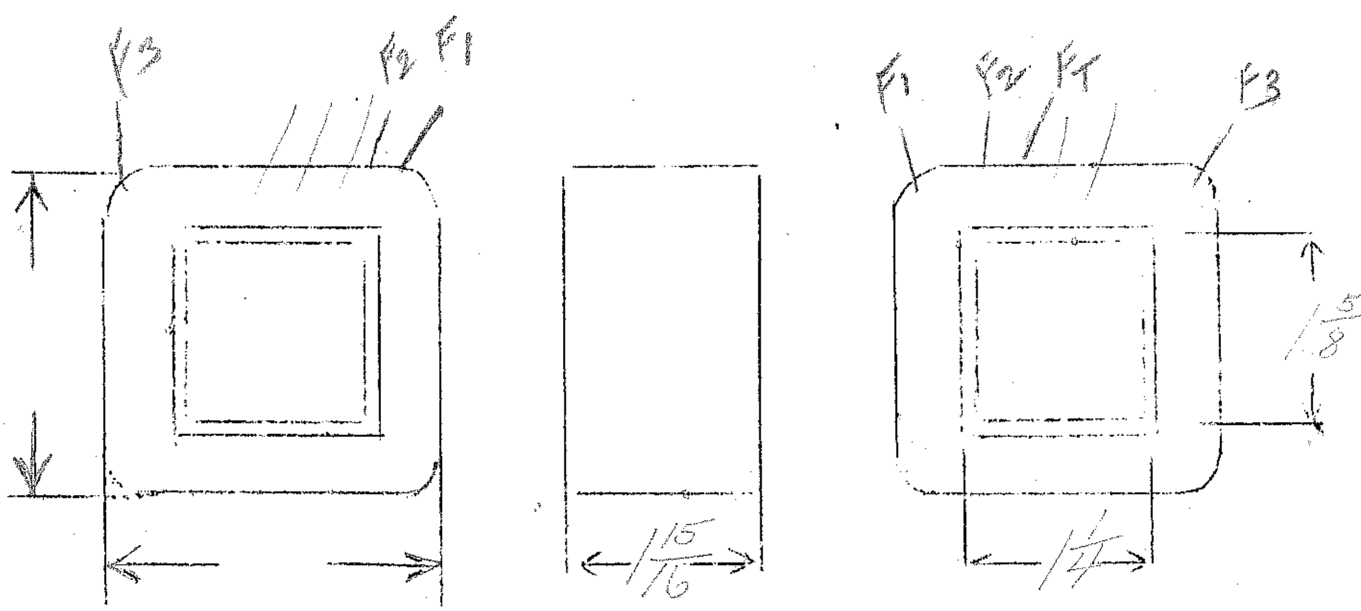
2-18-36

53

SPEC. NO. 230-25N

Winding	PRI	SHIELD	SEC	F1	F2	F3	
Turns	610	210	4200	30	15	15	
Taps	—		2100	—	7		
Wind. Lgth.	1.75	1.75	1.75	—	—	—	
Wire Size	#23	#33	#33	#18	#17	#14	
T.P.L.	68-9	210-1	210-20				
Kind Term.	WIRE ONLY	Silver Braid		WIRE ONLY			
Term. Lgth.	3	3	3	3	3	3	
Layer Insul.	50 #		double 16#				
Wrapper	1L007VC	1L007VC	2L007GA	2L007GA		2L007GA	

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1/4 X 1/2		



Same as # 230 except

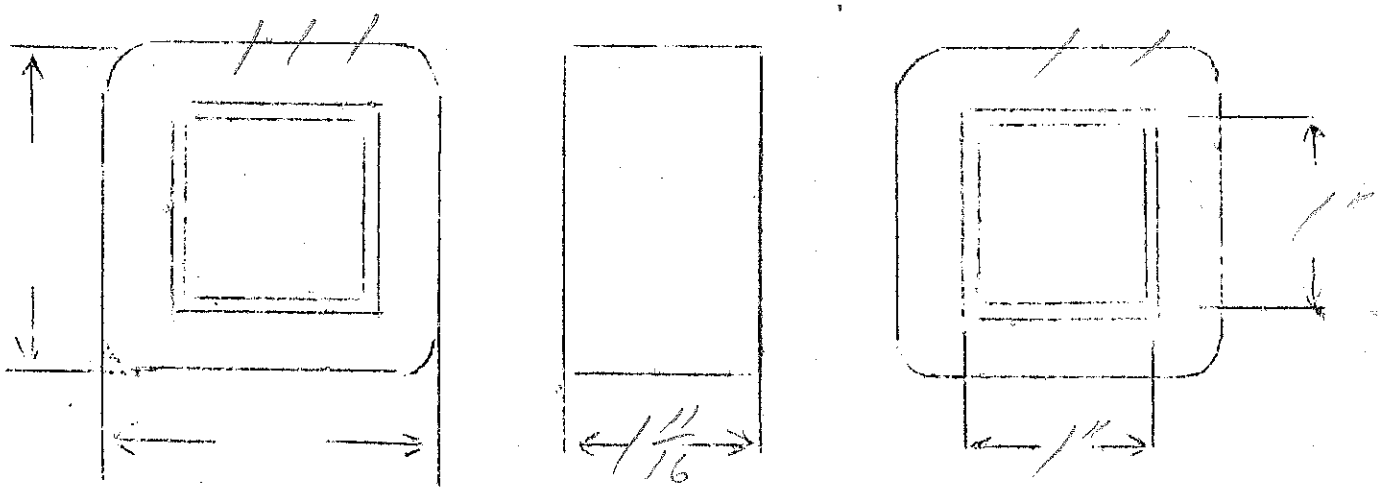
$E_p = 125$

SPEC. NO. 230N-6230N

				230			6230	
Winding	PRI	SHIELD	SEC	F_1	F_2	F_3	F_1	F_3
Turns	690	192	4200	31	15	15	31	39
Taps	—	—	2100		8	8	—	19
Wind. Lgth.	1½	1½	1½	—	—	—		
Wire Size	#24	#34	#34	#18	#18	#15	18E	18E
T.P.L.	64-11	192	192-22	—	—	—	—	—
Kind Term.	#20 PBR	sil Brd	#20 PBR	wire	—	—	—	—
Term. Lgth.	9	3	9	9	9	9		
Layer Insul.	50 #		20 #					
Wrapper	2L007VC	2L007VC	2L005G4	—	→	→		

TUBE | 7L007 | IMPREGNATION | VARNISH

CURE | 1 x 1 M



120V Primary - 60 Cycle
700V CT @ 85 Ma.
5V @ 3A
2.5V CT @ 3.5A
2.5V @ 7A

SPEC. NO. P-250

Winding	Secondary	Shield	Primary	Fil. #1 5V	Fil. #2 2.5V	Fil. #3 2.5V	
Turns	2750	1	445	31	10	10	
Taps	1375	-	-	-	5	-	
Wind. Lgth.	1-15/32"	1-15/32"	1-15/32"	1-15/32"		1-15/32"	= 1.469"
Wire Size	#33	.001" Cu. Sheet	#23	#18	#17	2- #17	
T. P. L.	172 - 16L	1	50 - 9L	21 - 1½L	10 - ½L	10 - 1L	
~~Finish~~ Pitch	90%	-	-	60%	52%	64%	
Type Lead	#22 Dulac	#25 Solid	#22 Pr. Br.	W.O. Sleeve	W.O. Sleeve	W.O. Sleeve	
Lead Lgth.	9"	4"	9"	9"	9"	9"	(From Case)
Layer Insul.	2L 14#G	-	1L 50#G	-	-	-	
Test Volt.	2500V	-	-	ONE LAYER		-	
Wrapper	1L .007" VC	1L .005" VC	2L .005" GA	2 L .005" GA		2L .005" GA	

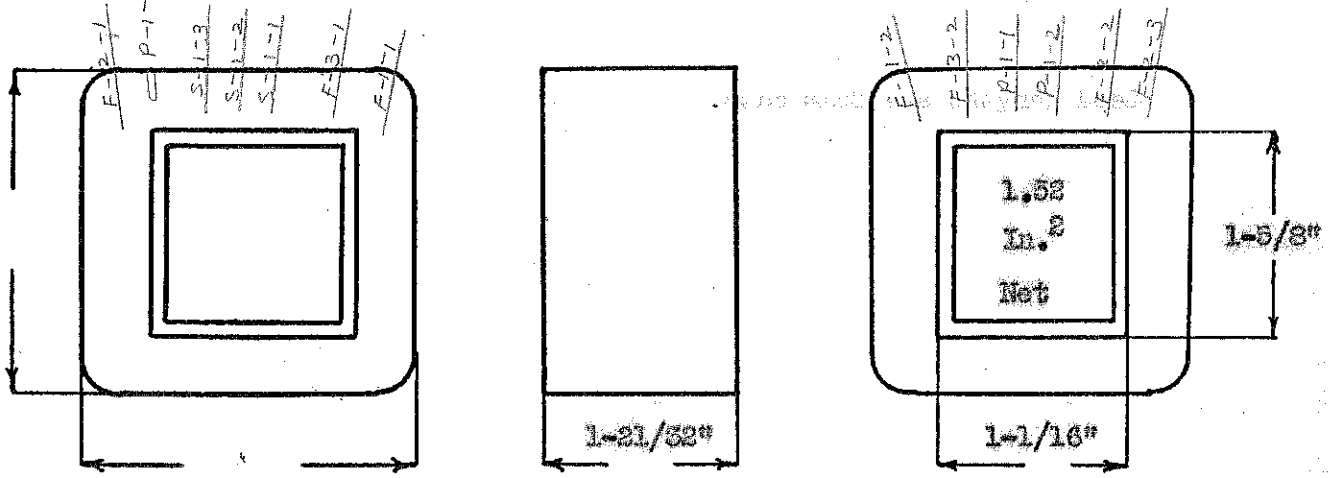
TUBE	7L - .007" GK	IMPREGNATION	VARNISH

CORE 1-1/16 x 1-5/8 E & I 24 GA. GRADE D STACK 2 x 2

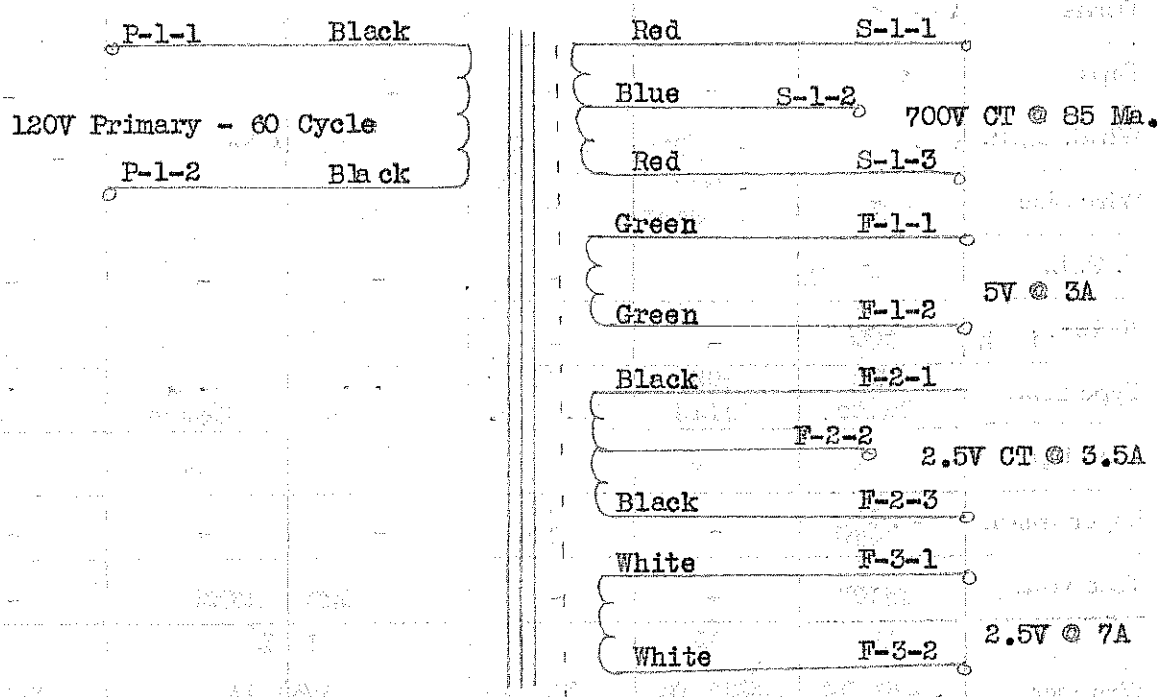
MOUNTING "A" Leads

Cu = 980 - 845 - 541 - 585 - 565
Fe = 66.7 @ 60 Cycle
TPV = 3.7
Wire Net = 0.473" (0.472")

Sec. VA = 71
Pri. VA = 95
Pri. I = 790 Ma.
Efficiency = 83%
COS θ = 90%



Re-DESIGNED BY EWS DATE 5-15-42



N O T E S :

Finishers: Use punched panel or stapled panels; note color coding.

Single-Winder: 1L - .007" VC over and under, between Fil. #1 and Fil. #2.

Stackers: Use side papers or end insulation in stacking these coils.

Lead Lengths are from case.

E_p = 115-125

E_{s1} = 750V-100mA

E_{f1} = 6.3V-4 amps

E_{f2} = 5V-4 amps

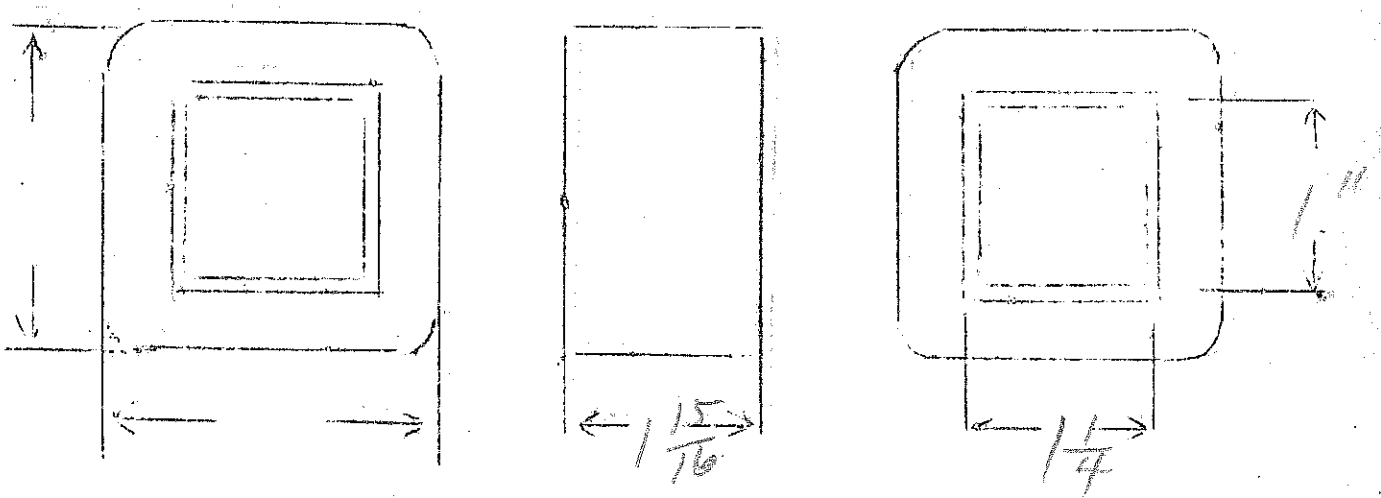
PATTERSON

$\frac{N_p}{N_s}$ = 4.4

SPEC. NO. 231

Winding	PRI	SHIELD	SEC	F	F2		
Turns	550	200	3540	30	24		
Taps	508	—	1770	—	—		
Wind. Lgth.	1.75	1.75	1.75	—	—		
Wire Size	23E	33E	33E	#17	#18		
T.P.L.	66	200	200-18	—	—		
Kind Term.	#20 P.BR	Sil. BR	#20 P.BR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	50#		30#				
Wrapper	2L005VC	2L005VC	2L005VC	2L005TGA			

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1 hr x 1" (1 hr NW)		



E_p = 120 / 110

E_s = 800V – 125Ma

F_1 = 6.3V – 6 amps

F_2 = 5.0 V – 4 amps

PATTERSON

$\frac{1}{2}$ = 3.6

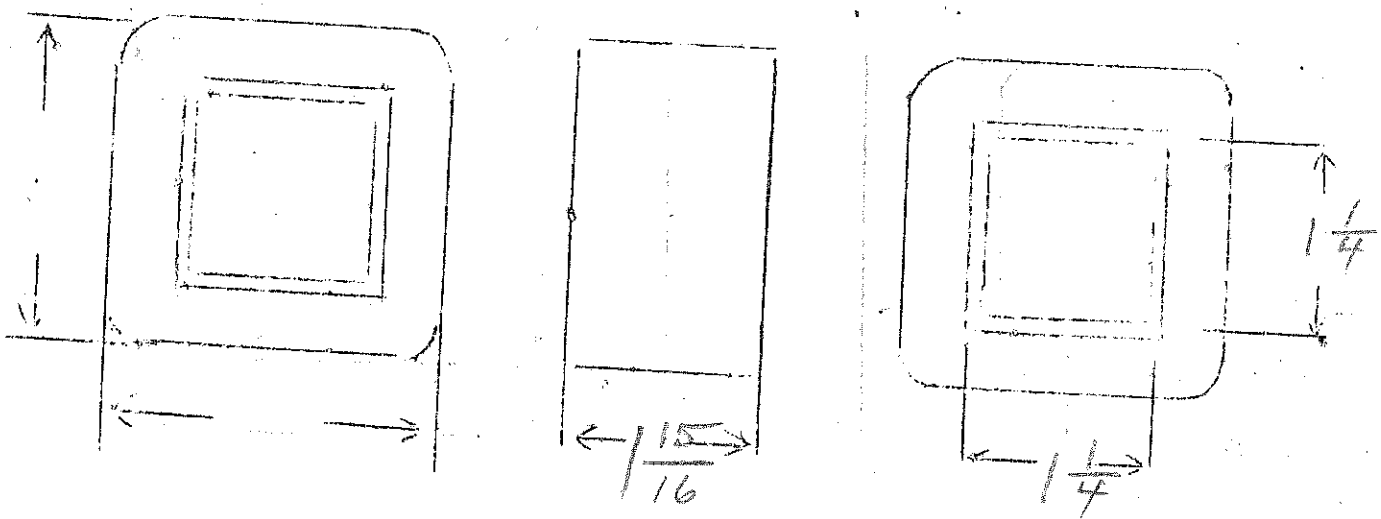
VA =

SPEC. NO. 232

Winding	PRI	SHIELD	SEC	F	F		
Turns	432	175	3100	25	20		
Taps	400	NONE	1550	NONE	NONE		
Wind. Lgth.	1 11/16	1 11/16	1 11/16	1 11/16	1 11/16		
Wire Size	#21	#32 E	#32 E	#15	#17		
T.P.L.	50-9	175	125-18	—	—		
Kind Term.	#20 BBR	WIRE	#20 PAR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	50#		30#				
Wrapper	2L005VC 2L05L	1L003VP 2L005GA	1L003VP 2L005GA	1L003VP 2L005GA	2L005GA		

TUBE 4L007 | IMPREGNATION VARNISH

CURE 1 1/4 x 1 1/4 NW



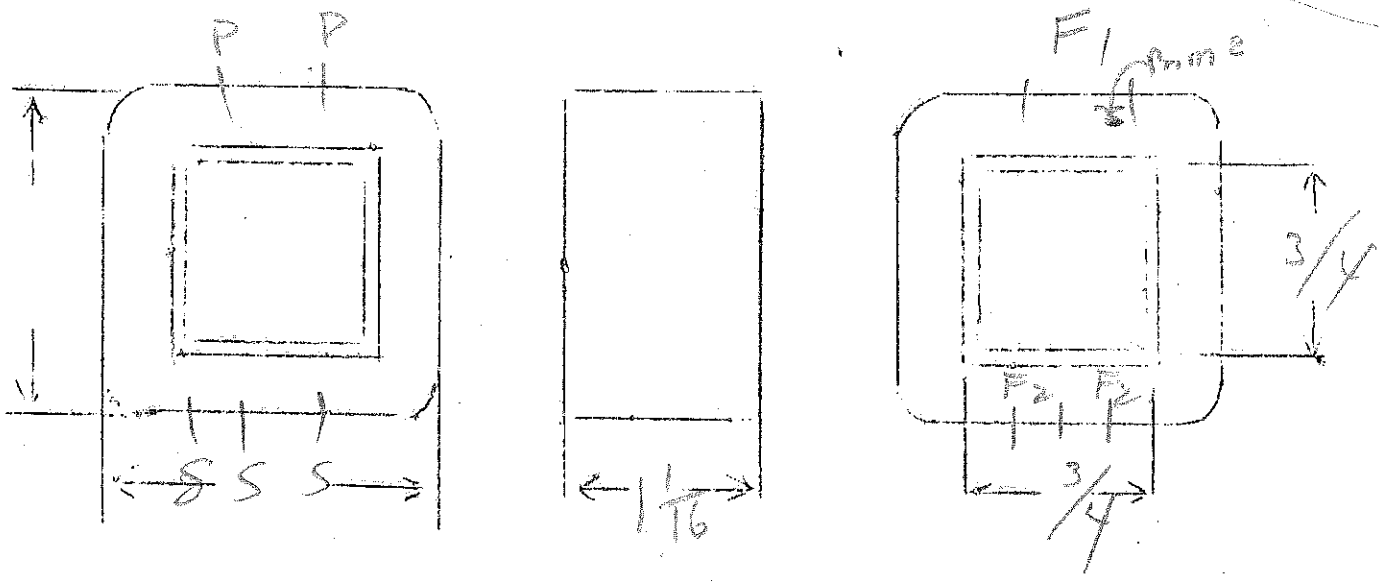
5.5-1 audio (Special)

SPEC. NO. 233

Winding	PRI	SHIELD	SEC				
Turns	1100	87	6100				
Taps	NONE		3050				
Wind. Lgth.	15/16	15/16	15/16				
Wire Size	#31 E	31	#40				
T.P.L.	87-13	87	232				
Kind Term.	WIRE ENDS	SIL BR.	SIL BR.				
Term. Lgth.	3"	3"	3"				
Layer Insul.	20#		16#				
Wrapper	KLOSURE	KLOSURE					

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 3/4 X 3/4



SARGENT $\frac{N}{E}$ = 9.05

E_p = 115V
E_s = 600VCT, 15 MA
E_{f1} = 5V — 2A
E_{f2} = 2.5V — 2A

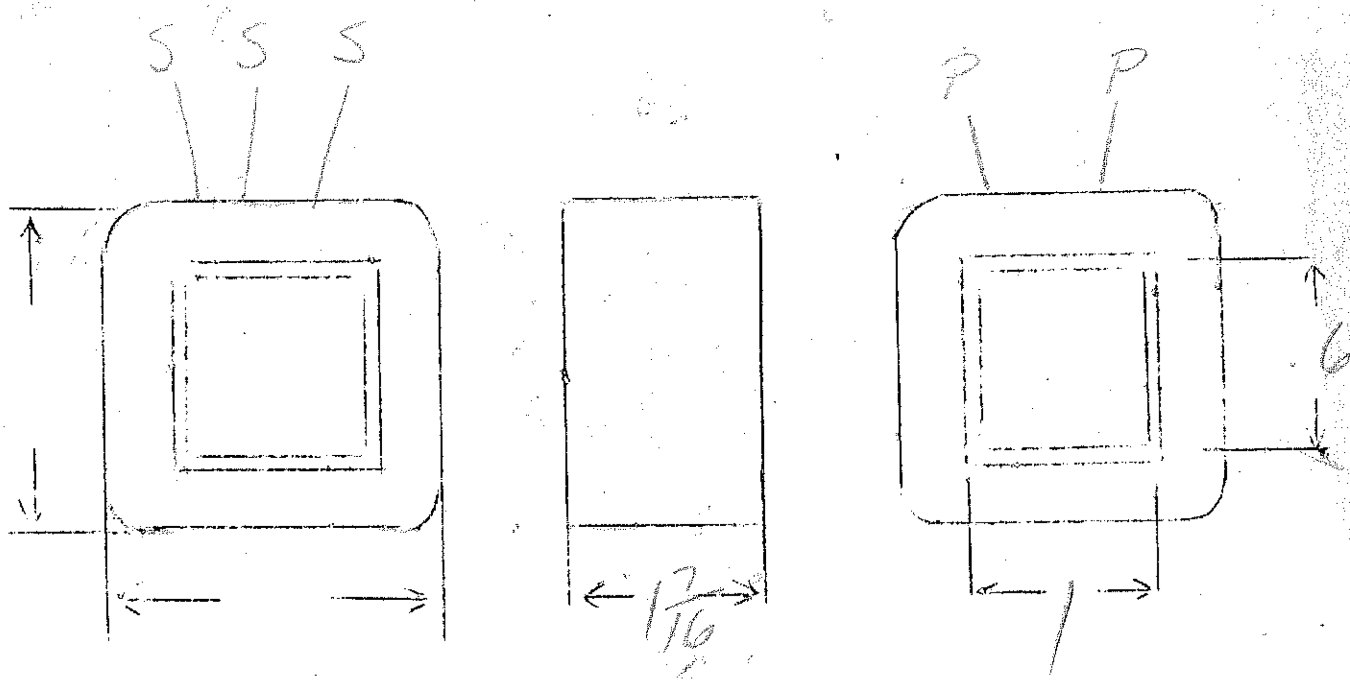
6234 cm

SPEC. NO. 234

Winding	PRI	SHIELD	SEC	F1	F3 or F2	
Turns	1070	252	6000	52	26	65
Taps	NONE	—	3000	NONE	13	NONE
Wind. Lgth.	1.25	1.25	1.25	1.25		
Wire Size	#30	#38	#38	#20	#20	#22
T.P.L.	107-10	252	252-24			
Kind Term.	#24 BBR	S/I BR	#24 BBR	WIRE ONLY		—
Term. Lgth.	3"	3"	3"	3"	3"	
Layer Insul.	30#		16#			
Wrapper	1L005VC	1L005VC	2L005GA	2L005GA		

TUBE | 4L007 | IMPREGNATION | VARNISH

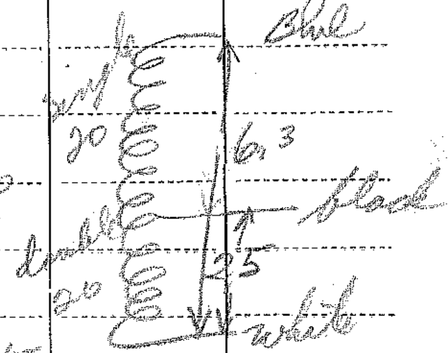
CURE | 1X.6 NW



Ep - 120V.
Es - 650V - C.T. - 45Ma
EF1 = 5V - 2amp
EF2 - 6.3V tap 2.5V - 2amp

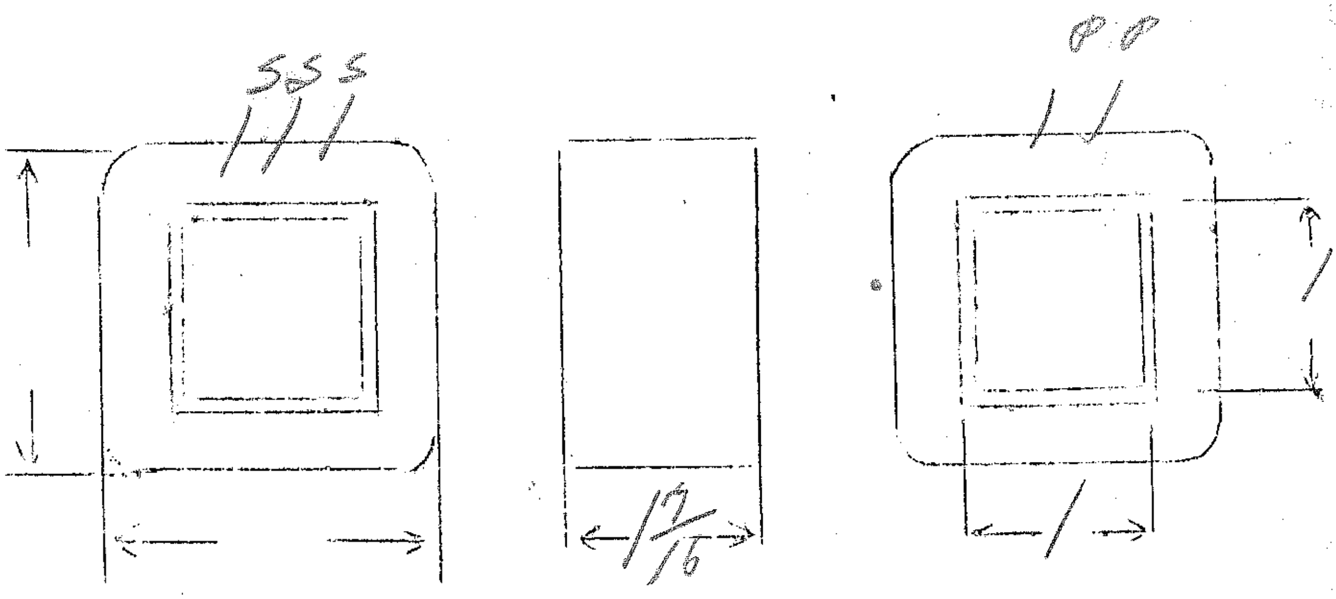
SPEC. NO. 236

Winding	SEC	SH	PRI	F1	F2		
Turns	3700	73	640	30	37		
Taps	1850	—	—	—	15		
Wind. Lgth.	1.25	1.25	1.25	—			
Wire Size	#36	#27	#27	#21	1-#20 5-"20		
T.P.L.	206-18	73	73-9	—	—		
Kind Term.	#22 PBr	WO.	#22 PBr	WIRE	ONLY		
Term. Lgth.	9"	8"	9"	9"	9"		
Layer Insul.	double 16#	—	40#	—	—		
Wrapper	1L007VC	1L005VC	2L005GA	2L005GA	2L005GA		



TUBE	5L007	IMPREGNATION	VARNISH

CURE	1X1



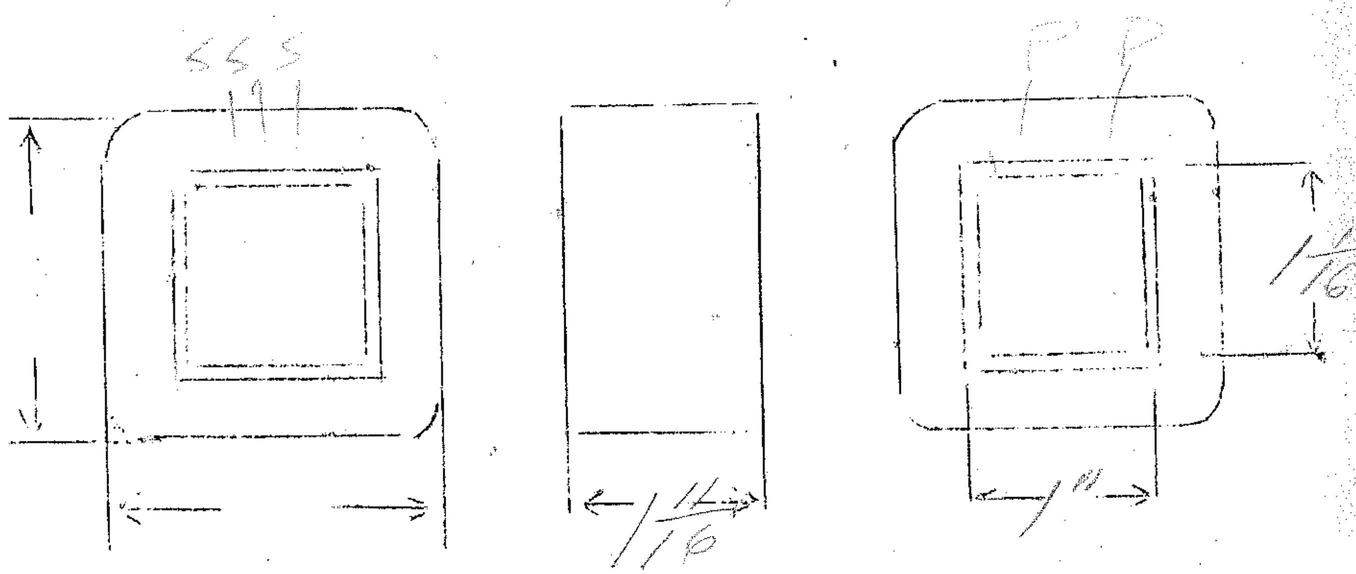
PRI = 115V
1 – 50 MA
F_1 = 2.5V – 6.5 amps
F_2 = 5V – 2 amps

N/E = 5.55

SPEC. NO. 237

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	656	200	3800	31	16		
Taps	—	—	1900	—	8		
Wind. Lgth.	1.5	1.5	1.5	—	—		
Wire Size	#25	#35	#35	21	#15		
T.P.L.	67-10	200	200-20	31	16		
Kind Term.	[illegible]	[illegible]	[illegible]	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	7"	9"		
Layer Insul.	50#	—	30#				
Wrapper	2L005VR	2L005VR	2L005VR	→			

TUBE	[illegible]	IMPREGNATION	VARNISH
CURE	1X [illegible] RECLAIMED IRON		



$E_p = 230V\ 60\sim$

$E_s = 660V - 50\ MA$

$E_{F_1} = 5V - 2\ amps$

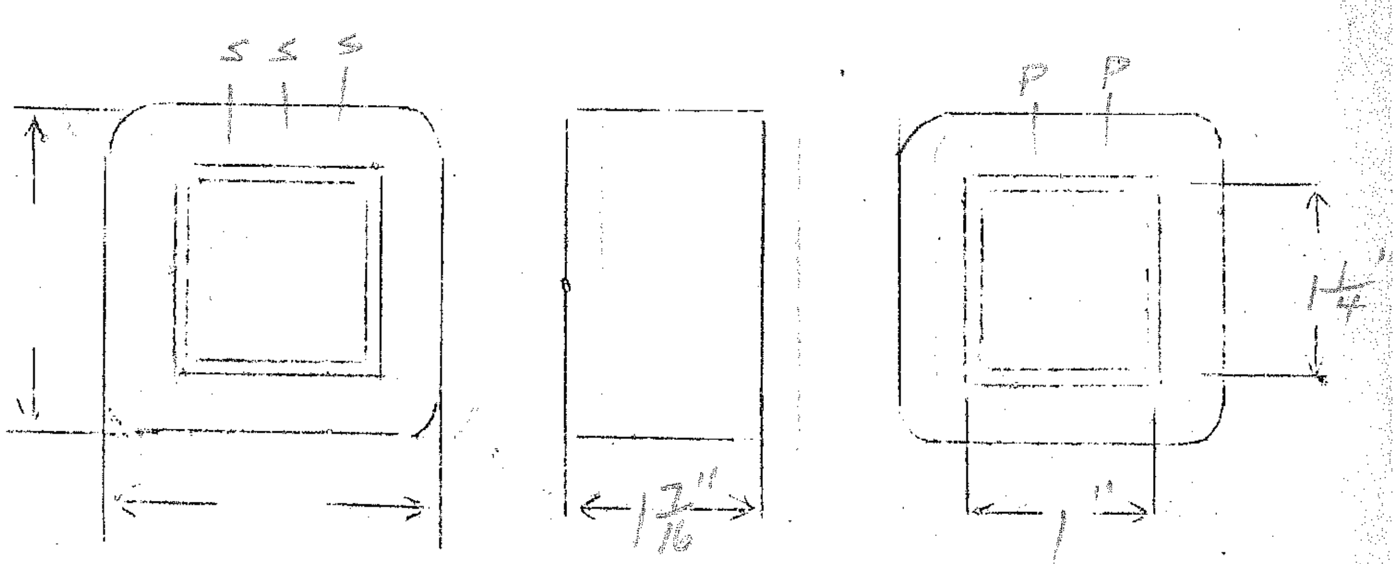
$E_{F_2} = 2.5V - 5\ amp$

$\frac{V}{T} = 4.45$

SPEC. NO. 238

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	1020	95	3100	25	12		
Taps	NONE	—	1550	—	—		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	#29	#29	#36E	#20E	#16E		
T.P.L.	95-11	95	200	—	—		
Kind Term.	#20 P.BR	Sil BR	#22 P.BR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		20#				
Wrapper	1 LOOSE VC 4L GL	1 LOOSE VC 4L GL	2 LOOSE GARMITE				

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1 X 1¼ NW		



Ep - 115V. / 230V

Es - 700V.C.T. - 120 Ma.

Ef_1- 5V. - 3 Amps.

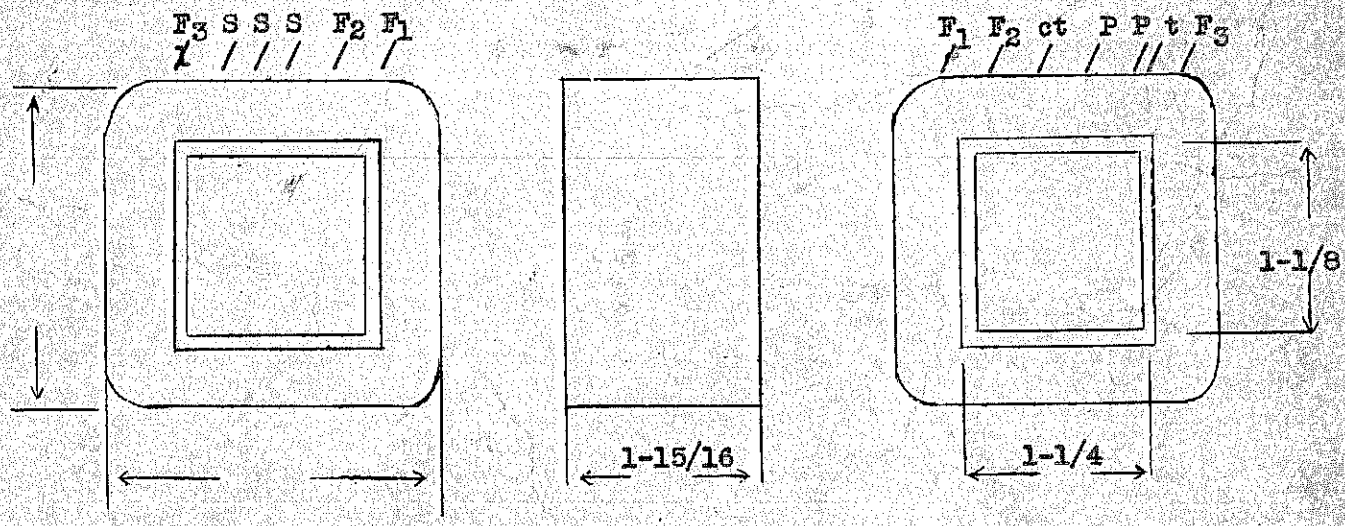
Ef_2- 2.5V.C.T. - 3.5 A.

Ef_3- 2.5V.C.T. - 10.5 A.

SPEC. NO. P240

Winding	SEC.	SHIELD	PRI.	F_1 (Green)	F_2 (Black & White)	F_3	
Turns	3250	180	510	24	12	12	
Taps	1625				6	6	
Wind. Lgth.	1.75		1.75				
Wire Size	#32	#32	#22	#18	#17	#12	
T.P.L.	180-18	Sil. Br.	59-9				
Kind Term.	#20 P. Br.		#20 P. Br.	WIRE ONLY			
Term. Lgth.	9"		9"	9"	9"	9"	
Layer Insul.	Double 16#		50#				
Test Volt.							
Wrapper	1L007VC	1L005VC	2L007GA			2L007GA	

TUBE	7L007	IMPREGNATION	VARNISH
CORE		PRIMARY V.A.	
MOUNTING	A or B		



DESIGNED BY G.W. DATE 5-11-38

Ep - 230V E_{f_3} - 2.5 VCT - 10.5 Amp.
Es - 700VCT - 120 Ma d.c.
E_{f_1} - 5V - 3 Amp
E_{f_2} - 2.5 VCT - 3.5A

4.3

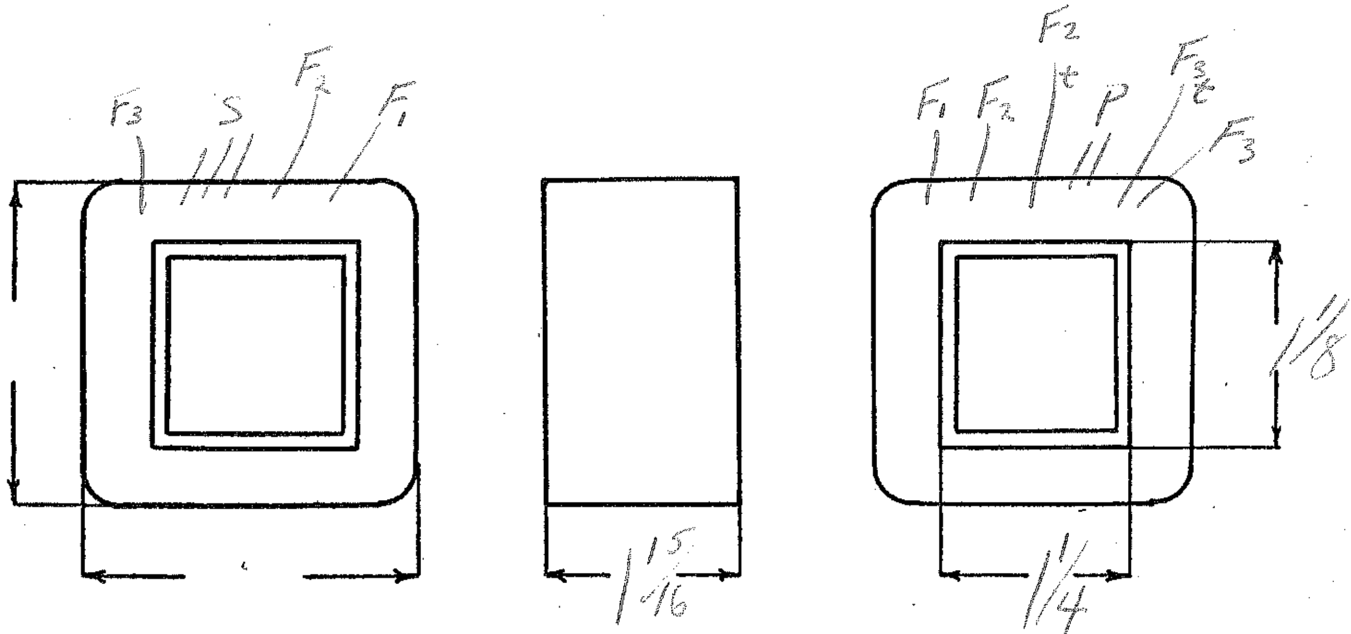
SPEC. NO. P240-230V

Winding	Sec	Shield	Pri	F1	F2	F3	
Turns	3258	180	990	24	12	12	
Taps	1625				6	6	
Wind. Lgth.	1 3/4	1 3/4	1 3/4				
Wire Size	#32	#32	#25	#18	#11	#12	
T. P. L.	180-18		83-12				
Finish							
Type Lead	#20 Ph Br	Sil Br	#20 Ph Br	Wire Only			
Lead Lgth.	9"	3"	9"	9"	9"	9"	
Layer Insul.	Double 16#		50#				
Test Volt.	Standard						
Wrapper	1L007VC	1L005VC	2L007GA			2L007GA	

TUBE	7L007GK	IMPREGNATION	Double Varnish

CORE 1 1/4 X 1 1/8   GA. 24   GRADE D   STACK 2X2

MOUNTING A



DESIGNED BY JGG

DATE 2-7-39

E_p - 230 V
E_s - 550 VCT - 40 ma dc
E_{f_1} - 5 V - 2 amp
E_{f_2} - 6.3 VCT - 1.6 Amp

Stock

5:17

SPEC. NO. P241-230V

Winding	Sec	Shield	Pri	F_1	F_2		
Turns	3000	1	1200	29	36		
Taps	1500	—	—	—	18		
Wind. Lgth.	1 1/16	5 5/8	1 1/16	—	—		
Wire Size	# 37	Shim	# 31	# 21	# 22		
T. P. L.	188-162		100-12	29-12	36-12		
Finish							
Type Lead	# 20 Vn Br	Sil Br	# 20 Pri				
Lead Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	double 16#		1/2 30#				
Test Volt.	Standard						
Wrapper	16005VG	16005VG	26005GA	26005GA	26005GA		

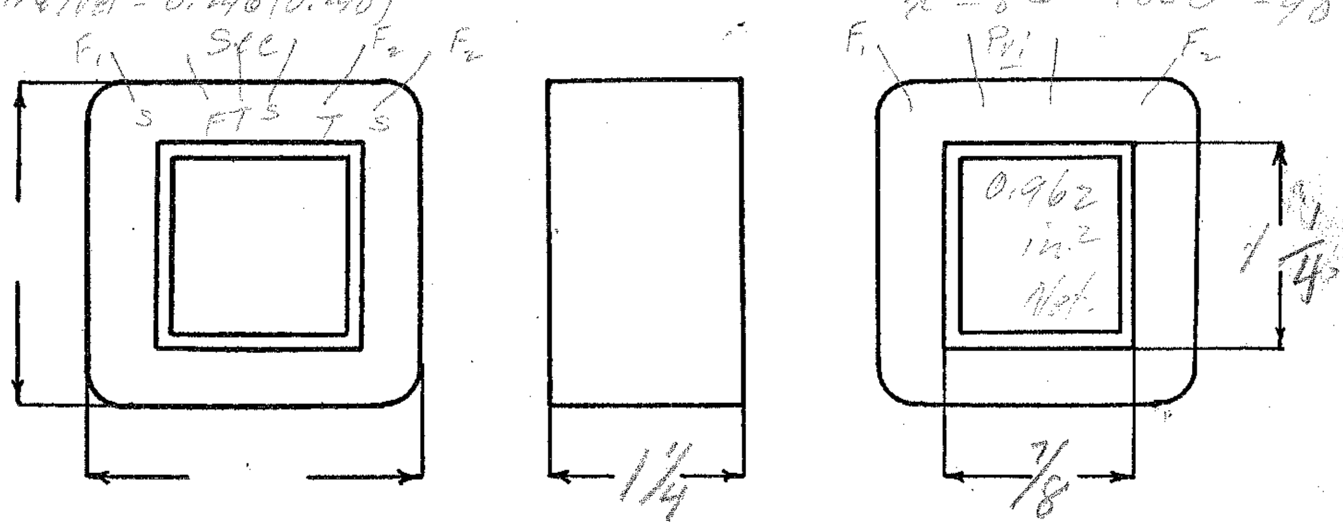
TUBE	56007GK	IMPREGNATION	Double Varnish

CORE 7/8 X 1 3/16 GA. 24 GRADE D STACK 2 X 2

MOUNTING "A"

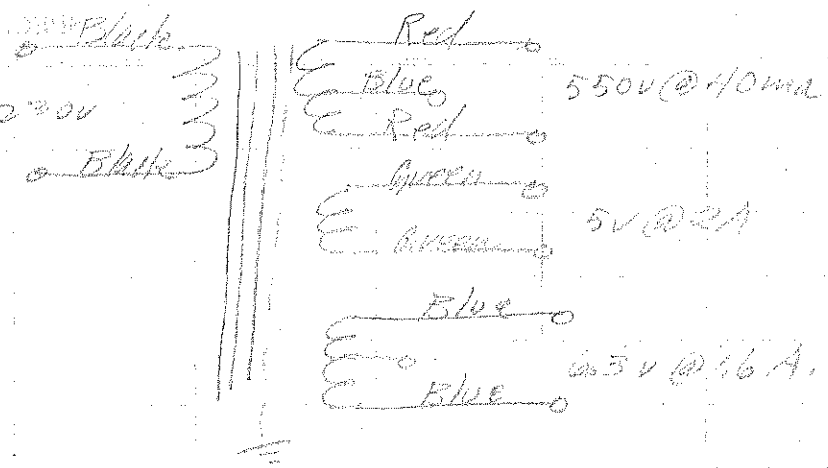
Cu = 825-472-405-401
Fe = 75 @ 60 ~
TPV = 5.2
Wire Net = 0.296"(0.290")

Σ Sec VA = 29
Pri VA = 38.8
Pri I = 169 ma
η = 83 P.F. = 90



DESIGNED BY J.C.L.

DATE 2-7-39


Blue
230v
Blue
Red
Blue
Red
Green
Green
Blue
Blue
550v @ 110mA
5v @ 2A
6.3v @ 1.6A.

Pri. 120 V 60cy
Sec. 550 V CT 40 ma
F 1 5 V 2 A
F 2 6.3V CT 1.6 A

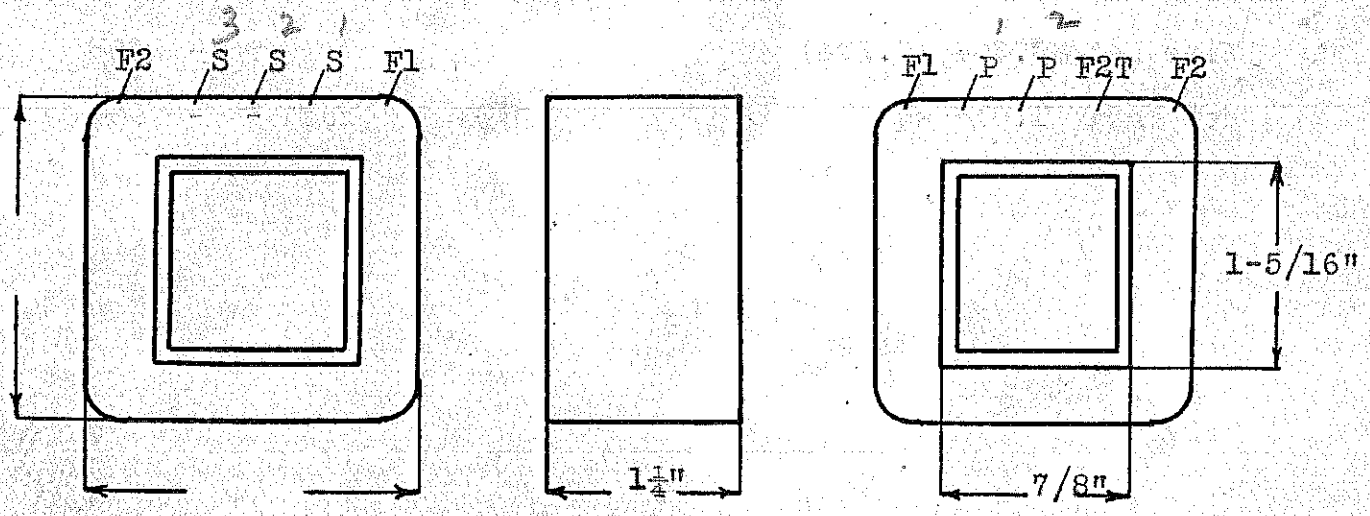
SPEC. NO. P 241

Winding	SEC	SHIELD	PRI	Green FIL 1	Blue FIL 2		
Turns	3100	1	630	29	36		
Taps	1550	-	-	-	18		
Wind. Lgth.	1-1/16"	1-1/16"	1-1/16"	1-1/16"	1-1/16"		
Wire Size	#38	.001 shim	#28	#21	#22		
T. P. L.	195-16L	1	70-9L	29-1L	36-1L		
Finish Pitch	81%	-	90%	82%			
Type Lead	#22PrBr	Sil Br	#22Pr Br	W.O.	W.O.		
Lead Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	2L16#G1	-	1L40#G1	-	-		
Test Volt.	2500	-	1250				
Wrapper	1L005VC	1L005VC	2L005GA	2L005GA	2L005GA		

TUBE 5L007GK IMPREGNATION VARNISH

CORE ¾ 7/8x1-5/16 E GA. 24 GRADE D STACK 2 x 2

MOUNTING A



REDESIGNED BY H. W. S. DATE & 7 - 22 - 41

Cu - 655 - 463 - 405 - 401

Fe - 71 @ 60 cy

TPV - 5.25

Wire Net 0.304 (0.294)

Net Area 1.01" sq

Tot. Sec VA - 31

Pri VA - 41.5

Pri I - 0.346

r - 83%

cos θ - 90%

1/ 115v/230v - 60~
550v CT @ 40ma
5v @ 2A
6.3v CT @ 1.6A.

Stock

115/230v

SPEC. NO. P-241

Winding	Sec	Shield	Pri #1	Pri #2	F_1 5v	F_2 6.3v	
Turns	3200	1	600	600	29	36	
Taps	1500	—	—	—	—	18	
Wind. Lgth.	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	= 1.06"
Wire Size	#37	.001 Cu. Sheet	#31	#31	#21	#22	
T. P. L.	188-16L	1	100-6L	100-6L	29-1L	36-1L	
~~Finish~~ Pitch	87%	—	90%	90%	81%	90%	
Type Lead	#22 Dulee	#25 Solid	#22 Pr. Br.	#22 Pr. Br.	W. O. Sleeve	W. O. Sleeve	
Lead Lgth.	9"	3"	9"	9"	9"	9"	
Layer Insul.	2L 14# G.	—	1L 30# G	1L 30# G	—	—	
Test Volt.	2200						
Wrapper	1L 005 VC	1L 005VC	1L-005VC 2L-30# G	2L 005 GA	2L 005 GA	2L 005 GA	

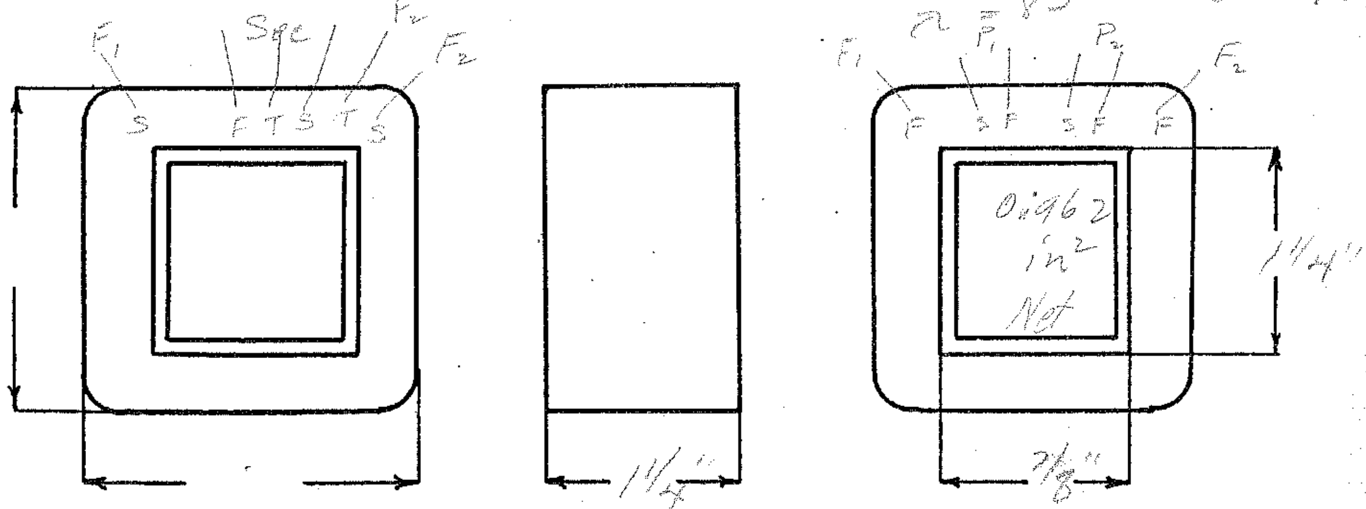
TUBE	5L-007 GR	IMPREGNATION	Double Varnish

CORE 7/8" x 1 1/4" E+I GA. 24 GRADE D STACK 2 x 2

MOUNTING "A"

C = 875-472-472-405-401
Fe = 75 @ 60~
TPV = 5.2
WireNd = 0.296" (0.290")

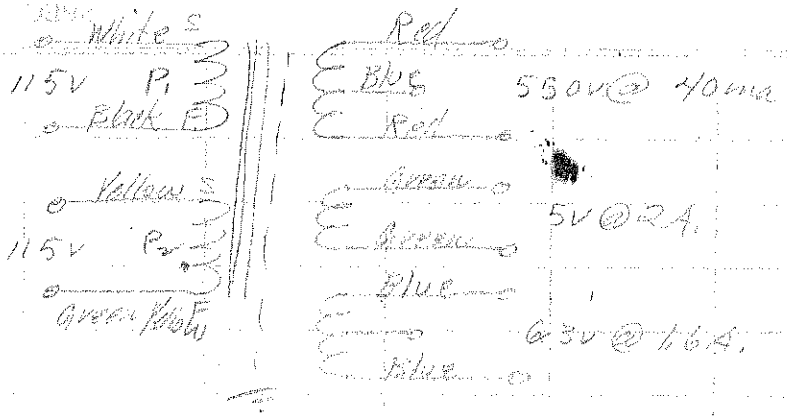
S Sec VA = 29
Pri VA = 32.8
Pri I = 169 ma
83 cos θ = 90



DESIGNED BY NWD

DATE 10-29-41

over.


White
115v P1
Black
Yellow
115v P2
Green/Yellow
Red
Blue
55ov@ 40ma
Green
5v@2A.
Brown
Blue
6.3v@1.6A.
White

INCA 2116 (PATTERSON

$E_p = 110-125$

$E_S = 372$ each side (open)

$E_{F_1} = 5V - 4$ amps

$E_{F_2} = 6.3V - 6$ amps

$\frac{N}{E} = 2.94$

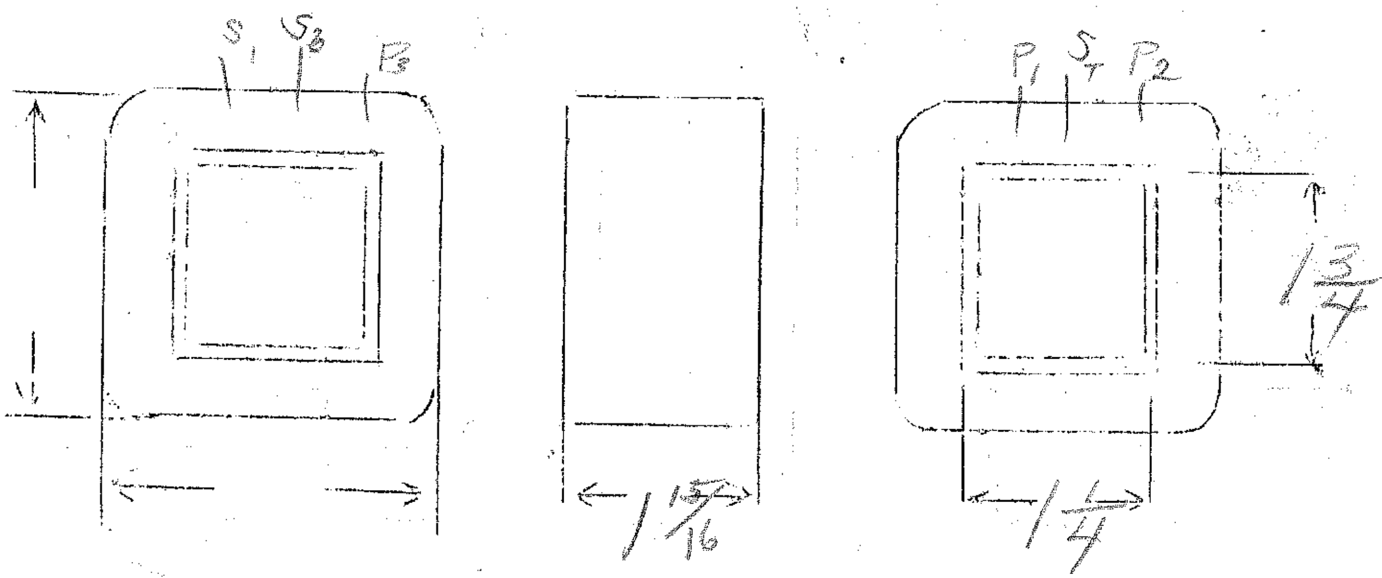
$B = 10,800$

SPEC. NO. 242

Winding	Sec	Shield	Pri	F_1	F_2		
Turns	2180	1	368	16	20		
Taps	1090	1	321				
Wind. Lgth.	1 11/16	1 11/16 x 7 3/4"					
Wire Size	31	SHEET BRASS	#22	#17E	#15E		
T.P.L.	157 1/4	1	56-7				
Kind Term.	#20 P.BR	S1 BR	#20 P.BR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	20#		50#				
Wrapper	1L005RC 3LG1	1L005RC 2LGL	2L005GA	2L005GA			

TUBE | 7L007 | IMPREGNATION | VARNISH

CURE | 1 1/4 x 1 3/4 NW



E_p = 110–125 v

E_s = 374 v open –100MA

E_{F_1} = 5 v – 4 amps

E_{F_2} = 6.3 v – 4 amps

$\frac{E}{S}$ = 11,800

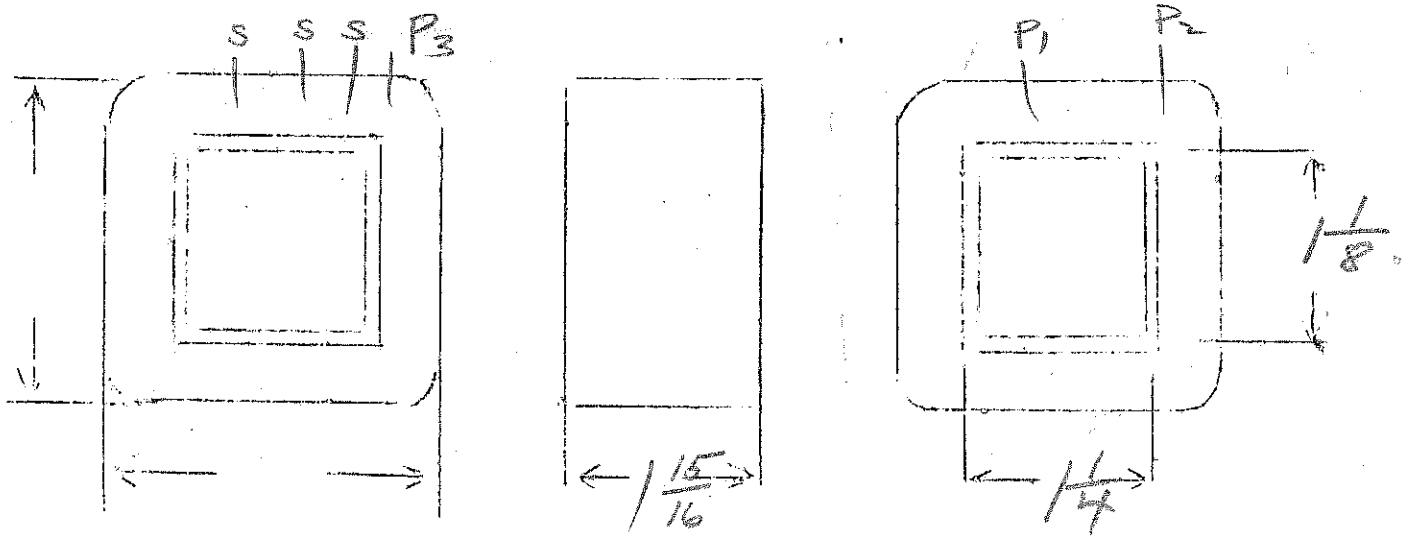
$\frac{N}{E}$ = 4.18

SPEC. NO. 243

Winding	SEC	SHIELD	PRI	F_1	F_2		
Turns	3160	1	522	23	29		
Taps	1580		460	—			
Wind. Lgth.	1 11/16	1 11/16	1 11/16	1 11/16	1 11/16		
Wire Size	#32	BRASS	#22	#17	#17		
T.P.L.	178–18	1	58–9 (over)				
Kind Term.	#20 P.BR		#20 P.BR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	.30#		.50#				
Wrapper	1L005VC 3LGL	1005VC 3LGL	2L005GA	→	→		

TUBE | 7L007 | IMPREGNATION | VARNISH.

CURE | 1 1/2 X 1 1/2



E_p = 110-125

E_s = 380 (open) -125 Ma ea-side

E_{F_1} = 5V - 4 amps

E_{F_2} = 6.3V - 6 amps

B = 18,000

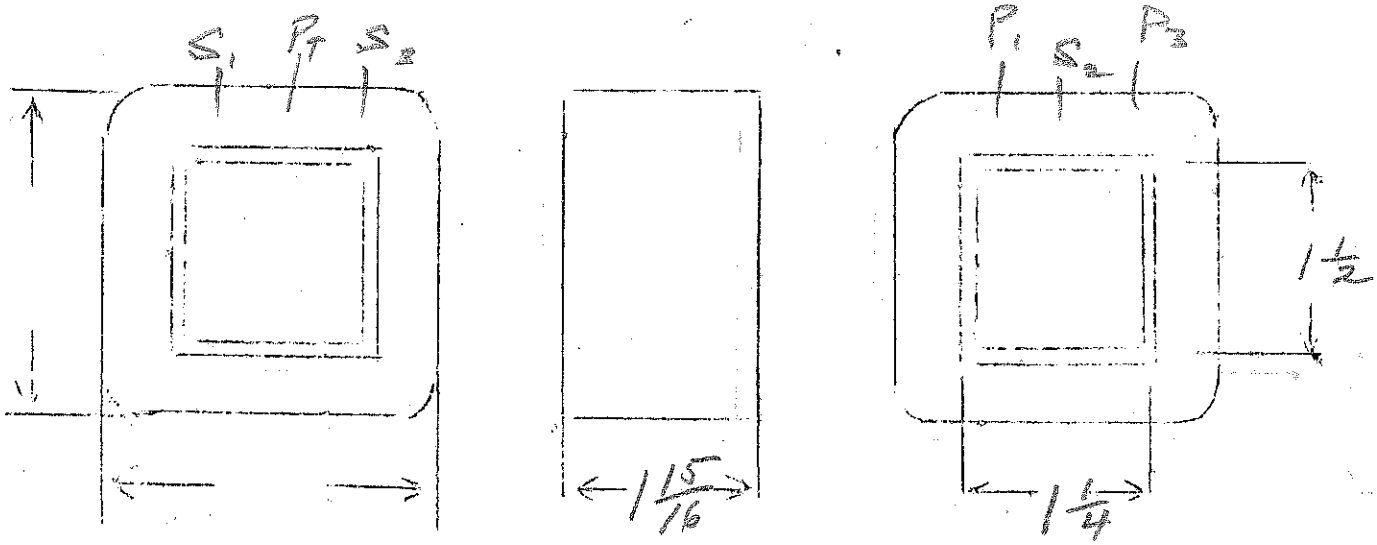
$\frac{V}{T}$ = 3.36

SPEC. NO. 244

Winding	SEC	SHIELD	PRI	F_1	F_2		
Turns	2560	1	420	18	24		
Taps	1280		370	—	—		
Wind. Lgth.	$1\frac{11}{16}$	$1\frac{11}{16}$	$1\frac{11}{16}$	$1\frac{11}{16}$	$1\frac{11}{16}$		
Wire Size	#31	BRASS	#22	#17	#15		
T.P.L.	145-18		55-8	18			
Kind Term.	#20 P.B.R.	SIL. BR.	#20 P.B.R.	WIRE	ONLY		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		50#				
Wrapper	2L005VE	1L005VE 3LGL	2L005GA	2L005GA			

TUBE | 7L007 | IMPREGNATION | VARNISH

CURE | $1\frac{1}{4} \times 1\frac{1}{2}$



PETER PAN

$\frac{N}{E}$ = 5.6 V

E_p = 330V

E_s = 600V CT. 150 Ma.

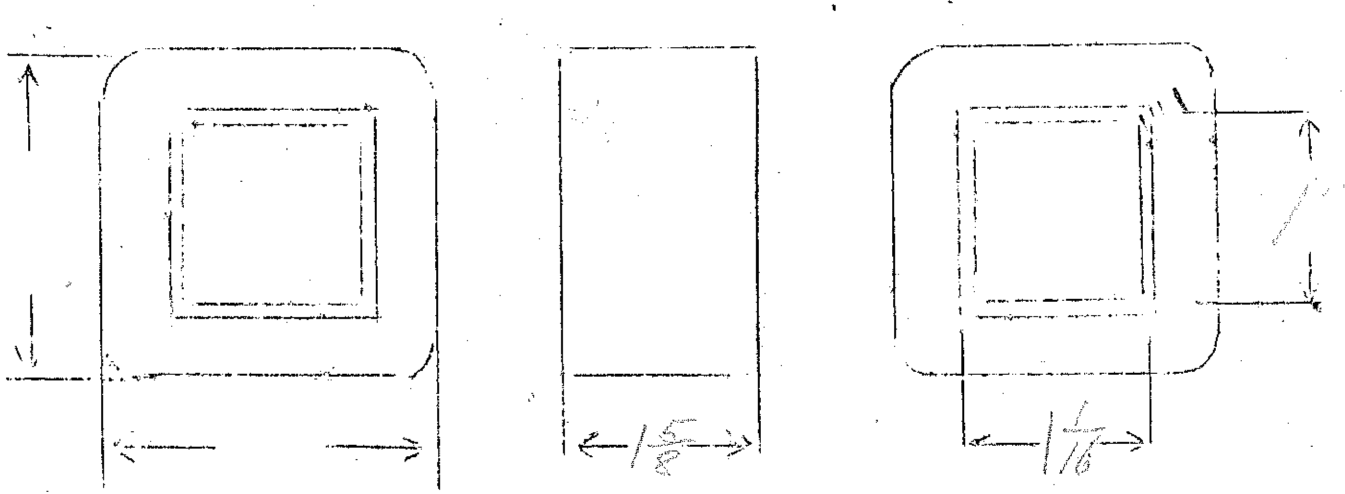
E_{F_1} = 5V – 2 amps

E_{F_2} = 2.5V – 5 amps

SPEC. NO. 246

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	1300		3700	21	16		
Taps	—		1850		8		
Wind. Lgth.	1 7/16	1 7/16	1 7/16				
Wire Size	28		36	20	[illegible]		
T.P.L.							
Kind Term.							
Term. Lgth.							
Layer Insul.							
Wrapper							

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1 7/16 x 1"		



Ep - 1150
Es - 400V - 10 ma
Ef - 5V - .25 amps

LESTER EQUIPMENT CO.

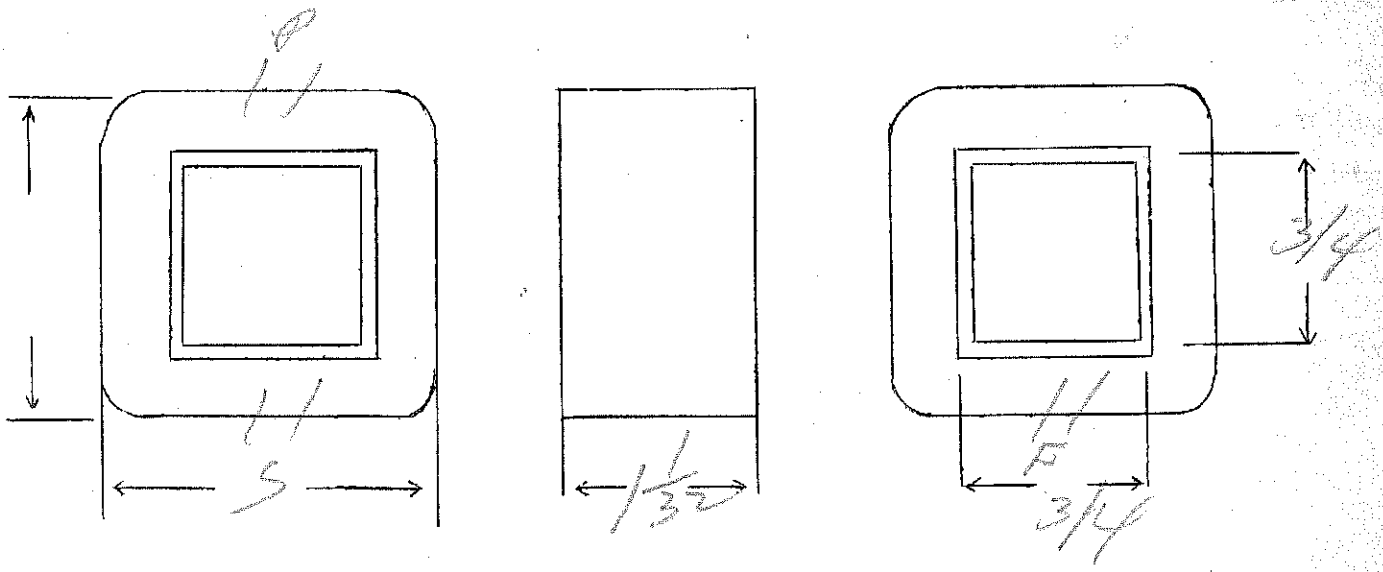
SPEC. NO. 948

Winding	SEC	PRI	FIL				
Turns	4250	1150	54				
Taps	—						
Wind. Lgth.	27/32	"	"				
Wire Size	#39	#34	#27				
T.P.L.	200	110	54				
Kind Term.	Silk Braid						
Term. Lgth.	3"	3"	3"				
Layer Insul.	1/16"	30#					
Test Volt.							
Wrapper	1600 VC	2400 SA	2400 SA				

TUBE 5200 7 | IMPREGNATION VARNISH

CORE 3/4" x 3/4" - 26 Ga 2 x 2 | PRIMARY V.A.

MOUNTING D



DESIGNED BY [illegible] DATE 7/26/52

Ep = [illegible] V

Ef = 6V - 1 amps

VA = 6

B = 12000

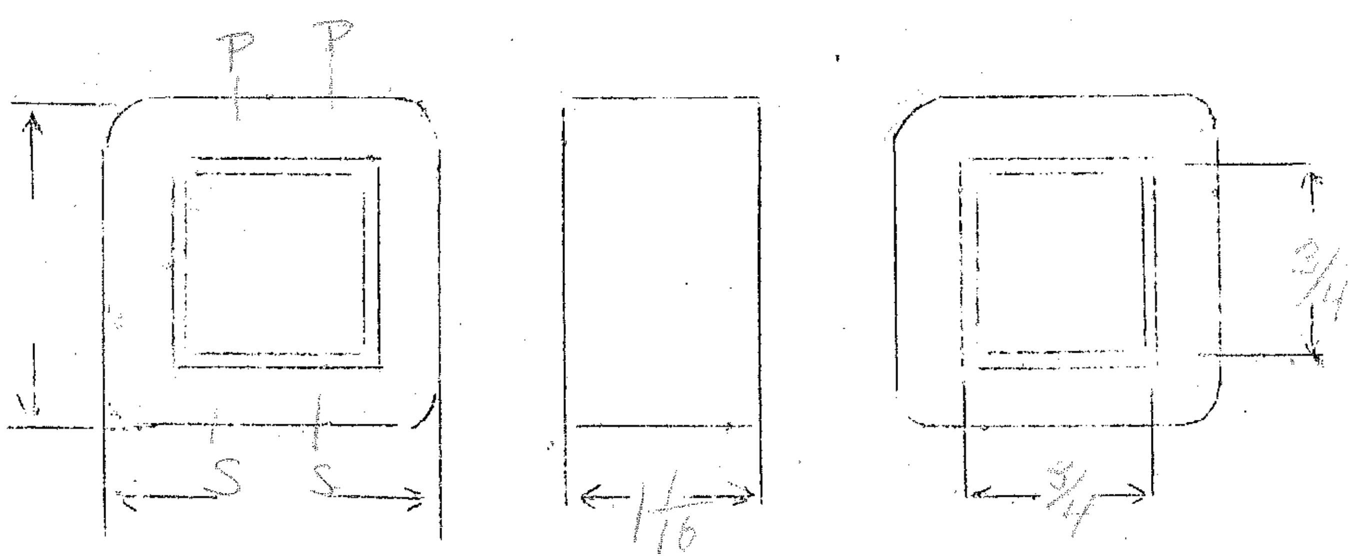
$\frac{N}{E}$ = 10.3

SPEC. NO. 249

Winding	PRI	SEC					
Turns	1230	65					
Taps	—	—					
Wind. Lgth.	7/8	7/8					
Wire Size	#31	#22					
T.P.L.	68-12	25					
Kind Term.	SIIBR	WIRE					
Term. Lgth.	3"	3"					
Layer Insul.	#20						
Wrapper	1L005VC	2L0056A					

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 3/4 x 3/4 26 # 2½ stack



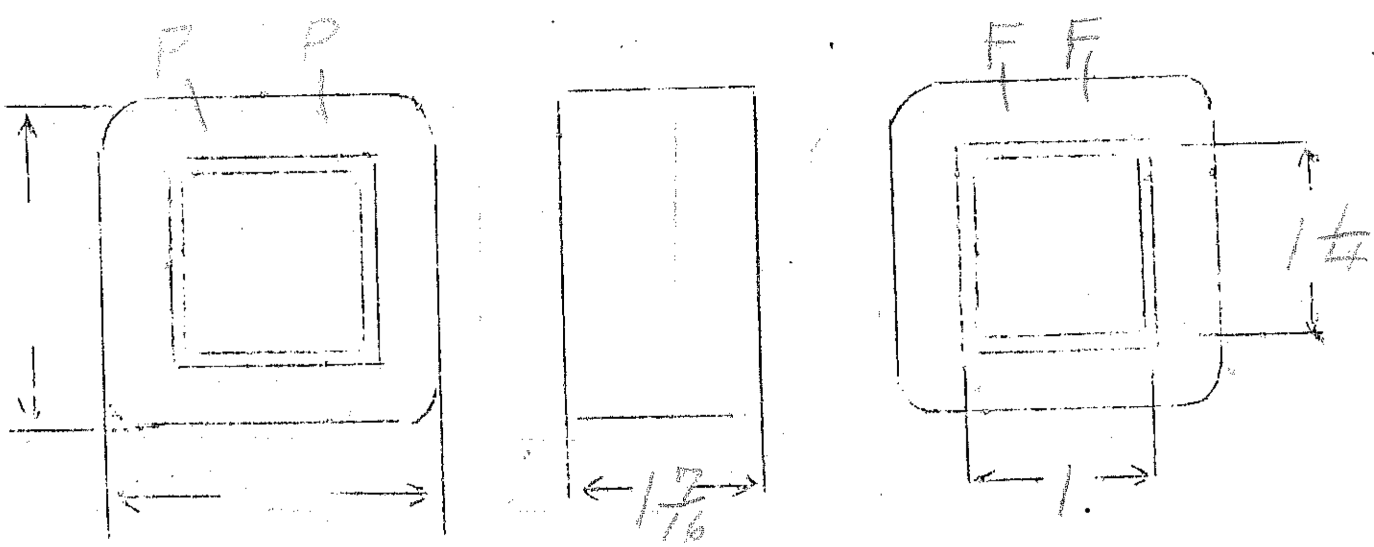
E_p = 116 V. VA = 65

E_F = 13 V – 5 amps $\frac{N}{E}$ = 4.45

SPEC. NO. 250

Winding	PRI	F					
Turns	500	63					
Taps	—	—					
Wind. Lgth.	1.25	1.25					
Wire Size	#24	#16					
T.P.L.	52-10	21-3					
Kind Term.	WIRE	WIRE					
Term. Lgth.	3"	3"					
Layer Insul.	50#						
Wrapper	2L005GA	2L005GA					

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1 X 1 1/4 NW		



838

E_p = 440V.
E_s = 400V. 15Ma
E_{F_1} = 5 V. 2.5 amps
E_{F_2} = 2.5V. 1 amp

VA = 10

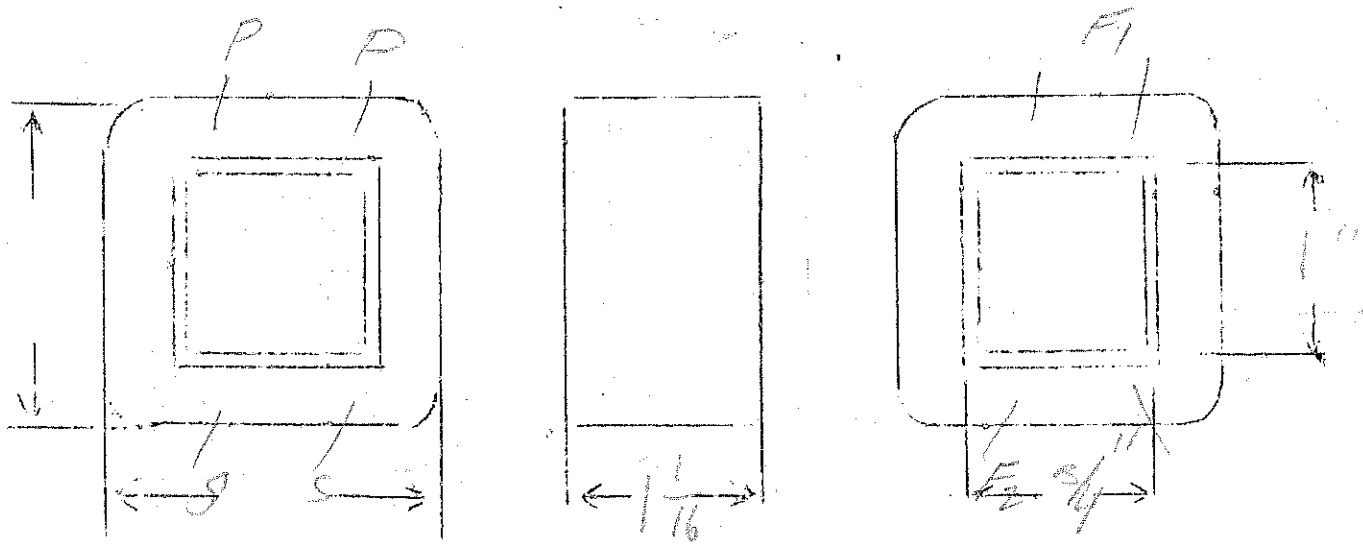
$\frac{N}{E}$ = 7.7

SPEC. NO. 251

Winding	PRI	SEC	F_1	F_2			
Turns	850	3350	43	21			
Taps	—	—	—	—			
Wind. Lgth.	7/8	7/8	7/8	7/8			
Wire Size	#31	#39	#26	#22			
T.P.L.	85-10	210-16	43-1	21-1			
Kind Term.	SILBR	SIL BR	SIL BR	NURC			
Term. Lgth.	3"						
Layer Insul.	.20 #	1 #					
Wrapper	4L005 V.C	4L005GA	4L005GA	4L005GA			

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 3/4 x 1"



E_P = 115 Volts

E_S = 650 Volts - 50 Ma. CT

E_{F_1} = 5 Volts - 2 Amps

E_{F_2} = 6.3 Volts - 2 Amps

VA = 35.8

$\frac{V}{E}$ = 4.0

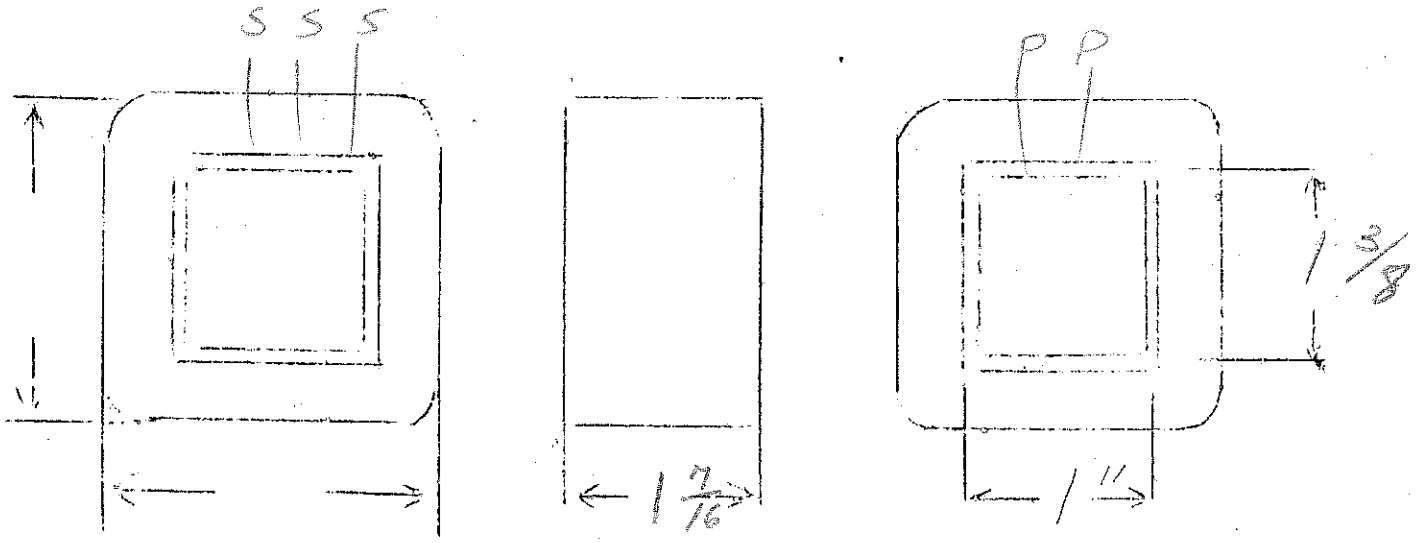
REMLER

SPEC. NO. 252

Winding	PRI	SHIELD	SEC.	F_1	F_2		
Turns	460	66	2800	22	28		
Taps	NONE	—	1400	—	—		
Wind. Lgth.	1.25	1.25	1.25	—			
Wire Size	#26	#26	#35	#20	#20		
T.P.L.	66-7	66	177-16				
Kind Term.	#20 P.B.R.	WIRE	#20 P.B.R.	WIRE	ENAM		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#	—	20#				
Wrapper	1 LOOSE	1 LOOSE	2 LOOSE	GA	→		

TUBE	4L007	IMPREGNATION	VARNISH

CURE | 1 X 1 3/8 NW



E_p = 110-120 Volts - 25W $\frac{N}{E}$ = 6.5

E_s = 770V CT open - 70Ma

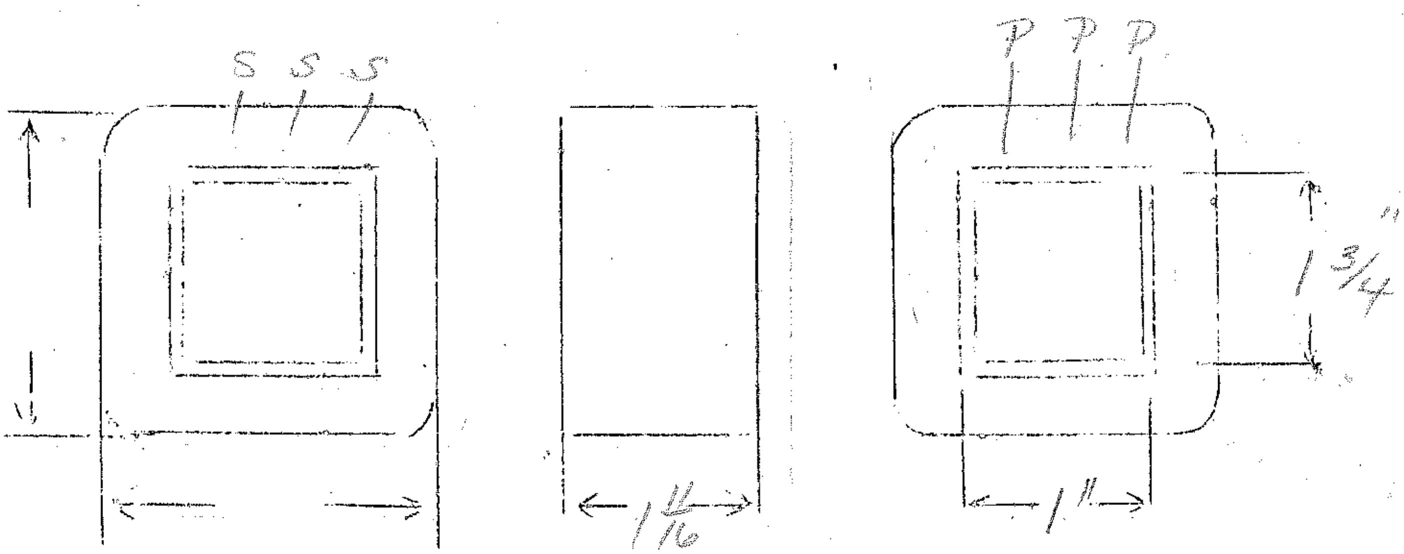
E_{F_1} = 6V - 2 amps

E_{F_2} = 2.5V - 7 amps

SPEC. NO. 253

Winding	PRI	SHIELD	SEC	FIL_1	FIL_2		
Turns	780	65	5000	36	19		
Taps	715	—	2500	—	—		
Wind. Lgth.	1.5	1.5	1.5	—	—		
Wire Size	#24	#24	#34	#20	#14		
T.P.L.	65-12	65	195-26				
Kind Term.	#20 P.BR.	WIRE	#20 P.BR.	WIRE	ONLY		
Term. Lgth.	9"	3"	9"				
Layer Insul.	50#		20#				
Wrapper	1L005VC	1L005VC	2L6056A	———	——→		

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1 X 1 3/4 M		



Ep = 115 V

Es = 3.25 V — 5 amps C.T.

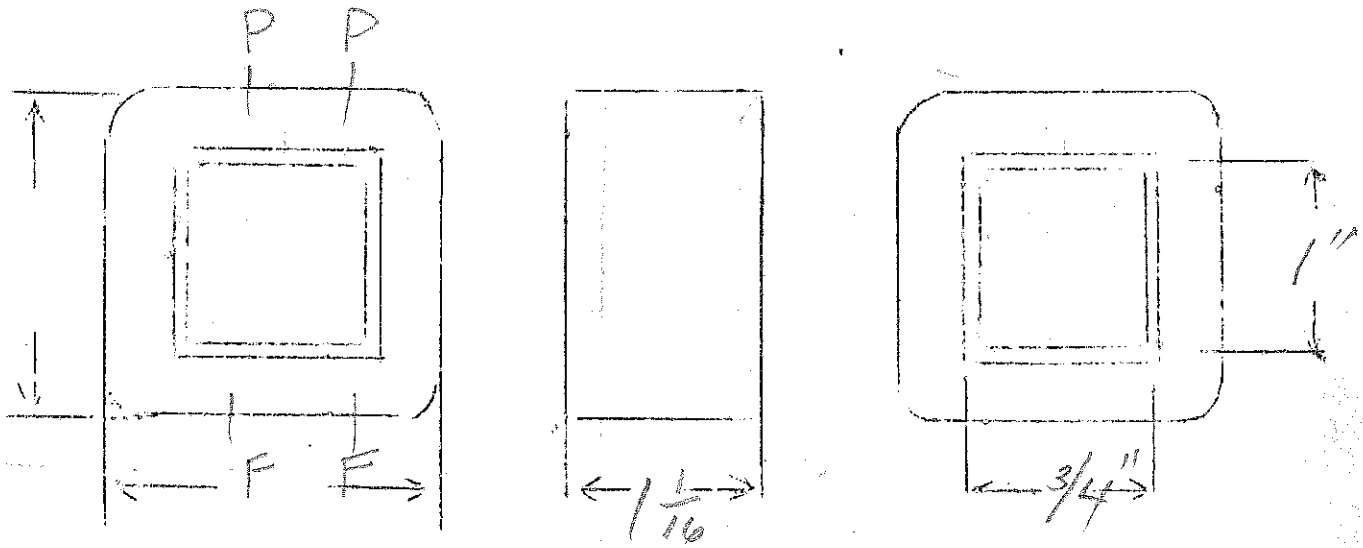
WESTONE

SPEC. NO. 254

Winding	PRI	SEC					
Turns	885	28					
Taps	—	14					
Wind. Lgth.	7/8	7/8					
Wire Size	#30	#16					
T.P.L.	24-12	14					
Kind Term.	SIL BR	WIRE					
Term. Lgth.	3"	3"					
Layer Insul.	30#	1L 005 GA					
Wrapper	2L 005 GA	2L 005 GA					

TUBE | 4C0.07 | IMPREGNATION | VARNISH

CURE |



$E_P = 115V$

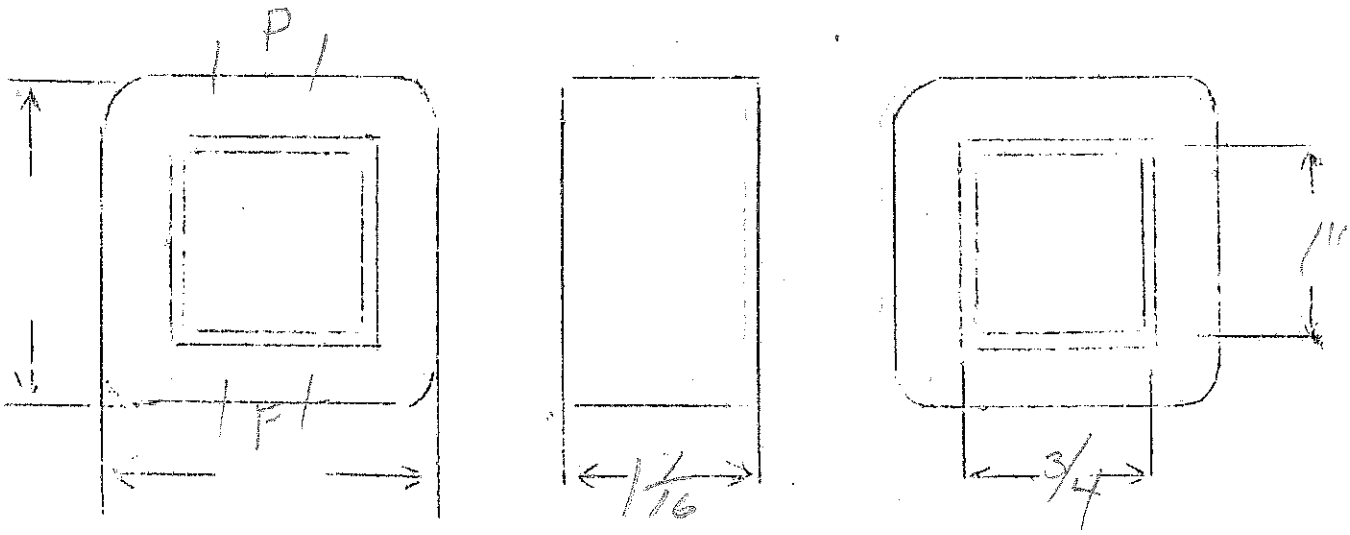
$E_S = 2.5V$ @ 4 amps CT

$\frac{N}{E} = 7.7$

SPEC. NO. 255

Winding	PRI	SEC					
Turns	885	22					
Taps	—	11					
Wind. Lgth.	7/8	7/8					
Wire Size	#30	#17					
T.P.I.	74-12						
Kind Term.	SIL BR	WIRE					
Term. Lgth.	3"	3"					
Layer Insul.	30#						
Wrapper	2L005A	2L005A					

TUBE	4L007	IMPREGNATION	VARNISH
CURE	3/4 x 1 "D" MOUNT.		



E_p = 115V Cawood

E_s = 700VCT open

E_{F_1} = 5V - 2amps

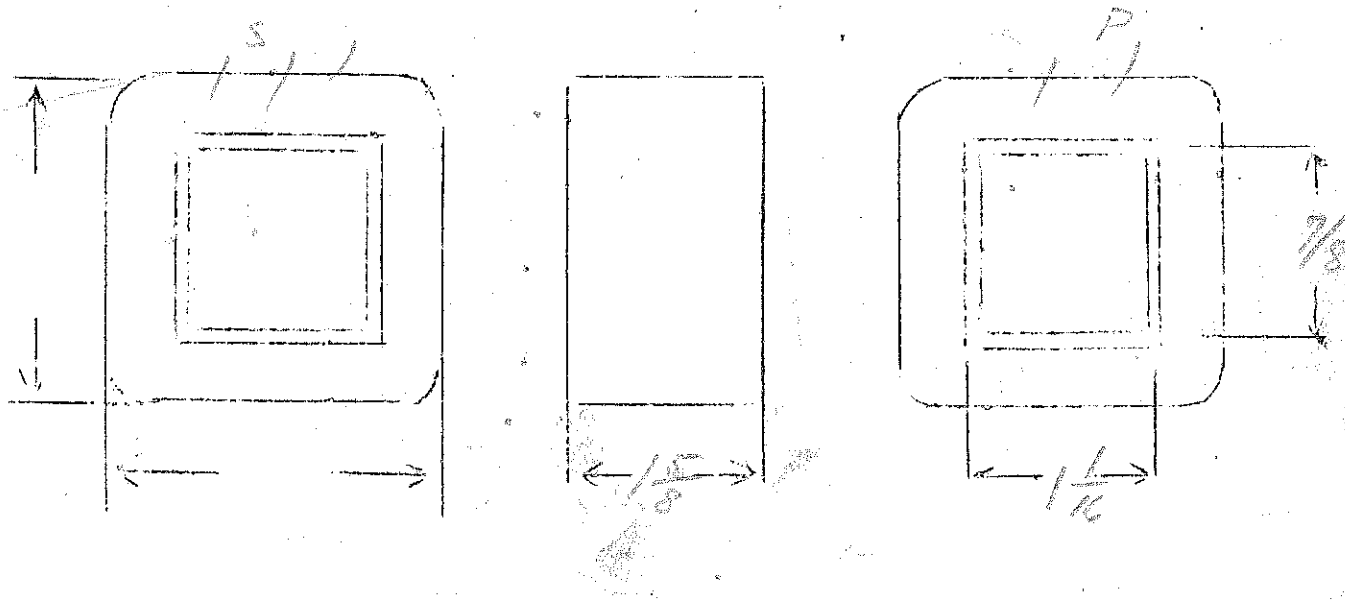
E_{F_2} = 2.5V - 5amps

N/E = 6

SPEC. NO. 256

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	690	70	4200	33	17		
Taps	—	—	2100	—	8		
Wind. Lgth.	1 7/16 1.4375	1 7/16	1 7/16	—	—		
Wire Size	26E	26E	36E	20E	16E		
T.P.L.	70-10	70-1	216-20	—	—		
Kind Term.	#20 P.BR	SH BR	#20 PBR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#	—	20#	—	—		
Wrapper	1L005VC	1L005VC	2L005GA	⟶	⟶		

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1 1/16 x 7/8		



WELCOME METER

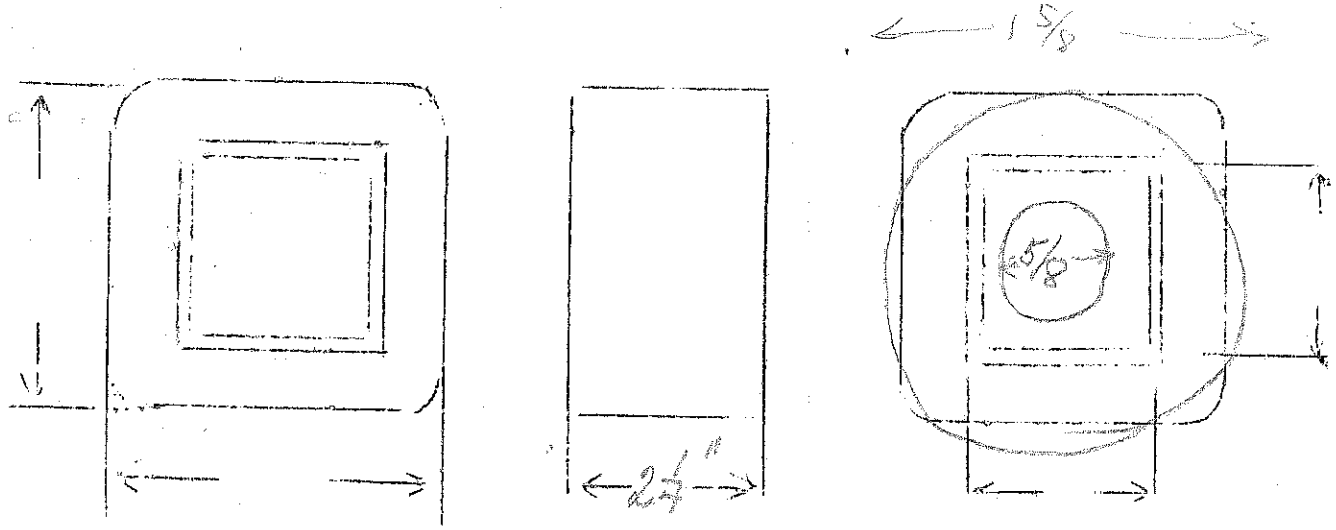
Bar = 4873-2

SPEC. NO. 257

Winding	PRI						
Turns	3275						
Taps	—						
Wind. Lgth.	1 15/16"						
Wire Size	#29						
T.P.L.	118-28						
Kind Term.	Black #20 Grade A						
Term. Lgth.	6"						
Layer Insul.	30#						
Wrapper	2405A						

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 5/8 rounds



C

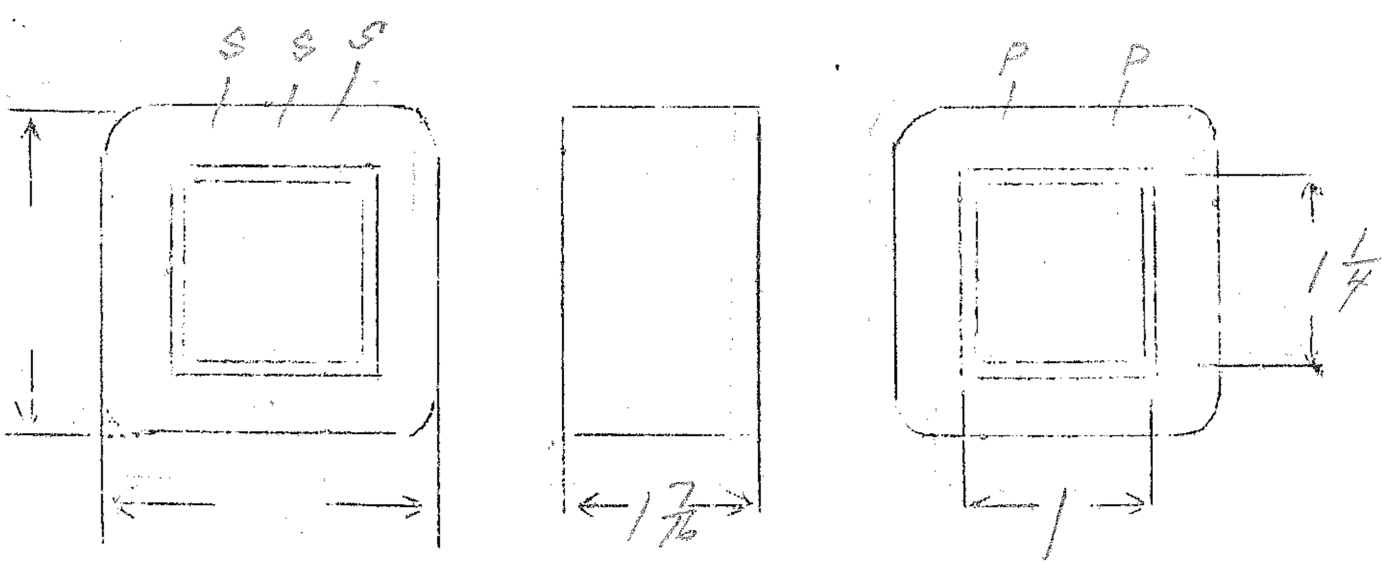
$E_p = 240$
$E_s = 680V CT - 50 Ma$
$E_{F_1} = 5V - 2 amps$
$E_{F_2} = 2.5V - 5 amps$

Same as 211 - 240V Pri **SPEC. NO.** 258

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	1065	90	3100	25	12	when wound for	
Taps	—	—	1550	—	6	Packard Bell,	
Wind. Lgth.	1.25	1.25	1.25	—	—	wind 12T	
Wire Size	#29	#29	#36	#20	#16	double #19 - no CT.	
T.P.L.	90-12	90-1	200				
Kind Term.	#20 PBR	Sil Br	#22 PBR	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#	—	20#				
Wrapper	1L005VE	1L005VE	2L0058A	——→			

TUBE | 4L007 | **IMPREGNATION** | VARNISH

CURE | 1X1½NW



E_p = 115V HIDY

E_S = 600V–400V–250V–125V– 35ma

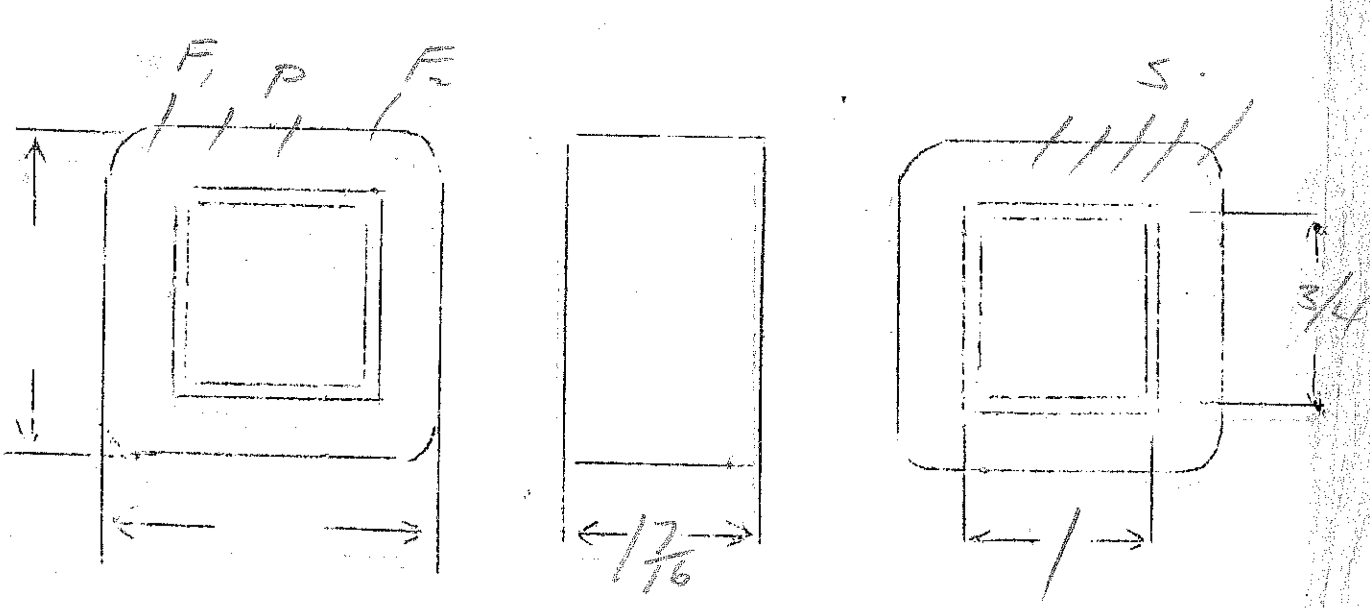
E_F = 5V– 2amps $\frac{N}{E}$ = 7.3

SPEC. NO. 2593

Winding	PRI	SHIELD	SEC	F₁			
Turns	840	68	4750	40			
Taps	—	—	3160 1980	—			
Wind. Lgth.	1.25	1.25	1000	—			
Wire Size	#28	#28	#37	#20			
T.P.L.	79-12	68	225	—			
Kind Term.	wire	wire	Sel Br				
Term. Lgth.	3"	3"	3"				
Layer Insul.	20#	—	20#				
Wrapper	1L007VC	1L007VC	2L005EA				

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1X 3/4NW



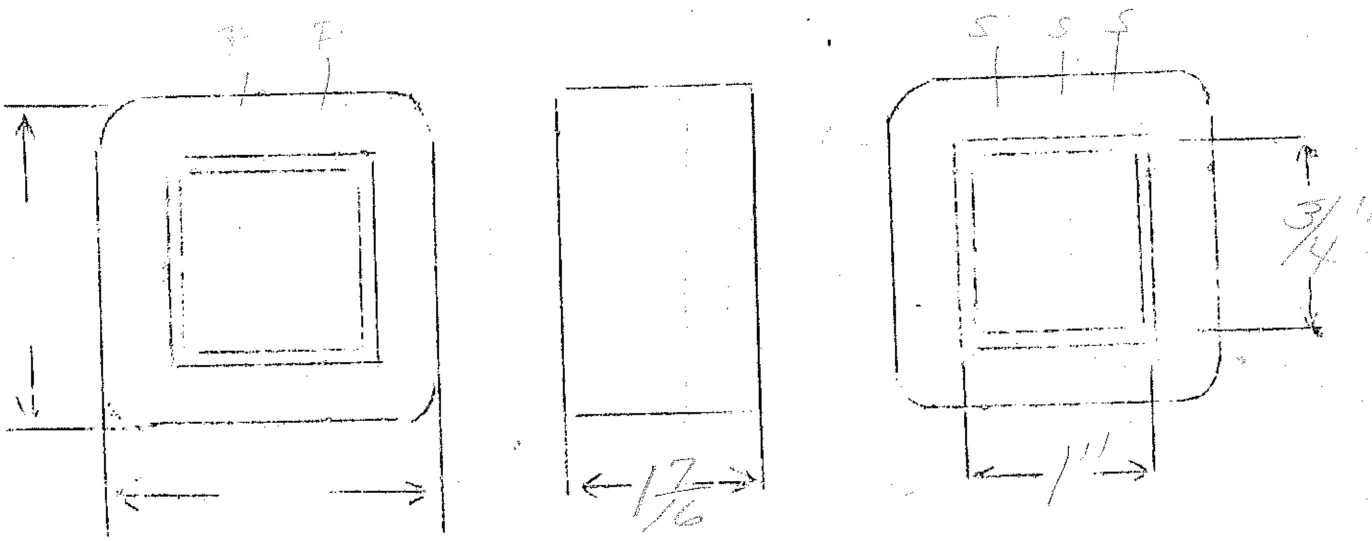
Ep = 115

Es = 220V CT – 50Ma

SPEC. NO. 260B

Winding	PRI	SHIELD	SEC				
Turns	808	81	1670				
Taps	—	—	835				
Wind. Lgth.	1.25	1.25	1.25				
Wire Size	28	28	35				
T.P.L.	81-10	81	170-10				
Kind Term.	51/BR	51/BR.	51/BR				
Term. Lgth.	3"	3"	3"				
Layer Insul.	30#	—	20#				
Wrapper	1L005VC	1L005VC	2L0056A				

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1 X 3/4 NW		



E_p = 165V - 50N

E_{s1} = 600V - CT - 40MA

E_{F_1} = 5V - 2amps

E_{F_2} = 2.5V - 4amps

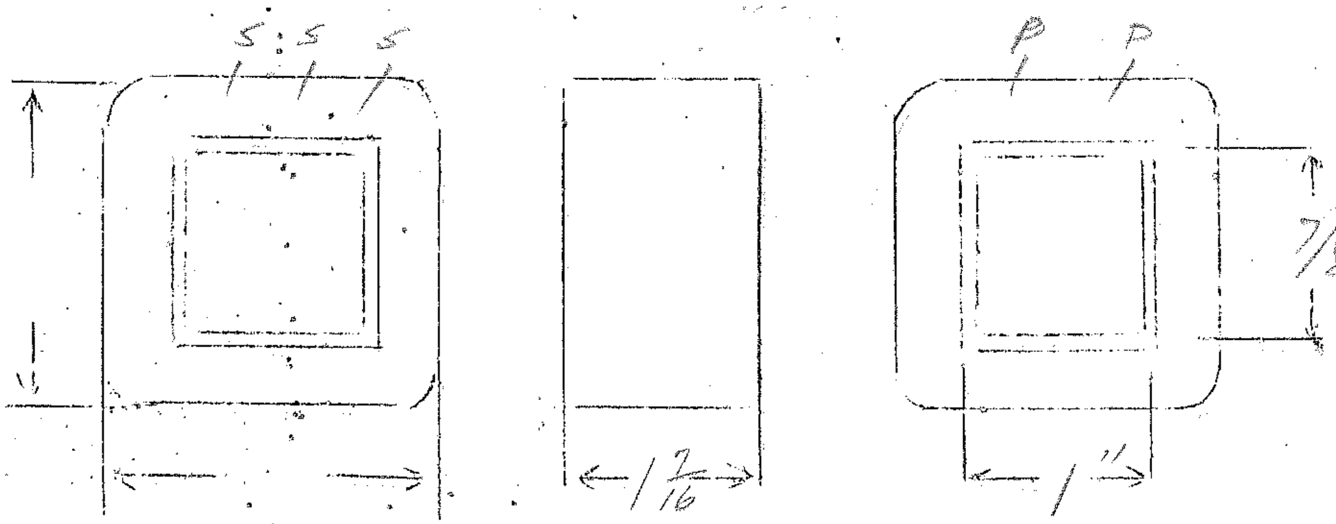
$\frac{N}{E}$ = 6.0

PACKARD BELL

SPEC. NO. 261

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	1000	84-12	3960	33	17		
Taps	—	—	1980	—	8		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	#28	#28	#37	#31	18		
T.P.L.	84-12	72	222-18	—	—		
Kind Term.	#30 PBr	Sil Br	#38 P.Br	WIRE	—		
Term. Lgth.	7"	3"	7"	7"	7"		
Layer Insul	30#	—	20#	—	—		
Wrapper	1L005VC 4L6A	1L005VC 4L6A	2L005GA	→	→		

TUBE	4L007	IMPREGNATION	VARNISH (Dou...)
CURE	1X7/8 NW		



Welcome Meter Co

(Elec. Engr. Bleachery Corp.)

See 6781

Test for Magnetism

SPEC. NO. 262

Winding		Coil					
Turns		1600					
Taps		—					
Wind. Lgth.		9/16"					
Wire Size		#37					
T. P. L.		104-15L					
Finish							
Type Lead		#18-F32 Fixture Wire					
Lead Lgth.		5"					
Layer Insul.		12 .001 G					
Test Volt.							
Wrapper		32 .003 GA				Black over lamination	

TUBE 5L-.007" GK IMPREGNATION Varnish, coil & core

CORE Special Wattmeter Lamination GA. GRADE STACK

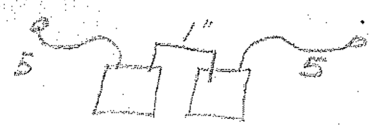
MOUNTING

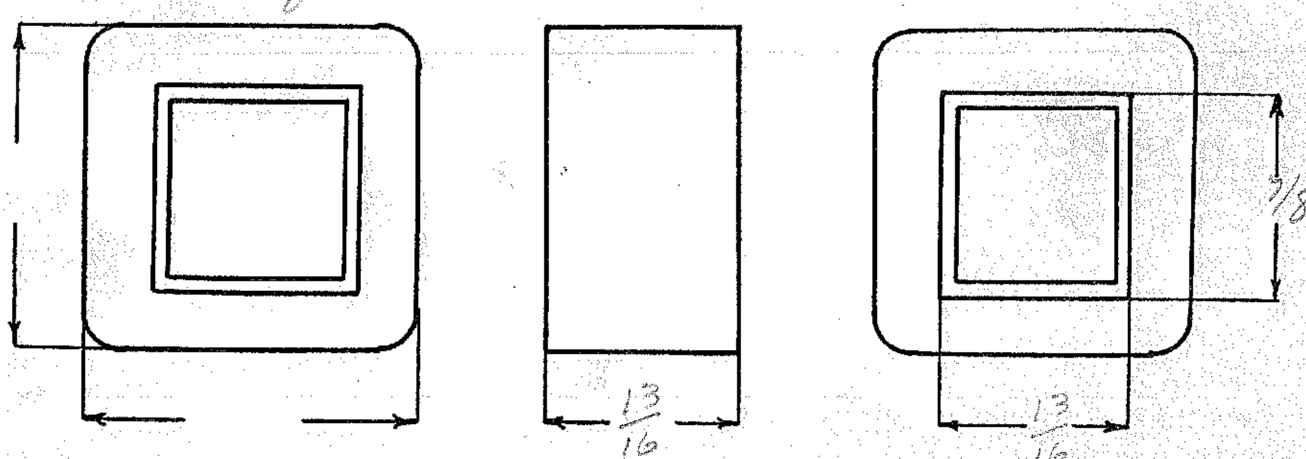
Note: Two coils / set.

Cut outside leads - 5"
" inside " - 3"

red start - 7"
blue finish - 3"

Start coils brought out as leads
Finish of coils connected together under wrapper.





DESIGNED BY Copied HWS DATE 7-30-41

Note 2 coils per set

SPEC. NO. 262-250V

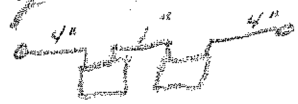
Winding							
Turns	4000						
Taps	—						
Wind. Lgth.	9/16"						
Wire Size	#40						
T. P. L.	140-20			Don't anchor start			
Finish							
Type Lead	#20 [illegible]						
Lead Lgth.	4"						
Layer Insul.	14#						
Test Volt.							
Wrapper	26.005 GA					Bleed	

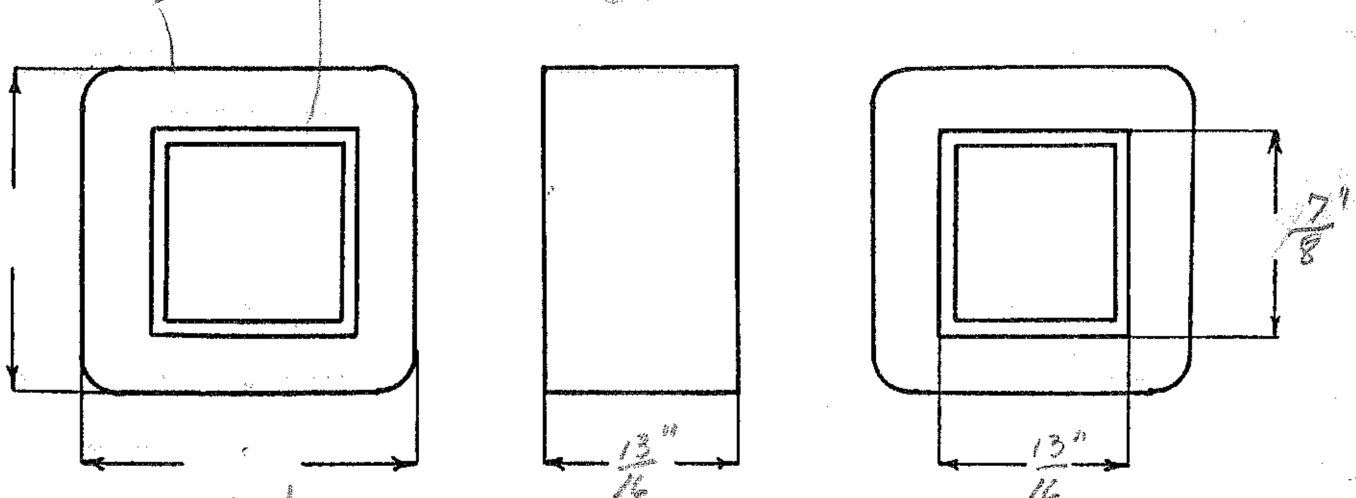
TUBE	52.007" G.K.	IMPREGNATION	Varnish [illegible]

CORE special GA. Watt Meter GRADE [illegible] STACK

MOUNTING —

start of coils brought out as leads
finish of coils connected together under wrap





DESIGNED BY DL

DATE

Welcome Meter

SPEC. NO. 262-25 W

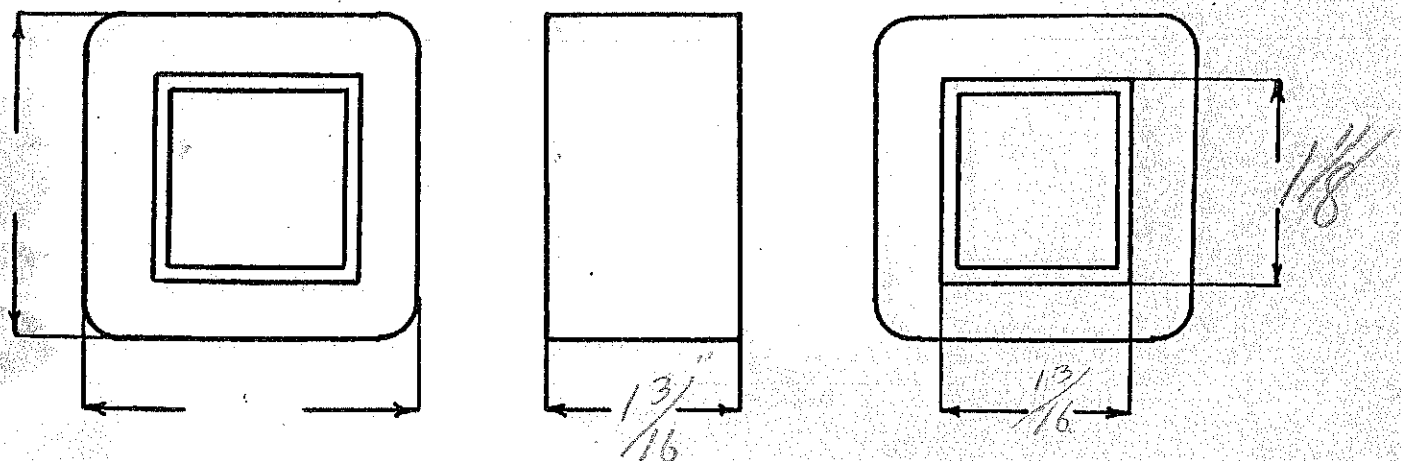
Winding	TWO	COILS					
Turns	3/40						
Taps	—						
Wind. Lgth.	11/16						
Wire Size	#37						
T. P. L.	126-25						
Finish							
Type Lead	#20 Rd Brn						
Lead Lgth.	4"						
Layer Insul.	80#						
Test Volt.	1250						
Wrapper	2L005GA						

TUBE HL007GK | IMPREGNATION Varnish

CORE 13/16 x 7/8 Welcome Inter Layer GA. GRADE STACK

MOUNTING

Inside of coils brought out as 4" leads.
Outside " " connected together under wrapper with 1" pri Brn



DESIGNED BY

DATE 6-28-39

2 coils

SPEC. NO. 262-230V.

Winding							
Turns	3200						
Taps							
Wind. Lgth.	9/16						
Wire Size	#40						
T. P. L.	144						
Finish							
Type Lead	#20 P.Br.						
Lead Lgth.	4"						
Layer Insul.	20#						
Test Volt.							
Wrapper	21005GA						Double Black

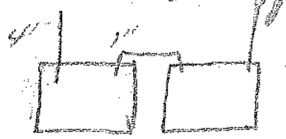
TUBE	41007	IMPREGNATION	Varnish

CORE	GA.	24	GRADE	D	STACK	

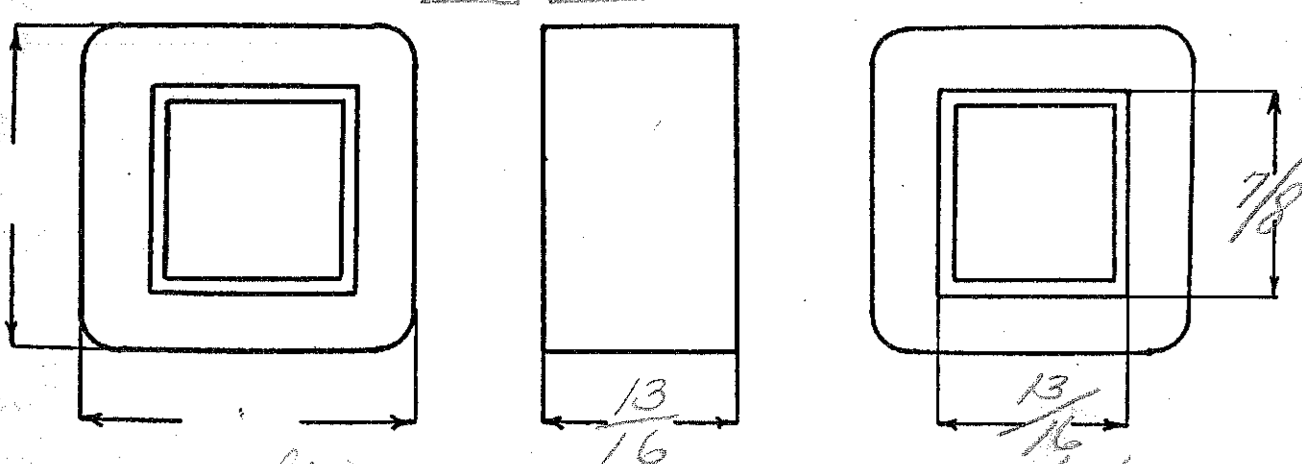
MOUNTING — special Welcome Meter Lamination

outside leads out 5"
Inside leads out 3"

Insides of coils brought out as leads. Outsides of coils connected together under wrapper



Do not anchor lds.



DESIGNED BY GW

DATE 5/9/39

E_p = 1115 V

E_s = 750 V - 5 MA

F_1 = 5 V - 2 amps

F_2 = 2.5 V - 2 amps

Special for Marion

Heavy insulation to resist leakage

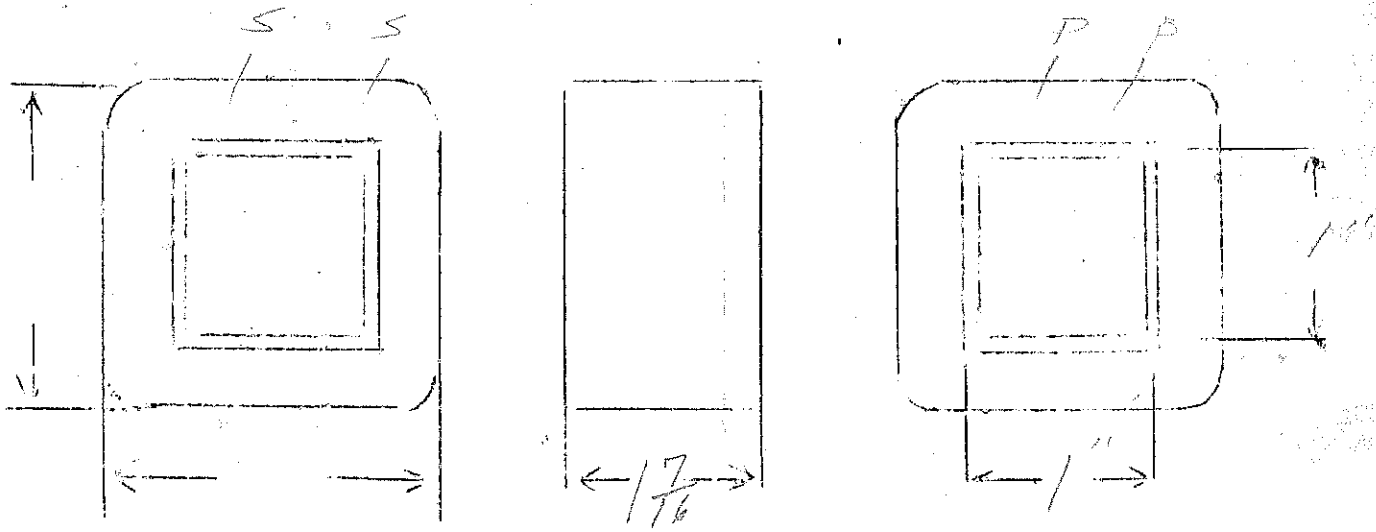
$\frac{N}{E}$ = 5.6

SPEC. NO. 263

Winding	PRI	SHIELD	SEC	FIL	FIL		
Turns	640	65	4400	31	16		
Taps	—	—	—	16	8		
Wind. Lgth.	1.25	1.25	1.25	—	—		
Wire Size	27E	27	#38	#20	#20		
T.P.L.	65-10	65	250-18	—	—		
Kind Term.	#30 PBr	WIRE	#30 PBr	WIRE			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#	—	20#	—	—		
Wrapper	2L005VC	2L005VC 4L GLassing	2L005VC 4L GL	2L005 GLA	2L005 GLA		

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1X1 NW



E_p = 112 V. Special for wells – Weston

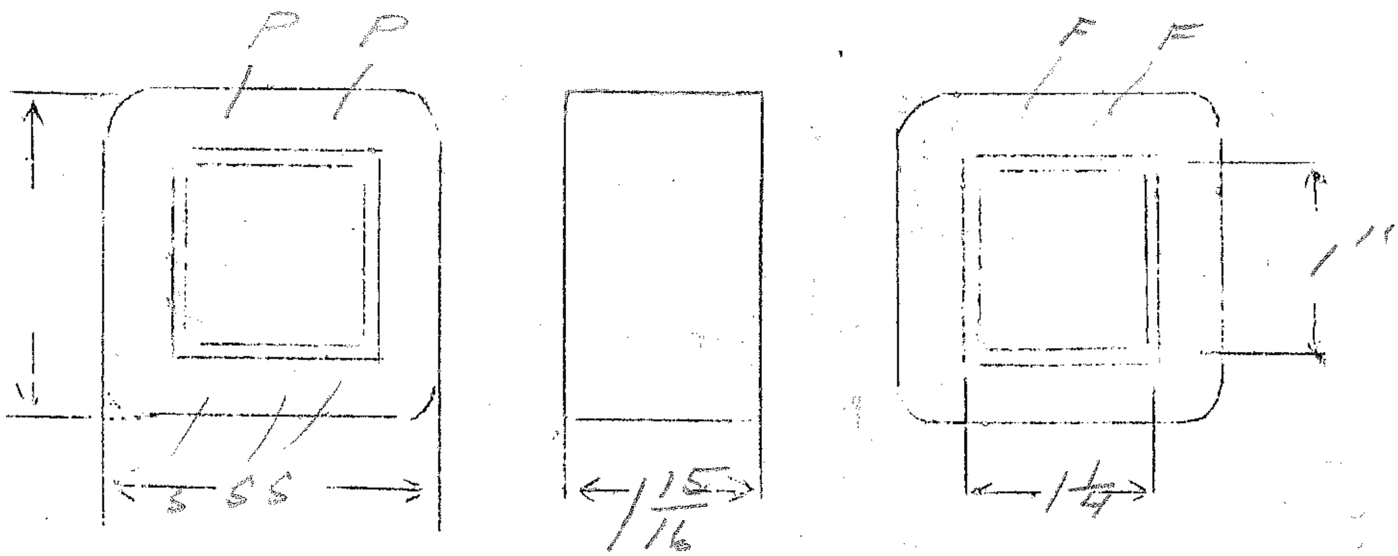
E_s = 1250 V CT 100 Ma VA = 78 watts B =

F_1 = 5V – 3 amp N/E = 4.6

SPEC. NO. 264

Winding	SEC	SHIELD	PRI	F_1			
Turns	5900	178	515	25			
Taps	2950	—	—	—			
Wind. Lgth.	1.75	1.75	1.75	—			
Wire Size	#32	#32	#23	#18			
T.P.L.	178-34	178	65-8	—			
Kind Term.	#20 PBr	sil Br	#20 PBr	WIRE			
Term. Lgth.	6"	3"	6"	6"			
Layer Insul.	30#	—	50#				
Wrapper	3L005VC	2L005VC	3L005VC 1L005GA	2L005GA			

TUBE	7L007+1L005VC	IMPREGNATION	VARNISH
CURE	1¼ x 1"		



E_p = 80V

E_{S_1} = 480VCT – 60mA

E_{S_2} = 30V tap at 7.5V – 60mA

E_{F_1} = 5V – 2 amps

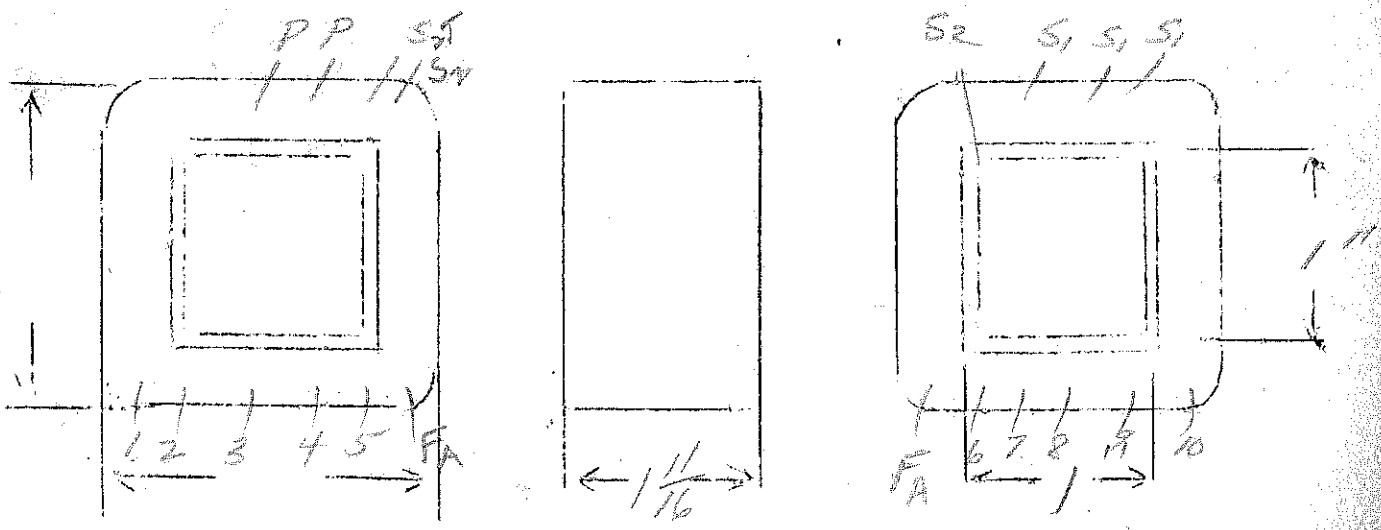
E_{F_2} = 25-12-7.5-6.5-5-3-2.5-2-1.5

M/E = 56

SPEC. NO. 265

Winding	PRI	SEC$_1$	SEC$_2$	F$_A$	F$_B$	F$_C$	
Turns	520	2460	185	30	31-19-16	123	
Taps	—	1230	46	—	13-10	43-15-9	
Wind. Lgth.	1.5	1.5	1.5	1.5			
Wire Size	#26	35E	35E	#20	#20	~~#23~~ 22	
T.P.L.	65-8	210-12	210-	30	Connect end of F$_B$ to start F$_C$		
Kind Term.	WIRE	5/1 Bx	5/1 Bx	WIRE	WIRE		
Term. Lgth.	3"	3"	3"		3"	3"	
Layer Insul.	30#	20#	20#		1 LAYER GA		
Wrapper	2 LAYERS FC	1 LAYER FC	2 LAYERS GA	2 LAYERS GA	2 LAYERS GA		

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1 X 1M		

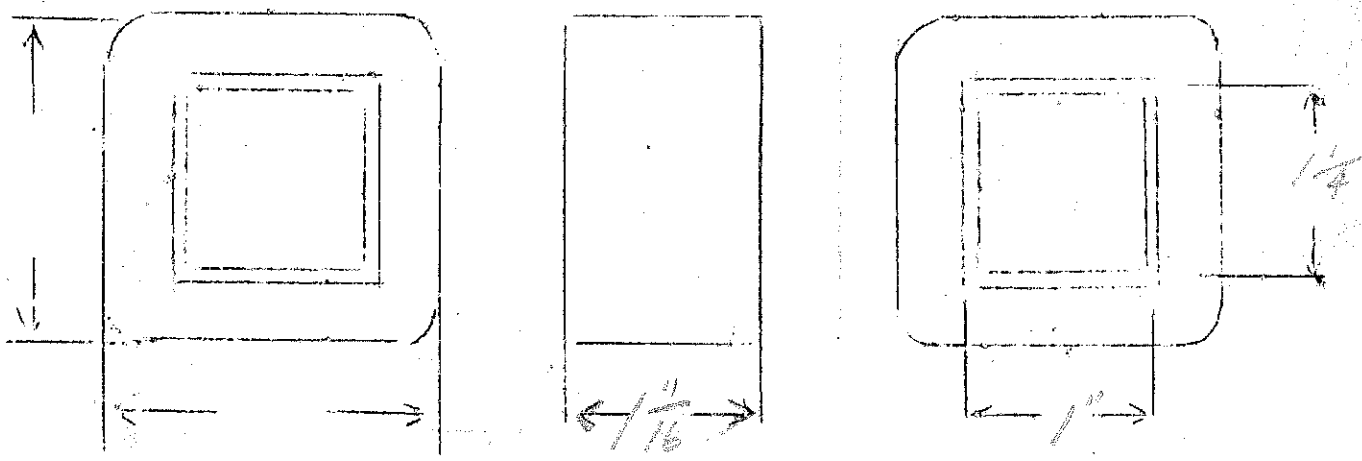


Same as #53 except F_2 & F_3 are combined into a 12 amp winding

SPEC. NO. 266

Winding	P	SH	SEC	F_1	F_2		
Turns				26	13		
Taps				—	6		
Wind. Lgth.							
Wire Size				18	#12		
T.P.L.							
Kind Term.					WIRE		
Term. Lgth.					3"		
Layer Insul.							
Wrapper					2L005H		

TUBE	7L007	IMPREGNATION	
CURE	1 x 1½ M		



ROOT INSTRUMENT CO

E_p = 115V

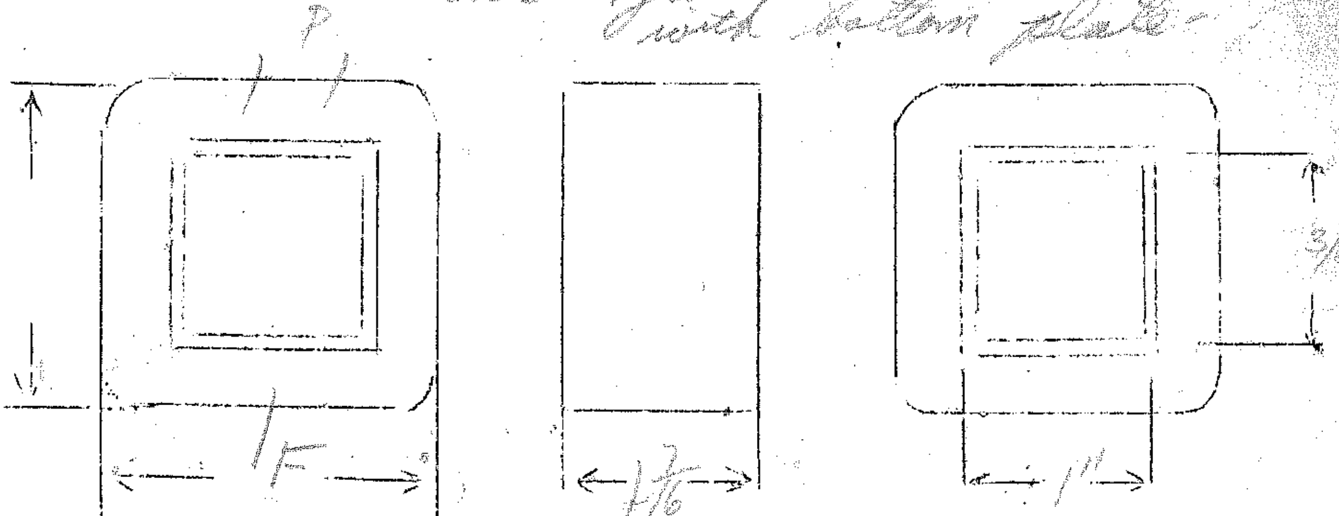
E_F = 6.5V 5 amps

SPEC. NO. 267

Winding	PRI	FIL					
Turns	830	50					
Taps	—	—					
Wind. Lgth.	1.25"	—					
Wire Size	#27	#16					
T.P.L.	71-12	3L					
Kind Term.	WIRE	WIRE					
Term. Lgth.	3"	3"					
Layer Insul.	30#	—					
Wrapper	2L00SGA	2L00SGA					

TUBE	4' L007	IMPREGNATION	VARNISH
CURE	1X 3/4 NW		

PANEL ON BOTH SIDES - ships with [illegible] cover - grommet [illegible] - unmounted with bottom plate -



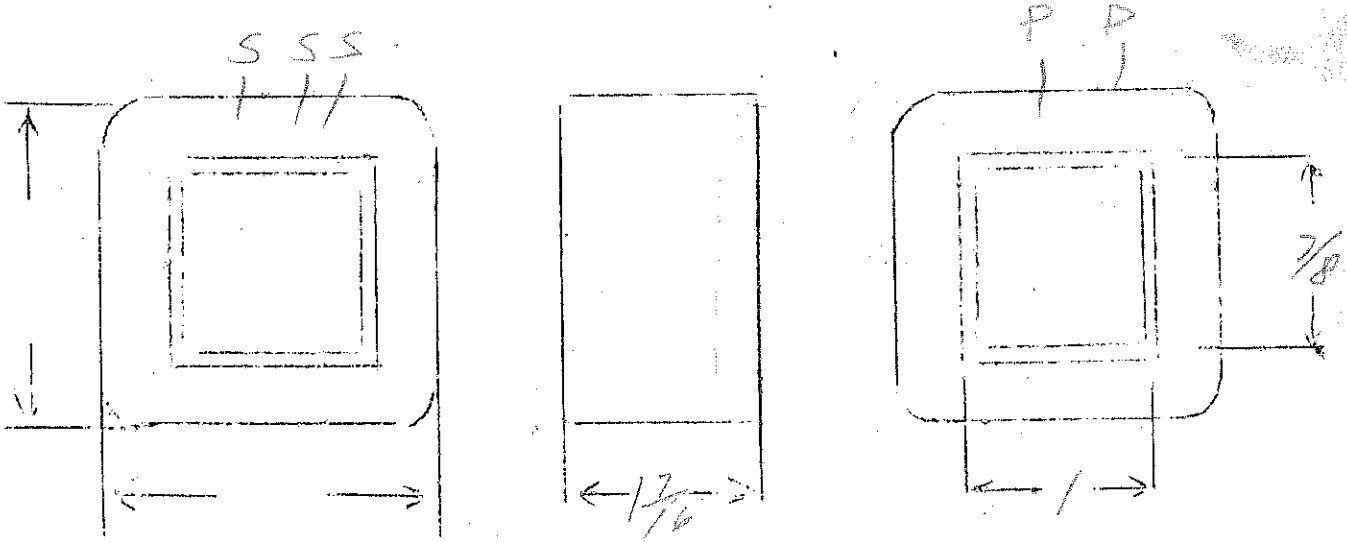
Eb = 125V.

Same as # 209 except for pin

SPEC. NO. 269

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	738	74	4060	34	18		
Taps	—	—	2030	—	9		
Wind. Lgth.	125	125	125	—	—		
Wire Size	#29	#27	#36	#21	#17		
T.P.L.	24-10	74	210	—	—		
Kind Term.	WIRE	WIRE	S/Less	WIRE			
Term. Lgth.	3"	3"	3"	3"	3"		
Layer Insul.	30#		20#				
Wrapper	2Lm5VC	2Lm5VC	2Lm5GA	2Lm5GA			

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1x 2½ NW		



E_P = 115 V 6 TUBE

E_S = 700 V CT 55 ma

E_{F_1} = 5 V - 2 amps

E_{F_2} = 2.5 V - 6 amps

B = 12800

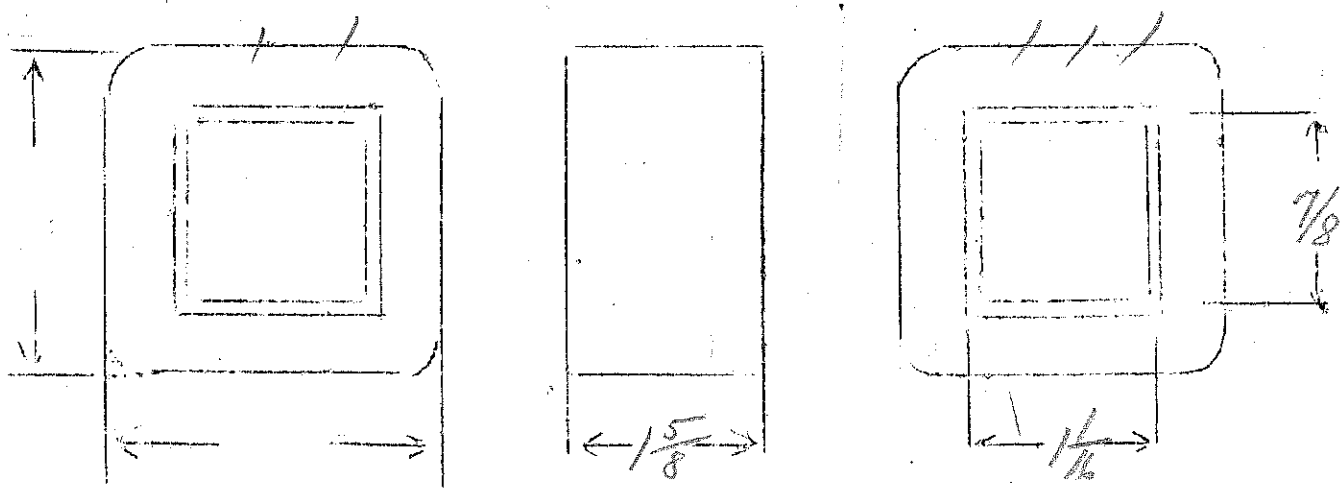
$\frac{N}{E}$ = 385

SPEC. NO. 270

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	675	68	4350	32	16		
Taps	—	—	2175	—	8		
Wind. Lgth.	1 7/16	1 7/16	1 7/16	—	—		
Wire Size	25	25	35	#20	#15		
T.P.L.	68-10	68	200-22	—	—		
Kind Term.	#20 PER.	WIRE	#35 PER.	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#		30#				
Wrapper	1L005VC	1L005VC	2L005GA	2L005GA	2L005GA		

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1 1/16 X 7/8



E_p = 117V. 6 TUBE

E_s = 700 V CT- 65MA.

E_f = 5V. 2 amps

E_f = 6.3 V - 2.5 amps

B = 12800

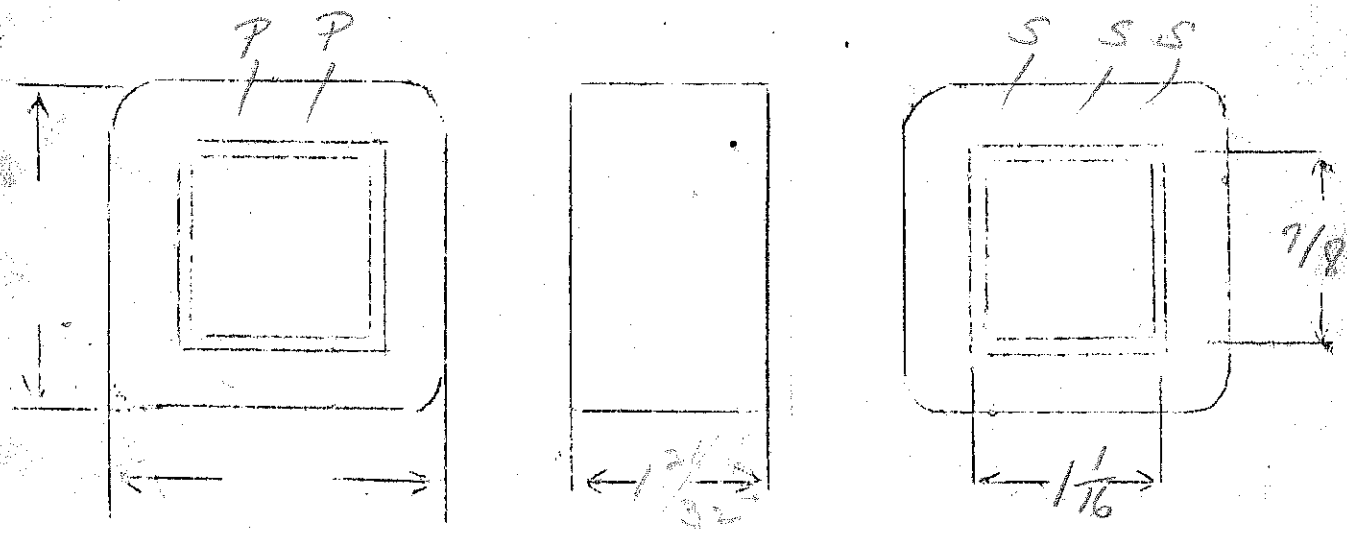
$\frac{N}{E}$ = 5.85

SPEC. NO. 271

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	675	68	4350	32	41		
Taps	—	—	2175	—	—		
Wind. Lgth.	1 7/16	1 7/16	1 7/16	—	—		
Wire Size	#25	#25	#35	#20	#19		
T.P.I.	68-10	68	208-22				
Kind Term.	#20 TBr.	WIRE	#20 TBr.	WIRE			
Term. Lgth.	9	3	9	9	9		
Layer Insul.	30	—	30	—	—		
Wrapper	1L005VC	1L005VC	2L005GA	2L005GA	→		

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | 1 1/16 x 7/8



Wrapper

HERRNFELT

PRI — 130V - taps 15-20-25-115 — 25 Watts

FIL — 25-12-7.5-6.5-5-3-2.5-2-1.5

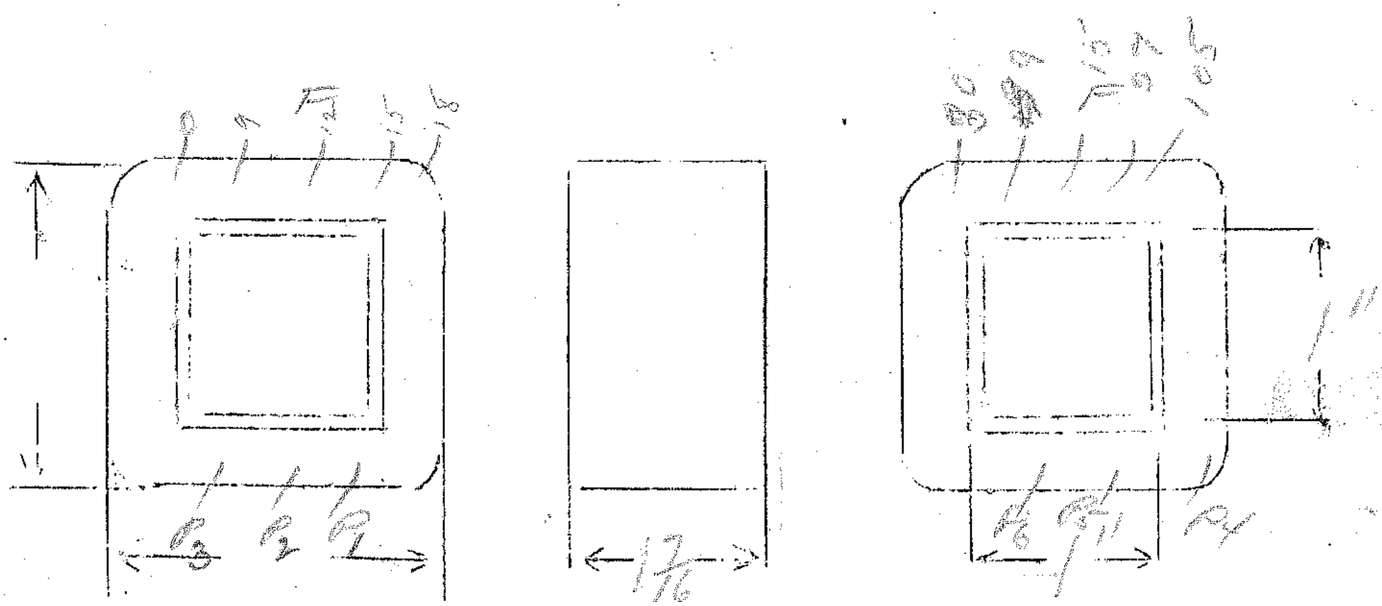
N/E = 5.7

SPEC. NO. 272

auto winding (filaments in series)

Winding	PRI		F_1	F_2	F_3		
Turns	740		30	15	105		
Taps	655-144 116-86		18-15-12 -9	9	27		
Wind. Lgth.	1.25		—	—	—		
Wire Size	#27		#18	#20	#22		
T.P.L.	74						
Kind Term.	WIRE		WIRE	—	—		
Term. Lgth.	3"		3"	3"	3"		
Layer Insul.	30#						
Wrapper	2L0056A				2L0056A		

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1X1NW		



$E_p = 115V$

$E_s = 700V\ CT - 80\ Ma$

$E_{F_1} = 5V - 2\ amps$

$E_{F_2} = 2.5V - 8\frac{1}{2}\ amps$

Spiegel - 1 TUBE

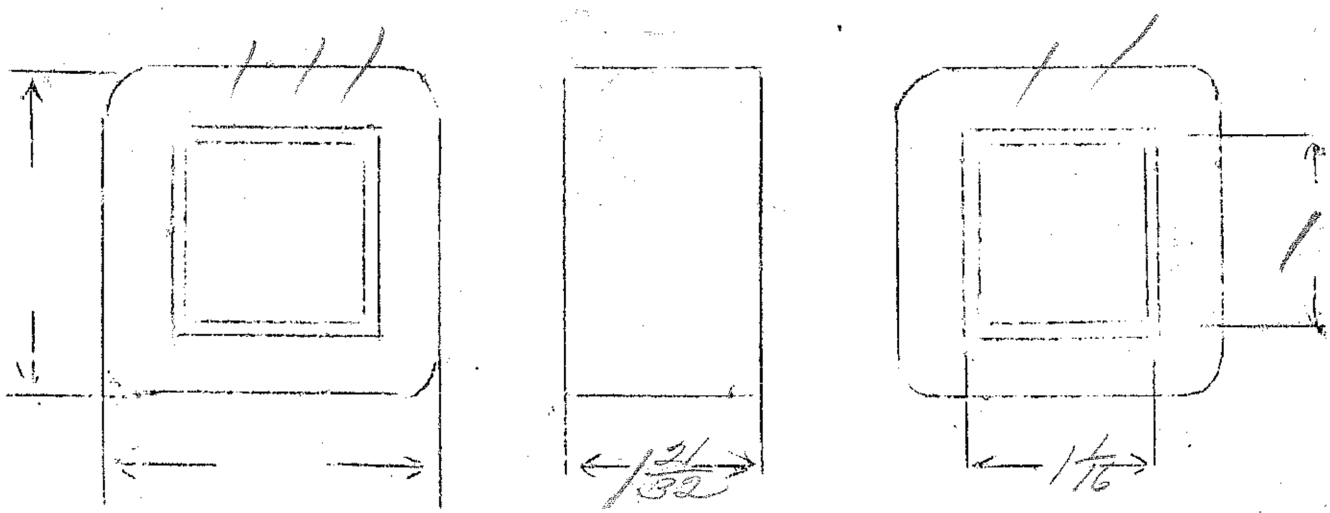
$B = 12700$

$\frac{N}{E} = 5.15$

SPEC. NO. 274

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	590	192	3820	28	15		
Taps	—	—	1910	—	7		
Wind. Lgth.	$1\frac{15}{32}$	$1\frac{15}{32}$	$1\frac{15}{32}$	—	—		
Wire Size	#24	#34	#34	#20	double #17		
T.P.L.	60-10	191	191-20	—	—		
Kind Term.	#20 PBr	.01 Br	#20 PBr	WIRE	—		
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	50#	—	20#	—	—		
Wrapper	1L007VC	1L007VC	2L005GA	2L005GA	2L005GA		

TUBE	4L007	IMPREGNATION	VARNISH
CURE	$1\frac{1}{16}$ X 1		



6 Tube Pair

E_b = 115 V

E_s = 650 V - 50 MA. C.T.

E_{f_1} = 5 V - 2 amps

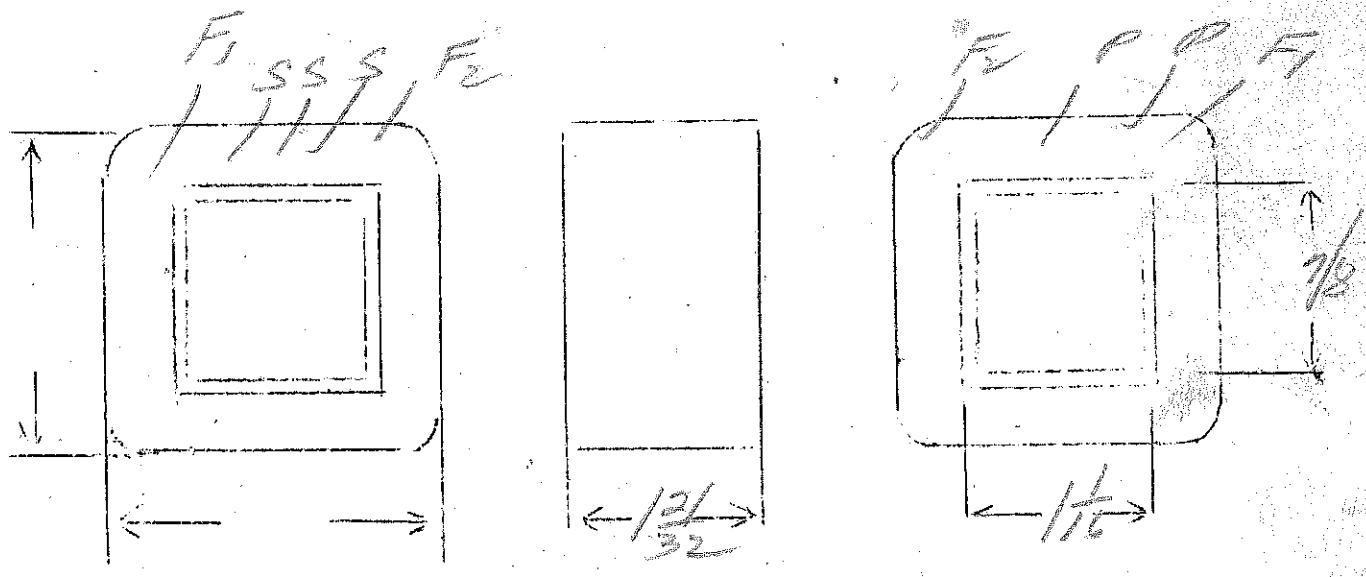
E_{f_2} = 2.5 V - 6 amps

SPEC. NO. 275 & 6275

Winding	PRI	SHIELD	SEC	F_1	F_2	F_2	F_1
Turns	660	67	4000	32	16	40	32
Taps	—	—	2000	—	—	—	—
Wind. Lgth.	1 15/32	1 15/32	1 15/32	—	—		
Wire Size	#25	#25	#35	#20	#16	#20	#20
T.P.L.	67-10	67-1	202-20	—	—		
Kind Term.	#20 Enam	5x Br	#20 Enam	WIRE ONLY			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30#	—	30#	—	—		
Wrapper	Manila	Manila	Manila	Manila	Manila		

TUBE | 4007 | IMPREGNATION | VARNISH

CURE | 1hr x 375



E_P = 115 V.

E_S = 700 V C.T. — 200 Ma

F_1 = 5V — 3.5 amps

F_2 = 2.5 V. C.T. — 5 amps

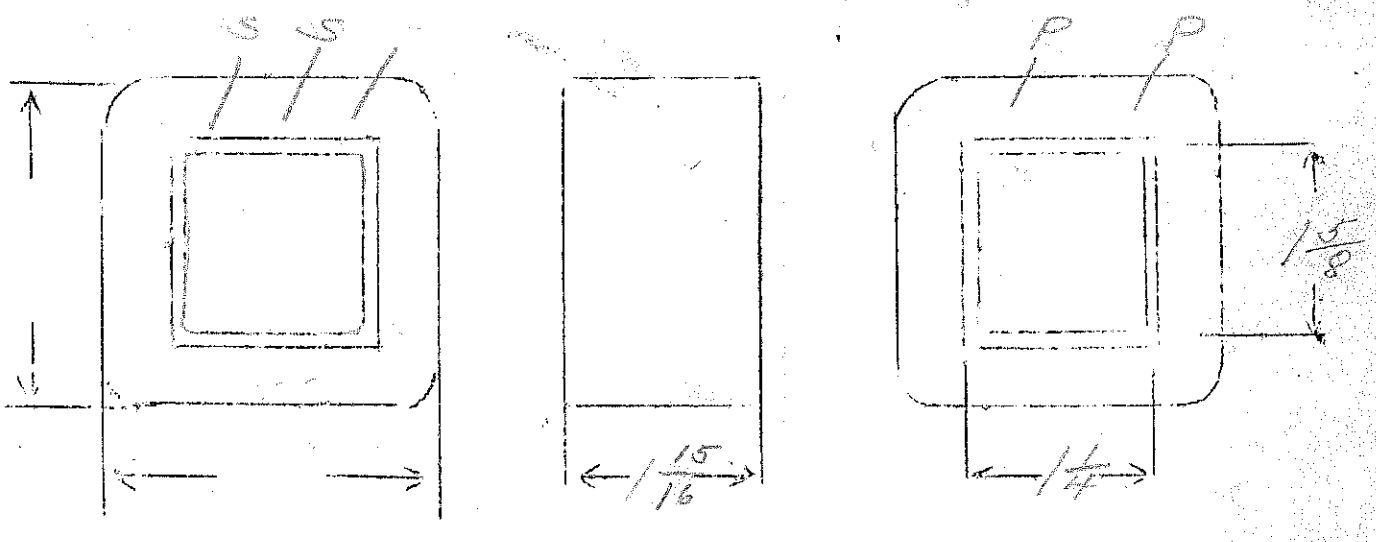
F_3 = 2.5 V C.T. — 12 amps

$\frac{N}{E} = 2.8$

SPEC. NO. 276

Winding	SEC	SHIELD	PRI	F_1	F_2	F_3	
Turns	2680	150	322	16	8	8	
Taps	1340	—	—	—	4	4	
Wind. Lgth.	1.75	1.75	1.75	—	—	—	
Wire Size	#30	#30	#20	#18	#16	#13	
T.P.I.	150-18	150	48-7	—	—	—	
Kind Term.	FEP	SIL GL	WIRE	— WIRE	—	—	
Term. Lgth.	9"	5"	9"	9"	9"	9"	
Layer Insul.	30#		.005 GA	—	—	—	
Wrapper	2 MYC	2 MYC		—	—	—	

TUBE	2 MYC + 1 MYC	IMPREGNATION	VARNISH
CURE	1 hr x 1 3/4		



E_P = 115 V.
E_S = 1250 V. C.T. — 300 Ma
5 V — 3.5 amps
2.5 V — 9 amps C.T.
2.5 V C.T. 5 amps

$\frac{N}{E}$ = 141

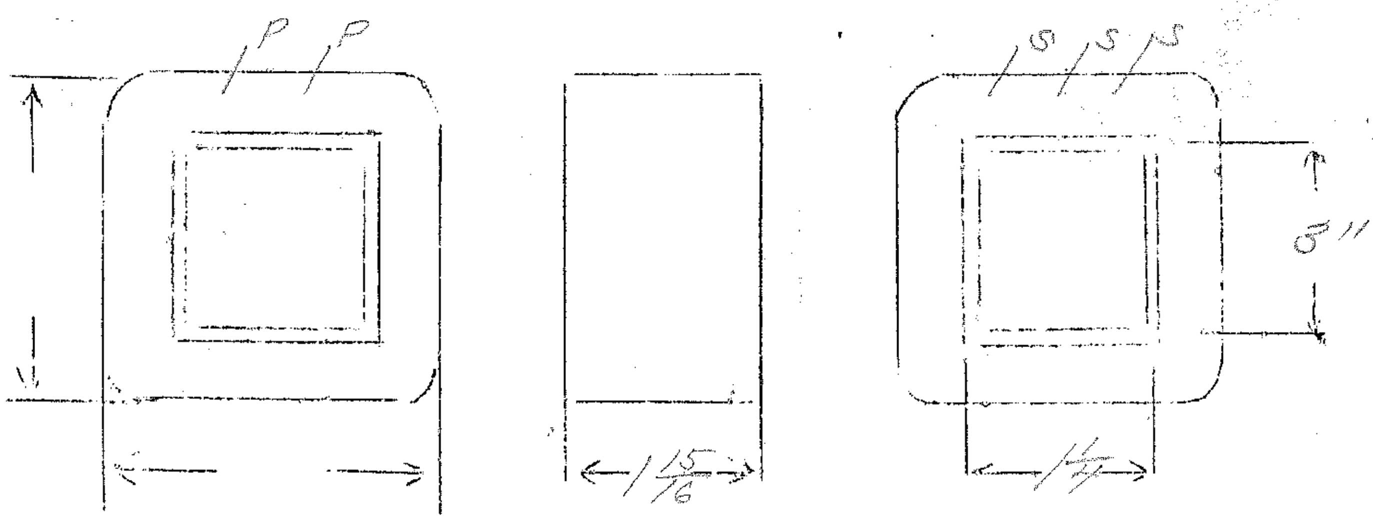
BILLINGS

SPEC. NO. 277

Winding	SEC	SHIELD	PRI	F_1	F_2	F_3	
Turns	2000	115	120	8	4	4	
Taps	1000	—	—	—	2	2	
Wind. Lgth.	1.75	1.75	1.75	—	—	—	
Wire Size	#28	#28	#18	18	16	Double 16	
T.P.L.	115-18	115-1	37-5	one layer only			
Kind Term.	#20 PBr	51 Br	WIRE	→			
Term. Lgth.	9"	3"	9"	9"	9"	9"	
Layer Insul.	30#	—	1L005GA	—	—	—	
Wrapper	3L005VC	2L005GA	2L005GA	2L005GA			

TUBE 2L007 + 1L007VC | **IMPREGNATION** VARNISH

CURE 1 1/4 x 3"



MISSION BELL

$E_p \doteq 115V$

$E_S = 740V$. open

$E_{F_1} = 5V - 2amps$

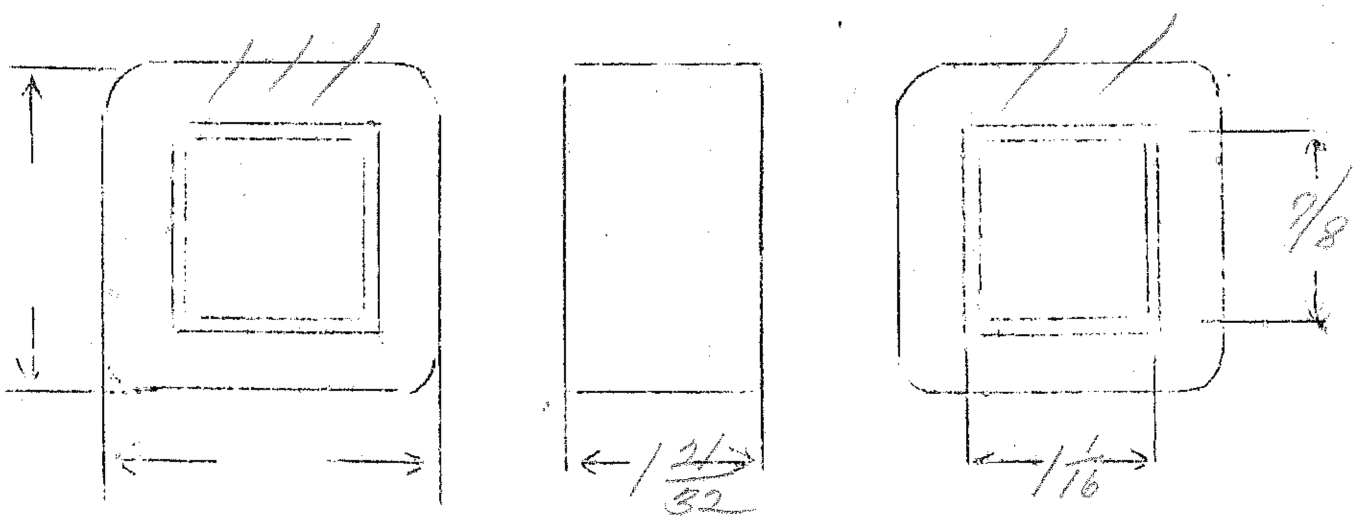
$E_{F_2} = 6$ amps CT – 2.5 volt

$\frac{N}{E} = 5.9$

SPEC. NO. 228

Winding	PRI	SHIELD	SEC	F1	F2		
Turns	680	190	4460	32	16		
Taps			2230	—	8		
Wind. Lgth.	1 15/32	1 15/32	1 15/32	—	—		
Wire Size	#25	#35	#35	#20	#18 double		
T.P.L.	69-10	190	198-24	—	—		
Kind Term.	#22 PBr	511 Br	#20 PBr	WIRE			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	30	—	20	—	—		
Wrapper	ILOO7VC	ILOO7VC	2LOO5OA	→	→		

TUBE	4L007	**IMPREGNATION**	VARNISH
CURE	1 1/16 X 7/8		



$E_{in} = 115$ V.

$E_S = 740$ V open

$E_{F_1} = 6$ V - 2 amps

$E_{F_2} = 2.5$ V - 7 amps

$\frac{N}{E} = 5.15$

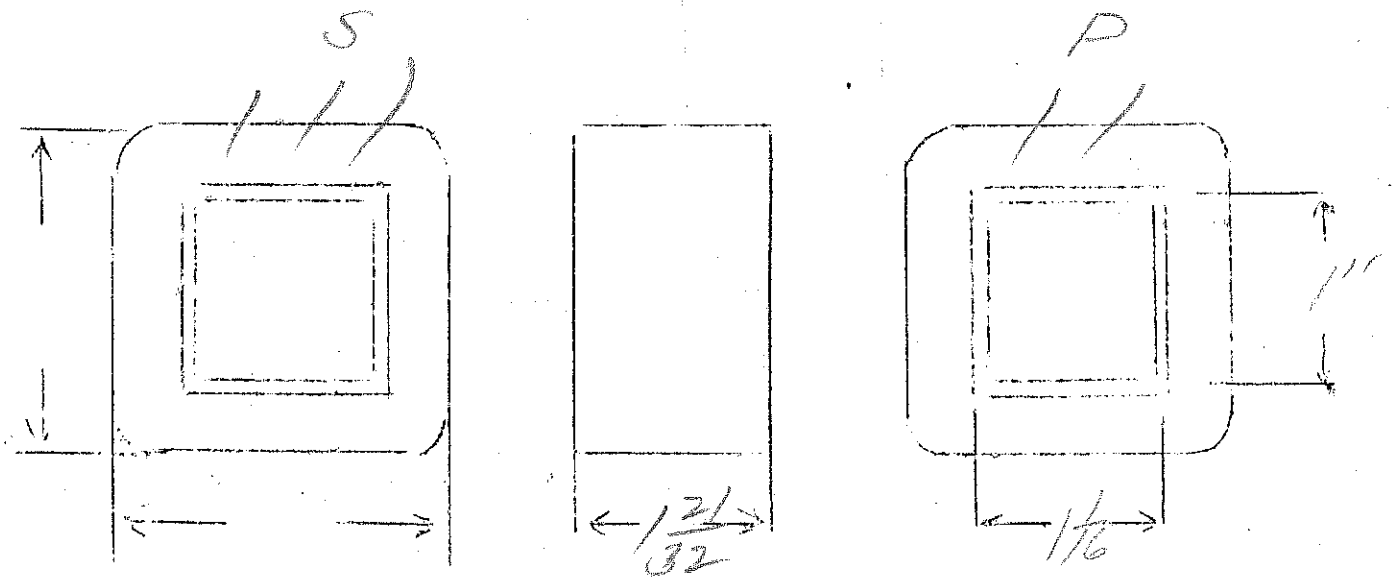
Mission Bell

SPEC. NO. 279

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	600	191	3800	28	14		
Taps	—		1900	—	7		
Wind. Lgth.	$1\frac{45}{32}$	$1\frac{45}{32}$	$1\frac{45}{32}$	—	—		
Wire Size	25	34	34	20	double 18		
T.P.L.	62-10	19	6/1-20	—	—		
Kind Term.	~~#20~~ PBr	S/C	~~#20~~ PBr	WIRE			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	~~40#~~		~~20#~~				
Wrapper	K007VC	K007VC	2L005PA	2L005PA			

TUBE | 4L007 | IMPREGNATION | VARNISH

CURE | $\frac{1}{16} \times 1$"

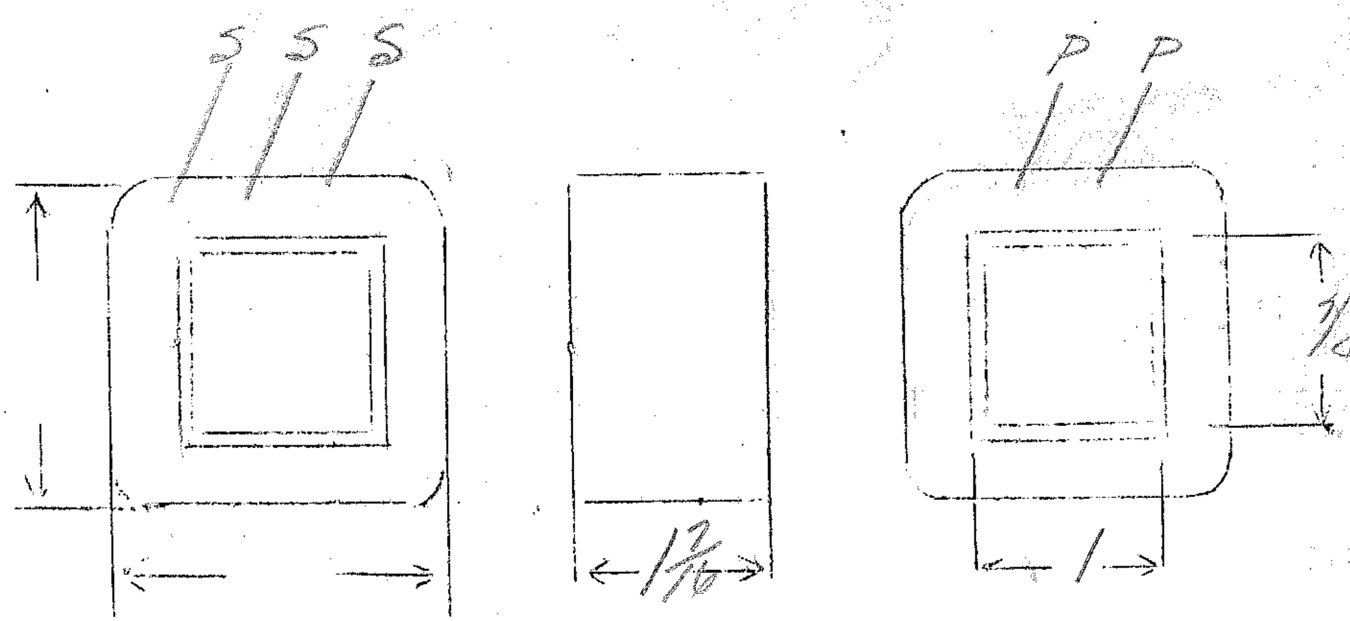


Ep-122V.

SPEC. NO. 281+6281

	281				6281		
Winding	P	SHIELD	SEC	F_1	F_2	F_1	F_2
Turns	210	72	3740	33	17	33	43
Taps	—	—	1870	—	—	—	—
Wind. Lgth.	1.25	1.25	1.25	—	—	—	—
Wire Size	#27	#27	#36	#21	double #20	#21	#21
T.P.L.	72-10	72	208-17				
Kind Term.	#20 [illegible]	WIRE	#20 [illegible]	WIRE			
Term. Lgth.	7½	3	7½	7	2		
Layer Insul.	30 #		2 #				
Wrapper	1L007VC	1L007VC	2L0056A	2L0056A	2L0056A	2L0056A	

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1 x 7/8		

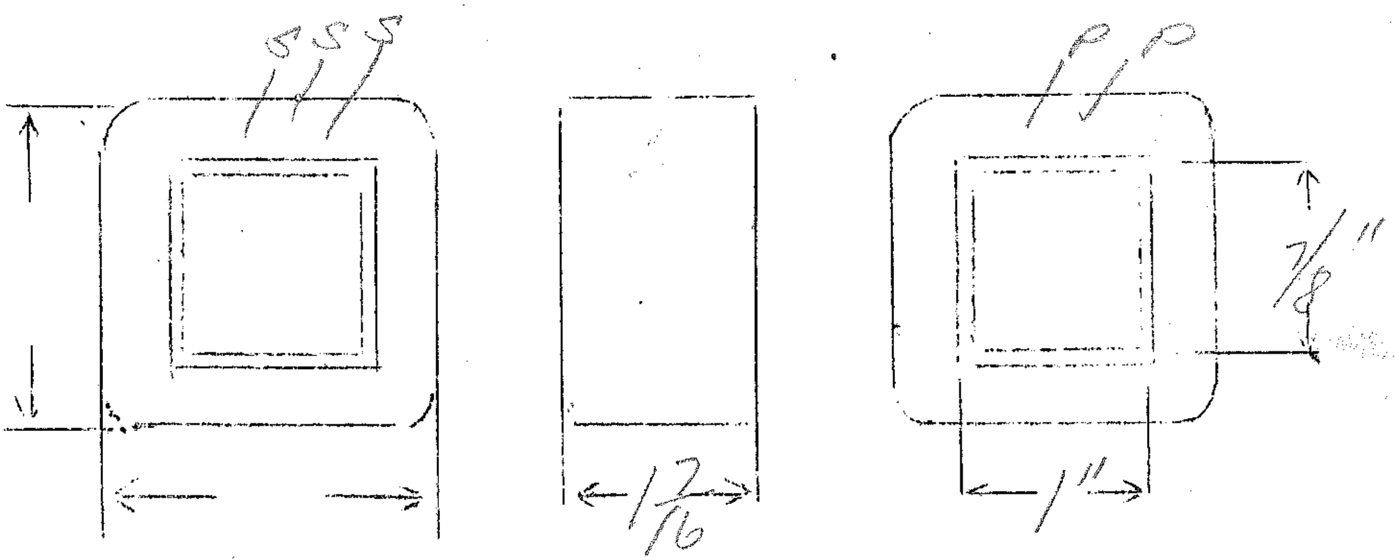


same as #281 except for primary

SPEC. NO. 281N

Winding	PRI	SHIELD	SEC	F1	F2		
Turns	735	74	3740	33	17		
Taps	—	—	1870	—	—		
Wind. Lgth.	1.25	1.25	1.25	1.25	1.25		
Wire Size	#27	#27	#36	#21	Quadl #20		
T.P.L.	74-10	74	190-20	—	—		
Kind Term.	WIRE ONLY		[illegible] Braid	WIRE ONLY			
Term. Lgth.	3"	3"	3"	3"	3"		
Layer Insul.	30#		20#				
Wrapper	1L007VC	1L007VC	2L0056A	2L005GA	2L005GA		

TUBE	4L007	IMPREGNATION	VARNISH
CURE	1X7/8		



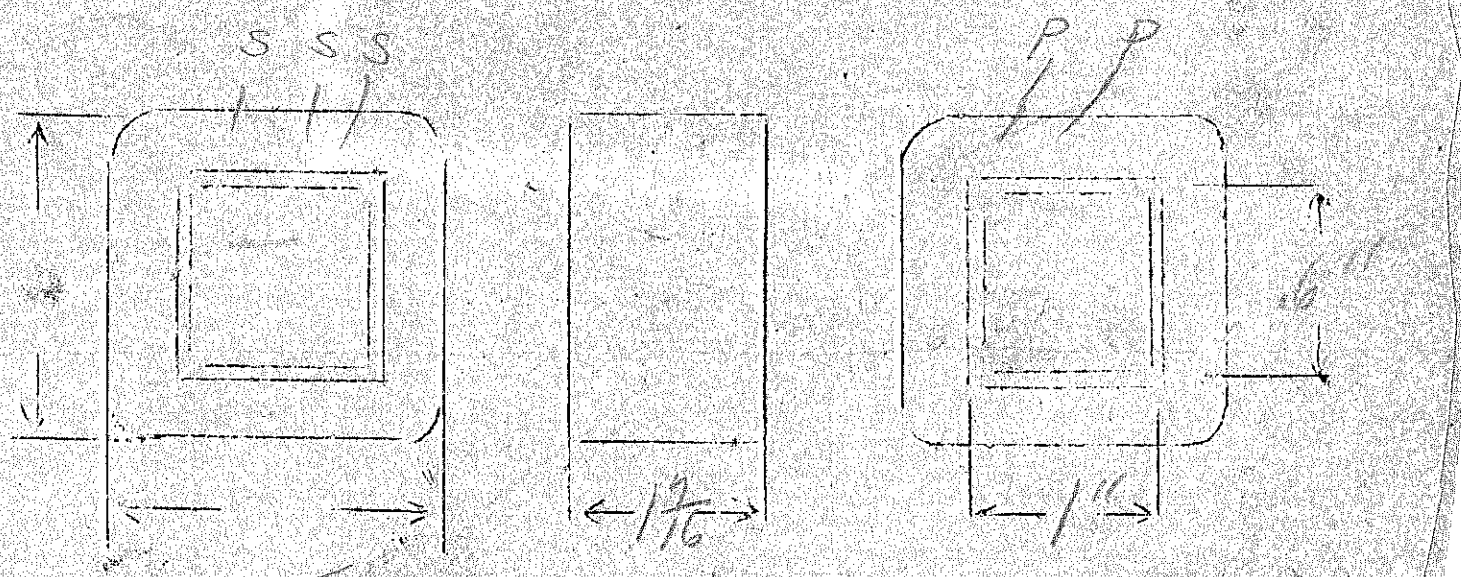
VIBRATOR

SPEC. NO. 282 AUTO E

Winding	SEC	SHIELD	PRI	SHIELD			
Turns	4800	1	92	1			
Taps	2400	—	46	—			
Wind. Lgth.	1.25	1.25	1.25	1.25			
Wire Size	35-E	SHEET	#18	SHEET			
T.P.L.	182-28	BRASS 5½ mils	4 layers	BRASS 6½ mils			
Kind Term.	F.S.	SIL BR	WIRE	SIL BR			
Term. Lgth.	9"	3"	9"	3"			
Layer Insul.	30 #	—	GA.	—			
Wrapper	2L05GA	2L05GA	2L05GA	2L05GA			

TUBE | HL082 | IMPREGNATION | VARNISH

CURE | 1 X 6 (1" WW)



To BRACKET
USE 2" BOLTS for Packard Bell
Head of Bolt on reverse side of legs

Same as #53 - Ep = 220 volt 50 cycle

S. AFRICA

F1 = 5.0 V - 2 amps

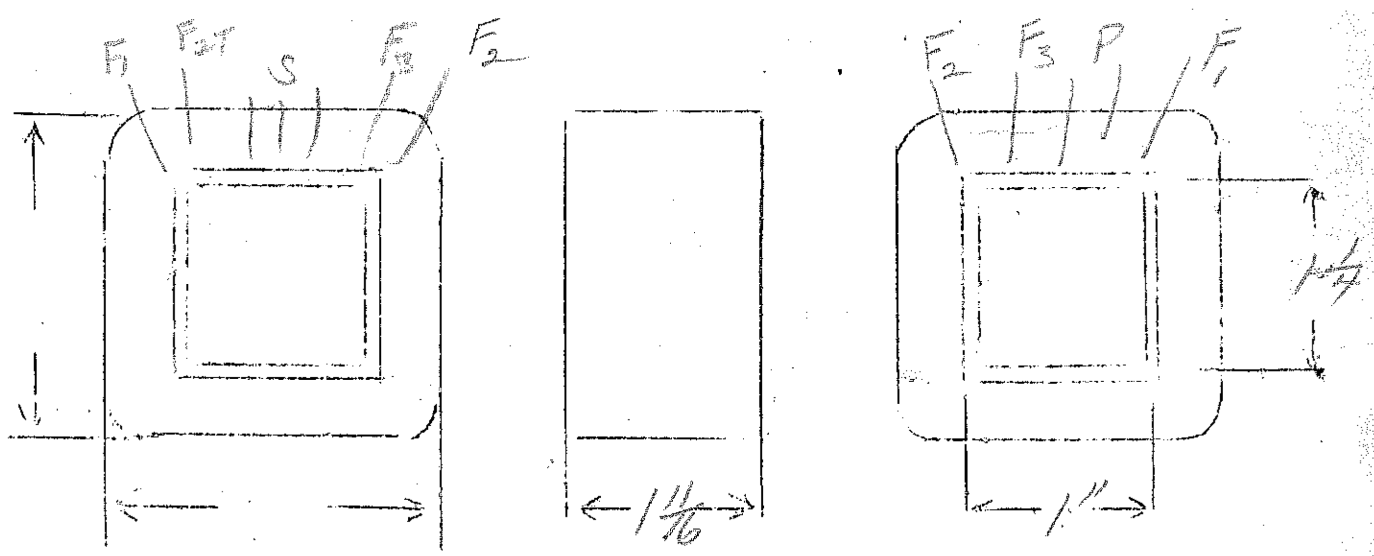
F2 = 6.3 V - 3.5 amps

F3 = 6.3 V - 2 amps

SPEC. NO. 283

Winding	PRI	SHIELD	SEC	F1	F2	F3	
Turns	1076	175	3840	26	33	33	
Taps	—	—	1920	—	—	16	
Wind. Lgth.	1.5	1.5	1.5	—	—	—	
Wire Size	#25	#33	#33	#20	#18	#20	
T.P.L.	68-16	175	175-22	—	—	—	
Kind Term.	#22 Flex	S.I Flex	#22 Flex	WIRE	→	→	
Term. Lgth.	9"	3"	9"	9"	9"	9"	
Layer Insul.	30#	—	20#	—	—	—	
Wrapper	2L007VC	2L007VC	2L005GA	→	→	→	

TUBE	7L007	IMPREGNATION	VARNISH
CURE	1X1 1/4 M		



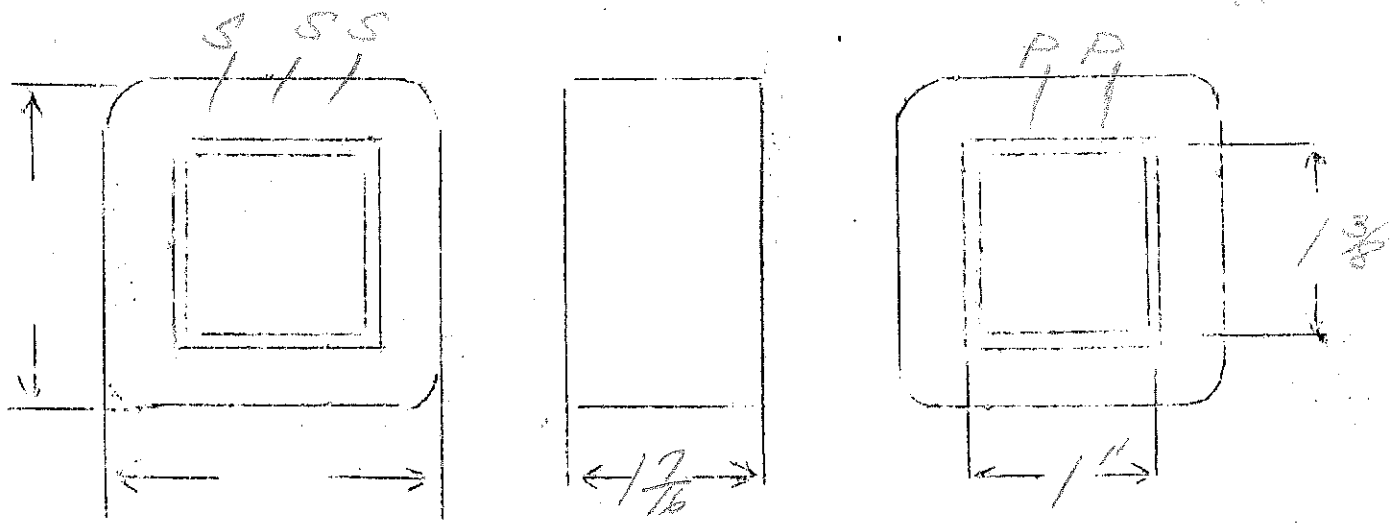
Sample #50 — Ep = 230 volts — 50 cycle

SPEC. NO. 284

Winding	PRI	SHIELD	SEC	F1	F2 W	F3 B	
Turns	936	79	2900	23	11	11	
Taps	—	—	1450	—	—	5	
Wind. Lgth.	1 25	1 25	1 25	—	—	—	
Wire Size	#28	#28	#36	#20	#18	#16	
T.P.L.	79-12	79	909-14	—	—	—	
Kind Term.	#30 P&B	WIRE	#30 P&B	— AMP	—	—	
Term. Lgth.	9"	3"	9"	9"	9"	9"	
Layer Insul.	.50 #	—	.20 #	—	—	—	
Wrapper	KLOTH	KLOTH	2 Lo 56A	—	—	—	

TUBE 42009 | IMPREGNATION VARNISH

CURE 1 X 1 3/8 HR.



Same as #50 except — E_P = 230 volt - 50 cycle

E_{F_1} = 5V - 2 amps

E_{F_2} = 6.3 volt - 2 amps

E_{F_3} = 6.3 volt - 1.5 amps CT

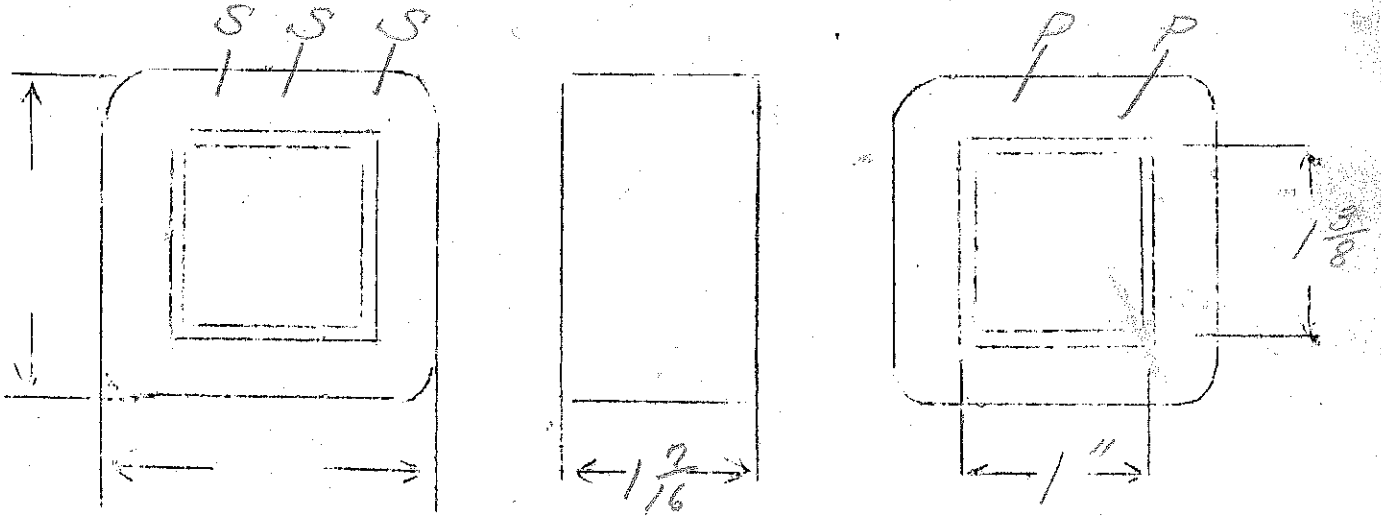
E_S = 625V - 35 MA

SPEC. NO. 285

Winding	PRI	SHIELD	SEC	F_1	E_B	F_3 W	
Turns	936	79	2900	23	29	29	
Taps	—	—	1450	—	—	14	
Wind. Lgth.	1.25	1.25	1.25	—	—	—	
Wire Size	#28	#28	#36	#20E	#20E	#21E	
T.P.L.	79-12	79	209-14	—	—	—	
Kind Term.	#20 PBr	WIRE	#20 PBr	WIRE	→	→	
Term. Lgth.	9"	9"	9"	9"	9"	9"	
Layer Insul.	30#	—	20#	—	—	—	
Wrapper	KL007VC	KL007VC	2L005GA	2L005GA	2L005GA		

TUBE | #L007 | IMPREGNATION | VARNISH

CURE | 1 Hr 3/5 MW



2.9
3.6
3.6

Same as 54 — except

E_p = 220 volt — 50 cycle

E_{F_1} = 5V — 2 amp

E_{F_2} = 6.2V — 6.5 amps

E_{F_3} = 6.3V — 1.5 amps

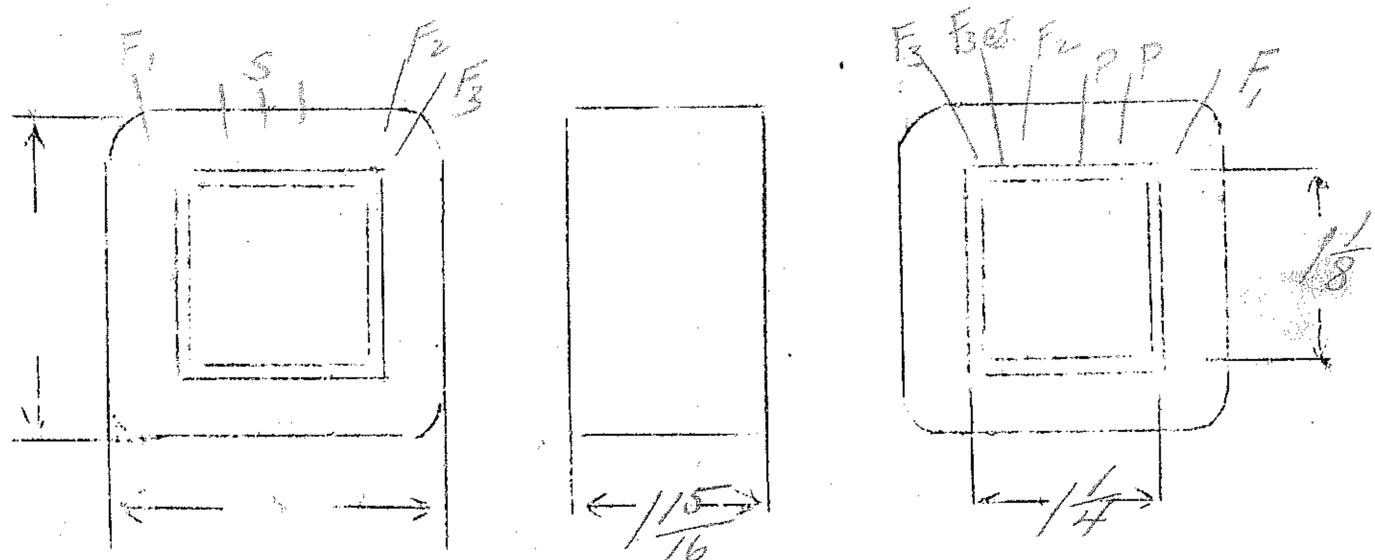
E_s = 750 V.C.T. — 125 Ma.

SPEC. NO. 286

Winding	SEC	SHIELD	PRI	F_1	F_2	F_3	
Turns	3180	180	920	22	28	28	
Taps	1590	—	—	—	—	14	
Wind. Lgth.	1.25	1.25	1.25	—	—	—	
Wire Size	#32	#32	#25	#18	#15	#21	
T.P.L.	180-18	180	77-12	—			
Kind Term.	#20 Braid	Sil Bra	#20 Braid	Wire	——	——	
Term. Lgth.	9"	3"	9"	9"	9"	9"	
Layer Insul.	30#	—	30#	—	—	—	
Wrapper	1L007VC	1L007VC	2L005GA	———	——→		

TUBE | 7L007 | IMPREGNATION | VARNISH

CURE | 1 1/4 x 1 1/8



.3
2.5
5.
10.
75.
150.
250.

Instrument Transformer

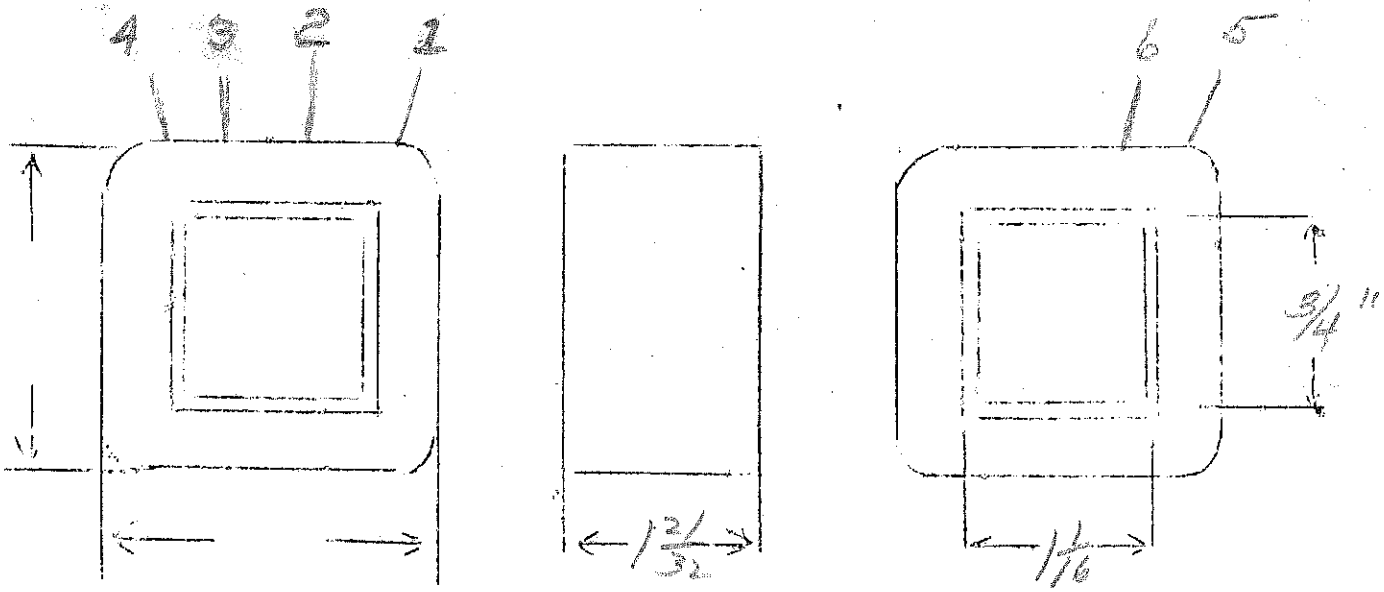
SPEC. NO. 288

Continuous winding

Winding	①	②	③				
Turns	6000	1425 250 1240 1350	75 45				
Taps	—						
Wind. Lgth.	1 15/32	1 15/32	1 15/32				
Wire Size	#38	#29	#20				
T.P.L.	275	100					
Kind Term.	SILK	WIRE	WIRE				
Term. Lgth.	3"	3"	3"				
Layer Insul.	30#	30#	CA				
Wrapper			2 COATS CA				

TUBE | 4L009 | IMPREGNATION | VARNISH

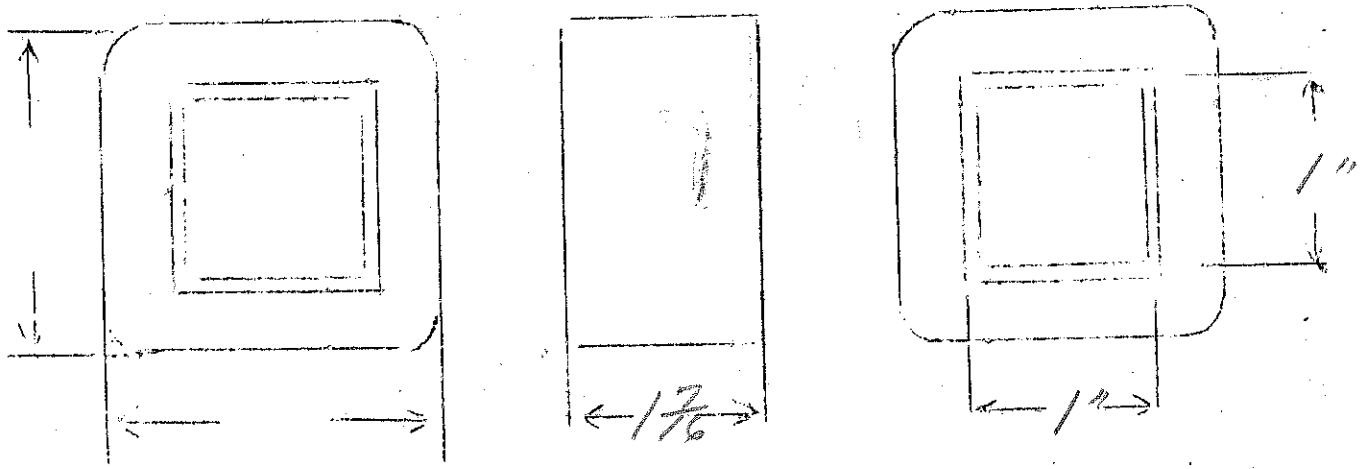
CURE | 1 hr at 3/4"



TROY

SPEC. NO. 289

Winding	PRI	SHIELD	SEC	F1	F2		
Turns	630	71	4500	31	16		
Taps	—	—	2250	—	—		
Wind. Lgth.	125	125	125	—	—		
Wire Size	#27E	#27E	#36E	#21	Shuttle #20		
T.P.L.	1 — 9	71	210-22				
Kind Term.	#20 PBL	WIRE	#20 PBL	WIRE			
Term. Lgth.	9"	5"	9"	9"	9"		
Layer Insul.	30#		20#				
Wrapper	1L007VC	1L007VC	2L005GA	2L005GA →			
TUBE	4L007		IMPREGNATION	VARNISH			
CURE	1 X 1 N.W.						



$E_S = 750V$ CT

$E_P = 120V$

$E_{F_1} = 5V - 2$ amps

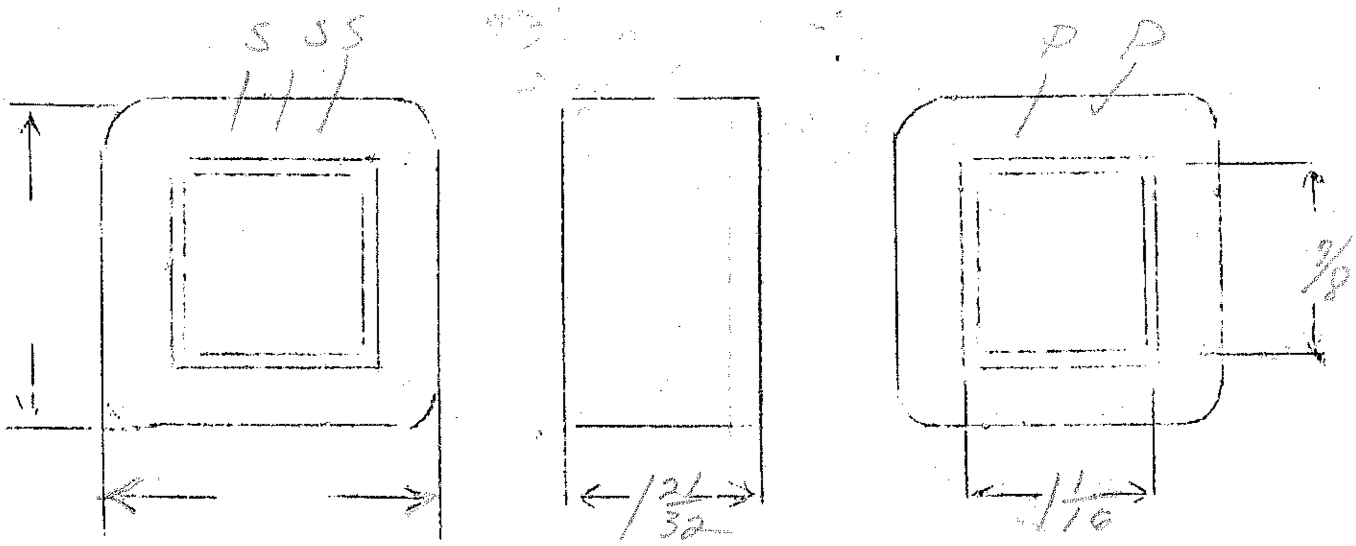
$E_{F_2} = 2.5V - 5$ amps

$\frac{N}{E} = 5.8$

SPEC. NO. 290

Winding	PRI	SEC	F_1	F_2			
Turns	695	4700	32	16			
Taps	—	2350	—	8			
Wind. Lgth.	$1\frac{15}{32}$	$1\frac{15}{32}$	—	—			
Wire Size	#26	#35	#20	#16			
T.P.L.	70-10	193-24	—	—			
Kind Term.	WIRE	SILK	WIRE				
Term. Lgth.	3	3"	3"	3"			
Layer Insul.	30#	20#					
Wrapper	1L007VC	1L007VC	2C005SA				

TUBE	4L007	IMPREGNATION	VARNISH
CURE	$1\frac{1}{16}$ x		



PACKARD BELL

E_p = 115V.

E_s = 750V.- 100Ma

$\frac{A}{E}$ = 4.44

F_1 = 5V- 2amps

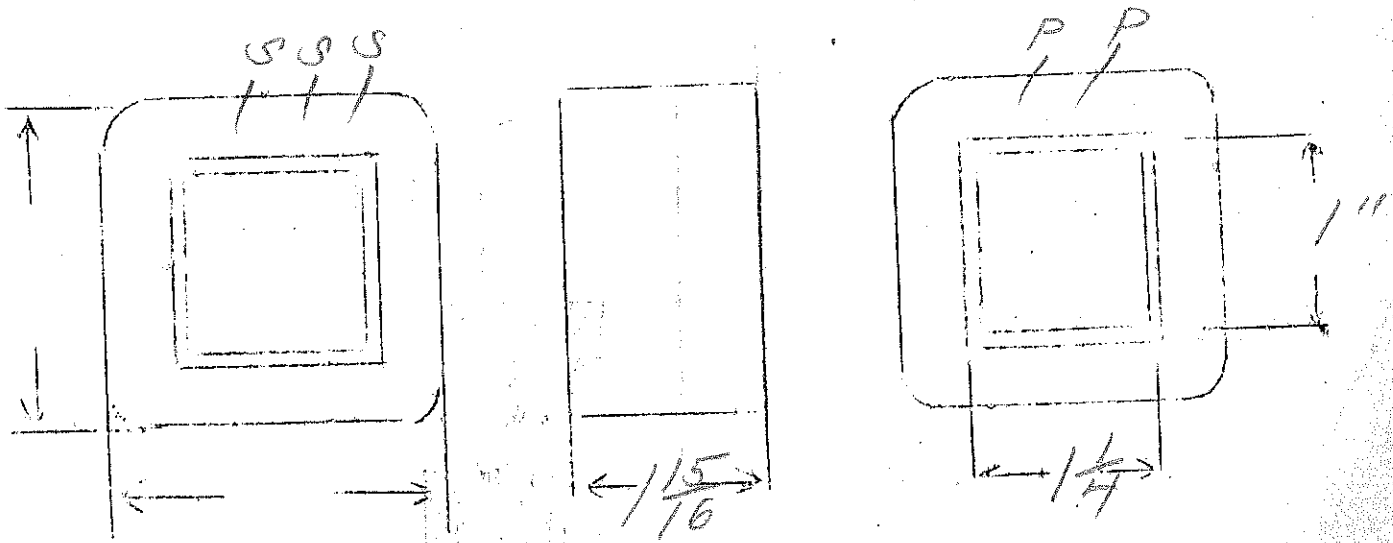
F_2 = 6.3V- 3.5amps

SPEC. NO. 291

Winding	PRI	SHIELD	SEC	F_1	F_2		
Turns	515	202	3600	25	31		
Taps	—	—	1800	—			
Wind. Lgth.	1 25	1 25	1 75	—	—		
Wire Size	#22	#33	#33	#20E	#18E		
T.P.L.	52-10	202	202-18				
Kind Term.	#20 P.B.	WIRE	#20 PB	WIRE			
Term. Lgth.	9"	3"	9"	9"	9"		
Layer Insul.	50 #		20 #	—	—		
Wrapper	1L007VC	1L007VC	2L005GA	2L005GA	2L005GA		

TUBE | 2L009 | IMPREGNATION | VARNISH

CURE | 1/4 x 1"



- Patterson Sample -

P = 110-120 Volts

S_1 = 750 V.C.T. - 150 ma

S_2 = 600 V.C.T. - 10 ma

F_1 = 5V - 2 amps

F_2 = 5V - 3 amps F_3 = 6.3V - 5 amps

V.A = 117 watts

B = 11,300

N/E = 2.8

SPEC. NO. 292

green white Blue

Winding	Sec	Sec	Shield	Pri	F_1	F_2	F_3
Turns	2300	1750	1	336	15	15	20
Taps	1150	875	Sheet Brass	308	—	—	—
Wind. Lgth.	1 3/4	—					
Wire Size	31E	38E		#21E	#20E	#18E	double #19
T.P.L.	16644	180		52-7	—	—	—
Kind Term.	Red+Blue	Yellow Green		White+Black	WIRE —		
Term. Lgth.	9"	9"	3"	9"	9"	9"	9"
Layer Insul.	30#	16#		50			
Wrapper	2L.009 V.C.	1L.007 V.C.	1.007 V.C.	2L.005 GA			

TUBE	7L.007	IMPREGNATION	V
CURE	1 3/4